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Operations of Deutsche Börse and the role of the German stock exchange in relation to several European stock exchanges.

Abstract

This article analyzes the operation of the German stock exchange on the basis of applicable national regulations, directives of the European Parliament and the adopted manner of operation of the entity in accordance with the information contained on the official website of the stock exchange. The following part of the article presents a comparative analysis of fifteen European stock exchanges. The comparative criterion was the achieved results concerning the offered financial instruments. The study was conducted on the basis of data from the Federation of European Stock Exchanges covering the state at the end of January 2021.

Keywords: capital market, stock exchange, financial instruments

JEL classification codes: G10.

Paper type: Theoretical research article

Introduction

The purpose of this research paper is to analyze how the German stock market works. The analysis of the problem is based on two pillars. The first is to analyze the legal environment and conditions that allow a company to do business in the capital markets. The second is the editing and analysis of selected figures for the financial instruments of the selected European stock exchanges. Germany is one of the most developed industrialized

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countries in the world and its economy is the fourth largest after the United States, China and Japan. Despite the serious eurozone crisis, Germany remains a relatively good export-oriented country, benefiting from rapidly increasing demand from Asian and South American countries. In addition, a lot of European capital has flowed into Germany to escape the uncertainties of the debting EU countries. Therefore, it is important to see how the Deutsche Boerse works compared to other stock exchanges and under what legal and organizational framework conditions it operates.

Legal conditions of the German financial market

The main document regulating the functioning of the financial market in Germany is the Act on Trading in Securities (WpHG, 09.09.1998). It contains regulations concerning:

1. How financial statements are monitored;
2. Issues related to the exercise of market surveillance;
3. Procedures for entering into forward transactions;
4. The applicable criminal liability of market participants and the established administrative penalties;
5. Ways of resolving disputes;
6. Principles of operation of investment companies;
7. The issue of recognition of foreign markets and the planned procedures in the event of finding abuses;
8. Applicable liability in the event of failure to comply with the disclosure obligations.

Nevertheless, it is not the only document that defines the rules of the stock exchange. Due to the established administrative division of Germany, supervision over the stock exchanges is performed at the following levels:

1. federal,
2. local,
3. stock exchange.

The federal body is the Federal Financial Supervisory Authority, which dates back to 2002. The office in question operates on the basis of the law of the federal financial supervision authority (FinDAG, 22.04.2002). The main tasks of the Federal Financial Supervisory Authority are:

1. monitoring of insurance companies,
2. banks monitoring,
3. monitoring of investment companies,
4. monitoring of companies in the financial services sector,
5. monitoring whether the disclosure obligation is met by listed companies,
6. monitoring of hedge funds,

7. approving issue prospectuses of both companies and closed-end investment funds.

If, in the course of the tasks performed, the office finds an abuse, the case is referred to the prosecutor's office, which takes the necessary steps for a given case. At the local level, the Stock Exchange Supervision Offices are responsible, and at the lowest level, these functions are performed by the Market Supervision Office.

Joint-stock companies operate in accordance with the law of joint-stock companies (AktG, 06.09.1965). Nevertheless, their functioning is influenced by the provisions of the acts related to the capital market, such as the law on the prospectus (WpPG, 22.06.2005) or the stock exchange law (BörsG, 21.06.2002).

German issuers, acting in accordance with the Act on the securities depository (DepotG, 04.02.1937), are obliged to entrust the purchased shares to the central securities depository. The selected credit institution appears on the depository side. According to the provisions, the functioning of many depository institutions is expected. However, at present, the only institution with this role in Germany is Clearstream Banking AG. When discussing the subject of the applicable capital market legislation, one should also mention the Act on the implementation of information transparency requirements (TUG, 15.12.2004), which implements Directive 2004/109 / EC. As a result, all the most important directives of the European Commission in the field of the public market are met in Germany.

Division and functioning of the German capital market

The capital market in Germany (Fig. 1) can be divided into:

1. official regulated market,
2. regulated unofficial market.

The functioning of the official regulated market is based on the provisions of Community law. Each potential issuer is subject to one of the two mandatory disclosure requirements. Contrary to the official regulated market, the regulated unofficial market operates in accordance with the applicable restrictions of the exchange within which it is in force. Thus, the applicable rules for the functioning of the market are contained in the Open Market Regulations. Moreover, within the aforementioned market, one can distinguish the "Entry Standard" segment with an increased information requirement.

