The Great Depression and the Great Recession: A Comparative Analysis of their Analogies

Peicuti, Cristina

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Cristina Peicuti[1]

Abstract: The decades preceding the Great Depression and the U.S. subprime mortgage crisis have close similarities. Both decades were characterized by rapid growth without major contractions, by an increase in liquidity, a lack of inflation, and a generalized decrease in risk premiums. Additional similarities included significant changes in the financing of real estate by commercial banks along with a consolidation of the banking sector and high hopes that the efficiency of monetary policy would prevent financial crises. These decades were also characterized by the consolidation of the powers of young central banks (the Federal Reserve System in the 1920s and the European Central Bank in the 2000s), by unsuccessful attempts to control market speculation, by their international dimensions, and by the eruption of crises after the failure of a major American financial institution that could have been avoided. Understanding these analogies help us better identify the causes of the subprime mortgage crisis and prevent history from repeating itself to the extent of such large-scale devastating consequences.

1. Introduction

Until recently the conventional opinion was that major disruptions in financial markets characterized by sharp declines in assets and firm failures would always exist but that financial crises of the type experienced during the Great Depression were a thing of the past for advanced countries such as the United States or the countries of the European Union. The 2007–9 crisis proved them wrong.

Analogous circumstances triggered similar crisis dynamics. The periods from 1921 to 1929 and 2001 through 2007 both experienced fairly rapid growth without major contractions, which led to a climate of confidence, highly decisive for the outbreak of the crisis. These periods were characterized by the following aspects, in the order of importance for the outbreak of the crisis: (1) developments in finance that modified the role of commercial banks; (2) an increase in liquidity at the global level that did not lead to inflation but caused risk premiums to decrease; (3) a banking sector that became concentrated in number and size of banks; and (4) a strong belief in the capacity of central banks to promote economic stability and to prevent financial crises in the long run.

These two financial crises started with severe defaults on mortgages that led to significant loan losses on bank balance sheets. Both crises erupted in periods of high uncertainty after the failure of a major American financial institution: the Bank of the United States in 1930 and Lehman Brothers in 2008—and both failures could have been avoided. While the failure was believed to have domestic consequences at

[1] University Paris 1 Panthéon Sorbonne
http://fr.linkedin.com/pub/cristina-peicuti/14/657/a81

the time, the decision to let them go bankrupt was a mostly decisive cause for the dramatic outbreak of the international crises.

Both crises consolidated the powers of young central banks, at the time of the Great Depression it was the young Federal Reserve System and of the subprime crisis, it was the recently founded European Central Bank.

The Banking Acts of 1933 (Glass–Steagall) and 1935 created the Federal Deposit Insurance Corporation (FDIC), separated commercial banking from the securities industry, prohibited interest on checkable deposits, restricting such deposits to commercial banks, and placed interest-rate ceilings on other deposits. The fact that less than a decade after the demise of the Glass–Steagall Act, a similar crisis appeared, and that in March to September 2008, all five of the largest, free-standing investment banks ceased to exist in their old form hint to the fact that the Great Depression and the Great Recession may have similar causes. Understanding these causes will help in rebuilding a regulatory framework that is capable of preventing such occurrences in the future.

2. Close similarities of the periods 1921–1929 and 2001–2007

2.1. ***Rapid growth without contractions***

The absence of a severe depression over almost a decade could have caused apprehension[2], but instead it had the opposite effect: the longer a significant depression was avoided, the greater confidence in the future became.

In the United States, the declines of 1920–21 and 2000–2001 were followed by economic expansions. From 1921 to 1929, two recessions occurred: one from May 1923 to July 1924, and the other from October 1926 to November 1927. These recessions slowed steady growth but they were so mild and brief that most people at the time did not realize a recession had occurred.

The steady economic growth from 2001 to spring 2007 can only be explained by the continuous expansion of credit. In 2001, the Federal Reserve implemented an expansive policy to support the depressed economic climate and productivity, and get companies that had borrowed a lot during the stock market boom of the 1990s out of debt. But the bankruptcies that occurred in 2002 because of bad corporate governance—the most famous being that of Enron in December 2001—forced the Federal Reserve to continue its expansive policy in order to prevent deflation. Beginning in 2003, economic growth was strongly sustained by household consumption triggered by low long-term interest rates. The transfer of corporate debt to household debt sustained American growth.

2.2. ***Increase in global liquidity***

From July 1921 to the cyclical peak in August 1929 the stock of money in the United States rose at a rate of 4.6 percent per year, that is, by 45 percent for the whole period. Of this rise, the increase in the public's deposit–currency ratio accounted for 54 percent, in the banks' deposit–reserve ratio—15 percent, and in the stock of high-powered money—27 percent. Beginning in 1929, money stock declined very slightly

[2] Stiglitz J. (2003), *The roaring nineties*, London, Penguin Books, p. 13-18

as a result of the restrictive monetary measures taken by the Federal Reserve System in response to the stock market boom.[3]

If we take into consideration the ratio between the stock of money and the gross domestic product for the six main monetary zones (the United States, the eurozone, Japan, China, the United Kingdom, and Canada), we can see that it goes from 18 percent during 1980–2000 to more than 26 percent in 2002, and to almost 30 percent in 2006–7.[4] This rise in liquidity can be explained by external causes such as a very rapid increase in the exchange reserves of the emerging countries (particularly, of China) and of the countries exporting raw materials. The rise in reserves is the result of significant commercial trade surpluses as well as the high savings rate of these countries that had high growth rates for several years. The expansion of credit—caused by the fall in interest rates, the development of financial innovations, and the search for economic growth—is the major internal cause of this rise in global liquidity. The increase in liquidity did not lead to inflation in either period.

