

ASSET PRICE BUBBLES IN THE PERSPECTIVE OF NEW KEYNESIAN THEORY

Meelis Angerma¹
University of Tartu

Abstract

Developments in the real world depends on human reaction to economic events which is also determined by dominating economic thought. Dominance of neoliberal and monetarist thinking was the main cause of ignoring asset price bubbles and their effects on real economy. New keynesian economic thinking provides an alternative. Hyman Minsky's model of financial instability was more effectively able to explain super-bubbles in US economy and subsequent 'Great Recession'. Ignorance of momentum-bias of traders and banks contributed to this crises. Emerging markets and Baltic countries were strongly influenced by credit oversupply in US. Instabilities were so sizeable that IMF approved using capital control and proposal for tax on financial transactions was made. Policymakers and individuals should abandon ignorance of speculative asset price bubbles and improve their analytical skills to recognize bubbles and change their behaviour.

Keywords: Baltic economies, prices, business fluctuations and cycles, expectations, speculation, information and market efficiency, asset pricing theory, behavioral finance, asset price bubbles, portfolio theory

JEL Classification: D84, E3, G14

Introduction

Monetary policy and economic policy in general depends on dominating trends of economic thinking. Often this dominance of certain ways of thinking are determined by previous experiences in real economy. „The Great Recession” and preceding bubbles in housing and stock prices have damaged belief in neoclassical assumption of rationality of individuals and belief that the market mechanism provides always the fairest equilibrium price. As many thinkers believe that allowing asset price bubbles was a mistake, then other ways of economic thinking may be worth to consider. One of the most famous of these is new keynesianism. In this writing differences between monetarism and New Keynesianism will be analysed with focus on asset price and real exchange rate bubbles in Eastern European economies. The goal of the article is to show that economic experience of economic boom and crises of 2006-2009 may be successfully explained by exploiting alternative New Keynesian framework of economic thinking. It can also explain short-term dynamics of real exchange rate or price level. The task will be to compare monetarism's and New Keynesian economic's abilities and usefulness in forecasting and avoiding

¹ Meelis Angerma, Magister Artium, sales strategy manager, AS Kevelt, Teaduspargi 3/1, 12618 Tallinn, Estonia, mangerma@gmail.com.

economic crises. In addition to providing crystal clear theories on paper, economics should be able to forecast and recognize asset price bubbles in real world and influence economic policies to improve welfare in long run.

Reader of this article may ask why is real exchange rate topic important when focus is on asset price bubbles and monetary policy. The answer is that extreme volatility of macroeconomic variables of the Baltic economies was directly related to variables which were inherent to asset price bubble. Variability of variables of real economy was a result of variability of financial variables like price behaviour of housing, interest rates, credit standards and stock prices. Demand shock in Baltic economies raised rapidly real exchange rate or relative price level and this same thing required later downward adjustment which was quiet painful for the economy. The question is, whether different assumptions of economic thinking and different economic policy would have saved Baltic countries economies from extreme volatility.

The argument that not being supply-side economist is not supported by popular political guideline is not related to economic reality which exists on its own. $3 \times 3 = 9$ regardless of political party in charge at least in free society.

In the beginning part of the writing basics of neoliberal/monetarist and new keynesian will be presented and their assumptions on market efficiency. The second part focuses on New Keynesian and Behavioural Finance explanations and solutions of such crises as these are related and similar. The third part explains asset price bubbles of US and emerging markets. The fourth part provides synthesis and proposals from learning of the past decades of financial markets and macroeconomic volatility.

1. Assumptions of Neoliberal/Monetarist and New Keynesian thinking

Neoliberalism was created by Austrian economists Friedrich Hayek and Ludwig von Mises to balance socialism and facism in 1930-s. Finally these liberal ideas were applied to real world by Margaret Thatcher and Ronald Reagan in 1980-s. During liberalization of 1980-s policymakers forgot market's speculative and overshooting nature. This belief grew out despite of success that US Federal Reserve chairman Paul Volcker, who was a conservative keynesian, achieved in early 1980-s crushing attempts of resource and any other price bubbles with aggressive raising of interest rates. By now this tenure as Fed's chairman is remembered as a period of prosperity although fruits of this policy were later contributed to monetarists and neoliberals. Crisis of 2007-2012 increased support to postkeynesianism again.

Monetarists believe that unstable and erratic monetary policy is responsible for economic fluctuations. Keynesians believed that fiscal policy was more important tool to influence aggregate demand and dynamics of economy.

The concept of new keynesian theory was introduced by Michael Parking in 1982. Later this phrase was used by Ball, Mankiw and Romer in 1988 (Romer *et al.* 1988). The word 'new' is used in order not to be confused with neoclassical synthesis

keynesian economics and to be related to new classical economics. The focus was on showing microeconomic reasons of price and wage stickiness. The most famous authors of the field were Stanley Fischer, Edmund Phelps and John Taylor.

The real exchange rate concept is related to PPP. Economists have held debate of PPP already almost for a century. PPP concept was introduced by Gustav Cassel in 1922. Monetarists support the idea that purchasing power parity (PPP) does hold all the time and changing the amount of money on the market does not change real economic variables – only nominal prices will be changed. Therefore the concept of real exchange rate is not very important for monetarists as monetary policy can not change real exchange rate or relative price level. If PPP holds all the time then real exchange rate is not important for them.

Keynesians see that PPP does not hold and there may be prolonging misalignments from PPP. Therefore real exchange rate emerges as an important concept and tool for analysis. In case PPP holds, real exchange rates should be persistent. It is commonly tested with standard unit root tests. In 2007 Lee and Yoon found after employing Hamilton-type Markov regime switching models on more than 100 years of data on five time serieses that the strength of PPP was changing over time (Lee *et al.* 2007). It was found out that the PPP held locally and in current regime but not in general.

Keynesians point to frictions in real economy which prevent goods prices from equalizing in short period of time. Here emerges another important concept related to real exchange rate and new keynesianism which is price rigidity. For example labour price or wage rigidity may prevent Eastern European countries to catch-up western neighbours in the EU. In case of rigid good prices wages are likely to be rigid too as the level of costs is determined by the level of goods prices. New classical economic thinking states that prices are not sticky because of rational expectations theory. Although keynesians tend to ignore the role of rational expectations and support adaptive expectations, new keynesians generally agree that households and enterprises have rational expectations but plentiful market failures result in sticky nominal prices of goods and wages.

The new keynesians provided reasons for price stickiness (Melmiès 2012, p. 453):

- 1) menu costs, 2) implicit contracts, 3) nominal contracts, 4) coordination failure, 5) cost-based pricing, 6) constant marginal cost, 7) non-price competition, 8) pricing threshold and 9) link between quality and price.

The most important of them were implicit contract, nominal contract, coordination failure and cost-based pricing factors (Melmiès 2012, p. 453; Blinder 1998). New keynesians believe that flexible prices would lead the economy into the state of full employment. Post keynesians see still too many market failures to achieve that. Therefore price rigidity is not the main reason for demand's effect on output for them. Wage rigidity is also cause of cuts in workers payroll and higher employment because companies are not easily able to lower wages. In new classical thinking the

firms are price takers and choose production levels. In Keynesian framework sticky prices allow them to set prices and accept quantities as given.

New Keynesian's reliance on plentiful market failures also supports the ideas of behavioural finance and market inefficiency. In general rational expectations assumption should support belief in efficient market hypothesis on financial markets.

New Keynesians answer to new classical critique on Keynesianism pointed to extreme informational assumptions of new classical approach (Cunningham):

- 1) unconstrained rational expectations hypothesis implies unrealistically sophisticated agents;
- 2) bounded rationality and
- 3) structural impediments.

Other microeconomic reasons of price and wage stickiness are:

- 1) technology of transactions;
- 2) heterogeneity of goods and factor inputs;
- 3) imperfect competition;
- 4) imperfect information and
- 5) imperfect capital markets.

