

# Chapter 16

## Two Decades of Municipal Bond Trading at the Bucharest Stock Exchange



Cornelia Pop and Maria-Andrada Georgescu

**Abstract** Borrowing through sub-sovereign (municipal) bonds is often considered a sustainable method to finance the local governments' needs.

The present paper adds to this scarce literature a much-needed update regarding two decades of evolution of the municipal bond market segments at Bucharest Stock Exchange (henceforth BVB), showing, despite some advances, the underdeveloped stage of this market, mainly due to the ownership structure of the issued municipal bonds. The analysis presented below confirms the findings of a report for the European Bank for Reconstruction and Development issued in 2020.

Currently, the quasi-absence of municipal bond offerings (the only exception being the bonds issued by Bucharest) represents an important vulnerability for the future of the municipal bond market segment at the Bucharest Stock Exchange, which might be on the brink of closure by 2030 due to the maturity of presently listed bonds. On the other hand, the need for re-financing might bring the local governments' option to the alternative of issuing bonds, though the central authorities need to update and improve the framework within which sub-sovereign bonds are issued and offered to investors.

**Keywords** Municipal bonds · Market · Evolution · Romania

### 16.1 Introduction and Literature Review

The main trends that influence the importance of sub-sovereign bonds as a financing source are represented by an accelerated urbanization process with the corollary demand for appropriate infrastructures and services, hence capital-intensive

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projects. A decentralization process is taking place in many countries influencing the access to various financial resources. Additionally, a growing demand for sub-sovereign securities is expressed mainly by institutional investors like mutual funds, pension funds, insurance companies, and other investment companies (Canuto & Liu, 2010; Platz, 2009; Ioannou et al., 2021).

Borrowing through sub-sovereign (municipal) bonds is often seen as a sustainable method to finance the local governments' needs for long-term complex urban projects, providing the local authorities with the possibility to access a larger pool of (financial) resources with (potentially) lower costs than in the case of bank loans (Bellot et al., 2017; Ioannou, 2023).

The long-standing history and success of sub-sovereign bond market in the United States inspired and triggered the development of municipal bond markets around the world, especially within emerging economies (Ioannou et al., 2021).

Up to the present time, the literature on sub-sovereign bonds has the tendency to be centered around US experiences and problems since the country hosts one of the largest sub-sovereign bond markets (Ioannou, 2023). One of the most recent (and comprehensive) works of Cestau et al. (2019) presents an extensive analysis of the US municipal bond market's evolution and characteristics. However, the literature mainly on European countries started to grow and diversify, though it inclines mainly toward developed Western countries like Germany, Spain, Italy, and France (Bellot et al., 2017; Padovani et al., 2018; Rius-Ulldemolins & Gisbert, 2019). One of the most recent works related to Europe is that of Ioannou (2023) who discusses the development of sub-sovereign debt within the Eurozone (based on 58 regional and municipal governments), highlighting a significant domestic diversity and the important role played by national governments in setting the appropriate frameworks for local government to operate within.

The academic literature concerning the Romanian sub-sovereign bond market remains scarce. To the literature review provided by Pop and Georgescu (2015), to the best of the authors' knowledge, only the study of Tiron-Tudor et al. (2021) focused on the topic of sub-sovereign, mainly on the factors determining bond issuance, trying to provide a profile for the local governments that chose to issue municipal bonds.

The present paper adds to this scarce literature a much-needed update regarding two decades of evolution of the municipal bond market segments at Bucharest Stock Exchange (henceforth BVB), showing, despite some advances, the underdeveloped stage of this market, mainly due to the ownership structure of the issued municipal bonds.

## 16.2 Materials and Method

The present paper used the secondary data (daily, monthly, and annual) available at BVB in order to provide a comprehensive analysis, using figures and tables, of the municipal bond market segment within the Romanian security exchange main

market. The data were split into two panels: one dedicated to various structures of all listed and currently listed municipal bonds and a second one dedicated to the trading activity of each municipal bond in order to extract (if possible) a profile of non-traded and traded bonds.

The analysis, under the form of a case study, presents the entire evolution of the municipal bond sector from November 2001 to December 2022, covering two decades of data and information. This updated analysis was needed since, to the best of the authors' knowledge, no such updated study is currently available for the Romanian municipal bond market. Furthermore, this analysis has the potential to be a base for future empirical research.

The analysis presented below confirms the findings of a report for European Bank for Reconstruction and Development (Milatovic & Szczurek, 2020), which shows the dominance of Treasury bonds at BVB, the infancy stage of development for the municipal bond segment, its lack of depth, and liquidity despite some advances.

### 16.3 The Bond Sector at BVB

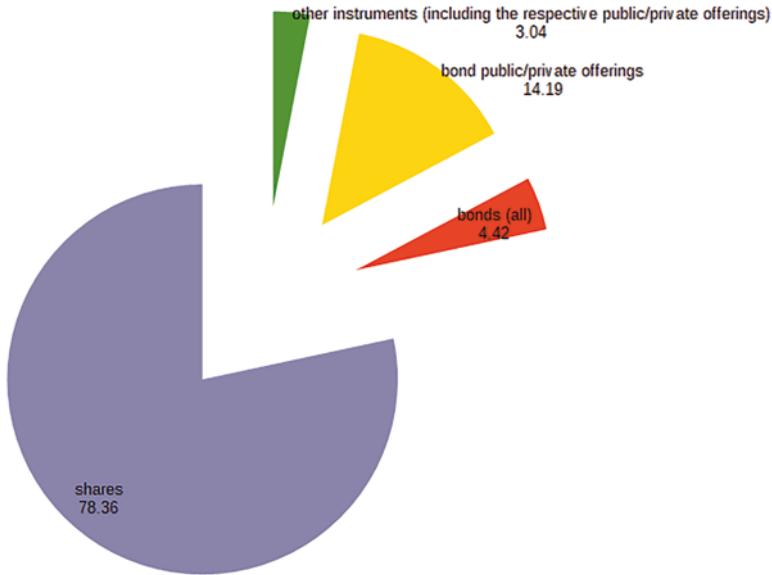
The bond market segment within BVB main market was launched in November 2001, and the first to be listed were two municipal bonds. The bond segment further diversified in May 2003 when the first domestic corporate bonds were introduced, followed by the listing of international corporate bonds in September 2006. August 2008 marked the first government bonds listing at BVB. No other developments occurred until June 2017 when the instruments named "other international bonds" were introduced, listing bonds issued by foreign real estate companies. In June 2019, the category "other bonds" was added, listing the first mortgage bonds issued by a Romanian bank. All the information above is based on the research of Pop (2022).

One must add that neither the listed bonds of foreign real estate companies nor the issue of mortgage bonds registered any transactions since their introduction at BVB until December 2022. Furthermore, the last international corporate bond listed at BVB reached its maturity in November 2022, and at the end of December 2022, no other such bonds were listed at Bucharest.

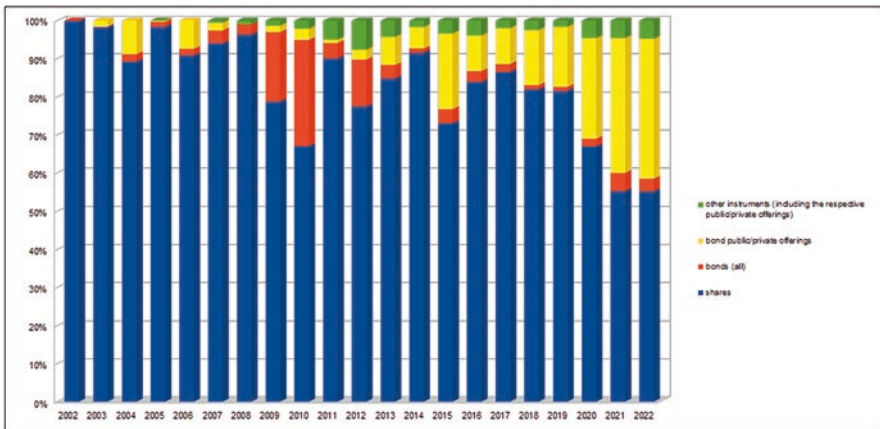
It must be mentioned that at BVB, a multilateral trading system (MTS) exists, and it also hosts a bond segment since 2015; currently, MTS lists only domestic corporate bonds of smaller companies.

