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DIPLOMA THESIS

The financial crisis and its impact on bank's credit portfolio

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Declaration

Hereby I declare that the Diploma Thesis "*The financial crisis and its impact on bank's credit portfolio*" was written independently under the authority of the supervisor PhDr. Oldřich Ludwig Dittrich, Ph.D. and that all the sources used are listed in the References and properly quoted in the text. I further declare that I did not infringe the copyright of third parties.

Prague, 30th November 2012

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Author's signature

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THE FINANCIAL CRISIS AND ITS IMPACT ON BANK'S CREDIT PORTFOLIO

FINANČNÍ KRIZE A JEJÍ VLIV NA ÚVĚROVÉ PORTFOLIO BANK

SOUHRN

Diplomová práce na zvolené téma „*Finanční krize a její vliv na úvěrové portfolio bank*“ určuje hlavní faktory, které způsobily pokles úvěrových aktivit bank během finanční krize. Cílem této diplomové práce je přezkoumat a analyzovat do jaké míry se zhoršily soukromému sektoru bankovní rozvahy během finanční krize v České a Slovenské republice. První část diplomové práce obsahuje definici finanční krize, analýzu finanční krize z minulých až po současnou finanční krizi, klasifikuje úvěry a použité finanční poměry. V praktické části této práce se autor zaměřuje na vývoj české a slovenské ekonomiky, analyzuje trh s úvěry na těchto trzích a finanční výsledky vybraných bank. Použitá poměrová analýza hodnotí změny v likvidní pozici, strukturu portfolia a kvalitu bank. Závěry jsou shrnuty na konci diplomové práce.

SUMMARY

The diploma thesis of the chosen theme “*The financial crisis and its impact on bank’s credit portfolio*” explores the major factors which caused decline in banks’ lending activities during the financial crisis. The aim of this diploma thesis is to review and analyse to what extent private sector bank balance sheets deteriorated during the financial crisis in the Czech and Slovak Republic. The first part of the diploma thesis contains a definition of the financial crisis, analysis of the financial crises from the past to the current financial crisis, classification of the credits and used financial ratios. In the practical part of this work the author focuses on development of the Czech and Slovak economies, analyses the credit sector of these markets and review credit and financial results of particular banks. The used ratio analysis assesses changes in liquidity position, portfolio structure and quality of banks.The conclusion is summarised at the end of the diploma thesis.

KLÍČOVÁ SLOVA

Rozvaha, finanční krize, úvěrování, likvidita, poměrová analýza, portfolio

KEY WORDS

Balance sheet, financial crisis, lending, liquidity, ratio analysis, portfolio

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1 Introduction

Financial, mortgage, sovereign debt, credit, banking crisis is the topic of the present. All of these titles are perhaps the most commonly used words in the world. The financial crisis is discussed in almost all media and among experts - economists, philosophers, psychologists, but among ordinary people as well. Financial crisis has changed the financial world; the principles of the banking sector itself, attitudes of investors and government regulation of financial institutions etc. This crisis is reflected in the lives of individuals, companies and countries and affects almost the entire world. The current financial crisis is one of the largest in modern history.

The beginning of the current financial crisis is a reflection of the mortgage market in the U.S. in 2007. In only a few months, the crisis quickly affected other sectors of the U.S. economy, especially the financial sector. Americans' inability to pay their mortgages, combined with falling real estate prices have caused financial companies billions of dollars in losses. Banks did not have the necessary capital which they needed for refinancing because of high financial losses combined with high debt. The banking sector lacked liquidity and banks began to fear among themselves to lend money. Subsequently the crisis crossed U.S. borders and influenced the other world's economies. The impact of the global financial crisis was mainly slowing economic growth and wages, rising unemployment, slower growth of prices and it was followed by a record slump in stock markets around the world. Despite the severity and the ample effect of the current crisis, it is similar to past crises in many dimensions.

The financial crisis emerged in the Czech and Slovak Republic in 2008 with similar economies and banking systems, expect that Slovakia had recently implemented the Euro and became a member of the Eurozone. The economies of these states, and within the whole of Europe, are highly dependent on financing through bank loans and bank sector plays a key role in the development of the Czech and Slovak economy. Furthermore the industries of these economies are very dependent on exports to Germany. Both bank sectors are a functioning and profitable area of business and during the global financial and

economic crisis in 2008-2009 showed a high degree of stability and liquidity, while maintaining the profitability of the banking business showed significant recovery. The main difference in the Slovak banking sector was authorization of bank tax in 2011. The Slovak government wanted to create a reserve from this tax for financing costs associated with potential problems of the domestic banking sector.

2 Objectives and methodology

The subject matter of this diploma thesis is the “The financial crisis and its impact on bank’s credit portfolios”.

This diploma thesis consists of two parts: literature overview and analysis. The main aim of the literature overview is to review and analyse to what extent private sector bank balance sheets deteriorated during the financial crisis. The objective of the analysis is the comparative measurement of banks’ financial data to facilitate the situation in the Czech and Slovak banks sector. Both explore the major factors, which caused the decline in banks’ lending activities during the financial crisis. The diploma thesis focuses on the development of key banking sector product, bank credits, which are closely tied to economic development. The diploma thesis thus does focus directly on the issue of revenues of banks in the Czech and Slovak Republics resulting from lending activity and projection of the total volume of credit in the whole markets.

The first part of the diploma thesis provides general explanation of the term ‘crisis’ and other terms which are closely related. This is followed by a survey the current financial crisis, comparing it with previous crises and its impact on the economy of the United States. The literature review further deals with trends of the finance and banking industry, because the development and structure of the financial system influences global finance and banking business and they are tied to the development of economic development as well. Another part deals with the description of bank’s credit portfolio. The final part of the literature overview is concerned with methods and ratios of financial analysis, which are applied in this diploma thesis.

Profitability Ratios:

ROE

$$\frac{\text{Net Income}}{\text{Common stock equity}}$$

$$\text{Equity Multiplier} \quad \frac{\text{Total Average Assets}}{\text{Total Average Capital}}$$

Return on equity (ROE), is first decomposed into return on asset (ROA), and the equity multiplier. Return on assets is decomposed into Net Interest Margin, Operating and Non-operating Margin and Tax Margin. [19]

$$\text{ROA} \quad \frac{\text{Net Income}}{\text{Total Average Assets}}$$

Decomposition of ROA: [19]

$$\text{Net Interest Margin} \quad \frac{\text{Investment returns - Interest Expenses}}{\text{Average Earning Assets}}$$

$$\text{Operating Margin} \quad \frac{\text{Operating Income - Operating Expenses}}{\text{Average Earing Assets}}$$

$$\text{Non-operating margin} \quad \frac{\text{Non-Operating Income - Non-Operating Expenses}}{\text{Average Earing Assets}}$$

$$\text{Tax margin} \quad \frac{\text{Paid Income Tax}}{\text{Average Earing Assets}}$$

Liquidity ratios [9]

$$\text{Current ratio} \quad \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The practical part focuses on the specific impact on the Czech and Slovak Republic's banks and credit sector. In addition, it analyses the economic situation during the crisis and bank's credit indicators for the Czech Republic and Slovakia. The last part analyses particular banks financial statements in Czech Republic in the period from 2005 till 2011. The ratio analysis is used to assess changes in liquidity position and portfolio structure and quality of banks, mainly focusing on the development of credit portfolios in banking sector.

Information in this diploma thesis has been drawn from data compiled by the National bank of Czech and Slovak Republic, European Central Bank, World Bank, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development, EUROSTAT and annual reports of commercial banks which operate in the Czech and Slovak's markets. Furthermore, it is based on research findings and articles published in reports and papers from these institutions as well as the Statistical Office of the Czech and Slovak Republic. This diploma thesis is also prepared on the critical review of professional literature. In particular, it is based on the referenced books, various issues of professional journals in economics, business, and finance, and from recent issues of The Guardian, Bloomberg and The Wall Street Journal, and other business news sources in the area concerning financial crisis, financial analysis and bank's credit portfolios.

3 Literature Overview

3.1. Definitions, characteristics and theories of financial crisis

Crises, Crashes and Panics

There are a number of types and definitions of financial or economic crisis. Mishkin defined financial crisis as a: “nonlinear disruption in which asymmetric information problems of adverse selection and moral hazard become much worse, so that financial markets are unable to channel funds to those with the most productive investment opportunities.” [22] Another definition of financial crisis is characterising by Bordo as a“period of financial stress resulting in the erosion of most or all of aggregate banking system capital”. [23] Another approach is classified by Laeven and Valencia (2008, p 5) as “events in which a country’s corporate and financial sectors experience a large number of defaults and financial institutions and corporations face great difficulties repaying contracts on time. As a result, non-performing loans increase sharply and all or most of the aggregate banking system capital is exhausted. This situation may be accompanied by depressed asset prices sharp increases in real interest rates, and a slowdown or reversal in capital flows. In some cases, the crisis is triggered by depositor runs on banks, though in most cases it is a general realization that systematically important financial institutions are in distress.”[24]

Crises of all types have often had common origins: “the build-up of unsustainable economic imbalances and misalignments in asset prices or exchange rates, often in a context of financial sector distortions and structural rigidities. A crisis may be triggered by a sudden loss of confidence in the currency or banking system, prompted by such developments as a sudden correction in asset prices, or by disruption to credit or external financing flows that expose underlying economic and financial weaknesses. Crises may involve sharp declines in asset prices, and failures of financial institutions and nonfinancial corporations.”[*37*] Further, “banking crises generally stem from the assets side of banks’ balance sheets—from a protracted deterio-ration in asset quality. This suggests that variables such as the share of nonperforming loans in banks’portfolios, large fluctuations in real estate and stockprices, and indicators of business failures could beused to identify crisis episodes.” [*37]*

These indicators are similar across different types of financial crisis. But a number of extensive types of economic or financial crisis can be categorized. "**Economic crisis** is interpeted as a sudden decrease return on equity in the initial phase of depression. This term is more commonly used not to indicate the boom, but for the substance of the case stage of the depression." [15] Additionally, "**a currency crisis** may occur when a speculative attack on the ex-change value of a currency results in a devaluation (or sharp depreciation) of the currency, or forces the authorities to defend the currency by expending large volumes of international reserves or by sharply raising interest rates. A **banking crisis** refers to a situation in which actual or potential bank runs or failures induce banks to suspend the internal convertibility of their liabilities or which constrains the government to intervene by extending assistance on a large scale. **Financial crises** are potentially severe disruptions of financial markets that, by impairing markets' ability to function effectively, can have large adverse effects on the real economy. A **foreign debt crisis** is a situation in which a country cannot service its foreign debt, whether sovereign or private." [*37]* "However financial crisis can decompose into partial crises, among which may include: credit crunch, liquidity crisis, currency crisis (see definition above) and investment crisis. During the development and outbreak of the financial crisis, there are often intertwining and overlapping partial crises. Therefore, it tends to be difficult to accurate and unambiguous segmentation of the financial crisis." [30]

On the contrary 'Crash' is an economic phenomenon and a psychological one. Frankel and Rose (1996) define a currency crash "as a nominal depreciation of the currency of at least 25 percent that is also a 10 percent increase in the rate of depreciation (p.3). A crash is a collapse of the prices of assets, or perhaps the failure of an important firm or bank. A panic, "a sudden fright without cause," may occur in asset markets or involve a rush from less to more liquid assets. Financial crisis may involve one or both, and in any order[1]. [12] Besides many financial crises were associated with banking panics, and many recessions coincided with these panics. Wicker defined a banking 'Panic' as "exogenous shock whose origins can be found in any sudden and unanticipated revision of expectations of deposit loss accompanied by an attempt to substitute currency for

[1] e.g. The collapse of South Sea stock and the Sword Blade Bank almost brought down th Bank of England; The 1929 crash and panic in the New York stock market spread liquidation to other asset markets, such as commodities, and seized up credit to strike a hard blow at output.

checkable deposits. A situation usually described as a run on the banks. A general loss of depositor confidence distinguishes a banking panic from other episodes of bank failures. Banking panic may be local, regional, or national in geographical incidence." [16]

For the purpose of this diploma thesis, **financial crisis** is defined as "a significant deterioration in a large majority of financial indicators, expressing a lack of liquidity in the financial system, extensive insolvency of financial institutions, increased volatility of yield rates of financial instruments, a significant decrease in the value of financial and non-financial assets and a substantial reduction in the size of the allocation of savings in the financial system." [30]

"Crises often occur after a long period of economic growth, high employment and high activity. The situation for companies and individuals are typically long growth of the (1) economic activity; (2) prices of real estate properties; (3) stocks are traded for historically high quotes; (4) companies are often over-established after aggressive investments for borrowed money; (5) individuals have high debts after having invested massively in their homes and in luxury objects." [59]

"The elements of currency, banking, and debt crises are presented in the recent East Asian crisis and in the 1994–95 Tequila crisis. The 1992–93 crises were essentially currency crises, although the Nordic countries that experienced currency crises in 1988 also had domestic banking crises at around the same time. Banking crises have often preceded currency crises, especially in developing countries. Banking problems have preceded debt crises, too, as in Latin American debt crisis in 1981–82. The converse has also occurred, as in Mexico, where the withdrawal of external financing in 1982 precipitated banking crises. More recently, what began as currency crises in some East Asian countries metastasized into banking and debt crises, as it is illustrated most clearly in Argentina in 2001." (see chapter 3.2) [*37*]

Theories

Many approaches may offer explanations of the sources of the financial crisis. These models deal with the financial crisis from different perspective of causation. Financial crises caused by faulty macroeconomic policy. Krugman considers that the origins of the financial crisis consist in inadequate macroeconomic policy of the state. This

model is based on a balance of payments crisis, which arises from monetary expansion by central banks and its inconsistent fixed exchange rate regime. [11] Another model determines crises by excessive liberalization of the financial system. KAMINSKY and REINHART (1996) designate financial crisis, which usually occur in the period that follows the implementation of widespread financial liberalization programs. After financial liberalization, a banking crisis arises in the economy, which is then followed by the foreign exchange crisis (monetary). In addition, many subsequent models attribute the financial panic by a bursting of the price bubble, market failure or by liquidity. "Liquidity crisis shows that fractional-reserve banking has the virtue of producing liquidity, possibly contributing to a better allocation of savings; but also that such a structure has feet of clay and can collapse in a bank-run flare. Bank runs do not take place if individuals believe that bank deposits are liquid." [5]

Other current economists, for example Minsky, Kindleberger or economists of Austrian school, perceive the origin of financial crises in excessive credit expansion. For this purpose of this diploma thesis, we apply this Financial Fragility approache.

Austrian perspective on the crisis

Austrian business cycle theory is roughly as follows. "An economic expansion is sustainable if it is the result of an increase in investment that is funded by an increase in saving. In contrast, an economic boom that is merely the result of credit expansion is not sustainable. When credit creation by monetary authorities exceeds a society's structural saving rate, financial intermediaries end up lending money at interest rates that are below the rate where supply and demand clear in the market for loanable funds. As a result, the information embedded in market prices (including interest rates) is distorted, affecting entrepreneurial decisions and causing a misallocation of capital across the economy. Specifically, too many capital goods and not enough consumer goods end up being produced relative to ultimate consumer preferences. Eventually, as the lack of underlying demand for these capital goods becomes apparent, production capacity is idled, and the boom that was fed by the credit expansion turns to bust. Thus, credit expansion during an economic downturn will not help bring about a sustainable boom but will merely postpone it, as it causes a delay in the structural adjustments, such as business closures and other eliminations of unproductive uses of capital that need to be made to bring about a sustainable economic expansion." [31]

Minsky's theory

Hyman Minsky, a post-Keynesian theorist and economics, held that the financial system is unstable, fragile, and prone to crisis. His model may have explained for past crises in USA and especially in Western Europe. According to Minsky, events leading up to a crisis start with a "displacement," some exogenous, outside shock to the macroeconomic system. The nature of this displacement varies from one speculative boom to another. It may be the outbreak or end of a war, a bumper harvest or crop failure, the widespread adoption of an invention with pervasive effects, some political event or surprising financial success, or a debt conversion that precipitously lowers interest rates. In Minsky's model, the boom is fed by an expansion of bank credit that enlarges the total money supply. Minsky also emphasises the quality of debt in gauging the definition a financial structure and that quality of debt deteriorates, even though the quantity of money may be growing at some appropriate, limited rate. [13,14]

The same approach focusing on credit expansion is defined by Kindleberger. This theory formulates financial crisis on the basis of an "analysis of historical events of the past century, arguing that crises are not unique and specific, but usually have the same general characteristics. The first is an exogenous shock that changes the psychological focus, the displacement, in an economy outbreak of speculation among those that respond to the shock in a rational way. This is supported by the extension of credit, causing a further rise in asset prices. At the same time the inflow of foreign capital, which in turn supports the expansion of credit and asset markets creates a price bubble. Sale of overvalued assets starts to drop of their prices. Economic units are in a financial crunch, the sell these assets and their value drops further. Revulsion and discredit then occurs in an economics."[12]

3.2. The crisis from a historical perspective: overview

For determination of the extent of the current financial crisis and its impact on credit of the banks, we compare with previous crises. Specifically for this purposes, have been selected: The Great Depression (1929-1933), the crisis in Latin America during 1980s, the largest one-day decline known as Black Monday in 1987, the Scandinavian banking crisis a year after, the Tequilla crisis, and the crises in Asia in 1997 and Argentina in 2001.