Those new Keynesians who support flexible price version of thinking state that natural economic forces magnify small shocks and stickiness of wages and prices would even soften the shocks. Therefore the focus of these new Keynesians belongs to mechanics of the shocks.

New Keynesians point to imperfections of the capital markets. For example equity financing is not available sometimes for firms because of cyclicity of the markets. Equity would allow firms to share business risk with equity holders. If equity-financing is not available, then firms can not share risk and will be more risk-averse (Cunningham, p. 21). During recession risk of production increases and firms are ready to accept much less risk. The aggregate supply curve will be influenced in a magnified way.

2. New Keynesian and Behavioural Finance approach to market efficiency and asset price bubbles

Keynesian economists Joseph Stiglitz and James Galbraith pointed to free market believers or Chicago school's approach's failure which led economy to the crises of 2007-2010 (Lippert 2008).

The author's of behavioural finance like Richard Thaler have shown strongly irrational behaviour of individuals on financial markets. The best example of that is the statement of Prospect theory, according to which investors behave differently depending on whether they face a loss or a gain of the same size. They are more afraid of the losing than excited from winning the same amount of money. For this

reason extremely large negative utility of financial loss causes investors to abandon stocks or other assets after initial losses without attention to price level. As a result markets tend to overshoot on the downside. On the other hand positive feedback effect, herding, overconfidence and availability bias contribute to overshooting on the upside. As a result there is more momentum on the market than in case of rational investors would be.

Previously monetarist assumption was that noise traders should be unprofitable and disappear from the market and any systematic irrationality should be temporary. During emergence of the asset price bubble these traders actually get richer and amplify overshooting and misalignment from disequilibrium. Although finally they will be wiped out in large part. By this time reasonable investors on the market will be extinct breed. The idea that financial systems itself caused development of the asset bubble and subsequent collapse and external factors were not necessary was supported by legendary investor George Soros (Soros 2011). This approach is opposite to new classical and monetarist approach according to which prices on markets should always converge to equilibrium.

The new Keynesian and behavioural finance approach to nature of free market is similar in a sense that they both focus on imperfections and bounded rationality of human behaviour. Raines and Leathers found in 2011 (Raines *et al.* 2011) that behavioural finance supports Keynesian approach to explain bubbles and crises.

The basic roots of Keynesian assumption of price stickiness may be found in behavioural finance and prospect theory. The central model of behavioural finance is prospect theory of Kahneman and Tversky (Kahneman *et al.* 1979). According to prospect theory, individuals in their decision-making are very much concerned about reference points. Outcomes are judged relative to reference points. The importance of reference points in prospect theory suggests that it may provide a microeconomic foundation for Keynes' theory of sticky wages. Prospect theory also introduced concept of loss aversion which also explains several market imperfections.

Downward rigidity of wages was shown by Bhaskar (Bhaskar 1990) to be explained by the prospect theory. His explanation assumed that individuals are loss averse. Without it wages would not be rigid.

Another famous behavioural finance author Hyman Minsky focused his efforts to understanding and explaining financial crises. Minsky opposed deregulation policies of 1980-s and accumulation of large debt burdens. It is important to notice here that Keynesian author resists debt accumulation differently from accusations of neoliberals. Minsky was considered as post-Keynesian. Minsky was influenced by Joseph Schumpeter and Wassily Leontief (Wikipedia: Hyman Minsky). Similarly to George Soros Hyman Minsky stated that capitalism is inherently unstable (Minsky 1986, p. 349).

Macroeconomic models of Minsky related business cycles with endogenous investment bubbles on financial markets. During good times cash flows of firms

grow larger than necessary to repay existing loans. Speculative euphoria ensues and soon borrowers debt burden exceeds the level waht they are able to service from current incomes. The financial crises emerges. During the financial crises banks and other lenders tighten their credit standards and even worthwile borrowers will be cut from bank loans. The next stage is loss of GDP. The moment of Minsky is slow motion from stable state to vulnerable state in economy which is followed by crises.

Based on economic data of 1960-1970-s Minsky showed how financial markets may move to exaggerations and influence real economy. Minsky stressed importance of Federal Reserve Bank system as lender of last resort (Uchitelle 1996).

Credit System model of Minsky was influenced by John Stuart Mill, Alfred Marshall, Knut Wicksell and Irving Fischer (Kindleberger *et al.*, 2005, p. 14).

Minsky wrote in 1974 that the economy moves between states of strength and vulnerability and these moves are important in determining business cycles. Minsky did not agree with mainstream economists and stated that booms and busts are unavoidable in free market economy unless government or central bank interferes.

Minsky developed his theories about borrowing and economic activity on seminars with managers of Bank of America. His theories have had little impact on mainstream economics and central bank policies because he did not construct complicated mathematical models. Later postkeynesian Steve Keen created models of endogenous economic crises based on Minsky's theories. Theories of Minsky focus on dangers of speculative bubbles of asset prices. After crises of 2008-2009 some central bankers have mentioned including Minsky factor into her policy of central bank (Yellen 2009).

Minsky's financial instability hypothesis (Minsky 1992) states that the main power forcing economy into the crisis is debt accumulation in private sector. This theory came well into recognition on late 2000-s. Three different types of borrowers were distinguished. These are: 1) hedge borrower, 2) speculative borrower and Ponzi borrower. Hedge borrower is able to pay back the principal and interest fom current cash flow from investment. Speculative borrower is able to pay interest but must refinance the principal. Ponzi borrower makes bet on increase of asset value and is not able to pay interest or principal from current cash flow from investment. Ponzi borrower survives only until prices continue to go up. At the last stage of borrowing bubble Ponzi borrowing is more prevalent and may result in failure of the financial system. In the next stage speculative borrower will not be able to refinance debt. Collaps of Ponzi and speculative borrowers damages reach even hedge borrowers for their healthy businesses as credit standards will be raised to extremely high level.

Paul McCulley from PIMCO, which is one the largest fixed-income assets managers in the world, applied Minsky's financial instability hypothesis to mortgage crises of 2008-2009 (McCulley, 2009). He found out that lenders financed and focused on Ponzi-borrowers on hope that house prices continue to grow forever. McCulley argued that progress through all three Minsky's borrowing stage was obvious.

Culmination of the bubble was achieved in August 2007. Demand for houses fuelled growth of banking system which financed movement towards speculative and Ponzi-borrowing. Mortgage loans developed and bigger and bigger leverage was made available for the borrowers. Improving credit-availability pushed housing bubble further. After collapse of the housing bubble process of deleveraging was started in reverse direction. Firms decreased financial leverage, credit standards were raised and average borrower was again hedge borrower.

McCulley stated that human behaviour is procyclical by nature. Because of this capitalistic systems periodically experience periods of too high inflation and debt deflation. These processes are self-enforcing meaning that inflation creates more inflation and debt-deflation creates more debt-deflation. Humans are by nature momentum-traders and not value investors. Business cycle tops and bottoms are amplified. Ensuing recommendation of this thinking is that policymakers and regulators should employ countercyclical policies. For example higher required reserve ratios for banks could be higher during inflation periods and lower during deflation periods. Raising and lowering of key interest rates of banks is already existing tool for central banks although they appear to be too dovish to use this.

Another economist providing Keynesian insight into the previous crisis is Steve Keen.

3. Asset price bubbles of US and emerging markets

In recent years the US economy experienced the largest contraction of employment and decrease in house prices in about 80 years. Influences of resulting downfall of consumption lowered global demand and slowed down world GDP growth rate. So-called 'Big Recession' was preceded by one of the biggest bubbles in housing and private borrowing in economic history. In US asset price bubbles became the problem since about 1996 when stock prices skyrocketed and this was justified by internet boom and dot-com bubble which was nine years after appointment of Alan Greenspan. Not fighting the asset price bubble was his monetarist decision. The size of the bubble and its emergence is visible on Figure 1 where historical P/E ratio of S&P 500 index is presented. In calculation earnings are adjusted for business cycle by the source Robert Shiller. The bubble exploded in 2000. Before that P/E ratio achieved was the highest in US history.



