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LOOKING BEHIND THE AGGREGATES:
A REPLY TO “FACTS AND MYTHS ABOUT THE
FINANCIAL CRISIS OF 2008”



Working Paper No. QAU08-5

Ethan Cohen-Cole
Burcu Duygan-Bump
Jose Fillat
Judit Montoriol-Garriga
Federal Reserve Bank of Boston

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A reply to “Facts and Myths about the Financial Crisis of 2008”*

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FEDERAL RESERVE BANK OF BOSTON

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Abstract

As Chari et al (2008) point out in a recent paper, aggregate trends are very hard to interpret. They examine four common claims about the impact of financial sector phenomena on the economy and conclude that all four claims are myths. We argue that to evaluate these popular claims, one needs to look at the underlying composition of financial aggregates. Our findings show that most of the commonly argued facts are indeed supported by disaggregated data.

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Overview

The US and world economies are in the midst of a severe financial crisis. The crisis is undoubtedly linked in some fashion to financial institutions. The fundamental question Chari et al (2008), henceforth CCK, seek to address is the degree to which varied claims about the way the crisis affects the real economy are true.

CCK make two primary arguments. First, they argue that a set of four now common claims about the nature of the crisis are false. Second, they assert that interest rate spreads, in particular the spread between the London Interbank Offered Rate (LIBOR) and the fed funds rate may be informative about the cost of borrowing during normal times, but misleading during crises as the increased spreads may be “due to the drop in the real return to Treasury securities as a result of the flight to quality and does not constitute an increase in the real cost of borrowing.”

In this short note, we consider their first argument and present further evidence on the four claims that are examined in CCK. Using publicly available data, we show that these facts are indeed true and not mythical. Their second argument on spreads remains a more theoretical one that we leave for another short note.

The four claims: Myth or Fact?

CCK present four claims that both the press and policymakers have made about the nature of the crisis and the associated impact on the rest of the economy. Here, we present further evidence that the first three of these are facts and not myths. The fourth claim requires a more nuanced view which we also address below.

1. Bank lending to nonfinancial corporations and individuals has declined sharply.

CCK show a number of graphs using Federal Reserve data that plot total loans from bank balance sheets over time. They conclude from these charts, which show an increasing trend over time, that there has not been an impact on lending to non-financial firms or consumers during the crisis. We agree that the aggregate patterns show no evidence of a decline. However, these aggregates hide the underlying dynamics and belie the fact that the components of this data show a sharp weakening of credit conditions.

During crises, bank balance sheets expand for a number of reasons. First, one consequence of the credit crisis is that loan "securitization," the business of packaging various loans (home, business, auto and other) into assets for investors, has become more difficult. Accordingly, banks have had to keep the loans

they make on their balance sheets. Figures 1A–1B present strong evidence on the declining issuance in securitization markets.

Second, during this and other times of financial weakening, companies increasingly rely on their existing loan commitments and lines of credit. This is because general liquidity dries up and commercial paper markets become strained. As a result, the aggregate figures in CCK do not reveal the weakening in *new* lending. In fact, CCK acknowledge this point in the revised version of their working paper and highlight the fact that they would like to see data supporting this argument. In Figure 1C, we plot the ratio of total outstanding to total commitments in syndicated loans and show a significant increase in draw-downs from lines of credit, comparable to the levels during the Savings and Loan crisis in the early 1990s. Similarly, in Figures 1D and 1E, we plot data based on publicly available call reports and show that unused lending commitments at commercial banks, especially for commercial and industrial loans, have contracted since the last quarter of 2007.¹

Two drivers may be behind this pattern. The first is that banks are actively managing lines of credit by not renewing them at maturity, reducing the limit or even closing some of the lines. A second explanation is that firms are actually using the lines of credit, inducing so-called “involuntary lending”. Both reasons imply that banks are reducing new lending, especially to businesses. Unfortunately, the call report data are released with a lag and still do not cover the most recent events following the Lehman default. However, the trend is in line with more recent anecdotal evidence. A Wall Street Journal article from October 16th, 2008 reports mass draw-downs by cash-strapped companies since mid-September with a few exclusions of big banks who have not witnessed such a rush to tap revolvers.

Unfortunately, neither the figures in CCK nor the ones just presented capture the complete picture. We believe that the more relevant claim here is not the one CCK formulated but is instead the following: “Bank credit has become more difficult and expensive to obtain”. This is because the increased LIBOR rates translate to higher nominal funding expenditures, something CCK do not discuss even though they include these rates in their figures. We strongly believe that to assess whether changes in bank lending have had an impact on the real economy, one needs information on prices as well as quantities. Some evidence for this is seen in the spread between exclusively private jumbo mortgages and conforming loans underwritten with prior commitment to buy from government sponsored entities such as Fannie Mae and Freddie Mac (Figure 1F).

¹ There is also strong survey evidence based on the most recent Senior Loan Officer Opinion Survey on Bank Lending Practices, which shows a significant increase in the net fraction of domestic institutions that report having tightened their lending standards and terms on all major loan categories over the previous three months.

2. *Interbank lending is essentially nonexistent.*

CCK plot a chart of “interbank loans” based on weekly data on commercial banks’ assets and liabilities (H8) that is largely unchanging over time. This figure appears to be derived from the H8 item of the same name. They conclude from this figure that interbank lending has indeed not decreased.

Unfortunately, this category of “Interbank Loans” from H8 data is very opaque. We know for example that it does not include lending to non-bank brokers and dealers, which is of similar magnitude as bank-to-bank transactions and also shows significant declines. In order to assess the true health of the interbank lending market, we need to better understand this aggregate interbank lending number and to decompose it by maturity and type (unsecured vs. secured, and in the latter case, type of collateral). For example, there is a significant amount of anecdotal evidence that a large portion of the interbank market has become overnight repos exclusively backed by government securities, which suggest that interbank lending is not working as usual. We agree with CCK that additional information would be useful here.

