

DEVELOPMENT OF THE GOVERNMENT SECURITIES MARKET OF THE REPUBLIC OF MOLDOVA THROUGH INCREASING THE INVESTMENT ATTRACTIVENESS OF THESE INSTRUMENTS

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Abstract

In the current period, when countries, including the Republic of Moldova, need to identify financial resources, the need is constantly growing, and investors are increasingly interested in diversifying their investment portfolios into safe and profitable financial instruments. The development of the government securities market and increasing the attractiveness of these financial instruments are becoming primary considerations and objectives. The purpose and objective of this article is to provide an analysis of the particularities of the Moldovan government securities market, international experiences and best practices on this topic (Romania, Hungary, Türkiye, Brazil, Canada) with a view to identifying opportunities for development of the Moldovan government securities market. The development opportunities identified by the authors as a result of the research focus on aspects aimed at increasing the attractiveness of Moldovan government securities and diversifying the investor base, such as market accessibility, the diversity of instruments, financial benefits, and opportunities to manage related investment risks. The methodology includes analytical, descriptive, synthesis, quantitative, qualitative, comparison, and graphical methods.

Keywords: government debt instruments, sovereign bond market, investors, investment appeal, development

JEL Classification: G15, G18, G23, G24, H63

DOI: <https://doi.org/10.65672/fs.2025.4.2>

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1. Introduction

Emerging as a source of funding for state needs, currently, government securities (GS) are widely used by most countries in the world to cover the budget deficit and provide the state with the resources needed to finance the economy. The recession of 2020 caused by the Covid-19 pandemic, the severe drought of 2021 that took place in the Republic of Moldova and the energy crisis of the years 2021-2022, led to a series of price increases in both regional and domestic energy resources and food products, have created new global and national challenges, emphasising the need for all the countries, including the Republic of Moldova, for guidance on domestic GS markets in order to obtain financing needs. At the same time, as GS are fully guaranteed by the State and accompanied by certain financial advantages (interest, tax exemptions), they are an important financial instrument for investors. As a result of developments over time in the sector and in the financial markets, investments in GS have become a viable alternative to savings and investing for the population and economic agents, providing: investment risk management and protection opportunities; possibilities to use, as a reference instrument, for pricing other debt instruments and as a financial guarantee for the purpose of securing financial transactions (OECD, 2019). Given the importance of the resources obtained through the GS market, its development is a firm objective for the Moldovan authorities (Darovanaia, 2005).

2. Literature review

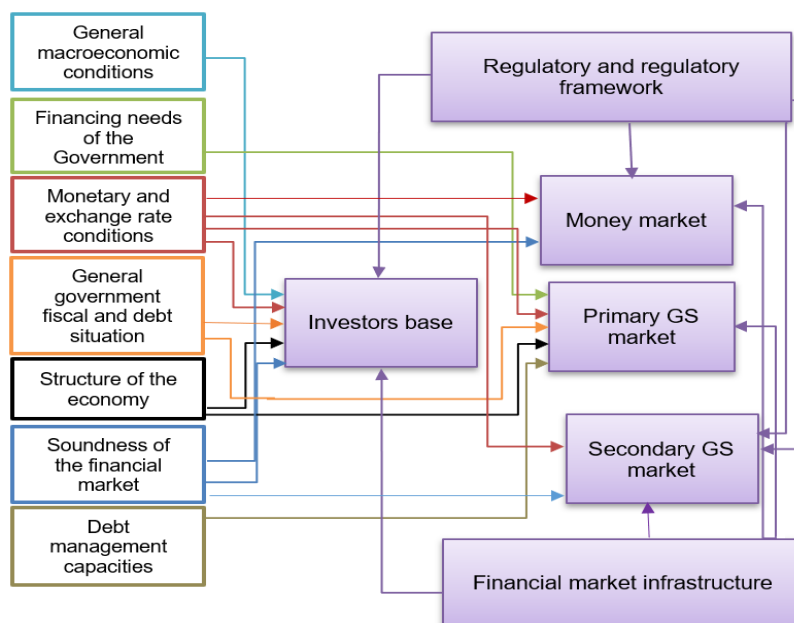
In essence, GS are financial instruments which attest public debt, which are State loans for a certain period, carried out with the aim of developing the country's economy, supporting investment activity, creating new jobs, etc. (Hîncu & Litocenco, 2020). Irrespective of the type of financial instrument, investors' decisions to place the investment are determined by a number of issues, including: market aspects, the potential of expected gains, the economic, political and legal environment of each economy, etc. At the same time, investment activity is successful when a number of factors are cumulated, such as will, energy, information, time and financial resources (Litocenco, 2015). Therefore, an effective investment policy serves as a sound assurance that investors can operate, activate and invest in a properly manner, in a sufficiently regulated business environment, which is why attracting investment must be one of the main objectives of a State

(Litocenco, 2016). This action may lead to diversifying the investor base, including attracting foreign investors to the market.