Figure 1. US S&P 500 index P/E ratio. Source: Stock Market Data Used in "Irrational Exuberance" Princeton University Press, 2000, 2005, updated until 01/31/2013.

After big disappointment in stocks US housing prices took off of the ground. This may be best described by house price development in San Diego which is depicted on Figure 2. The Figure 2 shows that the real estate bubble in US started seriously in 2002. This was the year when Federal Reserve skipped raising interest rates and ignored asset price bubble.

US monetary policy was the most potent to fight asset price bubbles during the governing period of Fed chairman Paul Volcker, who was a democrat, keynesian and not a monetarist as his successor Greenspan. Volcker was able to fight inflation and asset price bubbles at the same time in late 1970-s and early 1980-s. Asset price bubbles and crashes were generally avoided during his reign on developed markets. Stock market sell-off of late 1987 after his tenure was more related to spread of market trading algorithms than extreme overvaluation. This is visible on Figure 3.

Alan Greenspan's view on monetary policy did not foresee any action against speculative asset bubbles. Bubbles were presumably rational and any intervention to free economy was considered as unnecessary. This was a neoclassical assumption. Individuals in the economy were assumed to be informed and coldly rational. Focus was instead on cleaning up consequences of possible bubbles. There was choice to lean or to clean.

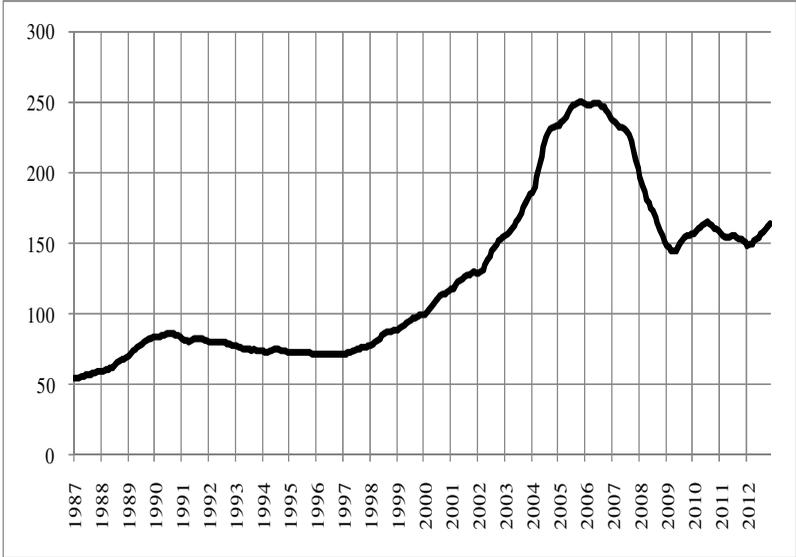


Figure 2. S&P/Case-Shiller Home Price Index - San Diego. Source: Data360.org.

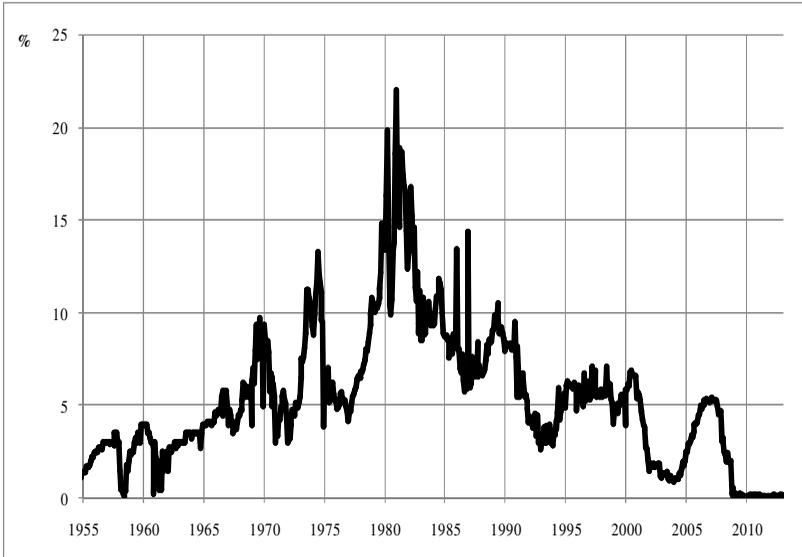


Figure 3. US Fed Funds rate. Source: Federal Reserve Bank of St. Louis.

The most probable reason of experiencing successive financial bubbles in US was that monetary policy of US Federal Reserve was too expansionary. The Fed seemed to avoid raising interest rates even when asset price bubbles were emerging.

This may be also a result of dependence on politics who want to avoid tough movements by Fed. Even job market situation in terms of unemployment rate (4.5%) was not demanding low interest rates anymore in 2006. Relative indicators of US housing market showed that house prices were more expensive than ever before. Therefore higher interest rates than ever before would have been warranted. The possible and stated goal was to maintain republican president and let him to be re-elected. On the other hand Wall Street bankers were satisfied with record profits. Republican president was still lost immediately in 1998 when Fed was not anymore able to stop collapse of all-time biggest asset price bubble. Exploiting contractionary monetary policy would put pressure on asset price growth and reduce consumption through wealth effect. Every obedient and consensual Fed member of the board would agree with politician that spreading welfare today is important. The following Figure 3 depicts history of US Fed Funds rate. It is likely that US economy required higher interest rates in 2004-2006 to curb growth of house price bubble.

Extremely generous conditions on US credit market and highs prices of local assets forced US domestic investors to look for opportunities for higher returns on their capital outside of US. Speculation with stocks heated up on emerging markets. For example in China and Russia. Development of prices on Russian stock market are depicted on Figure 4. The stock market bubble was more pronounced in China.

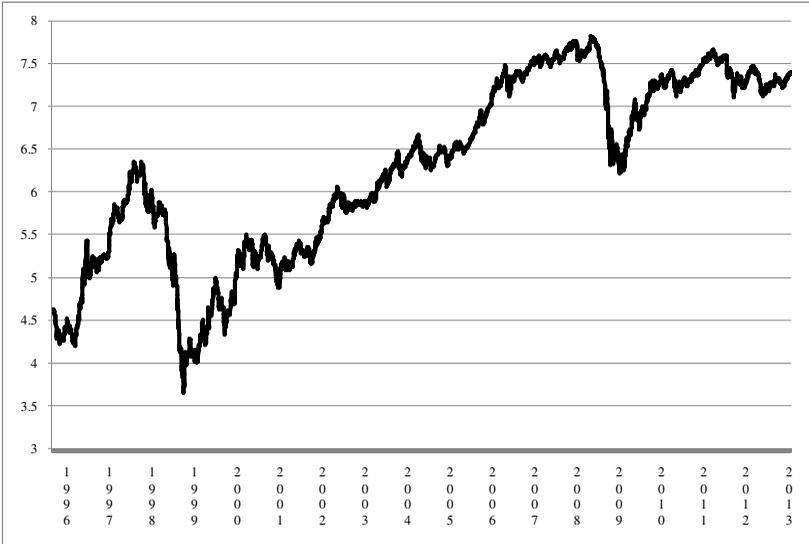


Figure 4. RTS index, logarithmed (LN). Source: RTS Exchange.

