Global Journal of Management and Business Research: C Finance
Volume 17 Issue 2 Version 1.0 Year 2017
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

The Extent to Which Financial Crises Are Occasional and the Role of Collateralised Derivatives in the Global Financial Crisis

By Stanyo Dinov

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GJMBR-C Classification: *JEL Code: F65*

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I. Introduction and Purpose

In the following paper, it is investigated whether financial crises (FCs) follow are depended pattern on certain factors. In this regard, attention is paid to the reasons for the FC of 2007/8 and to events and changes inevitable in the modern market system. Representing the facts of the last global financial crisis and comparing some of the past FCs with the most recent one, the article tries to outline factors and characteristics which lead to the outbreak of the FC. The most important conclusions and new regulatory proposals will be outlined at the end.

II. Financial Crises, Dependency and Factors Causing Them

FCs are common in market economies, and relatively frequent.[1] They are the norm in emerging and advanced industrial economies. FCs are a commonplace and creatures of habit.[2] Most of the industrial western societies were troubled by cycles of FCs during the last century.

Author: *e-mail: stdinov@abv.bg.*

[1] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 29.
[2] Roubini N. and Mihm S., *Crisis Economics*, (London 2010), 4, 16.

a) *Definition*

There is no exact definition of a FC. FCs are defined in different ways, nevertheless all the definitions include common *inherent* features. FC can be determined as a ´disturbance to financial markets associated typically with falling assets prices and insolvency among debtors and intermediaries, which spreads through the financial system, disturbing the market's capacity to allocate capital within the economy´.[3]

A FC in its pure form is an exit from bank debt.[4] Such an exit can lead to a massive deleveraging of the financial system. It is not the asset side of banks which is the problem, but the liability side.

After all, financial systems are built on belief.[5] Therefore, financial intermediaries cannot possibly honor these short-term debt obligations if they are withdrawn or not renewed.[6] Consequently, when the whole bank-system cannot honor its contractual demands, it is a systemic problem.[7] In an international FC, disturbances spread over national borders, disrupting the market's capacity to allocate capital internationally.[8]

b) *Past financial crises*

FCs have always been with the market oriented economies. FCs predate the rise of capitalism and have a particular relation to it, as it gives them its their vitality of innovation, power and tolerance for risk.[9] Under the system of modern markets should be understood the free market economic model formulated by Adam Smith that countered the existing mercantilism. 'No regulation of commerce can increase the quantity of industry in any

[3] Eichengreen, B. and Poters R., *The Anatomy of Financial Crises*, (Stockholm 1987), 2. The authors differentiate between generalized FCs on the one hand and asset-market linkages among bank failures, debt defaults and foreign-exchange market disturbances on the other.
[4] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 5.
[5] Geithner F. Timothy, *Stress Test, Reflection on Financial Crises*, (London 2014), 7. "That's why the word *credit* is derived from the Latin for *believe*, why we say we can ´bank´ on things we believe true and why financial institutions often call themselves ´trusts´. (…) But when people lost confidence in a bank, … the result was a run on the bank (…). A FC is a bank run writ large, a run on an entire financial system."
[6] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 5.
[7] Ibid.
[8] Ibid.
[9] Roubini N and Mihm S, *Crisis Economics*,(London 2010), 4.

society beyond what its capital can maintain.'[10] Nevertheless, it is idealistic to assume that markets can be left to run by themselves without any regulation, assuming also that some of the Asian markets which are integral parts of the global market are driven by purposeful state interests.[11] The last FC confirmed the view oppositely of a market's self-regulation.

Examples of FCs producing horrendous losses and collapses are: the first global FC in 1825 and the panic in 1907; the 1929 stock market crash in New York and the Great Depression in the 1930s; the Third World Debt Crisis during the 1980s; the Asian Financial Crisis from 1997; the Russian crisis and the fall in stock market prices following the end of the technological 'bubble' in 2000 and the last global FC leading to a European debt crisis and a post crisis recession.

All these examples show that FCs have been a consistent part of the last century. FCs are not occasional, because there are particular reasons for their outbreak. Therefore, it is important that they are properly analysed. As the former British prime minister Gordon Brown said: 'If we do not understand fully the biggest economic shock of our generation we are destined to repeat its mistakes'.[12] For this purpose, in the following will closely explore the causes of the last global FC.

c) The global FC in 2007/8

As already mentioned FCs have the same root causes and therefore have something in common, however much each FC may have some different features. The last FC of 2007/8's special feature which distinguishes it from other FCs is financial innovation.[13]

The FC 2007/8 started with the collapse of liquidity on the US real estate market. It developed into a solvency crisis with the bankruptcy of Lehman Brothers in 2008, [14] and a dislocation in the market which resulted in a global recession in 2009.

