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Monetary and Capital Markets Department

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This paper complements the stocktaking paper of the G-20 responses to the global banking crisis.[1] It reviews the impact of measures to address the global banking crisis in the United States and Europe through mid-2009. It does so from three different perspectives: financial institutions, markets, and stakeholders. The policies addressed immediate pressures on bank liquidity through mid-2009, but profitability of large complex financial institutions worsened, their tangible common equity (TCE) remained at a critical level, and asset quality weakened. In addition, market confidence remained weak, with credit markets highly dependent on official support. Since the measures by governments at end-March (including the G-20 meetings), the business environment in which some banks operate has improved, but a deterioration in the economic environment could impair the fragile recovery by banks.

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[1] See International Monetary Fund, 2009, *IMF Note on Stocktaking of the G-20 Responses to the Global Banking Crisis*. Available via the Internet: http://www.imf.org/external/np/g20/031909b.htm. We would like to thank the Swiss National Bank for comments on a previous draft. Any errors or omissions are the authors' sole responsibility.

Contents Page

GLOSSARY

Cash and Interbank Assets	Includes cash in vaults and noninterest-earning deposits in banks; receivables from the central bank and postal accounts; cash items in the process of collection and unposted debits; interest-bearing deposits; and statutory deposits with the central bank.
Core Leverage Ratio	Ratio of share capital, additional paid-in-capital, and retained earnings to total assets.
LIBOR	London Interbank Offering Rate. Published by the BBA daily for all major currencies.
Marketable Securities	Liquid funds that can be convert into cash within a reasonably short period of time. Includes reverse repos and securities held by brokerage subsidiaries; trading inventory for brokerage industry; resale agreements and securities borrowed in brokerage industry; available for sale securities and investments shown at fair value; loans and mortgage backed securities held for sale; restricted cash earning interest.
Non-Performing Assets	Include nonaccrual loans; renegotiated or restructured loans; other real estate owned or foreclosed real estate; troubled debt-restructuring and interest in arrears.
Overnight Indexed Swap (OIS)	It is a fixed-floating interest rate swap contract wherein the floating leg references a daily overnight index. The overnight index commonly used in these contracts is a weighted average of the overnight rate published by central banks. From an economic perspective paying (receiving) the floating rate is the equivalent of lending (borrowing) cash.
Probability of Default	In this paper, it is the probability of a credit event implied by market traded CDS spreads. In general, it is the probability that assets are under liabilities over a period and the firm goes bankrupt.
Provisions for Loan Losses	Capital allocated for possible future loss on a loan portfolio arising from uncollectible interest income and principal on loans granted to customers.
Tier I Ratio	Tier I capital to risk-weighted assets. Tier 1 capital consists of

	common stockholders' equity; qualifying perpetual preferred stock; minority interest in consolidated subsidiaries less goodwill and other disallowed intangibles.
Swap Spread	It is the number of basis point difference between the floating leg and fixed leg of a vanilla interest rate swap contract required to render the present value of future cash flows between the swap counterparties equal to zero. Considering that CDS markets have been able to identify credit risk in most participants in the swap market, swap spreads are viewed as the monetization of counterparty risk. An increased swap spread indicates an environment of heightened fear regarding counterparty risk.
TCE Ratio	Ratio of tangible common equity to tangible assets. Both the total assets and the common equity are adjusted for the amount of intangible assets such as goodwill, licenses, trademarks, copyrights, etc.

I. INTRODUCTION

1. **The 2008–09 financial crisis has been deeper and wider than previous post-war crises.** Large complex financial institutions (LCFIs), once considered sound and well capitalized with sophisticated risk management systems, experienced large losses in their trading books stemming from high delinquency rates in subprime mortgages in 2008. As the global economy slowed down and recession in mature markets deepened, LCFI banking books came under stress. As counterparty risk increased and funding markets froze throughout 2008, governments intervened extensively in support of the LCFIs and the financial markets in which they operated.

2. **This paper reviews the impact of policies to address banking sector weaknesses through the first months of 2009.** It does so from three different perspectives: effects on financial institutions themselves, effects on financial markets, and effects on stakeholders. Given the course of the crisis through early 2009, the focus is on institutions and markets in Germany, Switzerland, the United Kingdom, and the United States.[2] The paper complements and updates the note on stocktaking of the G-20 responses to the global banking crisis prepared for the G-20 meeting of ministers and central bankers on March 13–14, 2009.[3,4]

3. **At the time of this assessment, central bank intervention had successfully addressed pressures on bank liquidity, but the underlying financial position of financial institutions, particularly the LCFIs, remained precarious**. LCFI profitability and earnings had deteriorated and no major improvements were envisaged by market analysts over 2009–10 as of end-March 2009. Moreover, although Tier 1 ratios had been boosted through the capital injections, tangible common equity (TCE) remained at a critical level for most institutions. Asset quality was weakening, and credit spreads for LCFIs remained wide. Measures had not stemmed the market-driven deleveraging process, and lending surveys pointed to various levels of credit tightening in the United States, Europe, Switzerland, and the United Kingdom. Finally, public guarantees helped to maintain bank debt issuance, but at the cost of creating a sharp differentiation between guaranteed senior and subordinated debt. Since the beginning of the crisis, bank share prices have declined sharply, largely wiping out shareholders' capital.

4. **While national policies eased funding pressures after September 2008, market confidence remained weak.** Government guarantees for senior bank debt relieved some of the

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[2] Financial institutions under analysis include Commerzbank and Deutsche Bank in Germany; Credit Suisse and UBS in Switzerland; Barclays, HSBC, Lloyds, and RBS in the U.K.; Bank of America, Citigroup, Goldman Sachs, J.P. Morgan Chase, Morgan Stanley, U.S. Bancorp, and Wells Fargo in the U.S.

[3] See International Monetary Fund, 2009, *IMF Note on Stocktaking of the G20 Responses to the Global Banking Crisis*. Available via the Internet: www.imf.org/external/np/g20/031909b.htm.

[4] The October 2009 IMF Global Financial Stability Report (GFRS) assesses the effectiveness of the government support measures by estimating the impact of their announcements on the three-month LIBOR-OIS spread, the credit default swap spread of national banks, and two index measures of stress (the Financial Stress Index and the Economic Stress Index)—all of which are proxy measures for credit and liquidity risks. Our approach in this paper is different, as we are concerned with the effectiveness of the government support measures on the performance of financial institutions, markets, and stakeholders as detailed in the text.

funding pressures, but these actions did not avert the collapse in bank stock prices, and a sharp increase in the cost of capital. In broader credit markets, the situation remained difficult and highly dependent on official support. While highly rated issuers of commercial paper in the U.S. may have had access to central bank facilities, lower-rated issuers were credit-constrained. Moreover, structured credit product markets remained largely frozen except for agency guaranteed issues in the United States and support operations by central banks in Europe. Since end-March 2009 support measures (including the G-20 meetings), the business environment in which some banks operate has improved, but a deterioration in the economic environment could impair the fragile recovery by banks.

5. The paper is organized as follows. Section II focuses on a limited set of banking system indicators to assess the effects of policies on LCFIs. Section III briefly analyzes the effects of policies on different financial markets in which LCFIs operate, while section IV focuses on bank stakeholders.

II. FINANCIAL INSTITUTIONS

6. **The success of government support measures can be assessed by their impact on bank soundness indicators.** Government support measures should have a positive effect on bank soundness by improving bank liquidity, profitability, capital adequacy, and asset quality. Containment measures implemented to halt creditor runs by both depositors and other creditors should help banks manage liquidity. Bank restructuring and resolution measures, including loss identification and recognition, diagnosis of banks' viability, and operational restructuring of weak but viable banks, should affect bank solvency, profitability, and sustainability. Asset management measures of distressed assets at the firm level or through a centralized asset management function should contain the effects of falling asset prices and deteriorating loans on bank balance sheets. In addition, all the measures should indirectly improve the performance of key financial markets and instruments supported by the LCFIs.

7. **Central banks have been highly active in responding to the global financial crisis. Interventions started to occur relatively early on in the financial crisis and aimed at restoring financial stability in many markets.** Central banks have acted not only to mitigate the spillover effects from banks to the real economy and but also the feedback effects on banks arising from a deterioration in economic activity.

8. **Central banks have extended liquidity well beyond traditional channels.** Central banks' actions have lengthened the terms of their loans, expanded the types of collateral securities that can be pledged, reduced borrowing costs, and enlarged the pool of institutions eligible to borrow. Central bank balance sheets expanded sharply after September 2008, mainly as a result of credit to banking institutions (see Figure 1).

9. **As a result, liquidity in the selected LCFIs has improved since October 2008.** Central bank interventions led to an increase in liquidity—as measured by cash and interbank assets over total assets—while at the same time, marketable securities as a percentage of total assets oscillated, largely reflecting asset sales and write downs (see Figure 2). Larger holdings of liquid assets can also be the result of banks hoarding cash.