Speculative bubbles of stocks and houses emerged also in the Baltic states. Strong demand for any kind of assets on these markets drove higher also other types of prices like wages and consumer prices. Rapid appreciation of relative price level or real exchange rate ensued. This was not caused by actual improvement of productivity of Baltic workers but oversupply of credit in US. Investor's mistakes of behavioural finance described in part 2 of the writing were present on stock market and even more on properties market. If there was a bubble in financial variables in Baltic states like stock prices, house prices and risk margins, it would be reasonable to think that this effect spread further to consumer prices and wages. These real economic variables determined real exchange rate or relative price level which also included effect of speculative bubble. This would explain rapid and unjustified rise of real wage of 2007 and subsequent forced cuts of wages and employment in 2009. The weirdest thing is to note that during the boom time mainstream politicians and economists approved high expectations for future and supported excessive risk-taking. Was it so impossible to recognize speculative bubble and take on active measures to prepare for hard landing? Most likely reason of ignorance was relying on neoliberal monetarist assumptions according to which policymakers and individuals should not worry about speculative bubbles because they are unrecognizable anyway and worry when the consequences of explosion of the bubble is here. Neoliberal thinking supported focusing on short-term profits and forgetting whether we are in a speculative bubble or not. Instead of countercyclical rhetorics politicians tried to exceed each other with more optimistic and generous future forecasts of wage and income rises. Those who dared to oppose these views were almost accused of high treason. Stock traders tend to be most vulnerable to those sins they are not aware of. Baltic countries also lacked a lesson of being too greedy, neoliberal and short-sighted. By now this may be one reason why support for Estonian right-wing coalition is decreasing.

Another contributing factor of the Baltic economic boom and bust cycle was probably giving up own monetary policy. European Central Bank's policies would never perfectly satisfy needs of extremely small, open, immature and emerging country in euro zone.

It is hard to believe that science of economics in 21-st century is so helpless that is unable to even provide scientific warning of such large instabilities and take on active measures to avoid collapse. At some point consequences of economic bust may become so painful that economic system will be restructured and changed so that current system of capitalism will be destroyed regardless of being it good or bad. This is exactly of what George Soros warned almost decades ago in his book „The Crisis of Global Capitalism: Open Society Endangered.”

The first signs of system destruction may be visible. On a global level it is visible in attempt to impose tax financial transactions which would have clearly negative effect on free markets.

Regarding emerging markets calls for capital controls are strengthening. In April 2011 Bank of England's executive director Andrew Haldane said that emerging markets are likely to be increasingly vulnerable to asset price bubbles. The main reason for this is increasing capital inflow from advanced economies and domestic saving. He said that international support for capital control was increasing (Milliken 2011). IMF also approved use of capital control for developing countries in early 2010 because research showed convincingly its usefulness (IMF 2010).

4. Synthesis and proposals after decades of market and economic volatilities

It seems reasonable to claim that financial markets strongly influence real economy and its business cycles and the real exchange rate is a concept that lies in central part of this chain of influence in the middle of price system. Due to this extremely volatile and cyclical financial markets create extremely volatile real economy and business cycles. In 1990-s newkeynesian and later head of Israelian central bank Stanley Fischer stated that macroeconomic stability is the precondition for prosperity (Fischer 1993, p. 23). Any kind of uncertainty is an unwanted phenomenon and results in higher level of unemployment and larger GDP gap on average. Asset price bubbles also misallocate resources and cause real exchange rate misalignment. Decreasing confidence in economy causes cancellation of many potentially beneficial transactions.

At some point the range of business cycle becomes extremely large. The largest house price bubble through history in US and subsequent 'The Great Recession' in US and other countries demonstrated that volatility is increasing in both directions. If this process continues, at some point volatility may become too large to bear. Resulting loss of confidence in economy may bring cancelling of many useful business projects and significantly lower long-term economic growth rate. The last boom and bust cycle was already among the most extreme in world economic history. Occurrence of selloffs on Wall Street and historical realized volatilities are presented in Appendix 1 and Appendix 2 at the end of the writing.

Despite allowing economic freedom to create economic bubbles and crashes in previous decade, in the final stage US and other governments had to intervene extremely actively in stopping downward spiral created by collapsing financial and banking system. This extremely active intervention is illustrated by growth of central banks balance sheets due to quantitative easing and large fiscal deficits. Finally this will probably destroy confidence in currency, monetary policy and concept of welfare state. It is hard to imagine even larger intervention to economy by the government in free markets framework. The ensuing question is, whether ex-ante intervention during emergence of the asset price bubbles would have been less costly in the end? Necessary interventions were in the scope of traditional monetary and fiscal policies without giving up on fiscal balances and purchasing power of currency. Confidence against insitutions would have been maintained.

Milton Friedman wrote in his famous book 'Capitalism and Freedom' in 1962 that although economic freedom is necessary part of general freedom, it is also

prerequisite of political freedom (Friedman, 1962). Central control of economy was accompanied by political repression. In free market economy, transactions have voluntary nature. According to liberal thinking the government should not say how much investments is proper and when it is too much because no one knows. Despite that speed limit is present in traffic. Driving too fast is harmful to driver himself and other drivers. Having speed limit in US does not make US dictatorship or communist country. If economists are able to recognize exaggerations on the financial markets, then analogously 'speed limits' may be introduced to avoid asset price bubbles. There are already such speed limits in the form of banks reserve requirement and interest rate tool of monetary policy. These tools were probably not used in sufficient manner in previous decades.

Free markets provide price-discovery function in calm and rational state. But sometimes markets go crazy. Market-action is taken over by speculative traders who turn less attention on fundamentals and focus more on technical and momentum indicators. Irrational traders begin to rule the marketplace and reasonable and rational investors exit the market. At extremely high price level they see no sense to own assets and just sell them. Therefore the market will be dominated by gamblers who do not trade on random basis but rather time their trades based on each other's actions or following technical analysis trading rules. Coordination of trader behaviour occurs during times of asset price bubbles. This leverages overshooting of the markets and markets lose their price-discovery function at least temporarily.

The coordination of actions during asset price bubble was visible also in commercial banks's action in Estonia. In order to not to lose market share, credit standards and interest rates were lowered in turns. This was comparable to traders competition for stocks or properties in deficit.

Emerging markets are especially vulnerable to asset price bubbles because asset managers of developed countries occasionally pick up stories of new hot emerging markets and pursue to earn some additional return for their portfolios on these markets. These markets are illiquid and if these markets will be out in their minds, they sell all assets on these markets regardless of price. This feature was described by famous and inarguably famous legendary trader George Soros as 'theory of reflexivity' in his book *The Alchemy of Finance* in 1987 (Soros 1987, p. 27-45).

Soros took over the theory of reflexivity from philosopher Karl Popper and presented acceptance of this theory as the cause of his personal success. Differently from average economist who believes that markets tend to move towards equilibrium and other moves are random noise, according to theory of reflexivity prices move away from equilibrium for prolonged period and even start to influence fundamentals themselves. Market movement away from equilibrium is a self-reinforcing process and therefore misalignment from equilibrium tends to increase. Sometimes the trend changes and new trend also reinforces itself. So emerges the boom and bust cycle according to him.

Reflexivity means circular relationship between cause and effect which is similar to positive feedback effect of behavioural finance. Market sentiment tends to self-reinforce itself. Rising prices attract new investors and falling prices scare them off. Prices continue to rise until the process becomes unsustainable. Positive feedback leads market in other direction to collapse or antibubble.

Soros also mentioned that bank's behaviour can be also explained by reflexivity similarly to traders behaviour (Soros 2008). Lending standards will be lowered during boom period and raised during the period of falling prices. Therefore behavioural finance may be applied to financial markets and banking sector in general. Single banks on the market of properties may be considered as traders on the stock market. They may be open to the same behavioural finance fallacies like overconfidence, anchoring and positive feedback effect.

