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DO GOVERNMENT INTERVENTIONS AFFECT CHINA'S STOCK MARKET? CASE STUDY – ANALYSIS OF THE ASSET BUBBLE IN 2015–2016

WPŁYW DZIAŁAŃ RZĄDU NA CHIŃSKI RYNEK GIEŁDOWY – STUDIUM PRZYPADKU WYDARZEŃ Z LAT 2015–2016

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Summary: The aim of the paper is to evaluate the effects of the intervention of the Chinese government undertaken during the 2015–2016 crisis on the Shanghai Stock Exchange (SSI). The following research hypothesis was set up: in the long run, both the initial efforts of the Chinese authorities to drive individual investors to invest in stock exchanges along with the interventions launched by the government to stop the market falls were not relevant to stock valuation. The study results have proven that in the analysed time monetary authorities, as well as government and regulatory bodies, generated many decisions and announcements which were expected to influence the behaviour of the stock exchange investors. In short term it created artificially market anomalies, observed between the Q4 2014 and Q1 2016. The interventions interfered with the long term growth trend of SSI index, however did not shift this trend and after interventions ended it was apparently ongoing and not disturbed until 2017.

Keywords: China, stock exchange, shares, market inefficiency, investment, capital control, Shanghai Composite

Streszczenie: Celem niniejszego artykułu jest ocena efektów interwencji podejmowanych przez władze Chin na Szanghajskiej Giełdzie Papierów Wartościowych w okresie kryzysu giełdowego z lat 2015–2016. Weryfikacji poddano następującą hipotezę badawczą: działania chińskich władz zmierzające do skłonienia inwestorów do zwiększenia aktywności na giełdzie oraz powstrzymania spadków indeksów giełdowych, w długim okresie nie przyniosły oczekiwanych rezultatów. Przeprowadzone analizy pozwoliły na pozytywną weryfikację powyższej hipotezy. W badanym okresie instytucje odpowiedzialne za funkcjonowanie rynku kapitałowego w Chinach podejmowały wiele interwencji, które w krótkim okresie skutkowały znacznymi wzrostami indeksów giełdowych, jednakże w długim okresie sytuacja na giełdzie w Szanghaju wracała do długoterminowego trendu.

Słowa kluczowe: Chiny, giełda papierów wartościowych, akcje, nieefektywność rynku, inwestycje, interwencjonizm, Shanghai Composite.

The stock market and the economy are two different things
Milton Friedman

1. Introduction

In the last decade stock market in China has grown more than five-fold to over USD 7 trn in market capitalization and became the world's second largest in 2017 [Carpenter, Whitelaw 2017]. However, recently it has also been a source of great anxiety for investors and policy makers across the world. This anxiety was caused by rapid and huge volatility in stock prices as well as the sudden devaluation of its currency that increased worries about the Chinese government's ability to manage exchange rate, its price bubble observed on housing markets, and its growing leverage at a national level. Chinese stock market differs significantly from other world financial markets not only in terms of size, liquidity, structures of investors, but mostly because of continuous active government interventions in financial markets. To understand these issues, it is necessary to analyse the distinct structures and features of the Chinese financial system.

The aim of this paper is the evaluation of the effects of the intervention of the Chinese government undertaken on the Shanghai Stock Exchange during the 2015–2016 crisis. The following research hypothesis was set up: in the long run, both the initial efforts of the Chinese authorities to drive individual investors to invest in stock exchanges as well as the interventions launched by the government to stop the market falls were not relevant to stock valuation.

The paper is based on the literature studies and market data analyses. Information about stock prices was collected from Thomson Reuters Eikon 4 (according to the Partnership Agreement between the University of Gdansk and Thomson Reuters).

