

BUCHAREST STOCK EXCHANGE DEVELOPMENT BETWEEN 1995 AND 2015

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ABSTRACT. At the end of November 2015, Bucharest Stock Exchange reached the 20th anniversary since re-opening. The present paper is a survey of Bucharest Stock Exchange evolution along the past two decades. It highlights the main milestones that marked the evolution of the main Romanian capital market. The paper also offers a detailed presentation of the main market and of the alternative trading system evolution within Bucharest Stock Exchange. It briefly discusses BVB's strengths, weaknesses, opportunities and threats and concludes that through its capacity and willingness to change, adapt, and face new challenges, one can look with confidence at the Bucharest Stock Exchange's future development.

Key words: Bucharest Stock Exchange, 20 years, survey

JEL Classification: G19

Introduction

A discrete announcement marked the 20 year anniversary of Bucharest Stock Exchange re-opening on November 23rd 2015. The present survey paper was written in order to mark this milestone in Bucharest Stock Exchange (BVB² henceforth) development and to present the main steps that marked this process. BVB evolved from a non-profit public institution to a for profit public company that manage two trading platforms, the main/regulated market and the alternative trading system (ATS). Moreover, BVB lists its own shares within the main market Premium category. Through this institutional transformations, BVB

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² In order to preserve its unique identity it was chosen to use the Romanian abbreviation for Bucharest Stock Exchange instead of that resulting from the translation of the name in English.

followed the trend of other securities exchanges around the world and proved a good capacity to accommodate the necessary changes related to the rapid evolving financial market within the European Union and at the world level.

The paper is structured as follow: the first section presents the BVB general evolution, the second part describes BVB regulated/main market development with subsections dedicated to equity, bond, and other securities sectors, the third section briefly presents the ATS segment at BVB, the fourth part briefly discusses BVB’s strengths, weaknesses, opportunities and threats, and the fifth part concludes.

While RASDAQ market was part of BVB between December 2005 and October 2015, this segment was not discussed here due to its special evolution and problems.

BVB general evolution

The re-opening of the exchange was considered two decades ago an important event that showed the country willingness to break the ties with the communist past and look toward a different future.

The main milestones that influenced the development of BVB as an institution are presented in Table 1. They mark the transformation of BVB from a non for profit institution (as it was the common legal status for most exchanges around the world 20 years ago) into a for profit public institution that administrates two trading platforms for several security markets and lists it own shares. The diversification of these platforms is highlighted by the absorption of RASDAQ Electronic Exchange in 2006 and by the introduction of the Alternative Trading System (ATS) in 2010. The 20th year of activity at BVB was marked by the closure of the controversial RASDAQ market³ and the further development of the ATS system by the launch AeRO segment dedicated to domestic small companies. AeRO facilitated the transfer of over 250 companies from RASDAQ market to ATS.

Table 1: The main events for BVB development as institution:

1995	<p>April 21st: BVB was re-established as a public non-profit institution based on the National Securities Commission Decision no.20/1995; in this capacity, BVB was under the administration of the trading member association; the 24 to 28* trading members created the Bucharest Stock Exchange Association; the number of member was not limited, providing the new members fulfilled a minimum set of requirements.</p> <p>June 23rd: the official inauguration</p>
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³ For more details regarding the RASDAQ market please see Pop et al.(2014) and Pop et al.(2015).

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	November 20th : the first trading session
2000	The introduction of an improved and transparent website, easy to read and to be used mainly by the domestic investors.
2003	BVB becomes an affiliated member of the Federation of European Securities Exchanges (FESE).
2005	BVB changes the legal status and becomes a for profit public company (joint stock company) based on the decision taken by the Stock Exchange Association. The members of the respective association became the BVB shareholders. The absorption of the RASDAQ Electronic Exchange was approved and the process was completed in December 2005. RASDAQ became the unregulated/OTC market of BVB.
2006	The failed merger negotiations with the Sibiu Monetary Financial and Commodities Exchange.
2007	BVB becomes a full member of FESE since Romania's accession to European Union.
2010	June 8th : BVB start listing its own shares within the regulated market second category/tier under the symbol BVB. The Alternative Trading System (ATS) is launched and Daimler AG is the first international company to be listed within this market segment.
2013	August : Ludwik Soboleski was appointed as BVB's CEO (Chief Executive Officer)
2014	The introduction of a new website in December
2015	February : AeRO is launched as a new ATS segment dedicated to small domestic companies. October 27th : RASDAQ, the unregulated segment, is closed and over 250 companies were transferred on AeRO.

Note: The number of trading members varies depending on the sources (Anghelache 2006, Skully & Brown 2006, and BVB 2001 Annual Report) due to the fact that it probably increased from 24 to 28 between April and November.

Sources: Pop (2011); <http://www.bvb.ro/aboutus/mediacenter/pressitem/20-de-ani-de-la-prima-tranzactie-pe-Bursa-de-Valori-Bucuresti/4164>;

http://www.bvb.ro/press/2015/2015.05.05_BVB%20Rez%20fin%201Q15_EN.pdf;

2001 and 2003 Annual Reports available at: <http://www.bvb.ro/AboutUs/Publications>

Currently, BVB is part of BVB Group which includes, beside BVB, the following institutions: the Central Depository (which offer clearing, settlement and registration for the cash/spot market), the Bucharest Clearing House (offering clearing for the derivatives market), the Investor Compensation Fund, and the Institute for Corporate Governance⁴. There was almost impossible to find out the moment when this group was established, but an educated guess points toward the year 2006 when BVB became a public company.

⁴ As of June 2013, BVB owned the following block of shares within the companies of the group: 69% of the Central Depository, 52.5% of the Bucharest Clearing House, 62.3% of the Investor Compensation Fund, and 100% of the Institute for Corporate Governance. The information was extracted from: http://www.bvb.ro/info/2013_07_24_bvb_ir_presentation_en.pdf

Table 2 briefly presents the main milestones related to the BVB trading system. It shows the continuous efforts of BVB managers to keep up the pace with the changes in information technologies and to implement them with the available resources. One should not forget that all BVB trading systems were developed in-house in order to address the peculiar demands of the domestic investors.

Table 2: Main evolutions regarding the BVB trading systems

1995	November 20th: The trading system STEA was implemented. The clearing and settlement system was integrated within STEA. The settlement period was T+5 days.
1996	October: The clearing and trading system Equator was launched, integrated with the trading system STEA.
1997	The cross transactions are introduced in order to speed up the trading for the listed companies from the Mass Privatization Program.
1998	Direct custody services are introduced.
1999	The implementation of the trading system HORIZON™ The settlement period was reduced at T+3 days. Trading blocks are introduced: 100 or any multiples of 100 for regular lots and the odd lots for less than 100. Several exceptions existed of 10 or 1 for regular lots based on the individual price of the shares.
2001	ARENA trading system is used for bond transactions
2003	ARENA trading system replaces completely the HORIZON system.
2006	The possibility to use margin accounts was introduced for investors
2009	The trading blocks within the regulated markets were increased at 500 or any multiple of 500 for the majority of the listed shares for regular lots. Exceptions were allowed and lots of 100, 10 and 1 were accepted as regular lots for the shares with high individual prices.
2011	January 25th: short selling operations became available for Fondul Proprietatea. (As of December 2015, 20 securities can be sold short at BVB: 16 shares and 4 municipal bonds: http://www.bvb.ro/FinancialInstruments/SelectedData/AllowedShortSellSecurities)
2014	The separation between the trading platform and post trading platform is implemented. December: the odd lot orders are eliminated. Any volume is accepted for all the traded securities on the regulated market. The settlement period decreases at T+2 days.

Source: Author's compilation based on the information available at:

<http://www.bvb.ro/AboutUs/Publications>,

<http://www.bvb.ro/AboutUs/MediaCenter/PressReleases>

Table 3 presents the equity market structure at BVB. This structure could not be reported for all the securities traded due to the fact that in the case of capitalization, BVB does not report the capitalization for bonds; while in the case of turnover, the rights traded on RASDAQ registered a negligible value, and the introduction of corporate bonds and UCITS within ATS also resulted in very small annual values.

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Table 3: BVB equity market structure by capitalization and turnover (EUR mn.)

Year	Capitalization				Turnover		
	BVB main market	RASDAQ	ATS	total markets % of GDP	BVB main market	RASDAQ	ATS
2006	21,414.91	3,126.44	-	25.10	2,801.71	241.11	-
2007	24,600.75	6,985.67	-	25.34	4,152.44	1,287.71	-
2008	11,629.77	3,079.08	-	10.33	1,895.44	426.49	-
2009	19,052.65	2,937.67	-	18.25	1,203.80	136.32	-
2010	23,892.21	2,526.45	n/a	20.83	1,338.29	144.56	0.14
2011	16,385.91	2,366.93	n/a	14.06	2,349.04	136.21	2.62
2012	22,063.37	2,008.28	n/a	17.98	1,674.20	48.92	3.76
2013	29,980.44	1,774.47	n/a	22.01	2,543.57	68.34	4.72
2014	28,986.52	1,668.52	n/a	20.44	2,930.76	47.73	4.56
2015	32,240.80	502.25	851.07	*21.64	1,981.07	14.21	20.23

Note: The market capitalization for RASDAQ is reported for October 22nd 2015, the last day of trading on the respective market segment.