2.3. ***Lack of inflation***

In spite of the widespread belief that inflation was very high before 1929 in the United States, the 1920s were not an inflationary decade. By 1923, wholesale prices had recovered only a sixth of their 1921 decline. From 1923 to 1929, they fell an average of 1 percent per year. Prices remained low during the cyclical expansion beginning in 1927. The stock market grew at a fairly steady rate until early 1928. Afterward it declined very slightly until 1929 as a result of the restrictive monetary measures taken by the Federal Reserve System.[5]

In the 2000s, the increase in liquidity on a global scale was caused by the rapid growth of exchange reserves of central banks in emerging countries and in countries exporting raw materials (an external factor), as well as credit expansion (an internal factor). Generally speaking, an increase in liquidity leads to inflation on prices for goods and services, but the databases of the International Monetary Fund from 1996 to 2006 show the opposite:[6] in spite of an increase in liquidity, inflation continued to decline worldwide from 12 percent to less than 4 percent.

Kenneth Rogoff explains the generalized decrease in inflation as a result of pressure caused by decreased prices for manufactured goods from emerging countries (in spite of pressure caused by these same countries on prices of raw materials).[7] The excess productivity capacities of emerging countries, which have low wage costs, continued to influence prices and contributed to noninflationist economic growth. And the significant rise in prices for oil, metals, and food products

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[3] Friedman M., Schwartz A. (1963), *A Monetary History of the United States 1867 - 1960*, Princeton University Press for the National Bureau of Economic Research, p. 274

[4] 'Report 78 of the Conseil d'Analyse économique' (September 2008), La crise des subprimes, La documentation française, p. 15, <http://www.ladocumentationfrancaise.fr/rapports-publics/084000588/>

[5] Friedman M., Schwartz A. (1963), *A Monetary History of the United States 1867 - 1960*, Princeton University Press for the National Bureau of Economic Research, p. 243

[6] <www.imf.org/external/datamapper/index.php>

[7] Rogoff K. S. (2003), 'Globalization and Global Disinflation', communication at the Reserve Bank of Kansas City Conference 'Monetary Policy and Uncertainty: Adapting to a Changing Economy'

as a result of the demand of emerging countries was not strong enough to reverse the tendency. Inflation and its volatility went down.

The expansion of credit is normally limited by a rise in inflation that has the consequence of tightening monetary policy and interest rates. The fact that inflation went down led to a substantial development of credit in the 2000s.

2.4. ***Falling risk premiums***

Risk premiums fell during the 1920s in the United States. As Ilse Mintz explains,[8] basic yields on 30-year bonds, which can be regarded as representative for the high-grade domestic bond market, declined from 4.50 percent to 4.05 percent between 1925 and 1928. In other words, the "scarcity of quality loans" meant that the investor had to accept a 10 percent decline in nominal yield. In 1925 the average risk premium for issues of foreign bonds, 30 percent of which subsequently proved to be of bad quality, was 2.18 percent. In 1928 a crop of foreign bonds, 65 percent of which were failures, could be sold to yield no more than a 2.00 percent risk premium. Thus investors accepted an 8 percent reduction in risk premium for a much riskier investment at the very time they accepted only a 10 percent reduction in yields on high-grade investments of stable quality. This caused the prices of risky foreign bonds to rise relatively more than prices of high-grade domestic bonds.

Mintz emphasizes that high-grade foreign loans might have been expanded if American investors had accepted a more drastic cut in their yields. The public's demand for high-yield bonds excluded borrowers who offered lower yields. To a certain extent the lower-grade bonds drove the high-grade bonds from the market. But this was not the only reason why low-grade bonds attracted investors. Investors bought low-grade bonds because they were not aware of the risks they were taking. And this underappreciation of risk was not the result of the influence of a few fraudulent investment bankers. It was rooted in the optimistic economic climate of the twenties. During the entire decade, there were no defaults on foreign government bonds. Bad risks accumulated but did not become apparent. The confidence of bankers and investors grew as time passed and no losses were incurred.

This confidence was strengthened by the considerable profit made by investors over a long period. Moreover, these profits furnished funds for more investments of the same kind. Even those who were aware of the cyclicity of the economic activity were reassured by the mild contractions of the twenties, which passed without inflicting losses on foreign bondholders and left the impression that depressions were a thing of the past. This optimism had a cumulative effect. The new lending it encouraged was used to pay old debts when other funds were not available, thereby prolonging the life of bad debtors, postponing defaults, and in turn causing investors to have greater confidence in a future without crises.

History repeated itself, and in the 2000s inflation, stabilization, less fluctuation of gross domestic product (GDP) and its components, improved macroeconomic conditions, and the modernization of the financial structures of emerging countries favored a climate of confidence. Under these circumstances, risk premiums went down. For example, on the bond markets, premiums were about 300 basis points in 2000 for BAA ratings and about 800 basis points for the Emerging

[8] Mintz I. (1951), *Deterioration in the Quality of Foreign Bonds Issued in the United States, 1920-1930*, New York, NBER Books, <http://www.nber.org/books/mint51-1>

Markets Bond Index +, the spread being about 500 basis points. The spread continued to decrease to 300 basis points in 2005, and almost disappeared at the beginning of 2007.[9]

The cause is clear: with the increase in liquidity, economic players searched for riskier assets in order to obtain better returns. More and more risks were taken without being correctly remunerated as the volatility of inflation decreased and global liquidity remained significant. This set the conditions for an economic downturn but the economic players did not acknowledge it and strongly believed in the capacity of central banks to ensure the stability of the system.

2.5. ***Large real estate financing by commercial banks***

In both periods in the United States, borrowers had facilitated access to real estate and the quality of collateral dropped significantly before the crisis erupted. Both crises began with severe defaults on mortgages that led to significant loan losses on bank balance sheets.

A regulatory framework evolved and American national banks were able to start financing nonfarm real estate in 1916 after an amendment to the Federal Reserve Act, and later with the implementation of the McFadden Act of 1927. Thus, during the 1920s, commercial loans declined noticeably compared to loans on real estate and securities.