Given the importance of GS as a source of funding for the state and an investment instrument, greater attention has been paid, particularly in the last two decades, to the development of the GS market through various research and analysis (International Monetary Fund & World Bank (2021), Muharam H., Ghozali I. (2018), Ebeke C., Lu Y. (2015), Pradhan Z., Maradana R.P. (2015), Matei I. (2013). According to these researches, a developed internal GS market can contribute to: diversification of sources of state funding; safeguarding issuance portfolios against certain currency mismatches and maturities; preventing financial crises in emerging markets. The smooth functioning of the GS markets largely supports governments in carrying out and implementing their policy initiatives; helps to better connect investors with existing investment opportunities, based on profitability and risk management preferences; facilitates the financing of infrastructure projects; reduces reliance on foreign currency loans and bank financing. The development of efficient GS markets is vital, especially for developing countries, as they ensure an efficient use of capital for productive investments, promote job creation and prosperity.

According to the Methodological Guide for the development of the GS internal market, developed jointly by the World Bank, the International Monetary Fund, the European Bank for Reconstruction and Development and the Organisation for Economic Co-operation and Development, the development of the GS market is driven by certain mandatory conditions and components (Figure 1).

Figure 1
Conditions for GS market development and its basic components



Source: International Monetary Fund & World Bank (2021)

The conditions reflected in Figure 1 influence the direction of development of the GS market, in particular, the evolution of four components (money market, primary market, secondary market, and investor base) out of the six components of the GS market. The other two components (regulatory framework and financial market infrastructure) are adapting to market developments.

A well-developed GS market is more attractive to investors, offering various investment opportunities (types of instruments and maturities) and the possibility to effectively minimise and manage the related investment risks. In turn, increasing the attractiveness of GS investment contributes to the development of the GS market by attracting new investors.

The concept of „attractiveness and investment activity” has been researched by many foreign (Iasimraroi S., Ulubasoglu M.A. (2015), Fîrţescu B. (2005) and local researchers (Hîncu R., Litocenco A. (2020), Hîncu R., Gumovschi A., Suhovici A. (2010). The analysis

of the investment attractiveness concept allowed us to observe that it has a wide range of interpretations (Table 1).

Table 1
Approaches to the investment attractiveness concept

Researcher	Interpretations
Kiofficva A., Semina A.	<i>The level of favourable economic conditions in a country or region for investment.</i> <i>All the organisational, economic, financial, and legal conditions that facilitate the investor's selection of the investment object to obtain certain benefits.</i> <i>Subjective assessment by the investor of the investment object in terms of the appropriateness of allocating financial resources.</i>
Miškin F.I.	<i>The existence of investment conditions, which influence investors' preferences in the process of selecting the investment object.</i>
Burman G., Schmidt C.	<i>All indicators that characterise an entity's financial situation.</i>
Bociarov V.	<i>Safety of securities issued by an entity.</i>
Stanecova M.	<i>The existence of the economic effect (profit) of placing cash in corporate securities while minimising risks.</i>
Blanc I.A.	<i>Key elements of investment attractiveness - characteristics of the investment qualities of a specific investment object, which are assessed by the investor. The investment attractiveness reflects the direction of an entity's investment policy and is directly interconnected with the entity's life cycle stages.</i>
Hîncu R., Gumovschi A., Suhovici A	<i>Totality of benefits generated by certain economic conditions, which increase the profitability of the investment, by minimising the risks associated with the investment process.</i>

