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Insider information in the stock market: speculative effect

Abstract. Today, under the present conditions of integration of the stock market into the international financial space, the use of insider information in the market attracts special interest since it causes a biased market pricing and unfair competition resulting in financial losses for securities market participants and reduces

the investing image of the country and stock issuing companies in general. The aim of the research is a theoretical study of speculative operations, assessment of insider information in Ukraine's stock market, and identification of ways to improve the regulatory process of insider speculation. The study suggests that price speculation by using insider information is carried for profit and encourages increased liquidity of securities: the process of speculation affects increased liquidity for the asset of special interest, adjusts pricing relative to fundamental value and makes it possible to clearly track the actions of the participants after the disclosure of financial information. In order to improve the regulation of insiders' actions in the market, the author suggests the need for insider reporting of all transactions to regulatory authorities. Thus, this information would be available to all market participants; it would be included in the information structure of market participants and could be used for qualitative analysis of information, which, in our opinion, would promote effective pricing, reduce the level of loss of market participants and increase yield of their operations.

Keywords: Insider; Information; Manipulation; Speculation; Stock Market

JEL Classification: E21; G12; G14; G19

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Інсайдерська інформація на фондовому ринку: спекулятивний ефект

Анотація. У статті подано теоретичне обґрунтування спекулятивних операцій, здійснено оцінку інсайдерської інформації на фондовому ринку України. Доведено, що спекулювання цінами з використанням інсайдерської інформації має на меті одержання прибутку та зумовлює підвищення ліквідності цінного паперу. Для удосконалення процесу регулювання дій інсайдерів на ринку, запропоновано запровадити звітування інсайдером про всі угоди перед регуляторними органами, що, ефективно впливало би на формування ціни, зменшило рівень збитків учасників ринку та підвищило б дохідність їх операцій.

Ключові слова: інсайдер; інформація; маніпулювання; спекулювання; фондовий ринок.

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Инсайдерская информация на фондовом рынке: спекулятивный эффект

Аннотация. В статье представлено теоретическое обоснование спекулятивных операций, осуществлена оценка инсайдерской информации на фондовом рынке Украины. Доказано, что спекуляции с ценами с использованием инсайдерской информации имеют целью получение прибыли и приводят к повышению ликвидности ценных бумаг. Для усовершенствования процесса регулирования действий инсайдеров на рынке, предложено внедрить отчетности инсайдером обо всех соглашениях перед регуляторными органами, что эффективно повлияло бы на формирование цены, уменьшило убытки участников рынка и повысило бы доходность их операций.

Ключевые слова: инсайдер; информация; манипулирование; спекуляции; фондовый рынок.

1. Introduction. Modern information technology development and globalization of trade areas enables buying and selling transactions of financial assets from any part of the world at the lowest cost. Development of new financial instruments expands the investment opportunities for market participants, gives them a chance to get additional profit and avoid loss, and leads to a transition from the classical functions of the stock market to the transformational function of informational advantages relevant to financial resources.

2. Brief Literature Review. Theoretical and practical aspects of stock market have been studied in the works of renowned scientists, economists and practitioners such as M. Burmaka (2011), V. Kovtun (2014), D. Leonov and I. Prasolov (2012), Yu. Makohon (2013), V. Novytskyi (2010), Ye. Panchenko and A. Shapoval (2014), V. Kuryliak and E. Savelev (2012), V. Fedosov and B. Stetsenko (2014), O. Snizhko (2013) [1-9] and others.

Although there are a large number of papers dedicated to the problems concerning functioning of stock market, the subject of the article is not thoroughly researched, particularly the issues related to stock market speculation. Taking into consideration globalization and integration of stock market into the international financial space, there is a need to further study the pro-

blem of speculative operations in the stock market of Ukraine and offer ways to minimize them.

3. Purpose of the article is a theoretical study of speculative operations, assessment of insider information in Ukraine's stock market and identification of ways to improve the regulatory process of insider speculation with the aim of effective functioning of the Ukrainian stock market.