To re-iterate our point that such aggregated facts in isolation are hard to interpret and hide the underlying dynamics, we also consider movements in other line items from the H8 data. For example, Figure 2A shows the evolution of “cash assets” of banks and highlights the extent of cash hoarding. The picture is even sharper when we disaggregate the numbers for big vs. small banks as in Figure 2B. This figure adds further support to this second claim as well as the first one discussed above. After all, if interbank lending markets were functional and banks were not worried about meeting various liquidity demands (e.g. draw-downs on existing commitments), they would not carry such a high volume of cash given the significant opportunity cost.

Finally, the short-term demand for interbank funds is known to be highly inelastic such that one would not expect to see a large change in quantities of these funds.² In other words, looking at quantities alone to make inferences about the health of interbank lending cannot be very informative, and rates are likely to be the true indicators of strain in this market as shown in Figure 2C (also reported in CCK).

3. *Commercial paper issuance by nonfinancial corporations has declined sharply, and rates have risen to unprecedented levels.*

CCK plot commercial paper (CP) outstanding for financials vs. non-financials and 90-day CP rates to argue that non-financials have been largely unaffected. The argument is largely based on the fact that AA non-financial firms show little change in quantities outstanding or in 90 day rates.

² In recent weeks, interbank lending is likely to have been affected also by the increased lending by the Fed.

Again, we argue that it is important to look behind these aggregate numbers and the underlying dynamics. First, there is a large difference in outcomes for AA and A2/P2 non-financial companies as can be seen in CCK's Figure 7A. Here we plot the further disaggregated commercial paper outstanding numbers for AA Non-financials and A2/P2 Non-financials (Figure 3A), and show that there were indeed non-financials affected by the crisis. Similarly, Figure 3B shows the overnight (1–4 day) and 30 day yields on various sub-categories of CP (Figure 3B) and highlights the strains in the ABCP market (top panel) as well as the A2/P2 market (the bottom panel). This last panel is actually not surprising as A2/P2 borrowers are the marginal borrowers. While one may take comfort in the fact that AA borrowers can obtain CP funding, it does not necessarily reflect the absence of problems in the CP market overall. In fact, we interpret this as evidence of flight to quality.

Second, a change in the term of new issues is an important indicator as it can potentially be a reflection of a changing risk or term premium. Figure 3C shows the percentage of overnight (1–4 day maturity) paper in new gross issuance and highlights how CP has become a short-term instrument during this most recent period: the share of overnight issuance for ABCP increased to as much as 90% in the days following Lehman's failure.

Finally, one needs to note that these yields are based on a selected sample of programs, and particularly ones that have been able to issue paper during this time. It is highly possible that there were many programs that have been unable to issue any CP in the past month. Accordingly, the observed prices are likely to provide an underestimate of the true cost of borrowing. In other words, even though it is true that strong non-financials have been relatively less affected, we believe that the strains in the CP market are factual and not mythical.

4. Banks play a large role in channeling funds from savers to borrowers.

CCK argue that 80% of business borrowing takes place outside the banking system. They also suggest that banks may be tapping into increased deposits to make up for the strained conditions in CP market. We agree with CCK on this point: the first statement is a well-established fact and there is strong evidence (as CCK also presents) that deposits indeed flow to banks during liquidity crises and that banks use these deposits to hedge their liquidity risk to fund the loans against existing commitments (Gatev and Strahan, 2006).

However, this argument overlooks the impact on small businesses and especially households that still rely heavily on bank lending given their limited access to capital markets. In fact, data released from the Federal Reserve shows that total consumer credit (excluding loans secured by real estate) outstanding

decreased at an annual rate of 3.7% in August, driven mainly by a 5.4% annual decrease in non-revolving credit.³ Moreover, there is no reason to believe that the proportions 80%–20% are static. In other words, when CP markets become strained, the pressure on banks to fulfill this role increases as those companies that comprised the 80% now need a different funding source. So, the concern remains: will the banks be able to fulfill this role given existing balance sheet constraints? Evidence presented above that banks are hoarding cash suggests either that they are unwilling or unable to do so.

Conclusion

Our analysis has shown that the claims regarding the financial markets and the mechanism through which they may affect the real economy are largely supported by looking behind the aggregates of publicly available data. Having said so, we would like to point out the need for a more thorough analysis than the simple plots we have provided here. After all, there are many other confounding factors that make interpretation of these numbers difficult. For example, it is hard to even understand what it means to observe a decrease in lending. Simple plots cannot help us disentangle the extent to which changes in new bank lending are caused by banks cutting lending or by decreased demand for loans due to a slow-down in the real economy.

Given that both the US and the world economies are undergoing a financial crisis, we emphasize, along with CCK, the need for ample data and analyses to support policy decisions. We encourage future studies.

