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## Contemporary nature of stock exchange from the perspective of demutualization process

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**Contemporary nature of stock exchange from the  
perspective of demutualization process**

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## Contemporary nature of stock exchange from the perspective of demutualization process

**JEL classification:** G15, L21, L31

**Keywords:** demutualization, stock exchange, company, government, society

**Abstract.** As a part of the demutualization process, stock exchanges are transformed from a traditional membership (mutual) structure into an entrepreneurial structure. Changes in the legal and organizational structure take place and they diversify their activities in order to meet the market needs. Statistical data confirm that two thirds of stock exchanges are of for-profit type and as many as 40% are listed exchanges. But we cannot conclude that stock exchanges, after the demutualization process and going public, operate more efficiently than the stock exchanges not subjected to these processes. On the other hand, analyzing the structure of the products on stock exchanges, it may be noticed that most of the exchanges have a diversified range of services.

However, it should be emphasized that the activity of stock exchanges is partly seen as a public good even if they are managed by private people. But the efficiency increase of stock exchanges does not necessarily translate into the quality increase of their socio-economic functions and short-term pursuit for profits may pose a threat to the functioning of the economy and society.

### Introduction

In the classical terms, stock exchange is defined as “any organization, association, or group of people, whether incorporated or unincorporated, which constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that term is generally understood, and includes the market place and the market facilities maintained by such exchange” [Di Noia, 1999, p. 17, following: American Securities Exchange Act]. Stock exchange is aimed at providing centralization for trading securities as well as determines the flow of information, disseminating and triggering competition among the participants of stock exchange.

Historically, stock exchanges were institutions of non-profit type, organized as a cooperative or functioning as state institutions. Their activity was carried out in the interest of public activity through the implementation of macro-economic functions: allocation, valuation of securities and control [Kulpaka, 2007, p. 51]. As a result of electronization of stock trade and transformation of the organizational and legal form of stock exchanges, so-called demutualization, there has been a change in the rules of their functioning. At present most stock exchanges operate as commercial enterprises, directed towards profits. In the view of the described phenomena the problem appears concerning the essence of modern stock exchanges and threats connected with a change of their organizational and legal structures.

### **Methodology of the research**

The purpose of the article is to analyze the changes in the functioning of stock exchanges due to the organizational and legal form and the consequences of these changes. The research hypothesis was stated that the demutualization processes determined changes in the rules of functioning of stock exchanges and created threats from the point of view of socio-economic functions.

In order to verify the hypothesis, we use literature studies that allowed recognizing the key theoretical issues and presenting the essence of the phenomenon of demutualization as well as threats associated with the transformation processes of the legal form of stock exchanges. In the article we use the cause and effect analysis for the presentation of the transformation process of the organizational-legal form of stock exchanges and the resulting effects, along with a logical analysis consisting in the search for a logical relationship between the causes and consequences of these changes. In addition, based on the data published by the World Federation of Exchanges (WFE), the analysis of statistical data on stock exchanges and their financial results was performed. The data refer to 57 stock exchanges - members of WFE.

### **Changes in the ownership structure of stock exchanges - demutualization processes**

According to the Anglo-Saxon model, the traditional organizational structure of stock exchange is a cooperative established by the members of stock exchange. In contrast, the continental (European) model is a stock exchange operating on the basis of the legal act, under the State control

[Ramos, 2003, p. 13]. In the cooperative structure usually the members are financial institutions who are intermediaries in securities trading representing the interests of investors (brokers) or their own (dealers). This form of exchange is a result of the fact that the capital market on which an efficient trading of securities should take place must be located in a very specific place, functioning at fixed times, according to the established rules of reporting and implementation of contracts and with a guarantee of the settlement of transactions (delivering cash and securities). In order to meet the conditions presented and to prevent an overflow on the trading floor, such brokers should have been selected who represented the interests of everyone concerned by the trade. Rationing of the access to the exchange was conducted through the sale of "places", that is by membership fees - high initial and lower annual fees [Steil, 2002, p. 2]. Nevertheless, non-members wishing to use the opportunities offered by the concentration of capital in one place had to pay the members of stock exchanges for representing their interests. In this way the members of the stock exchange have become the intermediaries (brokers) for transactions realized by the investors.