The current crisis is similar to past crises in many dimensions despite the severity and the ample effects. The effects of these crises are typically preceded by credit booms and asset price bubbles and many financial crises are the result of bubbles in real estate markets. The purpose of this chapter is to give an historical perspective to the present financial crises. The similarities and differences between previous crisis and the present crisis concerning causes, duration and impact of these crises are outlined. These earlier crises can provide useful insights for understanding the current crisis.

Great crises in the past

One of the most examples of an early market crisis is the Dutch tulip craze of the 1630s. In the tulip market a bubble was created that swept not only Holland itself, but also the neighbouring countries. Flower bulb tulips have desirable goods and their prices were forced by trader's speculation. As more and more speculators began crowding into the market, prices soared. The situation came so far that the price of a tulip bulb was much higher than the price of gold of the same weight. However, a likely speculative bubble peaked and confidence in further growth of prices disappeared. [30] The result of this was tha the bubble burst and many people lost their savings and money.

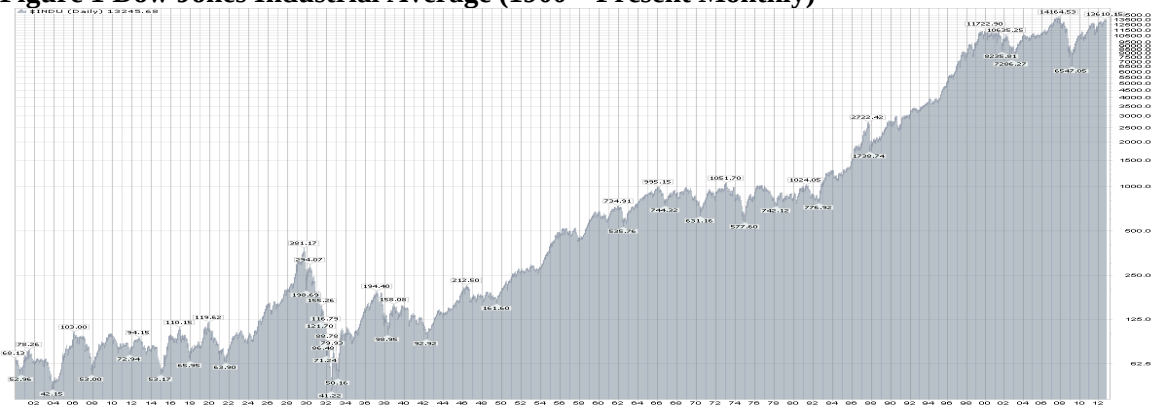
But over 350 years there were many crises, crashes, failures and falls (see Appendix 1). Nevertheless, the most well-known market crash in the past is the stock market crash of 1929.

The Great Depression 1929

"The economy in the United States was not affected due to the fact that after the World War I. the economy gradually grew and the country experienced a period of great economic expansion. Stocks of companies were excessive. Goods were available to the majority, and the market was glutted. The value of shares continued to grow in the U.S. until 1927, however enterprises had a large amount of supplies and the rate of consumption began lowering in the same year. The stock market created a speculative bubble which lasted almost decade of the 1920's. it was fueled by an inexhaustible faith of investors in the growth of the economy. Stocks rose until 1929, when their prices reached their peak (see Figure 1). From 1927 to 1929 the total assets of investment companies grew ten times." [8]

The result of the crash on the New York Stock Exchange was the start of the Great Depression it in 1929 first hit U.S., but then also the rest of the world. “During the so called ‘Black Tuesday’, the 29th October 1929 panic evoked a huge volume of stock sales and more than 16 million shares were traded.” [8]

Figure 1 Dow Jones Industrial Average (1900 – Present Monthly)



Source: Stockcharts.com,2012
Hyperlink: http://stockcharts.com/freecharts/historical/djia1900.html

The crash had consequences for many banks, which invested large amounts of money from depositors to stocks and did not hold any provision for possible decrease in the price of their values. Since banks showed large profits, they provided cheap loans and did not care if their debtors are liable. Another major problem was that banks lent considerable capital equity to speculators. More than nine thousand banks failed in the United States between 1930 and 1933 which was equal to some 30 percent of the total number of banks in existence at the end of 1929 (banking failures between 1921 and 1929 were not panic related; this was a relatively panic-free period when bank suspensions had no effect on general depositor confidence as measured by an increase in currency in circulation). The distinction between panic and non-panic-related suspensions loses its sharpness in 1931 and 1932. But the distinction holds unequivocally for 1930. Economic expansion came to the end of 1929 and was followed by the most severe contraction in US history. Real GNP fell by almost 30 percent between 1929 and 1932; unemployment reached 25 percent (from 3 percent) of the labour force between 1929 and 1933. The average output price level declined by 23 percent. The precipitous decline in output and employment was accompanied by a sequence of bank suspensions that accelerated and decelerated with recurring frequency especially in 1930 and 1931. A net profit as a percentage of total assets, which is a measure of bank profitability, was in decline after

1929 and negative between 1932 and 1934. Total loans of real estate declined by 10 percent; loans on securities fell by almost 50 percent. (see Appendix 2) Nonfarm loans on real estate made up 90 percent of total real estate loans. [16]

Overall, the most frequently mentioned causes that helped the emergence and bursting speculative bubble and subsequent negative developments in the economy are the following: excessive investment boom after the year 1926; excessive speculation by investment trusts; optimistic speeches of political and economic leaders, a large increase in transactions on credit; insufficient regulation trades on the finance market run on the banks, and the central bank's lack of response. [30]

The crisis gradually spread to other countries, especially to those that were economically dependent on the U.S. and then continuously affected almost the entire world. Global industrial production fell by 38 percent, foreign trade by 34 percent; the unemployment rate rose sharply and 40 million people were out of a job. In Europe, the crisis first influenced Germany and Austria, which were dependent on U.S. capital, and a large number of German and Austrian banks collapsed. In the United Kingdom the pound devalued and began to affect other monetary systems linked to the pound, mark or U.S. dollar. [41]

The Great Depression was finally overcome by spending and legislative measures, the reform of the economic system and military spending with regard to the ongoing World War II. DJIA Index exceeded the peak from 1929 until 1956.

Latin American debt crisis 1980s

This debt crisis began in 1982 in Mexico, when the Mexican government announced a moratorium on their international debts. But previously between 1960s and 1970s many Latin American countries (especially Brazil, Argentina, and Mexico) borrowed huge loans from international banks for developing crueed oil extraction. But in the early 1980s Latin American countries were not able to repay their debts, because they reached a point where their foreign debt exceeded their earning power. Banks stopped lending and began to demand repayment of their debts. Due to extraordinary loans from the U.S. government and international agencies, and with the help of restructuralised payments and loans, countries managed to avoided insolvency. In 1986 real income was 10 percent lower than 1981 in Mexico and real earnings were 30 percent lower than before the

crisis. [11] In 1990, the output of Latin America was 8 percent smaller than it was in 1980. Governments paid a high price for their bailouts. Mexico's debt to GDP ratio doubled in the five years after 1982 due to the collapsed economy. [42]

Black Monday 1987

Black Monday on, October 19, 1987 was the largest decline (22.6 percent) of the one-day stock market. The losses were triggered by the widespread belief that insider trading and company takeovers on borrowed money were dominating the markets, while the US economy was entering into an economic slowdown. The crash seemed to have little direct economic effect and stock markets soon recovered. But the lower interest rates, especially in the UK, may have contributed to the housing market bubble of 1988-89 and to the pressures on the pound sterling which led to the devaluation of 1992. The crash also showed that global stock markets were now closely linked, and changes in economic policy in one country could affect markets around the world. Laws on insider trading were also tightened up in the US and UK. [45]

In order to prevent the collapse of the entire financial system, the Federal Reserve System launched a series of measures that helped investors to overcome the crisis. The Federal Reserve System began buying bonds to save the falling market and push interest rates down and exchange rates up. Further, the Federal Reserve System pressed on banks to lent money for this purpose. The banks actually lend money to investors, who found themselves in difficulty due to the crash, but this only lasted for a short time. However, they lent around 5.5 billion dollars. [30]

Scandinavian banking crisis 1988

The financial crises in Scandinavia affected Sweden, Finland and Norway and erupted in the late 1980's (in Norway) and continued in early 1990’s. The crisis in all three countries has some common elements, but the crisis affected each country differently. The main cause of the crisis in the Nordic countries was considered to be deregulation and liberalization of the financial sector. In all three countries there has been a decline in growth and unemployment, which was preceded by overheating of the economy. Nearly all major banks in the Nordic countries got into difficulties and made huge losses, with average loss provisions of bank lending. Also all countries recovered from the problems

relatively quickly and faced attacks on their currencies. By the end of crisis they left the fixed exchange rates. [44]

The overall developments in the upswing before crises were similar in all Nordic countries. Financial market deregulation and positive international business-cycle developments were the main factors behind the domestic booms and rapidly rising real asset and share prices. However, for Norway the major fall in oil prices in 1986 was a major negative shock that prevented a longer-lasting boom and a correspondingly bigger bust. [28] Banks'situation started to improve in 1993 in Norway. One of the nationalized banks was sold in 1995 and two other banks were sold later. The government still owns 34 percent of one bank. In the end the Norwegian tax payer made money out of the crisis. [28]

All of the Nordic countries had to provide public support to their banking systems. For instance, in Sweden in 1993 Bankstödsnämnden (BSN) a transparency agency for solving the crisis were establish, which supported the banking system and all banks equally. The criteria for obtaining the assistance of this agency were reducing the risk, reduced costs and efficiency increase. However bank losses in 1993 amounted to 200 billion Swedish crowns and the cost of the state for saving reached 60 billion. 98 percent of support was used for saving Nordbanken and Gota Bank. Other banks often asked for some form of support or guarantee, but in practice they did not use this support. [44]

Tequila crisis 1994

The Tequila crisis in 1994 should be a warning that a good rating does not protect against loss of confidence and it is a temporary phenomenon. Mexico acceded to the devaluation of the peso; which more precisely reduced the dollar's value. They expected that the devaluation could ensure at Mexican exports more competitive, convince foreign investors and cause interest rates to fall again. However, the Mexican government did not devalue sufficiently, because of speculators caused by further reducing the value of the currency. Also, the Mexican government's signals were not convincing enough that they had everything under control and behaved responsibly. In order to convince markets, Mexico converted billions of the short-term debts into the 'Tesobonos', which was firmly tied to the dollar. As the peso dipped, the amount of the debt calculated in the amount of dollars steeply grew, and panic spread. Financial crisis impacted the private sector. In 1995, Mexico's GDP fell by 7 percent and industrial production by 15 percent. This crisis

had more far-reaching consequences than the original depression that followed the debt crisis in 1982 and the crisis that took place in the U.S. during in 1930. The crisis has also spread to other Latin American countries, especially Argentina. [11] Interest rates on short-term Mexican government bonds rose from November 1994 to March 1995 from 14 percent to 70 percent. The Mexican financial system was stabilized by the rescue from the U.S in the amount of 52 billion dollars. [30]

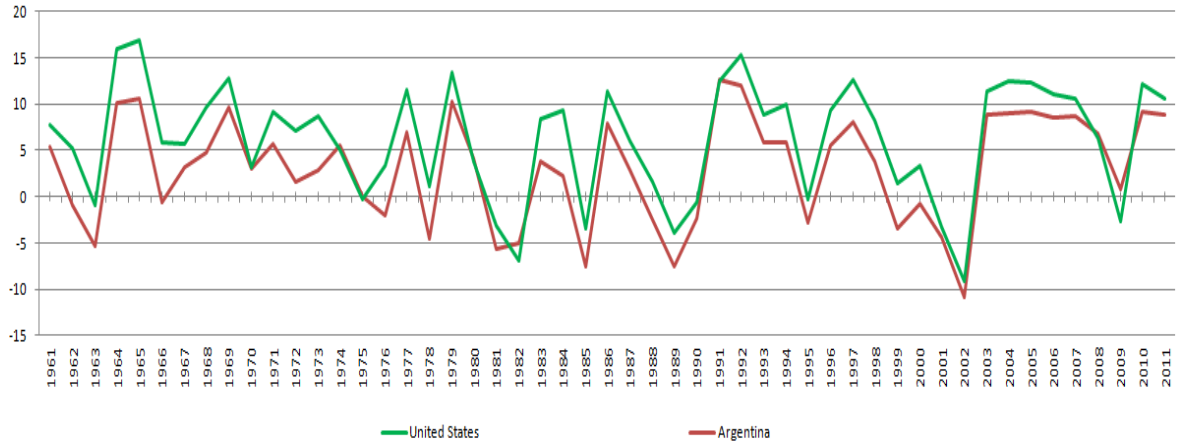
Asian crisis 1997

The financial crises in East Asia were generally considered as the worst crisis since the Great Depression and rooted in private financial sector problems. Rapidly growing investment, along with soaring consumer spending, led an import growth. The emerging economies also helped to increase salaries, which resulted in a reduction in the competitiveness of Thai exports (especially after China, a major competitor of Thailand, in 1994 devalued its own currency). Therefore the growth of export stopped. The result was a huge trade deficit and loans were used to finance imports of goods. The credit boom began slowing during 1996 and the first half of 1997 and brought problems for the central bank. Into the country came fewer dollars and yen in foreign exchange markets and demand for baht decreased. While the need to buy the baht currency remained unchanged. This had to pay for imports of goods. Consequently, the Thai bank began intervening in the foreign exchange market for dollars and yen by purchasing baht, and the foreign exchange reserves declined rapidly. [11] Panic swept across Asia. Investors dispatched to the “flight to safety” and bought U.S. Treasury bonds. Sharp drops in currency values led banking crises by boosting the local currency value of unhedged foreign-currency denomination borrowing. The declines in nominal currency values were on the order of about 40%. The crises led subsequently to sharp declines in economic activity. This global financial crisis hit the emerging market economies, affecting, Asia, Russia, South Africa and Latin America. The crisis appeared to be exerting a much greater impact on commodity prices, financial markets, and economic activity throughout the world—including industrialized countries. Particularly as it has takenhold in Asia, it appears to be more deeply rooted in financial imbalances in the private sector than the public sector financial problems that characterized the 1980s debt crisis and the Mexican 1994–95 ‘Tequila crisis’. [29]

Argentine Crisis 2001

Argentina underwent a crisis that resembled the Asian crisis. The Argentinean government decided to cease abusing the issue of currency in circulation and set up a so-called Currency board. This institution ensured a permanent establishment of the Argentine peso to the dollar. Every peso in circulation was covered by one dollar of reserves. The government hoped that the country could ensure monetary stability and prosperity. However, whe the dollar against the euro has strengthened; it affected the price of Argentine goods for the European market, because Argentina trades much more with the European Union or Brazil rather than the U.S. That is what exactly happened in the late nineties when the dollar against the euro grew rapidly and also Brazil was affected by the impact of the Russian financial crisis and uncompromisingly devalued their real. The combined effect of this double shift in exchange rates was that the Argentine goods ceased to be cost competitive, which put the country into recession. The Argentinean economy slowed sharply, foreign investors lost confidence, capital flows were diminished and there was no for loans. Thereafter the Argentine government imposed limits on bank runs. In late 2001, the government found that they could not keep a fixed rate of the peso to the dollar at a rate of one to one. The value of the Argentine peso declined rapidly from the initial one dollar of approximately thirty cents. This sharp decline in currency values had catastrophic consequences similar to the declines in the Asian currencies. Many businesses and private individuals had dollar debts, so the increase in the price of the dollar impacted on the financial results of companies and in many cases led to their bankruptcy. In 2001, GDP fell by four percent and about eleven percent in 2002. The overall performance of the Argentine economy during the years 1998 to 2002 fell by eighteen percent (see Figure 2), which was a decline comparable to the Great Depression. [11]

Figure 2 Historical Annual percentage growth rate of GDP in Argentina and United States

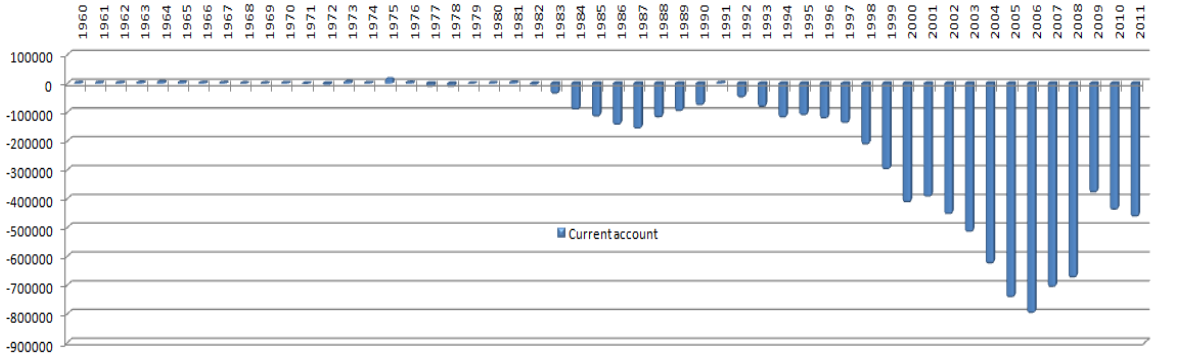


Source: World Bank, 2011, own processing
Note: GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products (World Bank).
Hyperlink: http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/countries/all?display=graph

The Financial Crisis 2008

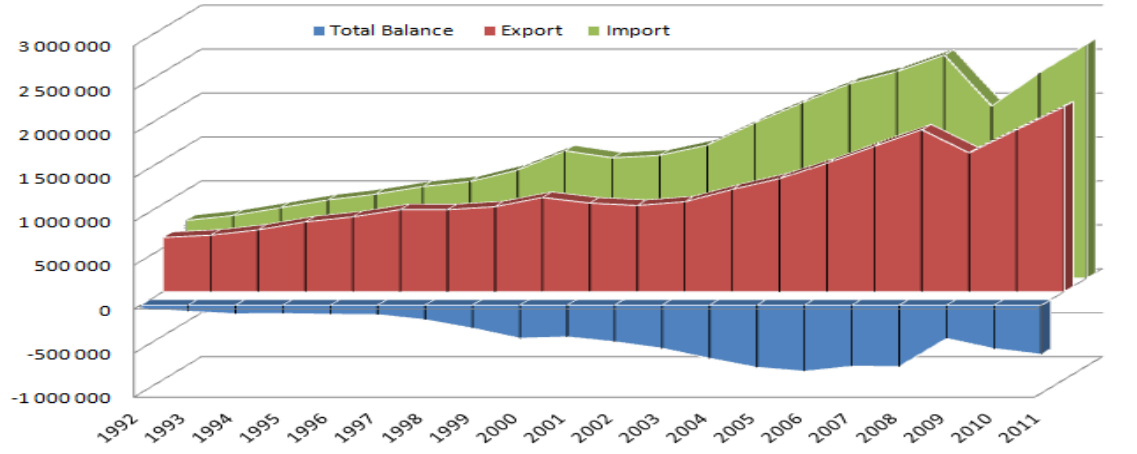
Before 2007 the U.S. economy showed signs of forthcoming crisis. The indicators were a current account deficit and the trade deficit was downsizing (see Figure 3, 4). A household debt to income ratio was increasing till 2007. Gross domestic product showed a downsizing trend from 2004 (see Figure 2). Significant growth was remarked in home prices between 2004 and 2006 and house prices increased by 20 percent (see Appendix 3, Figure 7) and Household as well (see Figure 5).