2. Chinese stock markets – literature review

The rise of China economy and its stock market over the last decade resulted in growing literature on this subject. A number of studies is devoted to the issues relating to A, B and H shares classification.[1] Wang and Di Iorio [2007] tested the market integration between the Chinese A shares, B shares, and the H shares market, as well as between the China markets and the world market. Their findings showed that the B-share and H-share markets are not significantly integrated with the world market

[1] To attract foreign investors, the Chinese government introduced a dual shares classification. Companies may issue Ashares which are denominated in RMB and available for domestic investors, and Bshares – in foreign currency and available for foreign investors. Since 2001 Chinese domestic investors can invest in both A and Bshares, but foreign investors, except for qualified institutional investors, can invest in Bshares only. Additional Hshares are issued by Chinese issuers in the Hong Kong market and quoted on the Hong Kong Exchange. This class of shares is available for foreign investors and forbidden to Chinese one [Sutthisit et al. 2012].

although they were established to attract foreign investors. Ghysels and Liu [2017] analysed prices volatility of those three classes of shares stating that issues quoted in the B shares or the H shares are associated with substantially higher potential losses and characterised by higher volatilities than issues listed in the A shares.

Sutthisit et al. [2012] analysed differences in investors behaviours concerning Chinese market segmentation into the Shanghai Ashare, Shenzhen A and Bshare, and Hong Kong Hshare market. Their findings revealed that the positive feedback trading styles vary among market participant structures in different stock exchanges. As the A-share market is dominated by individual investors, usually having no or a little knowledge about investing, positive feedback trading behaviour is strong, i.e. investors buy stocks when prices increase and sell when prices decrease. Such feedback was less intensive in the B-share market until 2001. After allowing domestic inventors to buy B-shares, trading behaviour in the this market became more similar to that in the Ashare market. It may suggest that regulation and deregulation of stock markets implemented by the government can change investor structure and also affect trading behaviour.

There are many studies stating that Chinese stock market is "policy-oriented". However, there is no one, common conclusion about the influence that actions undertaken by the government have on the stock markets operation. According to Li and Zhou [2016] the malfunction of Chinese stock exchanges is the result of the continuing politicization of stock markets by Chinese government and the Communist Party of China (CPC). The authors pointed out that Chinese stock markets cannot operate properly as the government interferes too much in the functioning of the stock exchange, determines its own rules for admission companies to trading, and delisting process according to its own interests, regardless of the interests of issuers and investors. Moreover, they argued that the government should limit its involvement in determining the rules governing stock markets and delegate these powers to the stock exchanges authorities.

Brunnermeier, Sockin, and Xiong [2017] proved that Chinese government intervention to reduce asset price volatility may exacerbate, rather than improve, the information efficiency of asset prices. Moreover, they also stated that speculation about government policies and interventions have a crucial role in driving China's financial market dynamics thus market participants pay bigger attention to government policies than to economic fundamentals and are not willing to look for market information.

However, Wang et al. [2017] research showed that some reforms implemented by the government aiming to improve the long-term development of the market are effective in reducing market volatility. But there are also some governmental interventions which undertaken inappropriately may cause the volatility increase (i.e. bailout policies, macro-control policies and transaction cost adjustments).

The same conclusions may be found in the paper by Zeng et al. [2016]. The authors stated that some government's actions may prevent market collapse in the

short term, but may also harm the market in the long term, and also have the side effect of moral hazard and market distortion. They also argued that when the market fails to function properly, government intervention is justified and some market corrections are undoubtedly necessary.

3. Stock market crisis and authorities intervention timeline

In 2015 a number of political and monetary decisions led to creation of stock market babble that burst causing international fear over the stability of Chinese economy and social unrest in Chinese middle class.

On June 12 Shanghai Composite touched a seven-year high of 5178 points. It had risen by 1.5 times over the previous 12 months. One of the reasons for such a tremendous growth was political. On March 17, 2013, Xi Jinping, the President of People's Republic of China introduced a new slogan of "the great rejuvenation of the Chinese nation" and named it Zhongguomeng (Chinese Dream) [Kuhnjune 2013]. Stock markets have been logically seen by the media and Chinese middle class as a place where "Chinese Dream" can be fulfilled. The number of articles issued by state media encouraged Chinese people to realize their dream through investment in stock exchange [Li, Zhou 2016].