10. **Returns on assets (ROA) and returns on equity (ROE) among LCFIs have plummeted since end-2007, and by end-2008 the majority of the selected institutions had insignificant or negative ROA or ROE.** Earlier actions by both the U.S. and the U.K. governments in March and April 2008 had helped ease fears that major financial institutions would be allowed to fail in the wake of the collapse of Bear Stearns, and helped stabilize losses in 2008:Q2 (see Figure 3) as the liquidity premium paid by banks declined. However, ROA and ROE deteriorated again in the wake of the Lehman Brothers failure in September 2008. Market forecasts of future earnings, though still positive, have declined significantly over the last year for major German, Swiss, U.K., and U.S. LCFIs, reflecting concern about their ability to overhaul their business models and the impact of the sharp deterioration in the real economy (see Figure 4).

11. **Tier I ratios have been boosted through massive capital injections, mostly in the form of preferred shares.** Though the various facilities announced prior to the capital injections had some effect in boosting capital ratios (see Figure 5), losses further eroded regulatory capital. Steps in 2008:Q4 and 2009:Q1 consisted of a mixture of capital injections (in the form of dividend-paying preferred shares) along with guarantees that helped reduce risk weighting. Both steps have allowed Tier I ratios to be brought back to well above regulatory standards.

12. **Although Tier I ratios have been boosted, tangible common equity (TCE) and core leverage ratios remained at critical levels for most institutions.** Market participants have increasingly focused on tangible common equity (which strips out "goodwill," deferred tax assets, preferred stocks, and other intangible forms of capital) as a measure of leverage.[5] For example, market participants estimated that some large U.S. banks were severely undercapitalized in TCE terms before the capital raises mandated by U.S. policy actions. Despite a significant amount of asset sales and the liquidation or consolidation of various financial institutions, basic TCE ratios had stagnated or increased slightly till 2009:Q1. Since then, TCE ratios have improved, but they still remain low.

13. **Asset quality has deteriorated in most LCFIs.** Nonperforming assets have increased since end-2007 for most selected banks in tandem with the deepening economic contraction (see Figure 6). At the same time, provisions for most selected banks have not fully matched nonperforming loans. While declining, the high credit default swap (CDS) rates for large investment-grade corporates both in the United States and Europe indicate a deterioration in the credit quality in the coming months.

14. **Notwithstanding massive public liquidity and other supports, important market indicators suggest that the system is still vulnerable.** LCFIs credit spreads widened during 2008. The actions taken by governments in mid-October 2008 have eased market concerns related to further failures of major LCFIs. The upper and lower bands in Figure 7 contain the least and the most risky LCFIs implied by CDS spreads within each domicile on each date. The probabilities of default implied by CDS spreads for the major LCFIs indicate a reduction in the

[5] In December 2008, the Swiss authorities introduced a countercyclical approach to leverage in addition to raising capital adequacy requirements.

expectation of a credit event occurring within one year after spiking in September 2008. However, CDS spreads for U.S.-based LCFIs displayed both a higher level and a wider range of probabilities than their European counterparts, which could reflect not only a perception by the market participants that European banks had an implicit guarantee from their governments but also that U.S. banks had larger holdings of marketable securities to total assets and were more vulnerable to adverse price changes.

III. Financial Markets

A. Repo Markets and Interbank Lending

15. **Government intervention and guarantees have eased pressures on repo and other interbank markets since September 2008.** Lehman Brother's bankruptcy in September 2008 led to an increase in counterparty risk and a large contraction of repo operations amongst the Swiss, U.K., and U.S. banks (see Table 1). As a way to boost liquidity and offset the contraction in repo operations, central banks have significantly expanded the pool of collateral that they use in their repo and reverse repo operations. In addition, government guarantees have lowered short-term funding costs.

16. **Libor rates have responded positively to official measures.** After spiking in September 2008, three-month Libor rates narrowed thereafter in response to the various support programs (see Figure 8). In most cases, this reflected a reduction in the misalignment between the Overnight Indexed Swap (OIS) rate[6] and the Interbank Offering rates published by the British Bankers' Association for the major currencies. Moreover, the swap spread—the average premium required on a vanilla interest rate swap to account for counterparty risk—has fallen to precrisis levels.

17. **Even though repo and Fed funds rates have declined since August 2007, their differential has pointed to continuing concerns over credit risk on several occasions.** Under normal conditions, repo transactions take place at lower interest rates than unsecured Fed funds as they are secured lending. During market turbulence, when the credit risk intensifies, repo rates have traded higher than Fed funds rates on several occasions (see Figure 9). This signals a shift toward a premium on high-value collateral over borrowers or collateral.

B. Commercial Paper

18. **The disruption in the commercial paper market has added extra pressure on the banking system.** As liquidity in the commercial paper market dried up, credit constrained corporates resorted to back-up lines of credit and loan commitments. In addition, fears that unconstrained corporates would not be able draw on their lines of credit when needed, as banks would restrict access to their lines of credit, has led to a run on banks' lines of credit. As a result,

[6] Overnight Indexed Swaps are fixed-floating interest rate swap contracts wherein the floating leg references a daily overnight index. From an economic perspective, paying (receiving) the floating rate is the equivalent to lending (borrowing) cash. High spreads indicate large counterparty risk associated with financial institutions and low availability of funds for lending purposes.

the stock of unused back-up commitments at banks has declined since end-2007 (see Figure 10), leading to an expansion in total assets and loans in the midst of a deleveraging process.

19. **The Fed's Commercial Paper Funding Facility (CPFF) has helped mitigate liquidity pressures on the U.S. commercial paper market, but funding difficulties remain for lower-rated borrowers.** As of end-December 2008, the Fed had purchased about 20 percent of the outstanding commercial paper (see Figure 11). However, only highly rated commercial paper (A-1/P-1/F1) can be pledged as collateral. The spread between rates on high- and low-quality commercial paper widened sharply after September 2008 but has narrowed since the beginning of 2009. Therefore, while highly rated issuers have access to central bank facilities, lower-rated issuers have remained credit-constrained.

20. **The Fed also provided temporary relief to money market mutual funds through the creation of the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility.** This facility funded the purchase of asset-backed commercial paper by banks from money market mutual funds and was equivalent to about 38 percent of outstanding asset-backed commercial paper at end-September 2008. Since then, this facility has lost its importance (see Figure 12).

21. **Activity in the European commercial paper has declined in recent months.** European asset-backed commercial paper issuance plummeted in 2008, declining by 37 percent during the year with most issuance reportedly retained by sponsoring bank conduits for repo purposes with the European Central Bank and Bank of England (see Figure 13). At the same time, European commercial paper rates in U.S. dollars, British pounds, and Euros have fallen substantially since September 2008.

C. Structured Credit Products (CDOs, ABS, RMBS, and CMBS)

22. **The U.S. securitization market came to a virtual halt in 2008.** Except for agency mortgage-backed securities, issuance of other asset-backed securities has been very limited since end-2008:Q2 (see Figure 14). Banks and other financial institutions securitized about US$1,280 billion of residential and commercial mortgages and other assets in 2007. In 2008, only US$178 billion of residential and commercial mortgage-backed and other asset-backed securities was issued, which certainly has impaired the financial system capacity to intermediate credit. In turn, agency mortgage-backed securities have an implicit guarantee by the U.S. Treasury and can also be pledged as collateral for the Fed facilities. As a way to promote asset-backed security issuance, the Fed has also designed a new facility—the Term Asset-Backed Securities Loan Facility (TALF)—to encourage origination of AAA asset-backed securities. Even though issuance of agency mortgage-backed securities has not declined and has at least provided a mechanism for the banks to originate and sell mortgages, it has not been sufficient to restore the precrisis levels of mortgage and other loans.

23. **Activity in European securitization markets appears to have been supported by central bank interventions.** European securitization markets are not as large as their U.S. counterparts. The special, central bank repo transactions appear to have led to an increase in European residential mortgage-backed security (RMBS) issuance since 2008:Q2 (see Figure 15).

IV. STAKEHOLDERS

24. **The containment support measures have successfully avoided bank runs and a contraction in deposits.** The expansion of the deposit insurance by many governments has assured depositors that they are fully covered up to certain limits. In addition, governments have been quick to transfer deposit accounts from failing banks to other institutions, such that even unsecured creditors have avoided losses on average. This has prevented a drastic contraction in banking system deposits in Europe, Switzerland, the United Kingdom, and the United States (see Table 2).