Loans made in the late 1920s had a larger frequency of default and foreclosure than those issued a decade before. This was the result of deterioration in collateral requirements. The origination standards were relaxed because of: (1) optimism resulting from the high prosperity of the twenties, and (2) less demand for commercial loans, which was caused by a shift from bank loans to public issues of stocks and bonds as a way for companies to raise funds. Based on a sample of loans made by 116 commercial banks, Carl F. Behrens shows that for urban mortgages, foreclosure rates on loans issued in the late 1920s were four times greater in number and eight times greater in amount than in the early 1920s.[10] J.E. Morton arrived at similar conclusions for the same periods for a sample of two classes of commercial bank mortgage loans: nonfarm homes and income-producing properties.[11]

By June 1930, credit market conditions had stabilized and stocks recovered almost half of their losses. But severe droughts in the Midwest led to a sharp decline in agricultural production, with the result that farmers could not repay their bank loans. The resulting defaults on farm mortgages led to significant loan losses on bank balance sheets. These difficulties combined with the weakness of rest of the economy, and caused the first bank panic in November and December 1930. The stock market fell sharply. Bank panics succeeded one another until March 1933 when President Roosevelt declared a bank holiday. By this time, more than one-third of

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[9] 'Report 78 of the Conseil d'Analyse économique' (September 2008), La crise des subprimes, La documentation française, p. 19, <http://www.ladocumentationfrancaise.fr/rapports-publics/084000588/>

[10] Behrens C. F. (1952), *Commercial Bank Activities in Urban Mortgage Financing*, New York, NBER Books, 62, <www.nber.org/chapters/c1739.pdf>

[11] Morton J.E. (1956), *Urban Mortgage Lending: Comparative Markets and Experience*, Princeton University Press, 98–101, <http://ideas.repec.org/h/nbr/nberch/2851.html>

American commercial banks had failed and bank panics had spread all over the world.

Before 2000, only prime borrowers could obtain residential mortgages. In the 2000s, the deregulation of the financial system and development of the originate-to-distribute banking model led commercial banks to finance subprime mortgages. The Federal Reserve accurately describes the subprime population:[12]

> Generally, subprime borrowers will display a range of one or more credit-risk characteristics, such as:
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> • two or more 30-day delinquencies in the last 12 months, or one or more 60-day delinquencies in the last 24 months;
>
> • judgment, foreclosure, repossession, or charge-off in the prior 24 months;
>
> • bankruptcy in the last five years;
>
> • relatively high default probability as evidenced by, for example, a credit bureau risk
>
> • score (FICO)[13] of 660 or below (depending on the product or collateral), or other bureau or proprietary scores with an equivalent default probability likelihood; or
>
> • debt-service-to-income ratio of 50 percent or greater, or an otherwise limited ability to cover family living expenses after deducting total monthly debt-service requirements from monthly income.

The Federal Reserve experts were aware of the risk of purchasing these risky credits at high margins by other banks as explained in the section on "Purchase Evaluation" written in November 2002:

> As they evaluate expected profits, institutions that purchase subprime loans from other lenders or dealers must give due consideration to the cost of servicing these assets and to the loan losses that may be experienced. For instance, some lenders who sell subprime loans charge borrowers high up-front fees, which are usually financed into the loan. This provides incentive for originators to produce a high volume of loans with little emphasis on quality, to the detriment of a potential purchaser. Further, subprime loans, especially those purchased from outside the institution's lending area, are at special risk for fraud or misrepresentation (that is, the quality of the loan may be less than the loan documents indicate).[14]

In the section "Securitization and Sale", the Federal Reserve experts insist on the risks of securitizing:

> To increase their loan-production and –servicing income, some subprime lenders originate loans and then securitize and sell them in the asset-backed securities market. Strong demand from investors and favorable accounting

[12] Federal Reserve, 'Commercial Bank Examination Manual', section 2133, <http://www.federalreserve.gov/boarddocs/supmanual/cbem/2000.pdf>

[13] Borrower credit scores were calculated using models developed by Fair Isaac Corporation (FICO)

[14] Federal Reserve, 'Commercial Bank Examination Manual', section 2133, <http://www.federalreserve.gov/boarddocs/supmanual/cbem/2000.pdf>

> rules often allow securitization pools to be sold at a gain, providing further incentive for lenders to expand their subprime-lending program. However, the securitization of subprime loans carries inherent risks, including interim credit risk and liquidity risks, which are potentially greater than those for securitizing prime loans. Accounting for the sale of subprime pools requires assumptions that can be difficult to quantify, and erroneous assumptions could lead to the significant overstatement of an institution's assets. Moreover, the practice of providing support and substituting performing loans for nonperforming loans to maintain the desired level of performance on securitized pools has the effect of masking credit-quality problems. Institutions should recognize the volatility of the secondary market for subprime loans and the significant liquidity risk incurred when originating a large volume of loans intended for securitization and sale. Investors can quickly lose their appetite for risk in an economic downturn or when financial markets become volatile. As a result, institutions that have originated, but have not yet sold, pools of subprime loans may be forced to sell the pools at deep discounts.[15]

The originate-to-distribute banking model experienced agency problems. The mortgage brokers who originated the loans had no incentive to make a strong effort to evaluate borrowers' abilities to repay the loans. The brokers would quickly sell the loans to investors in the form of mortgage-backed securities, thus eliminating the risks of the loans. The more volume the brokers originated, the larger their fees. Consequently, adverse selection became a major problem. On the one hand risk-loving investors had easy access to loans, but on the other hand, brokers encouraged households to take on mortgages they could not afford. The financial operations called "capital mortgage withdrawal" or "cash out" amplified this dynamic. Public government-sponsored enterprises contributed to asymmetric information in financial markets as they advised customers on how to structure complex financial instruments while, at the same time, rating those instruments. Their incentives to have accurate ratings were weak.

These factors in the context of the increase in liquidity and low interest rates on residential mortgages made the subprime mortgage market greater than a trillion-dollar market. While the subprime lenders represented only 9 percent of the real estate lenders in 2000, this proportion rose to 20 percent in 2006. Moreover, the average amount of credits granted to subprime lenders went up significantly during this period, in 2006 representing half of the average amount granted to prime lenders.[16] As housing prices rose, so did profitability for mortgage originators and lenders, and the underwriting standards for subprime mortgages dropped significantly. Eventually, the housing price bubble burst leading to millions of mortgages in foreclosure. The crisis spread worldwide with substantial deterioration on the balance sheets of banks and other financial institutions, a run on the shadow banking system, and the failure of major global companies. By 2009, housing prices had fallen by over 30 percent compared to the housing market peak of 2006.