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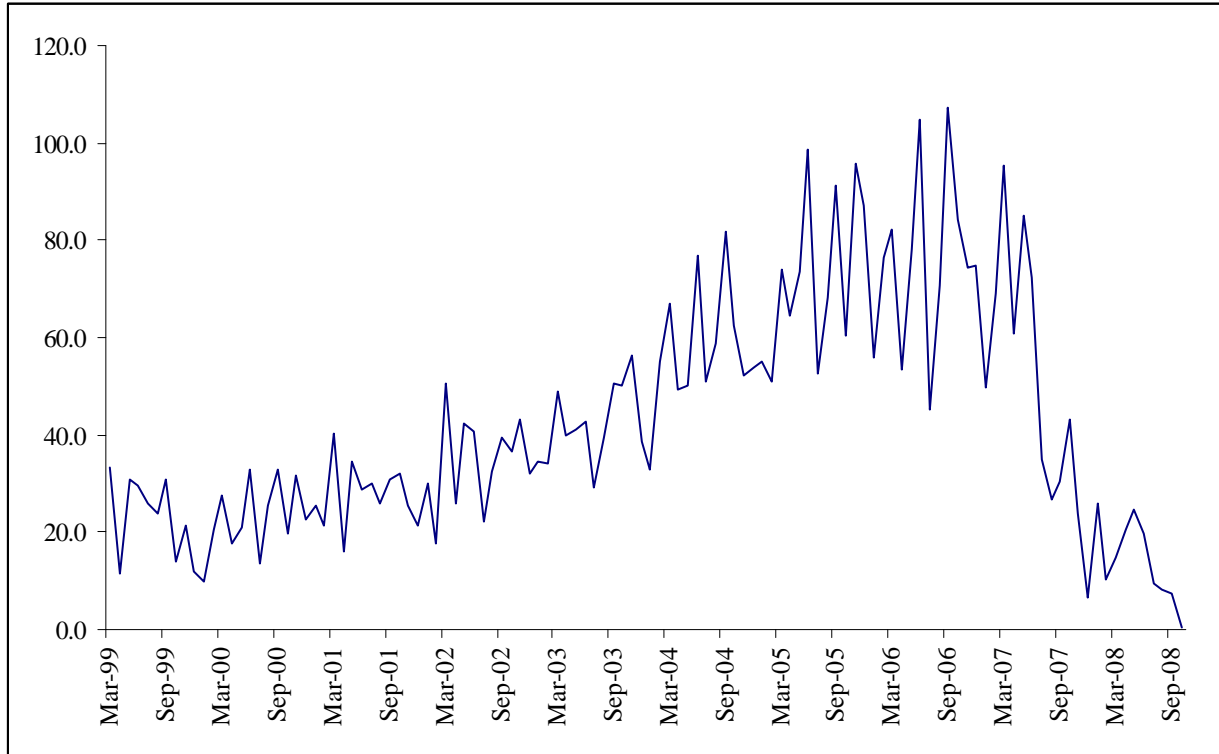
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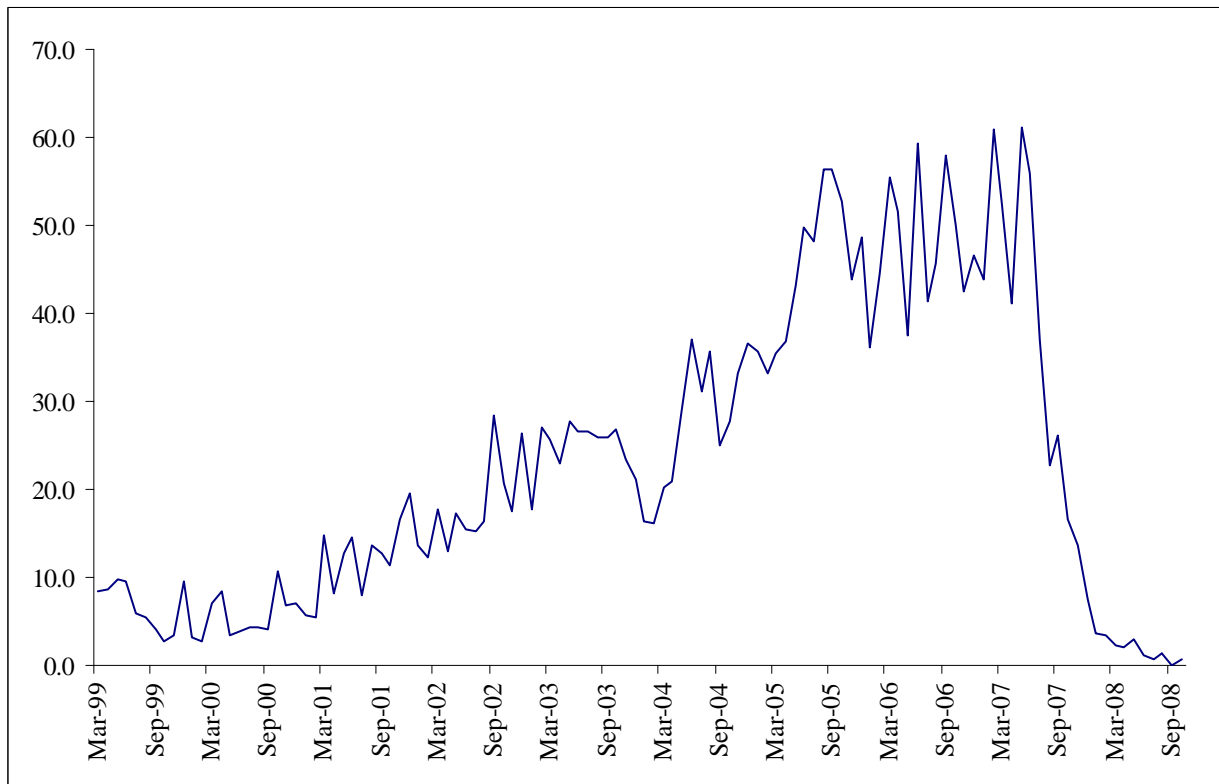
³ <http://www.federalreserve.gov/releases/g19/current/>

Figure 1A: US Asset Backed Securities Issuance (in \$ bil.)