Figure 16.1 presents the overall structure of BVB main market turnover for 2002–2022, showing the relatively small importance of the bond segment for regular transactions, while the bond offerings have a better position.

Figure 16.2 shows the standing of the bond market segment within BVB's main market by years, between 2002 and 2022; the year 2001 was ignored since the bond market turnover was insignificant. As one can see, the bond market segment registered a higher level of turnover in 2009 and 2010, during the financial crisis, due to



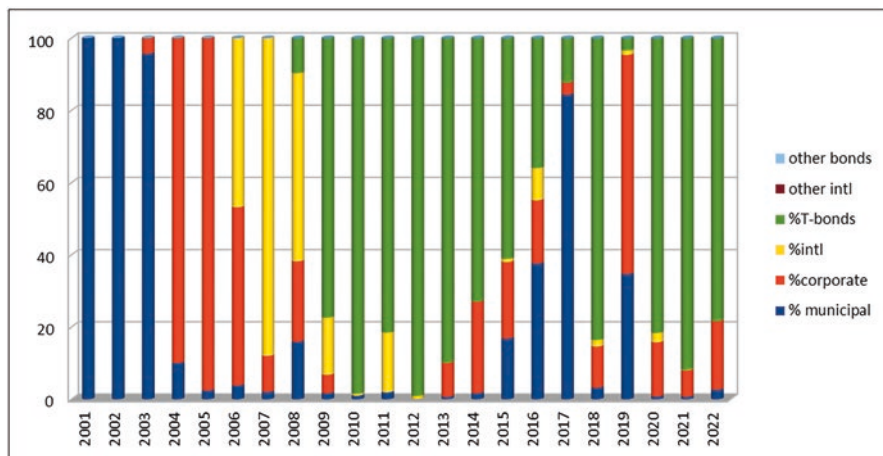
**Fig. 16.1** The overall structure (in percentages) of BVB main market turnover by major traded securities for 2002–2022. (Source: authors’ calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



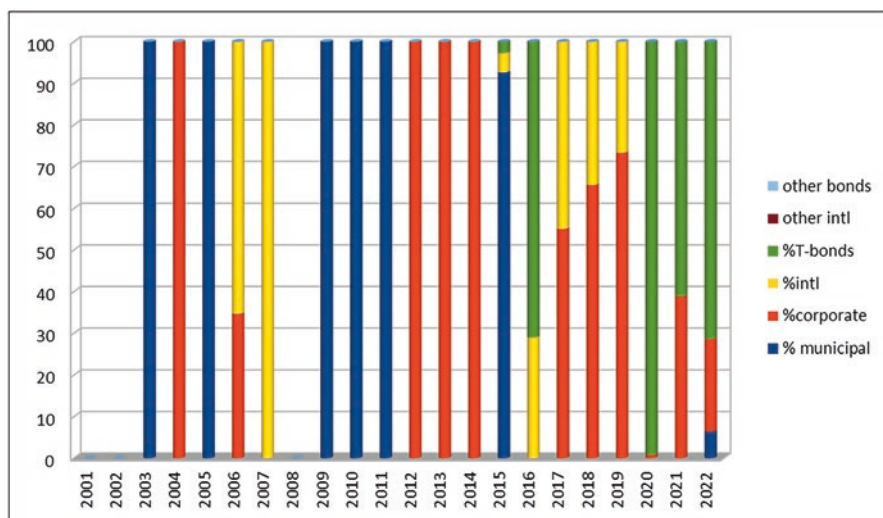
**Fig. 16.2** The structure (in percentages) of BVB main market turnover by major traded securities from 2002 to 2022. (Source: authors’ calculations based on data available at [www.bvb.ro](http://www.bvb.ro))

investors seeking alternative investments. Since 2020, the bond public offerings gain status mainly due to the periodic issuance of government bonds for the population.

The position of the municipal bond segment within the overall bond segment is presented in Figs. 16.3 and 16.4.



**Fig. 16.3** The structure (in percentages) of BVB bond segment turnover from 2001 to 2022 (offerings not included). (Source: authors’ calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



**Fig. 16.4** The structure (in percentages) of BVB bond segment offerings\* by types of offered bonds from 2001 to 2022. (Note\*: BVB registers and reports both the public offerings and private placements/offerings for the issuers who choose these avenues. Source: authors’ calculations based on data available at [www.bvb.ro](http://www.bvb.ro))

As it can be observed, for regular trading, municipal bonds seldom dominated the market: (a) between 2001 and 2003 when they were the only listed bonds and (b) in 2016 and 2017 when investors manifested an interest in the newly listed bonds of Bucharest (during 2016) and when eight municipal bond issues were traded in one day, changing the initial lender with new institutional investors, generating a turnover of 166.81 million RON.

When the public offerings are taken into consideration, as Fig. 16.4 shows, in the years 2003, 2005, and 2009–2011, only municipal bonds were offered. In 2015, Bucharest issued four series of municipal bonds to refinance an international bond loan, and therefore, this offering dominated the market. In 2022, Bucharest issued another series of municipal bonds, but the value of this offer was by far dominated by the government bond public offerings.

From this brief presentation of the BVB bond segment, one can see that municipal bonds represent a relatively small corner of this market.

## 16.4 The Structure and Evolution of the Municipal Bond Segment at BVB

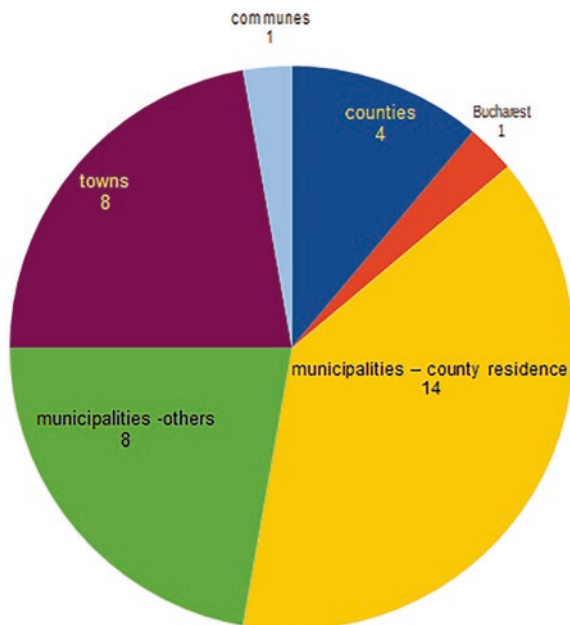
The changes of 1998 in regulations regarding the financing alternatives for Romanian local administrative units (counties, municipalities, towns, and communes) allowed the issuance of sub-sovereign bonds. These changes were regarded as welcomed options for accessing different financing sources mainly for medium- and long-term investment projects at the local administration level. However, three more years passed for the first bonds to be issued at the end October 2001 by the municipality of Mangalia (Constanta county) and the town of Predeal (Brasov county). Both series of bonds were listed at BVB one month later, by the end of November 2001. From November 2001 to December 2022, a total number of 75<sup>1</sup> series of sub-sovereign bonds were listed at BVB. As of December 2022, at BVB, the municipal bond segment listed 34 sub-sovereign bonds; 40 previously listed bonds reached their maturity and expired, while the bonds issued by the town of Baile Herculane (Caras-Severin county) were delisted by the end of July 2014 due to default in scheduled payments.