The technological factors and liberalization of the regulations concerning the capital flow and circulation forced changes in the form of operation of stock exchanges and thus determined the demutualization processes. The open outcry system used previously was replaced with the electronic trade in which the investors make investments in securities on their own [Gorham, 2011, p. 3]. The computerization of stock trading eliminated the intermediary role of brokers which was connected with the process of disintermediation. In turn, the liberalization of regulations on the capital movement and trade led to a gradual expansion of possibilities and at present, in some regions even to freedom in the activity of investment institution.

Demutualization is a process of moving away from the traditional cooperative (mutual) structure of stock exchanges [Steil, 2002, p. 6]. The basis of demutualization is the separation of property rights and membership of stock exchange. In this process the owners become third parties who are not the members of the stock exchange. It should be emphasized that a full demutualization of stock exchange is a complex process. One cannot specify a single event that causes an immediate demutualization. Generally, this process consists of four steps [Jacquillat, 2006, p. 155]. The first stage is considered as organizing the exchange in a cooperative form. The second stage is the transformation process of stock exchanges into for-profit organizations but the members of stock exchange are its owners and supervisors. The next step is to change the legal and

organizational structure for the joint-stock company in which the owners of stock exchange, apart from its members, are the external entities. The fourth step is to issue its own shares. At this stage the owners are the individual stock market investors and institutional investors. The shareholders become more diffused.

Literature mentions two basic reasons for demutualization. The basic reason is to reduce the control of exchange members (especially local, national ones) as the strategic owners. Stock exchanges operating in a competitive financial market, in order to be competitive, must reduce the costs for the issuers of securities and increase the investment portfolios for the investors. In contrast, the members of stock exchanges leading to maximization of their own profits from brokering do not always care about the competitiveness improvement of exchanges. The main justification is the belief that the private structure enables a faster response to new challenges in the environment [Jacquillat, 2006, p. 159].

Another reason for demutualization is raising capital - by selling shares - necessary for expansion and investment in technology. Studies show that the increase in capital in relation to demutualization is the secondary purpose or it may be no purpose at all [Steil, 2002, p. 6]. Most stock exchanges which conducted demutualization had no urgent need to obtain new capital. Moreover, in case of the lack of capital its increase may occur from membership payments without a necessity to involve the external owners.

Demutualization implies a departure from the traditional cooperative structure of stock exchanges. At the same time the exchanges acquire new non-members owners of exchange. Due to a different share of external owners the exchanges may be varied. The World Federation of Exchange proposed the classification of exchanges comprising of five categories. The first category are private, limited companies. These are stock exchanges registered as private companies, generally with a paid up share capital. In these exchanges the intermediaries are usually the sole owners of the exchange and their ownership, intermediations rights and activities are strongly linked. The second category are private, limited companies after demutualization, but not listed. The demutualization of exchange is a process by which a not-profit member-owner organization is transformed into a for-profit shareholder corporation. Ownership is more open. The third category is the publicly listed exchanges. The stock exchange goes public when its shares are listed on an exchange and are freely negotiable. The fourth category includes exchanges registered as associations or mutuals. These member cooperatives generally have no share capital. Access to membership is restricted. The last category regroups exchanges

with “other” legal status. The example are exchanges which have a government or semi-government agency structure and belong to the state [Devai & Naacke, 2012, p. 38].

### **Characteristics of the functioning of stock exchanges after the demutualization process**

Changing the organization of stock exchanges causes that the exchanges are more of an entrepreneurial example than a mutualized management structure. Assuming the formula of companies, their purpose of activities becomes to maximize profits. The group of stakeholders who are interested in the financial result generated by the exchanges are not members yet but the new owners-shareholders.

