SPECULATIVE BUBBLES AND FINANCIAL CRISES

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Abstract

The speculative bubble can be defined as the trade in high volumes at prices that are considerably at variance with intrinsic values of certain assets. The burst of speculative bubble can cause financial crisis in specific form created by situation of investment process dysfunction, when investors looking for investment refuges and refuse usual investment opportunities. This phenomenon can be a substantial basis of liquidity crisis and general financial crisis. Therefore is very important for regulation authorities to take in to account the possibility of this type of crisis to elaborate specific measures to prevent and reduce the consequences.

Keywords: bubble, crisis, asset, price, factors

JEL classification: G11, G12, G15

Introduction

The term bubble in the economic sense is treated in the literature variously. According to Bill Conerly (2013), "a bubble is a run-up in the price of an asset that is not justified by the fundamental supply and demand factors for the asset that can occur in any traded commodity or financial instrument." From the other hand, Farlex Financial Dictionary (2012) treats bubble as a in which prices for securities, especially stocks, rise far above their actual value. This trend continues until investors realize just how far prices have risen, usually, but not always, resulting in a sharp decline. Bubbles usually occur when investors, for any number of reasons, believe that demand for the stocks will continue to rise or that the stocks will become profitable in short order. Both of these scenarios result in increased prices. (Farlex Financial Dictionary, 2012)

The literature demonstrates the existence of several types of bubbles (Pettinger, 2013): market bubble, commodity bubble, stock market bubble, credit bubbles, economic boom / bubble. Bubbles can occur in any traded commodity or financial instrument. Bill Conerly (2013) suggests a partial list of past bubbles:

- *Commodities*: gold, sugar, coffee, cotton, wheat
- *Debt:* various government bonds
- *Stocks:* South Sea Company, British East India Company, Dutch East India Company, various banks, railroad shares, conglomerates, new issues, high tech stocks
- *Real Estate:* Mines, raw land (France, Austria, Germany, Florida, Arizona), hotels, office buildings, single family homes, mines
- *Derivatives:* commodity futures, stock puts and calls, collateralized debt obligations, credit default swaps

In most cases the experts are willing to link financial crisis triggered a generalized type of bubbles. It is speculative bubbles, which in simple form can be designed as a speculative bubble is a social epidemic whose contagion is mediated by price movements. (Shiller, 2012) Also, the essence of speculative bubbles can be express by definition of Tejvan Pettinger (2013), who believe that it "typically refer to a situation where assets or financial instruments see a rapid increase in price – an increase in price which is driven by speculative demand and unsustainable in the long run."
From another point of view, speculative bubble is a spike in asset values within a particular industry, commodity, or asset class. A speculative bubble is usually caused by exaggerated

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expectations of future growth, price appreciation, or other events that could cause an increase in asset values. This drives trading volumes higher, and as more investors rally around the heightened expectation, buyers outnumber sellers, pushing prices beyond what an objective analysis of intrinsic value would suggest. (*Speculative bubble, n.d.*)

In the discussed context, it is interesting that some authors define speculative and financial bubbles interchangeably:

- financial bubbles are "movements in the price, apparently unjustified by information available at the time, taking the form of a rapid increase followed by a burst or at least a sharp decline". (Dimitriadi, 2004, p. 2627)
- a situation where there is a relatively high level of trading activity on a particular asset class at price levels that are significantly higher than their intrinsic values. (Gallant, 2009)

Also significant is the statement that a bubble occurs when certain investments are bid up to prices that are far too high to be sustainable in the long run.

Examples of Bubbles (Pettinger, 2013):

- *Tulip mania of 1630s.* When the price of tulips rose to over 500 times their previous price before collapsing when buyers stopped entering the market.
- *South Sea Bubble 1711-1720*. A company set up to profit from British trade with South America. The price of shares rose rapidly, but with the company failing to make any real profit, share prices collapsed in 1720 and returned to pre-issue levels.
- *1920s credit and housing bubble in U.S.* In the 1920s, there was a rapid growth of credit in the US. This financed a boom in house building and also a boom in the stock market. This rise in credit and share prices came to an abrupt end in 1929 with prices crashing.
- *Dot Com Bubble.* A rapid growth in the share value of internet shares in 1997-2000.
- *Credit bubble of 2000s*, which saw a rise in asset prices and bank lending.
- *2005-2009 housing bubble, which* is an economic bubble affecting many parts of the United States and other countries.
- *Bitcoin bubble* - the latest bubble created by Bitcoin - a digital currency that has increased in value by 900% over the last six months of 2013.