Figure 3 Current Account in United States 1960 - 2011 (in millions of dollars)



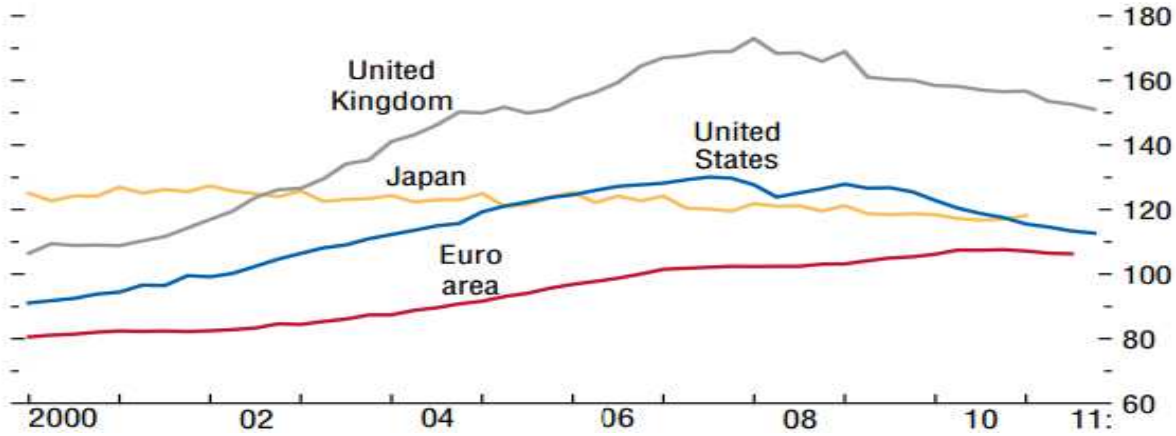
Source: U.S. Department of Commerce, Bureau of Economic Analysis, 2012, own processing
Hyperlink: http://www.bea.gov/international/index.htm

Figure 4 Trade in Goods and Services in United States 1992 - 2011



Source: U.S. Department of Commerce, Bureau of Economic Analysis, 2012, own processing
Hyperlink: http://www.bea.gov/international/#trade

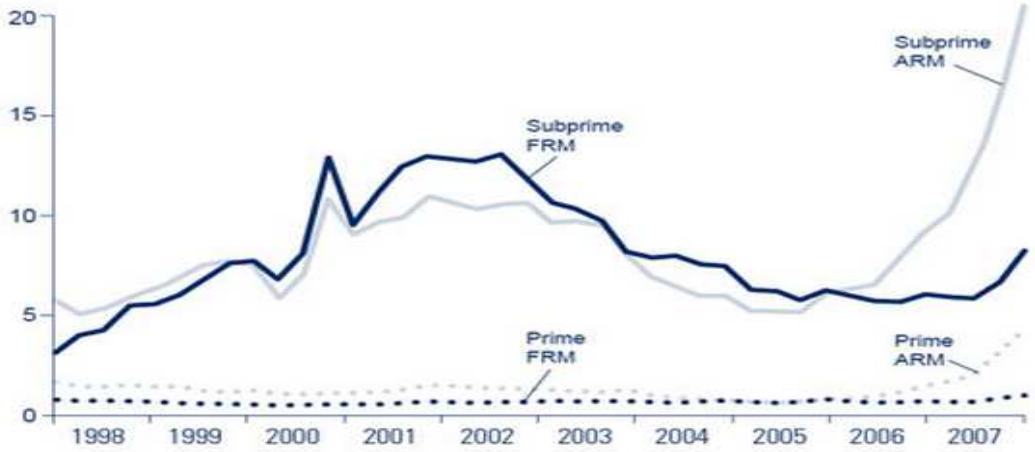
Figure 5 Household Debt to income Ratio 2000 – 2011 (in %)



Source: International Monetary Fund, World Economic Outlook, 2012
Hyperlink: http://www.imf.org/external/pubs/ft/weo/2012/01/pdf/text.pdf

The immediate cause or trigger of the crisis was the bursting of the United States housing bubble which peaked in approximately 2005–2006. High default rates on "subprime" and adjustable rate mortgages (ARM) began to increase quickly thereafter (see Figure 6). Lenders began originating large numbers of high risk mortgages from around 2004 to 2007, and loans from those vintage years exhibited higher default rates than loans made either before or after.[60]

Figure 6 Growth of Sub-prime lending (in %)

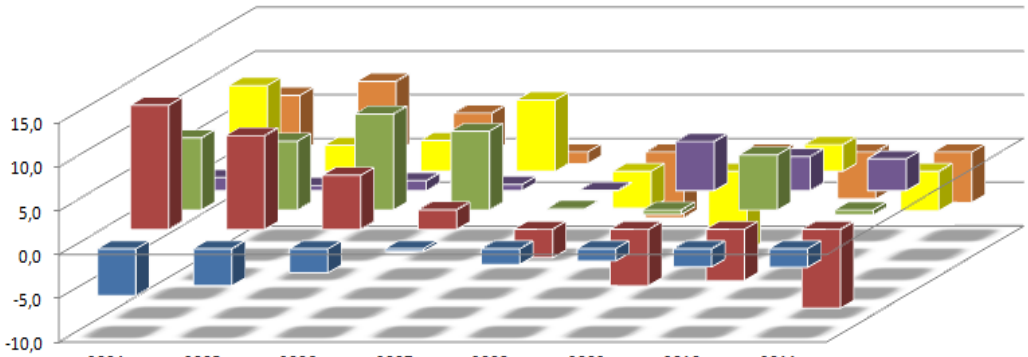


Source: Federal Deposit Insurance Corporation, 2008
Note: FRM = fixed rate mortgage; Data are not seasonally adjusted
Hyperlink: http://www.fdic.gov/regulations/examinations/supervisory/insights/sisum08/article01_Hybrid.html

The housing bubble had consequences not only in the world of mortgage banks and property owners, but basically the entire financial system was damaged by specialized bonds called mortgage-based securities (MBS). Furthermore, mortgages could be resold on

the secondary market institutions such as Fannie Mae and Freddie Mac. When an investor buys a bond from them, the investor gets actually share revenue from monthly repayments of property owners. The advantage of these bonds is to diversify risk. In other words - MBS were based on real estate markets across the United States and were thus protected against a sudden drop in one or two regions. But mortgage defaults and foreclosures began to multiply (see Appendix 5) and MBS started to decline in value and with them the portfolio of their owners. [18] The result is that prices of housing were in 2011 in the United States on an average 25 percent cheaper than they were in 2006.

Figure 7 Prices of housing (percentage change over previous period)



	2004	2005	2006	2007	2008	2009	2010	2011
Japan	-5,4	-4,2	-2,7	-0,3	-1,8	-1,4	-2,1	-2,1
Spain	14,2	10,7	6,2	2,2	-3,2	-6,4	-5,9	-9,0
Sweden	8,2	7,9	11,0	9,0	0,2	-0,5	6,3	-0,6
Switzerland	1,5	0,6	1,1	0,7	0,1	5,6	3,9	3,6
United Kingdom	9,8	3,0	3,5	8,2	-4,2	-9,2	3,1	-4,5
United States	6,5	8,1	4,4	-1,3	-7,5	-5,0	-5,4	-5,8

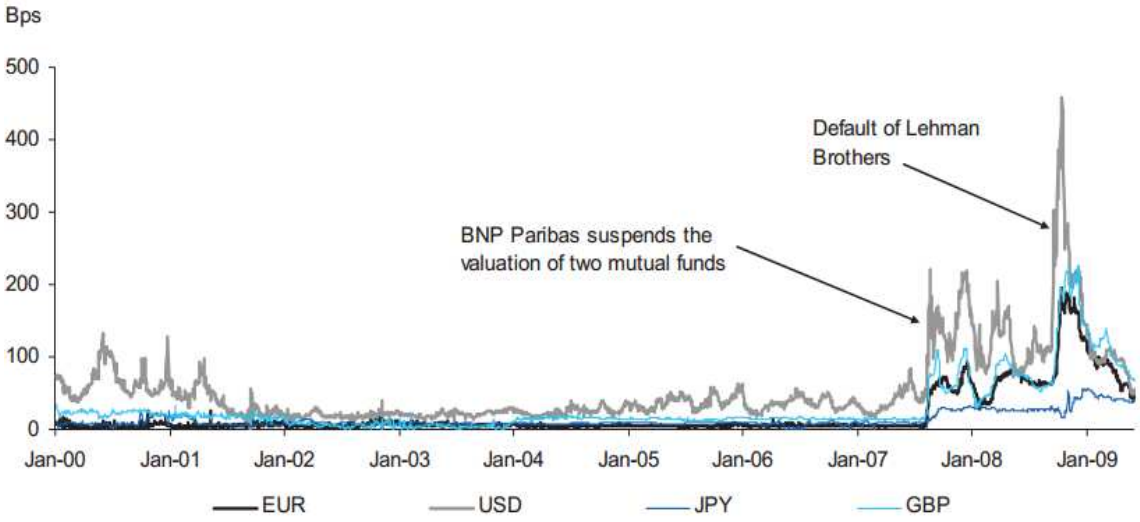
Source: OECD, 2011, own processing
Hyperlink: http://www.oecd-ilibrary.org/economics/house-prices_2074384x-table17

A chronology of the main events: milestones

On the9th of August 2007 BNP Paribas froze three of their funds, indicating that they had no way of valuing the complex assets inside them known as collateralised debt obligations (CDOs), or packages of sub-prime loans. As they were the first major bank to recognize the risk of exposure to sub-prime mortgage markets.[43] The counterparty risk between banks increased dramatically as indicated by the spreads (see Figure 8) and reflected soaring rates charged by banks to each other for short-term loans. TED spreads jumped to an unprecedented high. This made investors even more wary about the risk in bank portfolios, and it became more difficult for banks to raise capital via deposits and shares. Institutions seen at risk could no longer finance themselves and had to sell assets at

'fire sale prices' and restrict their lending. The prices of similar assets fell and this reduced capital and lending further. [26]

Figure 8 Month interbank spreads vs T-bills



Sources: European Commision, 2009
Hyperlink: http://ec.europa.eu/economy_finance/publications/publication15887_en.pdf

Afterwards the 14th of September 2007, the British bank Northern Rock borrowed large sums of money to fund mortgages for customers, and needed to pay off its debt by reselling those mortgages in the international capital markets. But the demand for securitised mortgages fell; Northern Rock faced a liquidity crisis and needed a loan from the British government. [43]

In early 2008 Bear Stearns (an investment bank in the United States) required a bailout, after its two hedge funds imploded, costing investors 1.8 billion dollars. With the support of the New York Federal Reserve, JPMorgan bought the ailing investment bank for about 2.3 billion dollars. [49]

The US government bailed out Fannie Mae and Freddie Mac 7th of September 2008 that provided thousands of sub-prime mortgages which was most expensive government rescue of the financial crisis in the United States (in 2011 at 153 billion dollars). [50]
The investment bank Lehman Brothers went to bankruptcy one week later, prompting worldwide financial panic. The same day the second biggest investment bank Merrill Lynch was bought by Bank of America. [43]

Significant declines registered banks in the stock market as well between 2008 and 2009. Goldman Sachs dropped 38% percent, Morgan Stanley 30 percent and AIG suffered

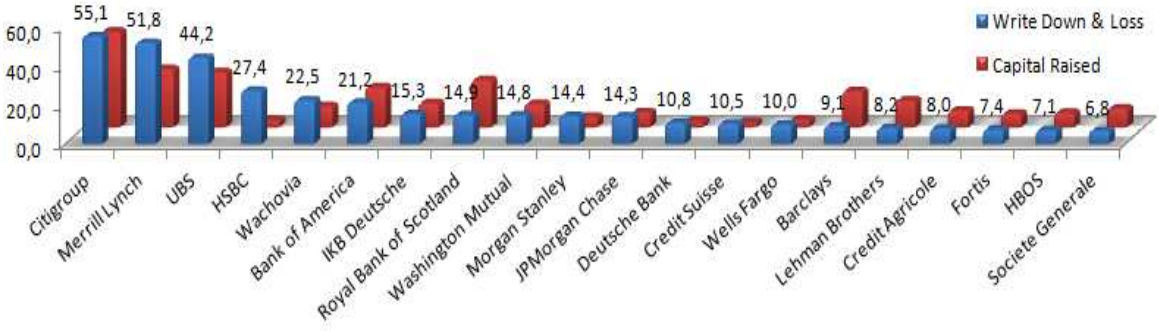
a enormous decline in share price. AIG's price declined from1153.6 dollar per shares to 34.4 dollar (see Figure 9). The American dollar was weakening and reached historical a minimum in 2008 at 71.819 (see Appendix 4).

Figure 9 Stock prices for Goldman Sachs, Morgan Stanley, AIG (2006-2012)

Source: finance.yahoo.com

The collapse of the U.S. subprime mortgage market in 2008 saddled banks worldwide with 501 billion (see Appendix 1) dollars of losses from declining values of securities tied to all types of home loans and commercial mortgages as well as leveraged-loan commitments (see Figure below). Banks and brokers raised 353 billion dollars of capital to cope with the writedowns. [48]

Figure 10 Bank losses in billions dollars in 2008



Source: Bloomberg; own processing
Hyperlink: http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a8sW0n1Cs1tY&refer=home

Causes

The causes of the current financial crisis were defined by Woods as follows; state-regulated economy was (according to him) the elemental reason: (1) government sponsored enterprises (GSE) for example The Federal National Mortgage Association and The Federal Home Loan Mortgage Corporation, commonly known as Fannie Mae and Freddie Mac. This association did not directly provide mortgage loans, but they bought mortgages at the secondary market. Due to the implicit gurantee from the state, they both can raise capital and offer better conditions for purchase of mortgages than their competitors. (2) the Community Reinvestment Act (CRA) is a law enacted in 1977, which encourages banks and other financial institutions to help meet the credit to low income citizens. In 1995 Bill Clinton introduced a revision of this Act, which necessitated that banks provide loans to poorer people than it had up until 1995. These credit loans are known as Subprime loans/mortgages. Subprime loans or mortgages are poorer sections of the population and therefore they are very risky (low probability to return loans). These defaulting subprime mortgages are critically involved in the crisis. Hence when the real estate bubble peaked, almost everyone who bought a house that time had a mortgage debt higher than the value of the property (so-called negative equity). Also, the Federal Reserve System (FED) kept free from monetary policy before crisis. Loans interest rates for commercial banks, which are provided by Federal Reserve System and from which the interest rates are made. This enabled a large number of mortgages for low income inhabitants. However, in 2006 USA was treatened by high inflation and the interest rate rose. Mortgages were more expensive and thus became non-repayable for many people. (see Appendix 6) (2) support of speculation; easier access to mortgages and demand for real estate led to an increased number of speculators. (3)the tax system supported owners of houses and thus induced a demand in the real estate market and finally (4) government saving policy of large corporations. [18]

This financial crisis can be also traced to the low interest rate policies adopted by the Federal Reserve System and other central banks after the collapse of the technology stock bubble. In addition, the appetite of Asian central banks for (debt) securities contributed to lax credit. These factors helped fuel a dramatic increase in house prices in the U.S. and several other countries such as the U.K., Ireland and Spain. In 2006 this

bubble reached its peak in the U.S. and house prices there and elsewhere started to fall. [32]

Analogy of the crises

"The current global financial crisis was preceded by a relatively long period of rapid credit growth, low risk premiums, abundant availability of liquidity, strong leveraging, soaring asset prices and the development of bubbles in the real estate sector. Stretched leveraged positions and maturity mismatches rendered financial institutions very vulnerable to corrections in asset markets, deteriorating loan performance and disturbances in the wholesale funding markets. Such episodes have happened before and the examples are abundant (e.g. Japan and the Nordic countries in the early 1990s, the Asian crisis in the late-1990s)." [26] But the key difference between these earlier episodes and the current crisis is its global dimension.