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[15] Ibid.

[16] Dell'Ariccia G., Igan D., Laeven L. (April 2008), 'Credit Booms and Lending Standards: Evidence from the Subprime Mortgage Market', IMF Working Paper, 08/106, p. 1–39

2.6. ***Banking sector concentration***

During both periods, developments in finance modified the role of commercial banks. The banking sector became concentrated in the number and size of banks. "Small was no longer beautiful."

This evolution of the American commercial banks was explained in the 1920s by the fact that most banks engaged in fiduciary functions and in underwriting and distributing securities in an attempt to cope with the increasing size of companies, the declining importance of agriculture, and the rapid growth of industries (e.g., the auto industry). "All-Banks Statistics"[17] indicates that the number of commercial banks in the United States rose from 27,000 in 1914 to 30,000 in 1921 and dropped to under 25,000 in 1929. This decline is explained partly by mergers, and partly by failure rates. The FDIC indicates that 6,000 commercial banks suspended their activities from 1921 through 1929. Most of the banks that suspended their activity during the period were small, that is, with capital of US$25,000, which confirms that these suspensions were the result of the concentration of the banking sector.

In the 2000s, the concentration of the American and European banking sector is explained by the change from a financial intermediation bank model to an originate-to-distribute model, by new accounting and evaluation methods ("mark-to-market"), the substantial development of "credit default swaps," and credit risk models based on value-at-risk. This development gave birth to banks too big to fail.

Historically, U.S. banking laws prohibited interstate banking and limited branch activity, restrictions that favored the existence of many small local banks. Even though these restrictions were removed in the 1990s as part of the process of authorizing and implementing interstate banking, at the end of 2001, more than 8,000 insured commercial banks and about 1,500 insured savings institutions were still in operation in the United States. In 2001, almost three out of every four American banks was chartered and regulated at both the state and federal levels. Yet, the U.S. banking industry is less highly concentrated than the banking industries in many other industrial countries. For example, the Bank for International Settlements banking industry concentration ratio (a measure of the cumulative percentage share of deposits or assets as a share of total industry deposits or assets) for the five largest U.S. banks was 26.6 percent in 1999. Concentration ratios for Canada (77.1 percent), France (70.2 percent), and Switzerland (57.8 percent) exceed the ratio for the United States.[18] The significant size of the United States may explain this relatively smaller concentration. What is certain is that just as in the 1920s, in the 1990s the American banking sector concentrated itself noticeably due to the evolution of the regulatory framework.

Mergers in the European banking sector have taken place mainly within national markets, leading to the birth of so-called national bank champions, a preliminary step in cross-border expansion. Mergers and takeovers between smaller banks (in particular, in the savings bank and cooperative bank sectors) have the leading position in terms of number. The purpose of these mergers is frequently to reach an optimal bank size and ensure its survival. The optimal minimum size of a bank has increased in recent years because of the need to invest in banking

[17] 'All Bank Statistics 1896–1955', <http://fraser.stlouisfed.org/publication/?pid=39/>
[18] <http://www.frbsf.org/education/activities/drecon/2002/0204.html#fn/>

technology, to ensure efficient compliance with supervisory requirements, and to cut costs by exploiting rationalization potentials.[19]

The mergers in the 1990s resulted in the creation of more than fifteen of the thirty largest banks in the euro area, and the average size of the five largest banks in Europe has doubled since 1995. As a result, the degree of concentration on the banking markets of many countries has greatly increased. Especially in the smaller countries of Europe, the five largest banks often account for more than 50 percent of the national market. In some countries concentration is even more significant. For example, in Belgium and the Netherlands, the two largest banking corporations account for over 90 percent of the total volume of business. In the larger countries, the degree of concentration is considerably lower, with Germany having the least concentrated banking market in the euro area, 20 percent. [20]

2.7. ***Excessive confidence in central banks***

In both periods, belief was strong that the central banks had the capacity to promote economic stability and to prevent financial crises in the long run.

In the 1920s in the United States, hopes started being placed in the power of monetary policy regulation, as a result of a close connection in timing between explicit policy measures taken by the Federal Reserve System and movements in economic activity. [21] In early 1923, a rise in discount rates and sales of government securities was rapidly followed by a peak in business and the beginning of the 1923–24 recession. An easing of policy in early 1924 was immediately followed by a vigorous cyclical revival. In the third quarter of 1926 moderate restraint was followed by a peak in October and in 1927, an ease in policy, and then by a cyclical depression in November.

In the 2000s, the expectation of efficiency of the monetary machinery became even higher. After the dot-com crisis of 2001, monetary policy became strongly expansionist, which is normal after a crisis. But the problem was that this monetary expansion lasted. The Bank of England started raising funds rates slightly in 2003, the Federal Reserve in 2004, and the European Central Bank in 2005. This small and late restraint of monetary policy facilitated an excess of real estate debt and consequently created the real estate bubble.

Even though increase in liquidity did not lead to rising prices for goods and services, it had a significant effect on the prices of assets, the offer of which could not absorb such excess liquidity. Real estate assets are among the assets that had substantial rises in price during this period. The conditions for building up a speculative bubble were created, and by 2003, some economists (e.g., Paul Krugman) feared that this would happen. But most economists as well as the Federal Reserve

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[19] Stark J. (October 30, 2000), 'The Emerging Face of European Banking', speech by the vice-president of the Deutsche Bundesbank, at the European Banking Technology Fair, Frankfurt, <http://www.bis.org/review/r001031a.pdf?frames=0/>

[20] OECD (2010), Policy Roundtables, 'Competition, Concentration and Stability in the Banking Sector', <www.oecd.org/daf/competition/sectors/46040053.pdf>

[21] Friedman M., Schwartz A. (1963), *A Monetary History of the United States 1867 - 1960*, Princeton University Press for the National Bureau of Economic Research, p. 296

Bank of New York explained the rise in real estate prices by the evolution of economic fundamentals.[22]

As mortgage loans are based on the value of real estate assets, the rise in price of those assets favours an increased volume of mortgage loans. Analyzing the American database of the Home Mortgage Disclosure Act (HMDA), economists Giovanni Dell'Ariccia, Deniz Igan, and Luc Laeven showed that lending standards declined more in areas that experienced larger credit booms and house price increases.[23] This indicates that the financial intermediaries had bet on ongoing rises in real estate assets, implying that the borrowers could always pay back, even if, in the worst case scenario, they had to sell their home.