Studies of the concerned field show a specific range of the bubbles, which in general can be rational, intrinsic and contagious. (*Stock market bubble,* n.d.)

Rational bubbles are formed in the market value of the asset deviation from the fundamental value that the counter of the lack of arbitration.
A rational bubble implies a self confirmed belief that the price of an asset depends on the information that include variables or parameters that are not part of the fundamentals of the market.
The literature shows that if market fundamentals are economically interesting, it is expected that rational bubbles can be explosive and implosive. Further arguments based on existing literature shows that the trend of maximizing utility requires finite limits on asset prices and therefore opposes both explosive and implosive rational expectations of price developments, except implosion worth the money.
The theoretical analysis of rational bubbles expands in two directions.
The first demonstrates that although demand response to current stock of assets at the current price depends on fluctuations in the fundamental characteristics of the market. Such a response would explode or implode even faster a rational bubble. The rational bubble explosion or implosion is proof of the assumption that the stock of assets evolve independently.
The second, more important, shows that the present analysis examines the beginning of bubble rationally and shows that for reasonable bubble negative such as a bubble inflation sound to begin the formation of a positive rational bubbles, would also be likely positive. In particular, the absolute value of the initial set of potential negative rational bubble can not exceed the estimated initial potential positive rational bubble. This result dramatically expands the theoretical basis for the prevention of rational bubbles. In particular, from rational utility maximization rule is out deflationary bubbles and also contrary to the beginning of a rational inflationary bubble. (Behzad, Herschel, 1985, p. 16)
Intrinsic bubbles derived from exogenous economic fundamentals and none other factors. Unlike the most popular examples of rational bubbles, intrinsic bubbles provide a plausible account of deviations from the empirical evaluation based on present value. Their potential explanation comes

in part from their ability to generate persistent deviations that occur relatively stable over long periods. (Kenneth, Maurice, 1989, p. 3-19)

Contagious bubbles are formed on the markets of countries moving the markets of other countries.

The main objectives of the research in the bubbles were the following:

- Highlighting the essence of speculative bubbles;
- Detecting peculiarities of their swelling and break mechanisms;
- Demonstrating the link between speculative bubbles and financial crises.

Description of the problem

Speculative bubbles are considered temporary market conditions resulting from excessive demands on the market along with an unfounded increase in the price level of the market. Sensing a growing trend of prices, purchasing investors creates massive pressure in order to participate in market profitability. (*Bulele speculative* , n.d.) These bubbles are usually followed by rapid sales and prices when starting to decline. Generally a bubble grows slowly, moving gradually to the climax over a period of several years. After the bubble peaked prices begin to fall and panicked selling investors create massive pressures leading to a accelerated fall of market prices. Regarding stock markets financial analysts believe that stock is in a bubble when the stock rates affect the economy more than exchange rates affect the economy. This can be considered a common feature of all bubbles in history. Bubbles are a type of investment phenomenon that demonstrates the fragility of investor psychology. Investors put their hopes so high that they exceed the stock courses any rational reflection of the real value of those securities. Early that bubbles have no substance at some point they "bust" and the money invested in these shares is dissipated in the wind. (*Bulele speculative* , n.d.)