4. Results. Under existing conditions of formation and development of the stock market the issues related to the use and manipulation of insider information in the market attract special interest since it causes a biased market pricing and unfair competition resulting in financial losses for securities market participants and reduces the investing image of the country and companies issuing stock. Today, the national economy is in recession, but in the period of economic growth the lack of a clear understanding of the consequences of speculation and use of insider information in the stock market has a negative impact on the economy as a whole.

Lack of experience of regulation, control and identification of speculative agreements in the stock market in Ukraine and insufficient level of study of the problem in the scientific literature indicates its relevance. The practical side of the stock market is subject to the concept of speculation, yet the study of this con-

cept is limited in scientific literature. First of all, we consider the need to determine which activity is speculative and, accordingly, goes beyond the legal field.

The USA is the country that first implemented an anti-insider trading law, there this concept is interpreted as limited access to information about the issuer and its securities issuance, which allows people who have this information before its official disclosure to have a privileged status in relation to other market participants [10]. The European Union Directive treats insider information as unpublished information relating to one or several issuers of transferable securities or to one or several transferable securities, which, if it were made public, would be likely to have a significant effect on the price of the transferable security or securities in question [11].

According to the Ukrainian Law «On securities and stock market» (2006), «insider information shall be any information on the issuer, its securities or transactions therein that is not made public and if made public, may significantly affect the value of securities» [12].

Based on these provisions, the essence of insider information is:

- the information is not public;
- after being published, it may affect the process of pricing in the stock market;
- it provides temporary benefits and allows persons to obtain profits or avoid losses.

Insider information is one of the major motivating factor in terms of investment decisions relevant to purchase or sale of a financial asset. All information on the market can be divided into real and predictive. Real information is information that contains data on realized facts; predictive information is information that contains projections and estimates that based on real information [13, 20]. Of course, part of the projected information is transformed into real after the predicted event has happened. In general, the information structure is a system of real and predicted data and the process of transformation from one type to another. Projected information is necessary because even for fully informed stock market participants there is not enough real information for decision making since the price of the stock asset is based on expectations of profitability of the asset and its prices in the future; real information is not relevant to the future so it cannot help market participants to make rational investment decisions. So even if fully aware of past behaviour of the asset, the stock market participant would require information with the best forecasts of future events and their impact on the cost of the asset.

Today, it is impossible to meet a stock market participant who is fully informed. Most market participants are still insufficiently informed, and new pieces of information lessen the uncertainty and accordingly lower uncertain expectations about the assets price behaviour. Graphically the model of the behaviour of market participants who have inside information looks as presented on Figure 1.

According to this model, market participants who have regular information believe that the market price of a financial asset is equal to its fundamental value and carry out purchases and sales of financial assets without clear direction of the trend. At the same time, market participants who possess inside information (negative or positive) conduct revaluation of assets in the direction of increase or decrease in value. If the asset revaluation is made towards lowering of its value, the participant who has inside information starts selling their own or borrowed financial assets. Informed participants that do not expect the release of negative information will buy assets as undervalued thus preventing the rapid fall in prices. It will continue until the release of information. When insider information has been made public, participants who did not have it will reassess the fundamental value of the asset and realize that they have bought overvalued shares and start selling. The market price of the shares will decrease until inside information appears on the market that will make a fundamental reassessment of the value of the asset in the direction of growth. The holders of insider information will buy assets, while the market participants will keep selling, wanting to preserve the profits. Since on the market there are par-

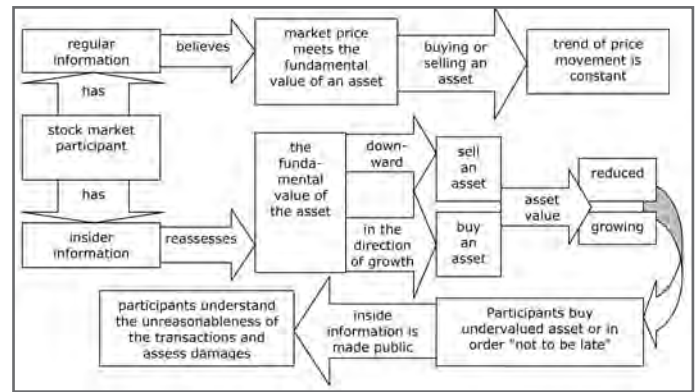


Fig. 1: Model of market participant behaviour in the stock market with insider presence in the market

Source: Designed by the author

ticipants willing to sell, it will curb the rapid growth of the asset price until the public disclosure of inside information. After that the fundamental value of the asset will be re-evaluated, and market price of the shares will grow quickly when market participants realize that they have sold an undervalued asset.