25. **However, de-leveraging, rising risk premiums and falling economic activity has led to declining and even negative lending growth rates.** Net credit to the private sector contracted in the United States during 2008:Q4, while it still increased in the United Kingdom and Europe during the same quarter. In Switzerland, while domestic credit remained trending upwards, net credit fell between 2008:Q3 and 2008:Q4, and on a year over year basis during 2009:Q1.[7] As previously noticed, the stock of unused back-up commitments at U.S. banks has declined since end-2007 (see Figure 10), resulting in an expansion in total assets and loans. However, various lending surveys pointed to a continued deterioration for the next year in the United States, the United Kingdom, and Europe.

26. **Public guarantees have helped to maintain bank debt issuance.** Guaranteed senior bond issuance by U.S. and U.K. banks has amounted to 55 percent and 50 percent of bank bond issuance, respectively, since 2008:Q4 (see Figure 16). However, government intervention appears to have created a sharp differentiation between senior and subordinated debt issuance. The spread between the two sub-classes widened significantly after September 2008 as only senior bonds are guaranteed by government agencies. This has caused a preference in the market for senior debt that has been detrimental to subordinated debt.

27. **Bank share prices have declined sharply, largely wiping out shareholders' capital.** Price-to-book value ratios for some institutions have reached very low levels that would be consistent with failing banking institutions (see Figure 17). The low levels have made it very difficult for banks to attract capital from private sources.

28. **Governments have responded by setting up recapitalization programs.** While the U.S. government has provided capital in the form of TARP preferred shares and warrants, European governments have recapitalized banks using a more diverse set of instruments (see Figure 18). Both U.S. and European banks have been able to raise capital not only from their governments but also from a diverse set of stakeholders ranging from private investors to sovereign wealth funds. Most capital for European banks has been raised in the form of stock offers, perpetual bonds, and preferred shares.

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[7] Domestic lending in Switzerland remained robust during 2008, despite a decline in net credit to the private sector. Reduction in lending to foreign sources through the major Swiss banks' prime brokerage and dealer activities accounts for this divergence between domestic lending and net credit growth to the private sector.

V. CONCLUSION

29. **Through end-March 2009, the effects of the support measures on LCFIs, financial markets, and stakeholders addressed immediate confidence issues in the banking system, but financial markets remained under stress.** While liquidity and regulatory capital ratios were boosted significantly, profitability and earnings outlook of LCFIs deteriorated, their tangible common equity (TCE) remained at a critical level, and asset quality weakened. As a result, market confidence remained weak. While government guarantees for senior bank debt relieved some of the funding pressures, these actions did not avert the collapse in bank stock prices. In credit markets, the situation remained highly dependent on official support, with highly rated issuers having access to central bank facilities while lower-rated issuers were credit-constrained. Moreover, structured credit product markets remained largely frozen except for agency-guaranteed issues.

30. **Since the measures by governments at end-March (including the G-20 meetings), the business environment in which some banks operate has improved, but a deterioration in the economic environment could impair the fragile recovery by banks.** For instance, earnings in many U.S. banks were higher than expected in 2009:Q1 and 2009:Q2 and many banks passed the stress test unscathed. This is reflected in a reversal of the downward trend in the one-year forward consensus earnings per share for Swiss and U.S. banks. However, the economic forecast for the remainder of 2009 and 2010 is still gloomy and banks are not immune to a deterioration in the economic environment.

Table 1. Interbank Lending Growth Rates in the Euro Area, Switzerland, the United Kingdom, and the United States

(In percent)

	Jun-07	Sep-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09
Repo loans 1/									
Switzerland	3.0	7.6	-9.8	2.2	-9.7	7.6	-17.4	39.5	-13.6
UK	-6.0	-2.7	-14.4	13.7	-21.9	-9.5	-24.2	-14.3	8.2
US 2/	-1.8	11.9	11.6	-2.8	-5.9	9.7	-17.5	-0.2	-5.0
Other loans to banks 1/									
Euro area 3/	3.3	3.2	6.6	0.8	2.8	5.7	-0.6	-3.0	1.5
Switzerland	1.2	1.8	-2.9	4.0	-5.2	0.6	-17.2	-14.5	0.0
UK	-3.1	-46.5	-6.5	10.8	-3.5	9.0	25.9	-3.8	-7.8
US	-14.2	-0.4	12.0	-2.1	-2.1	-14.3	-3.2	-10.2	8.2

Source: Bank of England, Federal Reserve, IMF, and Swiss National Bank.

1/ Includes items in all currencies.
2/ Includes Fed funds sold and repos with domestic commercial banks, brokers, and dealers.
3/ Loans to monetary financial institutions

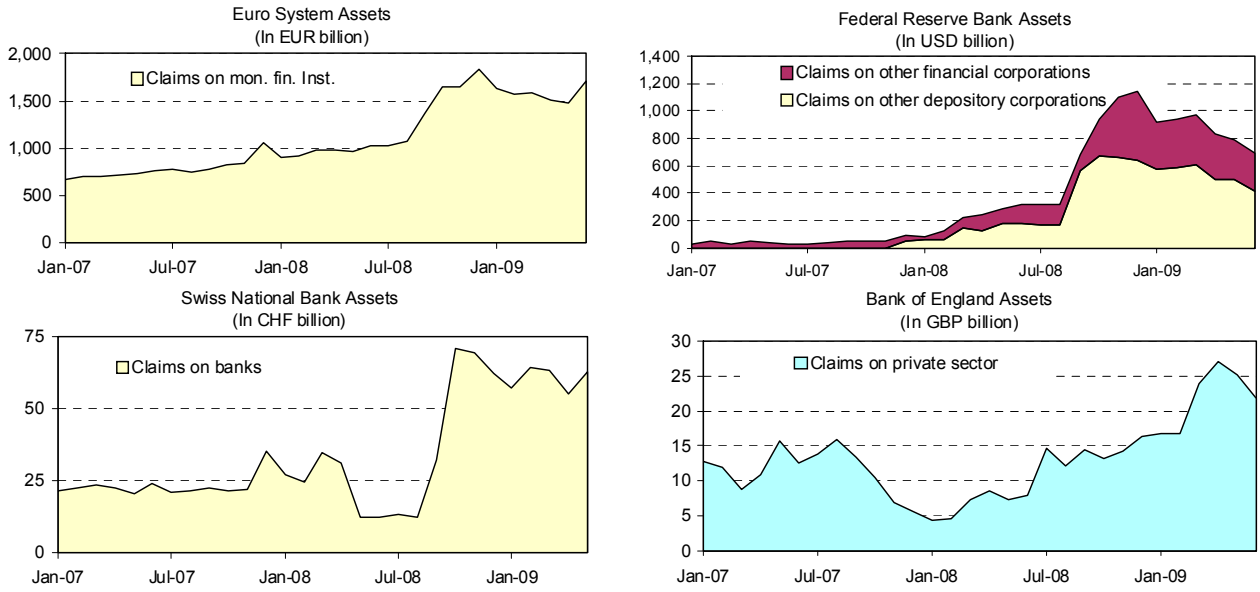
Table 2. Growth Rates of Total Deposits and Net Credit to the Private Sector in the Euro Area, Switzerland, the United Kingdom, and the United States

(In percent)

	Jun-07	Sep-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09
Total Deposits								
Euro area	2.8	1.5	5.8	1.4	2.2	1.0	4.2	0.7
Switzerland	0.5	-0.3	2.2	0.7	-0.5	0.2	1.9	3.2
UK	4.6	3.2	3.4	5.4	0.9	4.4	5.9	0.2
US	1.1	4.3	4.0	4.7	-1.3	0.7	3.9	0.1
Net Credit to the Private Sector								
Euro area	3.3	2.3	3.6	2.8	2.2	1.6	1.4	0.5
Switzerland	0.6	0.9	3.3	0.4	-0.1	-0.1	-1.2	1.8
UK	2.6	4.6	3.2	5.6	0.7	3.3	5.0	0.0
US	2.4	3.0	2.7	1.7	-0.2	0.8	-0.3	-1.6

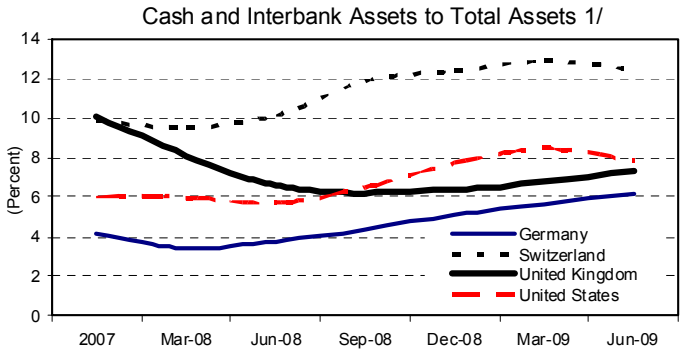
Source: IMF, *International Financial Statistics*

Figure 1. Central Bank Balance Sheets Have Expanded Sharply



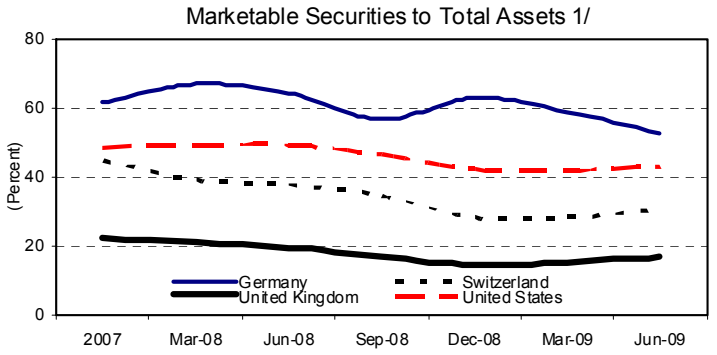
Source: IMF, *International Financial Statistics.*

Figure 2. Liquidity Measures at LCFIs Have Stabilized



Source: Bloomberg

1/ Weighted average.