The final question is, whether policymakers should allow any size of disequilibrium to emerge in the economy. Where should be the limit, who should be responsible and which tools should be applied? Here also arises question about single European monetary system. If asset price bubble occurs only in few countries and European Central Bank is not able to respond to this because other countries in euro-area suffer an antibubble or depression, then European countries have basically lost monetary policy tool. But monetary policy should be the main tool for fighting asset price bubbles. Current situation in Europe supports this concern and it was even better visible in 2010-2011 when economies in northern side of the euro area started to show signs of economic bubble and at the same time southern countries fell into deeper and deeper into crisis. The probable outcome of the situation will be that European Central Bank will be constrained to raise interest rates due to collapse of Spanish and Greece economies and Germany will experience a boom. There is need for real exchange rate or price level appreciation of Germany in relation to Spain and Greece. Boom and inflation of prices and wages in Germany would allow this to happen. In this case the euro will be rather weak. If Germans are not ready to accept depreciation of the euro and high inflation in Germany, then interest rates will be raised and Spain and Greece will require more downward flexibility of wages and prices. This will be even more painful process bringing more strikes, distractions, debt problems and threats to European unity.

The countries with more liberal economic policy and more decisions in hands of market forces suffered more than economies with less economic freedom. This was visible in extraordinary large housing price bubble and ensued deep GDP loss. Less liberal countries like Slovakia and Slovenia escaped more easily.

Non-intervention to asset price bubble in Baltic states probably caused harm to long-term economic growth in the Baltic states. Relative price level or real exchange rate volatility caused shocks to Baltic economies. Economic policy in Estonia and Latvia was rather procyclical than countercyclical. Politicians enjoyed the boom and called for reaching to top-five richest countries in Europe. Pleasant and warm dreams of long prosperity overwhelmed any sober and rational consideration of reality.

Government economic policies should not push emotionally driven asset price bubbles and call for additional exaggerations.

Inability to foresee hard landing of US housing market and economy in general harmed belief in monetarism-based economic thinking. Neoclassical rational expectations theory says that current expectations for the future are correct on average. The actual outcome suggested that it was not correct at least for this time.

Some author's have called for much more active fight against asset price bubbles than before 2008 crisis was the case. For example former member of US Federal Reserve System board Frederic S. Mishkin (Mishkin 2011, p. 66) called for central banks to lean against potential credit bubbles per se when financial imbalances appear to be building up. Mishkin suggested tools to restrain excessive risk-taking in the credit markets. It is important to notice that he suggested focusing on controlling excesses of credit market and not excesses of stock market. His suggestions were also in line with keynesian economist Hyman Minsky who saw accumulation of private debt as the most dangerous warning sign. It also suggests that current proposals to impose financial transactions tax would not help avoid excesses on private debt markets and housing markets.

According to Gruen, Plumb and Stone (Gruen *et al.* 2003), from Australian central bank, in the ideal world central bank reacts to asset price boom with raising interest rate and asset price weakness with lowering interest rates. But this would require central bank to give very precise estimation to price level's possible over- or undervaluation and existence of asset price bubble. Due to this fact central banks in the real world are often not even able to provide optimal reaction to asset price bubble. In 2009 NY Fed's governor William Dudley said in Basel on BIS conference that asset price bubbles are serious threat to real economy. Dudley added that stopping growth of asset bubble should be Fed's task (Shostak, 2009). During the crises of 2008-2009 the head of Bank of England Mervyn King adopted assumption that markets are inherently unstable (Soros, 2011).

Proponents of free market state that free price-determination should not be disturbed as free market knows the best. This would precondition rational behaviour. But asset bubbles are result of herd behaviour and positive feedback effect not rational behaviour.

The philosophical question is, whether one group of individuals who are victims of fallacies of behavioural finance should own right to spoil economic environment for everyone by exaggerating business cycle? Exaggerators of business cycle were traders and speculative investors (including banks) who reinvested profits from the last successful trade in the direction of momentum employing more leverage in order to maximize personal profits. Negative consequences for the whole society were not included in their risk/reward calculations.

The most important implication of this writing is that actions of individuals and policies of economic policymakers should take into account features of faulty

human behaviour. Current extremely expansionary monetary policy of the largest central banks of the world could easily generate new asset price bubbles. It will certainly happen in some regions of the world before the weakest regions of the world economy would get on feet. In European Union the most competitive countries may face asset price bubbles after years of stimulative monetary policy.

The main suggestion is to improve analytical competence and knowledge about human behaviour on financial markets in order to contain unnecessary volatility of financial and then real economic variables and ensure macroeconomic stability which is conducive precondition to long-term economic growth. Policy makers and individuals like private investors and banks should abandon liberal ignorance of asset price bubbles and start to behave in a more responsible way.

Conclusions

Asset price bubbles and dynamics of real exchange rate were in the light of different schools of economic thought. It appears that dominance of neoliberalism and monetarism contributed positively to emergence of extremely large financial bubbles and busts during the recent decade. Namely central banks decision to use clean-approach rather than lean-approach regarding asset price bubbles. New keynesian school's assumptions of bounded rationality and imperfect markets were more useful in explaining developments in real economic world. Especially Hyman Minsky's theories on inherent instability of capitalist economies.

This writing also uncovered that keynesianism is not about chronic deficit spending, it is about countercyclical economic policy which was missing during the period of neoliberalism domination. Critics of keynesianism accuse keynesians of supporting constant deficit-spending. Actually these are more likely short-sighted politicians who exploit keynesian arguments to support deficit-spending before elections.

Assumption of investor rationality is a nice concept on paper and in theory but unlikely to achieve in the real world. Humans are not computers, they are defective creatures as they are slaves of their mental framework which is a result of living in a prehistorical herd in African savannah. Herding and avoiding negative experiences at any cost were evolutionary useful adaptations there. In modern world these old features may be easily hindering factors.

Too large volatilities of financial variables caused also too large volatilities of real economic variables like real exchange rate which is central link in chain of financial markets influence on real economy. These volatilities played out in Baltic economies in a leveraged way because of fallacies of behavioural finance, small size of the economy and openness.

Policymakers and private investors should take into account humans faulty behaviour and bounded rationality. These errors are well described by behavioural finance. Policymakers and private investors should improve their analytical skills in recognizing speculative bubbles and changing behaviour. Abandoning ignorance of

asset price bubbles is prerequisite to more stable economic environment. The government policy should be rather lean than clean afterwards type.