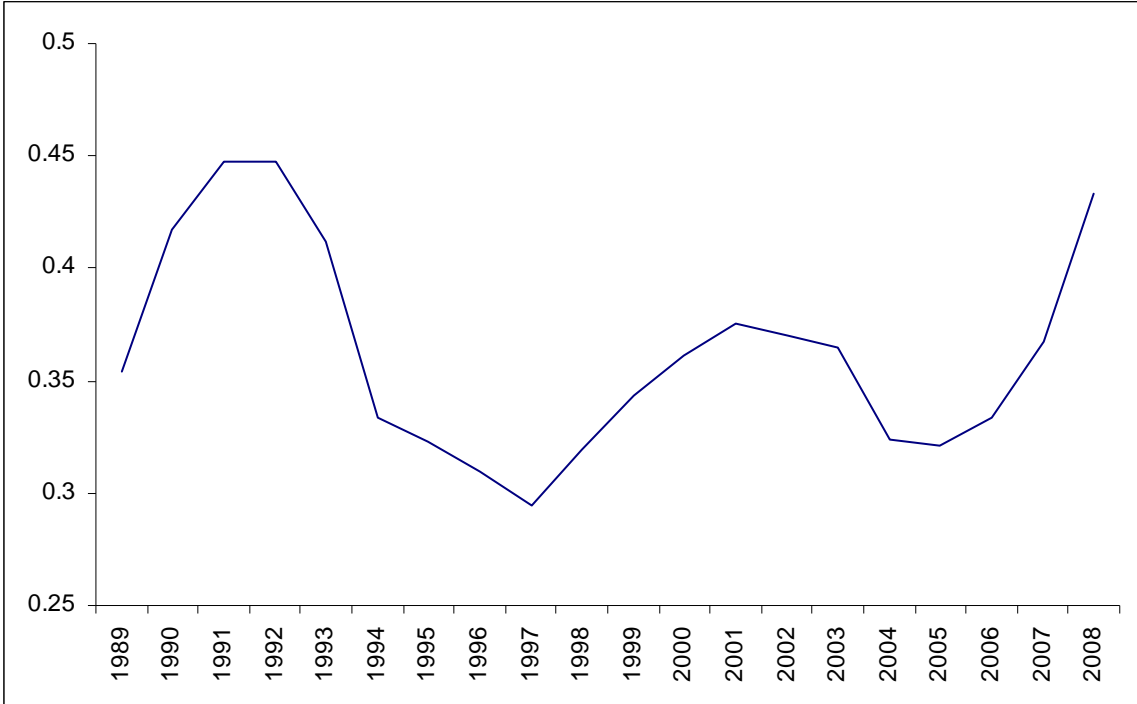
Source: <http://www.abalert.com/Public/MarketPlace/MarketStatistics/index.cfm>

Figure 1B: US Non-Agency Mortgage Backed Securities Issuance (in \$ bil.)



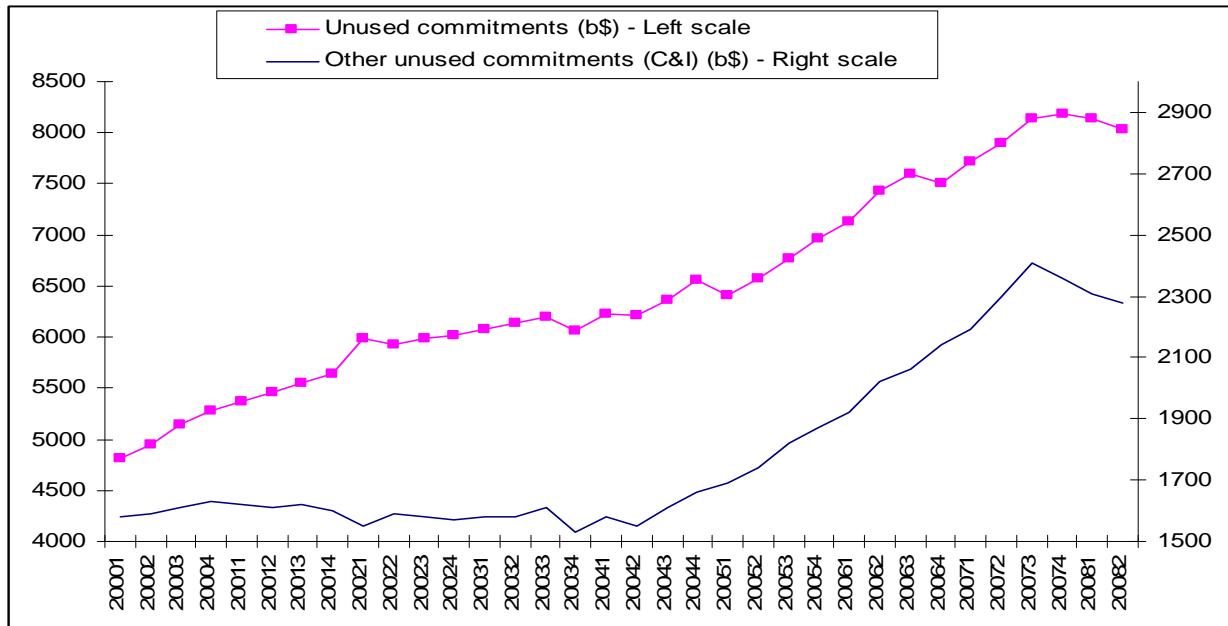
Source: <http://www.abalert.com/Public/MarketPlace/MarketStatistics/index.cfm>