There are many opinions and explanations about the causes of the FC. However, here will be assumed

Macroeconomic factors such as:

- Global finance imbalance with capital flowing from emerging to industrial countries;
- Long period of low interest rates and

Microeconomic factors, including:

- Massive accumulation of debt by companies and households unaware of the taken risk;[15]
- Rating agencies underestimating risk in order to make hefty fees by accessing the securitization;
- Trend of company policy to stimulate managers going over the allowed risk;
- Excessive innovation leading to overly complex financial products and opaque markets which undermined transparency leading to 'shadow banking';
- Mixing of super senior debts with bonds, securities and other low risk products and sending them overseas with high credit rating;[16]
- Lack of existing appropriate market legislation and regulation.

All these factors played a crucial role as causes of the crisis, yet, in this paper particular attention will be given to the role of the new derivative products such as

[10] Smith A, *An inquiry into the nature and the causes of the wealth of nations*, (Oxford 2005), 361.

[11] South Korea as well as China among others are good examples where the whole state consolidates its power with the goal to create a strong market and economy.

[12] Brown, *Beyond the Crash*, (London 2010), vii.

[13] Cf. Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 30; Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 67. The innovation was heralded as a significant step in the direction of financial democracy, given the miserly returns available on bank accounts. However, later after the FC, the view was completely different.

[14] Before Lehman Brothers, Bear Sterns, the seventeen-largest US-bank was completely enmeshed in the fabric of the system. It had borrowed about $ 80 billion in the tri-party repo market. About a third of the bank's repo was collateral in the form of mortgage securities and it had 750,000 open derivatives contract. The bank was saved from insolvency through purchase by JPMorgan Chase.

[15] Cf. Valdez S and Molyneux P, *An introduction to global financial markets*, 7th edn., (London 2013), 276f. Gorton, G. B., *Misunderstanding* Financial Crises, Why we Don't See Them Coming, (Oxford 2012), 63ff, 67; Dewey, David Rich, (New York 1918), *Financial History of the United States*; Geithner F. Timothy, *Stress Test, Reflection on Financial Crises*, (London 2014), 107, 110. Four of sixty million American homeowners with mortgages had fallen behind on their payments. A further ten to fifteen million households were encumbered with mortgages debts that now exceed the value of their homes. Between 1985 and 2008, in the United States, the borrowing in the household sector had risen from 50% to about 95%. In the financial sector, mortgage-related securities also grew enormously. As of 1980, the amount of mortgages-related securities per capita was $ 487,78, in 2006 it was $ 25,839. This presents two trends. Firstly, more and more people were getting mortgages. Secondly, more and more mortgages were being financed through mortgage-backed securities insurance, rather than by banks holding the mortgages on their balance sheets. The trend also shows the combined effect of the credit boom in mortgages and a financial innovation used to facilitate the credit creation. See also Geithner F. Timothy, *Stress Test, Reflection on Financial Crises*, (London 2014), 150. Everyone could see there was ´froth´ in some housing markets, as Greenspan put it. Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 316; To some extend the US real estate boom can be compared to the boom of sales in public land prior to the panic of 1837. In 1836, eight times more land was sold than in 1832. Borrowers found ready accommodation at local banks, and with their purchases from the land receiver; the purchase money in many instances was thereupon re-deposited by the government in the bank whence it came, where it once more served as a loan to another or even the same land speculator. These local banks and the government surplus thus become involved in a common network of credits; banks were established to meet this temporary demand, so that the lender leaned upon the borrower. Contemporary observers noted the growth of bank credit.

[16] Brown G, *Beyond the Crash*, (London 2010), 53. Half of the US securities assets, including mortgage backed securities were send to European banks.

credit default swaps (CDSs) introduced by JP Morgan Chase in 1994.

The lowered interest rates in the USA fuelled a credit boom attracting many people to invest in the property market by taking cheap loans. In fact, Word War II made possible the whole transformation of the world's financial system with the new post-war economic order created at Brett on Woods.[17] The breakdown of the Brett on Woods system,[18] with the replacement of the gold standard with a floating currency system led to the start of a new phenomenon, financial innovation[19] and, in particular, derivatives.[20] All raw materials and commodities influencing a currency moderate in the future and the derivatives valued them. Actually, the FC in 2007/8 can be described as a derivative crisis on mortgages loans on the US real estate market. Derivatives were invented in the 1970s and they boomed, with the opportunity to apply them to a loan in order to diversify the risk. The danger of the derivatives trading was that they created wider systematic risk.[21] Nobody was able to predict the market development. CDOs were created from economic models based on positive market development.[22] According to the International Swaps and Derivative Association (ISDA), by 2005, the value of CDOs exceeded $ 1,5 trillion by one estimate.[23] They were a novelty. A few experts in this area have knowledge about them and they are not reluctant to talk about it.[24] They were non-transparent and the buyer as well as the broker had no idea how this product would be transformed and where it would finally land. Derivatives had a commercial boom, however, they have been criticised for the risk of losses using leverage or borrowing, as well as for not working smoothly.[25] The American investor Warren Buffett compared them in his Berkshire Hathaway annual report in 2002 to investors as: 'time bombs, both for the parties that deal in them and for the economic system', 'financial weapons of mass destruction', 'with mind-boggling complexity', depending on creditworthiness, that, while now latent, are potentially lethal' sent from the bankrupt energy company Enron for many years into the future rather being kept on their books'.[26]