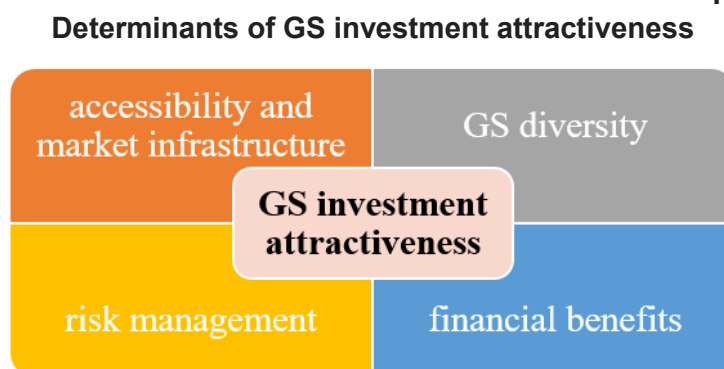
Source: Litocenco, A. (2024a)

From the abovementioned interpretations of the investment attractiveness concept, we note that it has been studied, predominantly in relation to a geographical area, to an entity interested in attracting investments or in relation to corporate securities, from the perspective of attracting investors by the issuer (company) of those securities.

Thus, given that, to date, GS have been studied and researched to a large extent in the light of the development of the GS market, and the investment attractiveness has predominantly been studied from the perspective of a country, region, industry or company (as an investment object), in our view, the investment attractiveness of GS represents all the organisational, financial, legislative factors and conditions which determine the investor, on the basis of certain reasoning, to place its financial availabilities and savings in the GS.

These factors, conditions and reasoning may, in our view, be grouped into the following determinants of GS investment attractiveness (Figure 2).

Figure 2



Source: prepared by authors

Market accessibility consists of providing wide access to financial instruments, fair treatment and conditions for all investors in the GS market, which requires the State to provide conditions that encourage the active participation of various categories of investors in the process of issuing and trading GS. At the same time, a developed GS market *infrastructure* enhances market access for investors as well as guarantees the safety and security of transactions. The *diversity of the GS* ensures greater satisfaction of investors' preferences, thus attracting more investors but also new categories of investors, which contributes to increased demand for GS, the development of the GS market and the reduction of State refinancing risks and lower costs for issuing GS. The *financial benefits* associated with GS are financial income in the form of interest and returns that can be obtained by investors as a result of their investments, and the tax regime applicable (whether exempt from income tax or not). Although guaranteed by the State, investments in GS, like any investment, are accompanied by certain risks (inflation, liquidity, interest rate, etc.). *Risk management* and opportunities are very important for investors to protect their investments.

3. Data sources and used methods

For the purpose of collecting the research data, the following research methods have been used: analytical method, descriptive method, synthesis method, quantitative and qualitative analysis methods, comparison method, and graphical method. The information support is the legal framework, publications and statistical data of the central public administration authorities of the Republic of Moldova (Ministry of Finance, National Bank of Moldova, National Commission of the Financial Market) and the Ministry of Finance, central banks and state debt management authorities of the following states (Brazil, Canada, Romania, Türkiye and Hungary), as well as scientific research carried out on the subject of the study, presented in specialist journals, at national and international conferences, etc.

4. The results of research and discussions

According to the statistical data (Table 2), the volume of GS issuances on the GS primary market of the Republic of Moldova in 2024 reached a record 40,3 billion MDL, exceeding by about four times the volume of issuances in 2017.

Table 2
Evolution of issuances, redemptions and related costs GS issued on the primary market of R. Moldova in 2017-2024

Indicators	2017	2018	2019	2020	2021	2022	2023	2024
GS issued, billion MDL	9,9	9,8	9,3	18,1	25,3	26,3	34,7	40,3
GS redemptions, billion MDL	8,8	9,1	9,0	12,1	21,0	27,0	29,2	34,5
Net financing of the SB deficit through GS, billion MDL	0,6	0,6	0,7	6,1	4,0	0,1	6,5	4,9
GS service, billion MDL	0,8	0,4	0,4	0,6	0,8	1,4	3,0	1,7
GS service (share of budget revenue), %	2,4	1,2	1,1	1,5	1,7	2,5	5,0	2,6
Domestic state debt service ratio in budget revenues, %	4,6	3,1	3,0	3,4	3,2	4,8	6,5	3,9
Sovereign debt sustainability, %	≤15%	≤15%	≤10%	≤10%	≤10%	≤8%	≤10%	≤10%

Source: provided by authors, based on data from the Ministry of Finance of the Republic of Moldova