Stock exchanges after the demutualization process take a form of commercial business entities engaged in service activities. They provide services in the areas: issuers servicing, financial instruments trading (on cash and derivatives market), information dissemination and other which may include clearing and settlement services, sales of software for trade analysis, organizing trainings etc. [Gorczyńska, 2012, p . 33-35]. Each of the presented areas generates revenues and costs. Exchanges that want to be leaders must function effectively, diversifying their activity among the areas that provide the greatest opportunities for growth and thus revenues, at the same time resigning from providing the services that are not competitive. Therefore, they open new trading markets, e.g. for innovative small and medium-sized businesses, create new products as well as they acquire the functions from a value chain that were previously served by separate institutions. In addition, the exchanges target their efforts on using even newer and more efficient information technology and telecommunications as well as selling new products. These activities are aimed at attracting the largest possible number of clients - issuers and investors, and simultaneously optimizing costs.

Stock exchanges expand their business within the frames of the internal development or the external development - consolidation. Product diversification in the external development takes a form of horizontal consolidation. Exchanges of similar profile of activity (e.g. exchanges of derivatives) may consolidate, as exemplified by the CME Group formed by the merger of exchanges: the Chicago Mercantile Exchange (CME), Chicago Board of Trade (CBOT), the New York Mercantile Exchange (NYMEX), COMEX and the Kansas City Board of Trade. The exchanges of different product profiles may also consolidate, such as derivatives exchanges and cash exchanges, e.g. Deutsche Börse Group, in which

Deutsche Börse merged with Eurex. Today, the mergers between the exchanges in various countries dominate, resulting in the formation of transnational exchanges (e.g. NYSE Euronext, NASDAQ OMX). This leads to the phenomenon known as denationalization of international stock exchanges or international integration of exchanges [Chesini, 2007, p. 151].

Stock exchanges also "absorb" the activity that has not been included in the value chain so far. They do this by vertical mergers. This type of consolidation usually involves a combination of stock exchanges (quotation system, trading) with clearing and depository institutions, i.e. post-trade integration. Vertical integration among the stock exchange, clearing and deposit chamber took place in the Deutsche Börse (DB), Amsterdam and Brussels.

Both, horizontal and vertical consolidation are aimed at costs reduction, but also at attracting more and more business entities involved in the stock market transactions, therefore at increasing the competitiveness of the merging exchanges.

### **Threats associated with the activities of stock exchanges after the demutualization processes - outline of the problem**

Demutualization leads to the fundamental changes in the management and ownership of stock exchanges. In the area of property it is connected with an increasing role of external owners, including the institutional ones from a financial sphere. These investors are associated with the so-called impatient capital, searching for possibilities to obtain extraordinary profits in the short term [Ratajczak, 2012, p. 283]. The growing relevance of the owners presented and changes in the structure of exchanges aimed at profit may be connected with threats in the execution of socio-economic functions.

Generally, within the frames of the cash market a classic function of exchanges takes place - allocation, in which capital is transformed between its holders and those who notify a demand for it. After the demutualization processes, exchanges target their actions at the short-term, profitable business spheres. This is the sphere of derivatives market. Derivatives, in its original essence, were supposed to hedge risks (including currency exchange risk) of financial transactions carried out by the operators internationally, however, they have become a form of rapid, profitable but also risky earnings. Analyzing the global volume of options and (single) futures trading calculated using the amount of contracts in million in the years 1996-2010, it increased more than 10-fold, reaching a record of 436,785,502 option contracts in the year 2007 and 1,058,862,743 futures



contracts. [<http://www.world-exchanges.org/statistics/annual/derivative-markets/derivatives>]. Consequently, within the frames of the presented phenomena, "(...) more and more resources are invested in financial activity rather than the production of goods and services, that generate high private returns disproportionate to its social utility" [Tobin 1984, p. 14].

The activities of stock exchanges focused on short-term earnings can be connected with a danger of underfunding the countries or sectors of the economy. The owners from the financial sphere often treat their participation in the real economy as one of periodic and alternative forms of capital investment but not as a real long-term commitment in the ownership with the intention of developing the particular organization [Ratajczak, 2012, p. 283]. Therefore, as a result of tendency towards earning money quickly, instead of allocating capital in the development of industries in the economy, the capital will go to the most profitable projects which are not necessarily relevant for the economy development of the particular country. In an international scale this phenomenon may lead to capital outflow from the countries perceived as weak from point of view of investments (short-term ones). Due to investment opportunity, and therefore the allocation of capital globally, an excessive concentration of capital inflow may occur in some countries and a lack of access to it in the other ones. Moreover, in the case of a large inflow of foreign capital to the relatively illiquid financial markets may lead to losing the influence in the domestic markets in these countries. [Kowalak, 2006, p. 49].

