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Worsening of crisis launches the world into recession

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The downturn has taken its toll on the real economy of developed countries

The current international financial crisis in the subprime segment in the Unites States, which begun in August 2007, became worse in September 2008. The bankruptcy of the fourth largest North-American investment bank – Lehman Brothers – is considered the main cause of this process. In this case, the North-American government adopted different behavior in comparison with the Bear Stearns'[1] bankruptcy in March 2008. Surprisingly, the government did not project a rescue operation, and, consequently, the Lehman Brothers entered into *concordata*.

The consequence of these options was extremely serious. In fact, there was a considerable deterioration in investors' expectations on a global scale, which may cause, in such a way, moments of generalized panic in the markets. Banks and companies, including those in good financial condition, began to encounter several problems raising funds and short-term credit lines. Besides this, the concerns and

1 In March 2008, the FED extended a US$ 30bn credit line to JP Morgan Chase for Bear Sterns' purchase.

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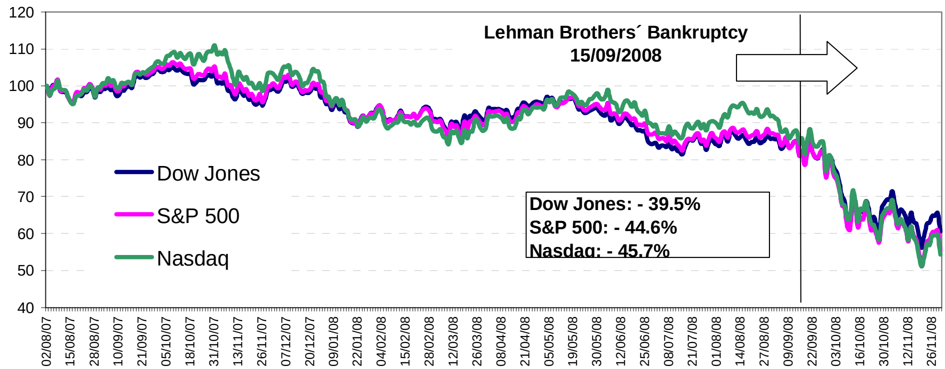
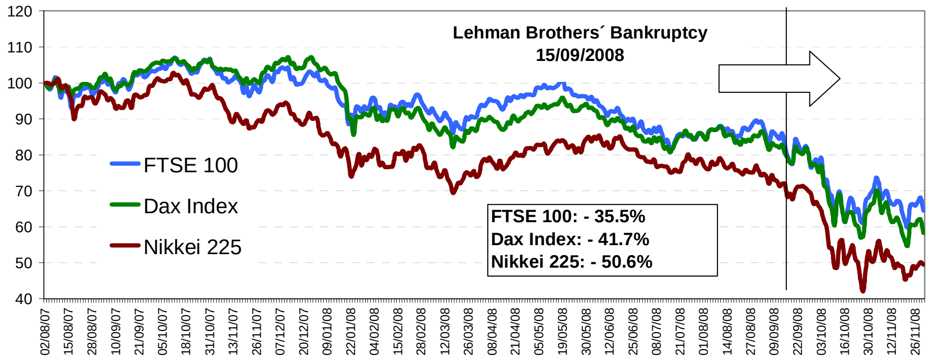
Graph 1: Main World Stock Exchange Indexes since the Beginning of the Crisis





Source: *Prepared by the BNDES based on Bloomberg data*

distrust in relation to the solvency of the North-American banking system, as well as its recessive impacts on the economy, also increased. Therefore, the Lehman Brothers' bankruptcy is effectively a discerning point in the worsening of the financial crisis.

The US government decided to resume interventions in the private markets due to the impact of the Lehman Brothers' bankruptcy. In cooperation with the main European economies, the Federal Reserve (FED) – the US Central Bank – and the US Treasury held massive liquidity and capital injections into the financial system. These measures, despite including a wide array of sources, were not able to immediately restore the normal operating conditions of the credit and capital markets, especially in relation to operations in interbanking markets. In this sense, this study aims at providing an overview of the latest events related to the international financial crisis and also at proceeding with the analysis presented in Brazilian Economic Insights N°. 44 and N°. 50.

Increase in uncertainty and its impacts on the stock markets

The bankruptcy of the Lehman Brothers, as previously mentioned, worsened the current international financial crisis. The deterioration of expectations was so serious that the most important stock markets in the whole world, after this event, presented severe fluctuations in their respective prices. Graph 1 clearly displays this process with the evolution of the main stock exchange indexes of the US, Europe and Japan since August 2007, which was the main cause of the financial crisis.