*Estimate

Source: Based on the data available at www.bvb.ro

Thus Table 3 offers an incomplete picture, due to the absence of bond capitalization. It clearly shows the dominance of BVB regulated market. The percentage in GDP of the combined equity market capitalization between 2006 and 2015 reach an average of about 20%.

In Table 4, the evolution of the intermediaries (as of the end of every year) is presented for all equity markets. Since 2006, the number of intermediaries for BVB main market and RASDAQ are similar, given the absorption of RASDAQ.

Table 4: The number of intermediaries at BVB
(reported only for the equity sectors on the main market, RASDAQ and ATS)

Year	BVB main market	RASDAQ	ATS
1995	28	-	-
1996	62	85	-
1997	133	168	-
1998	173	202	-
1999	150	167	-
2000	120	101	-
2001	110	86	-
2002	75	69	-
2003	73	63	-
2004	67	65	-
2005	70	68	-
2006	73	73	-
2007	73	73	-
2008	76	76	-
2009	71	71	-
2010	65	65	45
2011	61	61	48

Year	BVB main market	RASDAQ	ATS
2012	54	54	45
2013	43	43	36
2014	40	40	34
2015	38	38	33

Source: <http://www.bvb.ro/TradingAndStatistics/Statistics/GeneralStatistics>

The steep increase of intermediaries between 1996 and 1998 is related to the trading of companies that emerged from the Mass Privatization Program. The listing of these companies generated a lot of activity. Thus, it had a short life and a steep decline was registered mainly on RASDAQ (1999-2001), followed by the decline on the BVB main market. More details regarding the problems related to the RASDAQ intermediaries can be found in Pop et al. (2014). In the case of BVB intermediaries, the decline was induced by the 2002 changes in regulations, demanding higher cash capital limits for the brokerage companies. The second decrease of intermediaries is related to the recent financial crisis and to the consolidation process within this intermediation sector, with several takeover publicly announced between 2012 and 2013.

BVB regulated/main market development

The milestones that marked the development of the regulated/main market at BVB are presented in Table 5. The diversification of the securities on offer started in November 2001 and currently was ended in 2012 by the introduction of the first (and as of December 2015, the only) Exchange Traded Fund (ETF).

Table 5: The main steps in developing the regulated/main market at BVB

Nov.1995 – Oct.2001	Only domestic equities were traded.
2001	November: the launch of the municipal bond market sector.
2003	May: the launch of the domestic corporate bond market sector
2005	The first rights are traded
2006	September: the introduction of international (corporate) bonds
2008	February: the first dual listing of Erste Group Bank AG (also listed at Vienna and Prague) within the section International equities/shares April: the launch of the derivative markets; only futures contracts on offer August: the launch of the Government bond market sector September: start trading of the first UCITS
2010	The introduction of the first certificates within the structured products' segment
2011	The listing of the first REIT at BVB within the regulated equity market under the section Other international securities
2012	The introduction of the first ETF

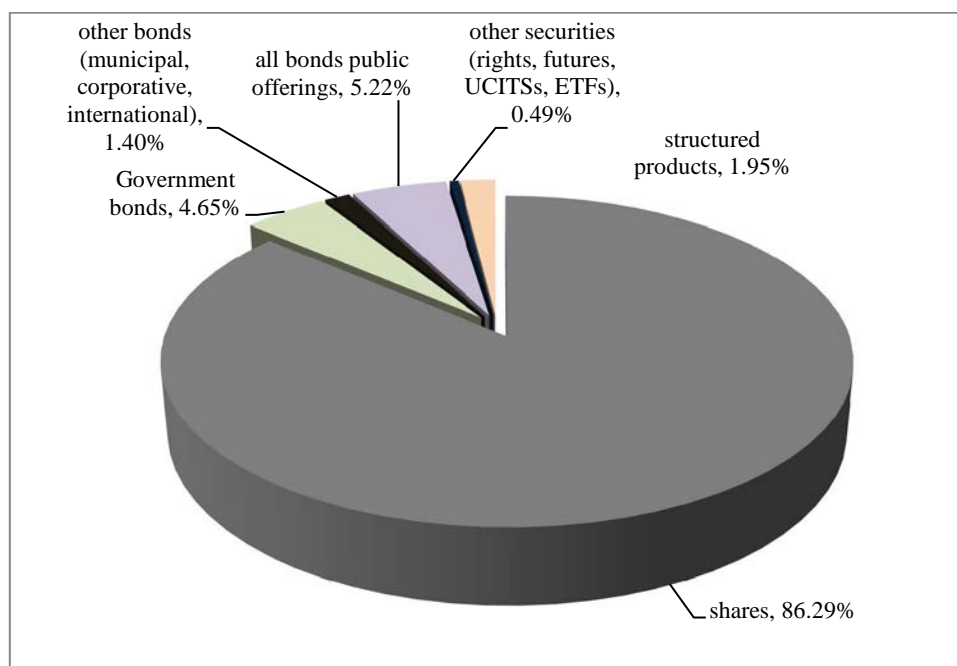
Source: Author's compilation based on the Annual Reports available at:

<http://www.bvb.ro/AboutUs/Publications> and on

<http://www.bvb.ro/aboutus/mediacenter/pressitem/20-de-ani-de-la-prima-tranzactie-pe-Bursa-de-Valori-Bucuresti/4164>

The average structure of BVB regulated market by turnover is presented in Graph 1. A detailed structure by years and securities is presented in Table 6. The equity trading is dominant within the main market. At an important distance the combined bond public offerings and Government bond trading rank second and third. The structured products (certificates) concentrate almost 2% of the trading activity, while the combined trading of municipal, corporate and international bonds is barely visible with less than 1.50%. The trading of other securities (rights, futures, UCITS, and ETFs) is almost negligible. As Table 6 show, since 2013 the trading of the futures contracts ceased completely. While the BVB officials mentioned the lack of liquidity for the underlying instruments to be the main reason for this stop, to this reason one must add the lack of investors' sophistication, a low intensity of individual portfolios' management and therefore the absence of a demand for hedging products. As of January 8th 2016, BVB announced the withdrawal of the authorization for regulated derivative market and its subsequent closure. BVB also announced the intention to reopen this market as soon as the liquidity on the underlying instruments will improve.

Graph 1: BVB main/regulated market structure by turnover
(average figures for the period 2002-2015)



Source: Based on the data available at www.bvb.ro

Table 6: BVB main/regulated market structure (%) by turnover of the listed securities

Year	Shares	Municipal bonds	Corporate bonds	International bonds	Government bonds	All bonds' public offerings	Rights	Futures	UCITs	Funds' public offerings	Structured products	ETFs
1995	100.00	-	-	-	-	-	-	-	-	-	-	-
1996	100.00	-	-	-	-	-	-	-	-	-	-	-
1997	100.00	-	-	-	-	-	-	-	-	-	-	-
1998	100.00	-	-	-	-	-	-	-	-	-	-	-
1999	100.00	-	-	-	-	-	-	-	-	-	-	-
2000	100.00	-	-	-	-	-	-	-	-	-	-	-
2001	100.00	-	-	-	-	-	-	-	-	-	-	-
2002	99.89	0.11	-	-	-	-	-	-	-	-	-	-
2003	98.23	0.13	0.01	-	-	1.63	-	-	-	-	-	-
2004	89.22	0.20	1.79	-	-	8.79	-	-	-	-	-	-
2005	98.34	0.03	1.33	0.00	-	0.26	0.04	-	-	-	-	-
2006	90.81	0.07	0.86	0.82	-	7.43	0.01	-	-	-	-	-
2007	94.00	0.07	0.34	2.97	-	2.06	0.56	0.00	-	-	-	-
2008	96.29	0.44	0.59	1.42	0.27	0.00	0.66	0.26	0.07	-	-	-
2009	78.74	0.30	0.94	2.88	14.12	1.66	0.00	1.04	0.04	0.28	-	-
2010	67.04	0.27	0.00	0.17	27.46	2.90	0.05	1.28	0.13	0.15	0.55	-
2011	90.03	0.08	0.00	0.67	3.30	0.91	0.00	0.93	0.08	0.00	4.00	-
2012	77.42	0.00	0.00	0.11	12.19	2.61	0.00	0.42	0.05	0.00	7.20	0.00
2013	84.83	0.02	0.30	0.00	3.19	7.36	0.22	0.02	0.04	0.00	4.01	0.01
2014	91.58	0.02	0.28	0.00	0.80	5.64	0.00	0.00	0.06	0.00	1.60	0.02
2015	73.01	0.62	0.79	0.03	2.27	19.87	0.00	0.00	0.04	0.00	3.34	0.03

Source: Based on the data available at www.bvb.ro

The data in Table 6 show that the diversification of offered securities determined the trading to spread thin among financial instruments of marginal interest like the UCITs and ETFs. This indicates that either these security offers should be discontinued or more interesting issuers should be listed. The lack of individual investors' sophistication and knowledge represent other reasons for the low trading of these securities.

BVB equity main market evolution

The regulated equity market is the oldest and the most important market segment at BVB. It started trading in November 1995 with only 8 companies included in the base category. This base category will become the second category/tier in 1997.

The milestones of the equity main market evolution are presented in Table 7.