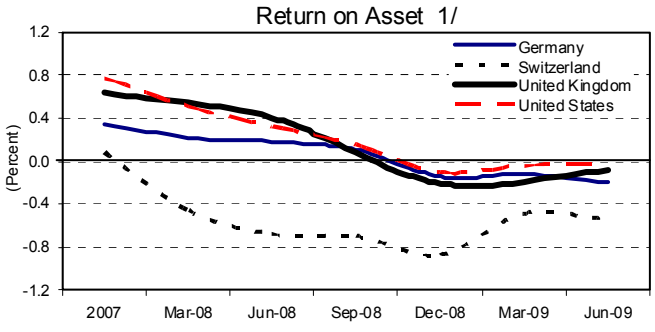


Source: Bloomberg

1/ Weighted average.

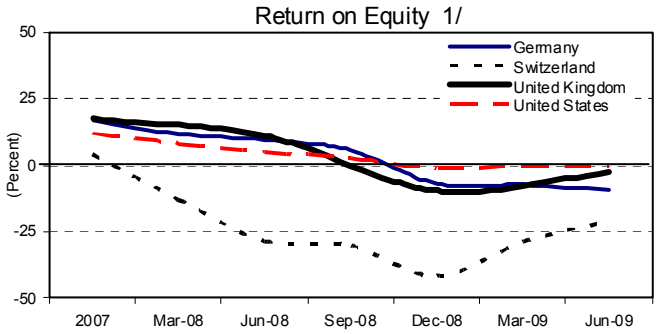
Figure 3. Profitability at LCFIs Has Declined and Turned Negative

(in percent)



Source: Bloomberg

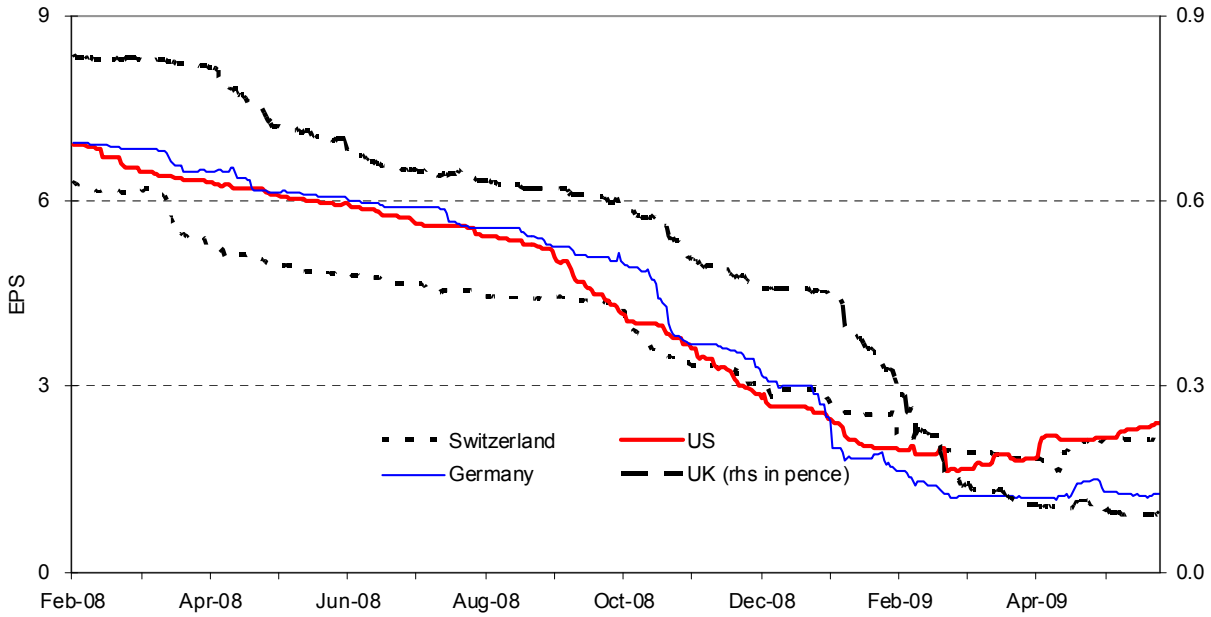
1/ Weighted average.



Source: Bloomberg

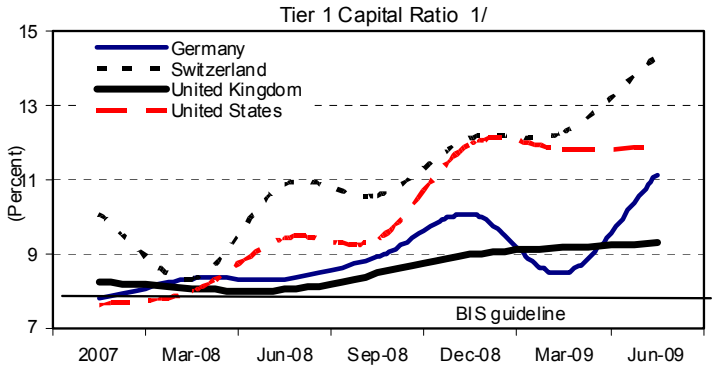
1/ Weighted average.

Figure 4. LCFIs: One-Year Forward Consensus Earnings per Share

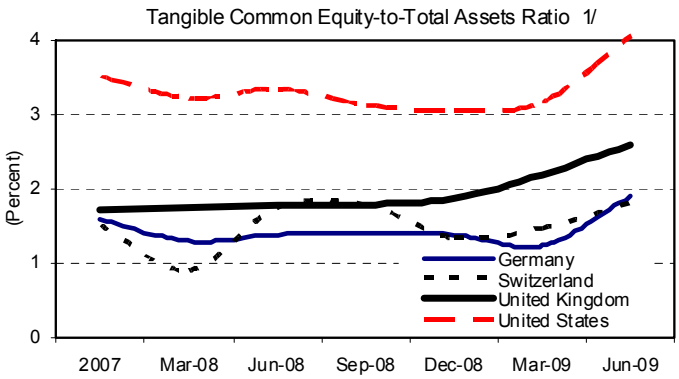


Source: Bloomberg

Figure 5. Capital at LCFIs Has Remained at a Critical Level
(in percent)

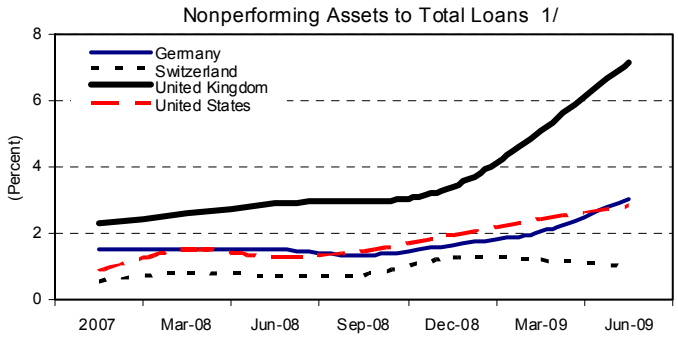


Source: Bloomberg
1/ Simple average.

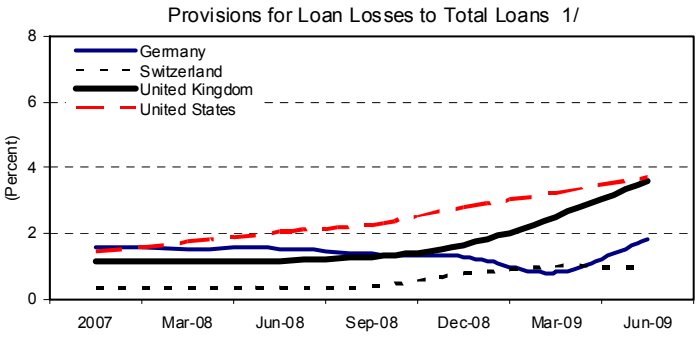


Source: Bloomberg
1/ Weighted average.

