

Federal Reserve Bank of Minneapolis  
Research Department

## **Facts and Myths about the Financial Crisis of 2008\***

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### ABSTRACT

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The United States is indisputably undergoing a financial crisis and is perhaps headed for a deep recession. Here we examine three claims about the way the financial crisis is affecting the economy as a whole and argue that all three claims are myths. We also present three underappreciated facts about how the financial system intermediates funds between households and corporate businesses. Conventional analyses of the financial crisis focus on interest rate spreads. We argue that such analyses may lead to mistaken inferences about the real costs of borrowing and argue that, during financial crises, variations in the levels of nominal interest rates might lead to better inferences about variations in the real costs of borrowing. Moreover, we argue that even if current increase in spreads indicate increases in the riskiness of the underlying projects, by itself, this increase does not necessarily indicate the need for massive government intervention. We call for policymakers to articulate the precise nature of the market failure they see, to present hard evidence that differentiates their view of the data from other views which would not require such intervention, and to share with the public the logic and evidence that burnishes the case that the particular intervention they are advocating will fix this market failure.

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Clearly, the United States and the world economy are undergoing a major financial crisis. Here we examine several pieces of evidence on the nature of the financial crisis and the mechanisms by which the financial crisis is thought to affect the nonfinancial sector of the economy.

That the United States is undergoing a financial crisis cannot be disputed. Evidence of the financial crisis consists of the following: First, several major financial institutions have failed. Second, various stock markets have fallen dramatically, especially in the week after the bailout plan was passed. Third, spreads on a variety of different types of loans over comparable U.S. Treasury securities have widened dramatically.

Here we examine four claims about the way the financial crisis is affecting the economy as a whole and argue that all four claims are myths. Conventional analyses of the financial crisis focus on interest rate spreads. We argue that such analyses may lead to mistaken inferences about the real costs of borrowing and argue that, during financial crises, variations in the levels of nominal interest rates might lead to better inferences about variations in the real costs of borrowing.

## **1. Three Myths about Quantities**

The financial crisis has also been associated with three widely held claims about the nature of the crisis and the associated spillovers to the rest of the economy. The financial press and policymakers have made the following three claims about the nature of the crisis.

1. Bank lending to nonfinancial corporations and individuals has declined sharply.
2. Interbank lending is essentially nonexistent.
3. Commercial paper issuance by nonfinancial corporations has declined sharply, and

rates have risen to unprecedented levels.

Here we examine these claims using data from the Federal Reserve Board and Bloomberg. Our argument that all three claims are false is based on data up until October 15, 2008.<sup>1</sup>

Figure 1A displays weekly data on the total amount of bank credit for all U.S. commercial banks from 2001 onward. Figure 1B displays the same data from the beginning of 2008 onward. Bank credit consists of the aggregate amount of assets held by these banks excluding vault cash. As is clear from these figures, bank credit has not declined during the financial crisis. Indeed, bank credit appears to have risen relative to trend in the month of September. Figures 2A and 2B display analogous data for loans and leases made by U.S. commercial banks. Again, we see no evidence of any decline during the financial crisis. Figures 3A and 3B display data for commercial and industrial loans. Again, we see no evidence that the financial crisis has affected lending to nonfinancial businesses. Figures 4A and 4B display data for consumer loans and show no evidence that the financial crisis has affected consumer lending.

These figures show that the first claim, that banks have essentially stopped lending to nonbank entities and individuals, is false, at least in the aggregate as of October 15.

Figures 5A and 5B display data for interbank loans made by all U.S. commercial banks. These figures show that, at least in the aggregate, interbank lending is healthy. The second claim, that the volume of interbank lending has fallen sharply, is false, at least as of October 15.

Figures 6A and 6B display data for the stock of commercial paper outstanding for financial and nonfinancial corporations. These figures show that, while commercial paper

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<sup>1</sup>We use the data available on October 25, 2008. For more details see Troshkin (2008).

issued by financial institutions has declined, commercial paper issued by nonfinancial institutions is essentially unchanged during the financial crisis.

Figures 7A and 7B display data for the interest rate on commercial paper with a maturity of 90 days for financial and nonfinancial corporations<sup>2</sup>. These figures show that, during the financial crisis, this interest rate has risen for financial institutions and has barely budged for nonfinancial institutions with a AA rating. It has risen fairly dramatically for nonfinancial corporations with an A2/P2 rating. Note that, even though the interest rate for financial institutions has risen recently, it is still well below the levels that prevailed from the beginning of 2006 to the middle of 2007. These figures show that the financial crisis has not led commercial paper rates to rise to levels well beyond historical levels. Taken together, Figures 6A through 7B show that the third claim is false, at least as of October 15.

We have documented that commercial and industrial loans made by banks have risen dramatically during the period of the financial crisis. One story we have heard is the following. The rise in loans is in large part due to nonfinancial firms drawing on their loan commitments and lines of credit and loans to nonfinancial firms without such commitments have declined. Furthermore, this decline in loans to nonfinancial firms without commitments signals a dramatic future decline in bank lending. Data that support this story, especially data that support the signaling view, would be extremely useful. We have seen no data from the current crisis that support this story, especially the signaling view component of it.

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<sup>2</sup>Some of these data are not available. In particular, the A2/P2 Nonfinancial rates are missing for the week of October 8, 2008.

## 2. Three Underappreciated Facts

We now documents three facts about the way the financial system intermediates funds between households and corporate businesses.

1. In the aggregate nonfinancial corporations can pay their capital expenditures entirely from their retained earnings and dividends without borrowing from banks or households.

2. In the aggregate, increases in nonfinancial corporate debt are roughly matched by increases in their share repurchases.

3. Only about 20% of nonfinancial corporate debt is held by banks.

These three facts suggest that the typical firm can finance its capital expenditures entirely from retained earnings. It is difficult to see how disruptions in financial markets will directly affect investment decisions by a typical firm. Furthermore, to the extent that redirecting funds from firms that have excess resources to firms that need resources is important, such redirection can occur if firms are able to borrow and lend to each other directly or pursue joint ventures of various kinds. The data displayed here is from the Flow of Funds of the Federal Reserve Board. (The data underlying Figures 8A, 8B, 9A, and 9B are from Table F.102)

Figure 8A and 8B display the sum of retained earnings and dividends of nonfarm, nonfinancial corporate business (line 9 and 3) and capital expenditures by these firms (line 11). These figures show that, in the aggregate, without any funds from the rest of the economy, the cash available to these firms from their operations can easily pay for their investment expenditures.

Figures 9A and 9B display new equity less share repurchases (line 39) and funds raised

through debt instruments (line 40). These figures show that new equity issues are roughly matched by funds raised through credit market instruments. The data suggest that in the aggregate firms raise debt to buy back their shares, and not to finance investment. (Note here that we are not attributing causality and that we are well aware that this pattern does not hold firm by firm.)

In terms of the role of banks in financing debt issued by nonfinancial corporate businesses, we note that, banks lend directly to such businesses and indirectly by holding publicly traded bonds to these businesses. In the second quarter of 2008, we estimate that such bank lending is approximately \$1 trillion. Nonfinancial corporate businesses obtain funds from banks and by issuing publicly traded bonds that are held by nonbank financial institutions such as life insurance companies as well as directly by households. The total amount of such funds is approximately \$4.4 trillion. Thus, roughly 80 percent of such business borrowing is done outside of the banking system. The claim that disruptions to the banking system necessarily destroy the ability of nonfinancial businesses to borrow from households is highly questionable.

### **3. Spreads**

Conventional analyses of interest rate data focus heavily on the spreads between interest rates on various types of loans and interest rates on Treasury securities with similar maturities and pay much less attention to the levels of interest rates on various types of loans. Here we discuss two issues concerning common interpretations of these spreads

## A. Spreads versus Levels

One rationale for the focus on spreads is that the relevant interest rate that matters for economic decisions is the real rate, that is, the nominal rate less expected inflation. If one believes that the real rate on Treasury securities does not fluctuate very much, then variations in the spread are a good measure of variations in the real interest rate on various types of loans.

While this rationale may be compelling in normal times, we think that a focus on spreads can lead to misleading inferences during financial crises. Financial crises are often accompanied by a flight to quality during which the real return to Treasury securities falls dramatically, that is, the nominal return falls dramatically for reasons other than changes in expected inflation. If these arguments are correct, then a researcher who infers that the increase in spreads reflects an increase in the real cost of borrowing would be making an incorrect inference. The increase in the spread is 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.

Macroeconomic research suggests that inflation rates are not highly variable in the short run, so that the recent experience of inflation is a good predictor of inflation in the near future. If this research is correct, then during financial crises variations in the level of the nominal rate on borrowing is a good measure of the variation of the real rate of borrowing.

In Figures 10A through 14B we plot the analogs of earlier figures for a variety of types of interest rate data. These figures show that while spreads have certainly widened, the level of interest rates of various types of borrowing are well below levels in recent non-crisis years. For example, Figures 10A and 10B display the interest rate on BBB rated corporate

bonds and that on Treasury bills with similar maturities. While the levels have recently risen modestly, they are well below the levels in, say, 2006.

### **B. Do increased spreads reflect increased risks or increased costs of intermediation?**

In nearly every recession projects become riskier and the spread between a riskless rate on securities, such as Treasury bills, and the rate on securities used to finance risky projects, such as the BBB corporate bonds, widens. Such an increase in spreads, by itself, however, does not justify massive government intervention. Indeed, many economic theories implies that such massive intervention will likely do more harm than good.

Since the proponents of the effectively one trillion dollar bailout have not laid out the details of the logic by which they think the current situation necessitates such a bailout we can only discuss what economic theory implies. One view of the current situation that might justify intervention is that projects that are well understood not to be risky cannot get funding not because banks are nervous about the returns on the project but rather because the weak balance sheets of the bank force them to pass on what otherwise would be very profitable loans. If this is the view that underlies the rationale for the massive government intervention then we feel it is incumbent on policy-makers to provide hard evidence that good borrowers with relatively safe projects are unable to get credit because of the increased cost of intermediation due to a breakdown in the system of financial intermediation, not because of increases in the riskiness of their project.

One might guess that documenting this view will be an uphill battle because many versions of this view would imply large profit opportunities for the subset of banks with relatively healthy balance sheets, so that part of the documentation will need to explain



why the relatively healthy banks are unable to take advantage of what, by the logic of the argument, are profitable opportunities.

#### **4. Response to Critics**

Ivashina and Scharfstein (2008) present data on the volume of new syndicated loans made to large companies. These are loans originated by banks and sold by the originator to a syndicate of banks and other financial institutions, including insurance companies, pension funds, mutual funds and so on. The amount of these new loans has fallen fairly dramatically, from a peak of approximately \$659 billion in the middle of 2007 to about \$175 billion in the August to October 2008 period.

Ivashina and Scharfstein recognize that the decline in this form of lending must be reconciled with the evidence that the aggregate amount of loans outstanding by the domestic offices of U.S. commercial banks has increased over this period.

Three possibilities suggest themselves. First, their data on syndicated loans consists of loans held by financial institutions other than the domestic offices of U.S. commercial banks. It is possible that these other financial institutions are holding less debt. Second, it is possible that firms are repaying their debts rapidly. This possibility implies that a significant fraction of firms are not constrained in the availability of funds to make investments in plant, equipment and structures. Third, it is possible that firms which had preexisting loan commitments with banks are drawing down on these commitments. We have seen no decisive evidence that *because* firms are drawing down on these commitments, banks are not lending to otherwise profitable firms.

Ivashina and Scharfstein do present evidence that some firms which are drawing on

these commitments have below investment grade credit ratings. This evidence is for a very small sample of firms. These firms have drawn down \$13 billion of their loan commitments. Clearly this drawdown cannot account for more than a small fraction of the compositional changes. Even if one granted that there has been a big increase in the use of loan commitments, it is difficult to see why that increase is evidence of a massive market failure. Indeed, this evidence may reflect a well-functioning market. To see why, note that one interpretation of such commitments is that they represent an insurance contract between banks and firms which allows firms to draw upon these commitments when they need to. By definition, an insurance contract pays off when the insured party suffers a loss. The insurer may well prefer not to pay off on its contract and use these funds elsewhere, but the terms of the contract require it to do so.

Although they are not clear on the matter, these authors may be implicitly arguing that the increased drawdown of loan commitments signals that when these commitments expire total credit will fall. But that is exactly what economic theory would predict happens in a generic recession, even a deep generic recession: when the recession fully hits, fewer good projects will exist and lending will fall. Clearly, that by itself does not justify a massive government intervention.

Let us be perfectly clear: We are not arguing that it is impossible to use economic theory and hard evidence to clearly identify a market failure that necessitates such a massive government intervention. Rather, we are arguing that it is incumbent on the proponents of such an intervention to set their alarms a little earlier, sharpen their pencils a bit more, and do the hard work needed to make that case.

A recent paper by Cohen-Cole, Duygan-Bump, Fillat, and Montoriol-Garriga at the

Federal Reserve Bank of Boston (hereafter referred to as the BF paper) comments on an earlier version of this paper<sup>3</sup>. The authors of the BF paper begin by claiming that the three claims we document as myths are indeed facts. Puzzlingly, they then go on to agree that the claims are, indeed myths. Instead they want to argue that if we look at disaggregated data the financial crisis is very serious. Unfortunately, they bring very little disaggregated data to the discussion and mostly conduct an exercise in speculation.

They show that issuance of asset backed securities has declined. Such securities are issued by a wide variety of financial institutions and are often backed by mortgages. A decline in the issuance of such securities does not by itself indicate or suggest that new lending by banks has declined and the BF study offers no data to support that view. They offer data on loan commitments used up to the second quarter of 2008, long before the bailout plan was proposed and passed.

The BF paper agrees that interbank lending has not dried up and goes on to assert, based on no evidence, that loans to primary broker-dealers has declined. They show that cash held by banks has increased. It is not clear from their discussion what this rise has to do with interbank lending.

In terms of the commercial paper market, they show that the volume of issuance of A2/P2 paper has declined but do not point out that the volume as of October 2008 exceeds that in 2006. They also focus on spreads rather than estimates of the real rates directly. As we have argued, a focus on spreads may well be misplaced in times of flight to quality. We have also argued that even if spreads increased because risks have increased that by itself

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<sup>3</sup>We found the comments by Robert Eisenbeis, Ron Feldman, and Richard Todd very useful in helping us frame our response to the BF paper.

does not show justify massive government intervention.

## 5. Conclusion

Our analysis has raised questions about the claims made for the mechanism whereby the financial crisis is affecting the overall economy. We emphasize that we do not dispute that the United States is undergoing a financial crisis and that the United States economy may currently be in a recession or may experience one in the near future, perhaps even a very deep one. We do not dispute that spreads between safe securities and risky securities have increased.