At the time, Keynes expressed the thought, that the more there are market participants with various information, the more stable is the market price of the asset is because of its increased liquidity. Glosten and Milgrom (1985), however, believe that the presence of inside information reduces market liquidity [14]. In our opinion, the presence of any information, including insider does not directly affect the decline in market liquidity, because the information is able to exercise a fundamental reassessment of the value of the asset, thus forcing market participants to conduct operations of its purchase or sale. It is necessary to take into account the fact that the financial resources of the participants who possess inside information are limited compared to other market participants. Since the cost of inside information is unclear it is difficult to sell it in the market and as soon as this information has been sold, there is a possibility of its change through speculation of the term of corporate decision-making or because of changing strategies of the company. Market participants tend to have a significant amount of resources and can sell information to investors in the form of advisory services without any conflict of interest [15].

Insiders, undoubtedly, are interested in market liquidity that will allow them to «mask» their action, to smooth sharp price movements and to use the available information advantage more often by making purchases and sales of financial assets. The advantage of inside information is that a market participant possessing it can receive profit because the other market participants are not aware of this information and, accordingly, they make irrational assessments of the asset that influence its pricing. Activities of insiders are typically done before the publication of financial results of the company [16], especially active before the release of positive information about the company [17], but the whole inside information is always present on the market until the date of its publication. [18] The analyses done by the researchers show that about 80% of the growth in financial asset prices and increased turns on it is on the day before the publication of information on the financial performance of the issuer of the financial asset, and the price is more sensitive to positive news and less volatile under the influence of negative news [19].

Our study suggests an important role of inside information, but it cannot answer the question of whether the existence of insider information on markets can cause a sharp growth or collapse of the stock market, and, therefore, needs further investigation. Regarding the impact of speculation on stock market pricing, Shah believes that speculation contributes to efficient stock markets, and Soros notes that sometimes the situation arises where speculation not only reflects the fundamentals but also becomes a part of the fundamental factors that shape pricing [20]. Speculation is a stabilizing mechanism of financial markets [21], because market participants involved in speculation take

into account all available information, including insider information, and performing their operations push asset prices toward a fundamental value, thus forming efficient market pricing.

As for the national stock market, there is no doubt of the existence of inside information in it, but its impact on pricing in the market is difficult to estimate, primarily due to the lack of proof of price speculation. In this study, we will not be calling the names of market participants who took part in speculative transactions possessing inside information, but try to prove the fact of their impact on pricing in the stock market. For this we model the movement of the PFTS «blue chip» index basket yield indicators for 2008-2015. In general, we note that the global financial crisis was characterized by a massive outflow of foreign capital from the stock market of Ukraine; in the Ukrainian market during the financial crisis there remained only 40% of the institutional investors that were present in it before the crisis. Today the share of foreign institutional investors conducting transactions in the Ukrainian stock market is estimated by stock market analysts as 10%. Overall, the dynamics of return on the PFTS index and the «blue chips» had a downward trend, as illustrated by Figure 2.