The dynamic development of derivatives markets is a threat to the individual investors too. Derivatives are profitable in the short term, but they are also risky speculative instruments. Their multi-level structure concerning profits depending on the price of another asset has blurred the picture of risk [Gorczyńska, 2011, p. 83]. Their complexity is so high that even those who, on behalf of other market participants should assess the risk involved, such as rating agencies, are also the victims of asymmetric information. This has resulted in violation of the fundamental rules of trust between sellers (e.g. new financial products) and buyers. Currently, the old Latin maxim *caveat emptor* ("let the buyer beware") gains a new special significance [Freeman, 2010 p. 165].

The development of the derivatives markets may also lead to pathological phenomena concerning a long-term investment. In general, for cash equities there is a relationship between the ownership and direct realization of managerial functions or the ownership by ceding management functions to the hired managers. In case of derivatives, the ownership without the awareness of being a co-owner is possible as well as the ownership which generally is not accompanied by any rights or

obligations. The owner of derivatives may even be interested in bankruptcy of the entity whose activity is the source of derivative creation, or more often may be interested in a significant variability of the events affecting valuation of the derivatives held and in a possibility of speculative rent collection more than in stable development [Wigan, 2009, p. 165].

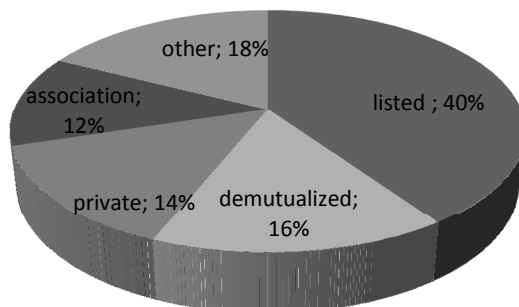
The pursuit for short-term profits may lead to the actions that threaten the security of trading on the stock market. Competition among the exchanges and between exchanges and OTC markets (ATS-s) may result in lowering the requirements for listed securities or business entities (institutional) accepted for direct trade. Indeed, stock exchanges, in order to attract new investors and increase turnover, are able to minimize the regulations defining access to the stock market. This was the case in the US where some exchanges such as the NYSE hindered trading of securities listed outside the stock exchanges, NASDAQ market did not impose such restrictions on its participants [Stoll, 2008, p. 17].

The contemporary industry of stock exchanges is characterized by competition. It is obvious that in a long-term perspective the ineffective exchanges will lose their market share. It should be clear that the stock exchange cannot only be seen as a commercial institution focused on increasing its efficiency. Stock exchanges are business entities providing "specific goods". According to the traditional approach, these services are public goods even if the exchange is private [Di Noia, 1999, p. 18-19]. Through the services of trading, issuing, listing, they execute the function of allocation, valuation of securities and control - functions of socio-economic character.

### **Characteristics of the activity of stock exchanges by organizational and legal form in numbers**

In order to verify the considerations presented in the theoretical part, data analysis was performed on the selected aspects of the functioning of stock exchanges. Firstly, we examined the extent to which the stock markets are exposed to the demutualization processes. For this purpose we analyzed the quantity and structure of exchanges according to their organizational and legal form in figure 1.

Figure 1. Breakdown exchanges by legal status (members of the World Federation of Exchange) in 2012



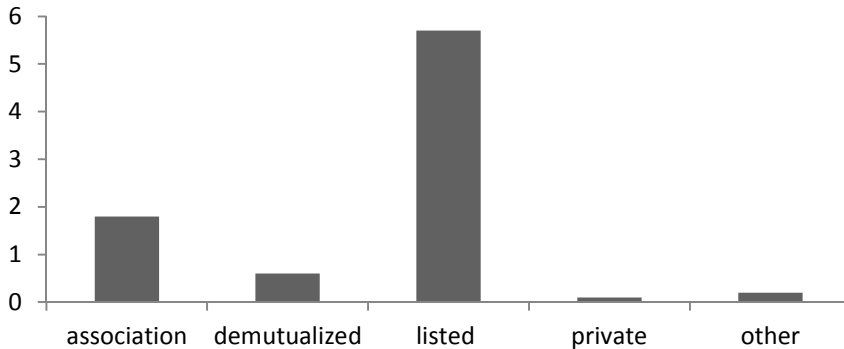
Source: R. Devai & G Naacke (2012, p. 8).