Table 7: Main steps in the development of the regulated/main equity market at BVB

Nov.1995 – March 1996	Only one trading session per week.
April 1996 – Feb.1997	Two trading sessions per week.
January 28 th , 1997	The launch of the first tier/category. The first company listed within this tier was Azomures (AZO). The base tier became known also as the second tier/category.
March-April 1997	Three trading sessions per week
May 5 th , 1997	Five trading sessions per week were introduced.
November 1 st , 1999	The listing of the five Financial Investment Companies (SIFs) within the BVB first tier/category.
June 2000	For the first time, three companies (symbols DAC, PLC, SNC) are demoted from the first to second category.
August 2001	The virtual Plus (+) Category is created. Symbol plus is added for the companies included in this category; these companies are supposed to exhibit an enhanced transparency.
October 2002	Electroaparataj Bucuresti (ELJ) is enlisted within the Plus Category. It will remain the only one until this category was eliminated at the end of May 2007.
January 2008	The introduction of the third tier. This category was created in order to encourage the transfer of RASDAQ listed companies on the regulated/main market.
January 2011	The listing of Fondul Proprietatea
January 2014	The first and second tier/category are replaced by the Premium and Standard categories. The third tier/category was eliminated and the listed companies were either delisted or transferred on the standard category.

Source: Author's compilation based on the information available at:

<http://www.bvb.ro/AboutUs/Publications>, <http://www.bvb.ro/AboutUs/MediaCenter/PressReleases>

Table 8 presents the equity main market evolution as of the end of every year. The number of listed companies grew abruptly in 1998 under the listing pressure generated by the Mass Privatization Program. Thus the market capitalization decreased, indicating a poor quality associated with the respective companies. During 2000 and 2001 a 'cleaning campaign' was in place and new listing criteria were imposed. This is reflected in the important drop of the listed companies, while the market capitalization increased. The BVB market capitalization followed, in general, an upward trend since 2000; nevertheless two abrupt drops were registered in relation with the evolutions within the recent financial crisis of 2007-2011; the first drop occurred in 2008, under the climax of the financial crisis, while the second was registered in 2011 under the influence of sovereign crises within European Union countries.

Romania's accession to European Union (EU) in January 2007 was expected to trigger an important growth in capitalization. Thus, this phenomenon occurred much earlier, during 2004, under the influence of the first wave of accession of 10 countries, including the Central European countries: Czech Republic, Hungary, Poland, Slovenia, and Slovakia. The investors' enthusiasm combined with the knowledge that Romania and Bulgaria will become EU member countries either in 2007 or 2008, pushed up BVB market capitalization and the price-earnings ratio (PER) which reached 35.18 at the end of 2004, while the overvaluation of Romanian companies reached the highest level at the end of 2005 and again overpass 3.00 in 2007. During the respective period, dividend yield (DIVY) was poor not only due to the lack of consistent dividend policies at listed companies' level, but also due to high prices. Nevertheless, with the exception of 2004 and 2005, PER oscillated within normal limits of 10 to 20. The price to book ratio (P/B) shows the deep undervaluation of Romanian companies between 1997 and 2001, the overvaluation of the period preceding the recent financial crisis and the normal behavior after the crisis, with a ratio close to 1. The DIVY reached high values between 1998 and 2001 due to the deep undervaluation of the listed companies; registered low values when the overvaluation was a common phenomenon and started to exhibit reasonable values after the crisis due to the price corrections. More investigations are needed in order to see if this improvement is also related to a change in the dividend policy of BVB listed companies.

Table 8: BVB equity main market annual evolution

Year	Number of listed companies	Market capitalization (ECU/EUR mn.)	% of GDP	PER	P/B ratio	DIVY
1995	9	77.61	0.28	n/a	n/a	n/a
1996	17	48.53	0.16	n/a	n/a	n/a
1997	75	560.28	1.79	10.70	n/a	n/a
1998	126	317.82	0.85	8.22	0.38	10.66
1999	127	298.09	0.89	8.82	0.62	7.84
2000	114	450.51	1.11	3.98	0.41	7.48
2001	65	1,361.08	3.00	4.92	0.45	6.70
2002	65	2,646.45	5.44	9.12	0.84	4.97
2003	62	2,991.02	5.69	13.10	1.01	2.00
2004	60	8,818.82	14.45	35.18	2.29	1.45
2005	64	15,311.35	19.20	24.05	3.28	0.94
2006	68	21,414.91	21.90	18.03	2.72	1.72
2007	59	24,600.75	19.74	19.21	3.03	2.18
2008	68	11,629.77	8.17	4.11	0.76	8.57
2009	69	19,052.65	15.81	14.42	1.04	2.81
2010	74	23,892.21	18.84	10.74	1.08	1.87
2011	79	16,385.91	12.29	8.39	0.80	5.46

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Year	Number of listed companies	Market capitalization (ECU/EUR mn.)	% of GDP	PER	P/B ratio	DIVY
2012	81	22,063.37	16.48	7.64	0.94	6.94
2013	83	29,980.44	20.78	9.54	0.98	4.79
2014	83	28,986.52	19.33	7.16	0.93	6.11
2015	84	32,240.80	*20.77	11.61	0.88	5.35

*Estimate

Source: Based on the data available at www.bvb.ro

Table 9 presents the daily averages for the equity main market for the period 1995-2015. It also presents how much of the total daily transactions, volume and value was concentrated by the five Financial Investment Companies or SIFs (from the Romanian Societati de Investitii Financiare) and by Fondul Proprietatea (FP).

The highest number of trades per day was reached in 2007, along with the highest daily value. Thus, the highest daily volume was reached in 2005 under the influence of intense trading that started in 2004. Another exceptional year from volume point of view was 2011; thus this high volume was generated by the selling activity under the European sovereign crisis influence. It must be pointed out that 2015 shows an important slowdown of trading activity and the reasons are to be investigated.

The importance of the five SIFs and FP within the daily trading at BVB cannot be contested. The listing of SIFs in November 1999 and of FP in January 2011 boosted the trading activity. SIFs importance decreased after FP was listed. Nevertheless these six investment funds dominate the transactions at BVB, have high liquidity and overshadow most of the other listed companies. These funds attract the investors due to their diversified portfolios and reasonable results. Thus, their dominance over the trading activity might be a weak point if one or several of these funds will fail to deliver good performance or their reputation will be tainted by scandals and/or negative rumors.

Table 9: BVB equity main market: daily averages and the position of SIFs and FP

Year	Trades	Volume	Value (ECU/EUR mn.)	SIFs			FP		
				% of trades	% of volume	% of value	% of trades	% of volume	% of value
1995	88	8,552	0.19	-	-	-	-	-	-
1996	213	13,767	0.05	-	-	-	-	-	-
1997	2,949	2,871,383	1.16	-	-	-	-	-	-
1998	2,283	4,299,840	0.85	-	-	-	-	-	-
1999	1,611	4,075,483	0.34	79.63	67.82	43.07	-	-	-
2000	1,986	7,097,489	0.37	68.36	63.98	36.78	-	-	-
2001	1,416	8,947,193	0.59	44.43	45.15	28.10	-	-	-
2002	2,680	16,141,465	0.91	50.87	30.08	34.19	-	-	-
2003	1,776	15,386,348	1.05	49.69	30.08	34.99	-	-	-

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Year	Trades	Volume	Value (ECU/EUR mn.)	SIFs			FP		
				% of trades	% of volume	% of value	% of trades	% of volume	% of value
2004	2,494	51,204,647	2.34	43.15	17.71	31.92	-	-	-
2005	4,664	68,179,041	8.62	46.70	16.92	43.43	-	-	-
2006	5,789	54,925,378	11.27	57.81	17.83	50.84	-	-	-
2007	6,112	55,332,825	16.47	52.40	20.27	52.13	-	-	-
2008	5,317	50,030,924	7.54	40.51	20.43	44.91	-	-	-
2009	5,248	57,593,849	4.80	37.99	23.26	43.39	-	-	-
2010	3,467	52,259,027	5.21	42.87	35.48	48.24	-	-	-
2011	3,506	64,843,988	9.17	36.95	16.03	22.05	15.85	56.70	50.15
2012	2,576	50,103,388	6.67	34.52	21.69	28.05	12.31	43.16	36.92
2013	2,519	52,236,011	10.14	31.46	14.11	17.56	11.74	43.97	39.32
2014	3,139	46,442,021	11.69	26.98	16.18	14.89	7.91	35.38	28.64
2015	2,720	26,681,645	7.90	22.68	11.89	7.36	8.47	34.76	23.33

Source: Based on the data available at www.bvb.ro

BVB equity main market indices

As of December 2015, nine indices are reported for the main equity market. Eight of these indices are calculated and reported by BVB, and one index (ROTX) was developed in collaboration with Vienna Stock Exchange and is only reported by BVB.

The oldest equity index is BET, launched in September 1997, while the most recent index is BET-XT-TR, a total return index launched in March 2015.

Seven of the nine indices are price indices, while the two most recent ones are total return indices, adjusted for dividends.

A general description of these nine indices characteristics is presented in Annex 1. The high number of indices is due to the evolution and changes that occurred within the BVB listed companies. The first two indices, BET and BET-Composite did not include the five SIFs. These investment funds' prices were captured by BET-FI, the first sector index. The need to include the SIFs within an index portfolio generated in the end two new indices (BET-XT and BET-BK). The energy sector became important at BVB since 2007 and a dedicate index was created (BET-NG). These family of indices was completed in 2014 and 2015 by two total return indices (BET-TR and BET-XT-TR) that are considered to complete the price evolution with the inclusion of dividends for the 10 and respective 25 of the most traded companies.