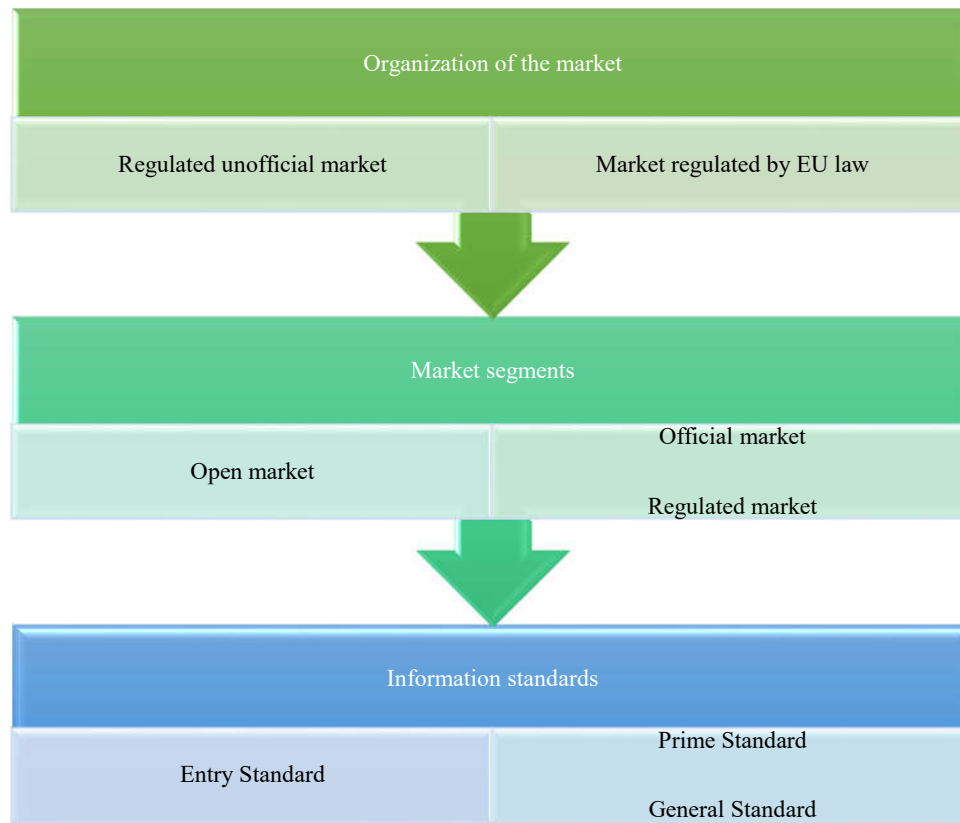


Figure 1. The structure of the capital market in Germany

Source: Source: Own study based on: Nowicki P., 2010, p. 107

Article 2 point 5 of the Act on Trading in Financial Instruments states that the official market functions in an organized manner. Before a given financial instrument is admitted to trading, the issuer must first submit a relevant application for admission to introduction. The aforementioned document may be submitted with an institution operating pursuant to article 53, point 1, paragraph 1 or article 53, point 1, paragraph 1 of the banking law. Then the application is sent to the Approval Office.

The placing company must be an entity that is admitted to the market with the right to participate in the conclusion of the commercial transactions. In addition, the company is required to provide with the application a document confirming its equity capital of EUR 730,000 or more. If a potential issuer has the above amount on its own, it may submit an application on its own behalf. In the case of the first admission to the exchange market of planned issues, the issuer must additionally meet 4 conditions:

1. have a documented history of the company's operation for at least 3 years,
2. estimate the potential value of the shares admitted to trading or have equity of at least EUR 1.25 million,
3. to introduce to the stock market at least 10,000 shares,
4. have free float shares of at least 25%.

An important document enabling the application for admission to the stock exchange market is the prepared and published prospectus. It enables the analysis and evaluation of a potential issuer (McAndrews, J., & Stefanadis, C.). The prospectus prepared in accordance with applicable regulations should contain the Management Board's report for the last year as well as the submitted financial statements for the last 3 years. In the case of domestic companies, the documents in question must be prepared in German, for foreign companies it is respectively English. It depends on the decision of the Admission Office whether the submitted documentation and the content contained therein will be sufficient to allow the selected entity to carry out the issue on the market.

Participation in the capital market also obliges issuers to comply with the disclosure obligation in accordance with the applicable law on trading in financial instruments by:

1. issuing to the public announcements on current activities,
2. information and notification of information and facts arising during the operation,
3. publishing reports covering the first 6 months of the financial year,
4. publishing financial statements for the full accounting period.

General Standard is a segment with relatively low requirements on the German market within the official regulated market. It is aimed mainly at domestic investors who will be interested in entrusting funds in shares of domestic companies. Upon entering the market, the issuer is included in this segment. Each issuer participating in the segment is included in the CDAX index. To be able to participate in the General Standard segment, an issuer must:

1. Fill the following requirements:
 - a. the offered shares must already be listed on an official regulated market.
2. Comply with information obligations by:
 - a. publishing reports on current activities,
 - b. publishing financial statements for the first six months of operation for each commenced financial period,
 - c. application of accepted accounting standards.

On the official regulated market there is also a second segment called Prime Standard. It is defined on the basis of applicable European Union law. Prime Standard's target group are international investors who require comprehensive and efficient information on issuers whose shares are in circulation. Thus, in addition to the minimum requirements set by the General Standard segment, companies are obliged to follow and comply with international practices in the field of informing investors and transparency of information. Joining the Prime Standard segment means joining the main German indices such as DAX, TecDAX, MDAX, SDAX. The body responsible for admission to the Prime Standard segment is the Admission Office. In order for an issuer to be admitted to the segment, the following requirements must be met:

1. the shares offered on the market must already be listed on an official regulated market,
2. an application will be submitted by the issuer for admission to the Prime Standard segment.

Apart from the requirements on entities that are participants of the discussed segment, they are obliged to:

1. comply with the obligations provided for the General Standard segment,
2. publish a calendar setting out the order in which financial information is published throughout the year,
3. organizing at least one conference dedicated to analysts throughout the year,
4. publication in English of information on the company's day-to-day operations,
5. publication of quarterly reports in English and German.

The operation of the Open Market is based on Article 57 of the Exchange Law, which states that if financial instruments do not exist in other segments, they may be admitted to trading on the Open Market and if the exchange is able to ensure supervision and smooth trading.

Apart from company shares, other financial instruments are also listed on the Open Market, such as:

1. investment certificates,
2. bonds,
3. warranty.

Article 2 point 5 of the Act on Trading in Financial Instruments states that the Open Market is not a regulated market or an organized market from the perspective of public law. Thus, the introduction of new instruments to the market is subject to the guidelines administered by Deutsche Börse AG. Moreover, the admission to trading process requires the support

of an entity registered on the stock exchange, authorized to conclude direct trading of listed instruments. The entity must then submit an application for approval and admission of the financial instrument to trading. Then it will be up to the administrative body whether a given company will be admitted to the market. On the discussed market, the issuer is not required to meet the disclosure requirements. It must, however, meet the formal requirements, which include:

1. Provision of all documentation and publication of information should be made in both English and German.
2. Submission of an application for admitting the instrument to trading by a supporting entity. The application must contain details of the instrument as well as details of the places where the real instrument is already listed.
 - a. Where the financial instrument is not yet listed on any market, information about the issuer must be provided with the application in the form of a prospectus, which will enable the administrative body to assess it.
3. Keeping the administrative body informed about information affecting the functioning of both the issuer and the financial instruments it offers.