While the overall offer of listed bonds seemed generous, it barely tapped into the potential of Romanian local administrative units (LAUs) to issue bonds. As shown in Fig. 16.5, only 36 LAUs issued listed bonds between November 2001 and December 2022. Currently, as of December 2022, only 19 LAUs still have listed bonds at BVB (Fig. 16.6). Several details about the small corner of sub-sovereign bond issuers can be considered interesting: four counties of 41 (or 9.76%), 14 county residencies<sup>2</sup> of 40 (or 35.00%), 8 other municipalities of 62 (or 12.90%), 8 towns of 216 (or 3.70%), and 1 commune of 2862 (or 0.03%).

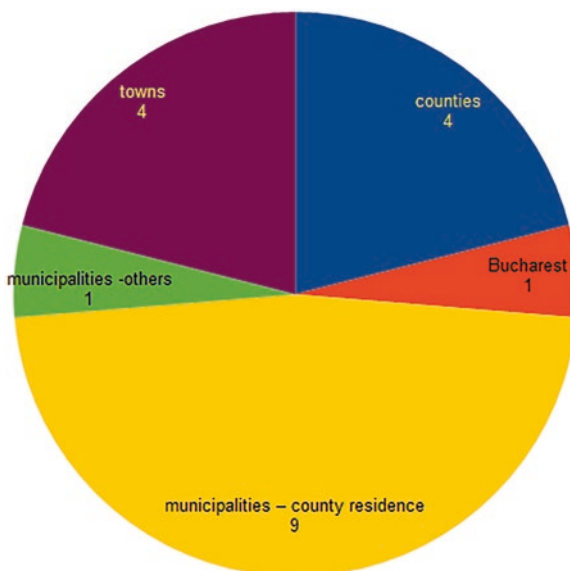
<sup>1</sup>Based on the data provided by Pop and Georgescu (2011), other four LAUs issued series of bonds that were never listed at BVB; the reasons could not be established. These four series of bonds were issued by: (1) the town of Breaza (Prahova county) in 2002; (2) the county of Arad in 2003; (3) the town of Targu Ocna (Bacau county) in 2004; and (4) the municipality of Cluj-Napoca (Cluj county) in 2004. No other details could be found about these issues.

<sup>2</sup>A county residence is, usually, the largest municipality in the respective county; it also concentrates the county's administrative institutions. The difference between other municipalities and towns was initially based on population; currently, the limits are not respected anymore due to the decrease in Romania's population. Though, no demoting from the rank of municipality was performed since 2011 census, which revealed a diminishing resident population.

**Fig. 16.5** The structure of sub-sovereign bond issuers by type, for all bonds. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))

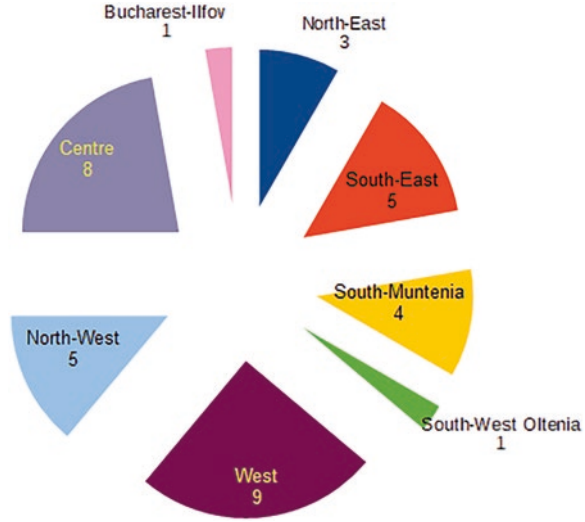


**Fig. 16.6** The structure of sub-sovereign bond issuers by type, for the listed bonds at the end of December 2022. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



The geographical distribution of these 36 LAUs and of the remaining 19 LAUs as of December 2022 is presented in Figs. 16.7 and 16.8, below. As one can observe, the West and Centre regions concentrate the highest number of bond issuers and continue to remain on the same positions at the end of December 2022. It must be added that except for the Bucharest-Ilfov region (the most developed one due to the position of Romanian capital), West and Center regions are among the top developed regions (Ibiceanu Onica et al., 2021).

**Fig. 16.7** The structure of bond issuers by development regions, for all bonds. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



**Fig. 16.8** The structure of bond issuers by development regions, for the listed bonds at the end of December 2022. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



It is also interesting to mention the fact that some LAUs, once becoming familiar with issuing bonds, continued to use new series of bonds for financing their various needs. This is the case of the municipality of Timisoara (county residence of Timis), which issued seven series of municipal bonds, of which four were still tradable at the end of December 2022. In the second place, with six series of issued bonds are the municipality of Alba-Iulia (county residence of Alba) and Bucharest (Romanian capital); as of December 2022, Alba-Iulia still had four tradable bond series, while Bucharest had three tradable bond series. To the other end of the spectrum can be found 18 LAUs, which issued only one series of bonds; this category includes three counties, the only commune, eight municipalities (of which three county residences), and six towns. Additionally, ten LAUs issued two series of bonds; here are



included nine municipalities (of which six county residences) and one town. It can be observed that the larger LAUs (mainly county residences) were more inclined to use the issuance of multiple series bonds to finance or re-finance their needs.

One can argue that the initial nominal/face value of a bond can be attractive for individual investors or for institutional investors; the lower the nominal/face value, the higher the probability that small individual investors might be attracted since, most of the time, they are not willing to place large sums of money in the same security(ies). Figure 16.9 presents the structure of BVB-listed sub-sovereign bonds by their nominal/face value at their issuance. As it can be noted, the majority of sub-sovereign bonds (80%) were issued at a nominal value of RON 100 (about EUR24<sup>3</sup>), which can be considered an attractive value for individual investors. The same applies to those issues with RON 10, RON 120, and RON 150 nominal values. However, for the six series of municipal bonds issued by Bucharest, a RON 10,000 (about EUR 2409<sup>4</sup>) nominal/face value was chosen. This was due to the fact that through the four series of bonds offered through private placements in 2015 by Bucharest, the respective municipality was seeking to re-finance an international bond loan of EUR 500 million contracted in 2005 and maturing in 2015 (according to Miricescu, 2009).

Of the 75 listed municipal bonds: 68 were amortized bonds, one series issued by the town of Horezu (Valcea county) had variable/flexible interest rate but no amortization of the principal, and the remaining six bonds, issued by Bucharest, were all plain vanilla bonds (fixed interest rate paid annually and principal re-paid at maturity). Due to the amortization of principal for the majority of the present tradable bonds (31 of 34), the remaining value is too tedious to be determined and therefore it was not computed.

It should be mentioned that the choice to offer amortized bonds on a market that was not accustomed with bonds in general can be viewed as a step too far. Most (small) individual investors were not familiar with the re-payment schedules and the calculation of the respective bonds' prices, which led to a lack of interest in this municipal bond segment at BVB for several years.