The performance of these nine indices is presented in Table 10 and Table 11. The oldest indices performance can be split into three sub-periods: a) before 2002 when their annual returns were lower or similar to the bank deposits and lower than the inflation rate; between 2002 and 2013, when, in general, the annual returns over passed the bank deposits and the inflation rate; the only important exceptions being 2008 and 2011; c) the period 2014-2015 exhibiting poor performances, with the exception of ROTX annual returns.

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In the case of the indices launched since 2007 (Table 11), the data are available only for maximum 8 years. BET-XT and BET-NG were both affected by the recent financial crisis with two steep decreased in 2008 and 2011. BET-NG exhibits a poorer performance than the more diversified BET-XT. BET-BK shows a reasonable level of return since 2012. The inclusion of dividends in the calculation of BET-TR and BET-XT-TR generated good annual returns and indicates that, when dividends are considered, BVB companies become an attractive investment option.

Table 10: BVB equity market oldest indices (launched between 1997 and 2005) annual performance compared to inflation rate, bank deposit interest rate and DIVY (%)

Year	BET return	BET-C/ Plus return	BET-FI return	ROTX return	Inflation rate	Bank deposits' rate	DIVY
1998	-49.40	-	-	-	59.10	38.30	10.66
1999	15.21	-4.99	-	-	45.80	45.40	7.84
2000	18.25	7.39	-	-	45.70	32.44	7.48
2001	35.71	-6.47	109.92	-	34.50	26.16	6.70
2002	117.52	124.02	113.14	-	22.50	18.39	4.97
2003	27.13	22.62	24.72	-	15.30	10.78	2.00
2004	93.15	98.29	106.94	-	11.90	11.34	1.45
2005	42.47	31.63	151.32	-	9.00	8.34	0.94
2006	18.09	25.07	24.66	20.16	6.56	6.51	1.72
2007	16.29	26.27	14.95	15.73	4.84	6.70	2.18
2008	-69.68	-69.68	-83.62	-68.70	7.85	9.55	8.57
2009	57.21	34.62	83.33	42.22	5.59	11.89	2.81
2010	10.89	13.49	-10.09	10.85	6.09	7.29	1.87
2011	-19.18	-16.73	-13.52	-27.09	5.79	6.29	5.46
2012	18.57	6.29	29.63	28.46	3.33	5.50	6.94
2013	21.87	16.25	19.88	20.49	3.98	4.54	4.79
2014	9.21	-6.11	-3.83	10.43	1.07	3.02	6.11
2015	0.48	0.24	0.52	8.64	-0.56	1.93	5.35

Source: Based on the data available at www.bvb.ro and at www.bnro.ro

Table 11: BVB equity new indices (launched since 2007) annual performance compared to inflation rate, bank deposit interest rate and DIVY (%)

Year	BET-XT return	BET-NG return	BET-BK return	BET-TR return	BET-XT-TR return	Inflation rate	Bank deposits rate	DIVY
2007	9.63	18.99	-	-	-	4.84	6.70	2.18
2008	-74.67	-71.71	-	-	-	7.85	9.55	8.57
2009	61.54	63.99	-	-	-	5.59	11.89	2.81
2010	0.30	27.96	7.60	-	-	6.09	7.29	1.87
2011	-15.25	-21.51	-18.21	-	-	5.79	6.29	5.46
2012	13.45	2.51	13.03	-	-	3.33	5.50	6.94
2013	19.64	2.65	15.55	26.79	28.24	3.98	4.54	4.79
2014	6.44	5.84	3.70	14.64	11.23	1.07	3.02	6.11
2015	1.16	-12.60	3.13	4.80	6.38	-0.56	1.93	5.35

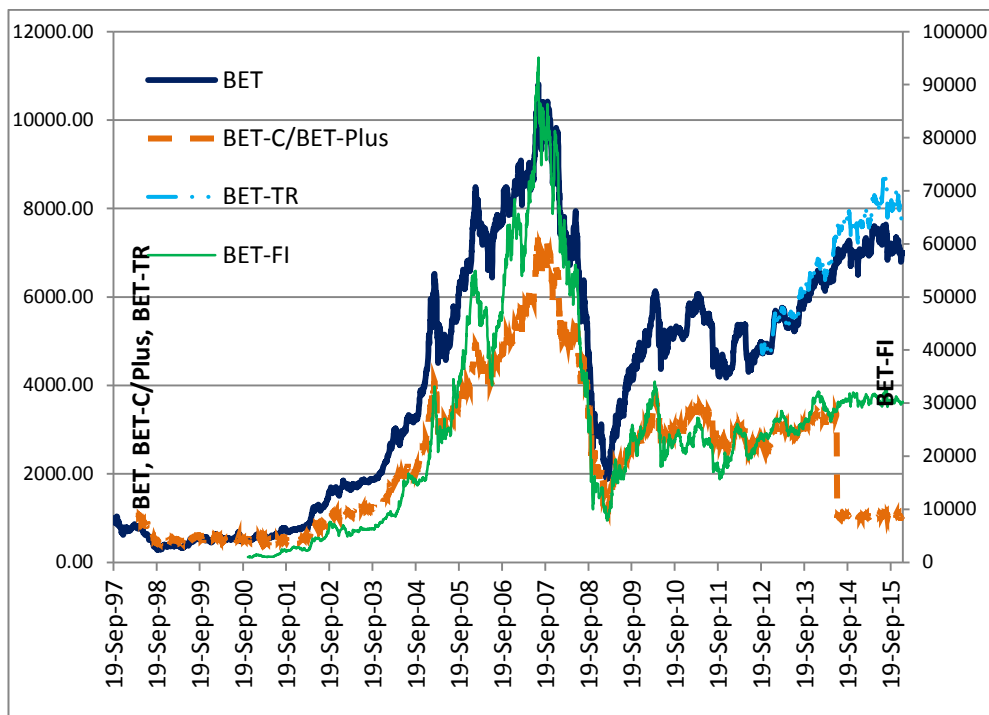
Source: Based on the data available at www.bvb.ro and at www.bnro.ro

The evolution BET, BET-C/Plus, BET-FI, and BET-TR is presented in Graph 2. The inclusion of all indices within one graph was impossible due to different scales and value intervals. However, other two graphs are available for the other indices in Annex 2.

In Annex 3 the descriptive statistics for the absolute values and the daily returns of all indices can be found, including the dates when the maximum and minimum values were recorded.

The results for daily returns indicate a relative symmetrical distributions for all the indices, slightly skewed to the left, with the exception of BET and BET-FI which are slightly skewed to the right. The high level of kurtosis indicates peaked distributions compared to a normal distribution.

Graph 2: The daily evolution of BET, BET-C/Plus, BET-FI, and BET-TR between April 1997 and December 2015.



Source: Based on the data available at www.bvb.ro

BVB bond main market

This market segment was launched in November 2001 with the introduction of municipal bonds. It was further diversified in 2003 through the introduction of the domestic corporate bonds, in 2006 with the international bonds, and in 2008 with the listing of domestic Government bonds. The year 2015 marked a premier: the first initial public offering for Government bonds (dedicated to individual investors only) was registered through the BVB trading platform.

Table 12 presents the general information for this bond market and the trading structure based on turnover. Table 13 presents the bond public offerings and their structure by final value.

The interest toward the listed bonds was transferred successively from municipal to domestic corporate bonds, then to international bonds, and finally remained concentrated around the domestic Government bonds. However, this concentration in value is misleading since the face values of the majority of these bonds are either 5,000 RON or 10,000 RON and the trading is concentrated by institutional investors. While the corporate bond sector seemed interesting for investors, its evolution was interrupted by no listed bonds for two years and the lack of transactions for three years. In general, the annual trading value for the bond main market is low, despite the listing of a high number of bonds. This is mainly due to the investors' buy and hold behavior given the relative high coupons mainly for the corporate and Government bonds.

As Table 13 reveals, the public offerings usually were concentrated on only one type of bond, with the exception of the years 2006 (domestic corporate and international bonds) and 2015 (municipal, domestic corporate and Government bonds).

Table 12: BVB bond main market segment general information (public offerings excluded)

Year	Trades	Volume	Value (EUR mn.)	No. of listed bond issues (as of the end of every year)	New listings	Turnover structure by bond segments (%)			
						% of muni. bonds	% of corporate bonds	% of international bonds	% of government bonds
2001	5	45	0.00	2	2	100.00	-	-	-
2002	10	59,050	0.25	4	2	100.00	-	-	-
2003	37	28,870	0.36	10	9	95.66	4.34	-	-
2004	274	118,136	13.15	25	17	10.02	89.98	-	-
2005	334	197,107	29.67	19	6	2.38	97.62	-	-
2006	319	603,208	53.88	18	5	3.80	49.38	46.82	-
2007	233	3,652,467	147.99	22	11	2.00	10.03	87.97	-

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Year	Trades	Volume	Value (EUR mn.)	No. of listed bond issues (as of the end of every year)	New listings	Turnover structure by bond segments (%)			
						% of muni. bonds	% of corporate bonds	% of international bonds	% of government bonds
2008	547	862,927	53.47	50	34	15.92	22.30	52.09	9.69
2009	958	1,822,908	277.75	60	16	1.65	5.15	15.80	77.40
2010	540	591,511	552.87	55	7	0.99	0.00	0.59	98.42
2011	245	857,248	105.21	59	6	1.91	0.00	16.55	81.54
2012	368	220,238	264.87	63	8	0.04	0.00	0.91	99.05
2013	475	106,048	95.21	57	7	0.65	9.44	0.05	89.86
2014	325	90,029	35.04	65	5	1.65	25.39	0.00	72.96
2015	431	136,105	100.64	69	11	16.82	21.19	0.89	61.10

Note: A difference between the figures reported in this paper and the figures reported by BVB appears for the number of listed bonds at the end of the year. This difference occurs mainly due to the fact BVB still registers as suspended 12 Government bonds that matured in 2013, 2014, and 2015.