The Asian crisis in 1997 highlighted the problem with CDOs. A lot of capital flooded from Asia to the USA and financed the huge US current account deficit, fuelling excessive demand for credit and mortgage loans.[27] This capital was repackaged later into mortgage-backed securities and other credit derivatives like CDOs[28] and sent to investors outside the USA, who were attracted by the high yields of these structured products in the blind faith that the underlying parties had AAA credit ratings.[29] The American Commodity Futures Modernization Act 2000 (CFMA) contributed to the whole process as it eliminated federal and state regulatory oversight of financial derivatives and enabled the process of their placement.[30] In 2003 the Bank of International Settlement (BIS) warned that not all

[17] Roubini N and Mihm S, *Crisis Economics*, (London 2010), 25.

[18] The Bretton Woods agreement replaced the existed international gold standard fixed to the GBP with a new currency standard. All national currencies become fixed to the US dollar. Its value was ecuate to 35 ounce gold.

[19] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, 132. Financial innovation includes General Collateral Finance (GCF) repo by the Depository Trust and Clearing Corporation (DTCC). The innovation mostly hidden from the public eye, are part of long history of innovation, including the development of checks, clearinghouses clearinghouse loan certificates, electronic registration of securities, and the development of safe and efficient payment and settlement systems.

[20] Roberts R, *Inside International Finance*, (London 1999), 27.

[21] Tett G, *Fool's Gold*, (London 2012), 43.

[22] In paticulr: CDS.

[23] Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 76. In truth no one really know. The value of CDOs outstanding, much less who held them. One survey conducted by the ISDA suggested that there were $ 17 trillion of CDSs outstanding in 2005.

[24] Tett G, *Fool's Gold*, (London 2012), xiiif.

[25] Cf. *Deutsche Bank AG v ANZ Banking Group Ltd* 2000 WL 1151384; *Peregrine Fixed Income Ltd* (In Liquidation) v *Robinson Department Store Plc* [2000] CLC 1328.

[26] See http://www.berkshirehathaway.com/2002ar/2002ar.pdf, 13, accessed 26 January 2015.

[27] Cf. Bank of India, *Asia and the Subprime Crises*, <http://www.rbi.org.in/scripts/bs_viewcontent.aspx?Id=2250> accessed 23 January 2015; Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 86. The Alan Greenspan's rebuttal (2009) to Taylor's indictment that loose Fed policy with low interest rate in 2003/04 had caused the housing bubble, was that there was a ´tectonic shift´ in China and other parts of the developing world from central planning to market-led growth.

[28] Credit default swaps or super senior swaps protecting depositors and eliminating potential deposit insurance.

[29] Bank of India, *Asia and the Subprime Crises*, <http://www.rbi.org.in/scripts/bs_viewcontent.aspx?Id=2250> accessed 23 January 2015.

[30] Cf. Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 70ff. CFMA relieved issuers of CDSs from having to hold reserves against the possibility that they would have to make payments to purchases of those instruments. CDSs had been designed to allow investors in mortgages-backed securities to insure themselves against default on the mortgages in the underlying pool. Interestingly, the CFMA and the Riegle-Neal, Gramm-Leach-Bliley Act 1999 (GLB) were all signed into law by a president affiliated with a party that had once, but no longer, opposed deregulation of the financial sector - the same party that was responsible during the presidency of Franklin Delano Roosevelt for putting in place the elements of modern financial regulation. The legislation issued during the presidency of F.D. Roosevelt after the Great Depression and within 100 days, the Glass-Steagall Act changed four special provisions of the Banking Act 1933 and separated the investment banking of commercial banking and prevented deposit-taking commercial banks from engaging in security and insurance underwriting. The Act was euthanized by GLB, which repealed residual restrictions on combining commercial, investment banking and insurances. Also in 1933, the Fed adopted ´Regulation Q´, prohibiting banks from paying interest on demand deposits. The contemporary perception was excessive competition for funds on the part of commercial banks had driven up the cost of attracting demand deposits and encouraged the banks in risky investments, contributing to the crisis. In addition, Regulation Q was seen as a means of enabling community banks to compete for deposits and lend to their local communities.

financial innovations were good.[31] Up to the time of the 2007 FC there were no existing regulations to control the issue of derivatives.[32] However, the instruments were attractive for investors because they were exotic, complex, illiquid and profit-promising. The securitisation of the loans achieved a bizarre level of complexity. [33] Basel I and II did not anticipate securitizing assets.[34] CDOs were combined with other CDOs to reduplicate triple, square cube many times, so that it was difficult to value them by conventional means and only mathematical models were able to value them on the bases of optimistic assumptions minimizing the measured risk.[35] Thanks to securitisation, the credit risk was transferred from retail to investment banks, then, combined with other financial instruments, it was spread around the globe.[36] Via structured investment vehicles (SIVs), the CDSs were diversified, extending bank credits.