The open market may be an alternative solution for representatives of small and medium-sized enterprises looking for quick, simple and relatively low-cost access to stock exchange quotations and capital (Boerdlein, R. M.). Despite the lack of regulation of the market by public law, it should be borne in mind that the discussed market is monitored by two independent entities:

1. Federal Financial Supervision - an authority that monitors the course of trading in terms of possible abuses, with particular emphasis on the phenomenon of insider trading,
2. Supervisory Office - a body monitoring the formation and calculation of offered prices of shares quoted on the market.

With the emergence of the alternative market, Deutsche Börse AG created the Entry Standard segment, which is intended to be an optional choice for the existing higher-standard segments, coexisting on an official regulated market operating on the basis of Community law (Cetorelli, N., & Peristiani, S.). The target group of the Entry Standard segment are private equity / venture capital investors seeking access to the capital market while maintaining a minimum of formalities to be fulfilled. The main application documents are:

1. For public offerings, an approved prospectus by an established national regulatory authority.
2. In the case of private placement offers - information memorandum.

3. A submitted declaration on the issuer's commitment to operate in accordance with the applicable rules of the Entry Standard and the open market.
4. Submitting a declaration on the issuer's commitment to comply with the imposed disclosure requirements.
5. Document confirming the support of the entity introducing to the market.

In addition to the application requirements, it is required to publicly place on your own website information such as:

1. Current company data;
2. The current calendar of key events in the company;
3. Published audited financial statements;
4. Published reports of the Management Board subject to audits;
5. Published semi-annual reports presenting current activities;
6. Any information affecting the issuer's assessment.

The Entry Standard segment is overseen by the Federal Financial Supervisory Authority to prevent potential misuse of classified information (Kompa, K., & Witkowska, D.). The issues related to the pricing process are monitored by the Supervision Office, and the issuer is responsible for monitoring compliance with the disclosure requirements.

Comparative analysis of capital market data in Germany against the background of selected European markets

For the purpose of conducting a comparative analysis between the German entity and other European stock exchanges, data collected by the Federation of European Stock Exchanges was used. In order to conduct the research, information was obtained on 4 offered financial instruments: shares, bonds, ETF certificates and warrants. For each type of financial instrument, data was collected related to:

1. The number of financial instruments listed on the stock exchange;
2. The number of conducted buy / sell transactions of listed financial instruments;
3. Value of turnover of listed financial instruments.

In addition, at the end, the capitalization value achieved by the analyzed stock exchanges was compared. All the data subject to this analysis refer to the state at the end of January 2021.

Table 1. Summary of the financial data of the capital market of selected European stock exchanges at the end of January 2021

No.	Stock exchange name	Financial instruments														
		Shares			Bonds			ETF			Warrants					
		a	b	c	a	b	c	a	b	c	a	b	c			
1.	Athens Stock Exchange	172	646120	1224,7	56	1276	13,2	1	74	0,3	0	0	0	0		
2.	Bolsas y Mercados Españoles (BME)	2722	4370799	30966,1	2866	24487	392352	5	0	134,7	0	0	0	0		
3.	Bucharest Stock Exchange	83	60749	160,5	7	0	0	1	788	0,3	174	9974	11,8			
4.	Budapest Stock Exchange	45	184028	683	155	2	0,3	1	129	0,4	10	288	0,5			
5.	Bulgarian Stock Exchange	258	7456	13,2	87	43	4,3	12	64	0,1	0	0	0			
6.	Cyprus Stock Exchange	106	1731	1,4	40	13	0	0	0	0	0	0	0			
7.	Deutsche Börse	485	20517763	170330,4	31474	28088	542,5	1578	1513799	22369,9	417401	60195	631,8			
8.	Euronext	1489	31864480	178235	48672	22462	391	1405	539509	8031	2086	8652	126			
9.	Luxembourg Stock Exchange	142	626	3,2	33614	151	5,5	86	0	0	0	0	0			
10.	Malta Stock Exchange	27	521	3,7	186	1211	17,3	0	0	0	0	0	0			
11.	Nasdaq Nordics & Baltics	1068	20532294	84353,6	8369	51224	61449,9	15	44716	618,6	10224	358888	580,9			
12.	Prague Stock Exchange	56	74799	419,5	110	449	30,9	3	0	0	82	325	0,9			
13.	Vienna Stock Exchange	806	540102	3162,6	6057	0	0	114	362	3,2	8445	2440	31,5			
14.	Warsaw Stock Exchange	808	3657532	7372,4	519	5817	64,8	7	9840	12,6	2187	43482	68,2			
15.	Zagreb Stock Exchange	101	7053	18,6	26	8	2,7	2	0	0	0	0	0			

Source: Own study based on statistical data of the Federation of European Securities Exchanges (FESE)

Explanations:

- a- Number of listed financial instruments;
- b- Number of buy / sell transactions for quoted financial instruments;
- c- Trading value of listed financial instruments [million euro].

In order to analyze the obtained data in detail, the following figures (2-14) compare the analyzed European stock exchanges in terms of individual offered financial instruments due to their offered quantity, interest of market participants measured by the number of buy / sell transactions, as well as the achieved value of turnover in given financial instruments.. Finally, Figure 14 presents the capitalization of the analyzed exchanges.

Figure 2 presents the number of shares listed on selected European stock exchanges as at the end of January 2021.