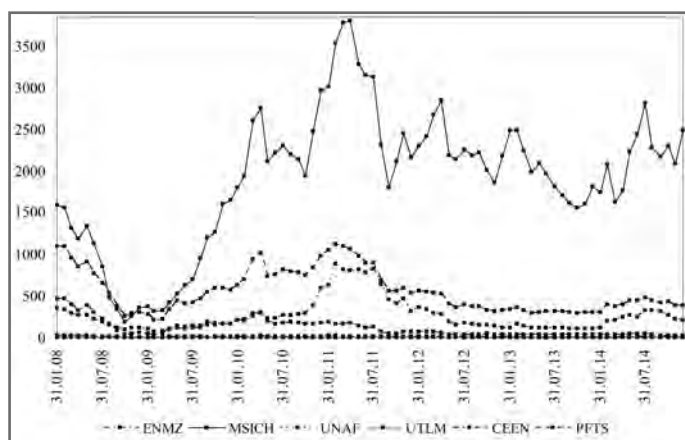


Fig. 2: Changes in the value of shares in the index basket and PFTS index

Source: Designed and built by the author based at [22]

Note: ENMZ - Public Joint-Stock Company «Yenakieve Iron and Steel Works»;
MSICH - Public Joint-Stock Company «MOTOR SICH»;
UNAF - Public Joint-Stock Company «Ukrnafta»;
UTLM - Public Joint-Stock Company «Ukrtelecom»;
CEEN - Public Joint-Stock Company «Centrengo»;
PFTS - Index of the First Stock Trading System

Despite the fact that in recent years the Ukrainian stock exchange market has greatly expanded its financial tools, there is virtually no interest in purchasing the shares of public companies on the market of financial instruments due to their low liquidity, high volatility, inadequate protection of small investors and a relatively long investment term under conditions of absence of stable long-term resource. Today the Ukrainian stock market operates in conditions of devaluation expectations and reduction of the main indicators of the real sector of economy, which is experiencing significant losses due to escalation of military and political conflict in eastern Ukraine. The development of Ukrainian stock market is held back by decline in industrial production, devaluation of the national currency and existence of heightened risks inherent in the Ukraine.

In general, changes in the value of shares in the index basket were determined during the global financial crisis in 2008. As we can see from the graphs, the starting point of the fall in the value of stock prices corresponds to 29 February 2008. From that time till 31 October 2008 the price of shares was steadily declining and reached its minimum value. There was a very weak growth in value of the shares in the period from 31 October 2008 till 30 April 2014, at that time the Ukrainian economy experienced recession, which explains these trends.

From May 2009 to April 2010 there was a rapid recovery value of securities on the stock market. May 2010 was marked by another drop in the value of securities, but not as rapid as

the previous one. The fall in value continued until October 2010, after which the dynamics of the securities again regained its positive trend. This schedule allows us to talk about the general trend of the movement of prices of stocks in the index basket, but does not demonstrate the role of information on PFTS.

Let's consider the dynamics of value of the main types of shares included in the PFTS index basket. Thus, we have the general totality of value of the shares included in the PFTS index basket. Let n represent the value of these shares. Let's pull out from the totality of the n shares a random sample. If we write down the value of n selected shares, the resulting numbers are realization of the random sampling.

Let us consider the daily yield of shares - random variable. Assume that we know its distribution: discrete or continuous. So we know what values can have yield of the shares and with what probability - we have a general set of all daily returns of our share. Let yield of shares D have some distribution, such as normal with parameters m and θ^2 . Set of random variables $D_1 \dots D_n$ is called a random sample of the random variable D (a random sample of the general population). We now return to the history of the price of certain share. We have a set of values - stock prices: P_t^s , $1 < t < n$. From there we can go to the yields:

$$D_t^s = LN(P_t^s / P_{t-1}^s), \quad (1)$$

where: $2 < t < n$;

D_t^s - the yield of securities at time t ;

P_t^s - the cost of security at time t ;

P_{t-1}^s - the cost of security at time $t-1$.