Using Minsky's concepts can be outlined five stages of a speculative bubble (*5 Steps Of A Bubble*, n.d.):

1. *Displacement:* This stage begins when investors become "lovers" of a new paradigm, and innovative new technology or interest rates that reached a historic low.
2. *Boom:* prices start to rise slowly at first due to the movement of investor interest. But gradually, the growth rate starts to rise, as more and more investors enter the market, thus establishing the conditions for creating the boom. During this phase, the asset becomes more and more attention in the media, which contributes to increase the number of interested investors. Appears then fear not rate players what they think is an opportunity that comes once in life, feeling that helps to increase even further the number of participants.
3. *Euphoria:* at this stage, any trace of caution is set aside so that asset price increases very much in a very short period. Theory of "biggest loser" is available here as possible. Prices start reaches ridiculous. During this phase, in order to be justified these astronomical prices, are thrown to the so-called new systems of measurement of value.
4. *Profit taking:* this stage begins even during the phase of euphoria. Thus, investors who foresee what will follow beginning to sell and collect huge profits. But estimating the exact time, the bubble will burst is extremely difficult and dangerous. This break could be caused by a minor event, but once produced this phenomenon is irreversible.
5. *Panic:* at this stage, prices start to come down as quickly as they rose. Investors and speculators, all, want to escape as quickly and at any price the assets, which were in love until recently. Offer growing rapidly, far exceeds demand, and the inevitable happens.

A basic characteristic of bubbles is the suspension of disbelief by most participants during the "bubble phase." There is a failure to recognize that regular market participants and other forms of traders are engaged in a speculative exercise which is not supported by previous valuation techniques. Also, bubbles are usually identified only in retrospect, after the bubble has burst. In most cases, an asset price bubble is followed by a spectacular crash in the price of the securities. In addition, the damage caused by the bursting of a bubble depends on the economic sector/s involved, and also whether the extent of participation is widespread or localized. (*5 Steps Of A Bubble*, n.d.)

Bubbles can be damaging to the wider economy, especially if it is a key market, such as housing or the stock market. A stock market crash can cause a loss of confidence and lower spending. (Pettinger, 2013)

Moreover, a serious problem is the fact that financial bubbles have a tendency to gain ever greater proportions, moving locally on the international level. And then the "bursting" the systemic crisis takes place two times. First of all is the onset of turbulence by speculation, whose power has grown through new financial instruments. Then shock wave propagation occurs in the whole planetary financial system. This is achieved by spreading contagion because financial markets are highly interconnected. Based on modern means of communication, information is broadcast almost immediately from one end to another planet. Each market is influenced by the information common to all markets. Reactions of operators in a market considered directories are immediately passed on to other financial markets. This process of propagation and chain repercussions behavior is amplified by "contagion via mimicry", very common in financial markets. Traders do not base their decisions on their own criteria, but considering those of others. The events that have no connection with the financial situation of a country or company can cause a crisis here. (Păun, 2003, p. 28)

Methodology and data sources

Research carried out in the first place was based on the descriptions formation and bursting of over 20 bubbles from different countries contained in various bibliographic sources. After was examined the existing theoretical concepts and analysts comments on the bubbles. Following was performed generalization and synthesizing of basic ideas and formulate hypotheses on speculative bubbles mechanisms, which were tested with the public databases dialing accessible specialized sites on the Internet. Obtained results were presented in this article.

Results obtained

For the beginning, have been generalized and synthesized main causes of specualtive bubbles:

1. Interest rates

The level of interest rates has a major impact on market mechanisms of financial market and therefore it becomes an important tool in management training and bursting bubbles.

Radical reduction of interest rates by the monetary authorities of the country usually aims to stimulate economic growth by increasing the volume of lending.

But along with this, the following processes occur:

- •Substantial increase in demand for loans, which may result effectof overcrediting;
- •Increasing loan volumes increase the liquidity of the market, which increases the demand volume of assets traded in the market;
- •Reducing lending rates causes lower interest rates on deposits, which has the effect of increasing demand for alternative investment opportunities.

In the complex, these effects lead to the appearance of new specualtive bubbles and / or stimulate existing ones. Raising radical interest rates may cause bursting financial bubbles and if the process now grew, bursting can produce a financial crisis.

2. Liquidity

Excess of liquidity, for example, generated by lax lending policies, prices of certain sectors leads to inflammation processes, then leading to the collapse of the market.

Increase of liquities exceeds usually gradually and in significant volume of available financial instruments inevitably leads to the phenomenon of "hot money", which consists in increasing market competition among investors for placing money excess, which leads to higher prices assets traded in the market and the gradual reduction of profitability of investments. Thus, high levels of liquidity generate excessive risk capital allocations in some sectors and speculative bubbles.