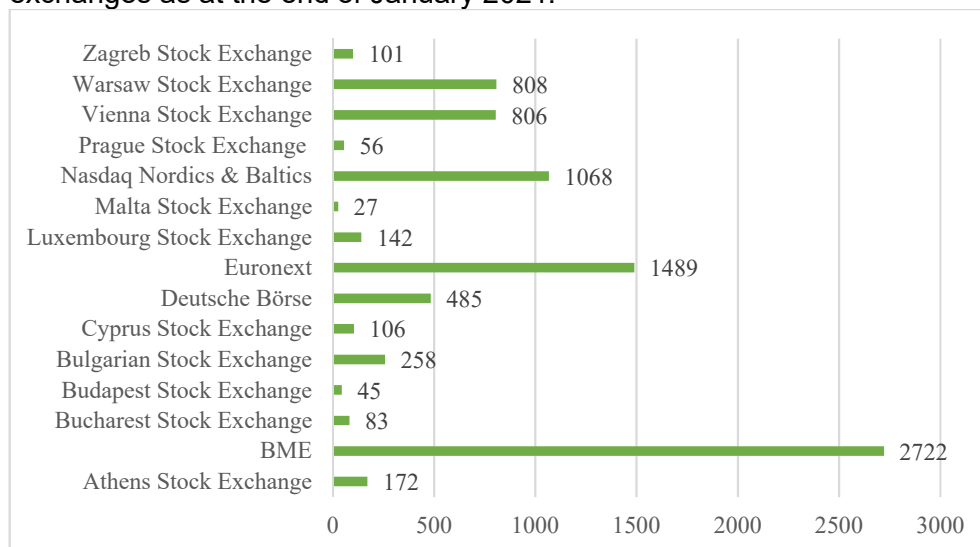


Figure 2. Number of shares listed on selected European stock exchanges at the end of January 2021

Source: Own study based on statistical data of FESE

On the basis of Figure 2, it can be seen that the Spanish stock exchange Bolsas y Mercados Españoles (BME) is the dominant entity in terms of the number of listed shares. The difference between this entity and Euronext, placed in second place, is 1,233 shares. The German stock exchange is in 6th place with 485 shares. The Malta exchange offered the lowest number of shares.

The third figure shows a graph showing the number of buy and sell transactions made at the end of January 2021 on the exchanges in question.

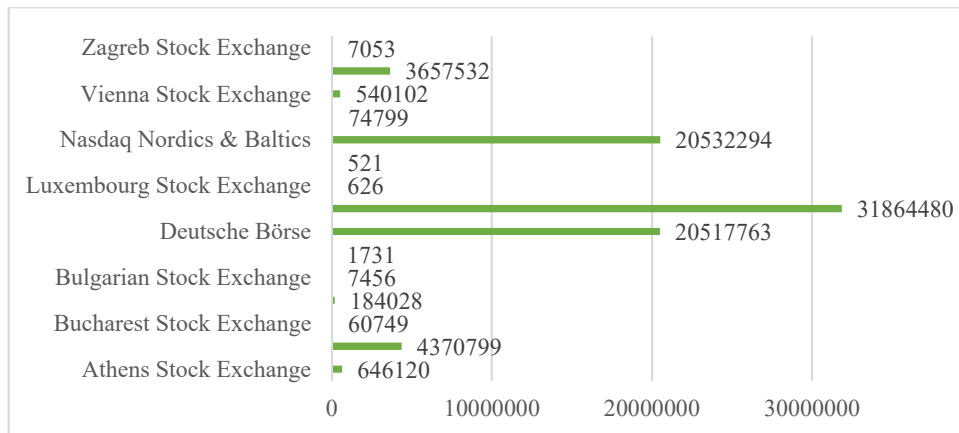


Figure 3. Number of share buy / sell transactions on selected European stock exchanges at the end of January 2021

Source: Own study based on statistical data of FESE

The data in Figure 3 shows that the German stock exchange came third in the ranking right after Nasdaq Nordics & Baltics. The stock exchange with the highest number of share transactions was Euronext. The lowest number of transactions was made on the Maltese stock exchange. The difference between the exchange with the largest number of transactions and the exchange with the smallest number of transactions is 31,863,959 transactions for buying / selling shares. Figure 4 presents the value of trading in shares on the stock exchanges at the end of January 2021.

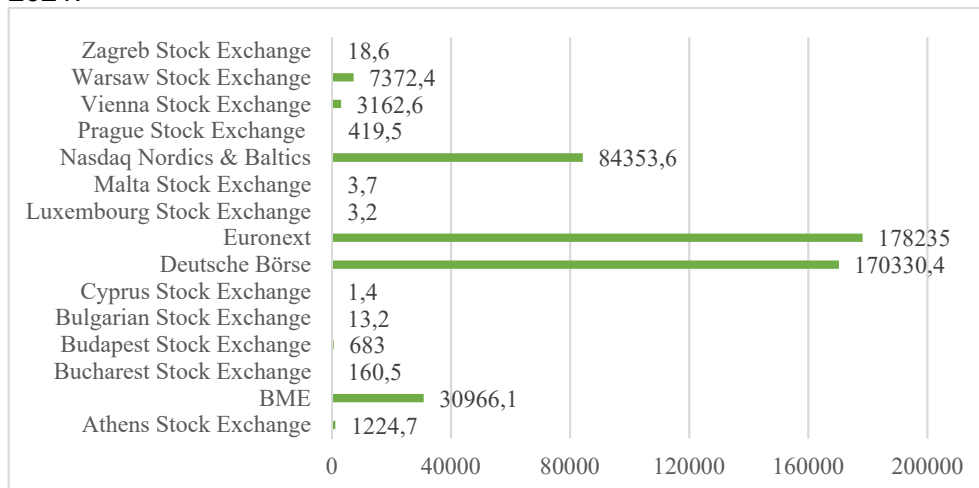


Figure 4. Value of equity trading on selected European stock exchanges at the end of January 2021 [million euro]

Source: Own study based on statistical data of FESE

On the basis of the values quoted in Figure 4, it can be seen that in the case of value from trading in shares, only Euronext is ahead of Deutsche Börse. Both entities achieved relatively similar values, which significantly differ from the results achieved by other entities. The last place was taken by the Cyprus stock exchange, the value of trading in shares at the end of January 2021 amounted to EUR 1.4 million.