Such propaganda would probably not affect Western markets where institutional investors dominate [Shen, Takada 2016], but it was crucial for the Chinese, where there are 91 million individual market participants, that own around 81% of tradeable shares by market capitalization [Wildau 2015c].

Another reason for the dynamic rise of stock market capitalization were changes in Chinese monetary policy. A series of interest rate cuts by The People's Bank of China led the benchmark lending rate form 6.00% in the end of 2014 to record low 4.35% in October of 2015 [Trading Economics 2017]. Lowered bond yields and sluggish property market sent investors looking for alternative assets.

Third reason for the boom in the Chinese stock market was connected with Chinese regulatory decisions on the usage of leverage. China Securities Regulatory Commission (CSRC) allowed for usage of margin financing in October 2011 [Wildau 2015b].

As the market appreciated using borrowed money, buying securities became more popular. In June 2015 total margin financing reached 2 bn RMB, which accounted for almost 4.5% of float capitalization. Most brokerages secretly lowered qualification criteria for opening margin accounts (to open a margin account in China, an investor was required to have RMB 500,000 in stocks and cash). Banking sector began channelling money into the stock market trough "fund -matching companies,"[2]

[2] Fund-matching companies typically use the HOMS system (developed by Hundsun Technologies) to create individual trading accounts. For traders, it had everything the regulated brokerages had, but it permitted much lower entry barrier and much higher leverage. In addition, regular brokerages only allowed a limited pool of securities to be traded in margin accounts, most of which were blue chips with large capitalizations. At fund-matching companies, however, traders can trade all listed shares.

"umbrella trust"[3] and other structural products which provided un-regulated margin loans to traders [Qian 2016]. Silent agreement of CSRC led to further appreciation of stock market.

Actions undertaken by the Chinese authorities led to extremely high valuations of listed companies. In June 2015 the Shanghai Composite's average price-to-earnings ratio peaked at 25, based on 2014 full-year earnings. For the Shenzhen Composite index, the ratio was 69 and 144 for ChiNext [Wildau 2015a].

In the summer of 2015 the bubble burst. Shanghai Composite index suffered 40% drop. Chinese authorities reacted in the series of interventions (Table 1).

Table 1. Timeline of authorities interventions aimed to stabilize Chinese stock market in 2015

June 27	People's Bank of China announced cuts in benchmark interest rate by 25 basis points and in the required deposit reserve ratio by 50 basis points.
June 29	CSRC pledged to tackle insider trading and market manipulation, to continue to crack down unregulated margin financing, to punish unlawful selling of shares by corporate management and warned of the negative reporting or commentary in the financial media.
July 1	Shanghai and Shenzhen Stock Exchanges lowered settlement fees. CSRC pledged more channels for brokerages to raise funds.
July 2	CSRC announced to investigate manipulations in the index futures market. State Council decided to suspend large public share offerings until Shanghai Composite Index of shares returns to 4500 level. Police investigated three media outlets for spreading rumours and the government vows to impose heavy penalties for manipulation. Government-run news sources Xinhua and People's Daily published articles calling for investors' confidence.
July 3	(1) CSRC announced that the China Securities Finance Corporation (CSFC) would raise capital to approximately RMB 100 bn. CSFC would then obtain financing from various sources, with the mission to safeguard capital market stability. (2) CSRC punished several media for misreporting or spreading rumours. (3) Several brokers had to suspend their business, after the crackdown on short selling.
July 4	CSRC convened 21 major brokerages, and separately, 25 mutual fund companies, to discuss further rescue measures. The 21 brokerages made a joint announcement after the conference pledging: (a) they would make a joint fund (no less than RMB 120 bn) to purchase blue-chip ETFs; (b) they would not sell their proprietary holdings when SSECI was under 4500; (c) listed brokerages would push for share buy-backs; (d) they would implement the counter-cyclical adjustment mechanisms and ensure smooth handling of customer defaults. Echoing the joint announcement of the brokerages, SAC published a proposal that called for unity among all brokerages to safeguard market stability. The 25 mutual fund companies also made a joint announcement pledging: (a) they would make restricted funds open for new subscription; (b) they would push for the introduction of new stock funds and complete building the positions; (c) the board chairmen and CEO of the 25 mutual fund companies would actively subscribe to their stock mutual funds, and they would hold the funds for at least one year.