Our main point is that policymakers have not done the hard work of convincing the public—or even academic economists—of the precise nature of the market failure they see, of presenting hard evidence, not speculation, that differentiates their view of the data from other views, and the logic by which the particular intervention they are advocating will fix this market failure<sup>4</sup>. We feel that a trillion dollar intervention warrants a bit more serious analysis than we have seen.

Our analysis is based on publicly available data. Policymakers have access to other sources of data as well. Policymakers could well believe that bold action is necessary based on data that are different from that considered here. If so, responsible policymaking requires that they share both the data and the analysis that underlies the need for bold policy with the public.

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<sup>4</sup>See, for example, the lecture by Anil Kashyap at <http://igmchicago.org/>, who argues there are worrisome parallels between the current policies being contemplated in the current financial crisis in the United States and the policies pursued in Japan during its prolonged crisis.

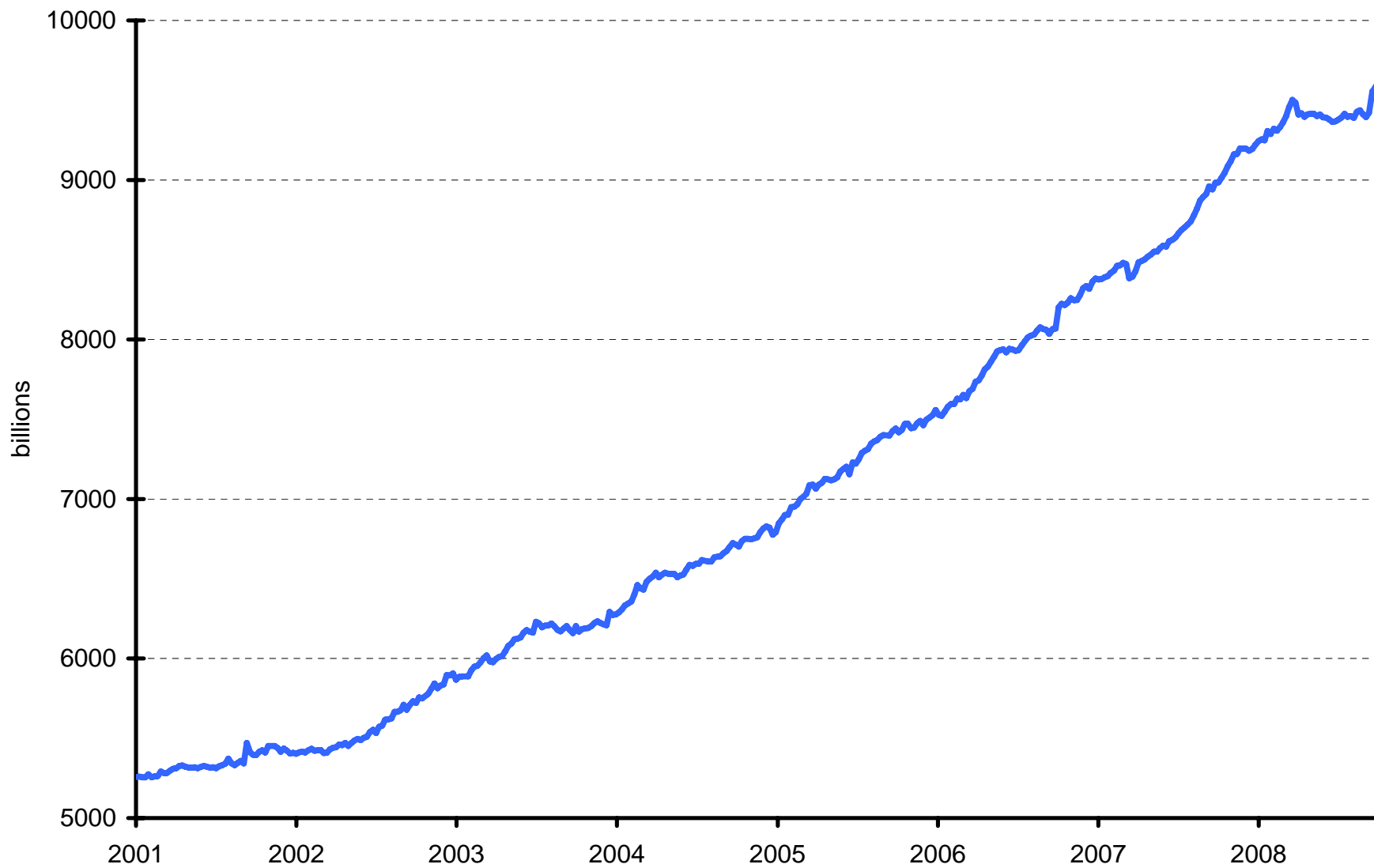
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Cohen-Cole, Ethan, Duygan-Bump, Burcu, Fillat, José and Montoriol-Garriga, Judit. 2008. Looking Behind the Aggregates: A Reply to “Facts and Myths about the Financial Crisis of 2008”. QAU Working Paper No. QAU08-5, Federal Reserve Bank of Boston.

Ivashina, Victoria and Scharfstein, David. 2008. Bank Lending During the Financial Crisis of 2008. Working Paper, Harvard Business School.

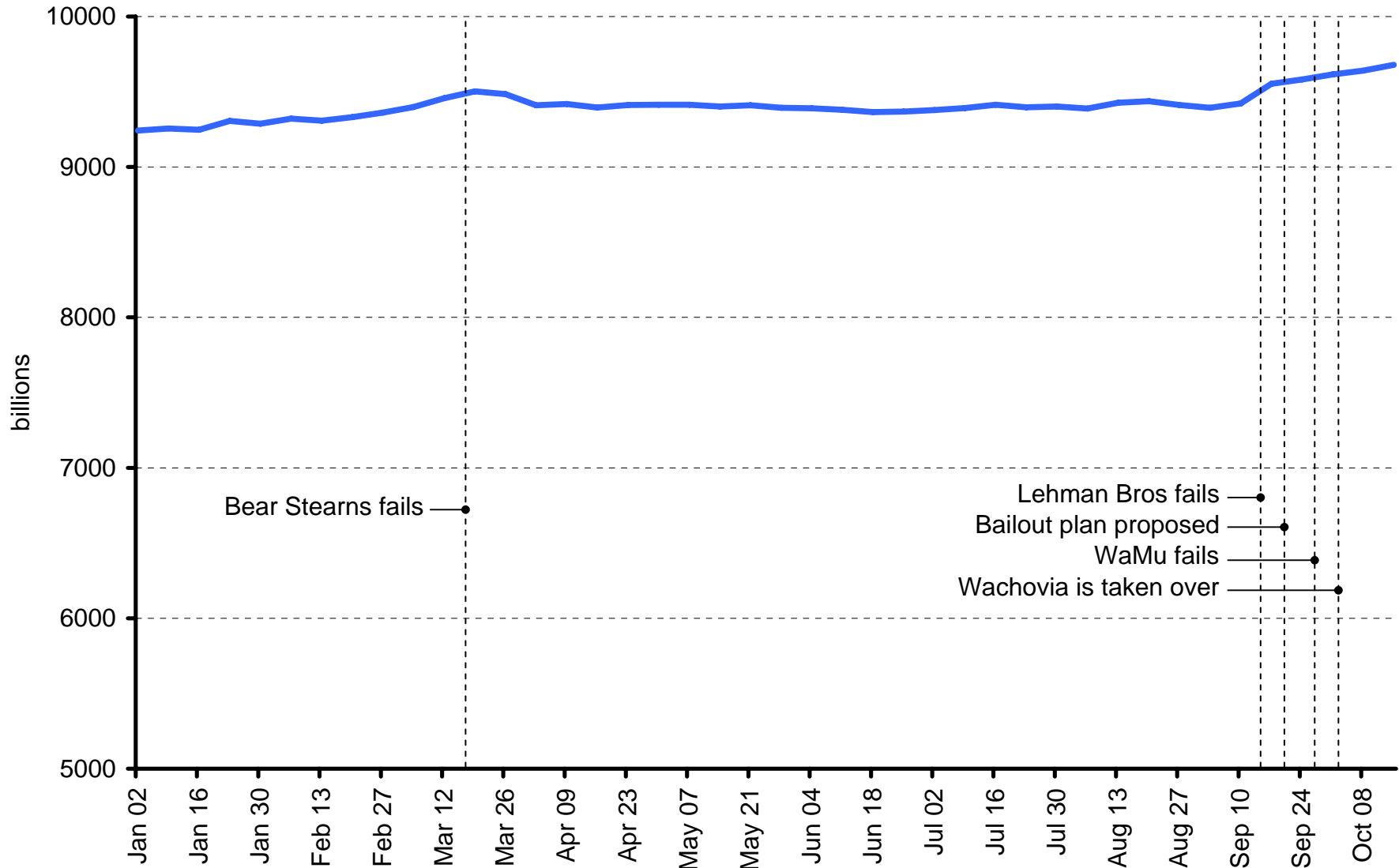
Troshkin, Maxim. 2008. Technical Notes on Facts and Myths about the Financial Crisis of 2008. Working Paper 667, October 2008, Federal Reserve Bank of Minneapolis.

Figure 1A: Bank Credit



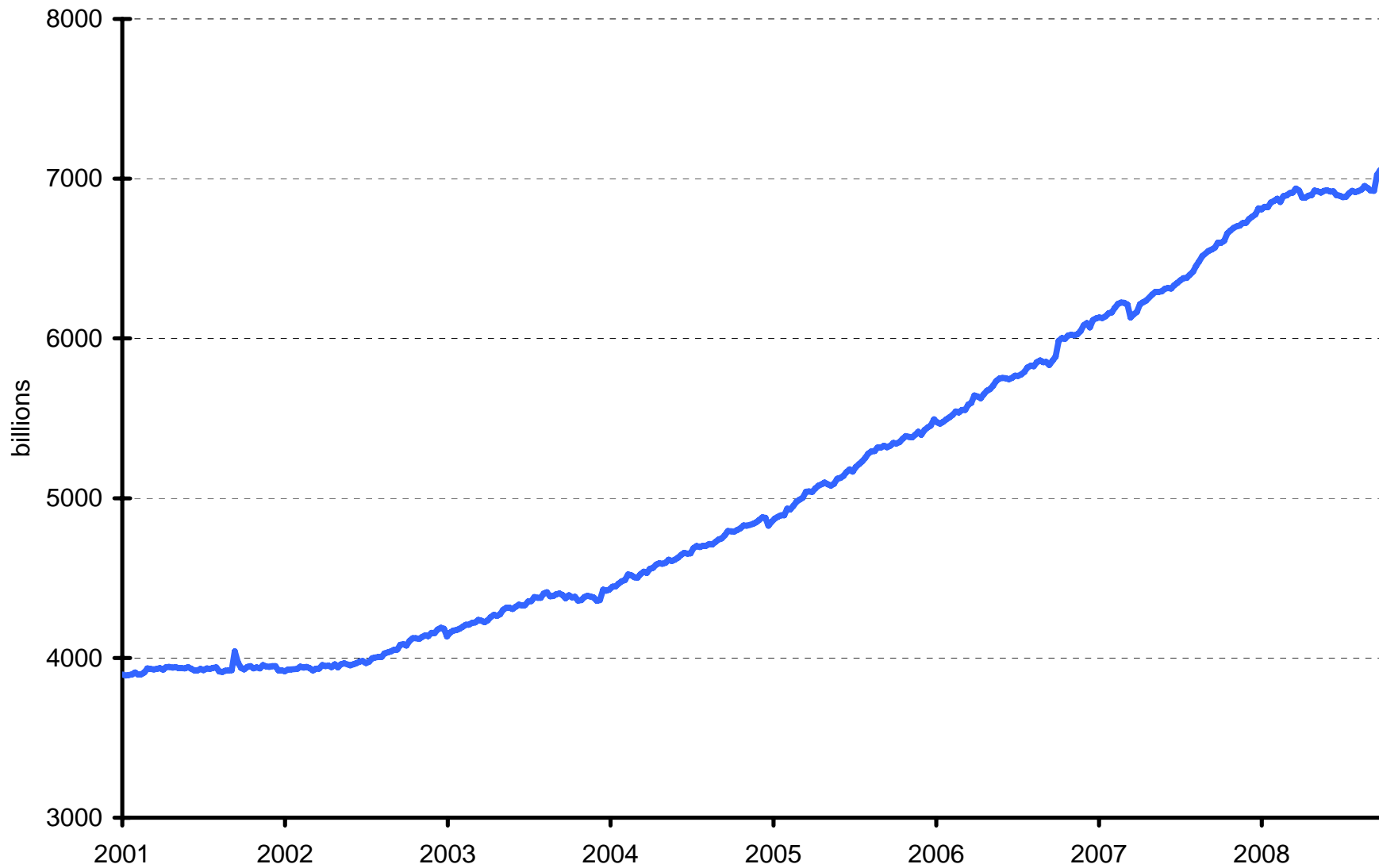
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/h8/>