Figure 6. Asset Quality at LCFIs Has Deteriorated
(in percent)

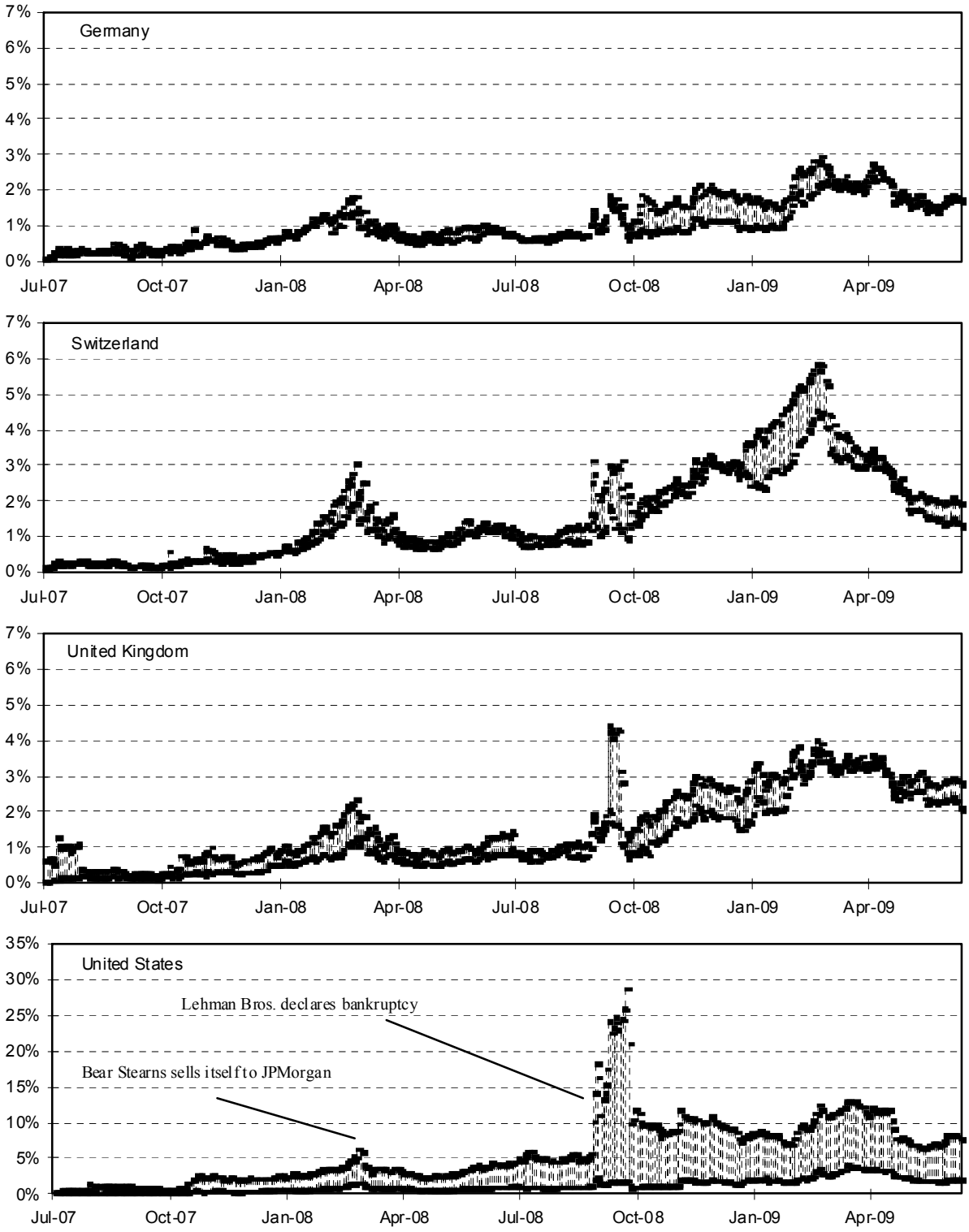


Source: Bloomberg
1/ Weighted average.



Source: Bloomberg
1/ Weighted average.

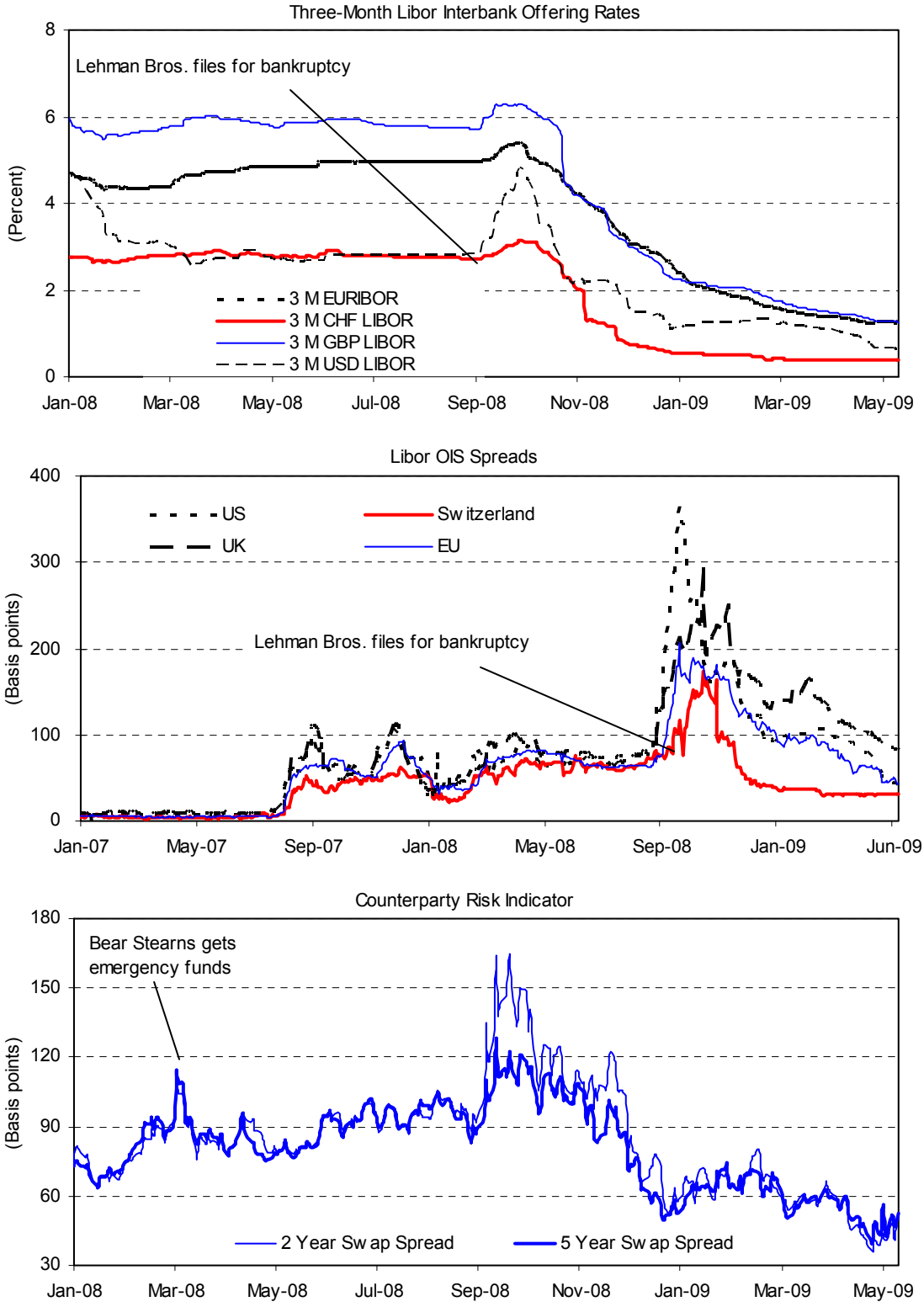
Figure 7. Probability of Default of LCFIs Implied by CDS Spreads 1/ 2/ 3/



Source: IMF staff estimates

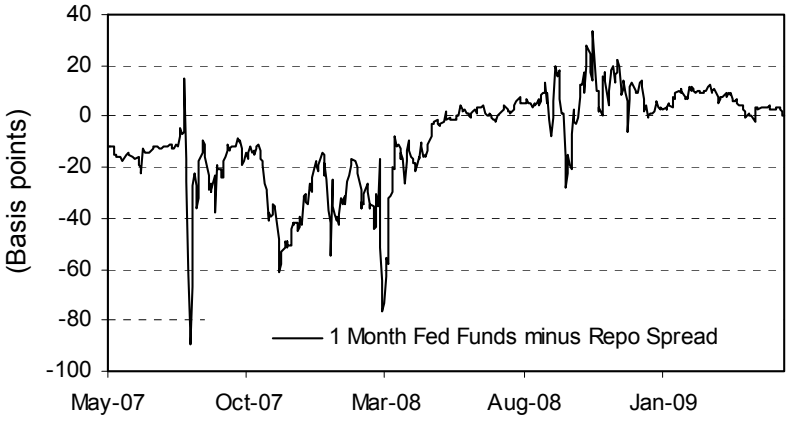
1/ Scale varies by country.
2/ Bands indicate institutions with the highest and lowest implied probabilities of default.
3/ Probabilities of default assume 40-percent recovery rate, without any adjustment for funding costs and stochastic recovery rate.