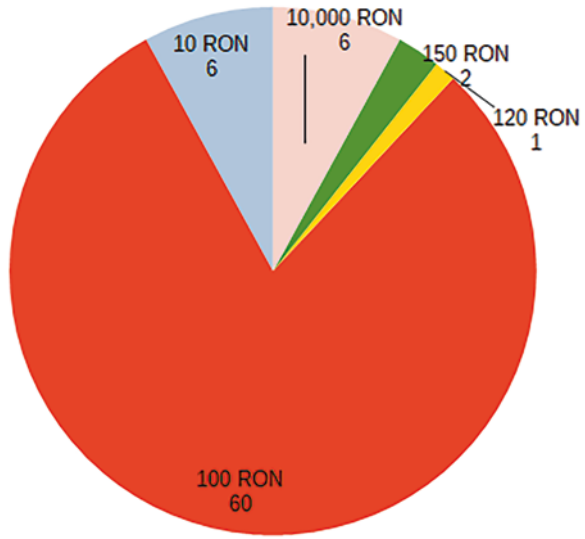
The outstanding volume of bonds also have an influence on trading activity. Figs. 16.10 and 16.11 present the structure of sub-sovereign listed bond series based on the issued volume. As it can be observed, small issues of less than 100,000 securities (42 of 75 or 56.00%) dominated the 75 series of listed municipal bonds. The smaller issues were mainly a characteristic of the bond segment's first years (2001–2006), and/or they were launched by towns and smaller municipalities as it will be discussed below. Though the nominal value of issued bonds was attractive for smaller (individual) investors, the scarcity of these issues represented a problem, and therefore, the data suggest that the number of individual investors owning

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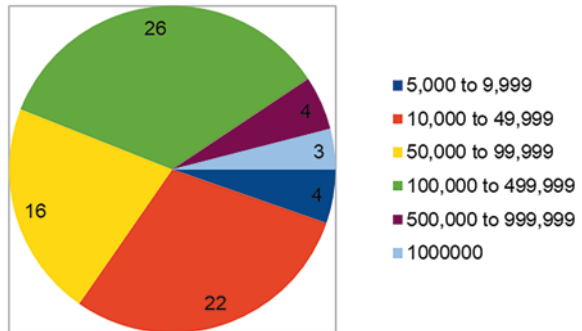
<sup>3</sup>For this calculation the Eurostat average exchange rate, for the period 2001–2022, for EUR/RON was used.

<sup>4</sup>See footnote 3.

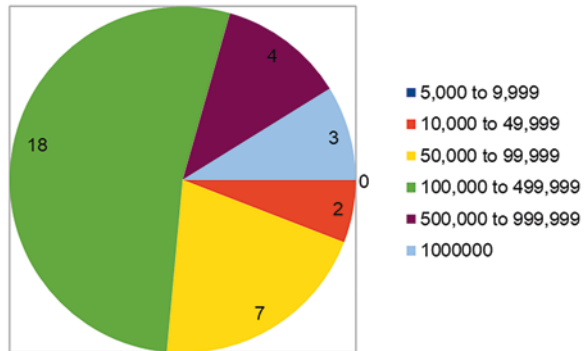
**Fig. 16.9** Romanian listed sub-sovereign bond structure by nominal/face value at issuance. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



**Fig. 16.10** Structure of all listed bonds by issued volume. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



**Fig. 16.11** Structure of tradable bonds (December 2022) by issued volume. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



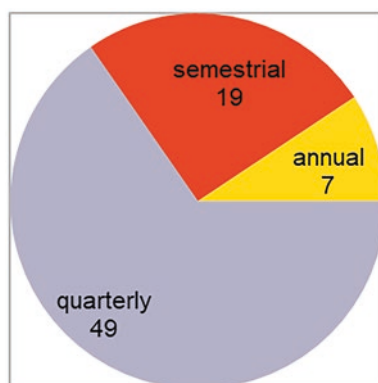
municipal bonds remained small. This situation had and still has an influence on the level of development of municipal bond segment at BVB.

The 75 listed series of municipal bonds were issued with the following types of interest rates (coupons): (a) fixed interest rates for eight series of bonds (of which six were issued by Bucharest, one issued by the municipality of Arad and one by the municipality of Timisoara) and (b) variable interest rates for the remaining 67 series. All the municipal bond series with variable interest rates use as benchmarks the Romanian interbank interest rates (ROBID-ROBOR) for 3, 6, or 12 months. As of December 2022, of the 34 listed municipal bonds, three series (all issued by Bucharest) had fixed interest rates; the remaining 31 all have variable interest rates.

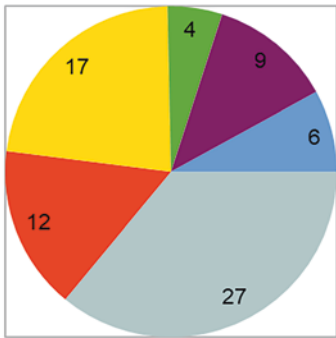
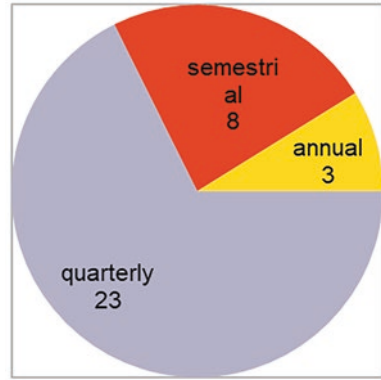
The frequency of coupon payments, which can increase the attractiveness and reduce the overall risk of bonds, was often correlated with the benchmark interest rate, for example, if the 3-month benchmark interest rate was chosen, the respective coupon payment frequency was quarterly. However, for ten series of bonds, the chosen benchmark interest rate was for 6 months; thus, the coupon payment frequency was decided to be made quarterly. Figures 16.12 and 16.13 show the coupon frequency for all the 75 listed series of bonds and for the currently tradable 34 series of bonds, as of December 2022. As one can note, for the majority of the listed series of municipal bonds, the quarterly payment was the choice. The annual payment was adopted for only seven series of bonds; six of these series were those issued by Bucharest; the only other series of bonds with an annual coupon was that issued by the town of Horezu in December 2012 (and which matured in October 2015).

The destination of funds collected through bond issuance ranges from specific purposes (e.g., improvements of road and/or street infrastructure) to multiple purposes. Figures 16.14 and 16.15 below present the destination of borrowed amounts for all the 75 listed series of municipal bonds and for the current, as of December 2022, tradable ones. It is worth mentioning that the multiple purposes as the destination of funds became a trend for the issued bonds starting in 2006. The refinancing purposes were more frequent in 2011 (though the first series of bonds for refinancing purposes was issued in 2006 by the town of Predeal). Since 2015, the main

**Fig. 16.12** Structure of all listed bonds by coupon payments. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))

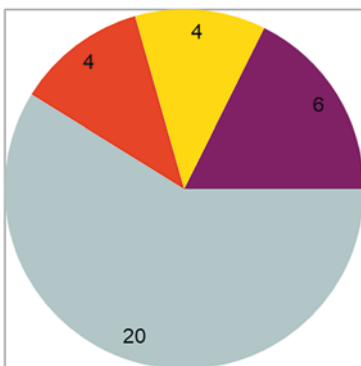


**Fig. 16.13** Structure of tradable bonds (December 2022) by coupon payments. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



- multiple purposes
- water distribution and sewerage systems
- improvements of roads & streets
- tourism developments
- refinancing bank and other bond loans
- other purposes

**Fig. 16.14** Structure of all listed bonds by destination of funds. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