Figure 1B: Bank Credit in 2008



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

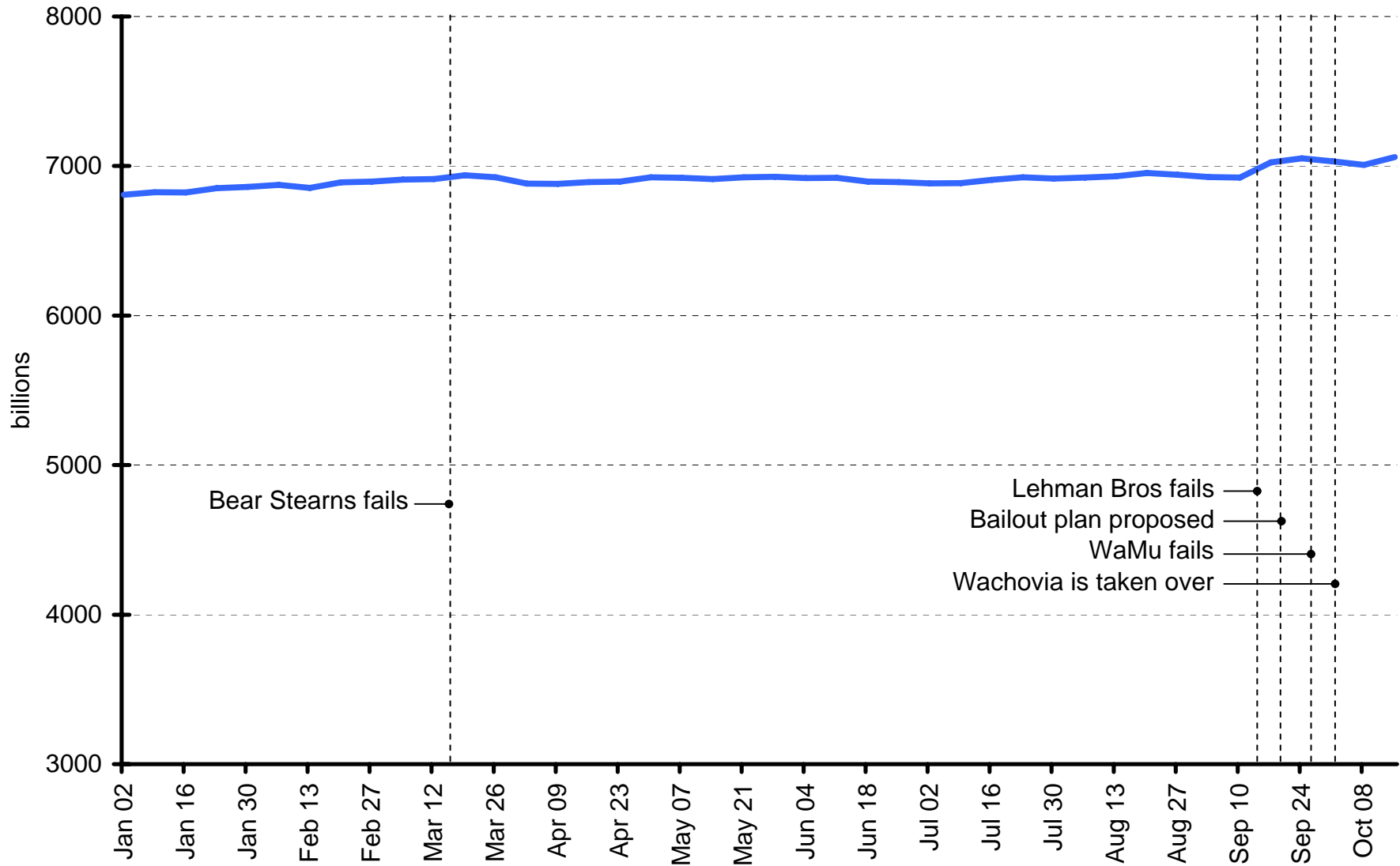
Figure 2A: Loans and Leases



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

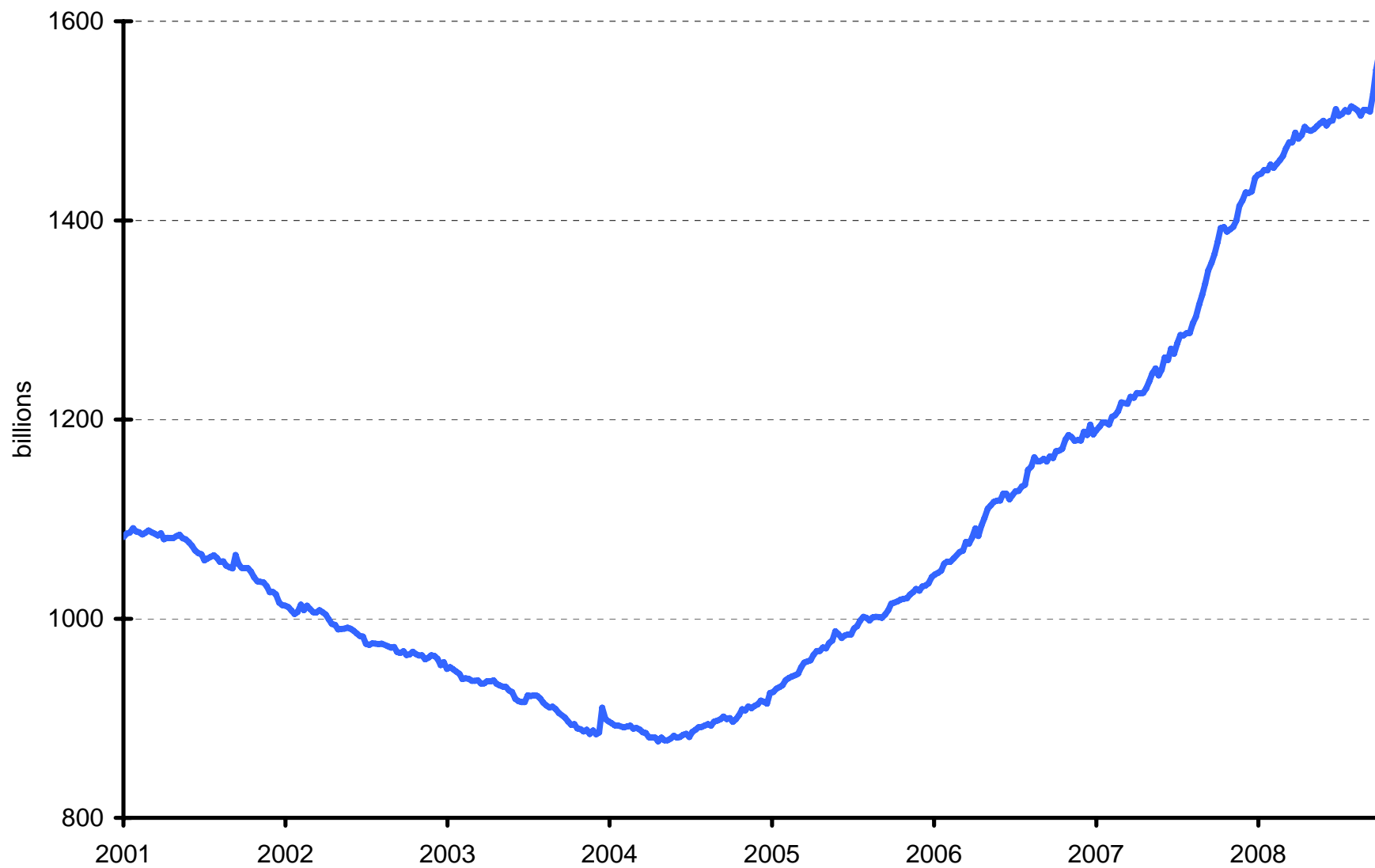


Figure 2B: Loans and Leases in 2008



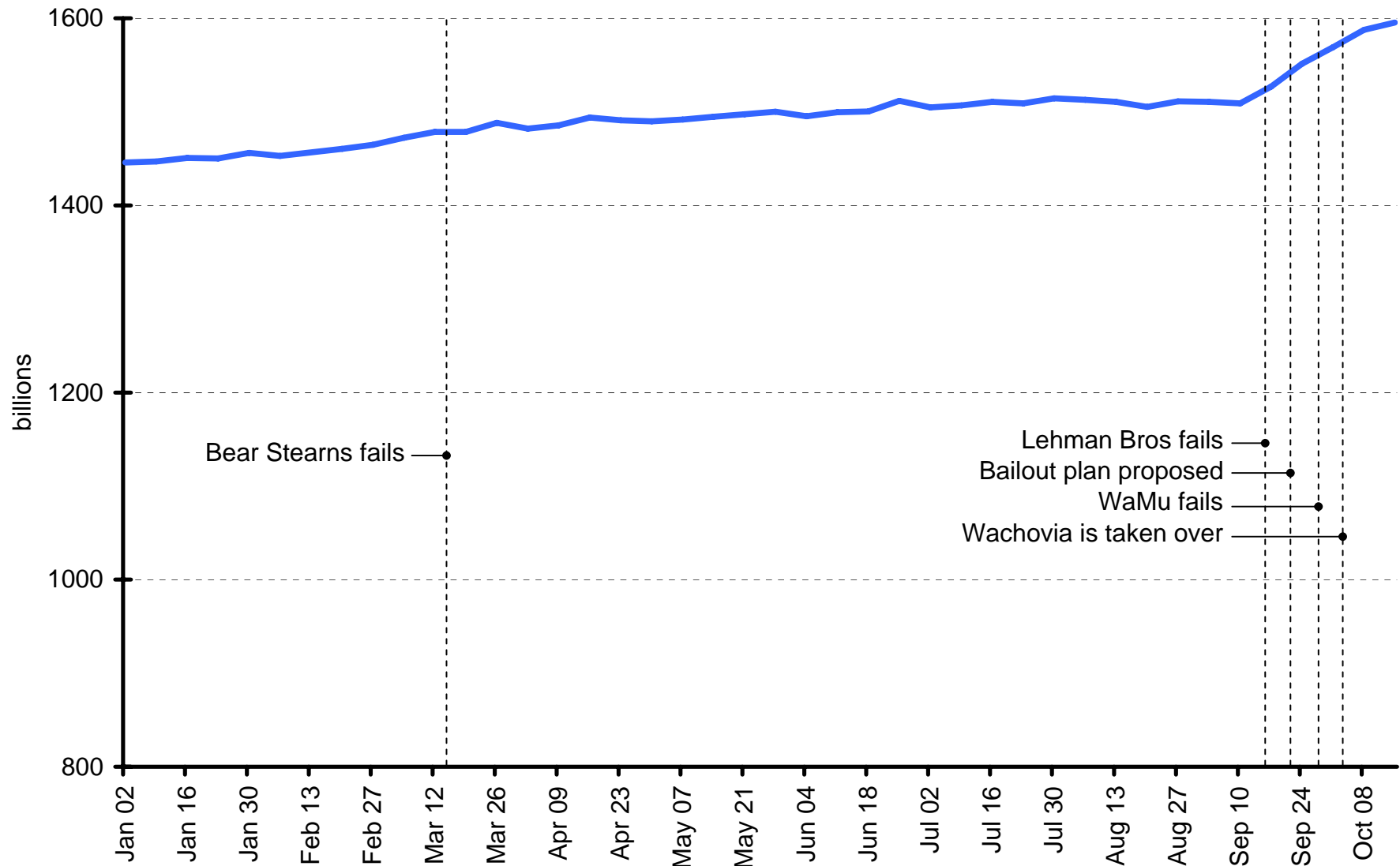
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/h8/>

Figure 3A: Commercial and Industrial Loans



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

Figure 3B: Commercial and Industrial Loans in 2008



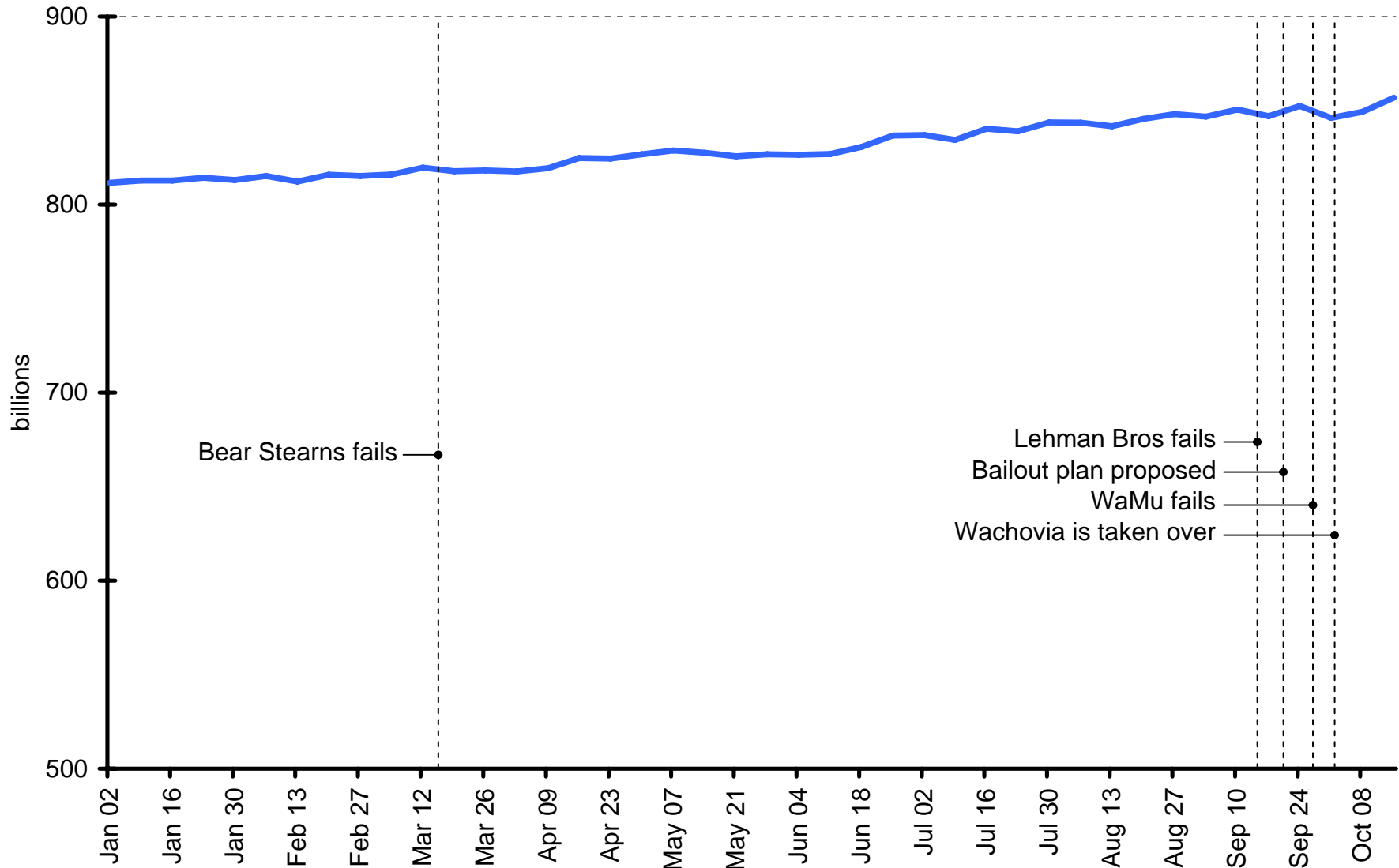
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/h8/>