Figure 5 shows the number of bonds listed on the exchanges in question.

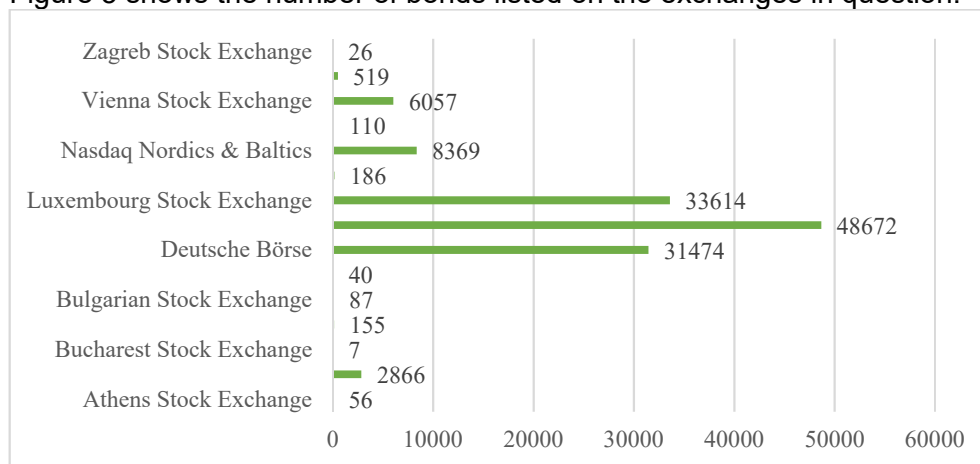


Figure 5. Number of bonds listed on selected European exchanges at the end of January 2021

Source: Own study based on statistical data of FESE

The data in Figure 5 show that Deutsche Börse ranks 3rd in the ranking in terms of the number of listed bonds. Euronext was ranked first, while the Bucharest Stock Exchange was last in the ranking. The difference between the first and the last entity is 48,665 listed bonds.

Figure 6 shows the number of bond purchase and sale transactions concluded on the analyzed exchanges.

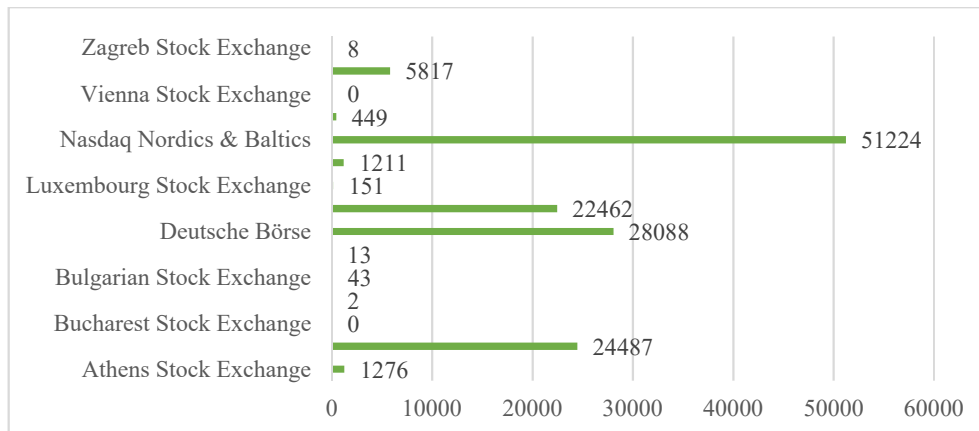


Figure 6. Number of bond buy / sell transactions on selected European exchanges at the end of January 2021

Source: Own study based on statistical data of FESE

On the basis of Figure 6, it should be noted that not all of the exchanges in question have factual data. The lack of information applies to two entities: the Bucharest Stock Exchange and the Vienna Stock Exchange. The Nasdaq achieved the highest result. Deutsche Börse is second in the ranking. The Budapest Stock Exchange shows the lowest result among the exchanges for which data exist. On the Hungarian stock exchange at the end of January 2021, only 2 purchase / sale transactions of bonds were recorded.

Figure 7 presents data on the value of bond trading on the analyzed exchanges at the end of January 2021.

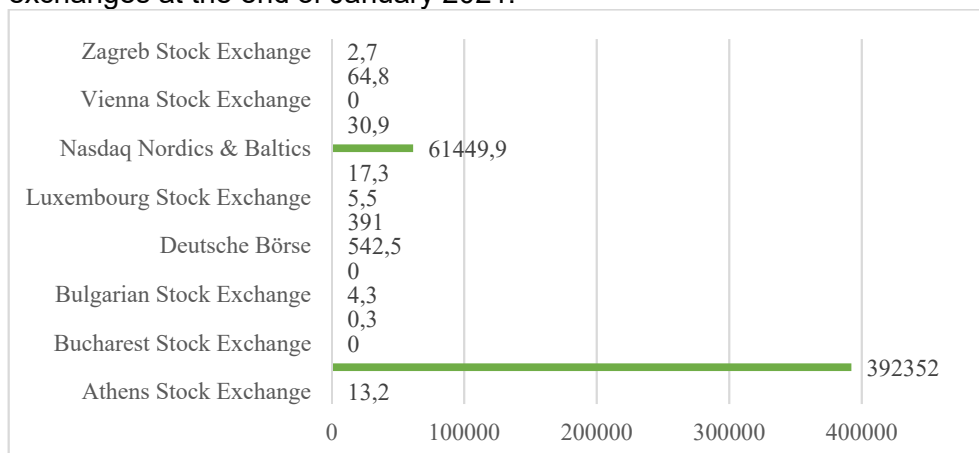


Figure 7. Value of bond trading on selected European stock exchanges at the end of January 2021 [million euro]