The largest group by legal form are listed exchanges (23 stock exchanges), that is 40%. They are dominated by NYSE Euronext, NASDAQ OMX Group, CME Group and Deutsche Boerse, which represented 57% of total revenues of this group in the year 2012. The next part (18%) are the stock exchanges of "other" legal status. They are represented by, among others, Abu Dhabi Securities Exchange, Moscow Exchange, The Egyptian Exchange. 16% are demutualized stock exchanges (9 exchanges). The demutualized group is dominated by China Financial Futures Exchange, Korea Exchange, National Stock Exchange of India and Taiwan Stock Exchange that accounted for 80% of the revenues. The private exchanges consist of 8 exchanges (14% of all exchanges). They are dominated by SIX Swiss Exchange and Taiwan Futures Exchange. The smallest group comprises of association/mutual exchanges (7 members, 12% of all exchanges). It is represented by 5 exchanges in Mainland China (Dalian Commodity Exchange, Shanghai Stock Exchange, Shanghai Future Exchange, Shenzhen Stock Exchange and Zhengzhou Commodity Exchange) that amounted to 99% of revenues of associations in the year 2012. All in all, a dominant part of stock exchanges has been exposed to the demutualization process. 74% of exchanges are for-profit, but only 26% are not-for-profit organizations. As many as 40% of are listed exchanges - exchanges that are on the highest stage of demutualization.

When analyzing the stock exchanges by legal status it is worth comparing the economic and financial results of each form of exchanges. It should be noted that the financial results, in addition to the legal form, are

influenced by other factors. The comparison was made according to annual net income and return on equity capital (ROE) of exchanges by legal status.

Figure 2. Net income of stock exchanges by legal status in 2012 (USD billion)

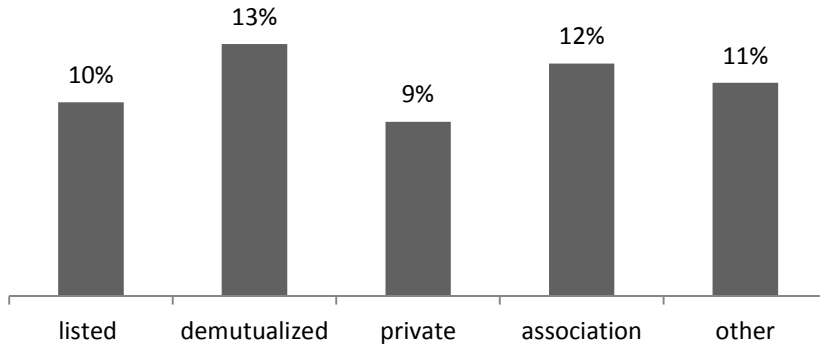


Source: R. Devai & G Naacke (2012, p. 18).

In accordance with figure 2 presented, the largest net income is generated by the listed exchanges. In 2012 it amounted to approx. 6 billion USD. The next group of exchanges (in terms of net income) were association exchanges (less than 2 billion USD). Other exchanges generated net income of less than 1 billion USD. Such high net income generated by the listed exchanges is connected with the fact that these exchanges constitute the largest percentage of operating exchanges and have the largest equity (of about 70 billion USD). Furthermore, within the frames of these exchanges the world's largest stock exchanges operate as: NYSE Euronext, NASDAQ OMX Group, CME Group and Deutsche Boerse. The global distribution of costs and revenues among each legal status reflects the weight of listed Exchange, which accounted for 80% of revenues in 2012 (in comparison with 40% of the membership).

Apart from net income, it is worth looking at other financial data. Figure 3 shows ROE (return on equity capital) of stock exchanges by legal status.