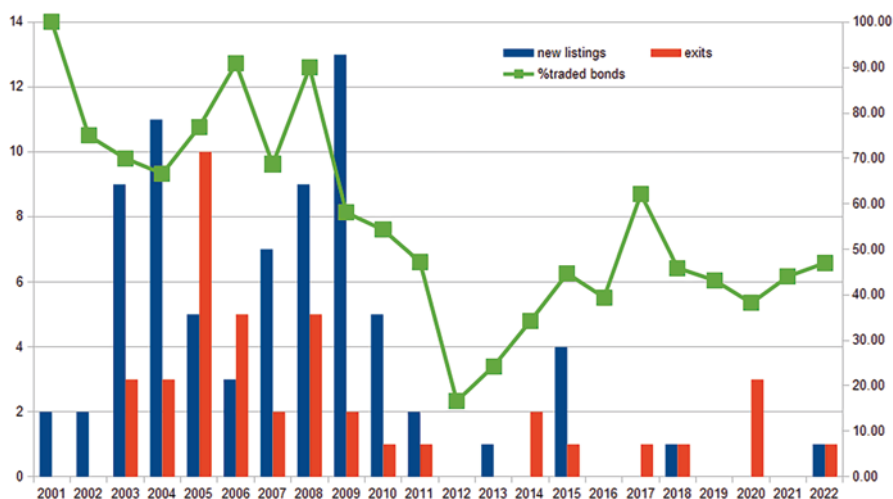
- multiple purposes
- water distribution and sewerage systems
- improvements of roads & streets
- tourism developments
- refinancing bank and other bond loans
- other purposes

**Fig. 16.15** Structure of tradable bonds (December 2022) by destination of funds. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))

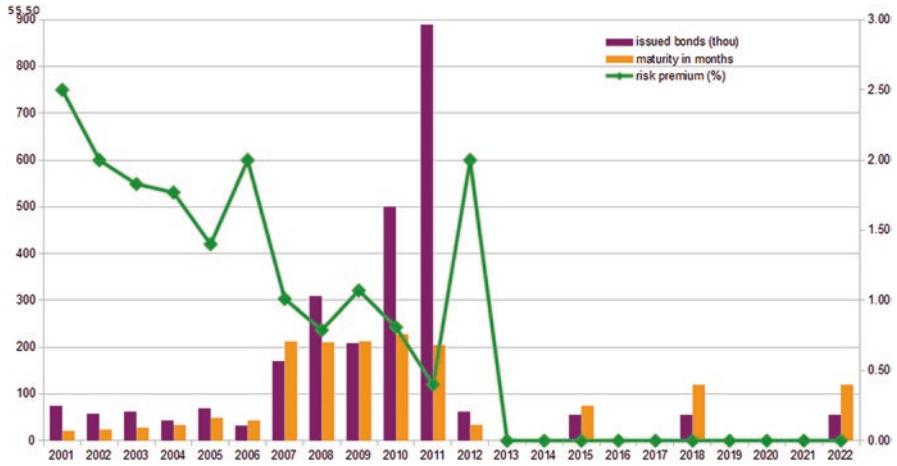
destination of funds for all the issued series of bonds became refinancing of previous bank or bond loans.

The evolution of new listings of sub-sovereign bonds at BVB, their exits (delisting), and the percentage of traded municipal bonds are presented in Fig. 16.16, below. As it can be observed, there was a clear trend of new listings in 2003 and 2004, followed by a second wave in 2008 and 2009. The new listings dried up completely in 2012 and since 2013 they occurred sporadically. With the exception of the 2013 new listing, which was the issue offered by the town of Horezu (Valcea county), the new listings of 2015, 2018, and 2022 were all series of bonds offered by the municipality of Bucharest. It also can be noticed that once the number of listed municipal bonds started to grow, the number of traded bonds started to decrease, reaching a minimum in 2012 and stabilizing around 40–50%. The situation of 2017 will be discussed in the paragraphs to come.

The information in Fig. 16.16 is completed by the information in Fig. 16.17, which shows the average volume (expressed in thousands of bonds) of the newly listed sub-sovereign bonds, their respective average maturities (expressed in months), and their risk premiums. As can be remarked and was also briefly mentioned above, the municipal bond series issued between 2001 and 2006 were of smaller volume and have maturities of up to 72 months (6 years), and the risk premiums were around 1.5% over the interest rate benchmark (ROBID-ROBOR, as explained above). A clear shift took place in 2007, when, in January, Romania became a member of the European Union. In addition, the economic improvements, visible since 2004, were more evident in the Romanian economy, and therefore, the investors' sentiments toward newly issued securities exhibited more enthusiasm and confidence. Hence, the volume of newly issued municipal bonds increased, along



**Fig. 16.16** New listings, delisting/exits, and percentage of traded sub-sovereign bonds at BVB. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



**Fig. 16.17** Average volumes, average maturities, and average risk premiums for the listed sub-sovereign bonds by year. (Source: authors’ calculations based on data available at [www.bvb.ro](http://www.bvb.ro))

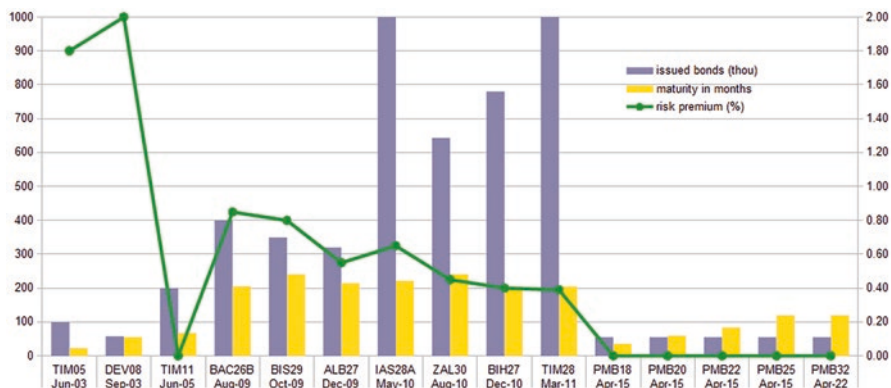
with their maturities, while the risk premiums decreased. The increase in listed municipal bond maturities up to 242 months (about 20 years) explains the small number of existences (Fig. 16.16, above) since 2009. The small issue made by the town of Horezu (listed in 2013), with a maturity of 2 years and a premium of 2%, marked the end of municipal bond issuance of Romanian local administrations, except Bucharest. All the bond series offered by the municipality of Bucharest had a volume of about 55,000 bonds and maturities between 36 and 120 months, with fixed interest rates; therefore, the risk premiums were not reported anymore.

It is also worth mentioning that of the 75 sub-sovereign bonds listed at BVB, only 15 series (20.00%) were registered as offerings through the BVB system: ten series were public offerings, while the series offered by Bucharest were private placements. The remaining 60 series of listed municipal bonds were also introduced on the market through private placements/offers; however, their issuers and/or intermediaries choose not to report these placements via the BVB system.

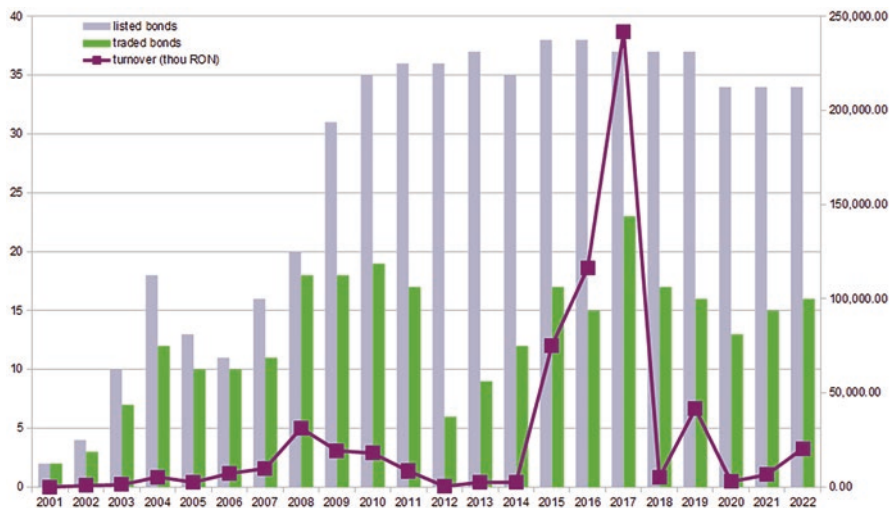
The information contained in Fig. 16.18 is in concordance with the data provided by Figs. 16.16 and 16.17.