Another similarity of these crises is seen that the stock market was hit worldwide, and especially so both cirisis arose from excessive investor optimism. Collapse housing bubble and liquidity trap raised the situation is very similar to what the late nineties happened in Japan. A number of attacks on banks remind the same case from the thirties (although today everything revolves around shadow banking rather than around conventional banks). A disruption of international capital flows and a wave of currency crises seem to imitate the evolution in Asia in the late nineties. There are clear similarities between 1929-35 and 2007-2009 crises. They both occurred after a sustained boom, characterised by money and credit expansion, rising asset prices and high-running investor confidence and overoptimistic risk-taking. The current downturn is clearly the most severe since the 1930s, but so far less severe in terms of decline of production. As regards the degree of sudden financial stress, and the sharpness of the fall in world trade, asset prices and economic activity, the current crisis has developed faster than during the Great Depression. [26]

Another crucial difference is that the 1930s were characterised by strong and persistent decreases in the overall price level, causing a sharp deflationary impulse predicated by the restrictive policies pursued. Despite a strong fall in inflationary pressures, such a deflationary shock is likely to be avoided in the current crisis.

The crisis in 1930s has its origins in the extreme overvaluation of the stock markets, but the current crisis started in the mortgage market. On the contrary the difference can be found in the behaviour of the U.S. central bank and other central banks. While during the current crisis the central banks pay billions of dollars and cut interest rates, at the time of Great Depression, the central bank applied restrictive monetary policy and increased interest rates. Both crises are also similar by the growth of unemployment (eg. U.S. it was around twenty-five percent, and currently unemployed is about eight percent[2]). [26]

However, this crisis was preceded by long period of rapid credit growth, low risk premiums, abundant availability of liquidity, strong leveraging, soaring asset prices and the development of bubbles in the real estate sector. Over-stretched leveraging positions rendered financial institutions extremely vulnerable to corrections in asset markets. As a result a turn-around in a relatively small corner of the financial system (the US subprime market) was sufficient to topple the whole structure. Such episodes have happened before (e.g. Japan and the Nordic countries in the early 1990s, the Asian crisis in the late-1990s). However, presently it is different with the crisis being global akin to the events that triggered the Great Depression of the 1930s. [26]

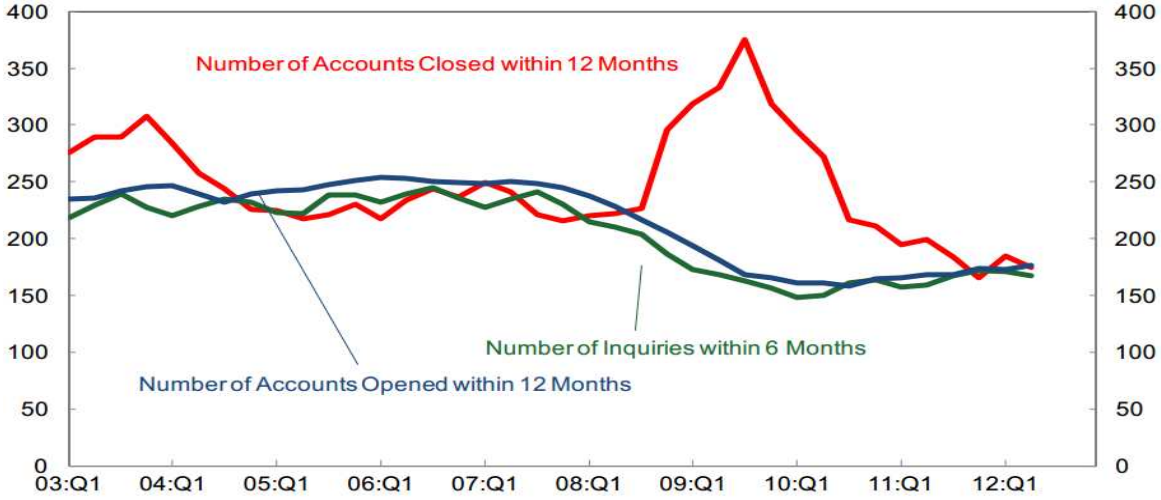
Lending impact in the United States

The impact on new loans was a downswing by 36 percent for large borrowers during the peak period of the financial crisis relative to the prior three-month period and by 60 percent relative to the peak of the credit boom in 2007. The decline started as the credit bubble deflated, and has accelerated in the last three months, during the peak period of the financial crisis. From August – October 2008 new loans were 36 percent less than they were in the prior three-month period. The drop was particularly large in October, 2008. Although new lending has fallen, since September 2008, there has been a sharp increase in commercial and industrial (C&I) loans reported on the balance sheets of U.S. banks (see Apendix 7) [21] Moreover, large and medium-sized banks tightened their loan rates more than small banks; while small banks tended to tighten less. Small loans actually tightened less than large loans. The channels through which banks tightened loan rates included, reducing the discounts on large loans and raising the risk premium on more risky loans.

[2] Bureau of Labor Statistics.Data available online at: http://data.bls.gov/timeseries/LNS14000000

Regarding the supply-side effects of loan pricing, that loan portfolio quality, capital ratios, and the amount of unused loan commitments are found to have significant effects on loan prices including loan portfolio quality, capital ratios, and the amount of unused loan commitments. [20]

Figure 11 Total Number of New and Closed Accounts and Inquiries 2003 – 2012 (mil dollars)



Source: Federal Resere Bank of New York; FRBNY Consumer Credit Panel/Equifax, 2012
Hyperlink: http://www.newyorkfed.org/research/national_economy/householdcredit/DistrictReport_Q22012.pdf

European sovereign debt crisis

The assumption that the European economy, unlike the US economy, is largely immune to the financial turbulence was fed by the real economy. Though slowing, it was thrived on strong fundamentals such as rapid export growth and sound financial positions of households and businesses. These perceptions dramatically changed in September 2008, associated with the rescue of American banks (see Chapter 3.2). Panic broke in stock markets, market valuations of financial institutions evaporated, investors rushed for the few safe havens that were seen to be left (e.g. sovereign bonds), and a complete meltdown of the financial system became a genuine threat. Banks were forced to restrain credit, economic activity plummeted (see Figure 16), loan books deteriorated, banks cut down credit further, and so on. [26]

The consequences in Europe were intense. The British government bailed out several banks, including the Royal Bank of Scotland, Lloyds TSB, and HBOS (HBOS was rescued by Lloyds TSB after a huge drop in its share price), to avert the collapse of the UK banking sector. To protect the deposits of their many British customers, Gordon Brown used anti-terror legislation to freeze the assets of the banks' UK subsidiaries. In Ireland, the

government protected the bank guarantee for all deposits despite of their amount and then European ministers agree a bailout for Ireland worth 85 billion euros. Iceland's three biggest commercial banks – Glitnir, Kaupthing, and Landsbanki – collapsed. Greece's is bail out has for the first time has started a Eurozone crisis, after Eurozone finance ministers agree on loans worth 110 billion Euros. This intensifies the austerity programme in the country, and sends hundreds of thousands of protesters to the streets. [43]

3.3. Finance and banking industry in recent years: overview

"The banking industry is at the heart of modern market economies. Banks are crucial, first to transactions, as they provide the backbone of payment systems. Their second fundamental role is as intermediaries between lenders and borrowers, so that they are central to the financing of economic activity and a key part of any country's economic infrastructure'." [10]

Banking today is very different since the'big bang'[3] in 1986 in United Kingdom and has been affected by a diverse range of influences more over the last two decades, including a number of general trends in the structure of banking, the impact of technological and managerial changes that transcend national boundaries, and the trends towards internationalisation of financial markets. The banking industry has also seen waves of mergers and acquisitions, which have altered demand on government regulation and supervisors of financial markets. "All these trends have significantly affect the overall strategy of banks, their organisation, approaches to clients and the way their managed. But despite running off-balance sheet vehicles or using various financial instruments to transfer credit risk, banks remain equally sensitive to panics and still run as they did at the beginning of the previous century." [32]

The revolution of information technology

The development of computer and communications systems has transformed the entire financial services industry as well as the nation's payments system. Advances in processing capability have transformed the organisation of banks, given rise to new

[3] "A package of deregulatory measures introduced by Margaret Thatcher's government, which broke up many of the customs and practices prevailing in the City of London, implemented on 27 October 1986. To some, the move signalled an end the end to "gentlemanly capitalism"; others saw it as the dismantling of an old boys' network, allegedly rife with market manipulation." [46]

techniques of risk management, and altered the skill profiles demanded of bank employees. ICT has played a large part in new development, both by facilitating new means of service delivery (for instance tele-banking) and by making possible the design of ever more elaborate or complex products. “One facet of these developments that is of particular concern from a prudential perspective is the proliferation of trading in derivatives, together with the use of automated trading systems. The obvious danger of this is that off-balance-sheet risk may rapidly outgrow traditional on-balance-sheet liabilities, making an assessment of a bank’s solvency more problematic.” [10] “One of the most important aspects of all this in terms of its long-term implications is the fact that the new technology has had the effect of extending the geographic growth and reach of banking markets.” [3] “As well as this, attitudes to clients have significantly changed and traditional ways of product delivery to clients have been altered. Also new products are used due to this effect, such as derivatives and transactions[4] etc.” [19]

The generalisation of cross-border lending

“The asset-return pattern in one country usually calls for wealth reallocation across countries. This is the usual consequence of diversification of an international portfolio. However, it often happens that a multinational bank cross-subsidizes between controlled units in different countries in reaction to changes in loan quality in one country unit. For an outside observer, the effect looks like cross-border contagion between lending volumes. This contagion can be both positive (lending increases everywhere when the parent bank does well) and negative (it is lent less everywhere although loan quality has deteriorated only in the parent bank’s country).” [36]

Euromarkets or Eurocurrency is the generic term for international capital markets that deal in currency deposits held in banks outside their country of origin, for example they raise funds outside of US, because of regulation and merge them in Europe (e.g. Eurosterling, Euroeuro, Euroyen, and Eurodollar). Positive aspects of these markets are flexible maturities, higher yields and government regulation-free. [38]

[4] A derivative transaction is a financial contract that derives its value from an underlying asset, commodity, liability or index. Examples of derivative transactions include: Forward agreements, Futures Options and Swaps. [33]

Moreover the European Union launch into the single market in the 1980s was to open up services and particular emphasis in this regard was given to financial services. “The various directives affecting financial services had the common aim of reducing regulatory barriers to cross-border business, principally by allowing a bank to carry out business in any EU member state once it had been authorised by its home country. This so-called ‘passport’ meant that the costly and time-consuming burden of obtaining separate authorisation for each member state was avoided.” [10]

Cross-border merger and acquisition (M&A)

As the banking sector is characterrised by a large wave of mergers and acquisitions, larger and stronger entities are a result of this trend. It is a tool for reducing costs, leveraging synergies, thereby enhancing profitability, enhancing market position and gaining more resources for investment (see Appendix 7). [19]

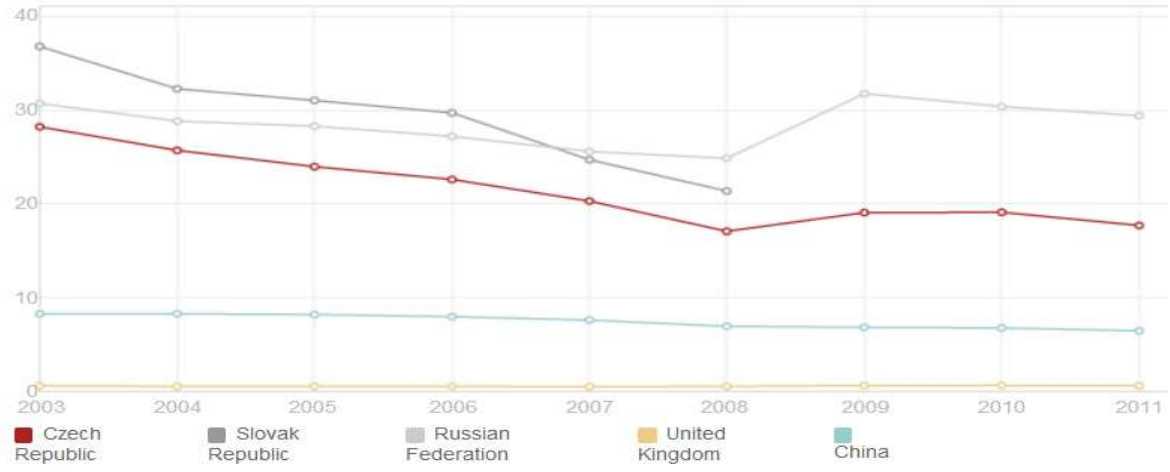
Banks, brokerage firms, investment banks, and insurance companies merged into huge financial institutions and cross-border mergers and acquisitions between them rapidly have grown. Banks entered into Initial Public Offerings (IPO), bond issuances, Collateralised Debt Obligations (CDO). These institutions assumed risk that was no longer comprehensible by either the banks or their regulators. What was large become huge, what was huge became enormous (common used term: ‘too big to fail’). Lehman brothers had 2985 legal entities, and in the panic before its collapse it was abundantly clear that no one understood its counterparty relationship with the rest of Wall Street. Prior to the passage of the The Commodity Futures Modernization Act (CMFA), unregulated Credit Dealt Swaps (CDS) were 100 billion dollars. By 2008, they had grown 500 times to 50 trillion dollars (4 times U.S. GDP). [38] Additionally, “most large groups have seen significant growth in non-domestic business. This is more so in wholesale and investment banking than of the retail end of the business. Banks which offer a full gamut of financial services are exposed to different risks from those that specialise.” [4] “A result of the general trend towards globalisation and consolidation was that the five largest banking groups controlled more than 16 percent of global banking assets in 2008, which is more than double their market share in 1998. A small number of countries dominate cross-border banking. France, Germany, the UK, the US, Switzerland and the Netherlands account for about half of all cross-border banking assets, while 50 percent of cross-border banking liabilities are

accounted for by the US, the UK, France, Germany, Japan and the Netherlands. The percentage of foreign assets in total assets for major banks in Europe is high: 82 percent for Deutsche Bank, 64 percent for Santander, 62 percent for UniCredit, 41 percent for BNP Paribas and 29 percent for Société Générale. These banks also have complex organisational structures – each has at least 100 majority-owned subsidiaries and more than half have over 500 subsidiaries." [35]

Exchange and interest rates

Another phenomenon in the banking industry is the volatility of exchange and interest rates and as well as a high degree of exchange rate uncertainties (see Figure 12,13). A higher volatility means that for example "the price of the stock and shares or securities can change dramatically over a short time period in both directions. Interest and exchange rate risks are, in general, the potential for changes in rates to reduce a bank's earnings or value. When the rates change, these differences can give rise to unexpected changes in cash flow and earnings spread among assets, liabilities, and off-balance-sheet instruments of similar maturities or re-pricing frequencies." [34]

Figure 12 Official exchanges rates (LCU per US$, period average) in % from 2003 to 2011