Figure 8. Interbank Lending Rates Have Eased



Source: Bloomberg and IMF staff estimates.

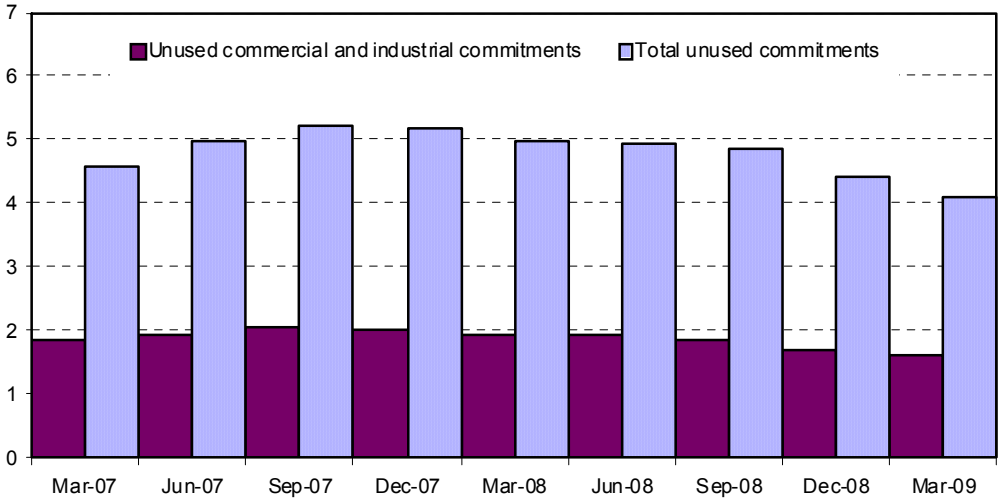
Figure 9. United States: Federal Funds and Repo Rate Differential



Source: Credit Suisse Locus.

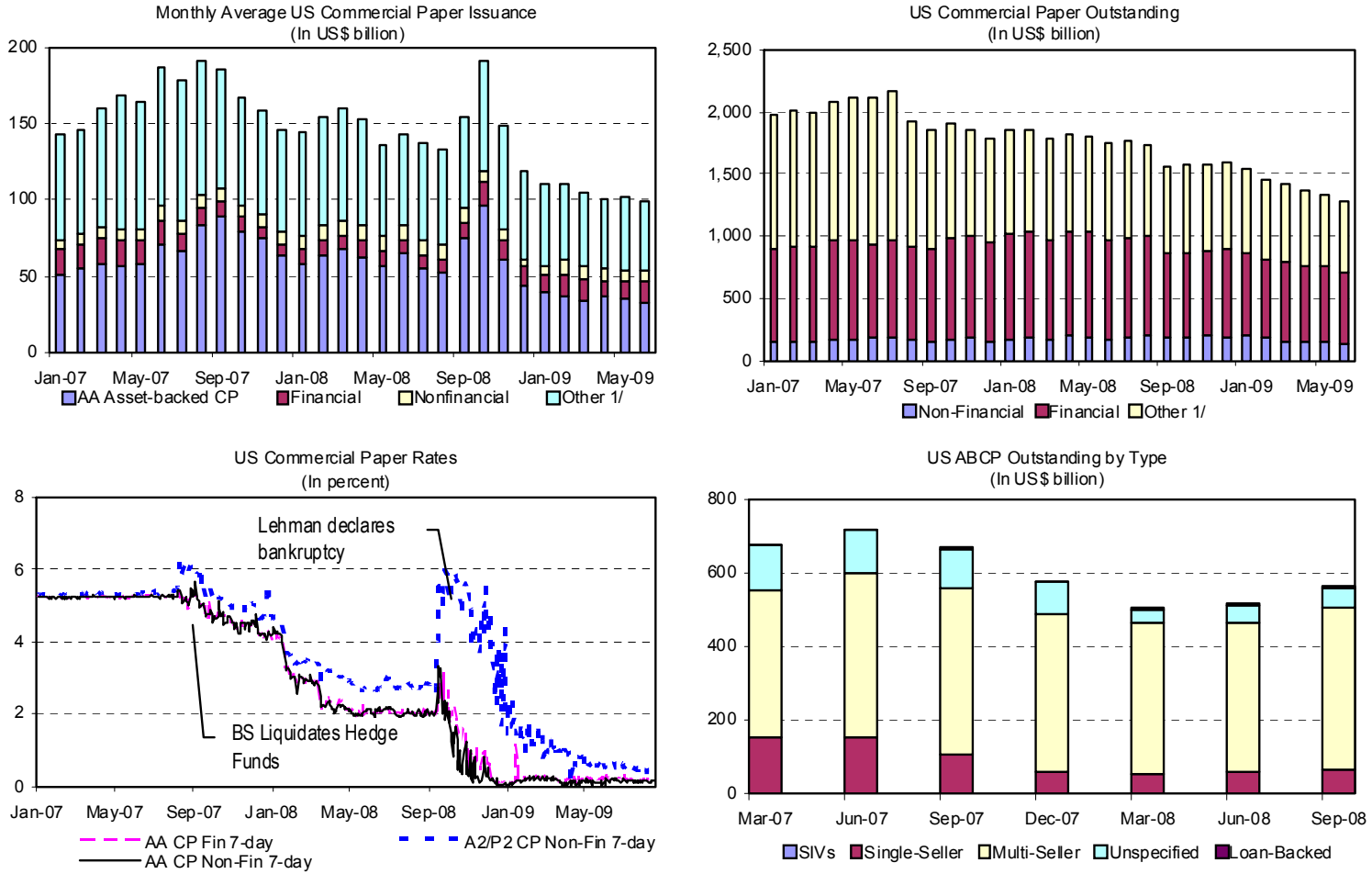
Figure 10. Unused Commitments in U.S. Banks

(In US$ billion)



Source: FFIEC, Report on Condition and Income.

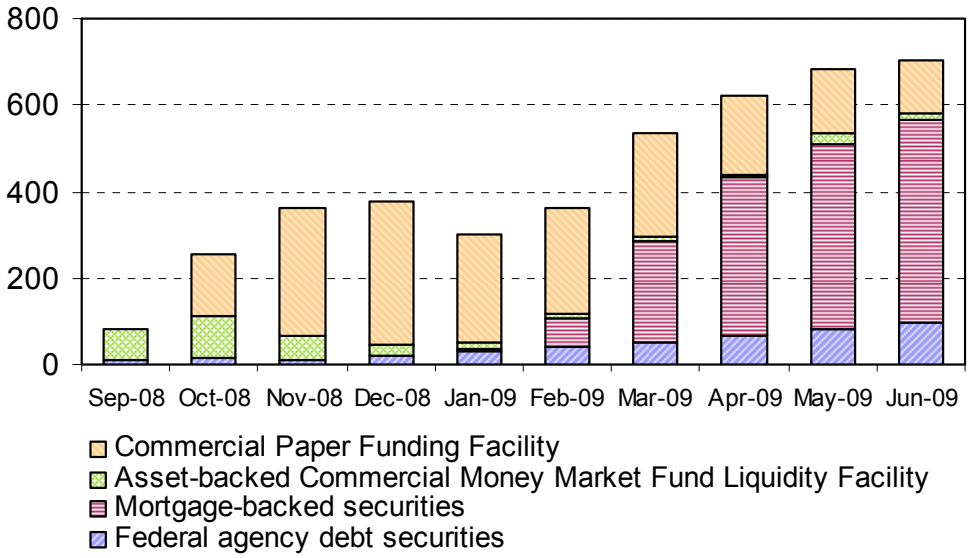
Figure 11. United States: Commercial Paper Issuance Has Been Volatile



Source: Federal Reserve Board, SIFMA

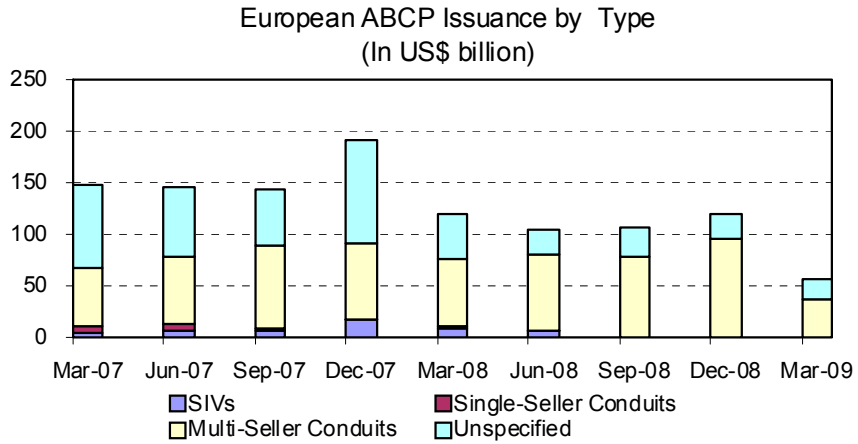
1/ Includes asset-backed commercial paper and outstanding CP issues for which no domicile could be determined.