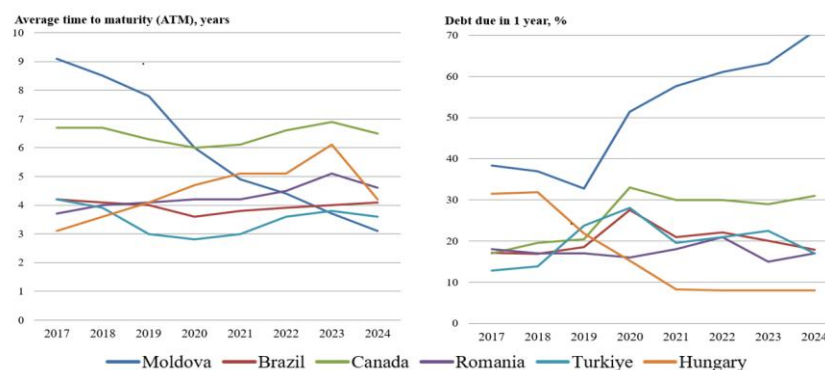
A significant value is also shown in the case of GS redemptions in 2024 – 34,5 billion MDL, which is 5,3 billion MDL more than in 2023. In 2024, the net financing of the State budget deficit through GS amounted to 4,9 billion MDL. This volume was considerable compared to the other years of the analysed period, especially since in 2022 no financial resources were channelled from the GS market to finance the budget deficit, and 0,1 billion MDL were allocated from the State budget to honour commitments to investors. However, this amount is 1,6 billion MDL less than in 2023, a situation which is explained by the increase in GS redemptions in 2024.

At the same time, in this research, attention was paid to the state debt sustainability. Therefore, it is worth mentioning that though there was an increase in the volume of GS issued in 2024, the GS service decreased at 1,7 billion MDL (which is 1,3 billion MDL less compared to 2023), or 2,6% of the total budget revenue (excluding grants) This decrease is due to the fact that in 2024 the interest rate of GS issued on local market decreased from around 16% in January 2023 to about 6% at the end of 2024.

In the context of events affecting the world in the period under review, increasing demand for state funding and increasing levels of public sector debt have led to higher *refinancing* needs, not only for the Republic of Moldova. Therefore, for a broader, individualised and complex analysis, including on the basis of statistical data, in addition to the domestic market of GS, the characteristics of the GS markets of the following countries have been analysed: Brazil, Canada, Romania, Türkiye and Hungary. International practices were used to identify the best experiences and opportunities for taking over and implementing them in the Republic of Moldova.

According to statistical data related to the *refinancing risk indicators* of Republic of Moldova's domestic debt (Figure 3), it appears that between 2017 and 2024 there was a reduction in the *average time to maturity* (ATM) of domestic government debt (from 9.1 years in 2017 to 3.1 years in 2024) and an increase in the debt ratio maturing over 1 year (from around 38% in 2017 to 71.0% in 2024). This shows an increase in the refinancing risks of domestic debt of the Republic of Moldova.

Figure 3
Dynamics of refinancing risk indicators of domestic debt of the R. Moldova and the analysed countries in 2017-2024



Source: prepared by authors based on data from the Ministries of Finance of the Republic of Moldova, Brazil, Canada, Hungary, Romania and Türkiye

In the case of Brazil, Hungary and Türkiye, a similar situation to R. Moldova's increased refinancing risks, where the coverage of the funding needs from the short-term GS issuance led to the reduction, between 2018 and 2020, of the average time to maturity of the domestic debt stock and the increase in the debt ratio maturing over 1 year in total domestic debt towards the end of 2020, the latter reaching around 30%. Towards the end of 2024, with the recovery of the economy and the return to moderate GS issuance in the short term, the refinancing risk of their domestic debt declined compared to 2020.

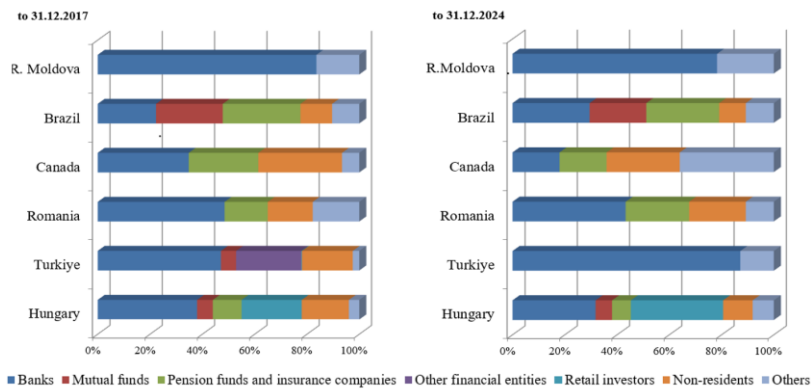
From numerous research studies (Hîncu et al., 2010, Matei, 2013, Kapingura & Markheta-Kosi, 2014, Pradhan et. al, 2015, 2016, Muharam et al., 2018, OECD, 2019, 2021, Litocenco A., 2024), the authors of the article have concluded that, in order to mitigate the refinancing risks of domestic State debt, the State may take the following measures:

- *planning the debt redemption profile through the issuance and construction of benchmark GS* – the debt redemption profile determines the level of indicators to measure refinancing risk. The objective of this measure is to maintain the same redemption profile each year by issuing a concrete volume of GS at the same maturity conditions, so that the redemption profile remains at the same level in terms of maturity and values.

- *application of State debt management operations*, such as: early repurchase and switching operations, in order to obtain a certain structure of the sovereign debt portfolio.
- *diversification of sources of State funding on the GS market by diversifying the range of investors*, through increasing the GS investment attractiveness, based on the 4 determinant elements identified by the authors which is further analysed and developed in this article.

Thus, in the Republic of Moldova, there is a very poorly diversified investors base on the GS market, which is heavily concentrated on banks, which held around 78.3 % of the volume of GS in circulation at the end of 2024 (Figure 4), a slight decline (5,3 p.p. less) compared to 2017. A similar situation, for the same period of analysis, of the concentration of the range of investors in the domestic GS market is evidenced in the case of Türkiye, with 87,2.0 % of the outstanding GS in the banking sector.

Figure 4
The structure of the investors based on the GS market of the Republic of Moldova and the selected countries, 2017 and 2024



Source: prepared by authors based on data of the Ministries of Finance of the Republic of Moldova, Brazil, Canada, Hungary, Romania and Türkiye

The remaining analysed countries have a *wider and more diverse investor base*. Thus, significant shares in the internal GS market in Brazil, Canada and Romania accrue to pension funds and insurance companies (21,7 %, 18.0 % and 24.3 % respectively). Significant GS holdings are also registered as retail investors in the Hungarian GS domestic market

(35.3 %). Looking at the dynamic structure of the investor mix of the analysed countries shown in Figure 4, most of them show that the banks' GS holdings have increased, which is due to the high financing needs of the economies of the 5 countries analysed, which increased between 2020 and 2024, as banks are the main category of investors that meets the offer of GS in the short term. Also, against the backdrop of international uncertainties and the consequences of the Covid-19 pandemic, it is noted that, for all analysed states, the share of foreign investors declined towards the end of 2024.

In order to better understand the behaviour of investors in the domestic GS markets, the authors of the article investigated national and international practices regarding the GS investment attractiveness reflecting them on the basis of the four key determinants of the GS investment attractiveness identified by the authors, namely: 1) *accessibility and market infrastructure*; 2) *VMS diversity*; 3) *financial benefits and benefits*; 4) *risk management*.

4.1. Accessibility and market infrastructure

The placement and distribution of GS in the primary market of the Republic of Moldova and in the analysed States are conducted through tenders, with primary dealers represented by commercial banks (Table 2).

Table 2

Methods of placing GS on the domestic GS market of the Republic of Moldova and the analysed countries

States	Retail sales of VMS	Primary dealers
R. Moldova	E-VMS programme	commercial banks
Brazil	Tesouro Direto programme	commercial and investment banks; investment companies; foreign entities
Canada	Canada Savings Bonds programme Canada Premium Bonds programme	commercial and investment banks; investment companies
Romania	The "Thesaurus" programme The 'Fidelis' programme	credit institutions (banks); resident and non-resident investment companies (authorised in EU States)
Türkiye	GS denominated in gold.	commercial banks.
Hungary	7 VMS lines/ programmes for population	commercial and investment banks; investment companies.