Figure 1C: Total Outstanding to Total Commitments in Syndicated Loans



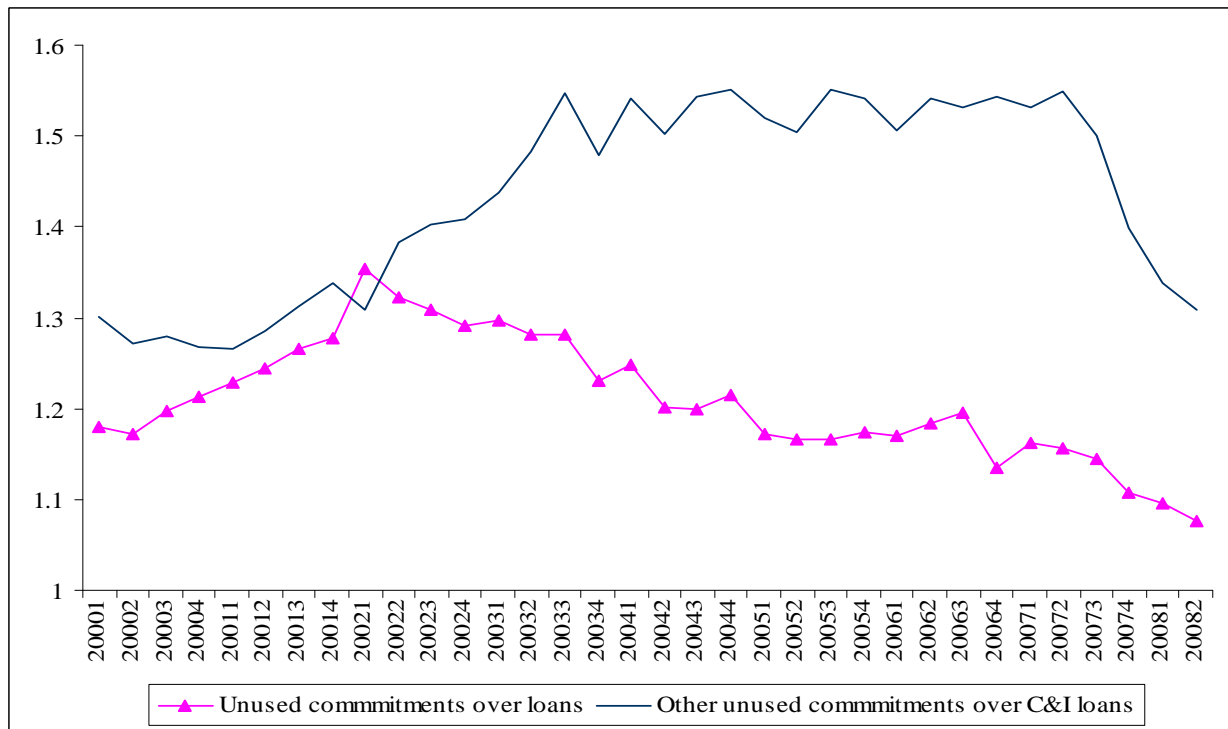
Source: Federal Reserve Board, <http://www.federalreserve.gov/newsevents/press/bcreg/20081008a.htm>

Figure 1D: Unused commitments (in \$billions)



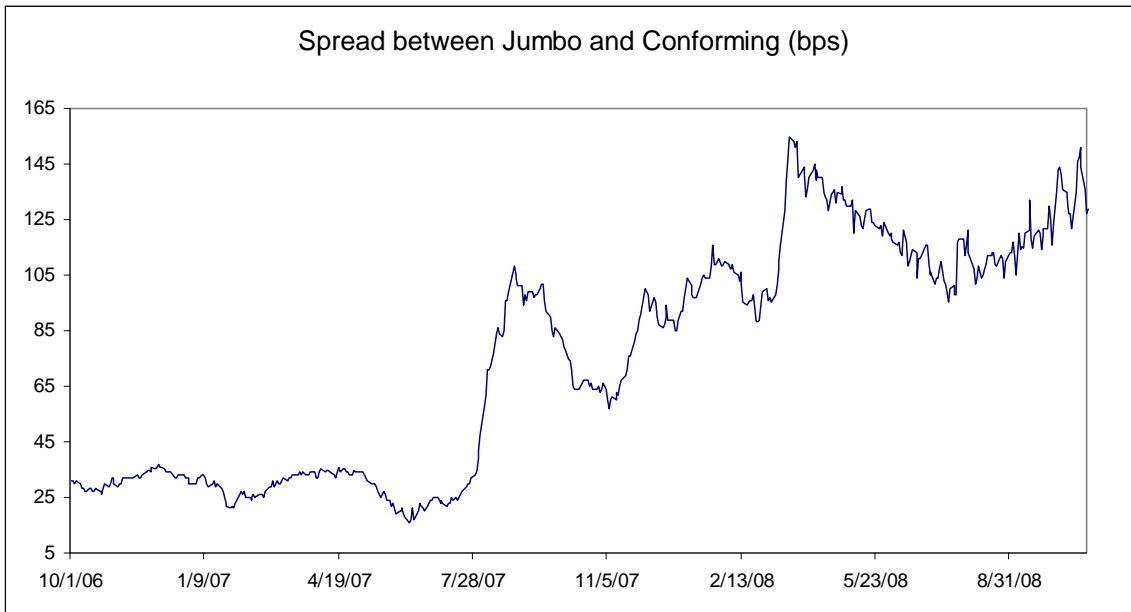
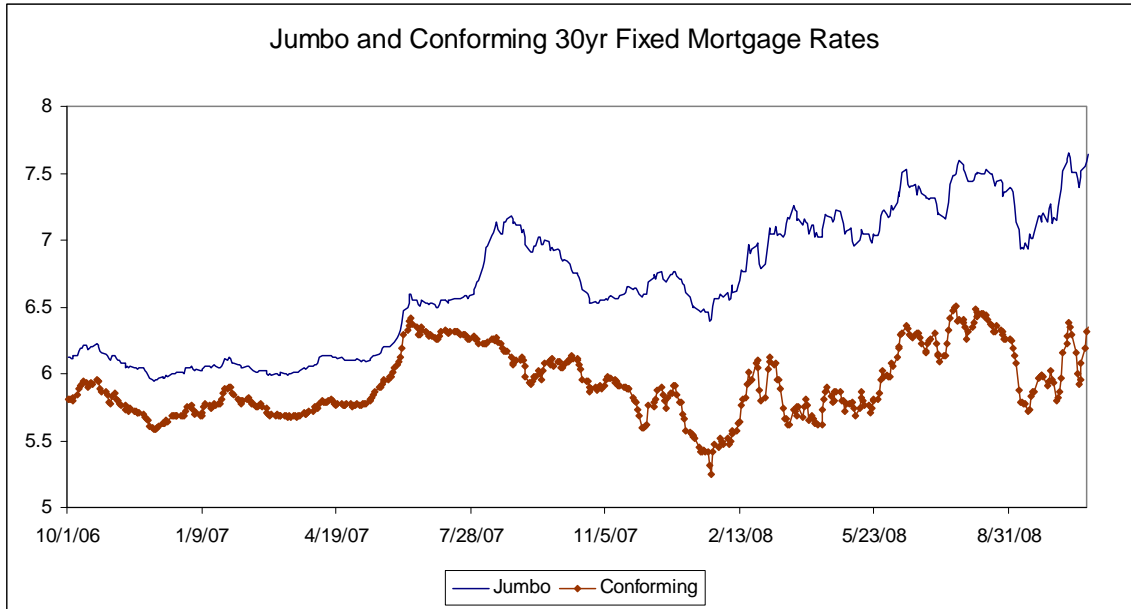
Source: Report of Condition and Income (Call Reports)
http://www.chicagofed.org/economic_research_and_data/commercial_bank_complete_files_2001_2008.cfm
 Notes: Pink line: Total unused commitments. RCFD3423 (sum of 3814 3815 3816 6550 3817 3818); Blue Line: Other unused commitments. RCFD3818.