US stock exchanges feature losses higher than 40% since the beginning of the crisis

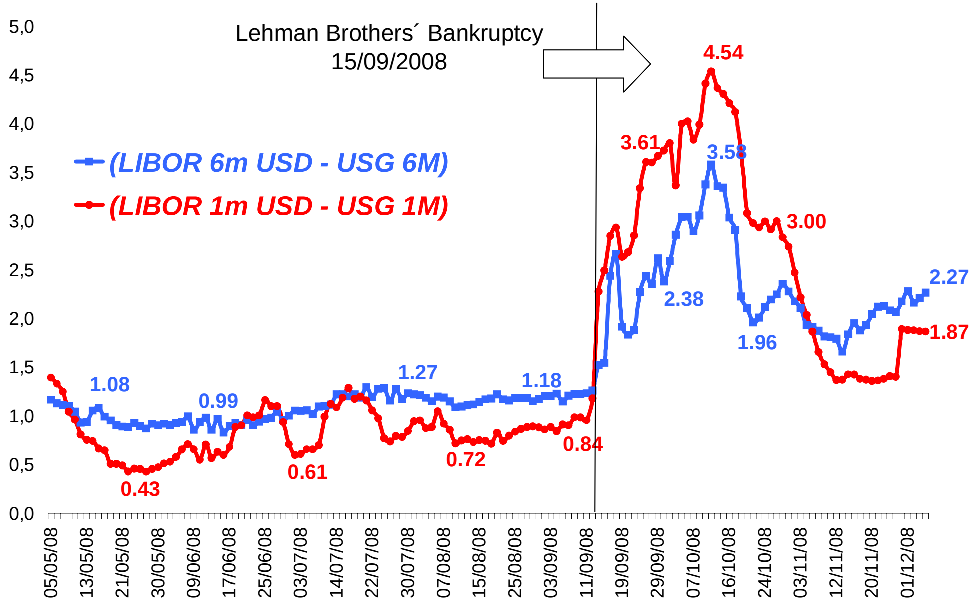
The North-American indexes – Dow Jones, S&P 500 and Nasdaq – presented losses close to or higher than 40% up to the end of November. The European stock exchanges did not present a different situation. Both the Dax Index, in Frankfurt, and the FTSE 100, in London, incurred losses higher than 35%. But the most dramatic case is the Japanese Nikkei 225 index of the Tokyo Stock Exchange, which has suffered a loss of over 50% since the beginning of the financial crisis. The estimated losses reach some disturbing values. According to Bloomberg calculations, corporations registered worldwide losses higher than US$ 32 trillion in market value from the end of 2007 until November 2008.

The effects on interbanking markets

The impacts resulting from the US government's decision to allow the bankruptcy of the Lehman Brothers can also be perceived in the interbanking markets. Graph 2 presents the spread behavior between: i) the Libor interest rate of the interbanking market, in London, concerning the deposits in US dollars for loans with a term of one month (Libor 1M USD) and six months (Libor 6M USD); and ii) the public bonds of the North-American government with similar maturity (USG 1M) and (USG 6M).

Libor is the most internationally used rate as a short-term benchmark in the interbanking markets, where banks take out loans with each other with varying

Graph 2: **Evolution of Interbanking Rates in Relation to the Public Bonds Spread with Similar Terms -** In % per Year



Source: *Prepared by the BNDES based on Bloomberg data*

terms, from overnight up to 12 months, and which do not require any collateral. In addition to this, it is a perception indicator of existing risks in the scope of operations between banks. The yields of the US public bonds represent a spread rate with no market risks. The spread between these rates represents the private banking sector risks in relation to the public sector.

It is worth noting that strong uncertainties concerning the financial health of the banks have materialized since the Lehman Brothers' episode, and in relation to the easing of the North-American monetary policy as well as other steps implemented for the injection into liquidity. This swiftly and abruptly raised the costs of the short-term and middle-term loans – 30 or 180 days – within the interbanking markets. The risk perception of banks increased in relation to the loans between each other, causing the monthly spreads on government bonds, for instance, to reach a threshold of 4.5% per year on October 10th – a rate that virtually stopped these operations between the banks.