References

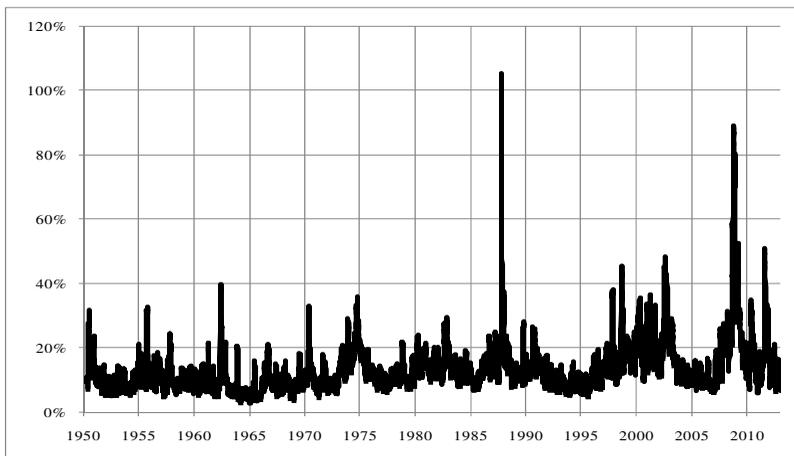
1. **Bhaskar, V. J.** Wage Relativities and the Natural Range of Unemployment, *Economic Journal*, volume 100, Conference supplement pages 60-66, 1990.
2. **Blinder, A. S.** et al. (eds.). 1998. *Asking About Prices: A New Approach to Understanding Price Stickiness*, Russell Sage Foundation, New York.
3. **Cunningham, S. R.** *New Keynesian Theory*. <http://web.uconn.edu> [http://www.powershow.com/view/16972-Y2EwN/New_Keynesian_Theory_powerpoint_ppt_presentation].
4. Data360.org. S&P/Case-Shiller Home Price Index - San Diego. [http://www.data360.org/pub_dp_report.aspx?Data_Plot_Id=337&count=all].
5. Federal Reserve Bank of St. Louis. US Fed Funds rate. [<http://research.stlouisfed.org/fred2/series/DFP/downloaddata>]. 02.02.2013.
6. **Fischer, S.** The Role of Macroeconomic Factors in Growth. *Journal of Monetary Economics*, Vol. 32, no. 3 (1993): 485-512. [<http://www.nber.org/papers/w4565>].
7. **Gruen, D. Plumb, M, Stone A.** How Should Monetary Policy Respond to Asset-Price Bubbles? Research Discussion Paper 2003-11, Reserve Bank of Australia, Australian Treasury, 2003. [<http://www.ecb.int/events/pdf/conferences/gruen-plumb-stone.pdf>]. 02.02.2013.
8. IMF. Controls on Capital Part of the Policy Mix, Says IMF Staff. IMF Survey online. 2010. [<http://www.imf.org/external/pubs/ft/survey/so/2010/POL021910A.htm>].
9. **Kahneman, D., Tversky, A.** Prospect Theory: An Analysis of Decision under Risk, *Econometrica*, XLVII (1979), 263-291. [http://www.princeton.edu/~kahneman/docs/Publications/prospect_theory.pdf]. 03.02.2013.
10. **Kindleberger, C. P., Aliber, R.** *Manias, panics, and Crashes. A history of Financial Crises*. Fifth Edition. John Wiley & Sons, Inc. 2005.
11. **Lee, H.-T., Yoon, G.** Does Purchasing Power Parity Hold Sometimes? Regime Switching in Real Exchange Rates, *Economics working paper / Christian-Albrechts-Universität Kiel, Department of Economics*, 2007. No. 2007, 24. [<http://hdl.handle.net/10419/22040>]. 24.01.2013.
12. **Lippert, J.** Friedman Would Be Roiled as Chicago Disciples Rue Repudiation, *Bloomberg L.P.*, December 23, 2008. Retrieved September 9, 2009.
13. **McCulley, P.** Global Central Bank Focus. PIMCO. May 2009. [http://media.pimco-global.com/pdfs/pdf/GCB%20Focus%20May%202009.pdf?WT.cg_n=PIMCO-US&WT.ti=GCB%20Focus%20May%202009.pdf]. 01.02.2013.
14. **Melmiès, J.** 2012. "Price Rigidity," in J. E. King, *The Elgar Companion to Post Keynesian Economics* (2nd edn.). Edward Elgar, Cheltenham. 452–456.
15. **Milliken, D.** Bank's Haldane warns of emerging market asset bubbles, *Reuters*, 2011. [<http://uk.reuters.com/article/2011/04/09/uk-boes-haldane-idUKTRE7382DK20110409>].

16. **Minsky, H.** *Stabilizing an Unstable Economy*. McGraw-Hill Professional. 1986.
17. **Minsky, H.** *The Financial Instability Hypothesis*. The Jerome Levy Economics Institute of Bard College. Working Paper No. 74. 1992.
[<http://www.levyinstitute.org/pubs/wp74.pdf>]. 28.01.2013.
18. **Mishkin, F. S.** *How Should Central Banks Respond to Asset-Price Bubbles? The 'Lean' versus 'Clean' Debate After the GFC*. 2011. Reserve Bank of Australia. [<http://www.rba.gov.au/publications/bulletin/2011/jun/pdf/bu-0611-8.pdf>].
19. **Raines, J. P., Leathers, C. G.** Behavioral finance and Post Keynesian-institutionalist theories of financial markets. *Journal of Post Keynesian Economics*; Summer 2011, Vol. 33 Issue 4, p. 539. June 2011.
20. **Romer, D., Ball, L., Mankiw, G.** *The New Keynesian Economics and the Output-Inflation Trade-off*, Brookings Papers on Economic Activity, Economic Studies Program, The Brookings Institution, vol. 19(1), pages 1-82. 1988.
21. **RTS Exchange.** RTS index.
[<http://www.rts.ru/en/index/stat/dailyhistory.html?code=RTSI>]. 25.01.2013.
22. **Shiller, R.** *US S&P 500 index P/E ratio*. Stock Market Data Used in "Irrational Exuberance" Princeton University Press, 2000, 2005, updated until 01/31/2013.
[http://www.econ.yale.edu/~shiller/data/ie_data.xls]. 15.01.2013.
23. **Shostak, F.** Ludwig von Mises Institute. *Mises Daily*: Thursday, August 13, 2009. [<http://mises.org/daily/3626>]. 25.01.2013.
24. **Soros, G.** *The Alchemy of Finance: Reading the mind of the Market*. 1987.
25. **Soros, G.** *The New Paradigm for Financial Markets: The Credit Crisis of 2008 and What it Means*. 2008.
26. **Soros, G.** *My Philanthropy*. The Official Website of George Soros.
[http://www.georgesoros.com/articles-essays/entry/my_philanthropy].
27. **Uchitelle, L. H. P.** *Minsky, 77, Economist Who Decoded Lending Trends*. The New York Times. [<http://www.nytimes.com/1996/10/26/us/h-p-minsky-77-economist-who-decoded-lending-trends.html?pagewanted=1>]. 03.02.2013.
28. **Wikipedia:** Hyman Minsky. [http://en.wikipedia.org/wiki/Hyman_Minsky]. 15.01.2013.
29. **Yellen, J. L.,** *A Minsky Meltdown: Lessons for Central Bankers*.
[<http://www.frbsf.org/news/speeches/2009/0416.html>]. 15.01.2013.

Appendix 1. Occurrence of S&P 500 index declines of at least 15% in 50 business days.



Appendix 2. Historical realized 30-day period annualized volatility of S&P 500 index. Author's calculations.



VARADE HINNAMULLID JA REAALKURSS MAJANDUSKOOLKONDADE LÄHENEMISTE VALGUSES

Meelis Angerma¹
Tartu Ülikool

Rahapoliitika ja majanduspoliitika laiemalt sõltuvad valitsevate majanduskoolkondade nägemustest. Valitsev koolkond majanduses sõltub hiljutistest kogemustest reaalmajanduses. USA finants- ja kinnisvarakriis aastatel 2007-2009 kompromiteeris usku neoklassikalisse indiviidide ratsionaalsuse eeldusesse ja monetarismi. Tähelepanu väärivad seega teisedki majanduslikud koolkonnad, näiteks uus keinsistlik majandusteadus (ingl. k. New Keynesianism). Käesolevas artiklis vaadeldakse monetarismi ja uue keinsistliku majandusteaduse erinevusi lähtudes huvist varade hinnamullide ja reaalkursimullide võimaliku esinemise vastu Ida-Euroopa riikide majandustes. Finantssektori hinnamullid muutuvad kergesti liialdusteks reaalmajanduslikes näitajates. Võib küsida, kas teistsugused majandusteoreetilised eeldused ja teistsugune majanduspoliitika oleks Balti riikide majandusi päästnud äärmuslikust volatiilsusest aastatel 2007-2009. Alternatiivsete teooriate analüüs on vabas ühiskonnas lubatud sõltumata võimalolevast erakonnast. Artikli alguses võrreldakse monetaristliku ja uue keinsistliku majandusteaduse eelduste erinevusi. Edasi liigutakse uue keinsistliku majandusteaduse ja käitumusliku rahanduse poolt pakutavate kriisiselgituste juurde. Seejärel selgitatakse USA ja arenevate turgude hinnamulle. Lõpuks esitatakse süntees ja ettepanekud.