Figure 12. United Sates: Federal Reserve Bank Holdings of Commercial Paper, Federal Agency, Asset- and Mortgage-Backed Securities
(In US$ billion)

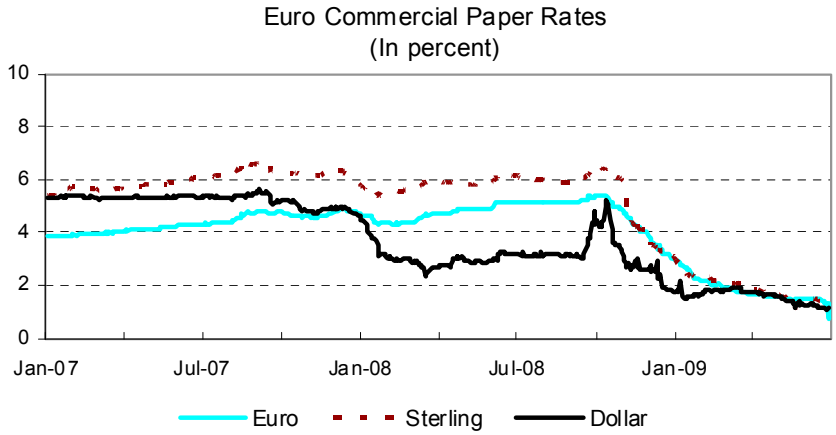


Source: Federal Reserve Board

Figure 13. European Commercial Paper Activity Has Weakened

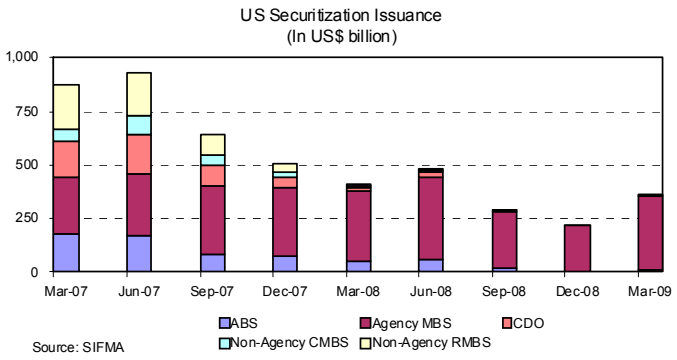


Source: SIFMA



Source: Bank of England

Figure 14. United States: Securitization Came to a Virtual Halt



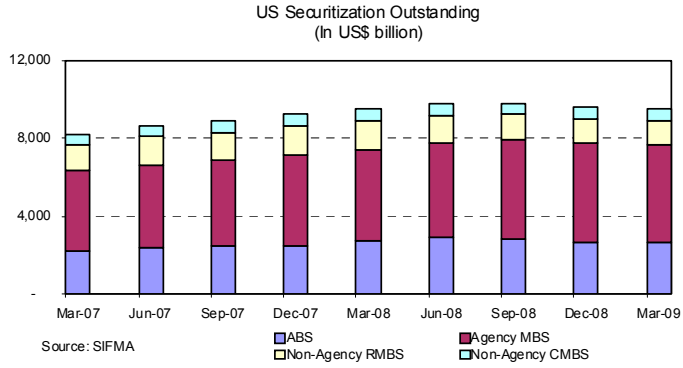
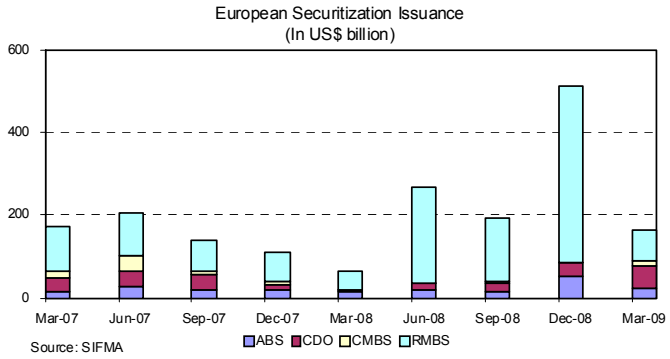


Figure 15. European Securitization Appears to Have Been Supported by Central Bank Interventions



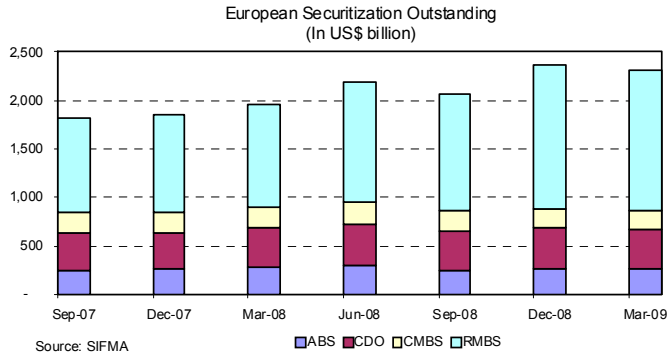
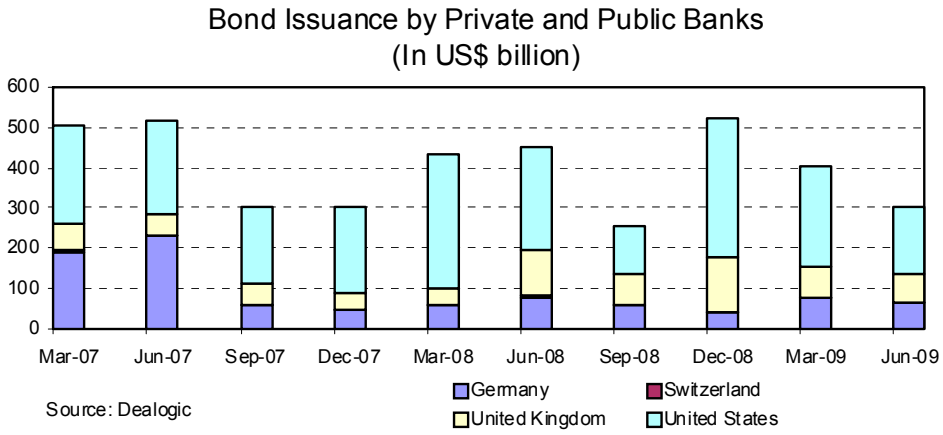
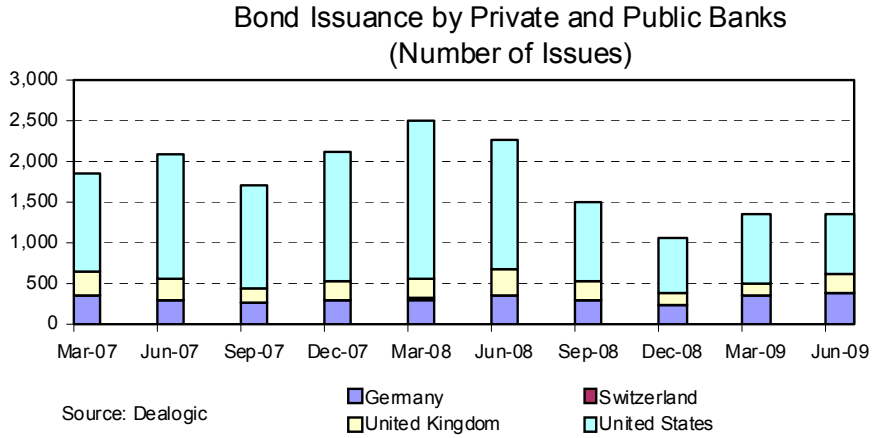


Figure 16. Bank Debt Issuance Has Been Helped by Public Guarantees





Guaranteed Senior Bank Bond Issuance

	US (USD bn)	UK (GBP bn)	Germany (EUR bn)
Q4-2008	276.7	62.2	11.8
Q1-2009	129.0	60.6	30.8
Q2-2009	12.5	25.2	5.4
Total	418.2	148.0	48.1