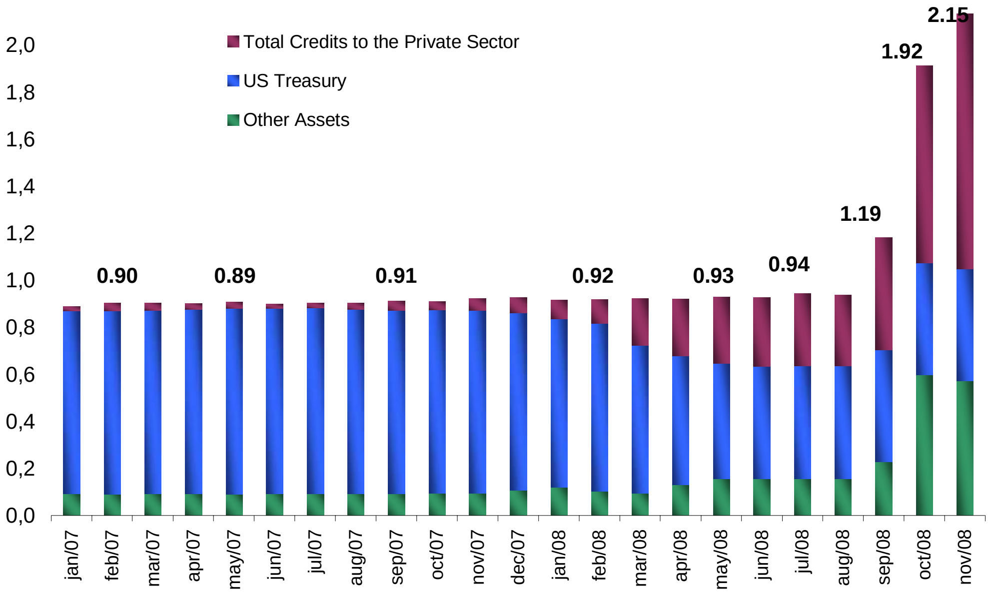
The return to operations in the interbanking markets could be noted over the last few weeks, but conditions are not normal. Despite the monthly spreads decreasing from 3.0% to 1.5% per year within 15 days – from the last week of October until the first week of November 2008 -, indicating that the steps concerning the injection into liquidity may provide positive effects, the risk perception of the banking system is still significant. Indeed, the rates are higher than the thresholds presented before the Lehman Brothers' bankruptcy. The same analysis is valid for the six-month operations.

The reaction of the US Treasury andthe Federal Reserve

The FED decided to act due to the deterioration of expectations and the uncertainty on the markets after the Lehman Brothers' bankruptcy. The North-American monetary authority swiftly and extensively

Graph 3: **Composition of FED Total Assets**

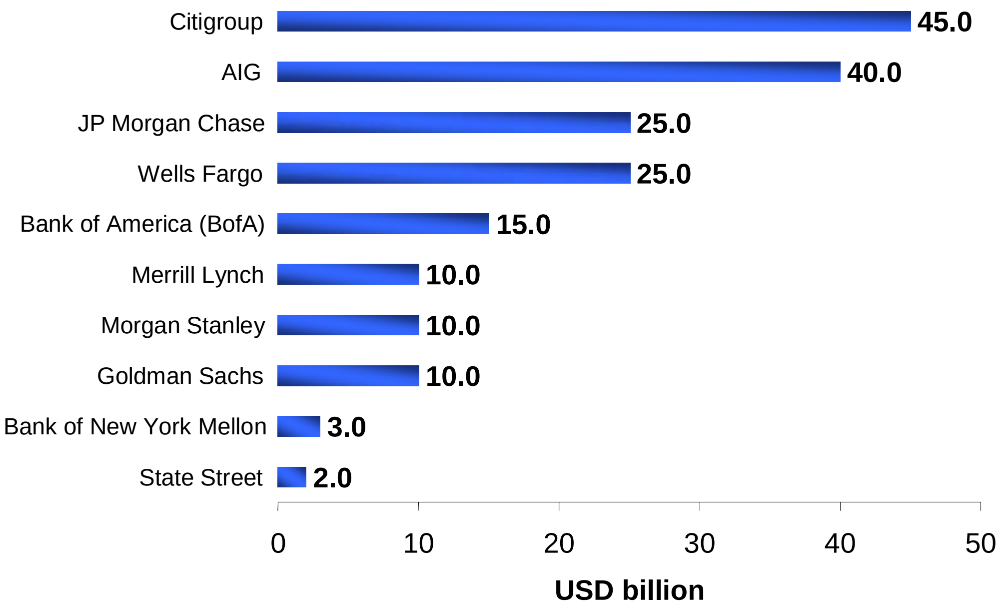
USD Trillion – Data until November 2008



Source: *Prepared by the BNDES based on the FED's data.*

Graph 4: **Capital Investment of FED by means of the Purchase of Preemptive Stocks from the North-American Banks**

USD billion



Source: *Bloomberg.*

broadened the economy's liquidity. This process may be noted in the data in Graph 3. There was a strong increase in the value of the total assets of the North-American Central Bank, from US$ 940 billion to US$ 2.15 trillion between August and November 2008 – an increase of more than 100%. Furthermore, a significant change occurred in its composition since the beginning of 2007.