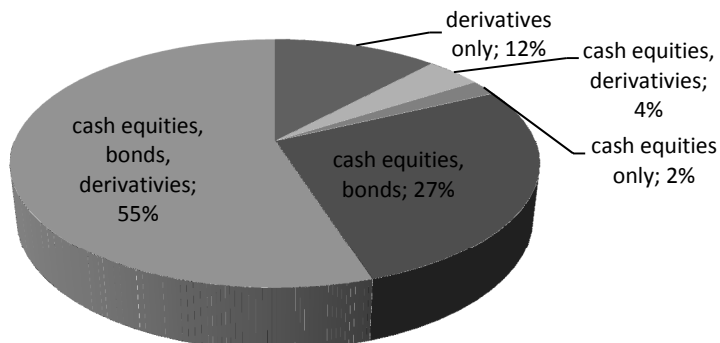
Figure 3. ROE of stock exchanges by legal status in 2012



Source: R. Devai & G Naacke (2012, p. 25)

When analyzing ROE for the individual exchanges we cannot see any significant differences in the level of this indicator. It is at a comparable level of approx. 10% for each type of exchange, with the highest 13% for the demutualized exchanges. The listed exchanges received one of the lowest ROE although their net income was the highest. This level of indicator is linked to the fact that these exchanges have the highest level of equity capital. The fact may be interesting that there are no significant differences in ROE between the non-profit and for-profit exchanges. As a matter of fact, the non-profit exchanges received even higher ROE (11%) than the for-profit ones (9%) [R. Dévai & G Naacke, 2012, p. 25]. Thus, the presented data do not allow drawing the conclusion that the stock exchanges after the demutualization process and the issuance of own shares operates more efficiently than the stock market not exposed to these processes.

Figure 4. Breakdown of exchanges by products in 2012



Source: R. Devai & G Naacke (2012, p. 10).

Apart from the financial data we should also examine the structure of products offered by stock exchanges. Among the analyzed members of the WFE (figure 4), most stock markets offer a wide range of products. 55% of the stock exchanges offered three classes of assets, i.e. cash equities, bonds, derivatives; 27% within the frames of classes of assets: cash equities, bonds and 4% within cash equities and derivatives. Only 14% were stock exchanges with one product that offer derivatives only, and only 2% cash equities.

Stock exchanges, in addition to product diversification, expand their range of services. Beside the classic services of listing and trading they run a post-trade activity. 77% out of all the members of the WFE are the exchanges performing the functions of clearing, settlement and depository services. The remaining 23% are non-active exchanges in the post-trade services but have a stake in the company providing the post-trade services. The example is The Central Counterparty Austria (CCP.A) which offers all clearing services for the Wiener Boerse (Wiener Boerse is with OEKB - Oesterreichische Kontrollbank), the joint-owners of CCP.A. Also Johannesburg Stock Exchange owns 44.55% of the Central Securities Depository.

Consequently, the stock exchanges, as a result of the process of demutualization and electronisation of trading, transform from the institutions offering cash market products into organizations offering a wide range of products and services beyond the classic listing and trading.

To sum up, the analyzed statistical data confirm that a dominant part (two-thirds) of stock exchanges was exposed to demutualization and as many as 40% ones are listed exchanges - the exchanges on the highest stage of demutualization. It cannot be concluded that the exchanges after the

demutualization process and the issuance of own shares operate more efficiently than the stock exchanges not exposed to these processes. In turn, analyzing the product structure of stock exchanges one can see that most of the exchanges have a diversified range of services.

## Conclusions

The conducted analysis created the basis for verification of the hypothesis that the demutualization processes determined changes in the rules of functioning of stock exchanges as well as created threats from point of view of socio-economic functions.

Stock exchanges make changes in the legal and organizational structure as well as diversify their activities in order to meet the market needs. It should be noted, however, that the activity of stock exchanges is partly seen as a public good even if they are managed by private people. In contrast, the increase in the efficiency of stock markets does not necessarily translate into the increase of quality of their socio-economic functions, and a short-term pursuit for profits may pose threats to the functioning of economy and society. General social problems are usually solved by the system of public supervision over the stock market [D. Switzer 2013, p. 104]. Therefore, the role of the state is important so that within the frames of creating the structures of stock exchanges there should be a system of public supervision established paying attention to the interests of society and economy.

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