Neoliberalismi löid 1930-ndatel aastatel Austria majandusteadlased Friedrich Hayek ja Ludwig von Mises vastukaaluks sotsialismile ja fašismile. Ellu rakendati need lähenemised 1980-ndatel aastatel. Monetaristide arvates põhjustab majandustsükleid ebastabiilne ja juhuslik majanduspoliitika. Uus keinsistlik majandusteadus loodi 1980-ndatel aastatel vastukaaluks uuele klassikalisele majandusteadusele. Uue keinsistliku majandusteaduse suuna tuntumad autorid on Stanley Fischer, Edmund Phelps ja John Taylor.

Reaalkursi osas usuvad monetaristid ostujõupariteedi kehtimist ja nende arvates muudab rahahulga suurendamine vaid nominaalseid hindu ning reaalsuurused nagu hinnatase ja reaalkurs jäävad mõjutamata. Keinsistid on valmis nägema pikaajalisi hälbeid ostujõupariteedist ja seega on reaalkurs oluline kontseptsioon majandusanalüüsis. Enam kui 100 aasta andmeid kasutades on leitud, et ostujõupariteet kehtis ajutiselt, kuid ei kehtinud üleüldiselt (Lee *et al.*, 2007). Keinsistid näevad majanduses piisavalt palju hõõrdumisi, mis takistavad hindadel lühiperioodil ühtlustumast. Sellest tuleneb keinsistide oluline tunnus, milleks on usk hindade jäikusesse. Uus klassikaline majandusteadus leiab, et hinnad ei ole jäigad seoses ratsionaalsete ootuste kehtimisega. Kuigi keinsistid üldiselt pooldavad adaptiivsete ootuste kehtimist, siis uue keinsistliku majandusteooria järgi on ettevõtete ja majapidamiste ootused ratsionaalsed. Sellegipoolest tagavad neil turu

¹ Meelis Angerma, Magister Artium, müügistrateegia juht, AS Kevelt, Teaduspargi 3/1, 12618 Tallinn, Eesti, mangerma@gmail.com.

ebaefektiivsused jäigad nominaalhinnad ja palgad. Uus keinsistlik majandusteadus toetub muuhulgas käitumuslikus rahanduses väljatoodud ideedele turu ebaefektiivsusest. Uue keinsistliku majandusteaduse pooldajad toovad välja, et (Cunningham):

- 1) ratsionaalsete ootuste teooria eeldab ebareaalselt tarku majandusagente;
- 2) ratsionaalsus on piiratud ja
- 3) eksisteerivad struktuuralsed takistused.

Nad viitavad kapitaliturgude ebatäiuslikkusele. Näiteks aktsiaemissioonide korraldamine võimaldab jagada ettevõtte riski investoritega, kuid raskel ajal pole see võimalik ja ettevõtted muutuvad riskikartlikumaks (Cunningham, p. 21).

Käitumusliku rahanduse ootuste teooria (ingl. k. Prospect Theory) abil on näidatud indiviidide ebaratsionaalset käitumist finantsturgudel, mille näiteks on võiduga sama suure finantskaotuse valulisem tajumine, mis põhjustab kauplejate aktsiatest loobumist langusperioodil sõltumata hinnast ja toob langusliikumistega liialdamise. Tõusuperioodil tõukavad tõusu positiivse tagasiside efekt, karjainstink ja liigne enesekindlus. Ootuste teooria riskikartlikkuse kontseptsioon aitab selgitada turgude ebatäiuslikkust ja keinsistlikku palkade jäikust (Bhaskar 1990).

Monetaristliku seisukoha järgi peaksid mürakauplejad olema kahjumlikud ja kaduma turult. Sellele seisukohale on vastu vaielnud legendaarne ja edukas investor George Soros, kes leidis, et finantsturud ise, ilma väliste tegurita, tekitavad varade hinnamulli ja seejärel kokkuvarisemise (Soros 2011).

Võrdlemisi edukalt on finantskriiside olemust selgitanud käitumusliku rahanduse autor Hyman Minsky. Kuigi ta oli keinsist, oli ta vastu erasektori võlakoozumise suurele kasvule. Samuti vastustas ta 1980-ndate aastate finantsderegulatsioonipoliitikat. Minsky't mõjutasid Joseph Schumpeter ja Wassily Leontief (Wikipedia: Hyman Minsky). Minsky mudelid seostasid majandustsüklid endogeensete investeermismullidega. Headel aegadel kasvavad ettevõtete rahavood suuremaks laenude teenindamiseks kuluvast tasemest. Järgneb eufooria, mis viib laenukozumise suuremaks, mida suudetakse jooksvatest tuludest teenindada. Järgneva kriisi ajal karmistavad pangad laenustandard niipalju, et väärt laenuvõtjad jäävad rahata. Järgneb majanduslangus. Minsky näitas, kuidas finantsturgude liialdused mõjutavad reaalmajandust. Minsky arvates ei ole buumid ja kollapsid välditavad majanduspoliitilise sekkumiseta. Minsky soovitusetega hakati rahapoliitikas arvestama tõsisemalt peale 2008. aasta kriisi (Yellen, 2009).

Minsky finantsilise ebastabiilsuse hüpoteesi järgi põhjustab kriisi erasektori võla kuhjumine. Ta eristas kolme tüüpi laenuvõtjaid: 1) klassikaline laenaja, 2) spekulatiivne laenaja ja 3) ponzi laenaja. Esimene suudab tasuda jooksvast tulust intresse ja põhiosa makseid, teine suudab tasuda intresse, kuid peab refinantseerima ja kolmas ponzi laenaja ei suuda isegi intresse tasuda ning tema püsimiseks peavad hinnad tõusma. Mulli tekkimisel kasvab spekulatiivsete ja ponzi laenajate osatähtsus. Kollapsi saabumisel kaotavad krediitstandardite karmistumise tõttu laenuvõimaluse isegi klassikalised laenajad. Paul McCulley PIMCO-st leidis, et

USA kinnisvarakriisiseelsel ajal keskendusid laenuandjad ponzi-laenajatele kui kõige atraktiivsematele. McCulley väitis, et inimkäitumine on olemuselt majandusükslik võimendav ja seetõttu kogeb kapitalistlik majandus perioodiliselt inflatsiooni- ja deflatsiooniperioode. Seega peaksid poliitikatagijad ajama tsüklit tasandavat poliitikat.

Viimastel aastatel pidi USA majandus elama üle 80 aasta suurima tööhõive ja kinnisvarahindade languse. Tarbimise vähenemine USA-s avaldas võimendatud negatiivset mõju mujal maailmas, eriti arenevatel turgudel. Kriisile eelnes majandusajaloo üks suurim spekulatiivne mull USA kinnisvaras ja vähemalt määral aktsiahindades. Aktsiahinnad saavutasid tipu aastal 2000 ja kinnisvarahinnad aastal 2006. Kinnisvarahindade mull olid seotud palju suurema erasektori laenukoormuse kasvuga kui aktsiamull. Seega oli see palju ohtlikum ja veaks võib pidada Föderaalreservi intressimäärade piisavat tõstmatähtsust aastatel 2002-2006. Selle põhjuseks võis pidada Alan Greenspani monetaristlikku rahapoliitikat, mis eelistas tegelemist alles spekulatiivsete mullide tagajärgedega, sest mulle võis pidada ratsionaalseteks. Tema eelkäija demokraat ja keinsist Paul Volcker suutis varade hinnamullidega 1970-ndate lõpus ja 1980-ndate esimesel poolel võidelda tõeses tugevalt intressimäärasid. Tema poliitika tõi USA majandusele ja kapitalismile edu, mis asetas kommunistliku süsteemi selgesse halvemusse ja viis selle kokkuvarisemiseni. Teised võimalikud seletused Greenspani poliitika leebusele oleks püüd meeldida poliitikutele, kes püüdsid hoida presidenditooli vabariiklaste käes säilitades jõukuse efekti kaudu valijate rahulolu Bushi poliitikaga või püüd meeldida Wall Streeti pankuritele, kes teenisid varade hinnamullide toel rekordilisi kasumeid.