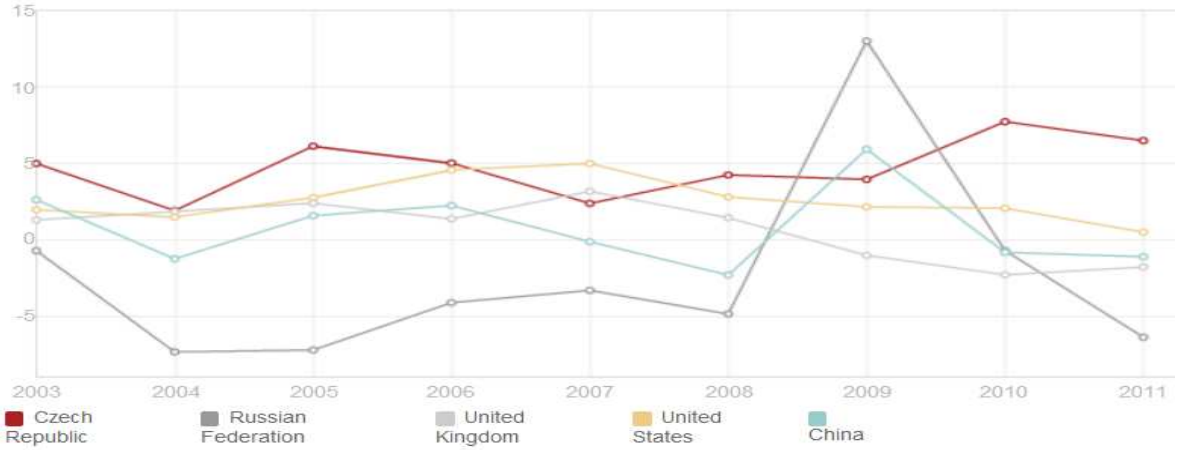


Source: World Bank, 2012

"Considering the centre of gravity of the world economy has been shifting towards to countries such as China, India, Brazil and Russia, and more and more of the developing world clusters into a number of rapidly growing mid-to-large-sized metropolitan areas. This is driving growth and productivity while elevating millions of poor to the ranks of the consumer class." [52]. "Other reason are that prices in commodity markets are growing

due to high demand from emerging economies (such as China, India) and speculation related to the use of derivates and of sovereign." [39]

Figure 13 Real interest rate[5] from 2003 to 2011(in %)



Source: World Bank, 2012

Government regulation

The changing role of the state is a further important shift in the banking industry. Difficulties arise in finding appropriate ways of controlling banks activities, such as managing rules eliminating or limiting imprudent behaviour, regulating the bonuses paid by banks that benefited from public money paid by any states in the aftermath of Lehman Brothers collapse. U.S. government - as well as a number of other governments around the world - injected hundreds of billions of dollars into their financial sectors in an attempt to halt the conflagration that was threatening to engulf the global economy to assist in their stabilisation in the larger public interest. Governments have employed a broad range of policies to deal with financial crises. [24] Banks gained primarily from direct capital injections (see Table 1 below)

[5] Real interest rate is the lending interest rate adjusted for inflation as measured by the GDP deflator. (World bank)

Table 1 List of Capital injection

State	Total earmarked amount (in % GDP)	Total used amount (in %
Ireland	231,8	229,4
Great Britain	41,6	26,8
Belgium	92	26,7
Nederland	52	25,4
Germany	24,4	9,1
Sweden	50,2	8,9
Luxemburg	20,2	8,8
Austria	32,8	8,7
France	18,1	5,6
Spain	12,1	5
Greece	11,4	4,6
Portugal	12,5	3,3
Hungary	7,1	2,7
Denmark	259,4	0,5
Slovenia	32,8	0,4
Czech Republic	0	0
Finland	27,7	0

Source:Penize.cz, 2009, own processing
Hyperlink: http://www.penize.cz/ekonomika/57817-ucet-za-zachranu-bank-v-irsku-az-dvojnasobek-hdp

Rating agencies

"Credit rating agencies (CRA) have become an essential part of the financia landscape which traces their origins to the 19th century. They increase their role of the rating business (mainly Standard & Poor's, Moody's, Fitch) and these private companies assess credit risk for companies and governments seeking to take out loans and issue fixed-income securities, such as bonds. Reliance on these agencies is so entrenched that prospective borrowers often must obtain a credit rating before they try to raise money in capital markets. The ratings provide prospective lenders with guidance on the borrower's creditworthiness, which contributes to the determination of the interest rate, or price, the borrower must pay for financing." [61] But they failed in foreseeing the L&B bankruptcy in September 2008 and also in the case of mortgage-based securities. "Rating agencies provided a variety of risk assessments of securities to evaluate these assets with very high ratings, often AAA. The owners of these asset thought that they invested their money safely and conservatively, but in fact they exhibited considerable risk." For this situation the phrase 'Pay for Play'[6] is sometimes used. [18] The Wall Street Journal reported that the agencies worked with investments banks which they designe mortgage bonds and other securities, making sure they received high enough ratings to be marketable. Agencies charged twice as much for AAA ratings on subprime versus prime based loans (mortgage

[6] Agencies willing to play along with the investment banks who were selling derivative products and putting AAA on paper that turned out to be junk if the price was right.

loans rated from 2002-2007 = 3.2 trillions dollars). Regulators found that agencies did not have sufficient qualified personnel to deal with all the ratings during that time period. Initial ratings were too generous and downgrades were far too slow (after defaults). [52]

Another problem that was highlighted by the crisis was that of the crucial role that credit ratings have begun to play in regulation where their role has been hardwired in capital adequacy accords. “In order to address these problems regulatory action is required on three fronts 1) tackling the conflicts of interests faced by CRAs 2) redesigning their ratings methodology for securitised products and 3) rethinking the role of credit ratings in regulation.” [25]

3.4. Definitions, characteristics of bank's credit portfolio

'Credit, loan' means a "tempory distribution of an exchange act of exchange into two parts (the transfer of goods and later the transfer payments as compensation), or transfer a of sum of money from the lender to the borrower to repay this amount with enlarged interest after a certain time period. "[6] "Bank loans are an excellent source of finance for short-term and long-term credit needs. Borrowers typically qualify for bank loans on the basis of their creditworthiness. Most lenders fix interest rates on the basis of the borrower's credit rating. A higher credit rating is demonstrative of a borrower's sound financial standing, which enables lock-in at a lower interest rate." [54] "Credits provide a crucial part of revenues and profits. On the other hand, they are risky and low liquid assets (with the inability to repay in advance, default etc). Loans are the main activities of credit institutions (a legal entity whose business it is to receive deposits from the public and to provide credits, or a person authorised to issue electronic money. In Czech Republic, credit institutions are responsible banks, savings and loan associations." [55]

'Portfolio' means a range of financial instruments which are subject to investing by a single entity (investments, products or services). [55]

We can classify credits according to many aspects. First, sorting by purposefulness. When purpose loans are for a specific predetermined proposal (for example the purchase of consumer goods, automobiles, etc.), and on the other side non-specific loans with a higher interest rate, which the client decides, what the loan will be used for. Second, by type of payment. This depends whether the loans are paid in cash or the money is sent to the client's bank account. Third is classification by security. Secured (by real estate) or unsecured loans. Finally classification by maturity - short-term (due within one year), medium term (one to four years) or long term (more than four years). All of these categories may be combined with each other. According to these criteria, different types of loans are assigned different interest rates. [56]

3.5.Methods, Ratios of Financial analysis

"Every corporation has many and varied uses for standardised records and reports of its financial activities. Periodically, reports must be prepared for regulators, lenders, owners,

and management. The guidelines used to prepare and maintain financial records and reports are known as generally accepted accounting principles (GAAP). The four key financial statements required for reporting to shareholders are (1) the income statement, (2) the balance sheet, (3) the statement of stockholders' equity, and (4) the statement of cash flows. In practise companies might use different titles. [9]

The income statement provides a financial summary of the firm's operating results during a specific period. The balance sheet presents a summary statement of the firm's financial position at a given point in time. The statement balances the firms's assets (what it owns) against its financing, which can be either debt (what it owes) or equity (what was provided by owners). The statement of stockholder's equity shows all equity account transactions that occurred during a given year. Finally, the statement of cash flows is a summary of the cash flows over the period of concern and provides insight into the firm's operating investment, changes in cash and marketable securities. [9]

The analysis of financial statements is based on the use of ratios or relative values. Ratio analysis involves a method of calculating and interpreting financial ratios to analyse and monitor the performance. The basic inputs to ratio analysis are the income statement and balance sheet. But ratio analysis is not merely the calculation but more importantly is the interpretation of the ratio value. Accordingly, two types of ratio comparisons can be made: cross-sectional and time-series. Cross-sectional analysis involves the comparison of different financial ratios at the same point in time and relates this to other subjects in the same industry. This is in contrast to time series, which evaluates performance over time, and compares the current to past performance and assesses the progress.These two approaches can be combined together, which is used in this diploma thesis. [9]

Zalman et al further defines another definition of ratio analysis and says that: "the financial statements are absolute measures of performance and do not allow comparison of dynamic performance (comparison over time) or benchmarking with competitors. These indicators need to be compiled from three basic views: static view, dynamic view and comparison with comparable competitors". Static analysis is based on information contained in the current bank statements (especially in the balance sheet and profit and loss account) and they are the input for dynamic analyses and comparing with competitors. In contrast, dynamic analysis is the combination of static analysis at various time points. The

result is a trend. But with comparing static and dynamic analysis of comparable competitors we receive comprehensive information about the bank. [19]

In addition, several other methods of performing financial statement analyses exist: horizontal analysis and vertical analysis. “Horizontal analysis compares specific items or information over a number of accounting periods. On the other hand the vertical analysis compares each separate figure to one specific figure in the financial statement (reported as a percentage). This method compares several items to one certain item in the same accounting period.” [57]

Categories of Financial Ratios

Financial ratios can be divideding into five basic categories: liquidity, profitability, activity, debt, and market ratios[7,8]. Liquidity, activity and debt ratios primarily measure risk. Profitability ratios measure return. Market ratios capture both risk and return. [9]

Liquidity is measured by an “ability to satisfy short-term obligations and refers to the solvency of the company’s overall financial position. There is a basic measure of liquidity, the current ratio. This ratio measures the firm’s ability to mee its short-term obligations.” [9] In terms of banks terminology, it is defined as “a liquidity risk, when the bank does not have a sufficient amount to cover all obligations (ability to meet all out-flows and realise expedient investments.” [19] “Generally, the higher the current ratio, the more liquid the company is considered to be.”[9]

Profitability ratios enable analyse of the evaluation of the company’s profit, usually from Common-Size Income Statements. Three frequently cited ratios of profitability that can be read directly from this statement are (1) the gross profit margin, (2) the operating profit margin, and (3) the net profit margin. The gross profit margin measures the percentage of each sale after the company paid for it. In contrary the operating profit margin measures the percentage of each sales after all costs and expenses, other than interest, taxes and preferred stock dividends are deducted (The net profit margin is including interest).” [19]

For measuring profitability, we can also use another indicator. “Return on Common Equity (ROE) measures the return earned on the common stockholders’s investment in the

[7] All relevant formulas are listed in chapter Objectives and Methodology.
[8] Note: debt, activity, and market ratios are not further discussed, because of therr irrelevance for purpose of this diploma thesis.

company. The higher this return is the better off are the owners." [9] But this indicator is incommensurable within different economic environments. For comparison values of ROE is its value adjusted from the effect of inflation. Value of ROE must be higher than the return of long-term securities. The part of the ROE is the Equity multiplier. Then Return on Total Assets (ROA), which measures the overall effectiveness of management in generating profits with its available assets. As an international standard value of 1 percent is considered (see Table 2). [19]

Table 2 Relationship between ROA value (%) and assets return

ROA	Return of assets
<0.75	weak
0.75-1	under the standard
1-1.25	good
1.25-1.75	very good
>1.75	excelent

Source: Zalman (page 35); own processing

Further indicators used for ratio analysis are Net Interest Margin, Total operating margin, Total non-operating margin and Tax margin. Net Interest Margin reflects the relationship between interest incomes and interest expenses. Total operating margin measures how effectively the organisation can use income fees for covering paid fees and other administration expenses. Total non-operating margin measures effectiveness of other non-operating incomes. Finally, Tax margin refers to the ability of banks to optimise their tax liability. [19]

The composition of net interest margin determines the Profit/Loss from Net Interest Position. This indicator describes the impact of different sizes of interest bearing assets and interest-bearing liabilities. Consequently, the average rate on interest-earning assets reflects the effectiveness of the valuation of assets, and the average rate of interest-bearing liabilities of valuation of liabilities. Net interest position relative to interest-bearing assets reflects if the bank has more interest-bearing assets other than liabilities. [19]

In risk management, there are many types of risk. We consider these risks: Credit risk is the risk that the counterparty does not meet its obligations. The measure of this risk can be found in the creation of adjustments in the balance sheet. Another is Interest rate risk and Exchange rate risk. A bank can be treated by unexpected moving of interest rates

or exchange rates. Moreover, risk on shares, however a commercial bank generally does not invest in stocks, or they keep small volume. Finally we consider Operation Risk as well. This risk occurs in the failure of people or computer systems. Moreover the Risk and change of a bank's capital value expresses difference between the market value of all assets and the market value of all liabilities. [19]

The last tracked indicator of risk is Capital Adequacy, which expresses the owned resources of banks in relation to the risk structure of assets, selected off-balance sheet assets and market risks. It is the aggregate indicator, where all activities of the bank are reflected (balance sheet and off) as well as potential losses arising from the depreciation of bank assets (through the creation of provisions and reserves). [19] The minimum value of the indicator (TIER 1) according to the Czech National bank is 8 percent. Tier 1 capital represents a part of total bank capital, i.e. paid-up authorised capital incorporated into a commercial register, paid-up share premium, obligatory reserve funds, other reserve retained earnings funds, undistributed profit from preceding periods after taxes, profit under permit procedure minus anticipated dividends, profit from current period minus anticipated dividends and deductible items. [55]

4 Analysis of banks credit portfolios

World financial and economic crisis and subsequent recession progressively has influenced Czech and Slovak Republic. Decline of economic output has created difficult conditions for the functioning of the financial sector and increase the interest of development in the credit portfolio of the banks. However, financial sector of these countries ensured stabile functioning of economy and was not the cause of the crisis in these states, it was external origin. Therefore the analysis focuses firstly on economic development in Czech and Slovak republic, which both accessed to the European Union and besides Slovak entered to Euro zone, and examines bank's financial indicators for the period from 2005 to 2011.

The Real economy

The Czech and Slovak economy reported decline in macroeconomic outlook in 2009 due to the financial crisis and slowed down during in 2010 to 2012 and because of fiscal austerity. Both economies strengthened during 2005 to 2007. It was a period of high Gross Domestic Product (GDP) growth, low inflation rate, and decreasing unemployment rate. After the continuous slowdown at the beginning of 2008, the economies fell into a recession between the years 2008 and 2009. But afterwards the positive trend of growth of the Czech and Slovak economy continued from 2010. Compared to the previous year in 2010 which there was a relatively strong economic recovery, but the annual rate of economic growth slowed in 2011.

Table 3 Key economic indicators of Czech Republic

Czech Republic	2005	2006	2007	2008	2009	2010	2011
Nominal GDP (EUR bn)	124.6	134.1	146.5	153.9	150.4	152.0	153.7
Nominal GDP per capita (EUR)	11,81	12,711	13,886	14,588	14,256	14,408	14,569
Real GDP (y/y %)	6.3	6.8	6	3.2	-4.1	2.3	1.7
Unemployment rate (average %)	7.9	7.1	5.3	4.4	6.7	7.3	6.7
Inflation rate (y/y%)	2.2	1.7	5.4	3.6	1	2.3	3.3
General budget balance (% od GDP)	-3.6	-2.6	-0.7	-2.7	-5.8	-5.1	-4.4
Public Debt (% of GDP)	29.7	29.4	29	30	35.3	38.5	41
Current account balance (% of GDP)	-1.3	-2.4	-3.2	-0.6	-1	3.8	-2.9
Gross external debt (% of GDP)	36.7	35.7	37.6	42.3	43.8	46.8	49.2
Trade Balance (y/y, % of GDP)	2.0	2.0	3.3	2.8	4.1	3.4	4.0
Gross Capital (CZK bn)	26.5	27.7	30.0	29.0	24.0	25.0	24.0

Source: CNB, CZSO, ECB, World Bank, Eurostat, 2012; own computations and processing

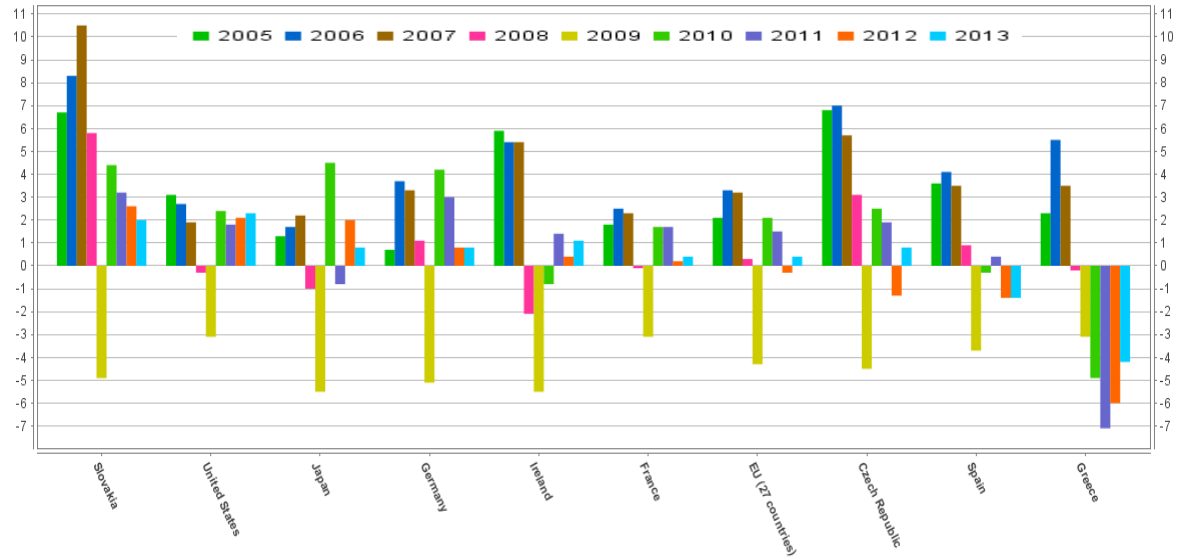
Table 4 Key economic indicators of Slovak Republic

Slovak Republic	2005	2006	2007	2008	2009	2010	2011
Nominal GDP (EUR bn)	49.3	55.0	61.0	67.0	63.0	66.0	69.0
Nominal GDP per capita (EUR)	9,065	10,110	11,295	12,393	11,644	12,151	12,720
Real GDP (y/y %)	6.7	8.3	10.5	5.8	-4.9	4.4	3.2
Unemployment rate (average %)	16.2	14.2	13.4	9.6	12.1	14.4	13.5
Inflation rate (y/y, %)	2.7	4.5	2.8	4.6	1.6	1.0	3.9
General budget balance (% od GDP)	-2.8	-3.2	-1.8	-2.1	-8	-7.9	-5
Public Debt (% of GDP)	34.3	30.5	29	28	35	41	44
Current account balance (% of GDP)	-4.6	-3.7	-3.9	-6	-2.6	-2.5	0.2
Gross external debt (% of GDP)	56.4	57.5	58.9	55.1	73.1	81.2	66.1
Trade Balance (y/y, % of GDP)	-5.0	-5.0	-1.5	-1.1	1.5	1.5	1,4
Gross capital (EUR bn)	28.9	28.01	28.0	29.0	23.0	22.0	22.0

Source: NBS, ECB, SUSR, World Bank, Eurostat, 2012; own computations and processing

The crisis was manifested in Europe economies by a slowdown in GDP growth during 2008 and by the enormous decline in 2009 (see Figure 14), which also affected financial sector, mainly due to weaking of volume of export. Nevertheless, the Czech Republic reports also negative GDP growth in 2012, in comparison with Slovakia which grows 2.5 percent and Germany 0.9 percent. However according to Eurostat, GDP forecast for Czech Republic in 2013 is predected under 1 percent growth and 2 percent rise in Slovakia.