Two points were emphasized and repeated by the last FC. The first is its scale; it included a large part of the banking system, basically: investment banks. Therefore, the crisis was called ´systemic´.[37] Second, the bank liability holders demanded cash, rather than holding the bank debt. Because of that, a large amount of short-term bank debt was turned in for cash at the same time.[38]

In comparison with the crisis in 1980 when some banks went bankrupt, because they were not able to share the credit risk, in 2007 the credit risk was widely dispersed.[39] For that reason, the chairman of the Federal Reserve (Fed) Ben Bernanke[40] and his predecessor Alan Greenspan hoped that any 'attendant price fall' would not lead to financial collapse because the 'blow would be softened by financial innovation'.[41] In reality, the bubble was stimulated by financial innovation.[42] The transformation of credit risk in the future had created 'shadow banking',[43] enabling banks to keep the SIVs, not showing them on the official balance sheets until the crisis forced banks to acknowledge their losses.[44] The potential danger of the derivatives in 2000 was not so obvious, not only to politicians but for regulators too.

In 1998, Brooksley Born, the chairwoman of the US Commodity Futures Trading Commission (CFTC), floated the idea of regulating private OTC-derivatives, customized deals that are not posted on public exchanges, however, all the other US regulators and the Treasury were deeply concerned that this plan could create dangerous legal uncertainties about trillion of

[31] Tett G, *Fool's Gold*, (London 2012), 179.
[32] Tett G, *Fool's Gold*, (London 2012), 70.
[33] Cf. Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 47, 50, 63, 129, 190; Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 75, 171. **Securitization** involves financing loans by selling them. Since a loan or mortgage is a legal commitment of the borrower to repay the loan over some years, the loan contract is a legal commitment of cash coming in over a future period. Rather than holding mortgage, student, auto or corporate loans on their balance sheets, where they had to be funded, banks pooled their loans and transformed them into securities and sold them to other investors. The pool was split into tranches, with the senior tranche receiving a first claim on the cash claim from the underlying loans. The junior tranches received payment after the senior tranch. The subsequent payments were referred to as the ´cash-flow waterfall´. The façade of security allowed the senior tranche to obtain AAA rating and to be sold off to pension funds and insurance companies. The resulting securities were known as collateral debt obligations (CDOs). Securitization meets the need for **collateral**, which often took the form of asset-backed securities. Collateral can be used to back repo and asset-backed commercial paper (ABCP). Therefore, one kind of long-term debt, asset-backed securities (ABSs) becomes the backing for the short term debt. Money must be backed with collateral that is riskless, o near riskless, to minimize the problem of suspicion that someone will think that other party have information about the market, and can take advantage of it.Prior to the crisis, there was a shortage of collateral, which was needed for purposes of mitigating counterparty risk in **derivatives** for clearing and settlement systems, and for repo. Securitization also create high debt that is used as collateral. Since 1980, securitization has become an enormous banking activity. In the United States during the FC 2007/8, securitization funded between 30% and 75% of lending in various consumer lending markets and around 64% of outstanding home mortgages. In total, securitization provided over 25% of outstanding consumer credits.
[34] Roubini N and Mihm S, *Crisis Economics*, (London 2010), 204f. This failure led to Basel II, but Basel II did not protect major banks from the kind of disruption that attend a major FCs, because it assumed that the financial system was more stable that it actually was. First, banks needed more high-quality capital. Second, the capital buffer established for the banks was not enough to shelter them from the shock delivered by the housing bust and the credit crisis. Third, the quality of the capital defined by Tier I and Tier II could deteriorate significantly in time of crisis. Rather than relying on a Tier I definition the bank capital might be measured as a Tangible Common Equity (TCE).
[35] Roubini N and Mihm S, *Crisis Economics*, (London 2010), 33f.
[36] Roubini N and Mihm S, *Crisis Economics*, (London 2010), 34.
[37] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 33, 45. There were 124 systemic crises around the word from 1970 to 2007. Banks and bank debt were at the root of every one of them.
[38] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 33.
[39] Tett G, *Fool's Gold*, (London 2012), 179.
[40] Cf. Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 1; Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, 148. Lehman Brothers was allowed to fail. `Bernanke maintained that Lehman did not have the collateral to justify a loan from the Fed of sufficient size to save them.` However, "during a crisis it is very hard, even impossible, to determine the value of assets. (…) Until `Lehman's failure many economists and regulators said during the crisis that a big bank must be allowed to fail. No one admits this now.`
[41] Tett G, *Fool's Gold*, (London 2012), 179.
[42] Roubini N and Mihm S, *Crisis Economics*, (London 2010), 17.
[43] Geithner F. Timothy, *Stress Test, reflection of Financial crises*, (London 2014), 82. The tremendous growth in financial sector credit between 1995 and 2007 was almost entirely outside the traditional banking system which lead to the rise in ´shadow banking´.
[44] Cf. Roubini N and Mihm S, *Crisis Economics*, (London 2010); Tett, *Fool's Gold*, (London 2012), 116. SIVs were not mentioned in the official reports of the Bank of England or the Financial Services Authority (FSA).