Source: Own study based on statistical data of FESE

As shown in Figure 7, similarly to Figure 6, there is no data for the two entities mentioned. The leader of the list is the Spanish stock exchange with a profit of over 392 billion euros. Nasdaq ranked second with EUR 61.5 billion. The remaining entities achieved the value of trading in bonds at the level below PLN 1 billion. Deutsche Börse came third in the ranking.

Figure 8 presents data on the number of ETF certificates listed at the end of January 2021.

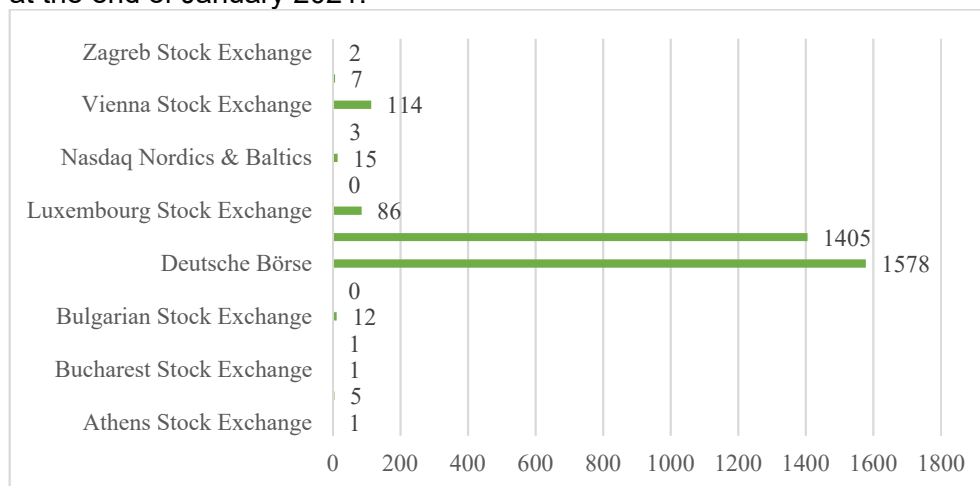


Figure 8. Number of ETF certificates listed on selected European exchanges at the end of January 2021

Source: Own study based on statistical data of FESE

From Figure 8, it can be seen that Deutsche Börse ranks first with the result of 1,578 ETF certificates listed. There is no information on the Cypriot and Maltese stock exchanges. The entity behind the German stock exchange is Euronext. The remaining entities have marginal values compared to the leading stock exchanges.

Figure 9 shows the number of concluded ETF purchase / sale transactions as of the end of January 2021.

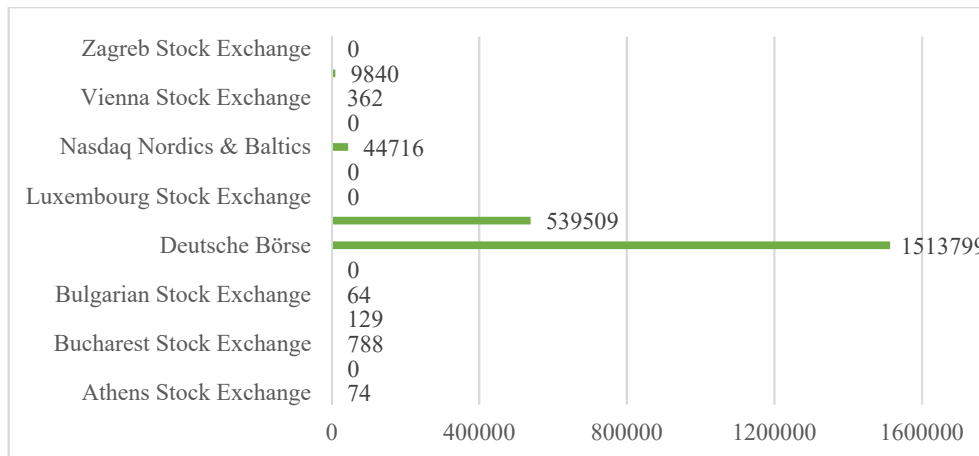


Figure 9. Number of ETF buy / sell transactions on selected European exchanges at the end of January 2021

Source: Own study based on statistical data of FESE

According to the data in Figure 9, the largest number of ETF purchase / sale transactions were performed on the German Deutsche Börse. The Euronext exchange ranks second with 539,509 transactions. The Nasdaq exchange is also located above the result of 10,000 transactions. Other entities reached marginal values or no transactions were concluded at the end of January 2021. Figure 10 shows the value of trading in ETF certificates on the exchanges in question as at the end of January 2021.