Figure 4A: Consumer Loans



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

Figure 4B: Consumer Loans in 2008



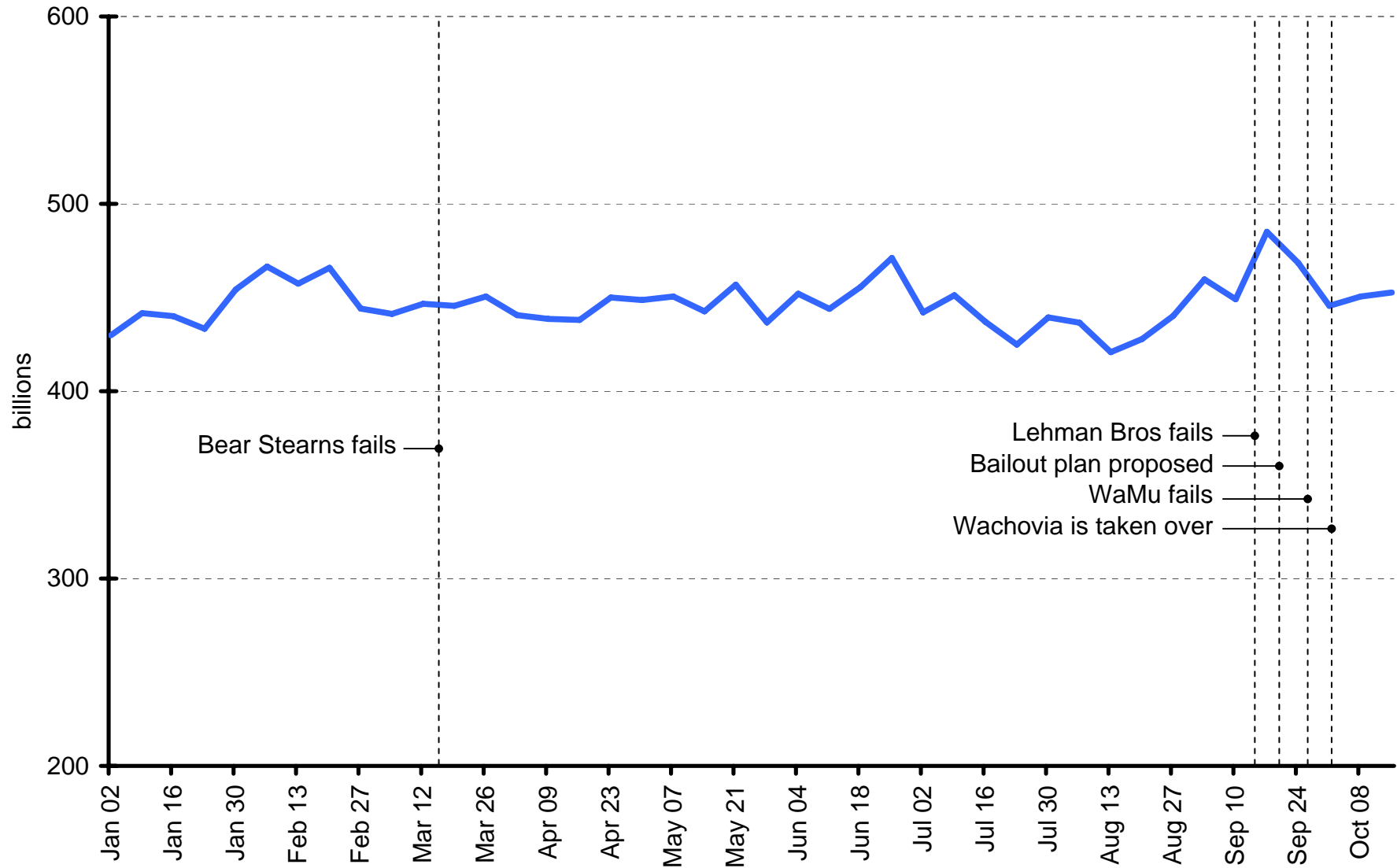
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/h8/>

Figure 5A: Interbank Loans



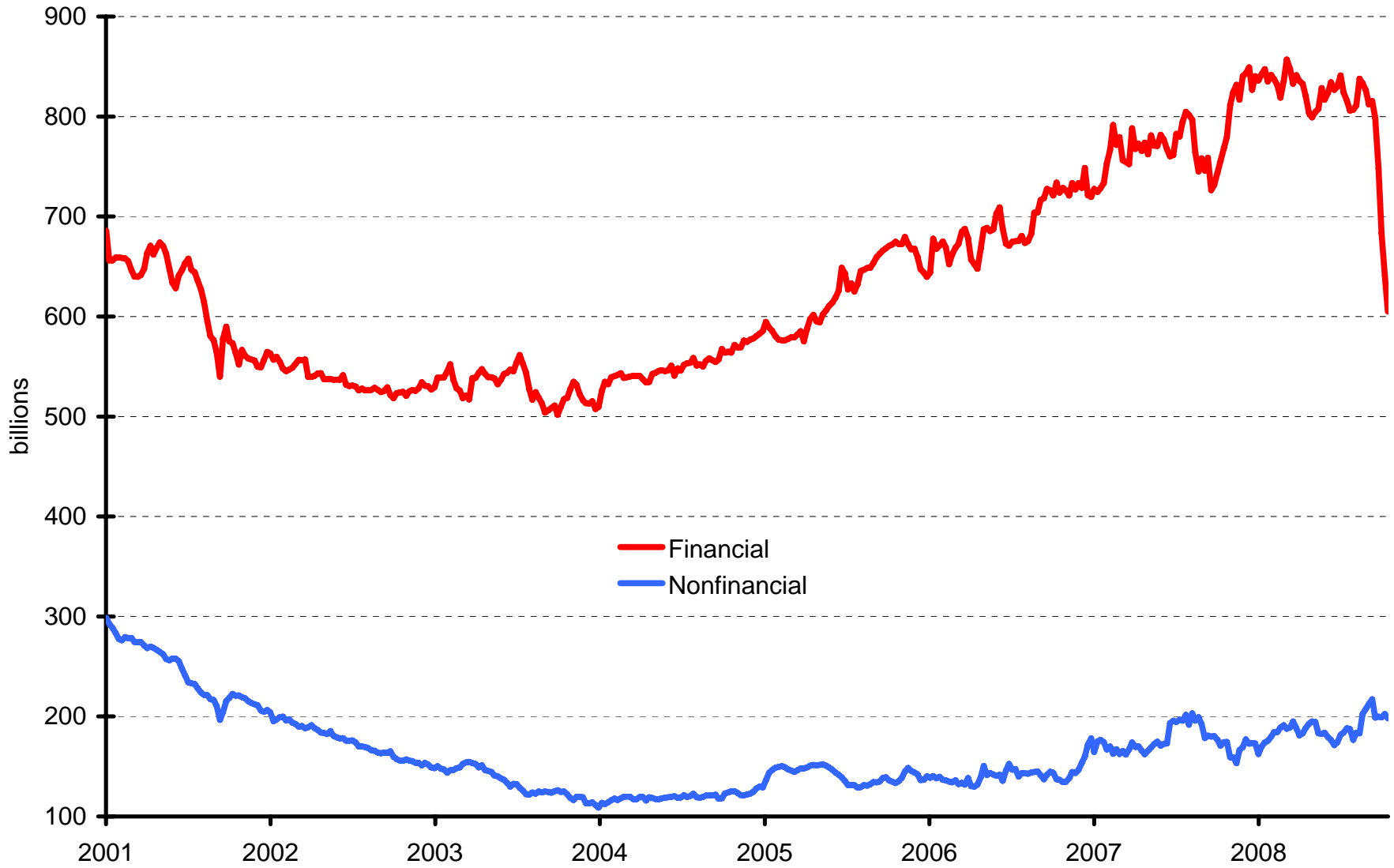
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/h8/>