Lending standards tend to be less severe in a period of credit expansion. The question is why the Federal Reserve did not raise funds rates since 2003 in order to avoid the worst. An explanation could be that when interest rates go down, the prices of assets go up. And, as many American households can increase their debt proportionally to the increase in market value of their home by retrieving the difference between the former and the new loan as extra capital (this financial operation is called "capital mortgage withdrawal" or "cash out"), a rise in interest rates would have led to a slow down first in household consumption, and second in the American economy. Is this why the Federal Reserve would not raise the funds rates?

A certain amount of social pressure on the monetary policy of the Federal Reserve must also be considered, as low interest rates give access to property to less privileged social classes. Moreover, when real estate prices go up, it is even more important to keep funds rates low in order to facilitate access to property.

But a delay in raising funds rates nourishes the inflationary spiral of the increase in prices of real estate assets. While the members of the Federal Reserve were aware of this, many believed that the outcome was positive. For example, in his speech titled "Subprime Mortgage Lending: Benefits, Costs and Challenges," at the Annual Housing Meeting in Chicago on May 21, 2004, governor Edward M. Gramlich insisted that this monetary policy gave access to property to more than 9 million Americans, half of whom were members of ethnic minorities.

Indeed the global rate of access to property went from 64 percent in 1994 to 68 percent in 2003, placing the United States at the same level as the United Kingdom in terms of access to property and just after Spain, Finland, Ireland, and Australia. Moreover, while the number of white homeowners rose by 4 million, that of African Americans rose by 1.2 million, of Hispanics by 1.9 million, and of other origins, including Asians by 1.6 millions. Consequently, in 2003, almost half of the Hispanic and African American households owned their main home.[24] This was enormous progress even if the access to property of Hispanics and African Americans remained inferior to that of white homeowners.

Another reason why the Federal Reserve would not raise the funds rates could have been the fact that the consumer price index was in itself showing no inflationary tendencies. But this could rather be explained by cheap import of

[22] Himmelberg C., Mayer C., Sinai T. (September 2005), 'Assessing High House Prices: Bubbles, Fundamentals, and Misperceptions', Federal Reserve Bank of New York Staff Report no. 218, <www.ny.frb.org/research/staff_reports/sr218.pdf>

[23] Dell'Ariccia G., Igan D., Laeven L. (April 2008), 'Credit Booms and Lending Standards: Evidence from the Subprime Mortgage Market', IMF Working Paper, 08/106, p. 1–39

[24] Peicuti C. (2010), *Crédit, destabilisation et crises*, Paris, L'Harmattan, p. 94

durable consumer goods from China and other emerging economies than by domestic factors.

If the Federal Reserve had acted in time on the prices, could the crisis have been avoided? Can the subprime mortgage crisis be considered merely the result of a macroeconomic imbalance that could have been corrected by the competent and timely intervention of the central banks? If people had not relied so heavily on the efficiency of monetary policy, would this crisis have started?

2.8. ***Consolidated powers of "young" central banks***

Both crises consolidated the powers of "young" central banks that were to become major players in the globalized economy by maintaining the stability of the financial system and containing systemic risk, by conducting monetary policy and thus influencing the monetary and credit conditions in the economies of the United States and the European Union in pursuit of stable prices. The Great Depression consolidated the powers of the then "young" Federal Reserve System, and the subprime crisis that of the recently founded European Central Bank.

The Federal Reserve Act established the Federal Reserve System in 1913. During the 1920s, the Federal Reserve Board consolidated its power. The 1929–33 crisis had far-reaching effects on popular, political, and academic thinking about the influence of monetary policy on the market economy. It led to a thorough change and reinforcement of the powers of the Federal Reserve System.

The European Central Bank was established in 1998 as an establishment even more independent of political pressures than the Federal Reserve System. The Federal Reserve System is considered to be an independent central bank because its decisions do not have to be ratified by the president of the United States or by the executive branch of government. It is, however, subject to oversight by the U.S. Congress. The Federal Reserve must work within the framework of the overall objectives of economic and financial policy established by the government. Therefore, in the document "The Federal Reserve System Purposes and Functions" in the "About the Fed" section of the Web site,[25] the Federal Reserve System describes itself as "independent within the government." The European Central Bank (ECB) is totally independent from the governments of the European Union. Its primary objective consists in ensuring price stability. The European political framework does not give a quantitative definition of this task, but the ECB's Governing Council states: "Price stability is defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2 percent."[26]

The power of the national central banks of the eurozone was centralized by the European Central Bank (ECB). Its management of the financial crisis consolidated the power of the monetary policy of the ECB in moderating the financial crisis and thus on protecting the economy of the European zone. In his speech, "The Monetary Policy of the ECB During the Financial Crisis," of June 6, 2011, Jean-Claude Trichet, first president of the European Central Bank summarized the achievements of the ECB since its creation in 1998 as follows:

[25] <http://www.federalreserve.gov/pf/pdf/pf_complete.pdf>
[26] <http://www.ecb.int/mopo/strategy/pricestab/html/index.en.html>

> Over these 12 years, the ECB has faced many challenges in pursuing its objective of price stability: the bursting of the dot-com bubble, the shock wave of September 11, 2001, the volatility of commodity prices and, of course, the worst financial crisis the world has known since the Second World War. . . . When the problems started to appear in the financial markets, on August 9, 2007, we were the first central bank to react, taking action very quickly.[27]

As Trichet stated, this young institution that was the heart of the eurozone succeeded in imposing itself as an entity that was independent of political pressures.[28]

2.9. ***Market speculations***

At the end of each period, in 1928 and 1929 and in 2008 and 2009, regulators wished to bring market speculations under control. Their action had little effect on speculation but it had a strong negative effect on expansion of the real economy.