[3] Umbrella-trust investor obtain financing from the retail savers who bought "wealth-management-products" at banks.

Table 1, cont.

July 5	CSRC announced the following measures: (1) IPOs of 28 companies were suspended. (2) Some CS 500 futures accounts were restricted, and "malicious shorting" and market manipulations would be severely punished. (3) CSRC would work with the police and the media regulatory bodies to punish misreporting or spreading rumours. Finally, CSRC announced that the central bank would provide financing for CSFC, the main vehicle for market rescue efforts.
July 6	China Financial Futures Exchange (CFFEX) restricted index future trading.
July 7	China Insurance Regulatory Commission (CIRC) allowed insurers to invest more in blue-chip stocks.
July 8	Several institutions coordinated major interventions: (1) The central bank announced that it would provide liquidity to CSFC. It made it explicit that this action was to safeguard the stability of the stock market. (2) CSRC ordered shareholders with more than 5% to stop selling shares for 6 months. Those who sold shares in the past 6 months were required to buy back 10 or 20% of the total proceeds from their previous sales. In addition, CSRC announced that CSFC would start buying small-cap stocks. (3) CBRC (the banking regulator) announced that it would allow banks to extend loans backed by share collateral. (4) CIRC (the insurance regulator) raised the limit on the maximum ratio of equity in insurance companies' investment portfolio. (5) The State-owned Asset Supervision & Administration Commission (SASAC) announced that the central-government-owned enterprises should not sell shares during the periods of market instability. (6) The ministry of finance pledged to "protect market stability." (7) The Ministry of Public Security intervened and threatened to investigate and prosecute "malicious" shorting. (8) Around 1300 total firms, representing 45 % of the stock market, suspended the trading of stocks.
August 3	(1) 24 funds were suspended for 3 months after CSRC investigated electronic trading. (2) Shanghai and Shenzhen Stock Exchanges raise commission to discourage program trading. (3) Policy banks announced emission of RMB 1 trn bonds to support infrastructure and construction in coming years.
August 11	(1) PBOC devaluated RMB by 3%. (2) Four out of five of the CSFC-invested mutual funds have started investing in A-share stock market.
August 14	(1) Ministry of Finance (MOF) relaxed rules for state-owned venture capital funds, (2) CSFC declared that it will not exit the stock market over the next few years.
August 23	State Council issued new pension fund investment guidelines, allowing stock investment at 30% of net assets.
August 30	197 people were arrested, including journalists and stock market officials, for "spreading rumours" about the market crash.
August 25	Ministry of Finance declared that it would remove personal income tax on dividends for shareholders who hold stocks for more than a year.

Source: [Zeng et al. 2016;Qian 2016].

As a result of massive intervention "national team" (state owned enterprises that invested in stocks to stabilize prices) owned at least 6% of the mainland stock market. At the end of September 2015 China Securities Finance Corp. owned 742 different stocks up from only two at the end of June 2015 [Ghysels, Liu 2017]. All these measures temporarily helped to stabilize the market, but when the 6-months period

protection was coming to an end, the market plunged again. This time authorities reacted with faster response. On 5 January 2016 Beijing's state-owned financial institutions started buying shares again, and CSRC extended the selling ban on major investors. The same day People's Bank of China pumped in 130 bn yuan into the financial system [Mehreen 2016]. Additionally to support export companies on 7 January 2016 Chinese Central Bank set the official midpoint rate on the yuan to 6.5646 for 1 USD, its lowest level since March 2011 [Bradsher, Tsang 2016].

4. Stock market reactions to authorities intervention

Capital markets are prone to many external stimuli, at which they can react extremely rapidly due to technology development and rapid information flow. On the basis of the stock market graph (Fig. 1), as well as the key events of the actions of Chinese regulators and the government (Table 1), changes in the index resulting from the occurrence can be determined.