Source: prepared by authors based on data of the Ministries of Finance of the Republic of Moldova, Brazil, Canada, Hungary, Romania and Türkiye

In order to diversify sources of funding by attracting retail investors, most States, analysed in this research, have implemented *GS retail sales programmes*, increasing the accessibility and attractiveness of GS (Table 2). In the case of the Republic of Moldova, with a view to diversifying investors, facilitating the accessibility and developing the infrastructure of the domestic GS market, and increasing financial education, the authorities initiated in 2022 the conceptualisation of a programme for direct trading of GS to the population. Thus, on 31 July 2024, the e-VMS retail platform was launched, the first subscription by means of the e-VMS platform taking place in December 2024, during which the State made available to individuals a volume of 500 000 government bonds, with a 2-year maturity, at a fixed interest rate of 6 % (which is more attractive than the interest on bank deposits), and the coupon payment made on a semi-annual basis. As a result of the subscription, the individuals acquired GS in the amount of 78.7 million MDL, which is 28.7 million MDL more than the state's offer. This over-demand in comparison to supply shows the success of the launch of the platform, the interest of citizens in safe financial instruments, the increasing accessibility of the population to the GS market and thus the increased attractiveness of GS investment. From the second quarter of 2025, subscriptions to the e-VMS platform are made on a monthly basis.

Another method of attracting investors, especially foreign investors, to the domestic GS markets and facilitating their access, implemented by most of the countries analysed, was to *establish an interconnection between the domestic depository and an international depository*, such as Euroclear (Türkiye and Romania) and Clearstream (Canada, Hungary and Romania). In the Republic of Moldova, the establishment of such interconnection is under discussion between the relevant authorities and institutions and external partners.

4.2. GS diversity

GS offered for placement on the internal market, it appears that, compared to the other countries analysed, the Republic of Moldova offers a relatively modest range of GS to investors, which are limited to traditional GS – fixed rate, floating interest rate and zero-coupon type (Table 3). In addition, between 2017 and 2023, the authorities of the Republic of Moldova introduced three new GS lines with maturities of 5 years (in 2018), 7 years (in 2021) and 10 years (in 2023), but they were not issued regularly.

Looking at international practice, in the analysed countries, the proposed GS is more varied in both type and maturity (Table 3). Thus, the GS maturities proposed by the other states start from the short term (up to 1 year) to the ultra-long ones (30-50 years).

Table 3

GS traded on the domestic market of the Republic of Moldova and the analysed states

States	VMS types	Types of maturities
R. Moldova	- fixed rate and floating interest rate; - with zero coupon.	short term – 3, 6, 12 months; medium to long term – 2, 3, 5, 7, 10 years.
Brazil	- fixed rate and floating interest rate; - zero coupon; - indexed to the inflation rate; - retail/savings bonds.	short term – 6, 12, 24 and 36 months; medium, long and ultra-long term – 3, 5, 10, 20, 30 and 40 years.
Canada	- fixed rate and floating interest rate; - indexed to the inflation rate; - retail/savings bonds; - green bonds.	short term – 6, 12, 24 and 36 months; medium, long and ultra-long term – 3, 5, 10, 20, 30 and 50 years.
Romania	- fixed rate and floating interest rate; - savings bonds.	short term – 6, 12 months; medium and long term – 2, 3, 4, 5, 7, 8, 10 and 15 years.
Türkiye	- fixed rate and floating interest rate; - zero coupon; - indexed (inflation rate and income of State-owned entities); sukuk type, - retail/savings bonds, including GS denominated in gold.	short term – 6, 12 months; medium and long term – 2, 3, 4, 5, 7, 8, 10 and 15 years.
Hungary	- fixed rate and floating interest rate; - indexed to the inflation rate; - issued in foreign currency (euro) in the internal market; - retail/savings bonds (including baby bonds); - green bonds.	short term – 3, 6, 12 months; medium and long term – 2, 3, 4, 5, 7, 10, 15, 19, 20 and 30 years.

Source: prepared by authors based on data of the Ministries of Finance of the Republic of Moldova, Brazil, Canada, Hungary, Romania and Türkiye

As shown in Table 3, it is noted that, in addition to traditional GS (fixed rate and floating interest rate), in most of the countries analysed, savings and inflation-linked GS are issued in most countries analysed as a perfect means of protecting investment against the risk of inflation. It should be noted that the launch of these types of GS in various states (beyond those analysed) took place in various circumstances of inflation: in some countries, at times when inflation was high (Great Britain and Israel), and in others, inflation was low

(Germany and Japan). According to the European Central Bank, regardless of the circumstances in which indexed GS were launched on domestic markets, the significant increase in their issued volume over the last decade is due to the existence of a low inflation environment, which has been observed in many countries in the period up to the Covid-19 crisis. A logical explanation of the increase in volumes of these types of GS was the credibility vis-à-vis central banks in the process of ensuring price stability during that period.