In 1928 and 1929, American stock-market prices doubled. The Federal Reserve considered the stock-market boom to be the result of excessive speculation. In order to limit speculations, the Banks led by New York, urged measures of higher discount rates and open market sales, while the Federal Reserve Board wanted to put direct pressure on banks making security loans. Finally, to limit the rise in stock prices, the Federal Reserve pursued a tightening of monetary policy. While the monetary policy adopted in 1928 and 1929 was not restrictive enough to limit speculation, it was too restrictive to encourage business expansion. The stock market crashed in October 1929, falling by 40 percent by the end of 1929. By June 1932, stock prices had declined to 10 percent of their value at the 1929 peak. [29]

The demand for financial deregulation, also called financial liberalization, is based on the belief that regulation restrains profits while deregulation means more profits. Deregulation is also supposed to render markets more competitive and benefit consumers and society at large. But in the short run, the elimination of restrictions on financial markets and institutions can prompt institutions to go on a lending spree. Lenders may not have the expertise, or the incentives, to manage risk appropriately in the new lines of business. The developing credit booms may eventually outstrip the capacity of banks and regulators to screen and monitor credit risks, leading to overly risky lending. What was needed in the nineties was not rapid deregulation, but reformed regulation—stronger regulation in certain areas such as accounting and weaker regulations in others, in order to ensure that markets worked competitively. Deregulation of the telecommunications sector paved the way for the investment bubble, which burst in 2001. Deregulation of banking—notably the repeal of the Glass–Steagall Act—opened up new opportunities for conflicts of interest that resulted in the 2007 financial crisis.

The global regulatory standard on capital adequacy, stress testing, and market liquidity risk, called the Third Basel Agreement of the Basel Committee on Banking

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[27] Trichet J.-C. (June 6, 2011), 'The Monetary Policy of the ECB during the Financial Crisis', <http://www.bis.org/review/r110608b.pdf>

[28] Ibid.

[29] Friedman M., Schwartz A. (1963), *A Monetary History of the United States 1867 - 1960*, Princeton University Press for the National Bureau of Economic Research, p. 305

Supervision, was the response to the market speculations revealed in the 2007 financial crisis. The Third Basel Agreement strengthened bank capital requirements and introduced new regulatory requirements on bank liquidity and bank leverage. The question is whether or not greater regulation was responsible for the slow recovery. In 2011, the Organization for Economic Cooperation and Development (OECD) estimated that the implementation of the Third Basel Agreement from 2013 until 2018 would decrease annual GDP growth by 0.05–0.15 percent.[30]

2.10. ***International spillover effects***

The contractions of 1929 to 1933 and 2007 to 2011 are the most severe business-cycle contractions in recent U.S. and European history. Both crises had international dimensions. Both started in the United States and spread to the rest of the world, resulting in a global depression. The eruption of both crises took place in August, in 1929 and 2007, respectively. National bank "champions" went out of business during both periods. The 1929–33 contraction was the first American crisis of modern times to be broadly diffused internationally. The most severe and long-lasting crisis in U.S. history, it can be considered the first global systemic financial crisis. The worldwide depression caused severe hardship for millions of people out of work. The resulting social discontent led to the rise of fascism and World War II.

From the cyclical peak of August 1929 to March 1933 more than one-fifth of the commercial banks holding almost one-tenth of the volume of deposits before the beginning of the crisis were forced to suspend operations because of financial difficulties. Over this period, the number of commercial banks fell by more than one-third because of liquidations, mergers, and consolidations. The contraction was capped by banking holidays in many states in early 1933. President Roosevelt issued Executive Order 2039, declaring a nationwide "bank holiday," closing not only commercial banks but also Federal Reserve Banks in the United States, and freezing all financial transactions. The "holiday" ended on March 13 for the twelve Federal Reserve Banks, and on March 15 for all banks, which then had to apply for licenses. After the holiday, 2,000 banks did not reopen.[31] On the same day, President Roosevelt placed an embargo on the export of gold and suspended payments in gold to satisfy government obligations. At the end of the crisis, federal insurance for bank deposits was enacted and the powers of the Federal Reserve System were thoroughly modified.

Like the Great Depression, the Subprime Crisis originated in the United States. But the signal for the beginning of the financial crisis is believed to have come from the European Union. After Standard & Poor's and Fitch announced ratings downgrades on mortgage-backed securities and collateralized debt obligations for more than $10 billion, on August 9, 2007, BNP Paribas, a French investment bank suspended redemption of shares held in three of its money market funds that had sustained large losses. The same day the European Central Bank injected €95 billion of liquidity into the financial system and the Federal Reserve System, $24 billion,

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[30] Slovik P., Cournède B. (2011), 'Macroeconomic Impact of Basel III', OECD Economics Department Working Papers, <http://www.oecd-ilibrary.org/economics/macroeconomic-impact-of-basel-iii_5kghwnhkkjs8-en>

[31] Friedman M., Schwartz A. (1963), *A Monetary History of the United States 1867 - 1960*, Princeton University Press for the National Bureau of Economic Research, p. 299

followed by a liquidity injection of $38 billion the next day, another $38 billion on September 27, and $41 billion dollars on November 1. [32]

The signal for the beginning of the financial crisis came from a French bank while its origin was in the United States and the first intervention of the European Central Bank was less timid than that of the Federal Reserve System. This shows how extensive the globalization of financial markets had become and how international this financial crisis was from its very beginning.

2.11. ***High Uncertainty***

Both financial crises emerged during periods of high uncertainty, after the failure of a major American financial institution, the Bank of the United States in 1930 and Lehman Brothers in 2008.