Shanghai Composite Index in the year 2013 and until the second half of 2014 (23 October 2014, point A at Fig. 1) maintained in the sideways trend. The first announcement of the "Chinese dream" did not influence the markets, up to appearance of the publications encouraging the investors to invest and realize the profits at the stock exchange, being an alternative for a bond market. Already the first half of 2015 was extremely successful for the Chinese stock market. The most important Shanghai stock index hit a record level of 5166.35 points on June 12, 2015 (point B at Fig. 1), giving an increase of 150% on a yearly basis. Many investors bought shares for credit, due to the low interest rates, and some invested in their shares as savings. The stock maximum soon distorted and within a month there came a huge stock market crash that authorities tried to ineffectively stop. The government reacted promptly to fluctuations trying to subordinate interest rates to the lowest levels in history and introducing short-selling limits. In addition, the largest stock exchanges, Shanghai and Shenzhen, have lowered commissions charged to the transaction. However, despite these changes introduced between June 27 and July 7, 2015 some companies stopped listing for fear of bankruptcy, and many initial public offerings were cancelled. The decline of the Chinese index was as high as 30% in one month, as it was 3507.19 points on July 8, 2015. At the beginning of August, when 24 funds were suspended for 3 months after CSRC investigated electronic trading, Shanghai and Shenzhen Stock Exchanges raised commission to discourage program trading. It released the market only for a while. Next step, which could possibly stimulate economic growth, was devaluation of RMB by 3% by People's Bank of China, but it did not stabilize the stock index and investors reactions. On the contrary, this has led to a great weakening of the yuan. Most of the money makers looked at this deterioration in the context of weakening the economy, not dealing with problems of high dependence on exports and low consumption. On August 14, 2015 (point F at Fig. 1) even though Ministry of Finance relaxed rules for state-owned venture capital