Figure 1E: Ratio of unused commitments over loans



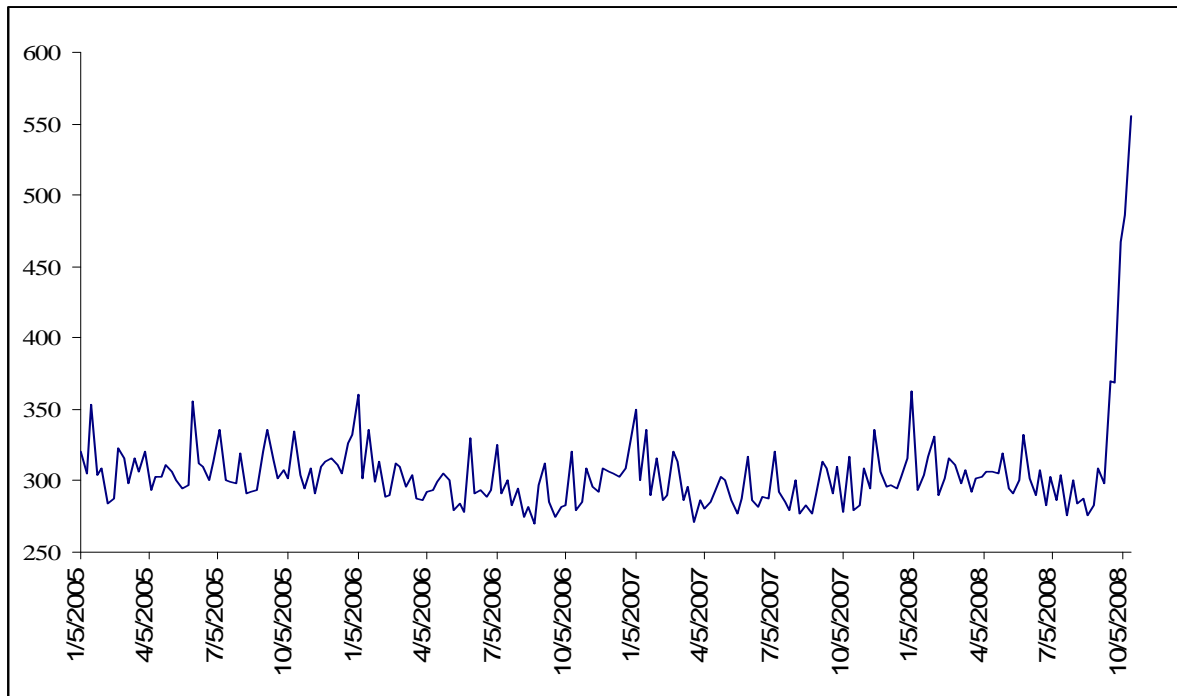
Source: Report of Condition and Income (Call Reports)
http://www.chicagofed.org/economic_research_and_data/commercial_bank_complete_files_2001_2008.cfm
 Notes: Pink line: Total unused commitments divided by total loans. RCFD3423 divided by RCFD1400; Blue Line: Other unused commitments divided by C&I loans. RCFD3818 divided by RCFD1766 (*)
 (*) the definition of C&I commitment ratio is provided by Kashyap, Rajan and Stein (JF-2002, p.71)