Source: Based on the data available at www.bvb.ro

Table 13: BVB bond main market segment public offerings

Year	Trades	Volume	Value (EUR mn.)	No. of offered issues	Turnover structure by bond offerings (%)			
					% of muni. Bonds offerings	% of corporate bonds offerings	% of international bonds offerings	% of government bonds offerings
2001	0	0	0.00	0	0.00	-	-	-
2002	0	0	0.00	0	0.00	-	-	-
2003	2	158,000	4.21	2	100.00	0.00	-	-
2004	705	371,000	48.26	3	0	100.00	-	-
2005	61	200,000	5.52	1	100.00	0.00	-	-
2006	252	3,321,264	228.66	3	0.00	34.68	65.32	-
2007	34	3,000,000	90.17	1	0.00	0.00	100.00	-
2008	0	0	0.00	0	0.00	0.00	0.00	0.00
2009	4	1,070,000	25.24	3	100.00	0.00	0.00	0.00
2010	3	2,422,864	57.52	3	100.00	0.00	0.00	0.00
2011	3	1,000,000	23.59	1	100.00	0.00	0.00	0.00
2012	41	25,000	56.06	1	0.00	100.00	0.00	0.00
2013	92	97,500	220.64	3	0.00	100.00	0.00	0.00
2014	68	80,000	180.03	2	0.00	100.00	0.00	0.00
2015	1,586	298,109	539.01	6	92.65	0.00	4.63	2.72

Source: Based on the data available at www.bvb.ro

Table 14 presents the average bond coupons in comparison with the inflation rate, bank deposits, and BET index. The results are mixed. The Government bonds should have the lowest coupons given their risk free standing. Thus, municipal bonds present the lowest coupons due to their variable interest rate that follows the current decrease of Romanian interbank interest rates and have low risk premia. Another oddity comes from the corporate bonds which seems to have a very low risk premium or no risk premium compared to Government bonds. As expected, the bonds prove to be better investment choices in times of equity market distress. This is reflected by the data in Annex 4 which shows the 'flight to safety' of investors in 2008 and 2009.

Table 14: BVB bond coupons compared to inflation rate, bank deposit rate and BET return (%)

Year	Municipal bonds	Corporate bonds	International bonds	Government bonds	Inflation rate	Bank deposit rate	BET return
2001	36.50	-	-	-	34.50	26.16	35.71
2002	31.71	-	-	-	22.50	18.39	117.52
2003	19.39	5.34	-	-	15.30	10.78	27.13
2004	20.16	12.76	-	-	11.90	11.34	93.15
2005	12.38	8.66	-	-	9.00	8.34	42.47
2006	9.20	8.29	6.75	-	6.56	6.51	18.09
2007	8.77	8.50	6.75	-	4.84	6.70	16.29
2008	11.22	10.39	6.75	7.31	7.85	9.55	-69.68
2009	13.25	12.42	8.25	7.58	5.59	11.89	57.21
2010	8.31	n/a	9.13	7.55	6.09	7.29	10.89
2011	6.85	n/a	9.13	7.41	5.79	6.29	-19.18
2012	6.18	7.40	9.13	7.01	3.33	5.50	18.57
2013	5.57	6.88	9.13	6.59	3.98	4.54	21.87
2014	3.64	6.03	9.13	6.32	1.07	3.02	9.21
2015	2.56	5.83	11.25	5.91	-0.56	1.93	0.48

Note: The bond coupons are calculated as the annual average of the listed bonds within the respective year

Source: Based on the data available at www.bvb.ro and at www.bnro.ro

Annex 4 presents the trading details for all the four types of bonds listed within the bond main market. The trading frequency is low for all four types of bonds and this is reflected also by the small number of trades per day. The trading volume must be considered in relation with the nominal value of the bonds which is relative low (100 RON) in the case of municipal bonds and in one case of a corporate bond issue (8 RON for IMO22) and high (5,000 and 10,000 RON) for the majority of the Government bonds. Also the corporate and international bonds have, in general, nominal values of 10,000 RON. This situation is not attractive for the majority of domestic individual investors due to the high value that is required for just one security.

Nonetheless, 2015 registered a premiere for the municipal bonds with the public offering and the subsequent listing of four bond issues launched by the Romanian capital, Bucharest. The introduction of these bonds increased the trading

activity within municipal bond sector at an annual level never reached previously. The second premiere is related to the Government bond sector which witnessed the first public issue dedicated to the population launched through BVB system and the subsequent listing of the respective bonds. This event also had a contribution to the increase in Government bonds trading activity.

While no data are available regarding the ownership structure of the BVB listed bonds, the trading profile indicates that the majority of trading is done by institutional investors, sporadically, when they need to convert the bonds into cash. Otherwise, the coupon levels induce the treasuring of these bonds.

It must be mentioned that the evolution of the bond main market becomes increasingly difficult to follow in the absence of an appropriate bond index or a family of indices dedicated to the listed types of bonds.

BVB other securities' main market

The trading activity for the other securities listed within the main market is presented in Tables 15 to 19. While almost negligible within the total BVB main market turnover, dominated by the equity trading, the evolution of each of these securities reveals interesting facts and, in some cases, weaknesses.

The trading intensity within the rights sector is mainly related to the privatization of Transgaz (TNG) in 2007-2008 and Nuclearelectrica (SNN) in 2013. The other two years when the rights' trading was moderate were 2005, when the rights of OMV Petrom (SNP) were introduced, and 2010 when Banca Transilvania (TLV) rights were traded. Both SNP and TLV are blue chip companies and all the related securities are intensely traded. Otherwise, the interest for trading rights is marginal as the data from 2011 and 2012 show.

Table 15: BVB main market: rights

Year	End of the year				Daily averages (for the days when trading took place)		
	Listed	Trades	Volume	Value (ECU/EUR mn.)	Trades	Volume	Value (ECU/EUR mn.)
2005	2	2,588	231,482,060	0.78	199	17,806,312	0.06
2006	2	606	393,246,100	0.16	40	26,216,407	0.01
2007	2	4,618	12,974,087	24.71	462	1,297,409	2.47
2008	3	3,827	2,924,796	12.98	75	57,703	0.26
2009	0	0	0	0.00	0	0	0.00
2010	1	2,769	161,790,000	1.11	185	10,786,000	0.07
2011	1	3	102	0.00	2	51	0.00
2012	1	2	5	0.00	1	3	0.00
2013	2	4,615	2,491,249	6.48	243	131,118	0.34
2014	0	0	0	0.00	0	0	0.00
2015	0	0	0	0.00	0	0	0.00

Source: Based on the data available at www.bvb.ro

BUCHAREST STOCK EXCHANGE DEVELOPMENT BETWEEN 1995 AND 2015

The derivative market segment launched during 2007 offered only futures contracts. While the offer was diversified during 2008 by the introduction of contracts on listed equities, the trading activity remained modest. The contracts of BVB indices were almost never traded, indicating a low activity in portfolio management and subsequent need of hedging. It also might indicated that the for the existing portfolio managers, the hedging alternative offered by Vienna Stock Exchange with the contracts on ROTX is a better choice due to a higher liquidity of those contacts.

The trading activity on this market segment took place mostly during the period that followed the climax of the recent financial crisis. During 2011 the contracts on commodities (gold, silver, brent) were introduced. Thus the economic recovery that started in 2012 determined the loss of interest toward futures contracts and the trading died out in 2013. BVB executives decided to suspend the introduction of new contracts and the renewal of the existing ones and since January 2014 until December 2015 no futures contract was listed on the derivative market. As mentioned above, BVB announced the withdrawal of this market's authorization on January 8th 2016, mentioning a potential reopening when the liquidity for the underlying domestic assets will improve.

Table 16: BVB main market: futures contracts

Year	End of the year					Daily averages			
	Types of contracts	Open interest	Trades	Volume	Value (ECU/EUR mn.)	Open interest	Trades	Volume	Value (ECU/EUR mn.)
2007	2	33	40	62	0.16	26	3	4	0.01
2008	14	146	18,144	19,066,702	0.05	330	116	121,444	0.00
2009	14	958	507	15,613	15.81	1,206	4	115	0.12
2010	14	291	1,754	25,119	25.43	2,782	9	129	0.13
2011	20	1,084	3,003	54,137	24.30	1,127	13	227	0.10
2012	20	247	1,963	20,423	9.02	773	8	85	0.04
2013	1	0	415	2,795	0.68	469	4	29	0.01
2014	0	0	0	0	0	0	0	0	0.00
2015	0	0	0	0	0	0	0	0	0.00

Source: Based on the data available at www.bvb.ro

The introduction of UCITs was motivated by diversification. Moreover, the relative low prices of these UCITs should have increased their attractivity among the individual investors. As in the case of futures contracts, this main market segment registered some trading activity mainly during 2010 and 2011, when the effects of the financial crisis determined investors to look for investment

alternatives. The low attractiveness of the sector might have two reasons: the issuers that do not trigger the investors' interest and the lack of knowledge among the the potential investors. With no new listings since 2010, even the existing investors will loose the interest toward UCITs.