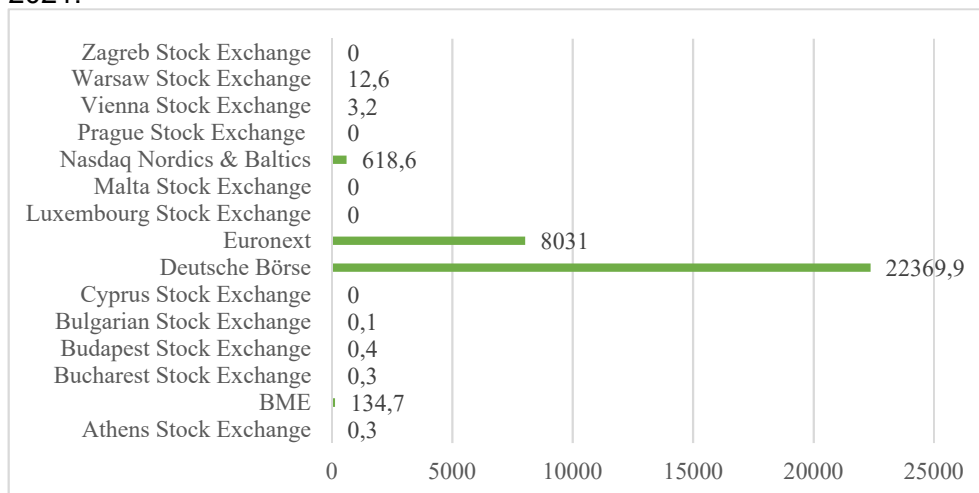


Figure 10. The value of trading in ETF certificates on selected European exchanges at the end of January 2021 [million euro]

Source: Own study based on statistical data of FESE

Based on the data presented in Figure 10, it can be concluded that in the above list there are only two dominant entities with a turnover value exceeding EUR 1 billion: Deutsche Börse and Euronext. The third entity in the classification: Nasdaq recorded the value of trading in ETF certificates at the level of less than EUR 619 million at the end of January 2021. The value of turnover up to EUR 1 million was not achieved by the 9 analyzed exchanges. Figure 11 shows the number of listed warrants on selected European exchanges as at the end of January 2021.

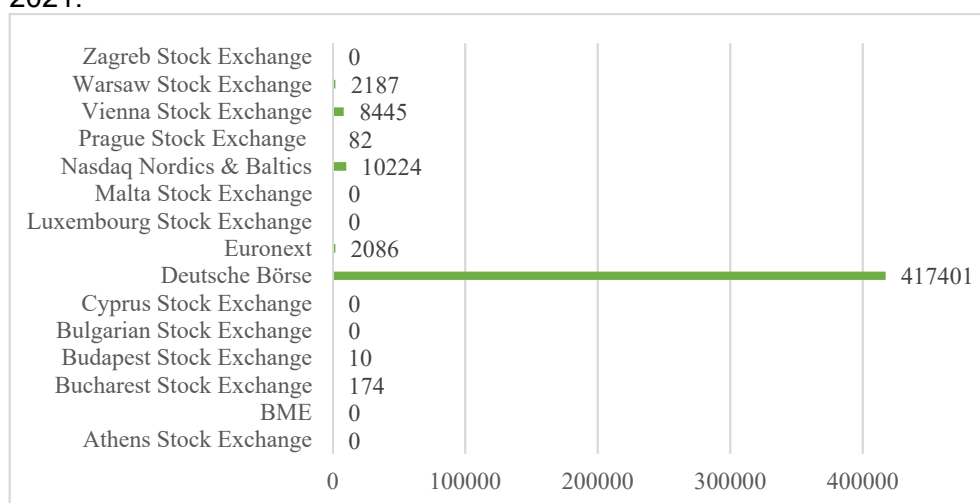


Figure 11. Number of warrants listed on selected European exchanges at the end of January 2021

Source: Own study based on statistical data of FESE

According to the data shown in Figure 11, the leading entity is Deutsche Börse with the result of 417,401 listed warrants. The achieved result represents 95% of all warrants listed on the analyzed exchanges. No warrants were recorded on the seven analyzed entities.

Figure 12 shows the number of concluded warrant purchase / sale transactions on the analyzed markets as at the end of January 2021.

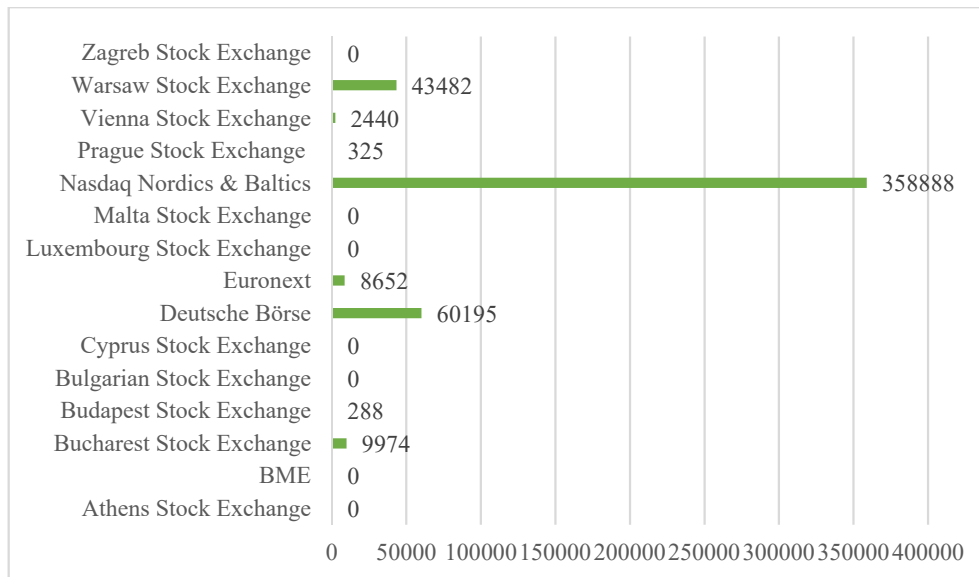


Figure 12. Number of buy / sell transactions of warrants on selected European exchanges at the end of January 2021

Source: Own study based on statistical data of FESE

According to the information presented in Figure 12, the largest number of concluded transactions was recorded on the Nasdaq Nordics & Baltics exchange. Deutsche Börse is second in the ranking with a result almost six times lower. The podium is closed by the Warsaw Stock Exchange with 43,482 concluded transactions. The remaining entities that recorded purchase / sale transactions achieved a result of less than 10,000 transactions at the end of January 2021.