Regarding the annual trading activity, Fig. 16.19 shows an oscillatory evolution, with short upward trends followed by longer downward trends (the case of 2007–2008 followed by 2009–2012 decrease) or by a sharp decrease (the case of 2018).

As one can note, the years 2002–2007 showed a slow but steady increase in municipal bond trading from less than RON 1 million in 2002 to about RON 10 million in 2007. In 2008, under the influence of the financial crisis, municipal bonds transactions grew three times compared with 2007 (over RON 30 million in 2008); this was due mainly to investors’ flight to less risky securities, a behavior triggered by the share market turmoil, as also highlighted by Pop and Georgescu (2015). For



**Fig. 16.18** Public and private offering of sub-sovereign bonds registered through BVB system. (Source: authors’ calculations based on data available at [www.bvb.ro](http://www.bvb.ro))



**Fig. 16.19** Annual regular trading activity for sub-sovereign bond market segment at BVB. (Source: authors’ calculations based on data available at [www.bvb.ro](http://www.bvb.ro))

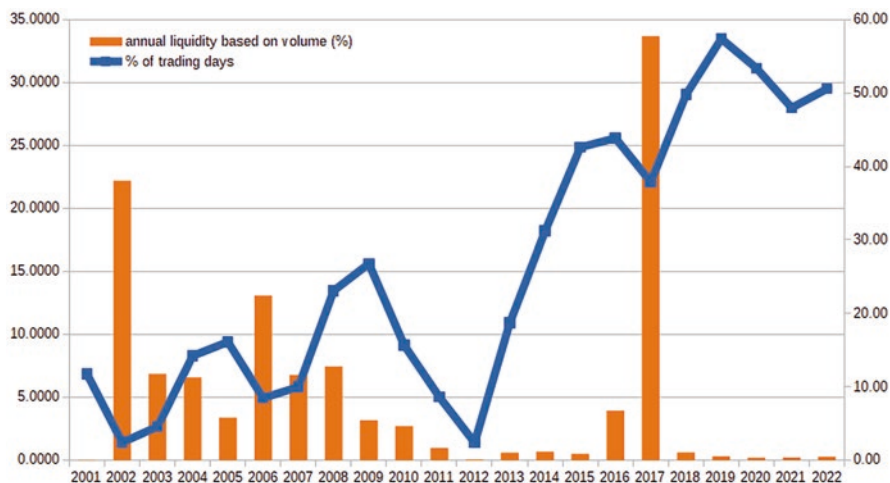
2009 and 2010, the level of trading for municipal bonds decreased relative to 2008, though transactions were two times higher compared with 2007. It is worth mentioning that, as Figs. 16.16, 16.17, and 16.18 showed, the period 2008–2010 was the most dynamic for the municipal bond segment at BVB with a total of six public offerings (three in 2009 and three in 2010), 27 newly listed bonds (9 in 2008, 13 in 2009, 5 in 2010), and an increase in issued bonds per series. Nevertheless, in 2011, the interest in municipal bonds started to decrease again, this time under the influence of the sovereign debt crisis in Europe, mainly in Portugal, Ireland, Greece, and Spain (or PIGS). The minimum of municipal bond segment activity was registered

in 2012 with barely RON 0.4 million transactions over six trading days (of 250). While during 2013 and 2014 the trading activity increased compared with 2012, it remained at low levels, similar to 2005 (about RON 2.5 million per year). In 2015, the municipal bond segment at BVB seemed to be revived by the listing of the four series of bonds issued by Bucharest for re-financing the reimbursement of the international bond loan mentioned by Miricescu (2009). Due to the interest toward these four new Bucharest bonds, with a high nominal value of RON 10,000, even a small trading volume could generate high values. The investors' attention toward Bucharest bonds continued in 2016 generating a further increase in transaction activity and value. It must be mentioned that the trading value of 2016 was further enhanced by a large transaction that took place in May when a series of bonds issued by the municipality of Bacau (BAC26B) registered its only transaction of RON 22.8 million, which transferred almost all the outstanding volume (397,000 bonds of 400,000) from an institutional investor to another. While no information is available regarding the ownership of municipal bonds, an educated guess points toward a transaction between large, most likely, institutional investors. Furthermore, this educated guess is enhanced by the fact that, with the exception of the public offering transactions in August 2009, the bond series BAC26B was not traded until May 2016 and never traded since. The sharp increase in trading value in 2017 was generated by a single day, November 17, when 8<sup>5</sup> series of bonds registered transactions similar to that of BAC26B in 2016. In just one trade for seven series of bonds, the entire quantity of outstanding securities was transferred, while for one series of bonds, 98.94% of the outstanding securities were transferred. The series of bonds IAS28A reproduced the BAC26B scenario exactly: had a public offering in May 2010 and was not traded until November 2017 and never traded since; the remaining seven series of bonds were not traded since listing until November 2017 and never traded since. The total value of these eight series of bonds on November 17, 2017, was of RON 166.8 million (almost 67% of the 2017 total transaction value). As in the case of BAC26B, these 2017 transactions took place among institutional investors. This situation was verified by the authors' informal discussions with some intermediaries, which confirmed the heavy presence of institutional investors for these transactions. The trading activity of 2018 registered a steep decrease, to only about RON 5.1 million, and it is considered that the low coupons of 2017 had an influence on the lack of interest toward municipal bonds. Also, during 2018, the four series of Bucharest bonds were barely traded. The year 2019 seemed to bring a revival of municipal bond trading activity, once again mainly due to the trading of Bucharest bonds; however, this situation did not last due to the Covid-19 pandemic of 2020 and its consequences. With RON 2.8 million in transactions, 2020 was at the same level as in 2005 and 2013–2014. In 2021 and 2022, a slow recovery can be observed and the renewed interest on municipal bonds seems to be triggered by their

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<sup>5</sup>The trading symbols for these series of bonds are: ALB26, ALB27, FOC26, IAS28A, NAV27, ORS29, TGM27, and TGM27A. For more details see [Appendix 2](#).





**Fig. 16.20** Sub-sovereign bond market trading frequency and liquidity. (Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro))

coupons, which became more attractive due to the increase in inflation rate and subsequently in the benchmark rate of ROBID-ROBOR.

The information provided by Fig. 16.19 is completed by the data in Fig. 16.20, below. This last figure shows that the trading frequency during the years (% of trading days, secondary Y axis, showing the percentage of days when trading occurred compared with total trading days within a year) was low between 2001 and 2011, varying between 2.43% in 2002 and 26.80% in 2009. The trading frequency reached its minimum in 2012, which was the poorest performing year for the municipal bond segment; from 2013 onward, the trading frequency improved gradually increasing from 18.73% in 2013 to 57.43% in 2019. However, trading frequency as an indirect measure of liquidity indicates that investors might not be able to execute their transactions on the desired day and the percentage of inactive days is still high, despite improvements.