dollars of existing derivative contracts and precipitate a financial chaos.[45]

In addition, as stated above, the Basel II rules obliged banks to set aside 8% of their assets in order to guarantee potential losses. Nevertheless, the capital reserves were set against a small portion of the banks' true exposure, because much of the risk was tucked into shadow banks and only measured by very narrow and flattering tools.[46] As a result, as the first signal of the crisis, with the fall of German IKB, bank politicians and regulators could not really understand what had happened.[47] The crisis was sudden and invisible,[48] because most banks had not declared their losses of toxic or distressed assets, hoping up to the end that something would happen. In this regard, the UK prime minister Gordon Brown offered to recapitalise the banks only after a declaration of their losses.[49]

The crisis became significantly more serious in 2008 following the difficulties experienced at the US Government Sponsored Entities (GSEs) Fannie Mae and Freddie Mac, which were put into conservatorship. In all, of the twenty-five largest US financial institutions at the start of 2008, thirteen either failed (Lehman, Wa Mu), received governmental help to avoid bankruptcy (Fannie, Freddie, AIG, Citi. Bo sfA), merged to avoid insolvency (Countrywide, Bear, Merril, Wachovia), or transformed their business structure to avoid failure (Morgan Stanley, Goldman).[50] The US authorities supported American International Group (AIG), but decided to force Lehman Brothers into liquidation. The failure of Lehman led to massive instability in global stock markets.

The UK government first announced a three-stage plan including: market liquidity, wholesale market guarantees and recapitalisation. Similar to the UK and the USA, most European countries announced financial packages supporting the affected banks.[51] The ECB put 700 billion Euros through the Target II system for more liquidity and assistance for the indebted member states which caused outraged from others, because this way the ECB tolerated misconduct from vulnerable states, monetized their debt and endangered the whole system.[52]

On the whole, the response to the FC was similar. The German measures to save IKB were similar to those of the Japanese government in the Asian crisis of 1990. The US idea to create a superfund: 'Master Liquidity Enhancement Conduit' or 'bad banks' to buy SIVs, [53] the nationalisation of banks and insurance corporations and financial packages, was followed in Europe as well. Europe conducted additional reforms for centralised finance supervision and resolution via the ECB. Nevertheless, in the USA there was additional support for the banks and industry in order to overcome the post-crisis recession;[54] in Europe, with the exception of the UK, this was not the case.[55]

d) Common factors stimulating financial crises

It is assumed that FCs can arise when firms fail to manage their risk effectively, or some other source of