Figure 5B: Interbank Loans in 2008



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

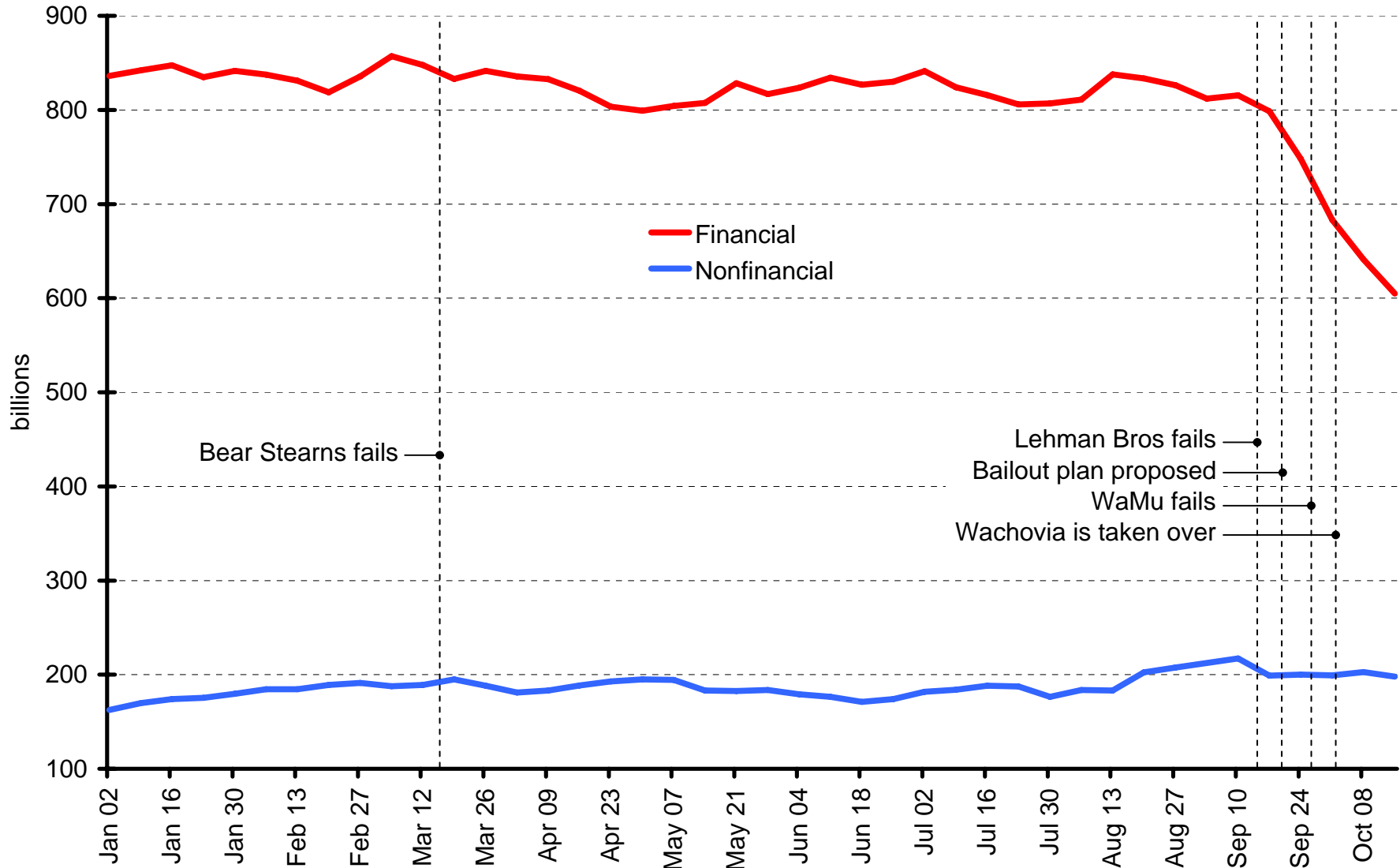
Figure 6A: Commercial Paper Outstanding



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

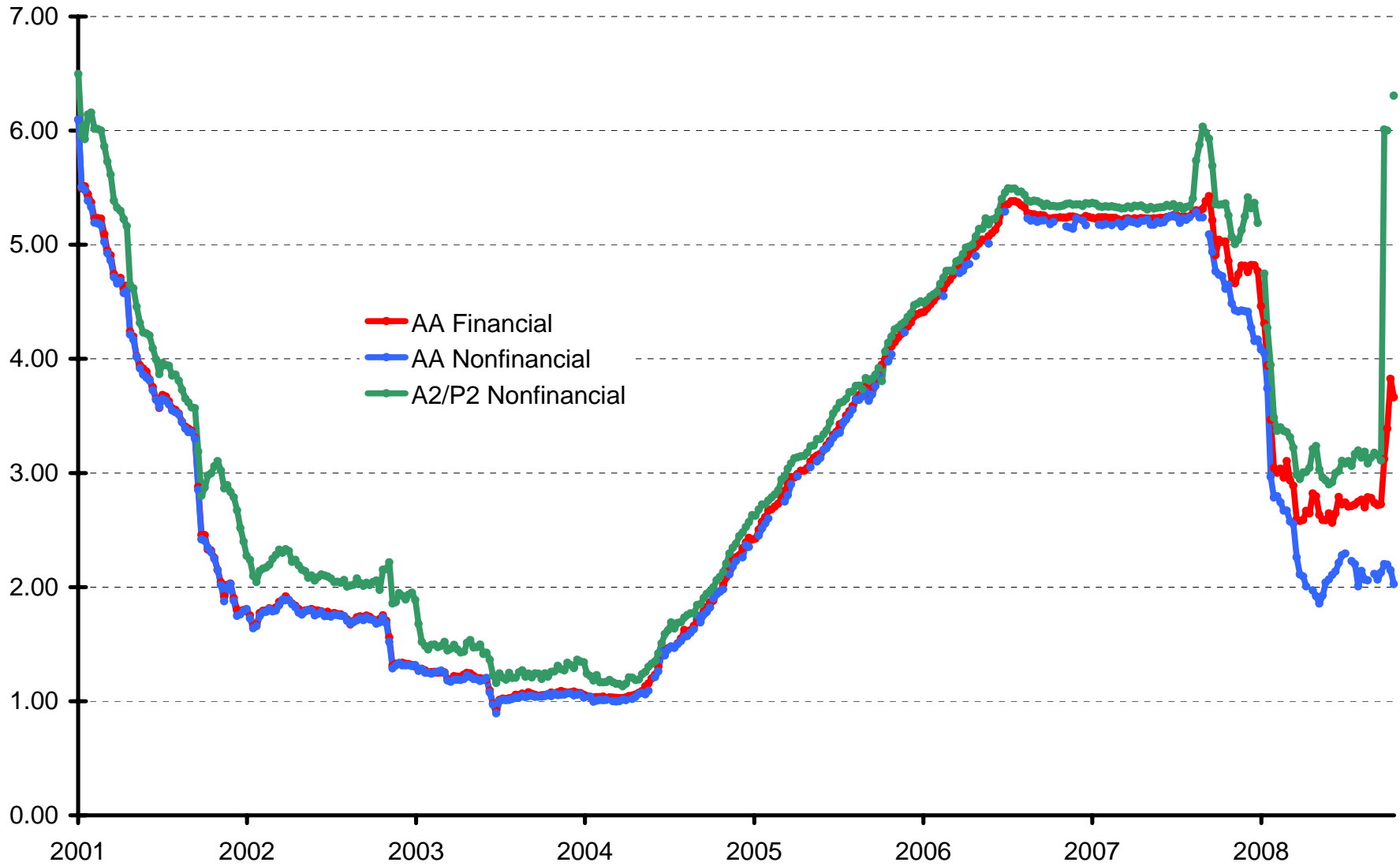


Figure 6B: Commercial Paper Outstanding in 2008



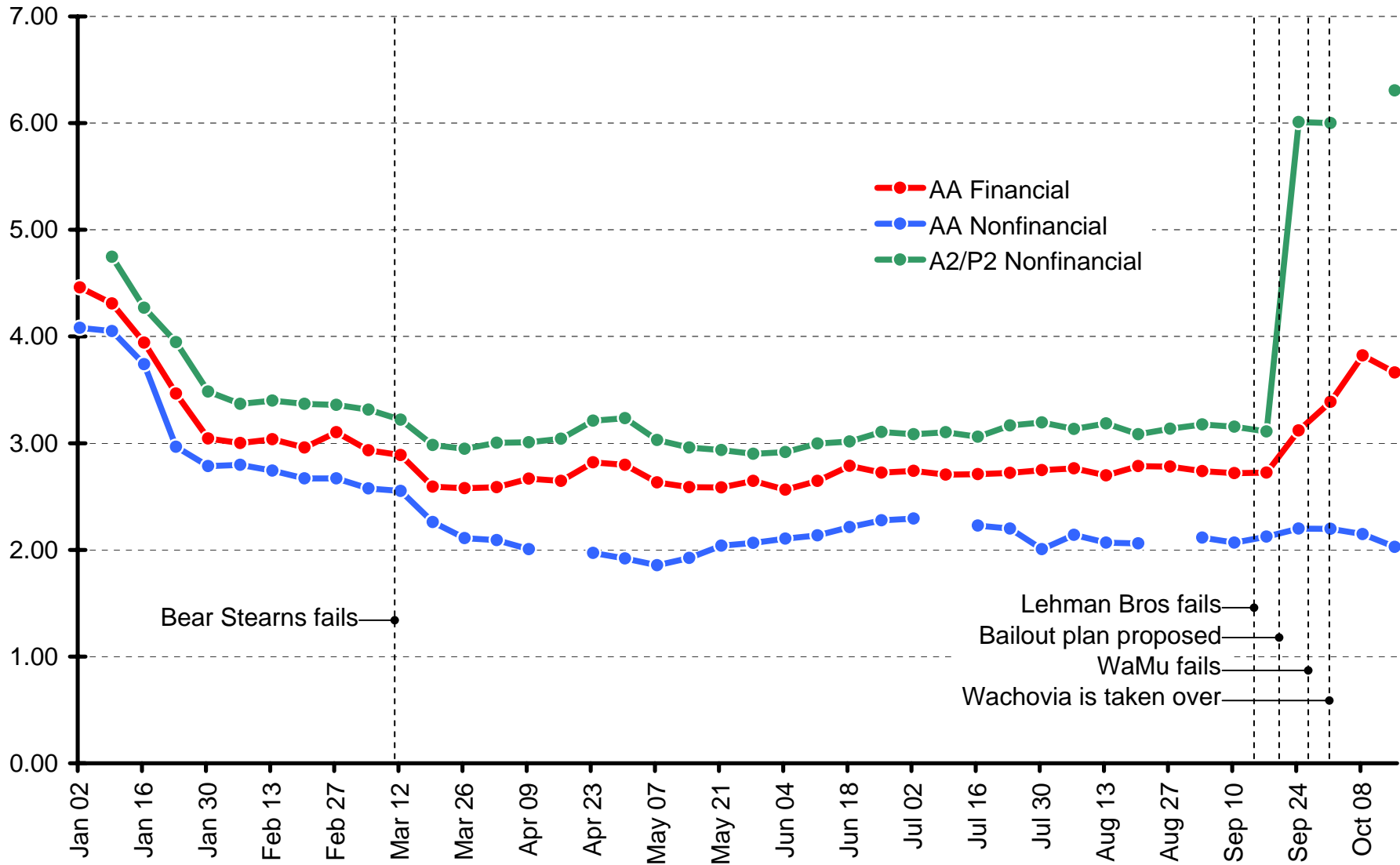
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/cp/>

Figure 7A: Commercial Paper 90 Day Rate



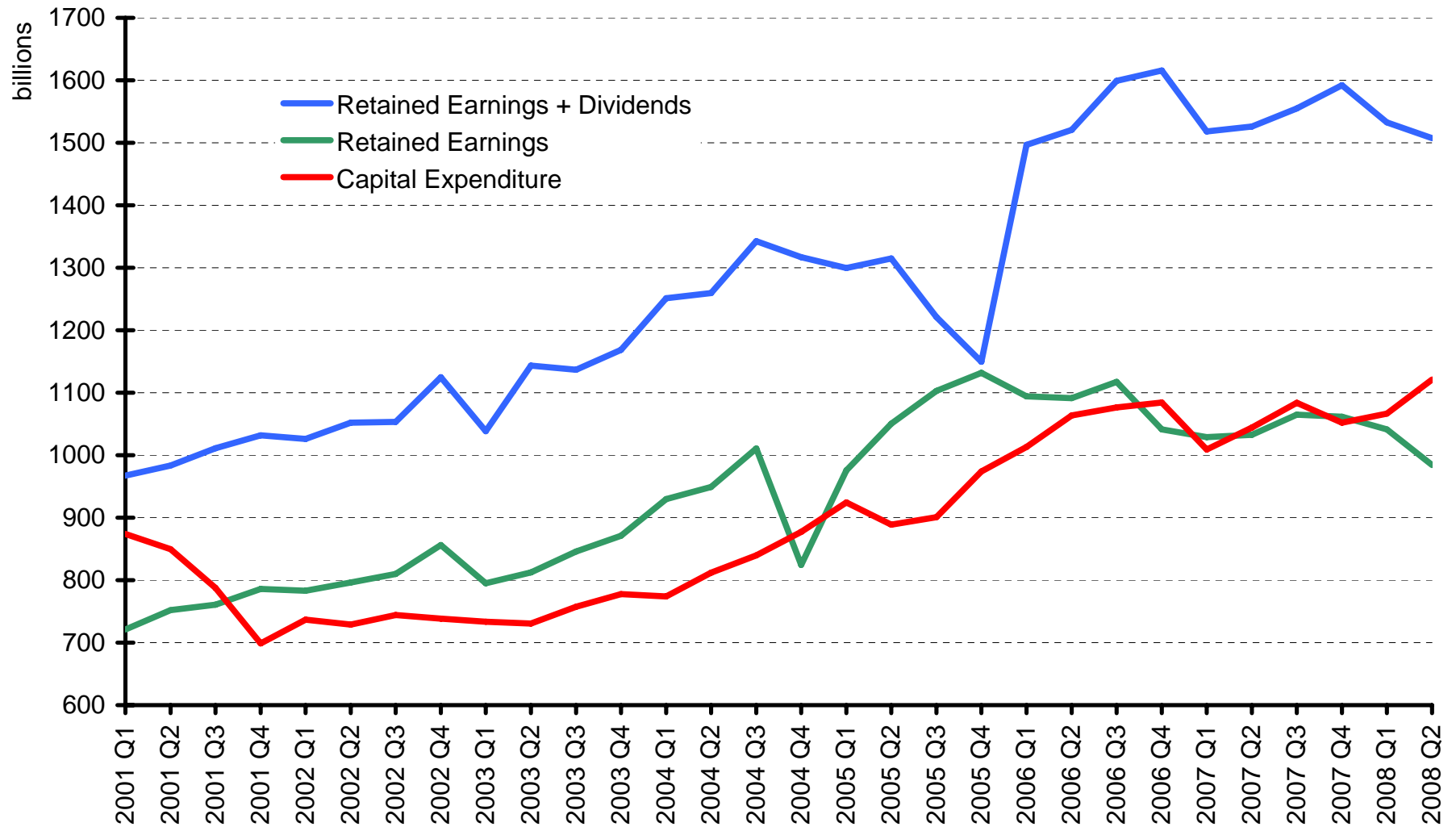
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/cp/>

Figure 7B: Commercial Paper 90 Day Rate in 2008



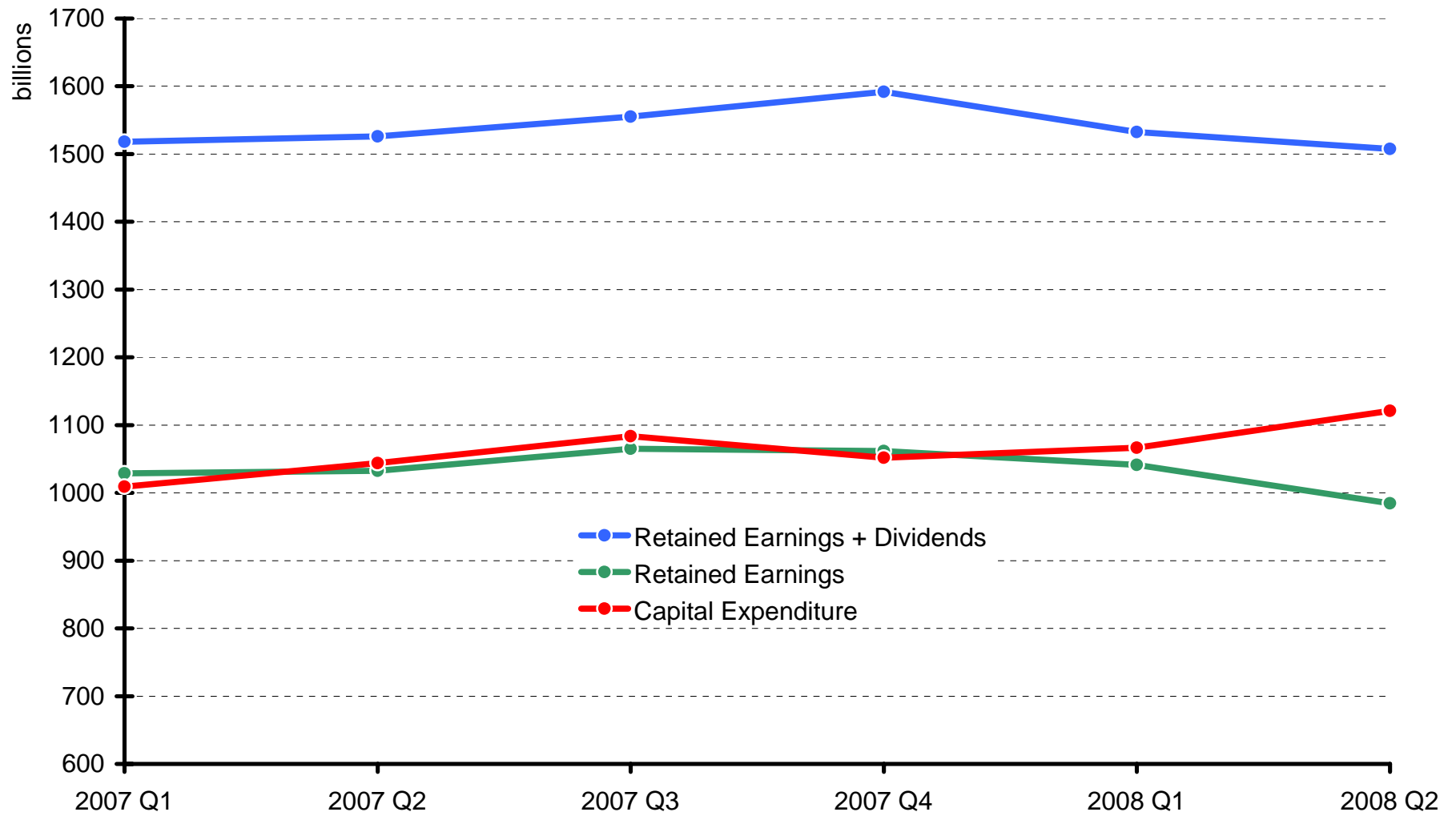
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/cp/>

Figure 8A: Retained Earnings, Dividends, and Capital Expenditures



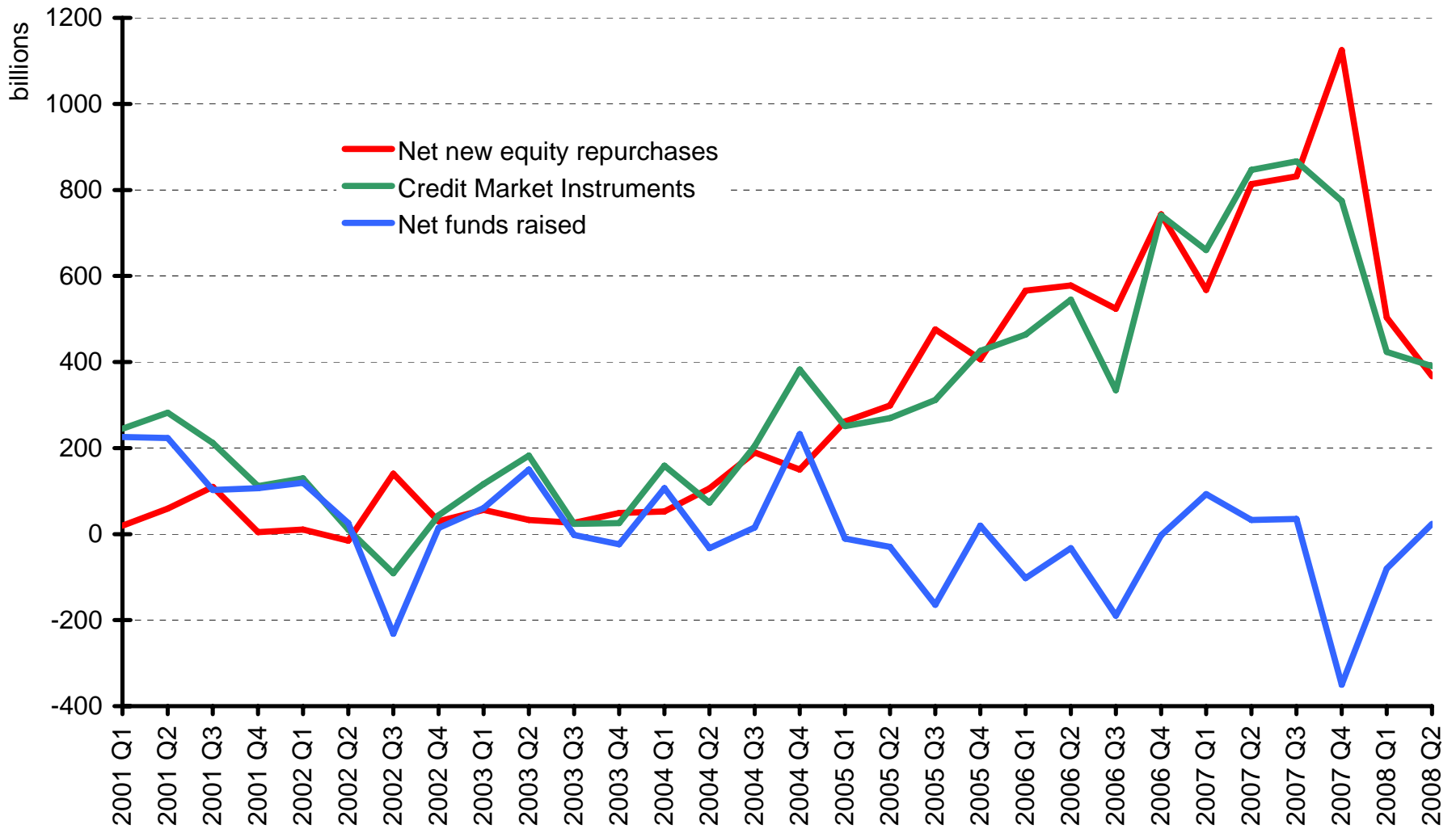
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/z1/>

