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PRICE BUBBLES ON THE FINANCIAL MARKET: SIGNS OF FORMATION AND ALGORITHM OF DETECTION

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Summary. The article summarizes the signs (indicators) of price bubbles development, reveals the general conditions that contribute to the formation of price bubbles; conducted empirical studies using historical data to determine the signs of asset prices trend change in the financial market; statistical methods and algorithm of detection of existing price bubbles in stock markets are proposed.

Scientific and methodological approaches to the analysis of bubbles suggested in the article make it possible to analyze the current market situation, to determine (with a certain degree of probability) the presence of bubbles in the market for investment decisions.

Key words: *asset price, price bubble, signs of price bubbles, financial market, investment decisions.*

The object of this research is pricing in global financial markets and the subject – factors, characteristics and predictors of price bubbles in financial markets. The aim of the research – to distinguish typical symptoms, indicators of presence and algorithm of price bubbles exposure on financial markets, which can help to analyze the current market situation in order to make investment decisions.

After analyzing historical data on price bubbles, we identified signs somehow inherent to every bubble:

1. Sharp (non-linear) increase in prices in the short term or acceleration of rates of asset prices increase.
2. The mass involvement amateur investors in the process of "investment".
3. Abandonment from traditional methods of market estimation during the boom.
4. Market ignores bad news or interprets them as good, ignoring danger signals.
5. The funds flow from the real sector to the financial market, as it becomes more profitable to speculate than to engage in real production.
6. Distribution of various investment funds and companies.
7. Widespread use of credit funds to trade.

8. Increase of volumes of trading in derivatives.

Having considered the views of different economists about the reasons of bubbles inflation and methods of their detection, we have concluded that the main reason for the formation of speculative bubbles lies in emotions and irrational behavior of market participants, and all this is reflected in the volume of loans for speculative operations in the use of derivatives, media activity, the volume of transactions, the dynamics of prices and so on. Accordingly, the real reasons lie not in concrete events and conditions specific to a certain period, but all price bubbles have a common nature.

The article summarizes the signs (indicators) of price bubbles development, reveals the general conditions that contribute to the formation of price bubbles; conducted empirical studies using historical data to determine the signs of asset prices trend change in the financial market; statistical methods and algorithm of detection of existing price bubbles in stock markets are proposed.

Scientific and methodological approaches to the analysis of bubbles suggested in the article make it possible to analyze the current market situation, to determine (with a certain degree of probability) the presence of bubbles in the market for investment

decisions. The described tools can help investors (investment banks, hedge funds, private investors) to protect themselves from large losses: identification of

price bubbles on the stage of nucleation and growth allows to exit the position (to take profits).

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