[45] Geithner F. Timothy, *Stress Test, Reflection on Financial Crises*, (London 2014), 86.
[46] Tett G, *Fool's Gold*, (London 2012), 191.
[47] Tett G, *Fool's Gold*, (London 2012), 191.
[48] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), viii. The economists and bank regulators did not see the possibility of a systemic crisis. They did not see how capital markets and the banking system had evolved in the last thirty years and they did not know of the existence of new financial instruments or the size of certain money markets, like sale and repurchase market.
[49] Brown G, *Beyond the Crash*, (London 2010), xix, 31.
[50] Geithner F. Timothy, *Stress Test, reflection of Financial crises*, (London 2014), 255f. The stock market also dropped 40% from its peak in 2007.
[51] Cf. Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 8, 63, 92, 136, 285f.; Dinov S., *Maßnahmen gegen die Schuldenkrise in Europa und die Finanzkrisen in Deutschland und Japan*, JSE № 4, 2013, 440, 444f. In contrast to the catastrophe in 1930, where Central Banks were blamed for not intervening as a Lender of Last Resort (LLR), in FC 2007/8 they did the opposite, however with controversial repercussions. On November 25, 2008, in response to evidence of distress in securitization markets, the Fed announced it would purchases up to $ 100 billion of direct obligation of Fannie Mae, Freddie Mac, and the Federal Home Loan Banks and $ 500 billion of their mortgage-backed securities with the goal to restarting mortgage and housing markets. Nonetheless, lending directly to hedge funds reflected a delayed recognition, following Lehman's failure, of the importance of the shadow banking system. And if the Fed was reluctant to do more, the ECB was anxious to do less. The ECB pumped € 700 billion through the Target-2 system in order to compensate debts of some member states. The balance sum reached € 3 trillion, on March 12, 2012. The restrictions of Article 123 ESCB-Statute which prohibits the purchase of newly issued government bonds, had to be circumvented in 2011/12 and the Bank of France might have done the same. The ECB agreed to buy bonds only on secondary markets and only of countries that had agreed to a programme with the European Stability Mechanism (ESM). And what was problematic politically was problematic economically. The FC and the Great Recession opened the debate in Europe, if the monetary union as well as the banking, fiscal and capital market union could proceed without a political union. The EU construct is still incomplete. A smoothly functioning monetary union requires an interstate system of taxes and transfers. A single currency and single market requires a single regulator. Robert Halver, *Brexit – Hard und Schmutzig*, <https://www.linkedin.com/pulse/brexit-hart-und-schmutzig-halver-robert>, accessed 29 January 2017. To support the free monetary policy, the ECB engaged its autopilots – the purchases of bonds until the end of 2017.
[52] Dinov S., *Maßnahmen gegen die Schuldenkrise in Europa und die Finanzkrisen in Deutschland und Japan*, JSE № 4, 2013, 440. The EU-member states with high budget deficits used this refinancing in order to issue more governmental bonds.
[53] However, European superfunds and bad banks were supported with governmental help, whereas in the USA, this had to be done by private banks.
[54] Such as TARP, Public Private Investment Programme (PPIP) and HARP-programmes. HARP reduced the mortgage payments of 3 to 4 million homeowners
[55] Here, the ECB policy of years-long low Euro interest rate for support of the Greece budget deficit, is not considered, along with the Greek bail out. See Geithner F. Timothy, *Stress Test, Reflection on Financial Crises*, (London 2014), 447. As the German Chancellor Merkel told the US president and Treasury secretary ´ we won´t do a Lehman`.

external instability occurs and the operation of a particular sector, market or the system is disrupted. This is distinct from more general market volatility or specific scandals which affect a particular firm. FCs are influenced from market-internal and external factors which lead to the banks' illiquidity. By comparing past FCs with the last one, there can be found some similarities, such as: savings imbalances (the FCs in 1929 and in 2007); rapid growth in bank loans (the FC in 1929, the collapse of Brett on Woods, the technological 'bubble' in 2000; the last FC); hazard eagerness or speculative boom presented by all FCs; deficiency of confidence between the market players and bank/customer; lack of appropriate regulation; timely support from the Central Banks as a lender of last resort,[56] refusing government bail outs.[57]

A common external factor of every FCs is a panic. Panics happen when information arrives about coming recessions.[58] It is the fact that there are potential problems that can cause a run.[59] For example, in the UK 'the institutional run which comes from the social media belief that the financial system is not safe, caused some UK banks to become bankrupt despite having credit, such as the Royal Bank of Scotland'.

III. Events and Continuities Which Influence the Financial Market System

These days a new regulatory agenda based on complex financial relations is emerging. It faces a growing need to protect the continuing stability of financial markets within an increasingly single integrated and interdependent global marketplace. As an open place, giving commercial initiative for many players under equal conditions, the markets are vulnerable in many predictable and unpredictable ways.

There are two main goals which the financial system has to ensure. Its primary goal is to guarantee stability and confidence in the system; its further objective is to protect investors.

Because financial markets are connected to each other the instability, events and crises in one place reflect on others and therefore, it is necessary to foresee the systemic risk. In this regard, economic and financial dependency obligates the industrial and the emerging countries to work together by solving financial challenges, or to put it in other words: 'global problems need global solutions'[60].

There is an undisputed fact that stability builds confidence.[61] However, the events of the last FCs are too close to the picture which Hyman Minsky drafted 50 years ago in his economic analysis about developments of financial markets.[62] He predicted the increase of debt in the private sector and the development of financial innovation which would avoid regulation. Financial markets today have become too vulnerable and fragile. The market stability has been destabilised. Via the much greater participation of national governments and central banks in assuring that the financial system will not degenerate, societies today get too quickly out of FCs,[63] without learning their lesson from the previous ones.

Political instability or terrorism influence the market system negatively. Financial markets have been at any time related to the exchange of goods, raw materials, currency, securities and, since 1849 (invented by the Chicago Board of Trade), with derivatives. The products change their value constantly considering different circumstances. The complexity of financial derivatives, for instance, could, via their supply and demand, cause artificial increase or decrease on the price of certain raw materials and therefore affect some national economies.