3. Psychological factors

Bubbles phenomenon can be explained by the investment psychology and its negative effects. Often economy slump recorded in various causes such as political or economic instability, natural disasters, war, etc. All these can not be controlled by the individual investor. However turbulence in financial markets is often linked to investor's psychology. Many times the losses of investors on the stock markets because they are subjective and influenced decisions they take. One of common errors made by investors everywhere is the fact that their investment decisions are the result of so-called "group mentality" in accordance with the decisions of others celorlalţi. The dependence regarding investment often occurs on stock echange market. Such market problems often stops investors invest according to their own strategies and accurate evidence-based, and prefer to follow the path imposed by other investors. According to behavioral finance with as little as an investor knows the easier it is for it to be affected by the "group mentality." The more ignorant investors entering the panic quickly thus creating prerequisites for true stock collapse.

We can distinguish two actions caused the "group mentality":

- *panic buying:* when investors observe a share price increase and without waiting for the share they buy in the hope of significant profits. They forget to study the "folder" that company and guides the strategy according to the general opinion of other investors. Trap the fall itself those investors is limited to the idea that to the extent that an investment seems too profitable to be true, it probably is.

- *panic selling:* is the time the speculative bubble that caused the growth of the market unfounded "break" and investors trying to reduce their losses as much as possible by selling shares. Pressure to sell shares will only lead to the stock market collapse.

Another problem is psychological extrapolation, which is to design for the future of historical data, leading to the assumption that prices will increase in the future permanently. Investors usually extrapolate the future profitability of investments in certain assets, leading to price increases and the risk of these assets, hoping that they will sell at higher prices. But raising asset prices lead to too low investment return to the desired placement investors, which requires it to sell assets and then begin falling prices.

4. Moral hazard

Banks and other companies as financial intermediaries generally have a tendency to behave irresponsibly. They display a penchant exuberant in their investment decisions, most often taking huge risks, as the expected profits. It is observed that these institutions have reduced their equity ratios to extremely low levels, generally less than 10%. As liquidity is economic buffer losses, financial firms are particularly vulnerable as their margins are lower liquidity. If so vulnerable firms dominate the market - as is currently the case - then there are high chances of contagion as the liabilities of any company are often the assets of another. Bankruptcy of one of such large companies can then trigger a domino effect, subsequent bankruptcies. The entire financial market dissolves. While economists agree on this basic, the more strongly they disagree about its causes and remedies. Some seem to believe that the investment decision irresponsible inclination is as natural as bad weather or death. Financial markets are unstable by nature, because the agents in these markets would benefit from superior knowledge compared to those of their customers ("information asymmetry") and can enrich their behalf. (Hülsmann)

5. Financial innovations

For the addressed purposes product innovations particularly manifests in the securities market. These often facilitate access to finance for business issuers, given that the outcome of innovation, securities become more attractive to investors.
The innovation activity in the securities market can be viewed from two perspectives: from the point of view of financial market participants innovations serve to optimize financial flows, but can also lead to increased number of issuers listed above, which may cause the macro economic crisis-even level.

In addition, the emergence of innovations leads to greater interdependence of financial markets that some non essential crisis phenomenon leads to manifestations on others analog.

6. Other possible causes

Some experts explain specualtive bubbles in connection with inflation and bubbles, in turn, can cause inflation. There are theories that promote the idea of chaotic bubbles that may occur in critical situations, the result of the superposition of several economic factors. Other experts say that bubbles are inevitable consequences specualtive irrational valuation of assets (unconfirmed by fundamentals). (*Chaotic bubble*, n.d.)

Based on observation which backed up by 500 years of economic history Jean-Paul Rodrigue inferred standard evolutionary scenario of a speculative bubble (Figure 1), which is confirmed by example of South Sea Company Bubble (Figure 2) and Bitcoin Bubble (Figure 3).