Since most of the listed bonds were amortized bonds and the majority of currently listed bonds still fell in this category, the liquidity was calculated based on the annual traded volume versus the outstanding quantity of bonds at the end of each year (main Y axis). As it can be observed, the liquidity of the municipal bond market segment never overpassed 35%, in 2017, under the influence of the transactions generated by the eight series of bonds, as described above. The liquidity level, never very high, decreased gradually as the number of listed bonds increased. As one can see, since 2013, with the exception of 2017, the liquidity on the municipal bond market is almost negligible.

It is also interesting to note that, based on the trading activity and on the frequency of trading, three categories of municipal bonds were identified: (i) 11<sup>6</sup> series

<sup>6</sup>The symbols for these bonds with no trading are: PRD06, ARA06, CLM05, GRG05, CLJ05, ANI20, BIS29, SLB29, ZAL30, BIH27, and TIM28. For more details, see [Appendix 2](#).

of bonds, which registered NO trading during the listing period; (ii) 16<sup>7</sup> series of bonds, which registered trading activity only one day during their listing period; (iii) 48 series of bonds, which registered trading activity for two days or more. For all the three categories, in the case of currently listed bonds, the limit period is December 2022. For the first two categories of bonds, no special profile could be drawn. For the third category of bonds, traded two days or more, some of the following facts might be interesting: (a) 21 of the 48 bonds (43.75%) registered trading activity for 2–9 days; only 2 of the 48 bonds registered trading activity for a cumulative period of 241–276 days (HUE26 and SRE28); (b) only one bond registered a cumulated trading value of RON 134.8 million (PMB18), and only other two bonds registered a cumulated trading value of over RON 55.0 million (PMB20 and IAS28); the majority, 17 bonds of 48, registered a cumulated trading value between EUR 0.10 and 0.99 million; (c) 9 bonds of the 48 had liquidity of less than 10%; the majority of bonds, 25 of 48, had liquidity between 10.00% and 49.73%, while five bonds had liquidity higher than 100.00% (between 100.21% and 164.34%).

## 16.5 Discussions

The information presented above, regarding the municipal bond market segment at BVB, points toward a relatively low trading activity mainly due to the investors' structure. As mentioned above, the information regarding municipal bond ownership is not directly available via the BVB website. Moreover, the trading activity points toward an important percentage of institutional investors who would rather treasure these municipal bonds than trade them (14.67% of bonds never traded; 21.33% of bonds traded only 1 day, mainly for the purpose of being sold to another investor; 28.00% of bonds traded only between 2 and 9 days). The report of Milatovic and Szczurek (2020) further enhances the idea that institutional investors (mainly banks) rather keep the municipal bonds in their portfolios since these bonds are eligible for repo with the National Bank of Romania.

This dominance of institutional investors is similar to that identified by Pop and Georgescu (2013) for the Treasury-bond market segment at BVB. Since 2020, when the number of the listed Treasury-bond issues for the population started to increase, the trading activity of this segment increased significantly, showing the importance of small investors to generate trading.

Another factor that could trigger the low trading activity was, in fact, the relative scarcity of municipal bonds: from relatively low volumes per issue to the low number of issuers, despite that some issued between three to seven series of bonds. This scarcity was further enhanced by the decrease to zero of new issues of municipal

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<sup>7</sup>The symbols for the bonds traded just 1 day are: PRD03, CLJ03, BIS05, AIU05, SAC07, TIM26B, PMB32, BAC26B, ALB26, ALB27, FOC26, IAS28A, NAV27, ORS29, TGM27, and TGM27A. It must be mentioned that for the first seven symbols, this one day of trading occurred without involving any special transaction(s). The special type of transaction for the last nine symbols is described within the present text.

bonds in 2011 and 2012 under the influence of the European sovereign bond crisis, which indirectly projected the investors' mistrust toward sub-sovereign securities. Since 2013, the number of offerings (all private, reaffirming the presence of institutional investors) and the number of new municipal bond listings became sporadically, as shown by Figs. 16.16, 16.17 and 16.18.

Furthermore, the year 2013 was problematic for the municipal bonds since the first LAU, the town of Aninoasa (Hunedoara county), opened insolvency proceedings (Didea & Ilie, 2022). The news outlets took the information and generated confusion since the symbol ANI20 referred to a similar name, Aninoasa (commune, Dambovitza county); they never bothered to check that it was not the same locality and not even the same county. However, some panic was created. It was followed by the problems generated by the issue BHR20, of Baile Herculane, which announced the default on some coupons. Consequently, BHR20 was delisted from the municipal bond main market at the end of July 2014 and transferred to the "unlisted" segment. More details about this problematic issue can be found in Pop and Georgescu (2015, 2016). However, Baile Herculane manage to recover, and the delayed payments were reimbursed, while the bond reached maturity, though its case showed the lack of clear regulations and procedures in the case of financial difficulties of LAUs, as also highlighted by Didea and Ilie (2022). Several other municipal bonds faced similar problems since listing (symbols SRE28, ORS27, TIM26, TIM26A, TIM26B, TIM26C, and TIM26D), but neither were delisted. The issuers of all these bonds recovered and reimbursed the delayed payments.

Under these combined factors, it was understandable that LAUs became reluctant to issue new municipal bonds. In some cases, LAUs also reached the borrowing limit and therefore could not consider municipal bonds as an alternative. Furthermore, the banks (which anyway seems to represent an important percentage of subscribers) started to make direct loan offers to LAUs, which could still borrow money, offers that required less transparency than bond offerings. Moreover, the Ministry of Finance stated to offer (since 2015) various financing facilities for LAUs, easier to access and use. To all these, the possibilities that occurred in accessing EU funds via various grants determined Romanian LAUs to "store" for other times the idea to issue municipal bonds.

One can argue that the municipal bonds' coupons (see Appendix 3) were not attractive enough to generate transactions. However, this view is contradicted by the data in Appendix 3 showing that, most of the time, the municipal bond coupons stayed ahead of the inflation rate and offered better alternatives than bank deposits and up until 2011 were even ahead of dividend yield at BVB. Treasury-bond coupons constantly surpassed these municipal bond coupons, since 2011. Appendix 3 largely explains the buy-and-hold attitude of those who invested in municipal bonds (mainly institutional investors).

## 16.6 Concluding Remarks

After two decades since its debut in November 2021, the Romanian municipal bond market remains just a small corner of the bond market segment at BVB. Given the modest evolution of its trading activity, one can safely say that the Romanian municipal bond market did not really evolve, remain undeveloped, and lack liquidity in general, though the liquidity of some individual bonds can be seen as satisfactory. The causes of this lack of growth were mentioned above, mainly: the low variety of issuers, the dominance of institutional investors with the buy-and-hold attitude, and the dry-up of bond issuance since 2013, with very few exceptions, given the other funding alternatives available for Romanian LAUs.

However, relatively recently (2018–2022), it was possible to identify several municipalities that announced their intentions to issue bonds for re-financing purposes. These municipalities were Bacau (county residence of Bacau county), Buzau (county residence of Buzau county), and Resita (county residence of Caras-Severin county). These intentions are further supported by the fact that both Buzau and Resita applied for and received Fitch ratings as LAUs since 2020 and 2023, respectively. However, no follow-ups on these intentions could be found: no announcements regarding private or public offerings were made. There is a high probability that these intentions were altered by bank loan offerings, easy to negotiate and access.

Nonetheless, these not launched municipal bond offerings are casting dark shadows over BVB municipal bond market segment. While currently this segment still lists 34 series of municipal bonds, without new listings (apart from Bucharest bonds), it will begin to dwindle starting with 2025 when the currently listed municipal bonds will start to reach their maturities and by 2030 almost all municipal bonds will mature.