Imagine the situation that someone drew a random sample from the distribution of profitability of the share n days ago and today we see the value - realization of the random sample. A set of values $D_1^s \dots D_n^s$ is called the realization of a random sample. A number of returns of the index and the shares of the index basket is realization of random sampling of the distribution of daily returns of the index and the stock index basket (Figure 3):

The graph shows that the dynamics of return of shares in Centrengo ranged from -1.5 to 1.6, while the index securities of other participants that form the index basket ranged from -0.7 to 0.7, and was correlated with changes in the PFTS index. First of all, it was caused by the presence in the market of inside information about the lawsuit of the State Enterprise «Coal of Ukraine» by Centrengo that initially led to a fall in prices, then the possibility of winning the case led to the growth of share value, and when the results of lawsuit became known (namely, «Centrengo» received from the state enterprise «Coal of Ukraine» 1 702,19 thousand hryvnias = 340 thousand USD) it led to the fundamental reassessment of the value of shares to the previous level.

Overall trading operations on the stock market conducted by speculators provoke less informed market participants to buy securities, therefore increasing the market value of the shares above the fundamental price, and the possession of insider information enables them to accurately calculate the fundamental value of the securities and to sell them at the time of high demand. There is always more or less speculation present in the market [23]. The market makers seeking market growth, do not buy all the shares in a row, but take just two or three positions by lawfully purchasing shares or by speculating the market. If the market participants are set to buy, they do not usually buy only 2-3 types of stocks that are growing, but buy the shares of other companies thus encouraging market growth. However, if the value of 2-3 kinds of stocks is growing, while others remain unchanged, it suggests passivity of the market participants and further attempts to increase prices will not be successful [24].

5. Conclusions. The study suggests that the price speculation by using insider information is done solely to receive profit from speculation; it increases liquidity of the security; the process of speculation affects the increasing demand for assets

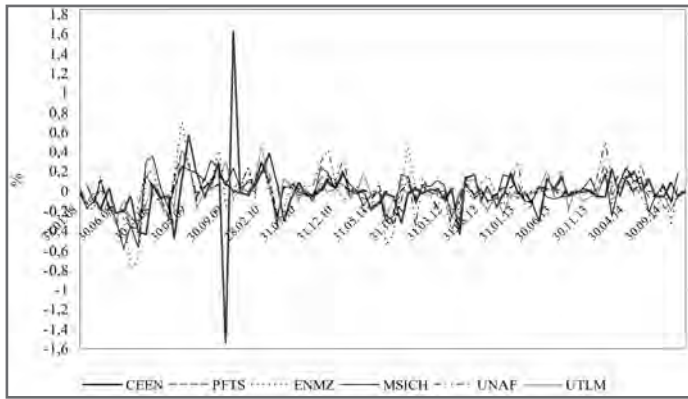


Fig. 3: Changes in yield value of the shares in the index basket and index PFTS

Source: Designed and built by the author according to [22]

Note: ENMZ - Public Joint-Stock Company «Yenakiieve Iron and Steel Works»; MSICH - Public Joint-Stock Company «MOTOR SICH»; UNAF - Public Joint-Stock Company «Ukrnafta»; UTLM - Public Joint-Stock Company «Ukrtelecom»; CEEN - Public Joint-Stock Company «Centrengo»; PFTS - Index of the First Stock Trading System

of special interest, adjusts pricing relative to the fundamental value and makes it possible to clearly predict the actions of market participants after the announcement of financial information.

This article describes the process of price speculation by insiders actions. However, if the insider would report all transactions to the regulatory agencies, the information would be accessible to all market participants and market pricing would be determined by the dynamics of price changes. In this case, information of insider transactions would be included in the information structure known by market participants, which would allow them to conduct a qualitative analysis of information. Thus, market participants could perform a similar operation to that of the insiders, which, in our opinion, would effectively influence price formation, reduce losses and increase the profitability of market participants' operations.

The nature of speculation research allows us to conclude that stock market speculation focuses on profit achievement due to the difference of the purchase price and the selling price of the stock based on forecasting factors that may affect the value of an asset and characterized by high level of risk. Herewith the insider information on the market stimulates speculation and is legitimate as long as market participants that have this information do not start to manipulate the prices of financial assets. Speculative operations perform a stabilizing function by pushing prices of a financial asset in the direction of fundamental news, yet if speculation is transferred to manipulation the stabilization function automatically transforms into destabilization of the stock market. We believe that price manipulation is different from speculative transactions and requires a more thorough investigation in the future.

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