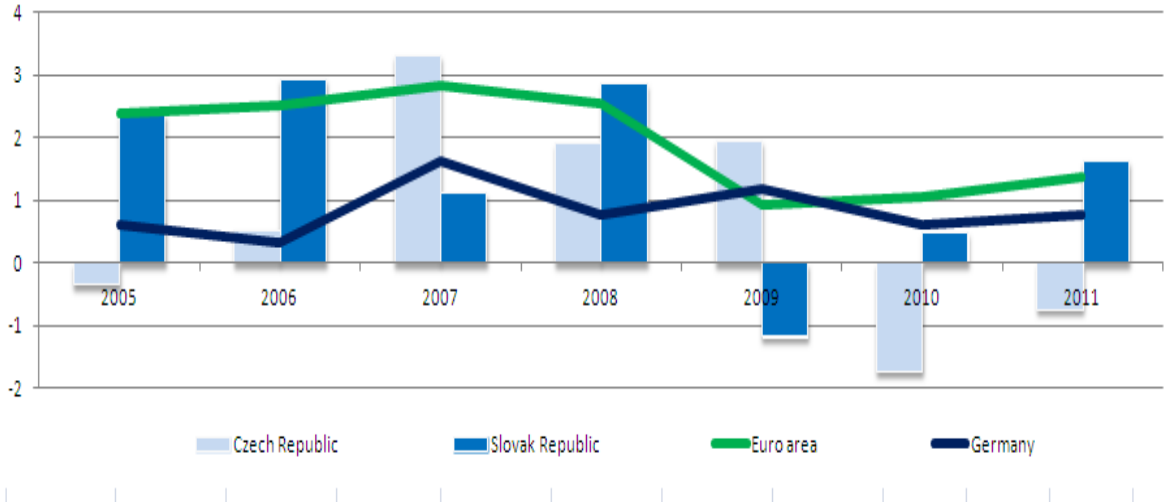
Figure 14 GDP growth for particular countries from 2005 to 2012 with forecast for 2013



Source: Eurostat
Note: seasonally adjusted
Hyperlink:http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&pcode=tec00115&language=en&toolbox=data

Gross domestic product deflator, the general price index of the economy maintains the decline in nominal GDP; the real growth was faster than nominal. Last year, the Czech economy grew in nominal values by only 1.1 percent and its deflator was negative by -0.7 percent (see Figure 15). The reason is that the economy grows, but entreprises revenues still decline due to the drop in price, so they do not compute their revenues from economy growth. Another side effect of this situation is also unsatisfactory collection of taxes. But the situation is opposite in the Slovak Republic. The deflator was negative only during 2009 and currently its trend is sharply increasing.

Figure 15 GDP deflator of Czech and Slovak Republic (annual in %)



Source: World Bank, 2012; own processing

In Czech Slovak Republic the inflation rate is stable and reaches low level comparing to other European economies. However the average inflation rate for European countries according to Eurostat was 3.1 percent in 2011 and both countries are above this level. The unemployment rate in the Czech Republic reached 6.7 percent in 2011 and stays equal to the rate from 2009. Moreover, the level is still high in both countries. Slovak's rate growth to 13.5 percent in 2011 and increase by 3.9 percent from 2008. Another important element for Czech and Slovak's economy is trade balance, which shows positive numbers. It is due to the early and relatively strong recoveries in Germany, because of the both economies are dependent on the export to this country. Against the continuing recession, the economics are protected by more extensive fiscal measures particularly in the countries of their major trading partners (especially the automotive industry and support the sale of new cars). The main risk scenario for the Czech and Slovak economy

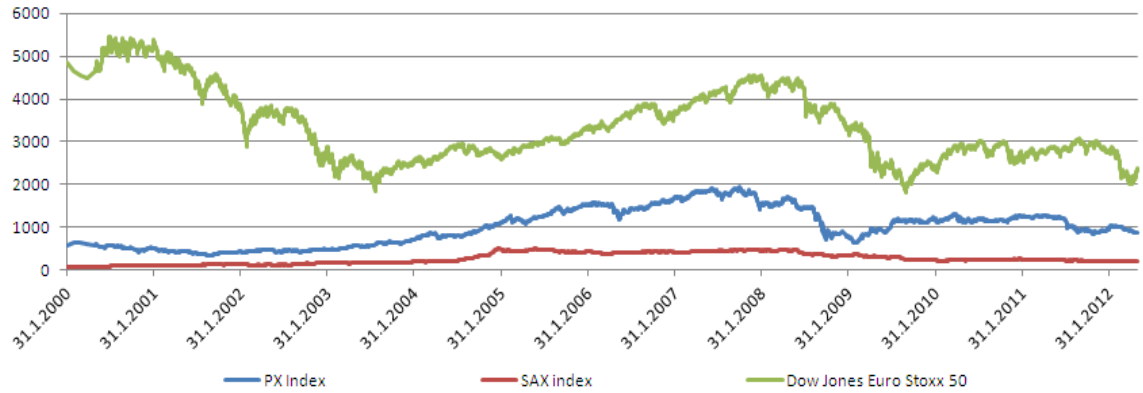
for the next few years remains a significant slowdown in economic growth in Germany and in other countries, which are the most important trading partners.

The Czech budget balance has also deteriorated sharply in recent years as revenues fell and stimulus measures were implemented. The 20011 deficit measured -4.4 percent of GDP and -5 percent in Slovakia). From 2005 to 2011 the deficit increases 2.2 percent in Slovakia and only 0.4 percent in the Czech Republic. However, a debt remains significantly increase. Public debt increased by 16 percent in Slovakia from 2008 and it was 49.9 percent of GDP, respectively 41 percent in the Czech Republic. External debt (Foreign debt) to GDP rose substantially over the last years, but more in Slovakia.This indicator of gross external debt to gross domestic product, which should not be greater than 40 percent (this indicator is measured from the point of view of sustainability of the external balance, the balance of payments stability of the state, flows between the country and abroad, and the exchange rate). Czech exceeded this level at the end of 2008 and Slovak was above 40 percent in every period. Before joining the European Union, the Czech gross external debt was at 37.6 percent of GDP and in six years, rising to 49.2 percent today. The Slovak foreign debt was greatly high and in the period of 2005 and 2011. Furthemore, the current account deficit of balance of payments is low in the Czech and Slovak Republic. The current account balance is not a problem for these economies. The amount is acceptable at -2.9 percent of GDP in the Czech Republic and even positive by 0.2 percent in Slovakia. In addition, total activity with foreign partners further demonstrates trade balance. Both economies are activite in international trade and it also increases the dependence on the economic performance of partner countries and exposes the economy to potential external shocks. This balance rose up 4 percent of GDP in the Czech and Slovak Republics 1.4 percent of GDP in 2011.

In the investments, which their inflow is very high, the impact of the crisis is considerable. The total gross capital formation declined from 2008 to 2011 almost 18 percent and in the Slovakia declined by -25 percent from 2008. The crisis affected also development of stock exchange prices, which showed a decline in prices. Czech stock index PX fell during 2008 52.7 percent and Bratislava index SAX sharp declined 54 percent from 2008 to 2010. But in 2009 gained 30.2 percent and at the end of 2011 the PX index grew by 1.39 percent, but it was only significant growth compared to full-year loss

of nearly 26 percent. Euro Stoxx 50 Index currently reaches almost the value of mid-2009 show a continuing recession within the Europe (see Figure 16).

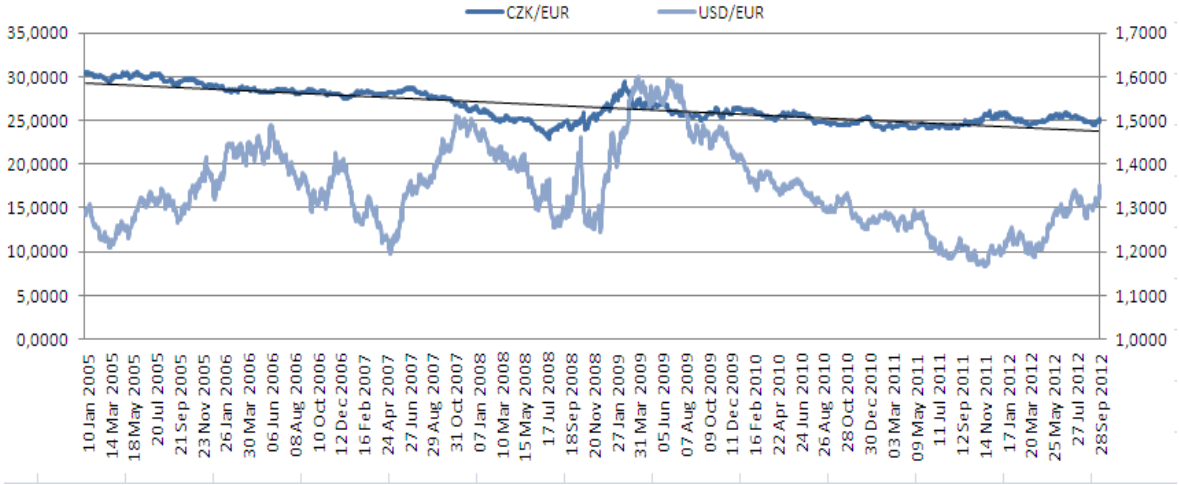
Figure 16 Index PX, SAX and Euro Stoxx 50 development from 2000 to Q1/2012



Source: PSE, BCPB, STOXX; own processing
Note: Price of PX index is in CZK currency, other indexes are in EUR.

Czech financial market was hit by the fluctuations of the Koruna before the crisis and quickly appreciated. The Koruna reached the historical maximum in July 2008 at 22.9 CZK/EUR and then began to weaken again at the end of 2008 was around 29 CZK/EUR (see Figure below). From the end of 2009 is stable and range around 25 CZK/EUR, but its trend is strenghteing against Euro in historical perspective. Regarding to exchange rate of American dollar against Euro, the dollar was appreciating from the end of 2009 to November 2011 due to sovereign debt situation in Europe.

Figure 17 Exchange spot rate CZK/EUR and its trend and USD/EUR from 2005 to 2012



Source: ECB, 2012 own processing
Note: USD/EUR right axis

Although the economy as a whole declined in the first half of 2009 and since then there is a very gradual improvement in the economic situation, but it does not mean that the further declines of development do not influence the economy and the financial system.

Bank sector

Financial sector is accelerating development of the Czech and Slovak economy and it demonstrated a high level of stability in the period of crisis in the form of the global that had been highly affected the other European bank's sectors. The trend of slow growth of the banking sector corresponds to the development of their national economies, which were primarily financed by the banks. The change of the environment of economic growth in the period 2005-2007, than decline between 2008 and 2009 created completely different conditions for the banking sector, regardless of the fact that the combination of good starting position of the Czech and Slovak financial system and rapidly disintegration of monetary policy reduce the risk of access to credit. Nevertheless, the effects of the financial crisis on individual banks were differentiated and with the economy recovery, which became ever more apparent in 2010, the lending activity of banks began to change as well.

Czech banking sector in 2011 according to Central banks of Czech and Slovak Republic, consists of 44 banks (in 2009 there were 39) of which 21 is as branches of foreign banks. Total banking assets in 2011 reached 4.475 billions CZK, which was only 380 billion more than in 2009, and presents it to grow by 9.3 percent. The Slovak Republic today operates 32 banks in the banking sector and 14 banks are foreign. Total assets are in 2011 54,738 millions Euros.

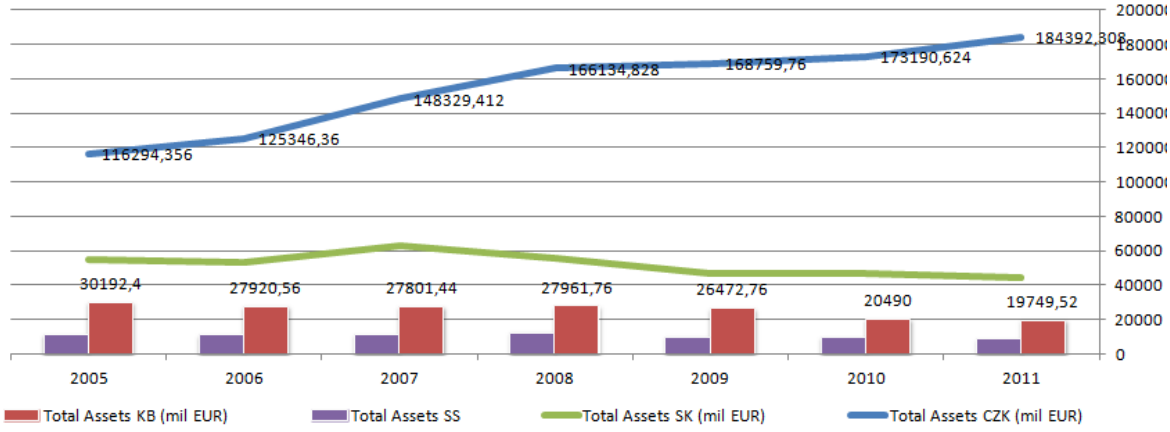
Among European countries there are significant differences in the development of assets in banking sector. The reason for lower level of assets is due to the later development of bank services and the failure of implementation pension reforms in the Czech and Slovak Republic.

Banking markets are highly concentrated and after the Czech and the Slovak Republic entered to the EU, there is a trend in the number of foreign banks on the Czech financial market through the expansion of the branch network under a single license in the

EU. This trend is a positive contribution to the development of banking sectors and competition between banks.

At the figure below we can see that total number of assets in Czech Republic is increasing. The largest bank on this sector is Komercni banka (Slovakia is Slovenska Sporitelna), which its proportions of the market are stable over the five years.