An issue related inevitably with the modern financial market system is the Janus-faced question about to what extent the market should be regulated. As the last FC showed, regulation has been a step behind financial innovation. The opinions of derivatives

[56] Paul K, *Managing Extreme Financial Risk*, (London 2014), 9, Credit policy function of the Central Banks used to be a shield against extreme risk when credit was the primary financial risk for financial institutions.

[57] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 81f. Looking back to the financial crises' history of 1932, it could be seen that „the Federal Reserve's discount window is not effective during crises. Individual banks simply do not want to step up to the window, because this is taken as a sign of weakness." By the last FC in the United States, the nine biggest banks were forced by the US Treasury Secretary Hank Paulson to take the bail-out or money from the Troubled Asset Relief Program (TRAP). In the FC 2007/8, one study showed that banks were willing to pay thirty-seven basis points more than the discount rate to avoid using the discount window.

[58] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 5. "Panics are not irrational events.

[59] Ibid., 6f. Whatever the form of the bank money, FCs are en masse demands by holders of bank debt for cash - panics. The FC of 2007-8 was also a bank run, but it was not people who ran to their banks but firms running in investment banks.

[60] Brown G, *Beyond the Crash*, (London 2010), vii.

[61] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 9. Yet in the early nineteenth century a policy evolved of not liquidating the banking system during the FC. In the case *Livingston v. The Bank of New York*, the courtclarified that in times of crisis, bank debt should not be enforced, and banks should not be forced into insolvency.

[62] Kinderber Charles/Aliber Robert Z., *History of financial crises*, 33, (New Jercy 2005). Hyman Minsky saw cycles in economic development and financial crises. Nevertheless, such a cyclical model of crises has the disadvantage that every crisis is for itself unique and there are changes in the environment and business conditions. The panic of 1929 did not know about CDOs, asset-backed commercial paper and other complexities of twenty-first-century finance. In addition, an asset price bubble is highly improbable, because ´all the information is in the price´.

[63] Minsky H, *The Financial Instability Hypothesis*, <http://www.levyinstitute.org/pubs/wp74.pdf>, 5, accessed 29 January 2017.

regulation and the preoccupation that the market has 'the self-halting power' itself had been confronted to each other.[64] In the end, the last view prevailed and the banks were allowed to reduce their capital reserve, where the potential losses of the derivatives should be covered from the profit at the end.[65] This economic orthodoxy was proving irrelevant, because the market seemed intent not on self-correction but on self-destruction.[66] Sale and repurchase agreements,[67] commercial paper,[68] and prime broker[69] balances were run on.[70]

Later, during the climax of the crisis, the banks did not lent credit to each other because they did not trust each other,[71] or because they needed the financial resources for themselves. So called 'free-market fundamentalism' made regulators in the USA, including the Fed, unaware and wilfully ignorant and circumvent the real dangers.[72] The final result was a refutation of free market logic, replaced by 'socialist banking' in the form of banks' nationalisation.

Until the Great Depression, most economists clung to a vision of capitalism as a perfect or nearly perfect system.[73] The years between 1934 and 2007 demonstrated a ´Quiet Period´[74] or as macroeconomists called it, ´the Great Moderation`, where properly designed bank regulators could prevent financial crises for a significant period of time until innovation and change necessitated their redesign.[75]

FCs are an internal part of business circles.[76] As the economy nears a business-cycle peak it is weak, and maybe there are imminent problems with banks.[77] Therefore, to some extent, financial crises can be intense scrutiny and manage.[78]

In this regard, high yield opportunities without any specific regulation are attractive to some extent, but they cannot be considered a panacea for advanced modern markets where the credit guarantees play a vital political role. On the other hand, however, an overregulated market loses its appealing power for investors and for the industry.[79]

It is therefore, a matter of political sensibility where the balance should be. There is no doubt, that a free room for commercial activities should be left. To some degree, financial markets could be regulated through private contractual law and additionally be protected from macro prudential risks via public law.

[64] Cf. Tett G, *Fool's Gold*, (London 2012), 36, 45; Geithner F. Timothy, *Stress Test, reflection of Financial crises*, (London 2014), 85. Greenspan did have an almost theological belief that markets were rational and efficient, as well as deep scepticism that government supervision and regulation could make them safer.

[65] Tett G, *Fool's Gold*, (London 2012), 36, 45.

[66] Brown G, *Beyond the Crash*, (London 2010), xix.

[67] Repurchase agreements (repos) are like demand deposits. One party deposits (lends) money in a bank, usually overnight, and will receive interest. To make the deposit safe, the depositor is provided with collateral in the form of a bond.

[68] Commercial paper is short-term debt issued by firms, but also by asset-backed commercial paper conduits, managed vehicles that buy asset-backed securities (bonds backed by pools of loans) using commercial paper.

[69] Prime brokerage is a type of banking provided to hedge funds and other large investors. Prime brokers are typically large banks that clear trades that provide leverage, and issue credit lines to hedge funds and other investors.