Source: Bloomberg

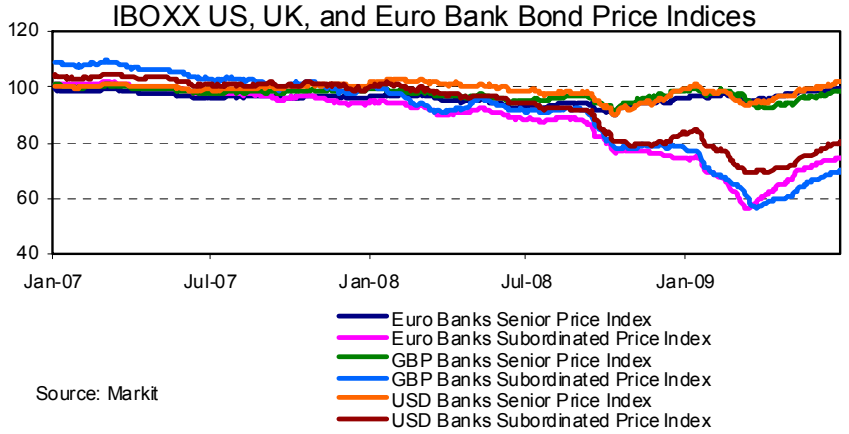
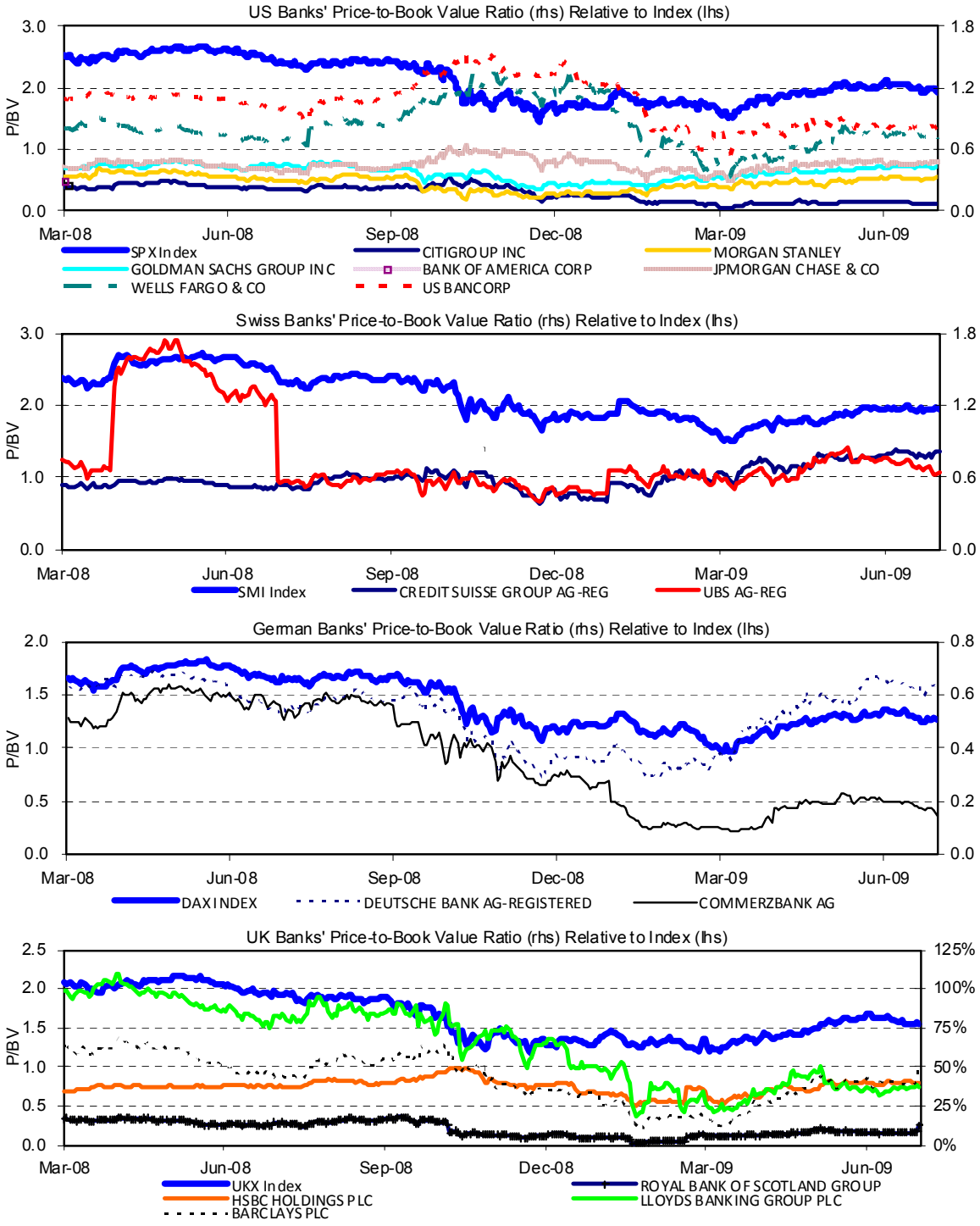
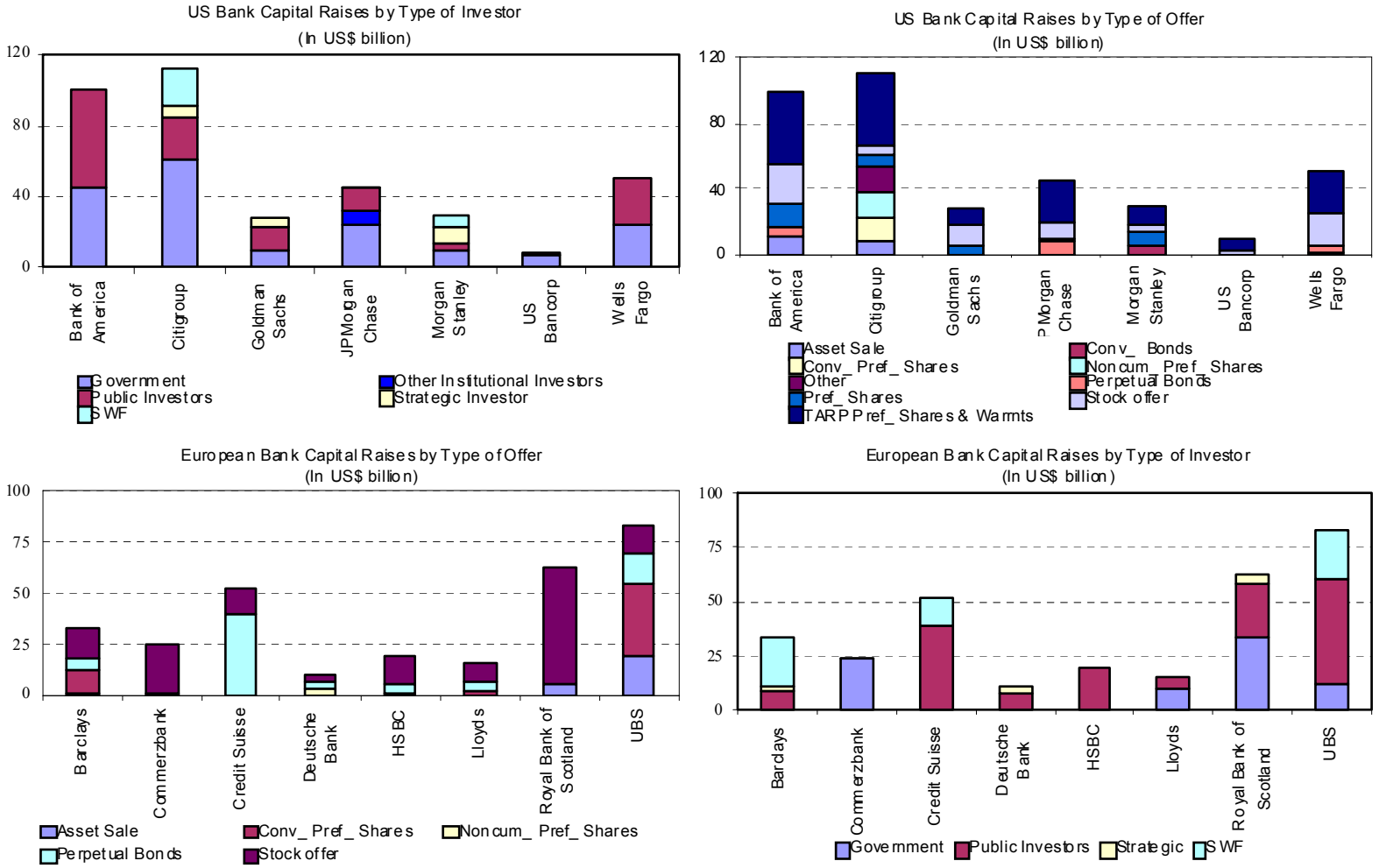


Figure 17. Price-to-Book Value Ratios Have Reached Low Levels



Source: Bloomberg

Figure 18. Capital Raises by Type of Offer and Investor since Mid-2007



Source: Bloomberg