Table 17: BVB main market: UCITs

Year	End of the year				Daily averages		
	Listed	Trades	Volume	Value (ECU/EUR mn.)	Trades	Volume	Value (ECU/EUR mn.)
2008	1	1,191	65,357	1.27	18	990	0.02
2009	2	2,038	71,662	0.65	8	287	0.00
2010	5	4,437	163,056	2.50	17	639	0.01
2011	5	12,474	88,644	2.05	49	348	0.01
2012	4	2,191	88,325	1.02	9	353	0.00
2013	3	4,285	80,840	1.33	17	322	0.01
2014	3	1,948	120,107	1.88	8	480	0.01
2015	3	885	61,352	1.07	4	244	0.00
Fund units public offerings							
Year	Listed	Trades	Volume	Value (ECU/EUR mn.)			
2009	2	1,496	88,322	4.19			
2010	2	590	60,056	2.87			

Source: Based on the data available at www.bvb.ro

The introduction of the certificates in 2010, the only financial instruments currently traded under the segment structured products, was also motivated by diversification. These certificates⁵ are hybrid financial instruments, based on an underlying asset and include a derivative component (long or short position) that influences the certificate's risk and return profile. The certificates can be issued by banks, financial intermediaries and other financial institutions and therefore these instruments bear the risk of the issuer in the case of default. Since they do not require a margin and closing a position through an opposite position, these certificates seemed to attract more the attention of BVB investors. The data indicate a higher trading activity than in the case of futures contracts. Thus, the trading dropped abruptly in 2014 and recovered in 2015. The parallel existence of the futures contracts and certificates might contributed to the lack of interest toward the futures contracts by speculators since the simpler features of the certificates and the lower associated costs make them more attractive.

⁵ BVB offer a presentation of these certificates within a guide book available at:
<http://www.bvb.ro/info/Rapoarte/Ghiduri/ghid%20certificate%20eng%20web.pdf>

Table 18: BVB main market: structured products

Year	End of the year				Daily averages		
	Listed	Trades	Volume	Value (ECU/EUR mn.)	Trades	Volume	Value (ECU/EUR mn.)
2010	24	12,706	1,213,307	10.86	102	9,785	0.09
2011	57	99,531	12,137,927	103.75	390	47,600	0.41
2012	65	217,520	42,634,704	154.90	870	170,539	0.62
2013	78	181,614	57,443,179	120.34	724	228,857	0.48
2014	93	197,174	51,957,069	51.26	789	207,828	0.21
2015	130	299,749	89,376,509	90.72	1,194	356,082	0.36

Source: Based on the data available at www.bvb.ro

The last type of securities introduced on BVB main markets were the ETFs, since 2012. In fact, only one ETF is listed and traded. The trading activity for this instrument, though frequent, is thin. It confirms the hypothesis of domestic investors' lack of sophistication and in depth knowledge regarding other financial instruments than shares. Also the only listed ETF might not be attractive for most investors and new listings might be welcome.

Table 19: BVB main market: ETFs

Year	End of the year				Daily averages		
	Listed	Trades	Volume	Value (ECU/EUR mn.)	Trades	Volume	Value (ECU/EUR mn.)
2012	1	456	76,449	0.09	5	910	0.00
2013	1	746	269,158	0.38	3	1,072	0.00
2014	1	1,624	386,260	0.40	6	1,545	0.00
2015	1	1,284	395,962	0.67	5	1,578	0.00

Source: Based on the data available at www.bvb.ro

Of all these other instruments, only the certificates (structured) products manage to concentrate about 2% of BVB main market turnover, as Graph 1 shows.

The ATS segment at BVB

The main milestones in the ATS recent development are presented in Table 20. Between 2008 and 2014 the ATS segment hosted only the dual listing of blue chip foreign shares.

While this market segment was created in order to encourage the transfer of RASDAQ listed companies on a new a better regulated market, the expected transfers never occurred. Only one was registered in 2013-2014. The problems with RASDAQ segment, considered an unregulated market, and the decision to close it during 2015 determined the transformation of ATS. AeRO sector was

introduced for (small) domestic companies and over 250 of about 900 companies listed on RASDAQ as of January 2015 were transferred on AeRO.

Table 20: The main steps in developing the ATS at BVB

2008	The introduction of ATS
2015	<p>February: The launch of the AeRO segment and the start of domestic equity trading</p> <p>July: The introduction of the first corporate bond; the second corporate bond start trading in December 2015.</p> <p>August: The introduction of the first UCITS, transferred from RASDAQ (XFOA symbol)</p>

Source: Author's compilation based on the information available at:

<http://www.bvb.ro/AboutUs/Publications>, <http://www.bvb.ro/AboutUs/MediaCenter/PressReleases>

The trading activity on ATS is presented in Table 21. While offering the possibility to trade on international blue chip stocks using the domestic currency and save the cost of trading on a foreign stock exchange, the offer seemed not very attractive mainly due to the high prices associated with these foreign shares. Trading at several hundreds or thousands of Romanian new lei, the foreign shares are out of the investment range of many individual investors. Therefore the trading on ATS remained also thin until the introduction of AeRO and the listing of domestic companies.

As Table 21 further shows, this segment also started to diversify in 2014 with the introduction of rights and in 2015 with the introduction of 2 corporate bonds and one UCIT. These new listings are too recent in order to be analyzed.

Table 21: BVB - ATS market

Equities				
Year	Listed securities	Trades	Volume	Value (ECU/EUR mil.)
2010	1	152	2,731	0.14
2011	10	3,285	89,211	2.62
2012	27	5,947	122,248	3.76
2013	29	7,656	1,951,214	4.72
2014	36	8,718	999,905	4.56
2015	306	31,657	165,338,187	20.23
Rights				
2014	1	33	638	0.00
Bonds				
2015	2	52	4,281	0.97
UCITSs				
2015	1	135	19,121	0.01

Source: <http://www.bvb.ro/TradingAndStatistics/Statistics/GeneralStatistics> and based on the data available at www.bvb.ro

Discussions

A brief SWOT (strengths, weaknesses, opportunities and threats) analysis summarizes best the two decades of evolution at BVB

The SWOT analysis of BVB

Strengths	Weaknesses
<ul style="list-style-type: none"> ✓ BVB offers an interesting mix of listed securities. ✓ The listed companies on the main market still have a growth potential. ✓ The ATS – AeRO segment is still an unexplored ‘mine’. ✓ The Government bonds, corporate bonds and international bonds offer good coupons. ✓ An up to date trading platform and applications that allow the use of this platform on various mobile devices. ✓ A relative easy to use website, offering a high transparency mainly for domestic investors. ✓ The recent (2014) launch of two public relation campaigns addressing foreign institutional investors and domestic individual investors in order to attract and increase the number of BVB investors. ✓ BVB as a company shows a high level of transparency and a good corporate governance. All these show BVB to be a good manager of the main Romanian trading platform for securities. 	<ul style="list-style-type: none"> - The trading is spread thin among too many securities mainly within the regulated market segment. - The liquidity is low or very low outside the equity Premium category. - The equity trading is dominated by a small number of companies; - The nine indices reported for the equity market can create confusion among potential investors. - There is no index available for the bond main market. Therefore this market is difficult to follow and almost impossible to be compared with the similar markets within the trading platforms of the neighboring countries. - The absence of a liquid derivative market offering hedging alternatives. - A relative lower transparency for foreign investors; not all the information is available in English.

Opportunities	Threats
<ul style="list-style-type: none"> ➤ A good set of regulations, adjusted to the requirements of MiFID (Markets in Financial Instrument Directive). ➤ The position as frontier markets that, along with the associated risks, promises potential high returns. ➤ The improving of sovereign rating and the decrease of CDSs spreads for Romania. ➤ A simplified taxation procedure and a decreased in taxation level for dividends starting with 2016. ➤ Potential new issuers as the privatization process of some large Romanian companies (like the national carrier Tarom or CEC Bank) is likely to continue. ➤ A potential merger with SIBEX (Sibiu Stock Exchange) which has an older and better established derivative market. 	<ul style="list-style-type: none"> ○ The relative high risk associated with the status of frontier market. ○ The closure of the derivative market that might influence the efforts to upgrade the status to 'emerging'. ○ A thin and unsophisticated base of domestic investors⁶. ○ The Romanian opaque business environment that influences the corporate governance of the listed companies and the transparency of other issuers like the municipalities and the central government. ○ A corporate culture that does not favor the public offerings of either shares or bonds. ○ The absence of a significant alliance with one or several of the neighboring exchanges in an effort to attract international investors. ○ The current MiFID1 and MiFID2 regulations and the competitive environment created by them.

To the points mentioned within the SWOT matrix two other details, difficult to include in the matrix, must be added.

The first one refers to the listed companies. Those on the main market are more transparent and might be interesting from their activity point of view. Thus, many of them have poor or mediocre websites, with absent or hidden and/or unorganized information for investors; most of the time, the information for

⁶ The Investor Compensation Fund is the only source regarding the number of investors at BVB. The data available within this fund annual reports show the following evolution of investor number.

2006	2007	2008	2009	2010	2011	2012	2013	2014	09/2015
65,304	87,664	92,865	94,545	86,453	88,143	81,218	85,381	74,571	71,376

Sources: <http://www.fond-fci.ro/pages/rapoarteanuale.php> and <http://www.fond-fci.ro/docs/Comunicat%20de%20presa%2011%20nov.%202015.pdf>

investors are not available in English, even if an English version of the website is offered. Moreover, in most cases, the corporate governance is lax and this is best seen in the absence of a clearly formulated dividend/investment policy. Furthermore, the new companies transferred to AeRO from RASDAQ have an even lower level of transparency; in some cases they do not have even an active website.