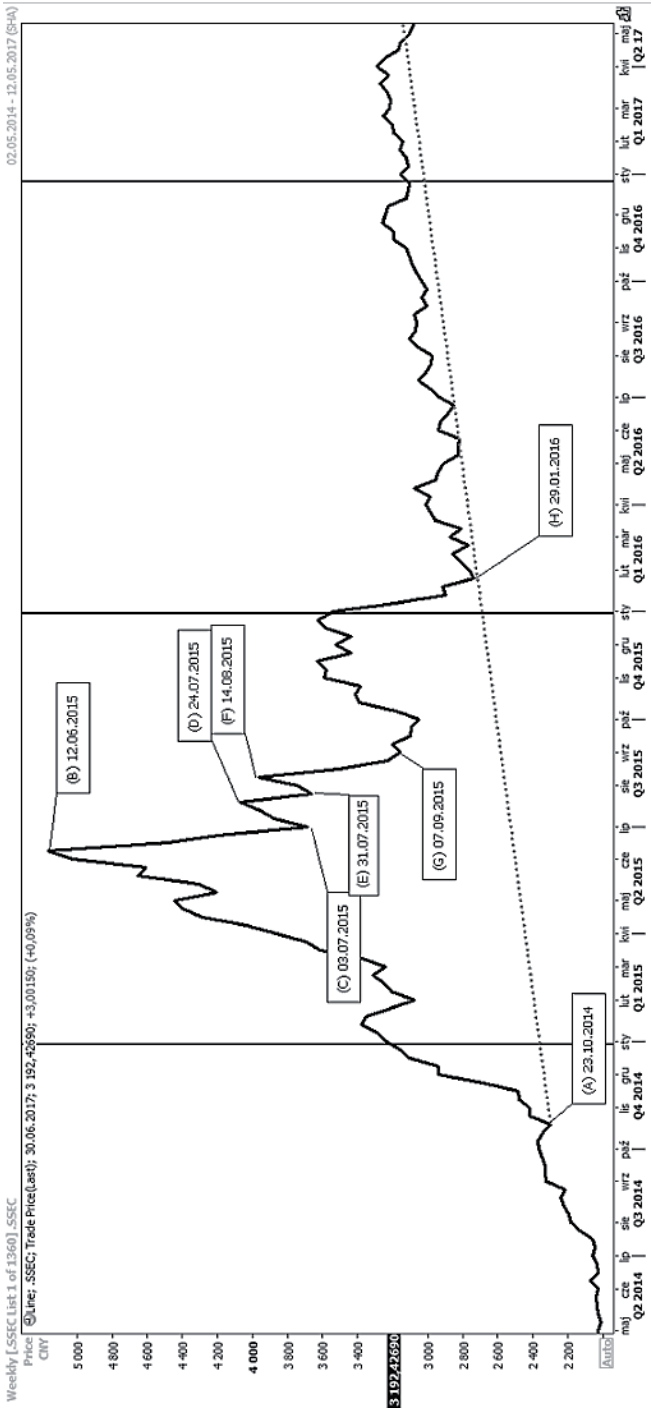

Fig. 1. Shanghai Composite Index in the period of Q2 2014-Q1 2017

Source: own study based on Thomson Reuters database available at the University of Gdansk upon the Partnership Agreement of Thomson Reuters and the University of Gdansk, 30.06.2017.

funds and CSFC declared that it will not exit the stock market over the next few years, the stock index again rapidly declined to the level of 3965.33 points.

The second phase of the crisis has come at the end of a month. On August 24, 2015 the index lost about 8.5%, on the day called Black Monday, and the next day, on Black Tuesday, the stock market again lost about 7% to 2964.96 points. On the same day PBC lowered interest rates once again.

The structure of the capitalists in the capital market in Shanghai was not conducive to stabilization. Most investors are individuals who are unaware of the stock market, using a share purchase loan. On the other hand, there are also state-owned enterprises with significant stakes. In addition, the Chinese government accused speculative and foreign capital of exposing the asset bubble. Many arrests were made to stop such activities (Tab. 1), but it did not stop the decline of the index at that time.

Another breakthrough on the Chinese stock market took place at the beginning of 2016. Between December 31, 2015 and January 29, 2016 the index decreased from 3539 points to 2655.66 points (point H at Fig. 1). On the whole, a 30% decline was observed and at this level index sustained to February 2016. Stopping the stock market trade on the following days did not allow the situation to calm down, as after the investor's resumption, they wanted to get rid of all shares held, fearing further downside.

Since February 2016, the trend returned to its steady growth, slowly rising, which continues until 2017.

5. Conclusions

With regard to the aim of this paper the effects of the intervention of the Chinese government on Shanghai Composite at the Shanghai Stock Exchange in the period of the years 2015–2016 were evaluated.

The research has proven that in the analysed time monetary authorities, as well as government and regulatory bodies, generated many decisions and announcements, which were expected to influence the behaviour of the stock exchange investors.

Important factors determining the investors behaviour were also: the state propaganda, modifications of interest rates in the banking sector enhancing credit bubble, and regulations of 2011 concerning margin financing allowing high leverage usage by investors.

In short term the authorities decisions and declarations created high-scale market anomalies, resulting in sharp rise and decline of the main stock index. The most serious interventions, such as 6-months ban regarding to selling shares by major shareholders with more than 5%, crackdown on short selling, or intensive purchase of shares by state owned enterprises, and also propaganda aimed to stabilize the market, did not stop the decline of the stock exchange index value.

Even worse, the attempts to influence the market and prevent further decline were not successful. In conclusion, we may state the anomalies were created artificially by activities of government and interventions disturbed and interfered the long-term growth stock index trend, causing abnormally sharp rises and decreases. Further activities were dedicated then to stop the declines which were generated by their operations. Then the asset bubble which was created in 2015 had no justification in the real value of shares and listed companies performance at the Shanghai Stock Exchange.

The anomalies were observed between the Q4 2014 and Q1 2016 however in the long term the growth trend was perceived continuously and this tendency was not disturbed until 2017. Therefore the research hypothesis that in the long run, both the initial efforts of the Chinese authorities to drive individual investors to invest in stock exchanges, as well as the interventions undertaken by the government to stop the market falls, were not relevant to stock valuation, was positively verified.

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