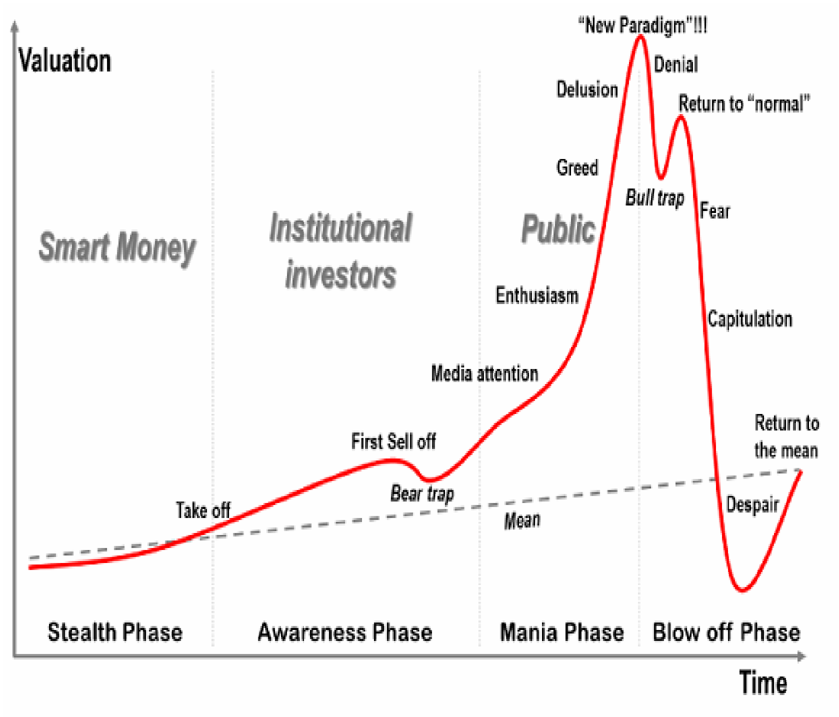

Figure 1. Main Stages in Bubble

Source: (Rodrigue)

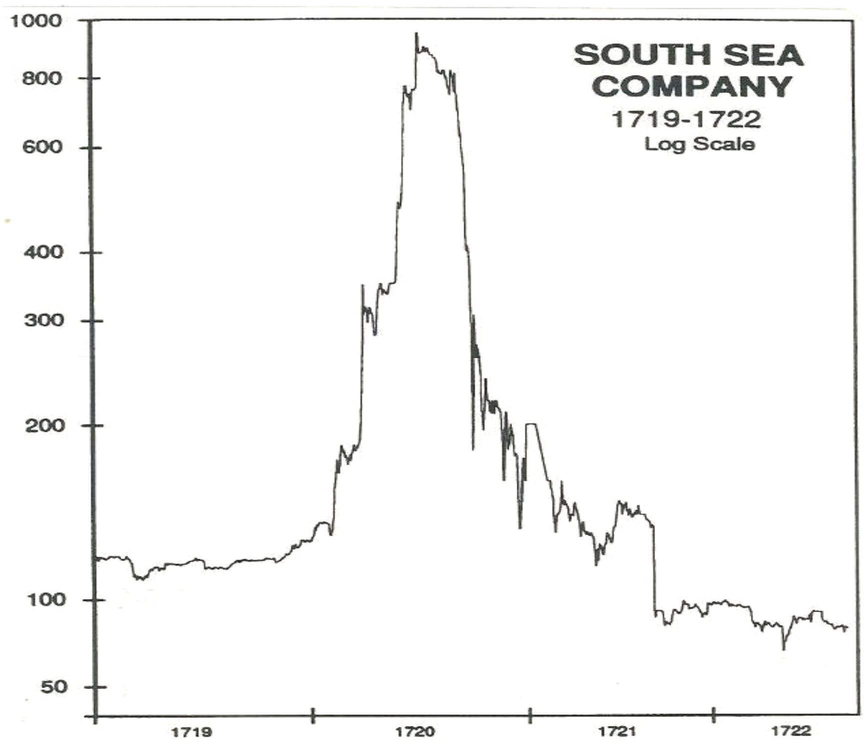

Figure 2. South Sea Company Bubble

Source: (Colombo, 2012)

Figure 3. Bitcoin price chart Source: Colombo (2013)

Tests have demonstrated that this model illustrates a unique process, if the intrinsic value of the underlying asset bubbles tend not increase or diminish.