In November 1930, the deposits of suspended banks were more than double the highest value recorded since 1921. The rapid development of postal saving deposits from 1929 to 1933 is a good measure of the spread of distrust of banks and of the development of the contagion of fear among depositors. Postal saving rose from $57 million in November 1914 to $100 million in August 1929, and to $190 million in October 1930. From October 1930 to March 1933, postal savings deposits rose to $1.1 billion. The failure of 256 banks with $180 million in deposits in November 1930 was followed by the failure of 352 banks with $370 million in deposits in December. The Bank of the United States, the largest U.S. commercial bank with over $200 million dollars in deposits, failed on December 11.[33] Although it was an ordinary bank, its distinctive name, size, and membership in the Federal Reserve System caused its failure to have systemic consequences that shook not only the American financial system but also the systems of all of the advanced economies. On March 4, 1933, in his first inaugural address Franklin D. Roosevelt defined the very essence of the crisis, saying: "The only thing we have to fear is fear itself."[34]

The effect of the subprime financial crisis on balance sheets threw the major players of the financial markets into turmoil and forced them to take radical actions. In September 2007, the United Kingdom was confronted with a bank run of Northern Rock bank depositors. It was the first bank run in more than 100 years. Northern Rock was specialized in mortgages, which represented 70 percent of its assets. In order to put an end to this bank run, on September 17, 2007, the British government announced that the government would guarantee all Northern Rock's deposits during the whole period of the financial crisis. This statement was associated with emergency funding of £20 billion. This loan allowed the bank to continue its activities and stopped the bank run. After this bailout, Northern Rock continued negotiations with potential private buyers such as J.C. Flowers, Citigroup, and Virgin

[32] Peicuti C. (2010), *Crédit, destabilisation et crises*, Paris, L'Harmattan, p. 137

[33] 'Annual Report of Superintendent of Banks' (December 31, 1930), State of New York, Part I, p. 46, <http://www.archive.org/stream/annualreportsup26deptgoog/annualreportsup26deptgoog_djvu.%20http://www.nber.org/chapters/c2845.pdftxt>

[34] Roosevelt F. D. (March 4, 1933), 'First Inaugural Address', <http://www.presidency.ucsb.edu/ws/index.php?pid=14473&st=&st1=>

group. As negotiations failed, the British government had no choice but to nationalize Northern Rock on February 17, 2008. [35]

In March 2008, Bear Stearns, the fifth-largest U.S. investment bank, which had mainly invested in subprime-related securities, had a run on its repo funding and was forced to sell itself to J.P. Morgan for less than 5 percent of what it was worth just a year earlier, and only after the Federal Reserve took over $30 billion of Bear Stearns's complex assets.

In July 2008, Fannie Mae and Freddie Mac, the two public government-sponsored enterprises that together insured more than $5 trillion dollars in mortgages or mortgaged-backed assets, were propped up by the Federal Reserve and the U.S. Treasury after suffering considerable losses from their holdings of subprime securities. In September 2008, they were put into conservatorship. In other words, the two public government-sponsored enterprises - which rate the quality of debt securities worldwide in terms of the probability of default in order to improve the transparency of financial information by reducing asymmetric information in financial markets - instead of limiting the crisis, amplified it. Thus, they were able to avoid going bankrupt only thanks to government intervention.

On September 14, 2008, Merrill Lynch, the third-largest investment bank, which also suffered large losses on its holdings of subprime securities, announced its sale to Bank of America for a price of 60 percent below its value a year earlier.

On September 15, 2008, Lehman Brothers, the fourth-largest investment bank with over $600 billion in assets and 25,000 employees, filed for bankruptcy. It is the most significant bankruptcy filing in U.S. history.

On September 16, 2008, AIG, an insurance company with assets of over $1 trillion, had its credit rating downgraded and consequently lost liquidity. It had written over $400 billion in credit default swaps that had to make payouts on probable losses from subprime mortgage securities. The Federal Reserve made an initial loan of $85 billion to keep AIG afloat. The total amount of loans made by the American government to AIG rose to $173 billion. [36]

2.12. ***Major bank failures***

The closing of the Bank of the United States could have been avoided. Joseph A. Broderick, New York State superintendent of banks had sponsored a merger plan that could have saved the bank. Governor George Leslie Harrison devised the final reorganization plan: the Bank of the United States was to merge with Manufacturers Trust, Public National, and International Trust. The success of the plan seemed so likely that, two days before the bank closed, the Federal Reserve Bank issued a statement naming proposed directors for the merger. But at the meeting held at the New York Bank, the Clearing House banks decided not to save the bank and withdrew from the arrangement whereby they would have subscribed $30 million dollars in new capital funds to the newly created bank. Broderick warned them that it was "the most colossal mistake in the banking history of New York,"[37] that "its closing would result in the closing of at least 10 other banks in the city and

[35] 'Report 78 of the Conseil d'Analyse économique' (September 2008), La crise des subprimes, La documentation française, p. 19, <http://www.ladocumentationfrancaise.fr/rapports-publics/084000588/>

[36] Peicuti C. (2010), *Crédit, destabilisation et crises*, Paris, L'Harmattan, p. 144-145

[37] *Commercial and Financial Chronicle* (May 21, 1932), p. 3744–45

that it might affect the savings bank."[38] He reminded them "that only two or three weeks before they had rescued two of the largest private bankers of the city and had willingly put up the money needed. . . . that only seven or eight years before they had come to the aid of one of the biggest trust companies in New York, putting up many times the sum needed to save the Bank of the United States."[39] Jackson Reynolds, president of the First National Bank and of the Clearing House Association told him that the decision to drop the rescue plan was final and that the effect of the closing would be only local. Broderick stated: "I considered the bank solvent as a going concern and I was at a loss to understand the attitude of askance which the Clearing House banks had adopted toward the real estate holdings of the Bank of United States. I told them I thought it was because none of other banks had ever been interested in this field and therefore knew nothing of it."[40] And as it turned out, despite the fact that the Bank of the United States had to liquidate a large fraction of its assets during the severely difficult financial circumstances of the next two years, it ultimately paid off 83.5 percent of its adjusted liabilities at its closing on December 11, 1930.