Figure 8B: Retained Earnings, Dividends, Capital Expenditures in 2007-08



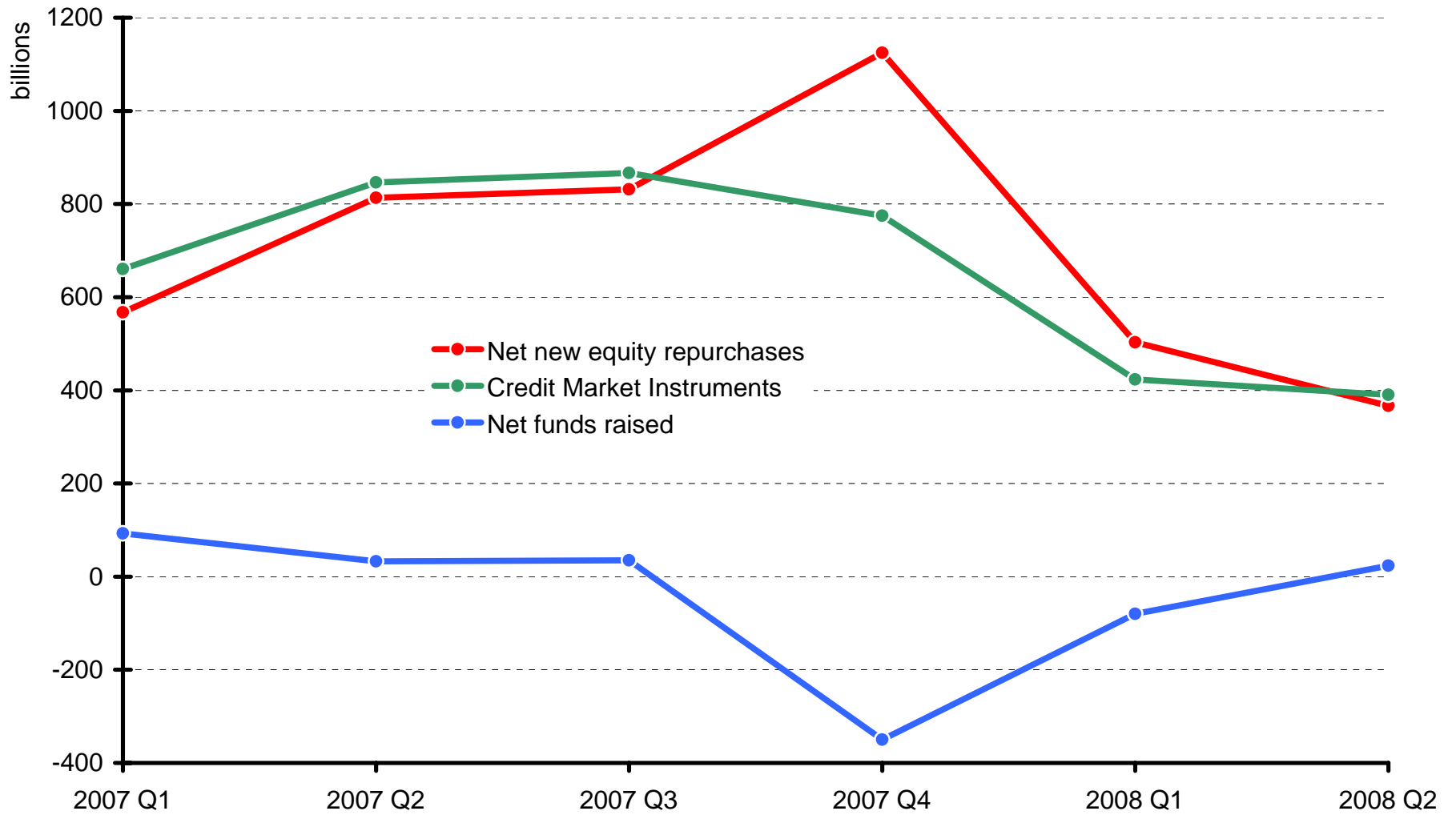
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/z1/>

Figure 9A: New Debt and Net Repurchases of Equity



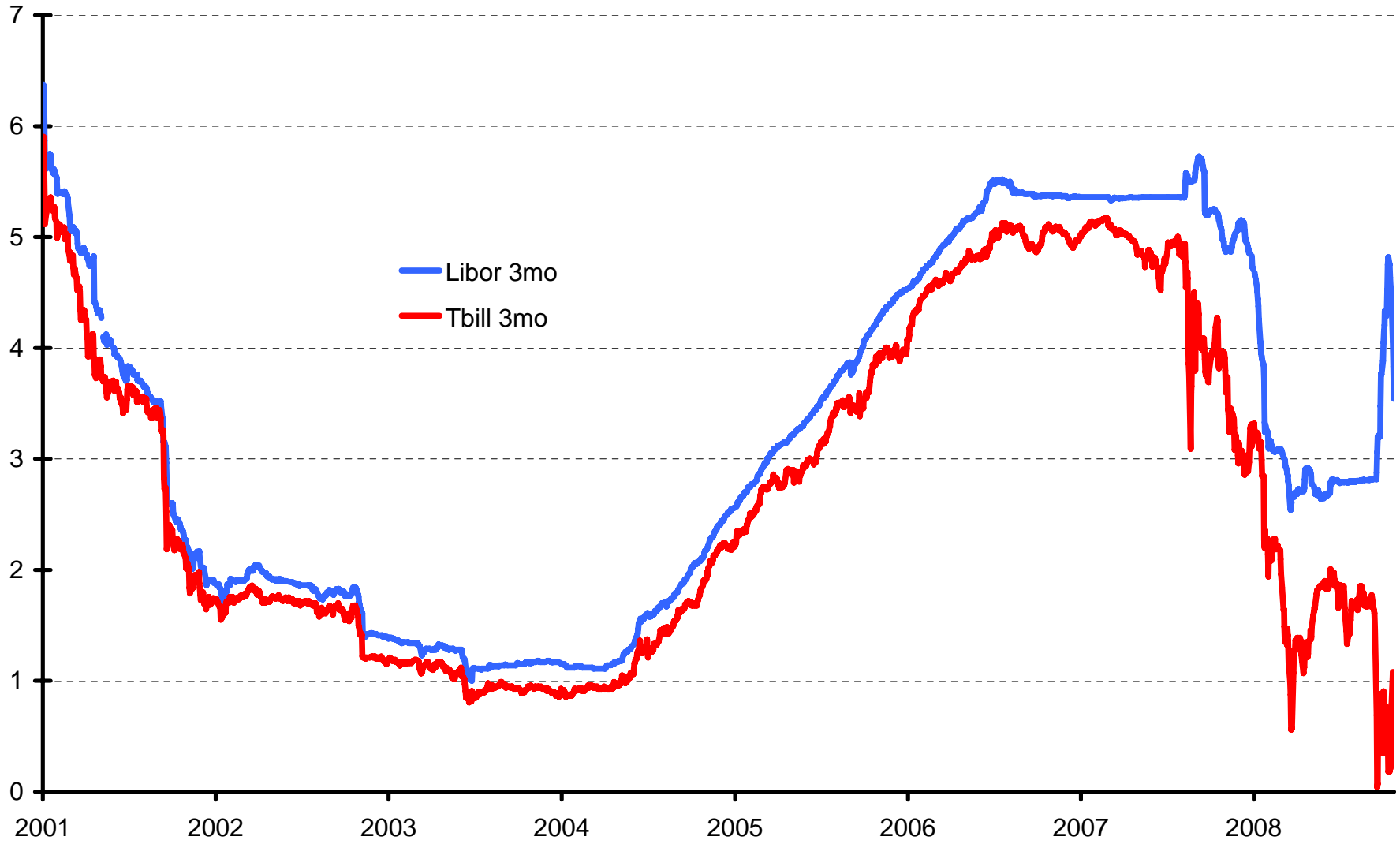
Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/z1/>