If the intrinsic value of the asset has a tendency to increase, then we can see trends that repeatedly shape bubbles.

An example can be presented in the international market of gold (Figure 4). Continued growth in demand for gold for industrial needs and exhausted traditional gold layers provide an increasing trend of intrinsic value of gold and a basic upward trend. Meanwhile, the use of gold as investment shelter (especially during financial crises) and speculative tool generates bubbles, the last of which recently broke.

A similar process we see on the stock market the United States expressed the dynamics of Dow Jones Industrial Average Index (Figure 5). Thus, in 2009 we witnessed the formation of a major financial bubble.

Also, as a consequence of the process of financial internationalization and globalization can be highlighted specualtive bubbles from different countries, which have made and broken almost simultaneously.

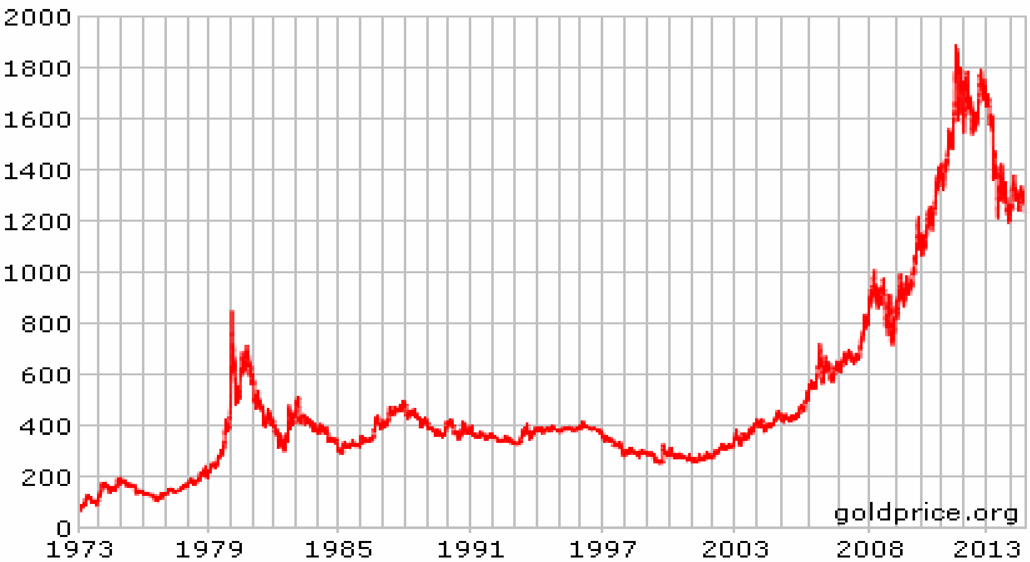

Figure 4. The dynamics of world prices of ounces of gold from 1973 to 2014 (USD)

Source: http://therealasset.co.uk

Figure 5. The dynamics of Dow Jones Industrial Average Index from 1995 to 2014

Source: http://www.marketwatch.com

As an example, can be presented bubbles formed on the stock markets of the USA, France and Canada in the period of 1995-2003 years (Figure 6).

Figure 6. The dynamics of Stock Indexes from 1980 to 2006

Source: Gurova (2006)

As you can see, there is a positive correlation between Dow Jones Industrial Average, S&P/TSX Composite, NASDAQ and CAC indexes.

Some financial bubbles, which are produced financial crisis, could cause by contagion effect the bubbles bursting on other markets. For example, the bubbles break from Asian countries and the international financial crisis in 1997 was one of the factors caused the collapse of the Government securities market and financial crisis in the Russia in August 1998. These events were one of the causes of Government securities market falling in Moldova in October 1998.

Studies have demonstrated the enormous importance of market makers and central authorities' activities in the evolution of speculative bubbles. For example, according to some theories, swelling and bursting stock market bubble in the USA in 1929 was organized by major American bankers by margin trade financing finance period of 1927 to 1929 and withdrawn from the market on the eve of the financial crisis.

Meanwhile, efforts are remarkable financial, economic, administrative and political authorities to maintain the US's Government Debt bubble that began to form in the early 2000s (Figure 7). Contrary to the expectations of many experts, in 2012 there had been no breaking the bubbles, but on the contrary, its growth occurs far.