The second one is related to the listed municipal bonds. The important change in regulations during 2000-2001 allowed the municipalities to borrow money through the issuance of bonds. Some provisions are made by regulations for the protection of the investors in the respective bonds; thus these provisions do not work properly as the default of a small municipality in 2014 has shown. This situation raised the problem of the absence of credit enhancement mechanisms, combined with absence of the credit rating for the domestic municipal and corporate bonds. The international investors will avoid investing in financial instruments that lack such characteristic. Moreover, the Romanian municipalities are the least transparent of the issuers due to the poor organization of information on their websites and the often absence of the information regarding the issued bonds.

While BVB managers and public relation officers often meet with the issuers' representatives, it is difficult to enforce a change in mentalities and to convince these issuers that their presence in the virtual world through their websites is an investment and not money thrown away.

In both these situations, the power to solve the problem is often outside BVB's influence. Suggestion can be made; thus to keep the balance between the number of issuers and the quality of their transparency needs a lot of diplomacy given the Romanian issuers' still emergent market culture.

Conclusions

When BVB was re-opened for transactions on November 20th 1995, the enthusiastic group of people that make it possible had high hopes for the future. BVB witnessed two crisis (the 1997-1998 Asian crisis and the recent 2007-2011 financial crisis), dealt with an opaque Mass Privatization Program, struggled to keep the listing standard, and to distance itself from the fraud scandals that tainted the image of (then) the competitor RASDAQ between 1999 and 2001.

BVB also had to navigate through and adapt to numerous changes in the set of regulations concerning the capital markets. Furthermore, BVB had to address not always supporting Government institutions; the most notorious (unfortunately) was the Ministry of Finance refusal to list the Government bonds at BVB between 1998 and 2007 and the same institution taxation policy and needless bureaucracy that constantly impaired the increase of investor number at BVB. At the same level of notoriety were the successive decisions of various

agencies/ministries that dealt with the privation process to avoid the use of BVB trading platform for this process. A breakthrough came in 2007, after Romania's accession to the European Union.

From a minuscule capitalization to over 32 EUR billion at the end of 2015, from a single type of security traded to the current diversification in trading platforms and listed securities, BVB's road to the current development was long and difficult. Thus, BVB members/shareholders and the executive team never lost their enthusiasm and their ambitious goals for development. The willingness to change and adapt to the highly competitive European financial environment was shown two years ago when the decision to bring a foreign and highly experience CEO was taken.

The current choice of BVB in facing the competition of the other European trading platforms is to remain independent. The present shareholder structure and BVB's rules regarding share concentration make any takeover almost impossible. Furthermore, BVB did not announce any clear intention to make an alliance or to become part of an alliance of security exchanges. However, this strategy might change according to the fast and ever changing European Union financial environment.

Manifestly, BVB is relevant for the domestic issuers. BVB's potential to grow is interlinked with the issuers' potential and willingness to grow. It is also linked to the quality of the listed issuers; if these issuers are interesting for diversifying international portfolios, the flow of foreign investors will follow. Currently, this situation is impaired by the low liquidity in most instruments, excepting about 10-12 shares listed within the main market Premium category.

Nevertheless, BVB officials, through their public campaign targeting the (young) individual investors, try to unearth this hidden domestic growth potential which has the power to increase BVB's trading activities in the years to come.

Through its capacity and willingness to change, adapt, and face new challenges, one can look with confidence at the BVB's future development.

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Annex 1

BVB main equity market indices

Symbol	Complete name	Launch date	Base/ Start value (points)	Number of constituents	Maximum weight/ constituent	Weightening	Type of index	Other information
BET ¹⁾	Bucharest Exchange Trading	September 19, 1997	1,000	10	20%	Float-adjusted capitalization weightening	Price index (not adjusted for dividends)	Tracks the performance of the 10 most traded companies
BET-C	Bucharest Exchange Trading Composite	April 16, 1998 <i>Discontinued June 20, 2014</i>	1,000	all BVB traded companies except SIFs and foreign companies	20%	Float-adjusted capitalization weightening	Price index (not adjusted for dividends)	Replaced by BET Plus
BET Plus	Bucharest Exchange Trading Plus	June 23, 2014	1,000	variable (as of Dec.2015, 34 constituents) does not include the SIFs and foreign companies	20%	Float-adjusted capitalization weightening	Price index (not adjusted for dividends)	Conditions for the constituents: - minimum liquidity factor of 0.0002 - minimum/ free float: EUR 1 mn
BET-FI	Bucharest Exchange Trading – Investment Funds	October 31, 2000	1,000	variable (as of Dec.2015, 6 constituents)	30%	Float-adjusted capitalization weightening	Price index (not adjusted for dividends)	The first sector index. Tracks the performance of the (closed-end) investment funds
BET-XT	Bucharest Exchange Trading Extended	July 1, 2008	1,000 as of January 2, 2007	25 (includes the SIFs)	15%	Float-adjusted capitalization weightening	Price index (not adjusted for dividends)	Tracks the performance of the most traded 25 domestic listed companies, including SIFs
BET-NG	Bucharest Exchange Trading Energy & Related Utilities	July 1, 2008	1,000 as of January 2, 2007	variable (as of Dec.2015, 11 constituents)	30%	Float-adjusted capitalization weightening	Price index (not adjusted for dividends)	The second sector index
BET-BK	Bucharest Exchange Trading Benchmark	July 3, 2012	1,000 as of September 18, 2009	25	²⁾ 10%	Float-adjusted capitalization weightening	Price index (not adjusted for dividends)	Minimum liquidity factor: 0.25. Designed to be used as benchmark by domestic asset managers and other institutional investors. ³⁾

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Symbol	Complete name	Launch date	Base/Start value (points)	Number of constituents	Maximum weight/constituent	Weightening	Type of index	Other information
BET-TR	Bucharest Exchange Trading Total Return	September 22, 2014	4,910.39 as of September 21, 2012	10 (the same constituents as for BET)	20%	Float-adjusted capitalization weightening	Total return (adjusted for dividends and similar cash distributions before tax)	The first total return index
BET-XT-TR	Bucharest Exchange Trading Extended Total Return	March 23, 2015	486.44 as of December 28, 2012	25 (the same constituents as for BET-XT)	15%	Float-adjusted capitalization weightening	Total return (adjusted for dividends and similar cash distributions before tax)	The second total return index
ROTX	Romanian Traded Index	March 15, 2005	1,000 as of January 1, 2002	15 (as of Dec.2015, 10 constituents)	20%	Capitalization weightening	Price index (not adjusted for dividends)	The constituents are Romanian blue chip stocks. Calculated and disseminated by Vienna Stock Exchange.

Note 1): Considered to be the reference index for the Romanian capital market

<http://www.bvb.ro/FinancialInstruments/Indices/Overview>

Note 2): The weight of a group of companies cannot exceed 20% The sum of weights of companies/ groups of companies accounting for more than 5% of the index cannot exceed 40% of the index capitalization;

<http://www.bvb.ro/info/indices/2015/2015.06.30%20-%20BET-BK%20Factsheet.pdf>

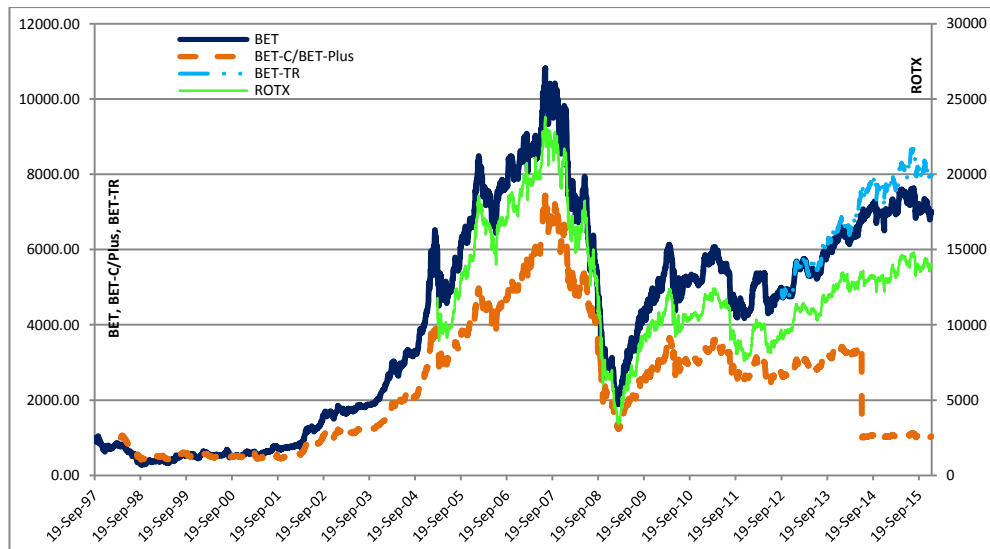
Note 3): The calculation of BET-BK reflects the legal requirements and the investment limits applying to domestic investment funds; fully UCITS compliant index;

<http://www.bvb.ro/info/indices/2015/2015.06.30%20-%20BET-BK%20Factsheet.pdf>

Source: <http://www.bvb.ro/FinancialInstruments/Indices/Overview> and the respective indices factsheets available within the aforementioned link.