Figure 9B: New Debt and Net Repurchases of Equity in 2007-08



Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/z1/>

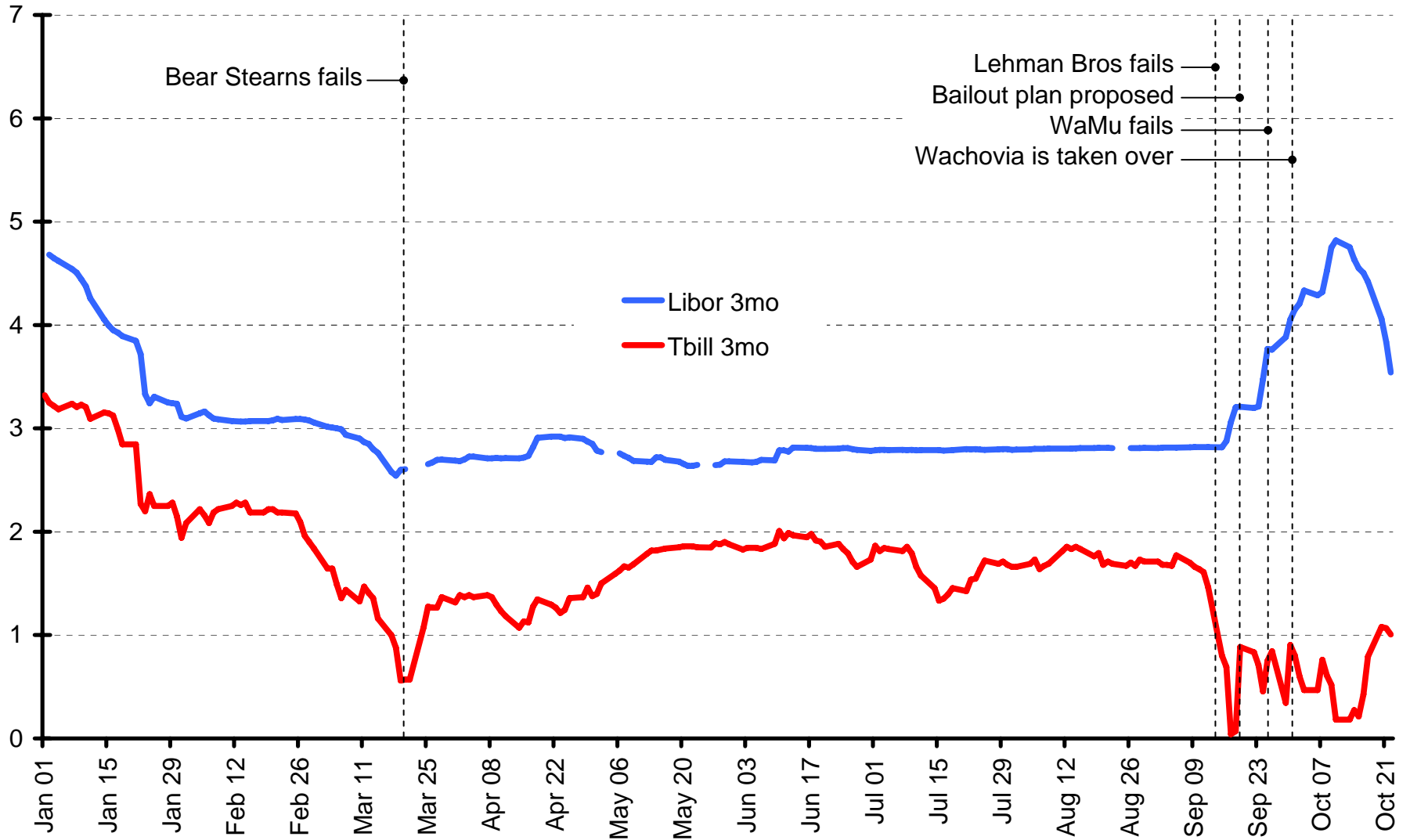
Figure 10A: Libor and Tbill Rates



Source: Bloomberg

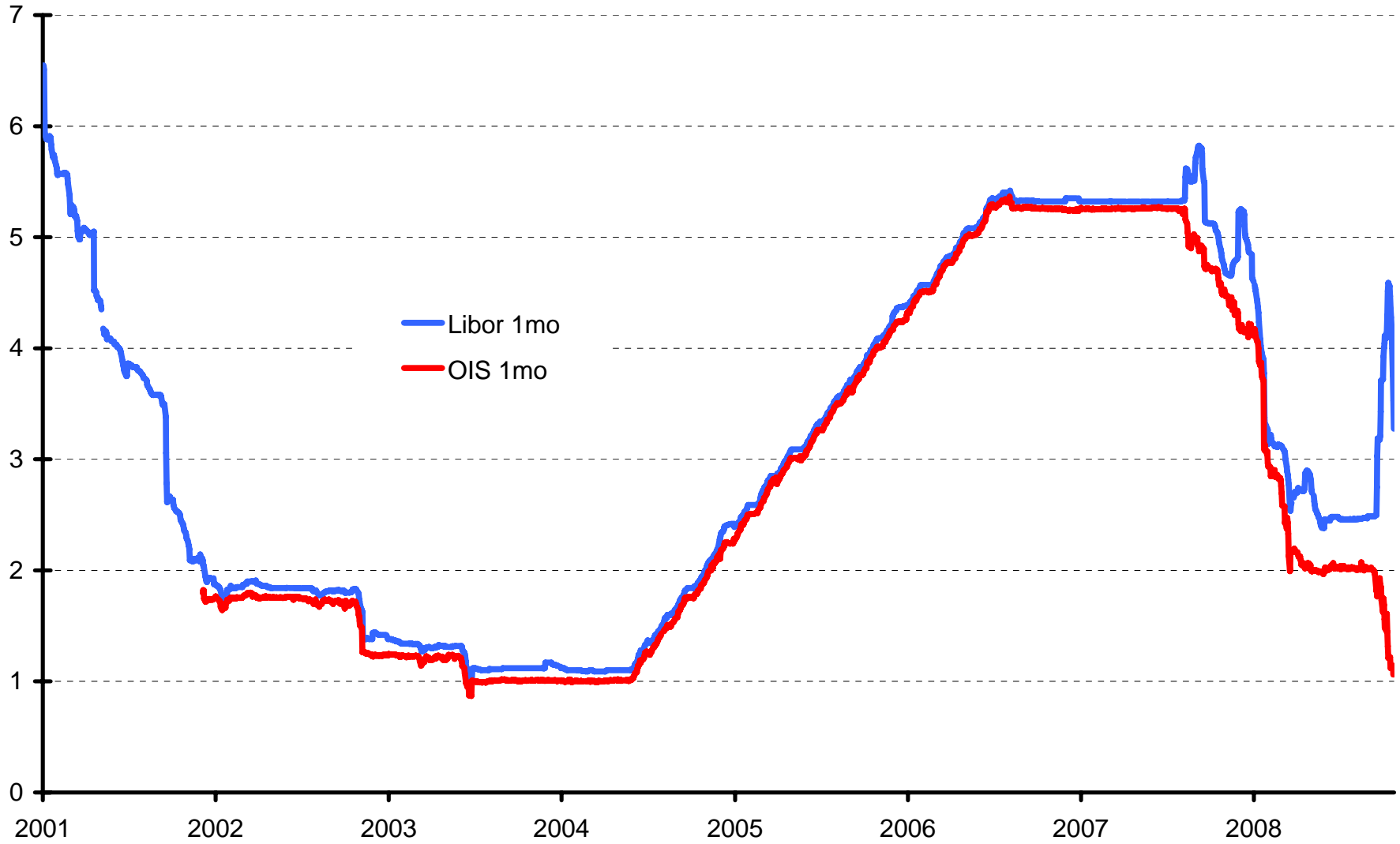


Figure 10B: Libor and Tbill Rates in 2008



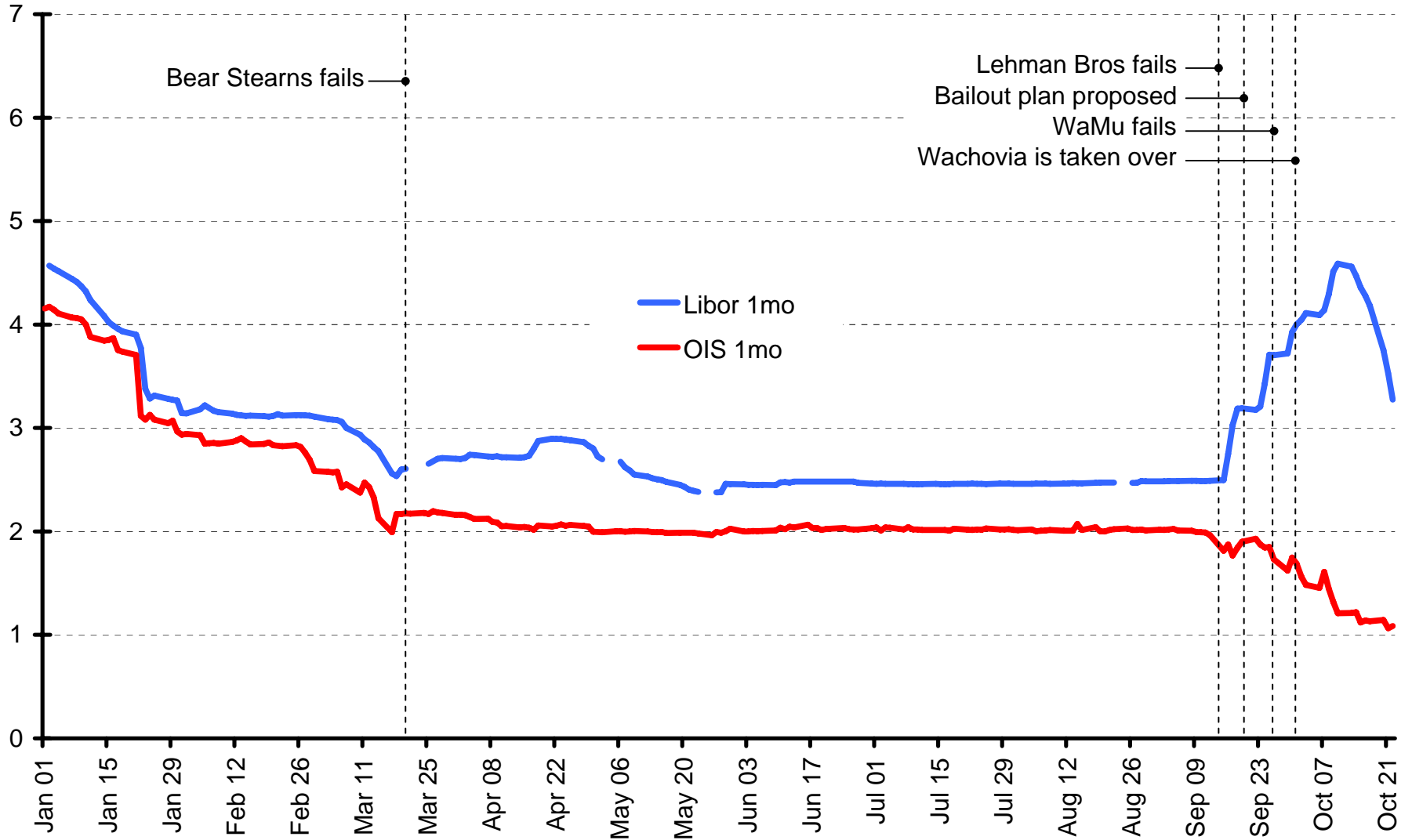
Source: Bloomberg

Figure 11A: Libor and OIS One Month Rates



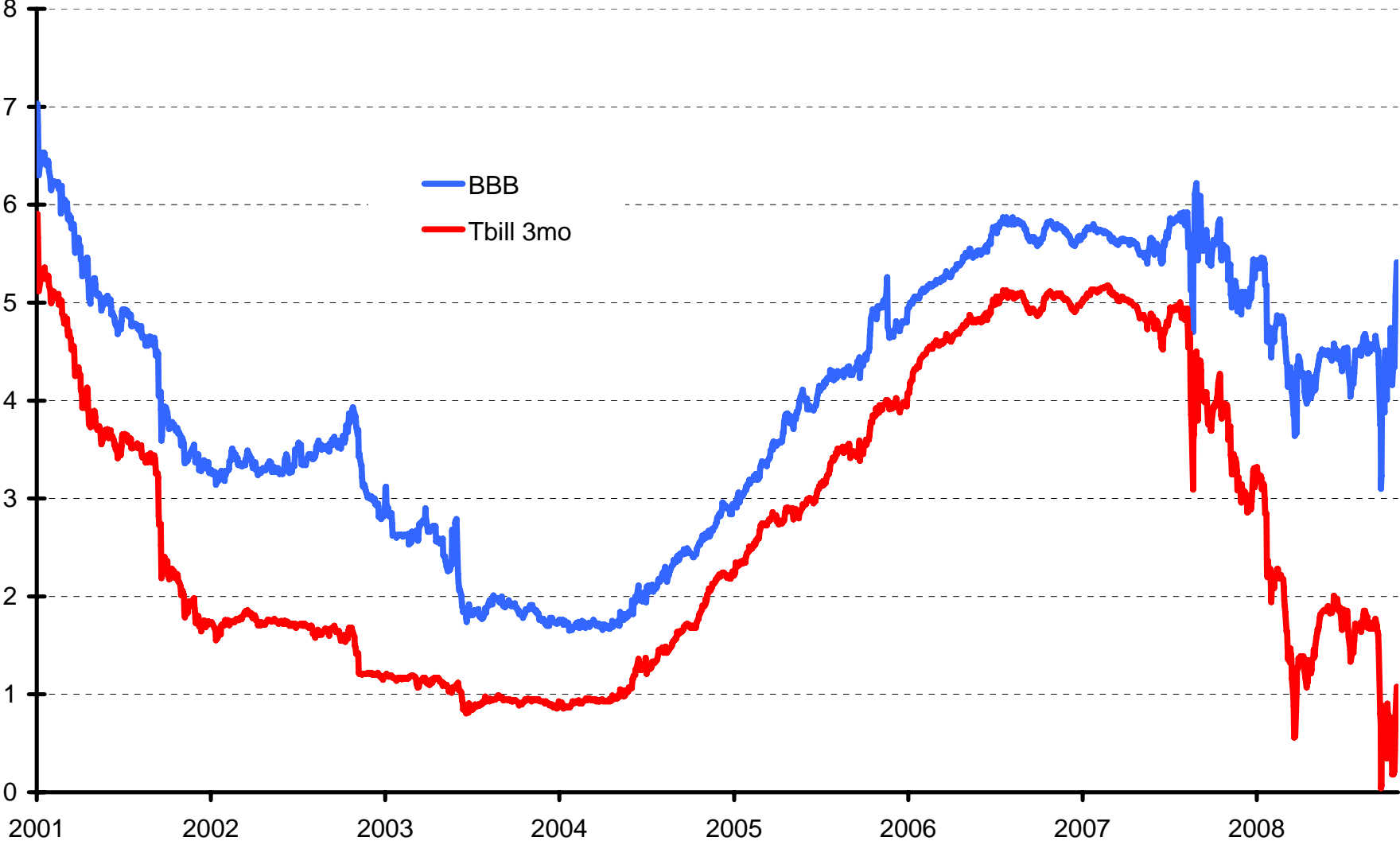
Source: Bloomberg

Figure 11B: Libor and OIS One Month Rates in 2008



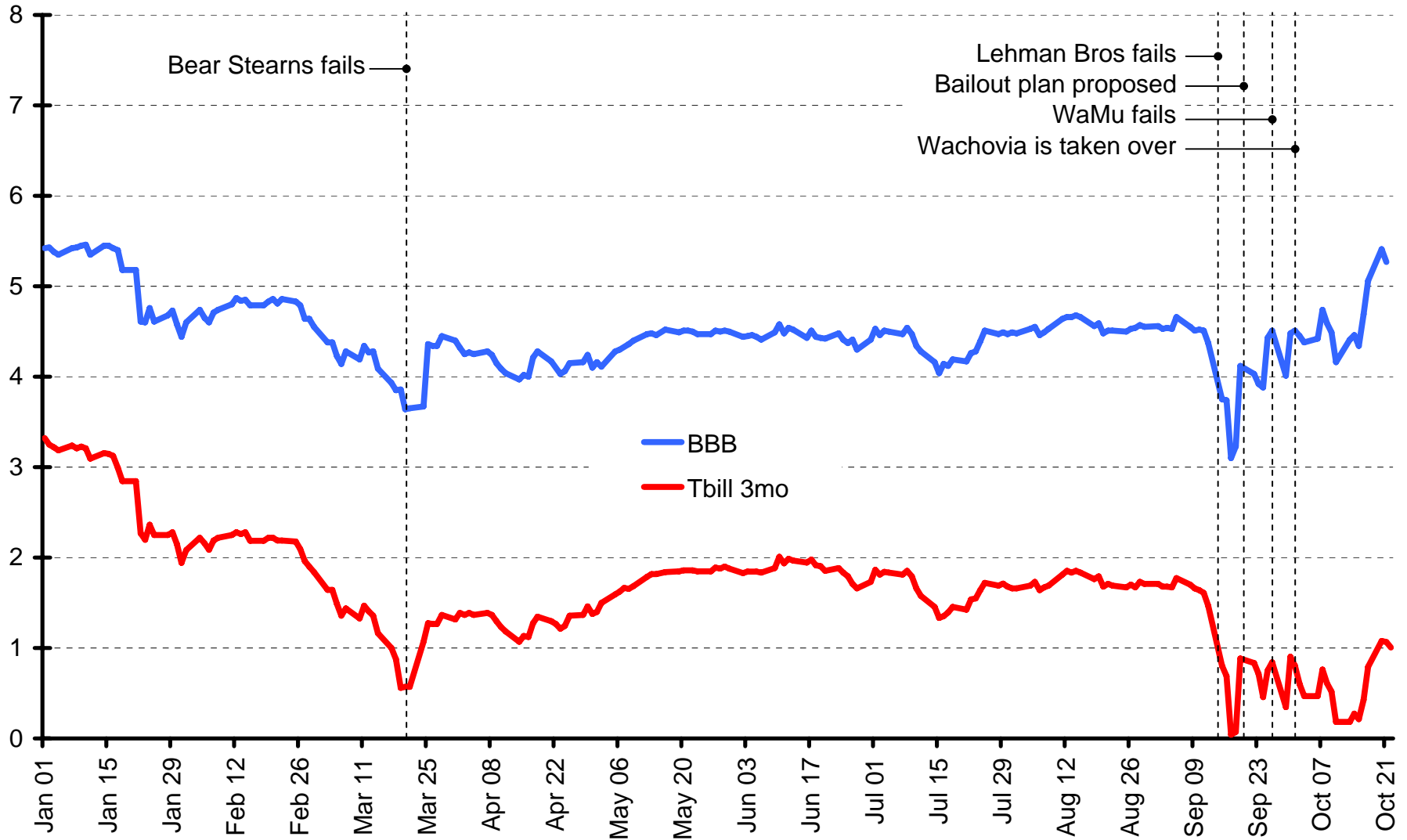