Following research has established that one of the consequences of the financial bubble bursting is financial crisis generation. Especially, it can be one of its forms - investment crisis, wich represents a deadlock situation in developing investment process is driven by the refusal of investors to make investment opportunities, or lack thereof, and for other specific reasons.

Investment crisis usually leads to financial market liquidity crisis that precedes, in turn, general financial crises. Substantial reduction in financial market liquidity often leads to radical loss financial assets, which are considered by many experts financial crisis. (*Financial crisis*, n.d.)

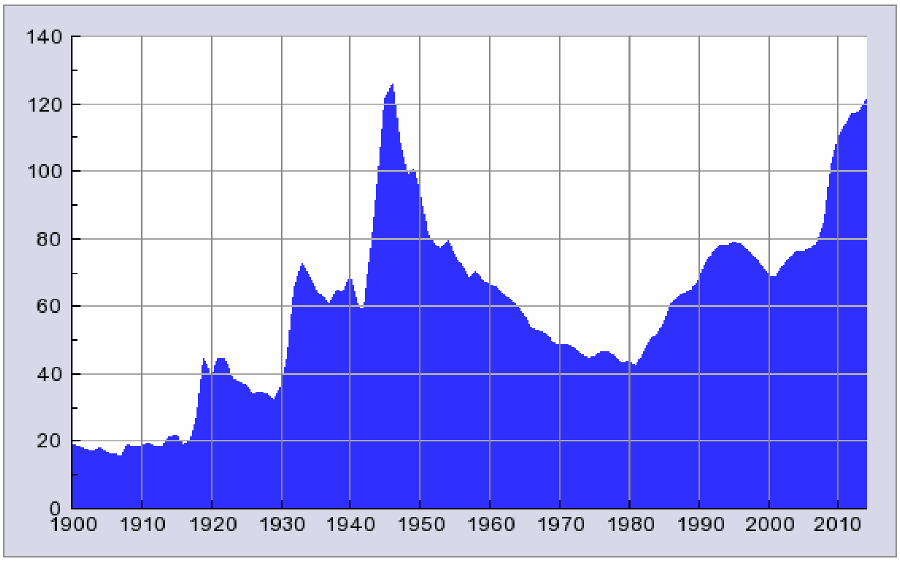

Figure 7. US Total Government Debt from 1900 to 2014 (percent GDP)

http://www.usgovernmentspending.com/spending_chart_1900_2019USp_XXs1li111mcn_H0t_US_Total_Government_Debt

In turn, liquidity dynamics can be characterized by the following (Lobanov, Chugunov, 2003, p. 307-308):

- *Liquidity concentration*. Markets which are traded instruments can replace each other often liquidity is concentrated on a small number of active and at the same time, other assets remain essential less liquid.
- *Liquidity disappearance* on the market. Typically, the concentration of liquidity in one market leads to the liquidity disappearance on other markets.
- *Flight to liquidity*. This can be considered the migration of liquidity in the markets, which, as expected, will maintain sufficient liquidity even in times of crisis. If a phenomenon such market participants are willing to pay a higher premium than usual to invest resources in such assets. The phenomenon of "runaway liquidity" is usually part of a larger process of flight to quality, as market participants pay a higher premium for assets that have a lower risk of all forms (and primarily of the crediting) times, and observed on the market crisis.

As shown, market liquidity is strongly influenced by investor sentiment and, in our opinion, and liquidity crises are often caused by seizures investment.

Usually crises resulting investment relatively quickly, but they can exist in a dormant state and not be so visible, slowly damaging the normal functioning of financial markets and undermining the foundations of economic growth of the country.

Conclusions

Bubbles are an indispensable element of modern financial system. The research results show predictable behavior of bubbles, which, to some extent, allows forecasting the financial crisis, which can serve as an informational support for setting operating strategies for speculators and investors, and regulators measures of public authorities. At the same time, it should be taken into account peculiarities of certain types of speculative bubbles and basic behavior of market operators.