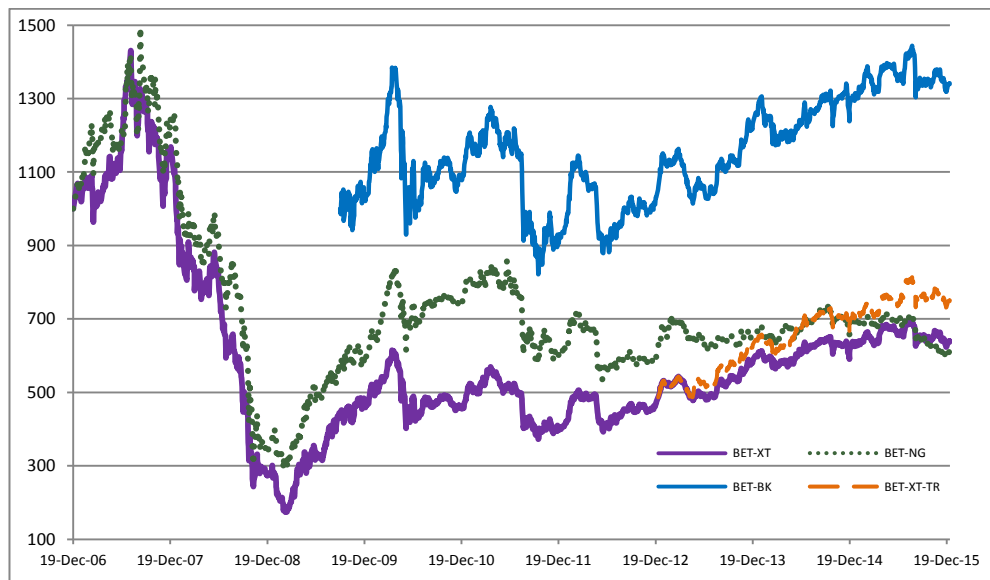
Annex 2

Annex 2a: The daily evolution of BET, BET-C/Plus, ROTX, and BET-TR



Source: Based on the data available at www.bvb.ro

Annex 2b: The daily evolution of BET-XT, BET-NG, BET-BK, and BET-XT-TR



Source: Based on the data available at www.bvb.ro

Annex 3**Annex 3a: BVB indices descriptive statistics for absolute values**

	Mean	Median	Min.	Date when recorded (dd/mm/yy)	Max.	Date when recorded (dd/mm/yy)	Observations
BET	4,143.31	4,718.89	281.24	24/09/98	10,813.59	24/07/07	4,568
BET-C/ Plus	2,370.65	2,447.72	421.98	24/09/98	7,432.63	24/07/07	4,430
BET-FI	25,944.46	24,123.09	944.72	04/12/00	95,111.01	24/07/07	3,783
ROTX	12,611.83	12,013.94	3,440.98	25/02/09	23,811.65	23/07/07	2,706
BET-XT	595.12	528.64	173.57	24/02/09	1,430.91	24/07/07	2,263
BET-NG	729.86	682.96	290.91	17/02/09	1,494.01	29/08/07	2,263
BET-BK	1,151.45	1,139.87	821.63	04/11/11	1,443.66	10/08/15	1,581
BET-TR	6,871.24	6,960.39	4,723.07	03/10/12	8,699.58	10/08/15	819
BET-XT-TR	657.57	683.36	486.44	28/12/12	813.79	10/08/15	753

Source: Based on the data available at www.bvb.ro and at www.bnro.ro

Annex 3b: BVB indices descriptive statistics for daily returns (%)

Index	Mean	Median	Standard deviation	Min.	Date when recorded (dd/mm/yy)	Max.	Date when recorded (dd/mm/yy)	Kurtosis	Skewness	Observations
BET	0.0573	0.0447	1.7146	-12.2929	07/01/09	15.6924	21/03/02	8.1010	0.0349	4,567
BET-C/Plus	0.0364	0.0440	1.4705	-11.4129	07/01/09	11.5058	14/10/08	8.4933	-0.4098	4,429
BET-FI	0.1177	0.0202	2.3481	-14.8500	10/10/08	14.8269	16/04/09	6.7332	0.2301	3,782
ROTX	0.0215	0.0508	1.7254	-17.8425	07/01/09	10.9925	10/05/10	10.5928	-0.7211	2,705
BET-XT	-0.0041	0.0322	1.7640	-11.9155	25/05/10	11.6545	10/05/10	8.1985	-0.3111	2,262
BET-NG	-0.0071	-0.0018	1.7292	-14.1501	10/10/08	14.4024	14/10/08	11.7624	-0.0753	2,262
BET-BK	0.0264	0.0326	1.2475	-10.3164	25/05/10	11.9709	10/05/10	14.0984	-0.3033	1,580
BET-TR	0.0624	0.0518	0.7763	-6.3045	24/08/15	3.4716	03/01/13	7.0106	-0.5136	818
BET-XT-TR	0.0607	0.0487	0.7610	-6.2151	24/08/15	3.8922	13/05/13	8.4640	-0.5078	752

Source: Based on the data available at www.bvb.ro

Annex 4**BVB municipal bond main market sector general information (public offerings excluded)**

Year	Trades	Volume	Value (EUR mn.)	No.of listed issues (as of the end of every year)	New listings	Trading frequency (%)	Daily averages (for the days when trading took place)		
							Trades	Volume	Value (EUR mn.)
BVB municipal bond main market sector general information (public offerings excluded)									
2001	5	45	0.00	2	2	23.53	1	11	0.00
2002	10	59,050	0.25	4	2	2.43	2	9,842	0.04
2003	12	29,310	0.34	9	8	4.56	1	2,665	0.03
2004	85	51,945	1.32	19	12	14.23	2	1,443	0.04
2005	60	25,632	0.71	13	5	16.19	2	641	0.02
2006	60	80,658	2.04	11	3	8.47	3	3,841	0.10
2007	58	119,695	2.96	16	7	10.00	2	4,788	0.12
2008	175	323,793	8.51	20	9	22.80	3	5,681	0.15
2009	157	221,349	4.57	31	13	26.80	2	3,304	0.07
2010	88	254,207	5.46	35	5	15.69	2	6,355	0.14
2011	47	107,839	2.01	36	2	8.63	2	4,902	0.09
2012	8	5,992	0.10	36	0	2.40	1	999	0.02
2013	111	64,548	0.62	37	1	18.73	2	1,373	0.01
2014	150	74,382	0.58	35	0	30.80	2	966	0.01
2015	275	55,294	16.92	38	4	42.23	3	522	0.16
BVB corporate bond main market sector general information (public offerings excluded)									
2003	25	560	0.02	1	1	9.15	2	40	0.00
2004	189	66,191	11.83	6	5	32.41	2	807	0.14
2005	274	171,475	28.96	6	1	50.61	2	1,372	0.23
2006	250	432,638	26.61	6	1	48.39	2	3,605	0.22
2007	132	424,967	14.85	4	3	28.80	2	5,902	0.21
2008	184	422,933	11.92	4	0	33.20	2	5,096	0.14
2009	128	621,976	14.31	1	0	26.00	2	9,596	0.22
2010	0	0	0.00	0	0	0	0	0	0.00
2011	0	0	0.00	0	0	0	0	0	0.00
2012	0	0	0.00	1	1	0	0	0	0.00
2013	20	3,811	8.98	3	2	5.18	2	293	0.69
2014	27	3,621	8.90	6	3	7.20	2	201	0.49
2015	51	23,655	21.32	7	1	14.34	1	657	0.59
BVB international bond main market sector general information (public offerings excluded)									
2006	9	89,912	25.23	1	1	16.28	1	12,845	3.60
2007	43	3,107,805	130.17	2	1	12.40	1	100,252	4.20
2008	171	114,098	27.85	2	0	18.40	4	2,480	0.61
2009	330	893,894	43.89	2	1	29.60	4	12,080	0.59
2010	17	133,580	3.28	2	0	4.31	2	12,144	0.30
2011	17	713,520	17.41	2	0	3.53	2	79,280	1.93
2012	2	100,001	2.40	2	0	0.80	1	50,001	1.20
2013	7	2,114	0.05	2	0	1.99	1	423	0.01
2014	0	0	0.00	1	0	0.00	0	0	0.00
2015	10	396	0.90	2	1	3.98	1	40	0.09

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Year	Trades	Volume	Value (EUR mn.)	No.of listed issues (as of the end of every year)	New listings	Trading fre- quency (%)	Daily averages (for the days when trading took place)		
							Trades	Volume	Value (EUR mn.)
BVB Government bond main market sector general information (public offerings excluded)									
2008	17	2,069	5.18	24	25	18.40	2	188	0.47
2009	346	85,689	214.98	26	2	29.60	3	625	1.57
2010	435	203,724	544.13	18	2	4.31	3	1,520	4.06
2011	181	35,889	85.78	21	4	3.53	2	449	1.07
2012	358	114,245	262.37	24	7	0.80	3	865	1.99
2013	337	35,575	85.56	25	4	1.99	2	239	0.57
2014	148	12,026	25.57	23	2	0.00	2	165	0.35
2015	95	56,760	61.50	22	5	3.98	2	979	1.06

Note: The trading frequency is calculated as the ratio between the number of days when trading occurred and the total number of trading days within the respective year.

Source: Based on the data available at www.bvb.ro