Figure 13 shows the value of warrant turnover on the analyzed entities as at the end of January 2021.

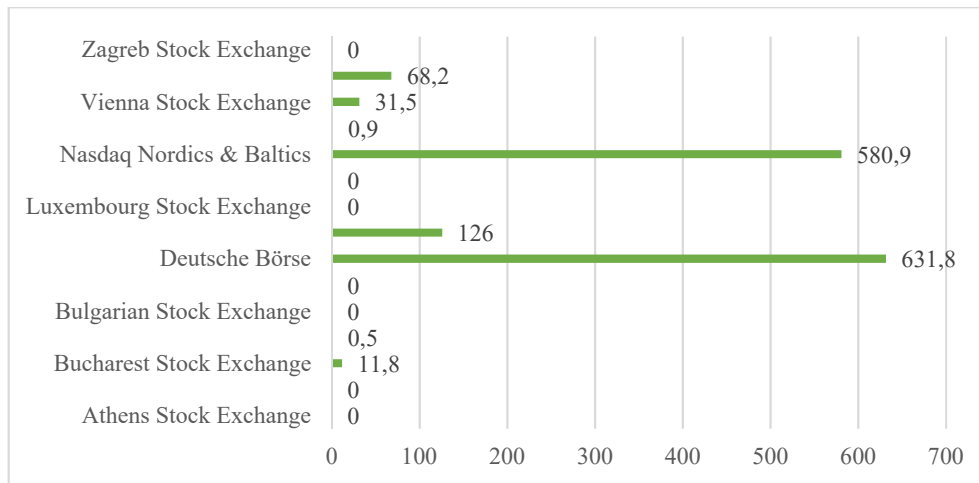


Figure 13. The value of warrant trading on selected European exchanges at the end of January 2021 [million euro]

Source: Own study based on statistical data of FESE

Based on the data presented in Figure 13, it can be observed that the highest value of turnover was recorded on the German market. Only three entities have achieved a result above EUR 100 million, they are: Deutsche Börse, Nasdaq Nordics & Baltics and Euronext. The aforementioned entities are responsible for 92% of the turnover of all analyzed European exchanges.

Conclusions

After analyzing the German stock exchange against other entities, it can be noticed that in the case of the market:

1. Shares - German Deutsche Borse, although having a relatively small number of shares listed on the stock exchange, is on the podium in terms of the purchase / sale transactions carried out and the value of trading in shares. In terms of the number of transactions, the German stock exchange came third, while the value of Deutsche Borse's turnover was second. The obtained results show that in the case of the German stock exchange, the highest average number of transactions per share was recorded among the other exchanges (average 42,304 transactions per share) and the highest average value of turnover per transaction among other exchanges (average EUR 8,301 per transaction).
2. Bonds - despite the relatively large number of listed bonds, the number of buy and sell transactions was not only lower than the number of listed bonds, but also the value of bond trading was marginal in relation to parent entities. For comparison, the trading value of Nasdaq Nordics & Baltics

- was 113 times higher, and the result achieved by Deutsche Boerse was 723 times lower than the BME exchange, which is in the first place.
3. ETF - the German stock exchange recorded the best results both in terms of the number of ETF certificates listed, as well as the number of buy / sell transactions concluded and the value of turnover achieved. It is worth noting that in the discussed market there are 3 dominant entities of the said market. The number of ETF purchase / sale transactions in Deutsche Boerse is almost three times higher than the second-placed Euronext exchange. However, in the case of the turnover value, this result is more than 2.5 times higher than Euronext, which is second in the ranking.
 4. Warrants - Deutsche Boerse is the leader in the number of listed warrants, representing 95% of all warrants on the discussed European exchanges. Nevertheless, the number of buy / sell transactions oscillated around 60,000 (almost six times less than Nasdaq Nordics & Baltics). Nevertheless, it was Deutsche Boerse that recorded the highest value of warrant turnover (EUR 50.9 million higher than Nasdaq Nordics & Baltics, which is ranked second).

Considering the above, it can be concluded that the position of Deutsche Boerse on the European capital market is extremely important. After a comparative analysis of the data on the offered financial instruments, the German stock exchange should be identified as an entity that has a real impact on the shaping of the capital market in Europe. A well-established position of the entity in relation to the offered financial products may have a real impact on the dynamics of growth and the position of competitive markets. Due to the possible influence of the German capital market, it is worth making an attempt to explore this area. This article is an introduction to the discussed issue and requires further research.

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6. Act of 22.06.2005 on Law on the preparation, approval and publication of the prospectus, which is to be published when securities are offered to the public or when securities are admitted to trading on an organized market (*Gesetz über die Erstellung, Billigung und Veröffentlichung des Prospekts, der beim öffentlichen Angebot von Wertpapieren oder bei der Zulassung von Wertpapieren zum Handel an einem organisierten Markt zu veröffentlichen ist – Wertpapierprospektgesetz/ WpPG*), as amended
7. Act of 05.01.2007 on Law implementing Directive 2004/109 / EC of the European Parliament and of the Council of December 15, 2004 on the harmonization of transparency requirements with regard to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001 / 34 / EG (*Gesetz zur Umsetzung der Richtlinie 2004/109/EG des Europäischen Parlaments und des Rates vom 15. Dezember 2004 zur Harmonisierung der Transparenzanforderungen in Bezug auf Informationen über Emittenten, deren Wertpapiere zum Handel auf einem geregelten Markt zugelassen sind, und zur Änderung der Richtlinie 2001/34/EG-Transparenzrichtlinie-Umsetzungsgesetz/ TUG*), as amended
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