Bibliography

1. 5 Steps Of A Bubble. http://www.investopedia.com/articles/stocks/10/5-steps-of-a-bubble.asp
2. Behzad T. Diba, Herschel I. Grossman (1985) The Impossibility of Rational Bubbles, http://www.nber.org/papers/w1615
3. Bulele speculative, http://sr.kmarket.ro/documentare/altemateriale/bulespeculative.doc

4. Chaotic bubble, http://en.wikipedia.org/wiki/Chaotic_bubble
5. Colombo Jesse (2013) Bitcoin May Be Following This Classic Bubble Stages Chart, http://www.forbes.com/sites/jessecolombo/2013/12/19/bitcoin-may-be-following-this-classic-bubble-stages-chart/
6. Colombo Jesse (2012) The Bubble Bubble, http://www.thebubblebubble.com/next-bubble
7. Conerly Bill (2013) What Is A Bubble?, July 24, 2013. http://www.forbes.com/sites/billconerly/2013/07/24/what-is-a-bubble/
8. Dimitriadi G.G. (2004) What are “Financial Bubbles”: Approaches and Definitions, Electronic journal “INVESTIGATED in RUSSIA”, 2004, http://zhurnal.ape.relarn.ru/articles/2004/245e.pdf
9. Hülsmann Jörg Guido Feriţi-vă de cei care iau în derâdere hazardul moral, http://www.ecol.ro/content/feriti-va-de-cei-care-iau-in-deradere-hazardul-moral
10. Is Bitcoin a speculative bubble? December 13, 2013. http://kottke.org/13/12/is-bitcoin-a-speculative-bubble
11. Farlex Financial Dictionary. 2012, Farlex, Inc. http://financial-dictionary.thefreedictionary.com/bubble
12. Financial crisis. http://en.wikipedia.org/wiki/Financial_crisis
13. Gallant Chris. What do people mean when they say there is a "bubble" going on in the market, such as a "housing bubble" or a "technology bubble"?, February 26, 2009, http://www.investopedia.com/ask/answers/08/what-is-a-bubble.asp
14. Kenneth A. Froot, Maurice Obstfeld (1989) Intrinsic Bubbles: The Case of Stock Prices, http://www.nber.org/papers/w3091.pdf?new_window=1
15. Păun Cristian (2003). Aspecte financiare ale relaţiilor economice internaţionale. Editura Luceafărul. Bucureşti
16. Pettinger Tejvan (2013) Different types of economic and financial bubbles, April 29, 2013, http://www.economicshelp.org/blog/7424/finance/different-types-of-economic-and-financial-bubbles/
17. Rodrigue Jean-Paul Stages in a Bubble, https://people.hofstra.edu/geotrans/eng/ch7en/conc7en/stages_in_a_bubble.html
18. Shiller Robert J. (2012) Bubbles without Markets, July 23, 2012. http://www.project-syndicate.org/commentary/bubbles-without-markets#yyi4eyj5aZJo3WCs.99
19. Speculative bubble, http://www.investopedia.com/terms/s/speculativebubble.asp
20. Stock market bubble. http://en.wikipedia.org/wiki/Stock_market_bubble#cite_note-Topol1991-3
21. US Total Government Debt from 1900 to 2014 (percent GDP), http://www.usgovernmentspending.com/spending_chart_1900_2019USp_XXs1li111mcn_H0t_US_Total_Government_Debt
22. Гурова Татьяна (2006) Сердце замирающего рынка, «Эксперт» №26 (520), 10 июл 2006, http://expert.ru/expert/2006/26/rossiyskiy_rynok_zhdet_padeniya_indexa_rts/
23. Лобанов А.А., Чугунов А. В. (2003). Энциклопедия финансового риск менеджмента. Альпина Паблишер. Москва
24. http://www.marketwatch.com/investing/index/djia/charts?symb=DJIA&countrycode=US&time=100&startdate=1%2F1%2F1995&enddate=9%2F18%2F2014&freq=1&compidx=none&compind=none&comptemptext=Enter+Symbol%28s%29&comp=none&uf=7168&ma=1&maval=50&lf=1&lf2=4&lf3=0&type=2&size=2&style=1013
25. http://therealasset.co.uk/charts-and-graph/gold-price-charts/