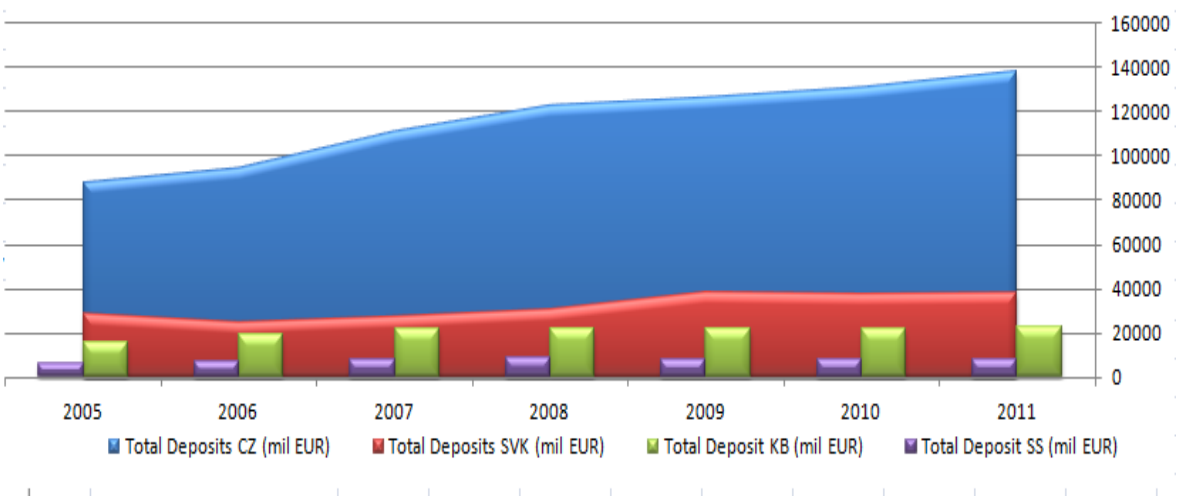
Figure 18 Total Assets developmnent in Czech and Slovak bank's sector and shares of particular banks from 2005 to 2011



Source: CNB, 2012; own computations and processing

In the Czech banking market, there was only a small change in the structure of banks.The biggest market share continues to be held by big banks maintained market share of around 57,25 percent of assets in 2011, but compared to previous years has decreased slightly by 0.8 percent. The share of the fastest group of medium banks (16.28 % against 13.6 percent in 2009). A group of large banks end of 2011 banks in their portfolios total more than 51.48 percent. However annual growth has fallen by 0.6 percent (see Appendix 8). Moreover, the biggest bank in Czech bank's sector (Komercni Banka) has 25 percent market share of all assets and 16 percent of all deposits, in 2011 showed net profit of 7,951 millions CZK. In Slovakia, Slovenska sporitelna had

Figure 19 Client deposits development in the Czech and Slovak republic from 2005 - 2011



Source: CNB, NBS, annual bank reports, 2012; own computations and processing

Client deposits amounted in Czech Republic 3349 billions CZK, which represents an increase of CZK 385 billion from 2008, and grow from the end of 2009 by 12 percent. Due to the Czech banking sector holds a very strong position in terms of the ratio of loans and deposits - loans-to-deposit ratio is 76 percent, which is among the lowest in the EU, where the average is 116%.[26]

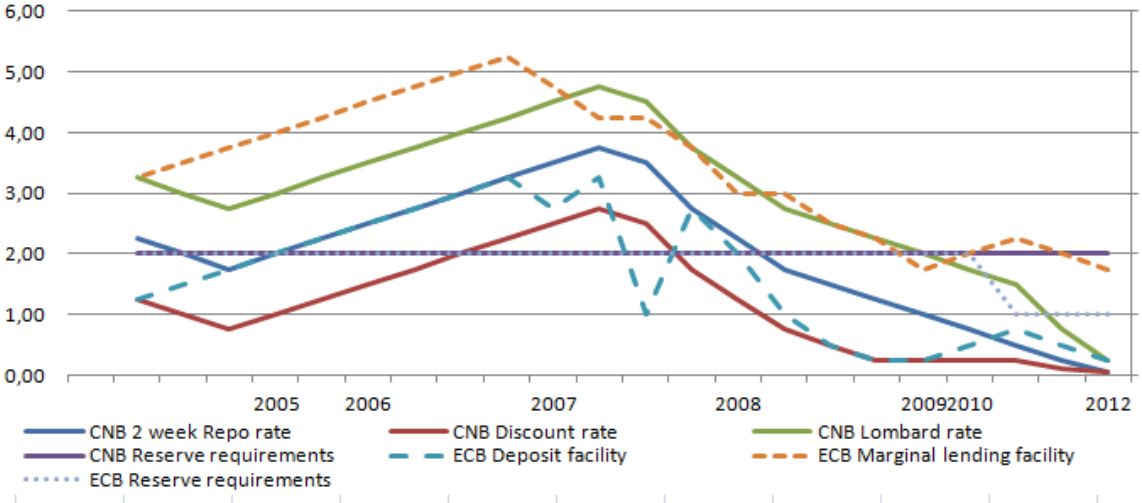
Czech Republic according to Central Bank has high deposit to loan ratio in 2011 at 73 percent, which is the highest within the European Union. Positive external assets of the banking sector indicate that Czech banks are net crediotrs especially comparing to banks in the Euro area and their parent bank.

Interest rates

The determined basic interest rates by the Central Bank in the Czech Republic and the Slovak Republic (which is almost united with the European Bank) affect the interest rate for commercial loans. Particularly mortgages are sensitive to movement of interest rates. The interest rate is indirectly reflected in their exchange rates and through the economy. The interest rates have a relatively large impact also on the money market. Using these rates, the central banks affects long-term interest rate, currency exchange rate (reduction in interest rates will lead to a depreciating of the home currency) the money market, stocks and bonds. The repo rate has the biggest impact, by which withdraws surplus money from the interbank market. In Czech Republic two-week repo rate fell to 0.05 percent. The main significance of the repo rate is that central banks influence the money amout in economy and indicates the expected rate of inflation. Other Interest Rates

also declined. The discount rate, which is connected with penalties for non-performing loans or unpaid taxes, decreased to 0.05 percent. The discount rate of interest is actually a discounted loan. Banks have the option to save their excess liquidity at central bank. Lombard rate fell to 0.25 percent. The Lombard rate is the upper limit for the movement of short-term interest rates on the money market. It is a rate that the commercial banks can borrow money from the central bank against a pledge of securities. Moreover, banks and foreign branch banks must hold mandatory minimum reserves at the central bank and in the present day is set at 2% of the primary obligations of the bank. In the Czech Republic central bank cut interest rates to a record low.

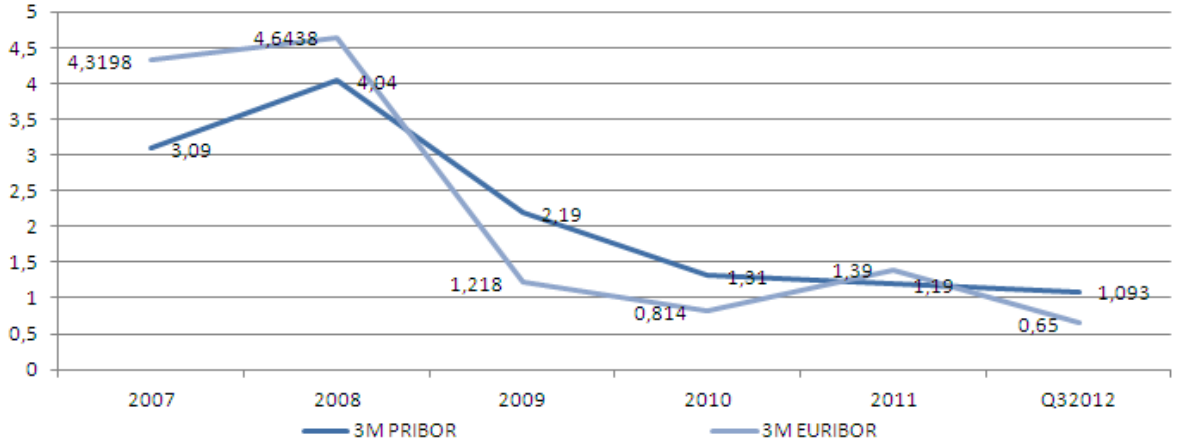
Figure 20 Key Interest rate of CNB and ECB from 2005 to 2012 (in %)



Source: CNB, ECB; 2012; own processing
Note: Slovakia has enter Euro zone on January 1, 2009

The relatively stable situation on the financial market between 2009 to 2010 also contributed to short-term rate. 3M PRIBOR (Prague Interbank Offered Rate) values have declined from around 1 percent at the beginning of 2009 gradually to today's values around 1.19 percent. This development corresponds to the situation in developed markets, particularly in the eurozone - 3M EURIBOR in relation to the problems of the euro area increased in Q3 2011 1.59 percent (to current levels around 0.49 percent in Q2 2012), but there was a significant decline from the highs at the end of 2008 to 2010 (around 4 percent). Three-month interbank rate PRIBOR between December 2007 and September 2008 fell by 25 bps before the financial crisis in Europe.

Figure 21 Interest rates 3M PRIBOR and EURIBOR from 2005 to Q3/2012

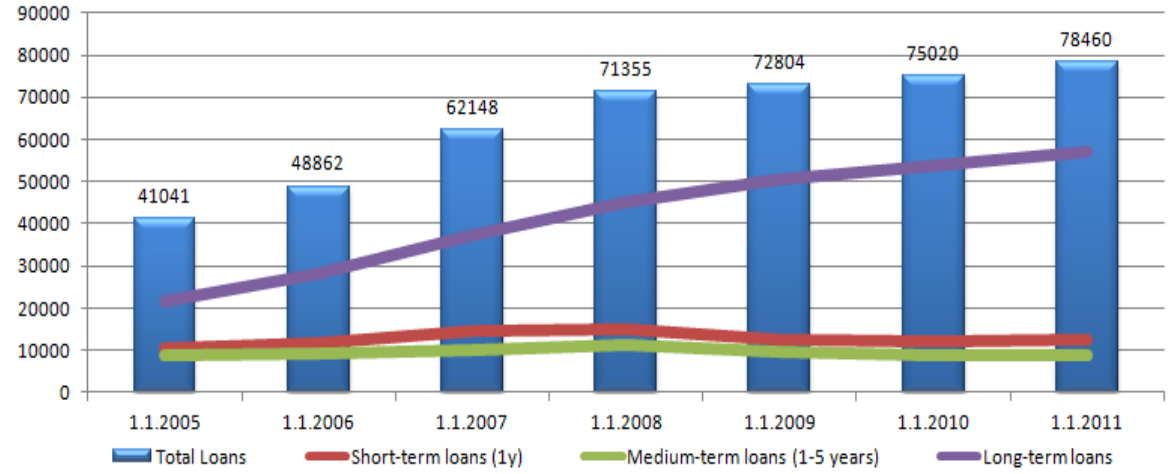


Source: CNB, EURIBOR 2012, own processing
Note: annual average

Lending

Lending activities of banks are a key source of profits for these institutions. However, the impact of the financial crisis on the Czech and Slovak economy was not yet such as to significantly influence credit market in the Czech Republic and the Slovak Republic, even though the economy showed signs of slowing from 2009. The decline in loan demand affects defer long-term household investment, even during the extremely low interest rates. The banking sector is also in response to the increasing risk continues to reduce the rate of financing of the economy and to tighten interest rates in many segments of the credit market.

Figure 22 Loans of Czech banking sector according to their maturity from 2005 to2011

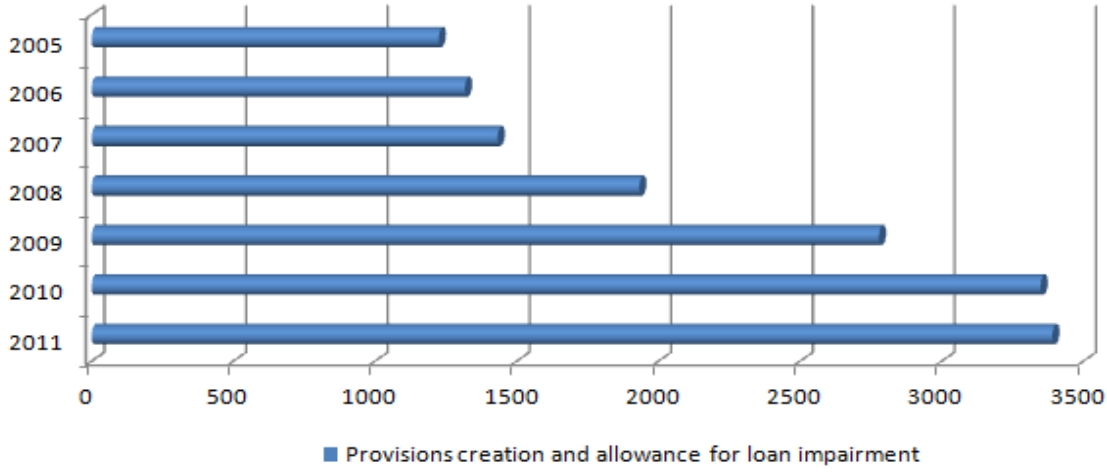


Source: CNB, 2010; own processing

The volume of banks lending increase – especially long term credits such as enterpreneurs and mortgages, where the important role is their refinancing. The warnig is sharp decline in the dynamics of long-term loans comprising, which is half of all loans in the corporate sector and could indicates missing development investments, which negatively affects the Czech economic growth (the largest part of the loan portfolios of banks are lending to non-financial corporations). Therefore, continuing uncertainty about the economic outlook of consumers prolonged downward trend in consumer finance. The volume of short-term loans to non-financial corporations has continually declined since the beginning of the crisis.

Better performance of banks was also due to non-existent of subrime segment households and gradually decrease the provision for bad loans and enterprises also repay some loans already written off, which also positively affects profits.

Figure 23 Provisions creation and allowance for loan impairment (in mil. EUR) from 2005 to 2011



Source: CNB;2011, own processing

Banks therefore continue lending despite the fact that the threat of worsening credit quality. Proportion of client receivables failure in 2011 reached 3,390 million Euros, which is against the end of 2007 more than doubled.

Liquidity

In a situation of relatively stable market and good liquidity (see Figure 24) of financial institutions are the main obstacles for active banking business just consequences of the economic crisis. High levels of bank liquidity are followed by two trends. First, lower demand for financing, accompanied by a decrease in size of the economy and the

number and volume of export and in particular with the significant drop in investment activity. Second the increasing risk in the economy, which affects demand for loans and weaks credit banks' portfolios. On the table below we can see, that Czech Bank Komercni Banka has better liquidity than Slovak bank Ceska Sporitelna.

Table 5 Liquidity of selected banks from Czech and Slovak Republic from 2005 to 2011

Komerční banka (in mil EUR)

	2005	2006	2007	2008	2009	2010	2011
Assets	116294,36	125346,36	148329,41	166134,8	168759,8	173190,6	184392,3
Liabilities	16143,56	16159,28	18784,84	25442,8	25051,32	24877,44	26918,4
Current Ratio	7,2037615	7,7569273	7,8962297	6,529738	6,736562	6,961754	6,850047

Slovenska sporitelna (in tis EUR)

	2005	2006	2007	2008	2009	2010	2011
Assets	258992000	297908000	303913000	12556669	11485475	11027869	11348906
Liabilities	223035000	277514000	281846000	11754797	10703953	10098559	10309936
Current Ratio	1,1612168	1,0734882	1,0782945	1,068217	1,073012	1,092024	1,100774

Source: Annual reports of banks;2011 own processing

Profitability

The net profit of Czech and Slovak banks improves from 2005 to 2011 (see Table below). On the other hand the result of their owners is worse than in the previous year. But if the parent bank suffers losses, it has no effect on these banks, because the relationship between the branch and the mother are very strictly guarded by market regulator.

Capital Adequancy

The Czech and Slovak banking sector are in a very strong capital position. Tier 1 capital level growth between 2009 and 2011 by 2 percent and reached 14.68 percent. For comparison, the value of this indicator in the euro area is around 8.7%. The capital position of banks enhances the ability of banks to maintain profitability.

5 Result and Discussion

The data indicate that following growth in lending and profitability prior to the crisis, were closely tied to the economic results. But the financial sector in the Czech and Slovak Republic continues to show sufficient stability. Banks, the foundation of the financial system are strong, well capital structure, long-term profitable and maintain a surplus of deposits over loans. The main risks for the financial sector based on a possible pronounced contraction in economic activity due to the deepening of the crisis situation in the Eurozone.

Profitability and liquidity of one bank from Czech Republic, namely Komercni Banka was analysed in more detail. It shows positive results as a whole banking sectors. Further, it shows that assets and liabilities management is on high level and remains stability of the bank.

The indicator ROA was from 2005 to 2010 consider as very good, but in 2009 was under the standard. ROE indicator reached very high numbers, but it still declining. The downward was caused by lowering of speculation position in the market, because equity multiplier also declined.Further, the decline of ROA was not caused by Interest margin either Operationing margin, because they in the last period incerase.

Table 6 Profitability of Czech bank – Komercni banka, a.s.