How could a large-sized company such as Lehman with a track record of huge profits, become so helpless in 2008 that it had to file for bankruptcy? Undoubtedly, the financial scenario in the United States had become bad, especially for those companies involved in mortgage banking but was its failure inevitable? In his testimony, "Lessons from the Failure of Lehman Brothers," before the Committee on Financial Services of the U.S. House of Representatives, Ben S. Bernanke states that Lehman's failure was inevitable:

> The Federal Reserve fully understood that the failure of Lehman would shake the financial system and economy. However, the only tool available to the Federal Reserve to address the situation was its ability to provide short-term liquidity against adequate collateral; and . . . Lehman already had access to [the Federal Reserve's] emergency credit facilities. It was clear, though, that Lehman needed both substantial capital and an open-ended guarantee of its obligations to open for business on Monday, September 15. At that time, neither the Federal Reserve nor any other agency had the authority to provide capital or an unsecured guarantee, and thus no means of preventing Lehman's failure existed. [41]

One of the reasons for the failure concerns the fact that Chairman Bernanke did not believe the Federal Bank Reserve had the legal authority to recapitalize Lehman as it had helped to do with Bear Stearns. He did not believe that the Federal Reserve of New York could lend to Lehman because Lehman had no collateral to secure such a loan. Treasury secretary Henry Paulson shared this point of view. Paulson made a distinction between Lehman and Bear Stearns because unlike Bear Stearns, which had what he called a willing buyer in J.P. Morgan, Lehman did not. Yet, J.P. Morgan was willing to invest in Bear Stearns only under the condition that the Federal Reserve Bank provide $30 billion in financing and remove the risky real estate portfolio from the Bear Stearns balance sheet.

[38] Ibid.
[39] Ibid.
[40] Ibid.
[41] Ibid.

As Bernanke also explained at the beginning of his testimony, Lehman had succeeded in raising around $6 billion in capital in June 2008, and took steps to improve its liquidity position in July, but in August and early September 2008, increasingly panicky conditions in markets put Lehman under severe pressure. Just as for the Bank of the United States, the negotiations for the rescue of Lehman took place at the Federal Reserve Bank of New York. During the weekend of September 13–15, the Federal Reserve, the Treasury, and the Securities and Exchange Commission (SEC) brought together leaders of the major financial firms but no acquisition of Lehman could be arranged.

Lehman might have been rescued by Barclays, but whereas the U.S. government had been willing to provide $30 billion to finance the Bear Stearns acquisition, it seemed unwilling to provide such financing to Barclays. Moreover, the main sticking point for Barclays and its U.K. regulators and the U.S. regulators appeared to be a requirement from the U.S. regulators that Barclay guarantee Lehman's obligations in the same way that J.P. Morgan guaranteed those of Bear Stearns. [42]

Lehman's failure may have struck a blow against moral hazard by sending a clear message to financial firms that they could not rely on the American government to bail them out, and that no financial firm was too big to fail. But this public policy benefit cannot justify the enormous losses in wealth caused by this failure not only within Lehman. Bryan Marsal, Lehman's chief restructuring officer, estimated that total losses at Lehman reached between $50 billion and $75 billion,[43] but also affected entities all over the world that had no connection to Lehman.

After the collapse of Lehman Brothers, one money market fund that held commercial paper issued by Lehman failed to maintain a share price of one dollar. This dramatic decrease in share price led to a rapid loss of confidence by investors in other money markets funds and developed into a panic. The Treasury provided a temporary guarantee of the value of the shares of money market funds. The Federal Reserve, acting as lender of last resort, launched a program to provide backstop liquidity. Under this program, the Federal Reserve provided cash to money market funds by purchasing some of their assets. Money market funds responded to the panic by curtailing their purchases of commercial paper. The demand for newly issued commercial papers dried up and interest rates on commercial papers soared. This led to an overall contraction in credit available to financial institutions and to nonfinancial firms. The Federal Reserve established special programs to restart the flow of credit. Spending and output contracted sharply in response to reduced credit flows, and significantly increased the costs of borrowing costs, causing asset values to drop. Gross domestic product fell by a total of more than 5 percent, manufacturing output declined by 20 percent, and new home construction by 80 percent. More than 8.5 million Americans lost their jobs and unemployment in the United States rose to 10 percent. The financial crisis spread all over the world with long-term economic consequences. The threat of a second Great Depression became real.

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[42] Bernanke B. (April 20, 2010), 'Lessons from the Failure of Lehman Brothers', Washington, DC, <http://www.federalreserve.gov/newsevents/testimony/bernanke20100420a.htm>

[43] Mc Cracken J. (December 29, 2008), 'Lehman's Chaotic Bankruptcy Filing Destroyed Billions in Value', *Wall Street Journal*, <http://online.wsj.com/article/SB123050916770038267.html>

3. **Conclusion**

The Great Depression of the 1930s led to the disappearance of globalization at that time. International flows of capital diminished, international trade became very difficult to finance, and, one after another, countries adopted protectionist measures. From June 12 to July 27, 1933, Great Britain organized a summit of representatives of sixty-six nations in order to try to find an international solution to the global depression, to revive international trade, and stabilize currency exchange rates. But the London Economic Conference failed. It signalled the death of the international monetary system.

The impossibility of devising an international agreement meant the death of multilateralism. And the paralysis of global trade amplified the economic crisis triggered by the financial crisis. Cures for the depression were national. Germany, with the rise of Nazism, chose to nationalize the entire economy. The United States adopted border taxes and opted for the Keynesian solution of the New Deal. Roosevelt took the United States off the gold standard. The American financial system responded only to American regulations. Countries such as France became stuck in deflation. The Great Depression led to a total explosion of the world economy, an implosion of international relations, and the nationalist withdrawal of each country.

Like the Great Depression, the Great Recession is a turning point in history. It has restructured world economic dynamics. The Great Recession has not ended the second globalization but it should reshape it. We should assist to reversing financial flows. The merging countries have begun to experience vigorous growth since the second half of 2009, i.e. much quicker than the advanced countries. In the long run, the advanced countries may be less advanced and the emerging countries, more emerged. But the crucial difference from what happened in the 1930s is today's almost unanimous will of governments worldwide to keep globalization going, as stated in all the G20 summits from the beginning of the crisis.

Even if the governments, the central banks and the regulatory authorities failed to prevent the build-up of circumstances similar to those that led to the Great Depression, once the subprime crisis erupted, they demonstrated what they had learned from the mistakes of the 1930s, and they succeeded in the world's emergence from the financial crisis without war. But the devastating consequences of the Great Recession in the economies of the advanced countries are here to last. History will tell what the Great Recession has really cost to the United States and Europe.

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