In addition, we note that the increase in budget deficits has created space for additional GS issuances, with considerable funding needs resulting in the configuration of new types of GS in a relatively short period without reducing the volume of existing ones. Among the new types of GS, the issuance of which has been initiated/accelerated due to the significant financing needs of the economies of the States, is green bonds. Countries such as Hungary launched this type of GS in 2020, Canada in 2021 and Türkiye initiated, in mid-2021, procedures to amend national legislation in order to create the necessary legal prerequisites for initiating issuances of this type of GS. It should be noted that the launch of this product, in the case of Canada and Hungary, was preceded by the decision on the introduction of this type of GS as a new financing instrument before the Covid-19 crisis. Rising financing needs at the government level have prompted the issuing states either to kick-start such issuances faster or to increase the volume of such issuances. Green bonds have greater benefits for the general economy and the financial market by supporting governments' efforts to finance low-carbon activities and promoting the development of an internal market for such GS. Despite rapid growth, the size of the green bond market is rather small compared to traditional ones (OECD, 2016).

At the same time, it is noted that the analysed states, with the exception of the Republic of Moldova, have built and issued various benchmark GS lines with varying maturities in order to manage the refinancing risk effectively. Typically, benchmark GS are fixed-rate bonds issued with certain key maturities, which are the most suitable tools to build a yield curve as they tend to attract a wide range of investors with different investment preferences.

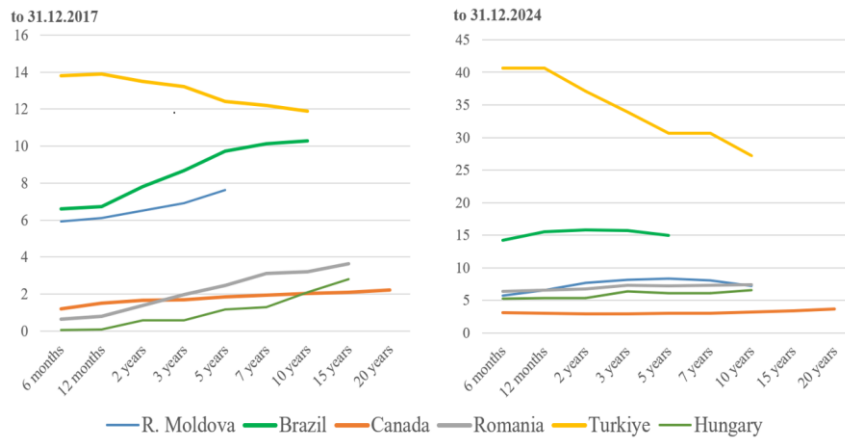
4.3. Financial benefits

Looking at the financial yields of GS issued on the domestic market of the Republic of Moldova, it is noted that while in 2017 the yield

curve was on an upward trend, in 2024 it is marked by a downward trend (Figure 5), which indicates that short-term yields are higher than long-term ones. As of 31 December 2020, investors' preferences were oriented towards lower maturities of GS, and for GS with longer maturities, a decrease in the interest rate was expected. This is due to the fact that 2020 was marked by the Covid-19 crisis, which affected the whole economy of the Republic of Moldova and countries around the world, and 2022 was marked by high inflation.

Figure 5

GS yield curve of the domestic market of the Republic of Moldova and the analysed countries for 2017 and 2024, %



Source: prepared by authors based on data of the Ministries of Finance of the Republic of Moldova, Brazil, Canada, Hungary, Romania and Türkiye

With reference to the evolution of the GS yield curve issued on the domestic market of the analysed countries, it is noted that Romania, at the end of 2017 and 2024, has an upward trend, indicating that the returns to be obtained by long-term investors are higher than in the short term. On the other hand, in both periods considered, Türkiye has a downward trend in yields, which confirms the abovementioned aspects - that short-term yields are higher compared to long-term returns. This is due to the fact that Türkiye experienced a significant depreciation of the national currency over the analysed period, resulting in higher returns demanded by short-term investors.

Relatively constant yields, with a slight downward trend in both, 2017 and 2024, are shown in the case of Brazil, which means that for GS

in the short term, yields are higher and, in the long run, they are expected to be slightly depressed while maintaining a steady trend in yield levels. Also, as of December 2024, the GS yield curve of the Republic of Moldova is close to the GS yield curve of Romania and Hungary.