Helded krediititingimused USA-s ja rahapakkumise kasv panid sealseid rahajuhte otsima uusi ja huvitavaid investeerimisvõimalusi arenevatel turgudel nagu Hiina ja Venemaa. Balti riigid ei jäänud samuti kinnisvara- ja aktsiamullidest puutumata. Kasvanud nõudlus kõikvõimalike ressursside järele tõstis tarbijahindu, palku ja reaalkursi ehk suhtelist hinnataset. Liialdused aastal 2007 tõid allapoole suunatud kohandumisvajaduse aastal 2009. Võib nentida, et buumi ajal aitasid poliitikud rahva spekulatiivseid liialdusi võimendada roosade ja optimistlike lubadustega. Hoiatusi võis käsitleda riigivastasusena. Küsimus majandusteadusele laiemalt oleks, kas spekulatiivse hinnamulli äratundmine on endiselt sedavõrd raske, et mulli üleskütmisega tuli nõustuda? Põhjuseid tuleb ilmselt otsida ideoloogilisest taustast. Nimelt leiab keskendumine lühiajalistele kasumitele ja kaugema tuleviku unustamine toetust neoliberaalsest mõtlemisest. Aktsiakauplejate maailmas kehtib reegel, mille järgi langeb kaupleja sellesse lõksu, mille kohta tal seni veel kogemust ei olnud. Lõksuks võis olla ekstreemselt neoliberaalne mõtlemine, lühiajaline fookus ja liigne ahnus. Samuti võis panustada iseseisva rahapoliitika puudumine Eestil või siis Euroopa-ülese rahapoliitika sobimatus.

Tulevikku vaadates võib küsida, kas tulevikus võivad spekulatiivsed liialdused muutuda nii suureks, et põhjustavad majandussüsteemi kokkuvarisemist nagu prognoosis George Soros oma raamatus „Gloobalse kapitalismi kriis: avatud ühiskonda ähvardavad ohud”. Lagunemisele viitab püüd kehtestada finantstehingute

maksu ja kapitalikontrolli kehtestamise heakskiit arenevatele turgudele IMF-i poolt (IMF, 2010).

Kokkuvõttes võib öelda, et finantsturud mõjutavad tugevalt majandustsüklit ja kui finantsturgudel esinevad ekstreemselt ulatuslikud buumid ja kollapsid, siis esinevad need ka reaalmajanduses. Uue keinsistliku majandusteaduse esindaja ja Iisraeli keskpanga juht Stanley Fischer leidis juba 1990-ndatel, et makromajanduslik stabiilsus on majandusliku heaolu eeltingimuseks (Fischer 1993, p. 23). Lisaks põhjustavad varade hinnamullid ressursside väärjaotust ja realkursi hälvet. Üldine usalduse vähenemine majanduses ei tule jõukuse loomisele kasuks.

Kuigi üldine majandusvabadus peaks andma vabaduse osaleda varade hinnamullide tekitamises ja peaks soovitava vältida majanduspoliitilist sekkumist hinnamullidesse, siis kui kokku hinnata seda majanduspoliitilist ja rahapoliitilist sekkumist, mis järgnes kriisi tagajärgedega tegelemisele, võib oletada, et kokkuvõttes on sekkumise määr suurem kui oleks olnud mulli kasvu piiramisel intressimäärade tõstmisega. Kvantitatiivse rahapakkumise programmidega on raha hulka suurendatud nii palju, et on raske uskuda usalduse püsimist raha vastu tulevikus, millele viitab ka kulla hinna tõus ja püsimine kõrgel tasemel. Raske on ette kujutada suuremat sekkumist majandusse valitsuse poliitikaga.

Üldiselt pakub vaba turg õige hinna leidmise võimalust, kuid teatud juhtudel hakkavad turul olukorda kujundama spekulatiivsed kauplejad, kes pööravad ratsionaalsete argumentide ja fundamentaalide asemel rohkem tähelepanu tõusutrendile, millest nad ei soovi maha jääda ja turul hakkavad domineerima mänguri mõtteviisiga kauplejad, kes koordineerivad oma ostutehinguid tehnilise analüüsi abil. Samamoodi püüdsid laenubumi ajal üksteist üle trumbates riskivõtmist suurendada kommertsbankad Eesti turul. Kauplejate trendivõimendavast käitumisest kirjutas George Soros oma raamatus „The Alchemy of Finance” tuues sisse refleksiivsuse mõiste, mis omakorda pärines filosoof Karl Popper’ilt (Soros 1987, p. 27-45). Selle järgi moodustub põhjuse ja tagajärje vahel mõlemasuunaline seos, kus nähtused võimendavad teineteist. Seega liiguvad turud enamuse ajast hoopis tasakaalust eemale, mitte tasakaalu suunas, nagu väidaks keskmine majandusteadlane. Trend võib muutuda, kuid see juhtub alles pärast äärmuse saavutamist. Soros leidis, et selline kauplejaid iseloomustav käitumine on iseloomulik ka kommertsbankadele laenustandardite muutmisel (Soros, 2008)

Võib oletada, et kui erinevuste suurenemine euroliidu sees suureneb ning vajadus erineva rahapoliitika järele euroliidus suureneb, võib ühtne rahapoliitika esile kutsuda uusi varade hinnamulle. Aastatel 2010-2011 muutus olukord Euroopa põhjapoolses osas juba üsna kuumenenuks.

Lahenduseks pakuvad mõned autorid aktiivsemat võitlust varade hinnamullidega. Näiteks endine Fed’i nõukogu liige Frederick S. Mishkin soovitas keskpankadel kasutada edaspidi rohkem vastutsüklilist poliitikat potentsiaalsete krediitidimullide vastu ning mitte jääda lootma vaid tagajärgedega tegelemisele (Mishkin 2011, p. 66). Tema soovitus on kooskõlas Minsky hoiatusega erasektori võla kasvu eest.

Otsesest vajadusest finantstehingute maksustamiseks siit ei tule. Praktikud on võitlust varade hinnamullidega tõsisemalt võtma hakanud. New Yorgi Föderaalreservi juht William Dudley ütles 2009. aastal BIS'i konverentsil, et varade hinnamullid on tõsine oht reaalmajandusele ja võitlus nendega peaks olema Fed'i ülesanne (Shostak, 2009). Turgude olemuslikku ebastabiilsusse hakkas uskuma Inglise Panga juht Mervyn King (Soros, 2011).

Üldfilosoofiline küsimus seoses varade hinnamullidega on, kas ühel inimgrupil, kes on langenud käitumusliku rahanduse kirjeldatud mentaalsetesse lõksudesse, on õigus muuta majanduskeskkond pikaks ajaks ebastabiilseks kõikide teiste jaoks? Finantsturu liialdust võimendavad kauplejad ei võta oma tuludes ja kuludes arvesse ühiskonnale põhjustatud negatiivset efekti.

Põhisoovitus indiviididele ja majanduspoliitikakujundatele on võtta otsustes arvesse inimkäitumise psühholoogilisi külgi ja mitte jääda liigselt määral lootma turuosaliste ratsionaalsusele ja eeldusele, et turgudel on alati õigus. Tuleks parendada teadmisi ja analüütilist kompetentsi finantsturgude hinnaliikumiste paremaks mõistmiseks. Tuleks loobuda liberaalsest ignorantsusest homsest kaugema tuleviku suhtes isiklikul ja majanduspoliitilisel tasandil.