In the beginning of the financial crisis, in August 2007, the U.S. Treasury bonds represented 87% of the Federal Reserve's total assets, for instance, roughly US$ 785 billion. On the other hand, credits to the private sector totaled only US$ 26 billion, or 3% of the total assets. According to this data in the end of November 2008, a considerable inversion may be noted in this scenario. The credits to the private sector reached US$ 1.1 trillion, more than 50% of the total assets. The US Treasury bonds fell to US$ 476 billion, representing roughly 22% of the total assets.

It is worth noting that, since the beginning of the financial crisis, the expansion of liquidity in the US economy was made possible by the monetary authority in two different ways. At first, the FED maintained a constant total amount of its assets and reduced the portion of public bonds in its portfolio, which were exchanged for private credits with lower liquidity that were in the banks portfolios.[2] After September 2008, the North-American Central Bank not only reduced the amount of public bonds in its portfolio, but also largely increased the total amount of credits to the private sector by means of several instruments – repurchase agreements and term auction credits, among others.

FED's assets increased from US$ 940 bn to US$ 2,12 trn between Aug and Nov 2008

The increase of the FED's total assets from September 2008 is a result from the worsening of the financial crisis, as well as from the different behavior of the North-American authorities in relation to the Lehman Brothers' case. Several following cases may illustrate this process. To wit: i) the US$ 85 billion rescue operation for AIG[3] – the US' largest insurance company -, just a day after the bankruptcy of Lehman Brothers; ii) approval of the US$ 700 billion rescue plan by the US Treasury to purchase of illiquid (troubled) assets from financial institutions – TARP (Troubled Asset Relief Program)[4]; iii) the creation of a credit line for the purchase of commercial papers from North-American companies in order to ensure the continuity of their routine operations with working capital.[5]

The uncertainty related to the financial health of the main US banks was so serious that the U.S. Treasury decided to use part of the US$ 700 billion approved for the purchase of preemptive stocks from the financial institutions, including insurance company AIG.[6] Indeed, it is related not only to the government's extensive investment in the capital of such institutions, but also corresponds to a partial nationalization, temporary or not, of the North-American financial system. Also, ten of the largest financial institutions had received US$ 185

2 Refer to Torres Filho and Borça Jr. (2008) – Brazilian Economic Insights No. 50.

3 At the beginning of November, support to AIG was modified, reaching a total volume of US$ 152.5 billion.

4 In mid-November, there was a change to the original package, which was no longer earmarked for the purchase of illiquid assets, but rather for the capitalization of banks aimed at opening access to credit for consumers.

5 On October 21st, the FED created a credit line for the money market funds, named the 'Money Market Investor Funding Facility' (MMIFF), aiming at providing the support needed so that the private sector may provide liquidity to investors in the North-American market.

6 Indeed, the North-American authorities followed the steps previously decided by the United Kingdom and some countries in the Euro Zone.

billion by the beginning of December (Graph 4).

Conclusions

The worsening of the international financial crisis from September 2008 is a result of the Lehman Brothers' bankruptcy, which was, until then, the fourth largest North-American investment bank. The bankruptcy of the institution affected investor expectations on a global scale, increasing the uncertainty in relation to the financial health of the entire banking system. The decision made by the North-American government in this case, allowing the bankruptcy of one of the main players in the credit markets and global capital, constituted a serious mistake in economic policy. The lack of confidence that fell upon the markets resulted not only in considerable losses for the main stock exchanges in the world, but also raised the costs of short-term and middle-term loans in the interbanking markets.

Lehman's bankruptcy was a mistake, but the US government seems to have learned the lesson

Perhaps the North-American government has learned something from such mistakes. The broad expansion of the system's liquidity by the authorities may improve the concession of loans between the banks little by little. The spreads between the Libor rate of the interbanking market and the yields of the U.S. Treasury bonds have fallen over the last few weeks, leading to the levels seen previous to the Lehman Brothers' case.

Therefore, it is still too early to affirm that the worst period is over. The most recent data on the activity level in the 3Q2008 presented the first impacts of the global credit crunch on the economy. The US and the UK, for instance, presented negative growth rates in GDP, of 0.5%, in comparison with the immediate previous quarter.[7] On the other hand, the Euro Zone and Japan are already in recession, accumulating two consecutive quarters of setback to economic activity. The financial crisis, therefore, has hit the real economy. The question is to know for how long the process will continue and how deep it will be.

7 According to the National Bureau of Economic Research (NBER), which determines the duration of the expansion and contraction cycles of the North-American economy, the recession began in December 2007. In this definition, a set of economic indicators are included, such as monthly data on industrial production, income and unemployment.