Profitability

	Komerční banka (in mil. CZK)						
	2005	2006	2007	2008	2009	2010	2011
Assets at the beginning of the year	448294	492732	512250	661819	699044	695075	698014
Assets at the end of the year	493738	512250	661819	699044	695075	698014	754810
Average Assets in the year	471016	502491	587034,5	680431,5	697059,5	696544,5	726412
Net Profit after tax	9148	8747	13233	11094	13410	12035	7951
ROA calculate directly (in %)	**1,9421846**	**1,7407277**	**2,2542116**	**1,630436**	**1,9237956**	**1,7278149**	**1,0945579**
Own Equity	**51327**	**50257**	**49236**	**59016**	**62690**	**69014**	**72468**
ROE calculate directly (in %)	**17,822978**	**17,404541**	**26,876676**	**18,798292**	**21,390971**	**17,438491**	**10,971739**
Interest Revenues	20131	24231	31094	42432	34549	28929	29799
Interest costs	-6508	-9373	-15123	-21410	-13205	-12036	-12585
Total Interest Margin	**2663900**	**3360400**	**4621700**	**6384200**	**4775400**	**4096500**	**4238400**
Operation revenues (fee and commission)	8718	8769	7756	8119	7839	8038	7305
Operation costs	-5122	-5122	-13629	-14024	-13521	-12011	-11427
Total Operationing Margin	**2,9383291**	**2,7644276**	**3,6428864**	**3,2542585**	**3,0643008**	**2,8783516**	**2,5787019**
Non-operating Margin	901	1232	4769	4403	3183	3216	3033
-profit from financial transactions	780	961	4520	4223	3098	3127	2913
-other revenues	121	271	249	180	85	89	120
Non-operating Costs	-5140	-5122	-6241	-6606	-5242	-4966	-5154
Total non-operating margin	**1,2825467**	**1,2645003**	**1,8755286**	**1,6179439**	**1,2086486**	**1,1746557**	**1,1270464**
Tax	-2642	-2680	-3103	-3024	-2665	-1429	-2382
Total Tax Margin	**-0,5609151**	**-0,533343**	**-0,528589**	**-0,444424**	**-0,3823203**	**-0,205156**	**-0,3279131**
ROA as a sum of Margin	**2663903,7**	**3360403,5**	**4621705**	**6384204,4**	**4775403,9**	**4096503,8**	**4238403,4**
Equity Multiplier	9,1767686	9,9984281	11,922871	11,529611	11,11915	10,0928	10,0239

Source: Annual reports of KB,2012; own processing

6 Conclusion

The banking sector in the Czech Republic and Slovakia is resistant to significant domestic and European economic downturn and the deepening debt crisis in the Eurozone. Respectable initial macroeconomic conditions have low foreign and government debt. Furthermore the stability of their financial systems is played by the relatively low national debt, positive trade balance and prudential fiscal policy. However, continuing uncertainty about the economic outlook of consumers extends a downward trend in consumer finance and a possible worsening of economics results - factors such as a substantial degree determined by the macroeconomic environment, price instability, downsizing exchange and interest rates development, decline in investments and negative trade balance. If the economic direction becomes worse-than-expected, a situation may develop, where the inability of repaying loans of the largest corporation could cause problems to borrowers (most of the individual banks). This phenomenon is a large risk for the financial sector at the time of European recession.

The declines in banks' lending activities during the financial crisis were inflicted by lack of credit activity associated with a decline in economic performance due to the economic recession. Yet, lending has again increases in recent years. The volume of lending is especially increasing in long–term credits (loans for enterpreneurs and mortgages). Also despite the continuing uncertainty about the economic situation consumer lending still increase in the Czech and Slovak Republic. Therefore bank's lending and the bank sector in general has performed very well due to a solid balance liquidity and capital position, even though the Czech and Slovak economies reported a decline in macroeconomic outlook in 2009 due to the financial crisis and slowed down during 2010 to 2012 because of fiscal austerity. On the other hand the provisions creation and allowance for loan impairment seems to have been reached hig growth and almost doubled during the period 2007 and 2011. Total surplus of deposits over loans to banks in the system has left a sufficient reserve of cash and ensures that the domestic banking system is not dependent on external financing. The ratio of loans to deposits in 2011 in both banking sectors is 73 percent, that is very low.

But private Czech and Slovak bank sector's balance sheets deteriorated during the financial crisis as well. However, the drop was not as enormous as other banks in foreign countries. Banks in the Czech Republic and the Slovak Republic are in good condition and have positive results due to a high volume of deposits, bankers' prudence, and prudent strategies for investment banks. Czech banks have not been forced to write off large low-risk investments. Despite what happens in the global financial world, when large financial institutions are faced with the consequences of their own investment banking, lack of liquidity and depreciation of failed investments.

Further, during the global financial and economic crisis in 2008-2009, Czech and Slovak bank's sector showed a high degree of stability due to good liquidity, capital adequacy. The capital adequacy remains Tier 1 significantly exceed the level 14 percent in Czech Republic, which is above the minimum 8 percent, and it is accompanied by a high degree of innovation and the development of banking services, while maintaining a higher profitability of the banking business. Between 2005 and 2011 profitability of Czech and Slovak was high and growth.

The ratio analysis was used to review changes in liquidity position, portfolio structure and quality of banks. Banks have also continued credit expansion and did not experience any significant deterioration in the structure of their credit portfolios. They have enough resources in the form of customer deposits, which forced banks to raise additional capital on the interbank market. In conclusion, the Czech and Slovak banking sector is standing strong and improves the resistance of the banks' balance sheets.

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8 Appendices

Appendix 1 Table Bank Losses

Company	Write Down & Loss	Capital Raised
TOTAL	**501,4**	**353,0**
Citigroup	55,1	49,1
Merrill Lynch	51,8	29,9
UBS	44,2	28,3
HSBC	27,4	3,9
Wachovia	22,5	11,0
Bank of America	21,2	20,7
IKB Deutsche	15,3	12,6
Royal Bank of Scotland	14,9	24,3
Washington Mutual	14,8	12,1
Morgan Stanley	14,4	5,6
JPMorgan Chase	14,3	7,9
Deutsche Bank	10,8	3,2
Credit Suisse	10,5	2,7
Wells Fargo	10,0	4,1
Barclays	9,1	18,6
Lehman Brothers	8,2	13,9
Credit Agricole	8,0	8,8
Fortis	7,4	7,2
HBOS	7,1	7,6
Societe Generale	6,8	9,8
Bayerische Landesbank	6,4	-
Canadian Imperial (CIBC)	6,3	2,8
Mizuho Financial Group	5,9	-
ING Groep	5,8	4,8
National City	5,4	8,9
Lloyds TSB	5,0	4,9
Other European banks*	7,2	2,3
IndyMac	4,9	-
WestLB	4,7	7,5
Other Asian banks*	4,6	7,8
Dresdner	4,1	-
BNP Paribas	4,0	-
LB Baden-Wuerttemberg	3,8	-
Goldman Sachs	3,8	0,6
E*Trade	3,6	2,4
Nomura Holdings	3,3	1,1

Natixis	3,3	6,7
Bear Stearns	3,2	-
Other U.S. banks*	2,9	1,9
HSH Nordbank	2,8	1,9
Landesbank Sachsen	2,6	-
UniCredit	2,6	-
Commerzbank	2,4	-
ABN Amro	2,3	-
DZ Bank	2,0	-
Bank of China	2,0	-
Fifth Third	1,9	2,6
Other Canadian banks*	1,8	-
Rabobank	1,7	-
Bank Hapoalim	1,7	2,4
Mitsubishi UFJ	1,6	1,5
Royal Bank of Canada	1,5	-
Marshall & Ilsley	1,4	-
Alliance & Leicester	1,4	-
U.S. Bancorp	1,3	-
Dexia	1,2	-
Caisse d'Epargne	1,2	-
Keycorp	1,2	1,7
Sovereign Bancorp	1,0	1,9
Hypo Real Estate	1,0	-
Gulf International	1,0	1,0
Sumitomo Mitsui	0,9	4,9
Sumitomo Trust	0,7	1,0
DBS Group	0,2	1,1

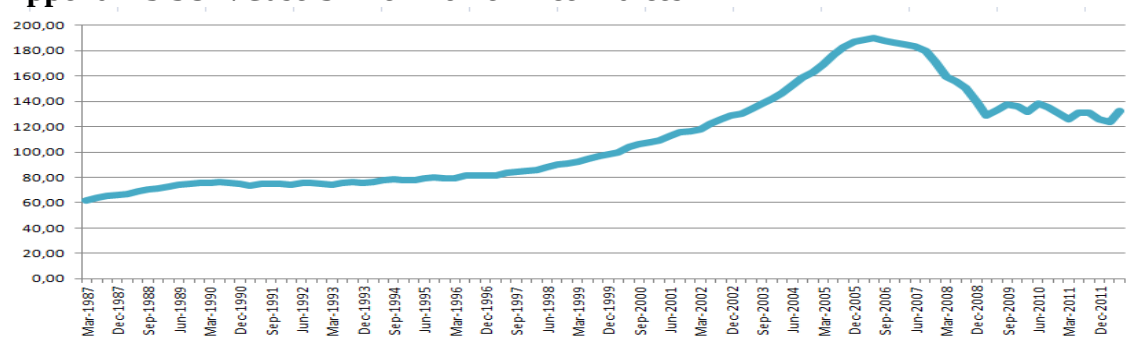
Source: Bloomberg,2012

Appendix 2 The banking panics of the Great Depression

Year	Real GNP Commerce Dept.	Unemployment %	GNP deflator	Gross earnings	As percentage of total assets: Net earnings	As percentage of total assets: Net profits	Net profits as a percentage o capital accounts	Total assets	Total number of suspended banks
1925	625.0	3.2	14.7	4.88	1.40	0.99	9.0	39,304	618
1926	662.3	1.8	14.7	4.94	1.43	1.07	8.9	41,094	976
1927	661.2	3.3	14.5	4.71	1.16	1.05	5.8	42,800	669
1928	667.7	1.2	14.6	4.81	1.27	1.11	5.6	45,596	498
1929	709.6	3.2	14.6	5.05	1.51	1.17	6.1	47,533	659
1930	642.8	8.9	14.0	4.58	1.17	0.65	4.6	47,164	1,350
1931	588.1	16.3	12.4	4.19	1.15	0.03	0.19	43,991	2,293
1932	509.2	24.3	11.3	4.19	1.11	-0.69	-4.5	37,042	1,453
1933	498.5	25.2	11.0	3.71	1.13	-1.07	-7.3	34,367	4,000
1934				3.35	1.06	-0.61	-4.5	37,176	

Source: Wicker, 1996

Appendix 3 S&P/Case-Shiller Home Price Indices

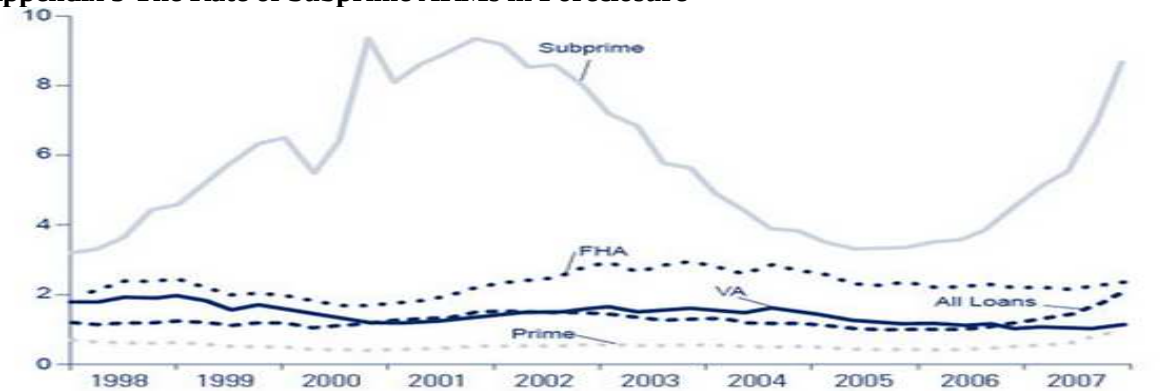


Source: Standard&Poor's; 2012, own processing
Note: The S&P/Case-Shiller Home Price Indices are calculated monthly using a three-month moving average (Standard&Poor's)
Hyperlink: http://eu.spindices.com/indices/real-estate/sp-case-shiller-us-national-home-price-index

Appendix 4 U.S. dollar index

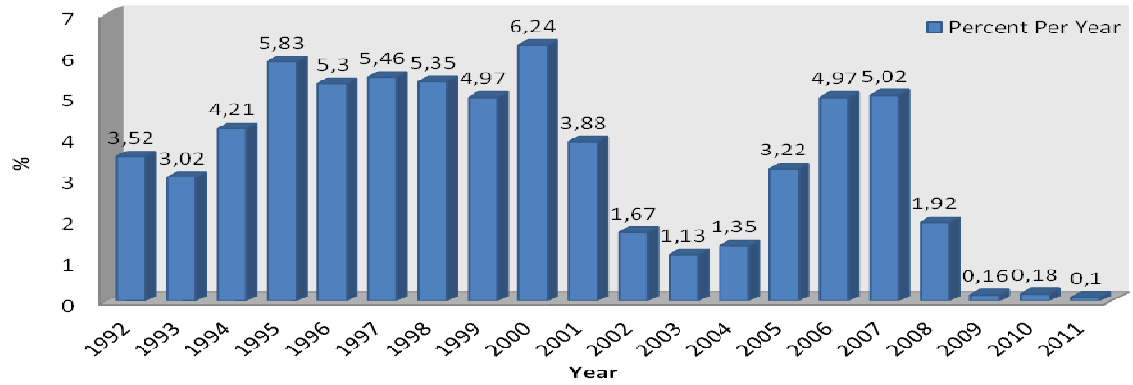
Source: Fxsteet
Note: The USD Index measures the performance of the US Dollar against a basket of currencies: EUR, JPY, GBP, CAD, CHF and SEK.

Appendix 5 The Rate of Subprime ARMs in Foreclosure



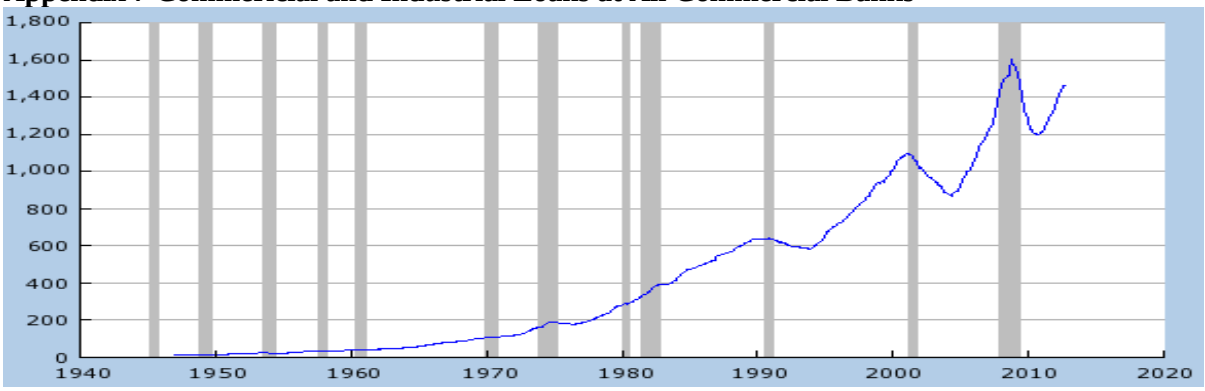
Source: Federal Deposit Insurance Corporation, 2008
Note:FHA = Federal Housing Administation; VA = Department of Vetarans Affairs; Data are not seasonally adjusted
Hyperlink: http://www.fdic.gov/regulations/examinations/supervisory/insights/sisum08/article01_Hybrid.html

Appendix 6 Federal Funds Rate (effective) January 1992 to December 2011



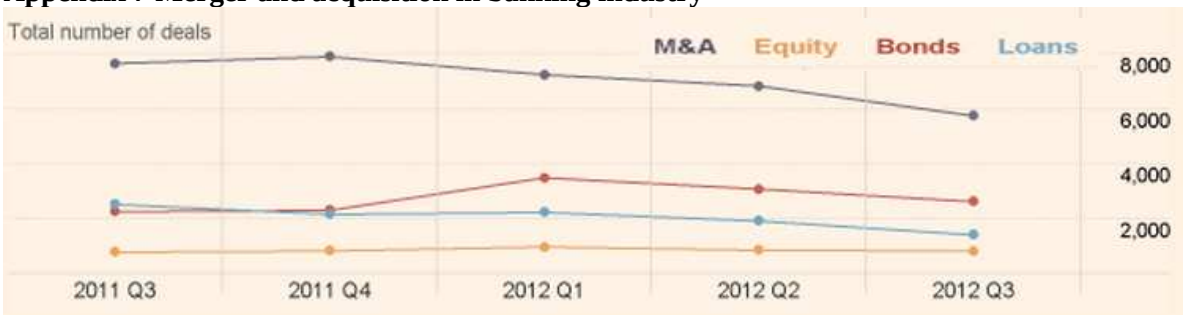
Source: FED, 2011, own processing

Appendix 7 Commericial and Industrial Loans at All Commercial Banks



Source: Board of governors of the Federal Reserve System, 2012
Hyperlink: http://research.stlouisfed.org/fred2/graph/?s[1][id]=BUSLOANS

Appendix 7 Merger and acquisition in banking industry



Source: Financial Times, 2012
Hyperlink: http://markets.ft.com/investmentBanking/tablesAndTrends.asp

Appendix 8 Share of group of banks in Czech Republic from 2009 to 2011

	31.12.2009	31.12.2010	31.12.2011
Total Assets			
large banks	57,68	58,05	57,25
medium banks	13,58	13,08	16,28
small banks	5,45	6,35	4,34
branches of foreign banks	12,13	11,29	11,49
Gross credits			
large banks	52,15	50,46	51,48
medium banks	19,31	19,67	23,12
small banks	7,11	8,35	5,36
branches of foreign banks	8,65	7,97	7,32
Total Deposits			
large banks	60,85	59,99	59,52
medium banks	9,86	9,34	11,25
small banks	4,11	5,09	4,46
branches of foreign banks	9,64	10,10	9,87

Source: CNB;2012, own processing