Figure 1F: Jumbo and Conforming 30yr. Fixed Mortgage Rates



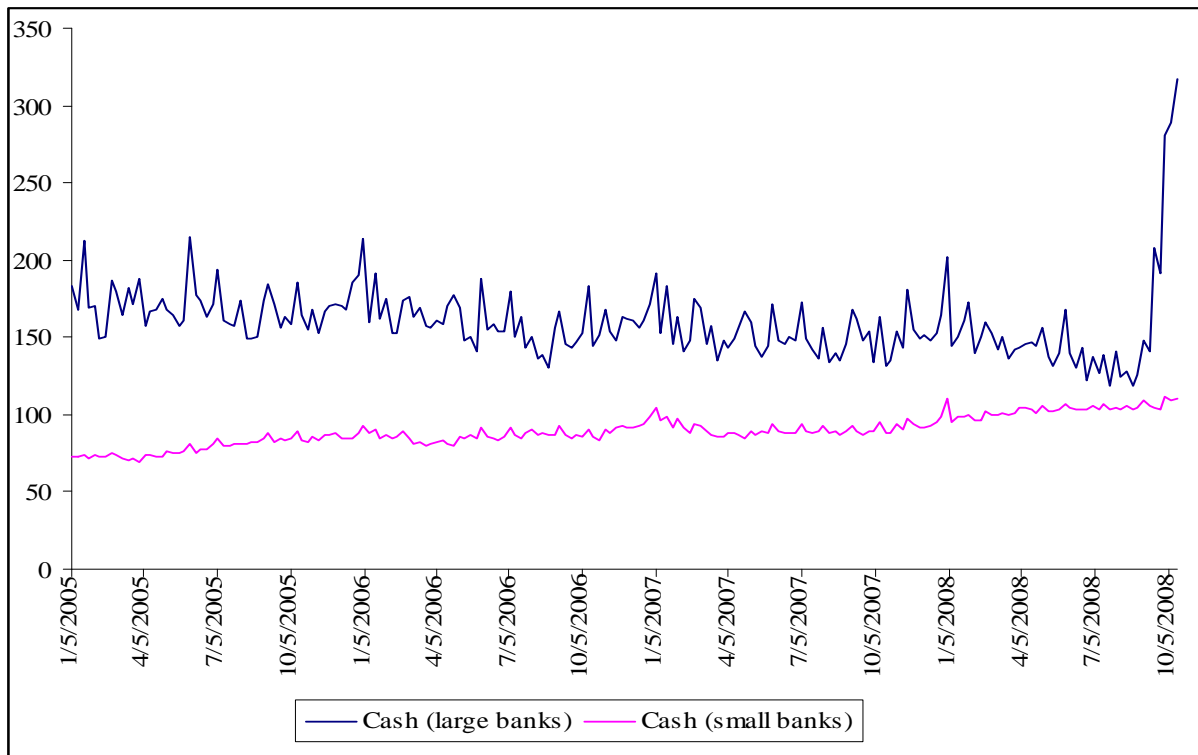
Source: Bloomberg.

Figure 2A: Cash Assets of Commercial Banks (n.s.a., in \$billions)



Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/h8/>

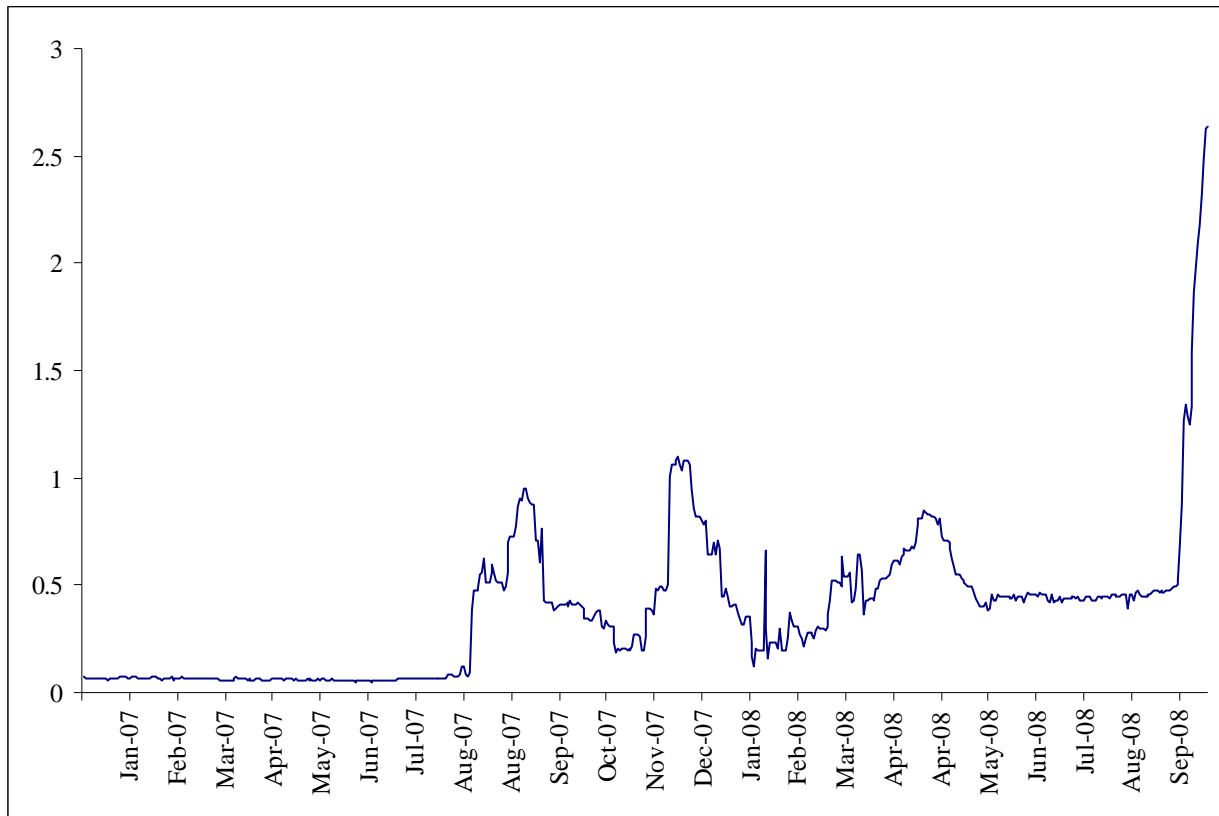
Figure 2B: Cash Assets of Domestic Commercial Banks, by bank size (n.s.a., in \$billions)



Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/h8/>

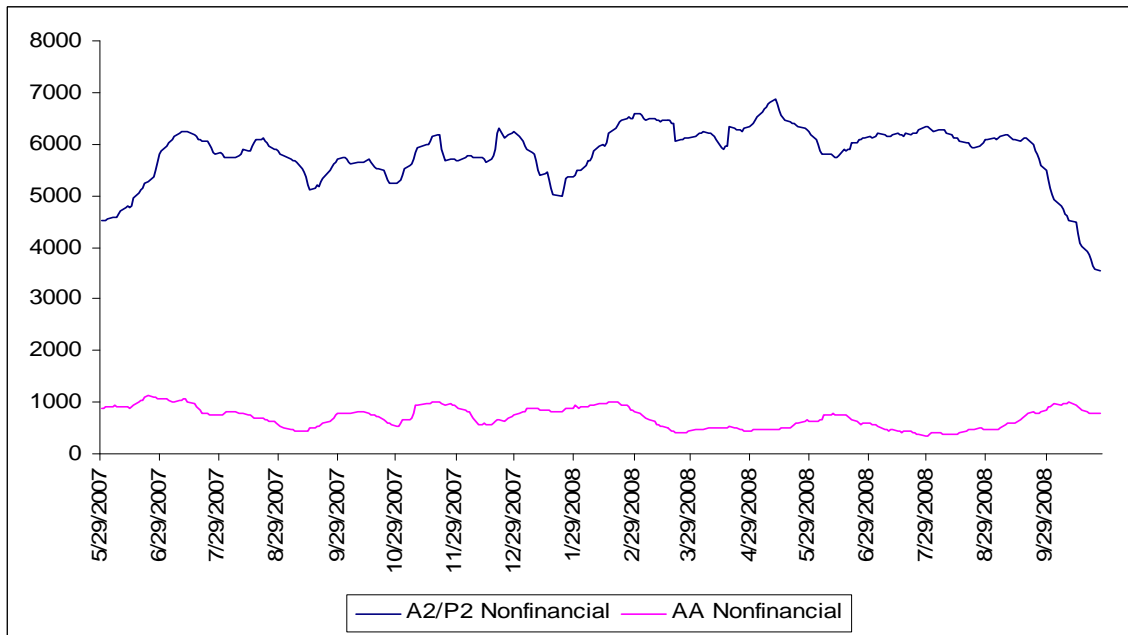
Notes: "Cash Assets" includes vault cash, cash items in process of collection, balances due from depository institutions, and balances due from Federal Reserve Banks." H8 Data downloaded on October 29, 2008.

Figure 2C: Libor-OIS 1-month spreads



Source: Bloomberg.

Figure 3A: Commercial Paper Issuance, Non-Financials by rating (in \$millions)



Source: Federal Reserve Board, <http://www.federalreserve.gov/DataDownload/Choose.aspx?rel=CP>.

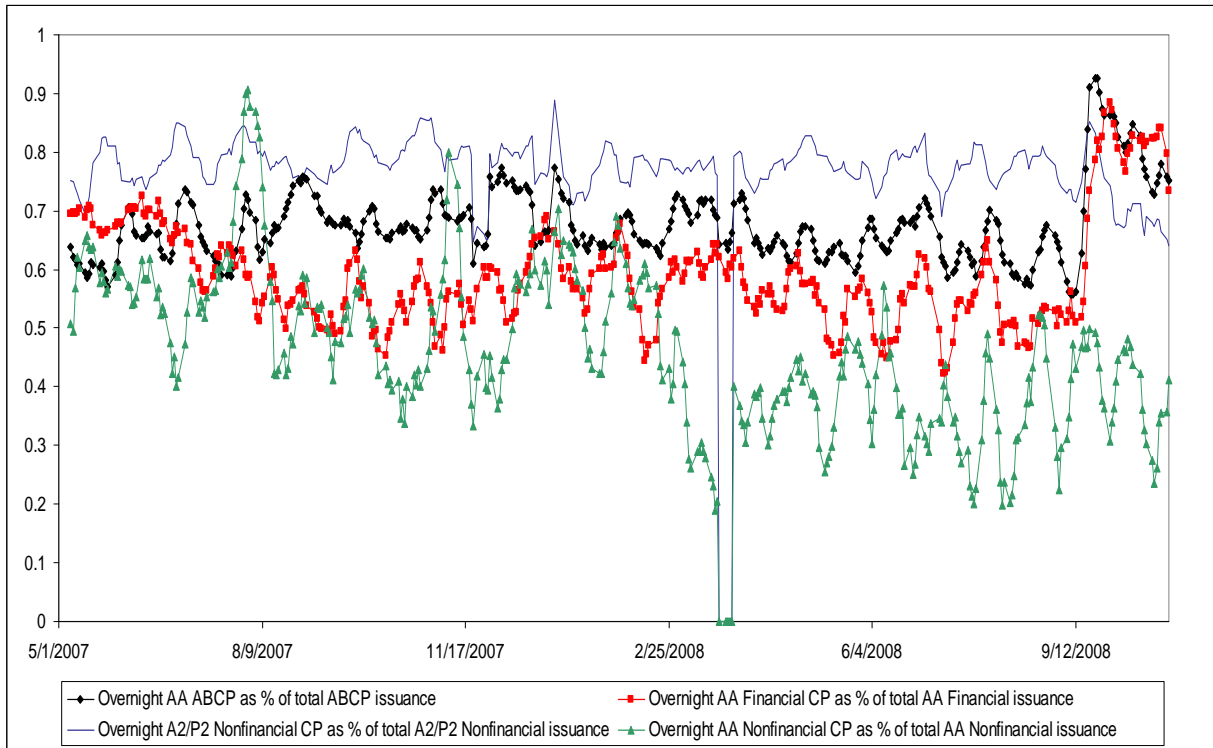
Notes: Daily, 20-day moving averages based on "Volume Statistics for Commercial Paper Issuance", total value of issues with a maturity between 1 and 4 days.

Figure 3B: Commercial Paper Spreads (bps)



Source: Bloomberg; Federal Reserve Board, <http://www.federalreserve.gov/DataDownload/Choose.aspx?rel=CP>
 Notes: The “overnight” spreads are 1-4 day paper spreads over the effective federal funds rate, while the 30 day spreads are over the 1-month OIS.

Figure 3C: Commercial Paper Gross Issuance, % of “overnight” paper (daily, 1-week moving averages)



Source: Federal Reserve Board, <http://www.federalreserve.gov/DataDownload/Choose.aspx?rel=CP>