Hence, at least two scenarios can be imagined: (a) the one presented above, where most municipal bonds will expire and will not be replaced by newly issued bonds, maybe with the exception of Bucharest, which will continue to refinance its bond loans via new issues of municipal bonds; (b) new municipal bonds will be issued, mainly for re-financing purposes, and will be offered to investors through well-coordinated and announced public offerings, reaching small investors also. All these might contribute to a municipal bond segment development at BVB. Nevertheless, for the second scenario to take shape, the Romanian authorities should take into consideration the introduction of credit enhancements and segmentation of the credit market for small LAUs (mainly for communes, towns, and small municipalities), as suggested by Pop and Georgescu (2016). Furthermore, while credit ratings are not a common feature of Romanian municipal bonds, their presence (at least at the LAUs level) might be a welcome support to these securities' attractiveness for various investors. Currently, only Bucharest (since 2006) and other four<sup>8</sup> county residences have applied for and received credit ratings from

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<sup>8</sup>These county residences are: Oradea, Bihor county, Brasov, Brasov county, Buzau, Buzau county, and Resita, Caras-Severin county.

Fitch, while Alba Iulia (county residence for Alba) received a rating from Moody's since 2013. One should note that the remark of Constantinescu and Tanasescu (2014) regarding the costs related to rating and the concerns regarding a potential low rating are still troubling the local authorities.

It remains to be seen if municipal bonds will re-enter on the radar of local authorities or if the convenient financing alternatives offered by the Romanian banks and by the Ministry of Finance and by the UE grants will remain the main trend since they do not require the complex and complicated relation with the investors of any type.

## Appendices

### Appendix 1: Romania's Development Regions



Note: The numbers correspond to the following regions: 1 = North-East region; 2 = South-East region; 3 = South-Muntenia region; 4 = South-West Oltenia region; 5 = West region; 6 = North-West region; 7 = Centre region; 8 = Bucharest-Ilfov region  
 Source: Carausan (2012)

Note: The numbers correspond to the following regions: 1 = North-East region; 2 = South-East region; 3 = South-Muntenia region; 4 = South-West Oltenia region; 5 = West region; 6 = North-West region; 7 = Centre region; 8 = Bucharest-Ilfov region. (Source: Carausan 2012)

***Appendix 2: Details Regarding the Sub-sovereign Bond Issuers, LAU Status and the Number of Bond Series Listed at BVB***

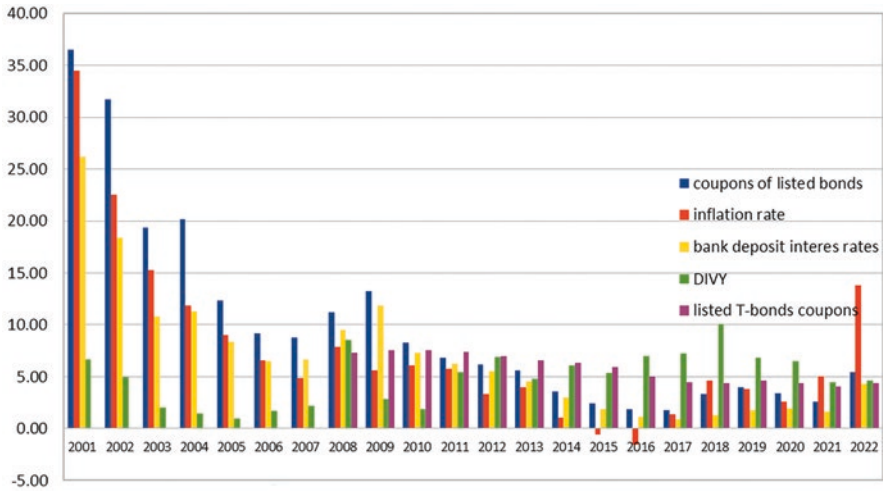
No.	Issuer and county	Development region	LAU status	No. of bond series	Symbols at BVB
1.	Alba-Iulia, Alba	Center	Municipality-county residence	6	ALB04; ALB06; ALB25; ALB25A; ALB25B; ALB27
2.	Aiud, Alba	Center	Municipality-other	2	AIU05; AIU08
3.	Sebes, Alba	Center	Municipality-other	2	SEB04, SEB07
4.	Teius, Alba	Center	Town	1	TEU20
5.	Alba	Center	County	1	8ALB26
6.	Arad, Arad	West	Municipality-county residence	1	ARA06
7.	Campulung Muscel, Arges	South-Muntenia	Municipality-other	1	CLM05
8.	Bacau, Bacau	North-East	Municipality-county residence	5	BAC05; BAC08; BAC26; BAC26A; BAC26B
9.	Oradea, Bihor	North-West	Municipality-county residence	2	ORD06; ORD10
10.	Bihor	North-West	County	1	BIH27
11.	Bistrita, Bistrita-Nasaud	North-West	Municipality-County residence	3	BIS05, BIS08, BIS29
12.	Predeal, Brasov	Center	Town	3	PRD03, PRD06, PRD26
13.	Sacele, Brasov	Center	Municipality-other	1	SAC07
14.	Baile Herculane, Caras-Severin	West	Town	1	BHR20
15.	Oravita, Caras-Severin	West	Town	1	ORV27
16.	Cluj-Napoca, Cluj	North-West	Municipality-county residence	2	CLJ03; CLJ05
17.	Eforie, Constanta	South-East	Town	1	EFO17
18.	Mangalia, Constanta	South-East	Municipality-other	1	MNG03
19.	Medgidia, Constanta	South-East	Municipality-other	1	MED09
20.	Navodari, Constanta	South-East	Town	2	NAV09; NAV27
21.	Aninoasa, Dambovita	South-Muntenia	Commune	1	ANI20

No.	Issuer and county	Development region	LAU status	No. of bond series	Symbols at BVB
22.	Giurgiu, Giurgiu	South-Muntenia	Municipality-county residence	1	GRG05
23.	Deva, Hunedoara	West	Municipality-county residence	2	DEV08; DEV08A
24.	Orastie, Hunedoara	West	Municipality-other	1	ORS29
25.	Hunedoara	West	County	3	HUE26; HUE26A; HUE26B
26.	Slobozia, Ialomita	South-Muntenia	Municipality-county residence	2	SLB05; SLB29
27.	Iasi, Iasi	North-East	Municipality-county residence	2	IAS28, IAS28A
28.	Targu Mures, Mures	Centre	Municipality-county residence	4	TGM05; TGM06; TGM27; TGM27A
29.	Zalau, Salaj	North-West	Municipality-county residence	2	ZAL04; ZAL30
30.	Siret, Suceava	North-East	Town	1	SRE28
31.	Lugoj, Timis	West	Municipality-other	2	LGJ05; LGJ14
32.	Timisoara, Timis	West	Municipality-county residence	7	TIM05; TIM11; TIM26; TIM26A; TIM26B; TIM26C; TIM26D
33.	Timis	West	County	1	TIM28
34.	Horezu, Valcea	South-West Oltenia	Town	1	HRZ15
35.	Focsani, Vrancea	South-East	Municipality-county residence	1	FOC26
36.	Bucharest	Bucharest-Ilfov	Romania's capital	6	PMB18; PMB20; PMB22; PMB25; PMB28; PMB32

NOTE for BVB symbols: The first three letters represent an abbreviation of the issuer, while the two figures indicate the year of maturity. The letter following the figures represents different tranches of the same general issue

Source: authors' compilation

### ***Appendix 3: Comparative Municipal Bond Coupons Versus Inflation Rate, Bank Deposit Interest Rates, Dividend Yields (DIVY), and Treasury-Bond Coupons***



Source: authors' calculations based on data available at [www.bvb.ro](http://www.bvb.ro) and [www.bnr.ro](http://www.bnr.ro)

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