Source: Bloomberg

Figure 12A: BBB and Tbill Rates



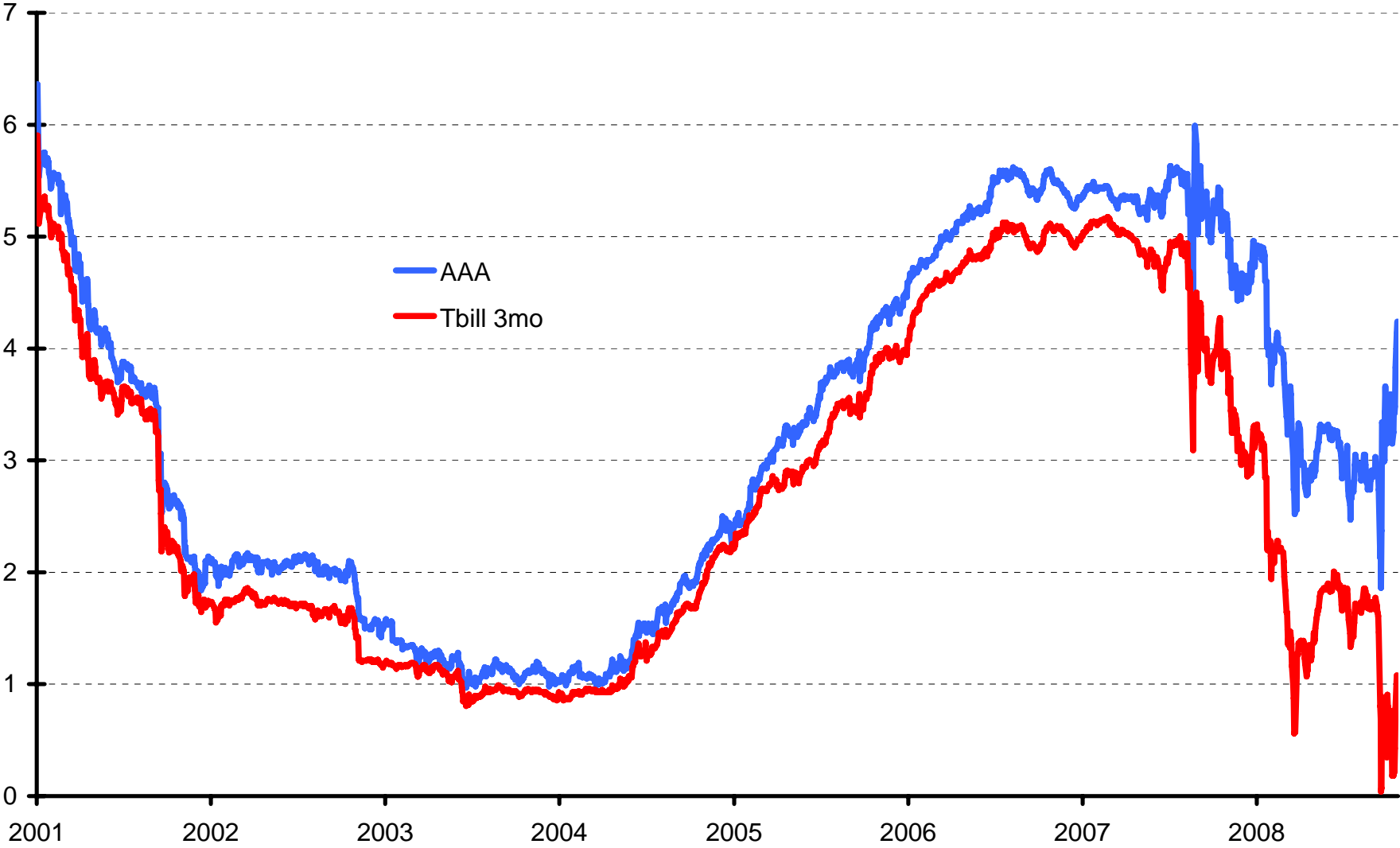
Source: Bloomberg

Figure 12B: BBB and Tbill Rates in 2008



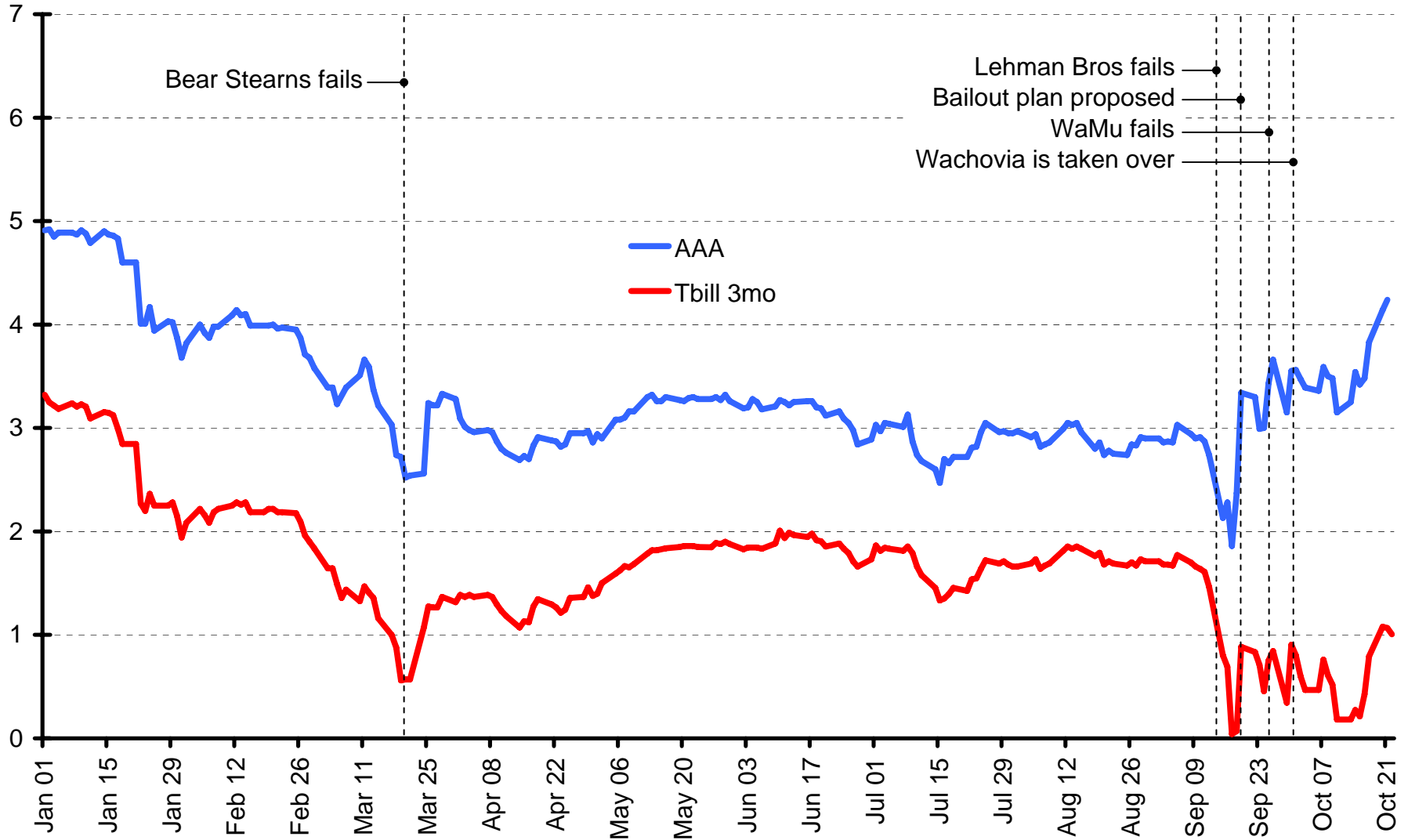
Source: Bloomberg

Figure 13A: AAA and Tbill Rates



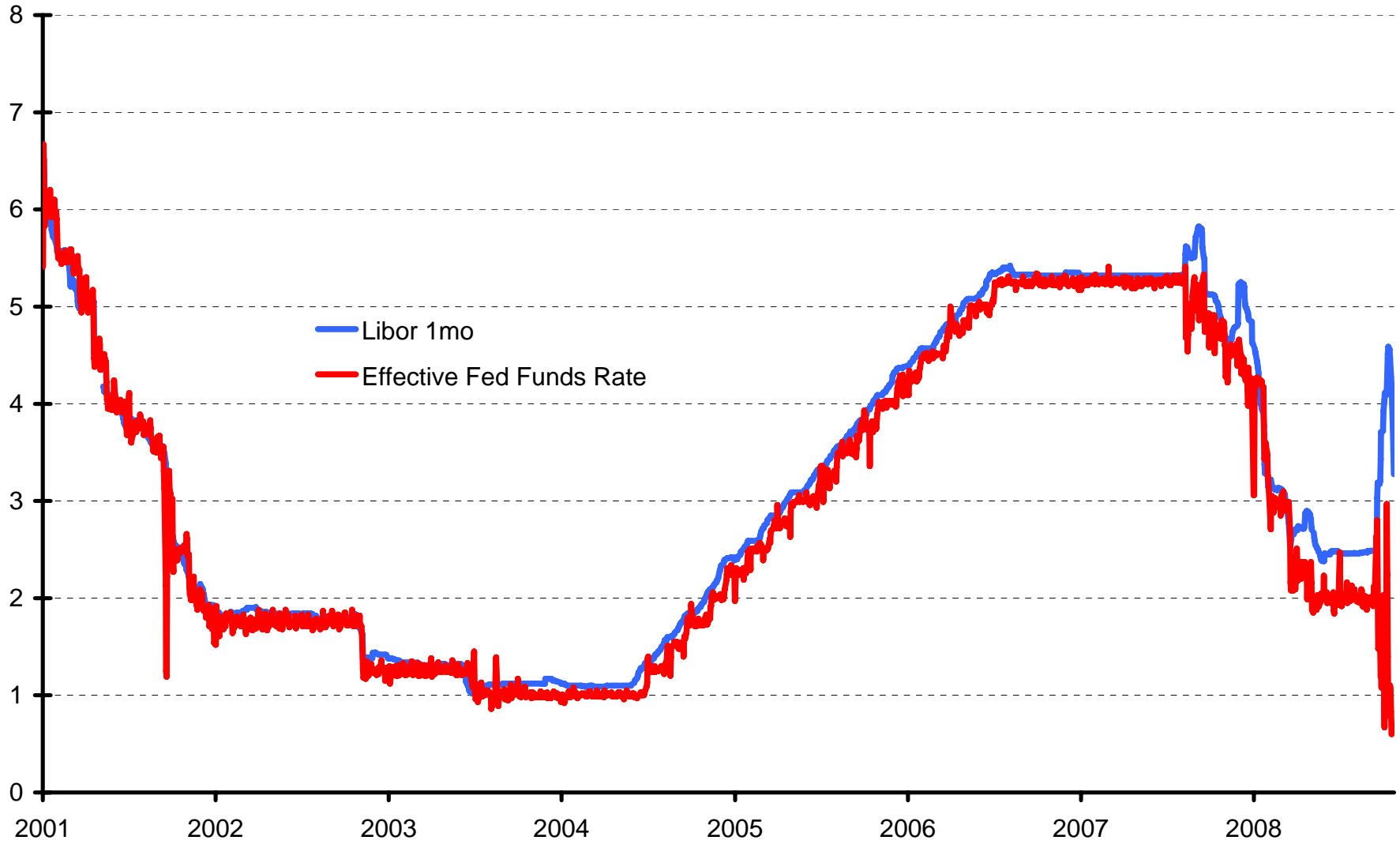
Source: Bloomberg

Figure 13B: AAA and Tbill Rates in 2008



Source: Bloomberg

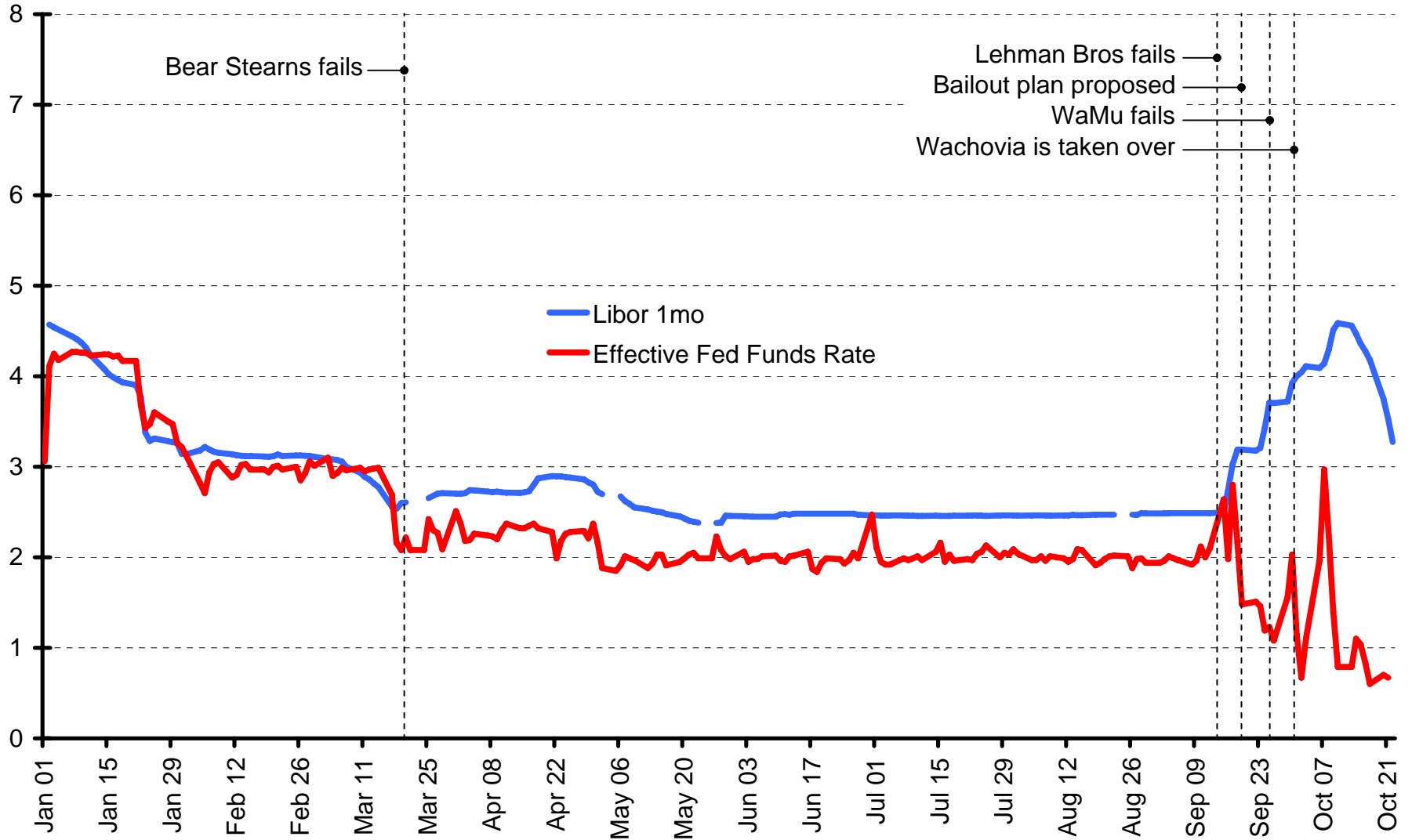
Figure 14A: Libor and Fed Funds Rates



Source: Bloomberg



Figure 14B: Libor and Fed Funds Rates in 2008



Source: Bloomberg