[70] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 32, 38f.

[71] Ibid. Banks suspend convertibility, they do not pay out cash. Firms tried to sell assets to raise the cash that was needed to repay repo deposits. But doing so, they drove asset prices down and eventually the Fed had to buy assets and the U.S. Congress passed the Emergency Economic Stabilisation Act of 2008 with an allocation of $ 700 billion for the TARP programme to bail out firms.

[72] Roubini N. and Mihm S., *Crisis Economics*, (London 2010), 32.

[73] See in Gorton, G. B., *Misunderstanding* Financial Crises, Why we Don't See Them Coming, (Oxford 2012), ix, Krugman, Paul, 2009 *How Did Economists Get It So Wrong?*, Ney York Times, September 6. The economists mistook beauty, clad in impressive-looking mathematics, for truth. That vision was not successful in the face of mass unemployment. The memories of the Depression faded, economists fell back in love with the old, idealized vision of an economy in which rational individuals interact in perfect markets

[74] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 4. However, the period is a counterexample to the widespread view that governments cannot help but cause problems. In the UK, taking advantage of the freedom conferred by Margaret Thatcher's big-bang financial reforms, Northern Rock followed the example of building societies like Abbey National and the Halifax, converting itself into abank and enabling management to float shares on the London Stock Exchange. The bank borrowed money from the Central Bank System and landed them high and promised huge interest rates using the predictable increase in the real estate prices in the UK.

[75] Cf. Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 4; Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 73. The shares of the financial-services industry in GDP doubled from 4% in 1970 to 8,3% in 2006. It can be seen as the financial sector reasserting its role in helping to allocate resources in a complex modern economy. But the remainder, and especially the breakneck financialization of the years leading to the crisis, is not adequately explained by standard models of the efficiency advantages of a well-functioning financial sector. Moreover, the growth of the sector was financed not with equity - not by banks raising more capital - but with debt. The debt was incurred by borrowing for a fixed, usually short term from corporations, mutual funds, state and municipal governments, government agencies, and other banks. Large banks have the best access to this wholesale market. Having diversified their business and invested in internal controls, they could argue that they were in the best position to manage the risk of relying on borrowed funds. Large investment banks such as the Big Five (Merrill Lynch, Bear Stearns, Morgan Stanley, Lehman Brothers and Goldman Sachs) were also in the best position to create SPVs used to shift risky assets off their balance sheet, minimizing the amount of capital the parent institution had to raise. They were further incentivized to reduce capital ratios and increase their leverage by the knowledge that they are systemically significant. Because they are too big and too important to fail, they were apt to be bailed out in the event of trouble. This encouraged them to take on additional leverage and risk.

[76] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 74.

[77] Ibid.

[78] Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 178f.

[79] Smith A, *An inquiry into the nature and the causes of the wealth of nations*, (Oxford 2005), 361.

IV. Conclusion

It has been shown that FCs follow the same script and are caused by similar events. Consequently, knowing the causes of FCs, it could be supposed that some FCs can be predicted,[80] because market economies have an *inherent* feature that can lead to financial crises if not checked.[81] Nevertheless, FCs can accrue suddenly, unpredictably, by different circumstances and ways,[82] despite the fact that the level of systemic fragility may be observable.

The impact of the last FC in comparison with the previous crises was wider and more drastic, due to the advanced technology and the process of globalisation. In this regard, regulations should develop and apply simple principles in order to avoid made mistakes.

There are suggestions about redesigning new bank regulation along with commercial and investment banks; new banks, called narrow funding banks (NFBs) should be created and those banks would not engage in any activity other than purchasing asset-backed securities, government and agency bonds.[83] The NFBs would not be allowed to take deposit but would have access to the discount window of the Fed.[84] The repo market would be regulated as well, without any restrictions regarding the amount that banks could engage in. On the other hand, there will be a limit on repo agreements for nonbanks. This system would place the government in an oversight role in the securitization and repo markets, and ensure that safety of the collateral for repo be observed.[85]

Such suggestions come from a critic to the Dodd-Frank bill, aiming to re-create confidence in the shadow banking system and stimulate economic growth. However, there is no exact formula which can guarantee bank efficiency and safety.

The oversight standard of a single country is not enough to prevent an FC and therefore an international cooperation in the form of the G 20, the Basel Committee or the IMF is necessary.

[80] Roubini N. and Mihm S., *Crisis Economics*, (London 2010), 4, 16.
[81] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 4.
[82] Paul K, *Managing Extreme Financial Risk*, (London 2014), 38. For instance, the Basel III countercyclical capital buffer is imperfect simply because economic crisis is beyond normality. A crisis is inherently unpredictable and nonlinear.
[83] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, 197f.
[84] Ibid.
[85] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, 198.