In addition to the above, it is noted that in the Republic of Moldova, since 2021, an income tax has been introduced on interest received by investors on GS holdings. At the same time, in 2024, in the context of the launch of the e-VMS platform for citizens, the GS interest income received by individuals was exempt from income tax, which was intended to make the GS more attractive, to stimulate investment by individuals in these financial instruments, and to help diversify the range of market investors (Table 4).

Table 4
Tax regime for GS issued on the market of the Republic of Moldova and of the analysed countries

States	Tax regime
R. Moldova	- income from interest on GS holdings in the case of legal persons (tax rate – 6 %) is subject; - in the case of GS interest income obtained by individuals, from September 2024 onwards, they are not subject to taxation; - revenues obtained after GS trading on the secondary market shall be taxed in the event of a capital increase.
Brazil	- GS interest income (between 0 and 27.5 % for revenues between approximately USD 3 900 and more than USD 9 900); - revenues from GS trading on the secondary market (15-30 % at values between 185 thousand USD and 3.7 million USD). Starting with 2023, foreign investors benefit of income tax exemptions.
Canada	- income from interest on GS holdings. - revenues from GS trading. Only GS holdings of Canadian residents are subject to taxation; non-residents are exempt from income tax.
Romania	- exempt from income tax.
Türkiye	- GS interest income shall be taxed at the rate of 10%, except GS denominated in gold, which shall not be taxed; - revenues obtained as a result of GS trading on the secondary (stock exchange) market shall not be taxed; - all GS revenue was exempt from income tax for the period of December 2021 to December 2022.
Hungary	- income from interest on GS (15%) is subject to taxation. As of June 2019, exemptions from income taxes generated by interest on GS holdings for retail investors

Source: prepared by authors based on data of the Ministries of Finance of the Republic of Moldova, Brazil, Canada, Hungary, Romania and Türkiye

At the same time, tax exemptions have been applied in Hungary – for retail investors, Türkiye – for all types of GS, for the period from December 2021 to December 2022, and in Brazil - for foreign investors - since January 2023.

The application of these selective income tax exemptions has had a significant impact in Hungary, where GS holdings by retail investors have increased significantly. It is also noteworthy that Romania is the only country, out of those studied, where the financial means obtained from GS holdings are exempt from taxes, for all categories of investors.

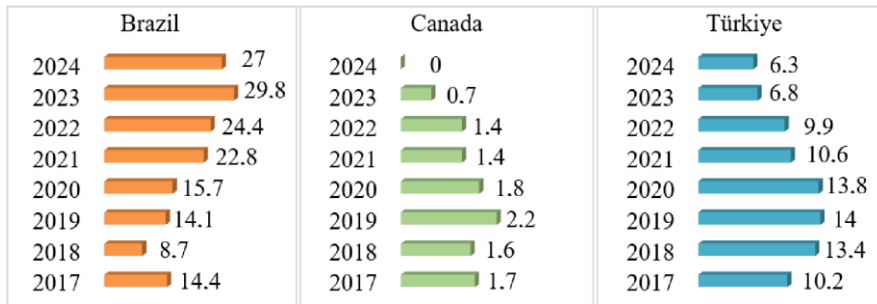
4.4. Risk management

Opportunities for effective risk management of GS investments (credit risk, inflation risk, interest rate risk, liquidity risk, operational risk, etc.) are an important element in attracting investors to the GS market. Thus, with regard to *credit risk*, it should be noted that, since the establishment of the GS market in the Republic of Moldova, the Government has always honoured its commitments. According to national law, expenditure on state debt service is prioritised and honoured irrespective of the amount approved in the State budget for that purpose.

An effective measure to manage the *risks of investors related to inflation* is the availability and accessibility of indexed GS products on the domestic market. However, as noted in Table 3, the Republic of Moldova does not offer such financial instruments to investors, unlike most of the other analysed countries (Brazil, Canada, Türkiye and Hungary), which issue such GS. Moreover, looking at the statistical data of Brazil (Figure 6), a relatively steady increase in the share of these types of GS in the domestic market issuance portfolio can be noticed during the analysed period. However, in Canada and Türkiye, a different situation can be noted, where the issuance of such instruments is decreasing. Therefore, in 2024, Canada stopped issuing indexed GS due to low demand, and Türkiye experienced a decrease in issued volumes due to high inflation.

Figure 6

Share of indexed GS in total GS issuances on the domestic market of the analysed countries, 2017-2024, %

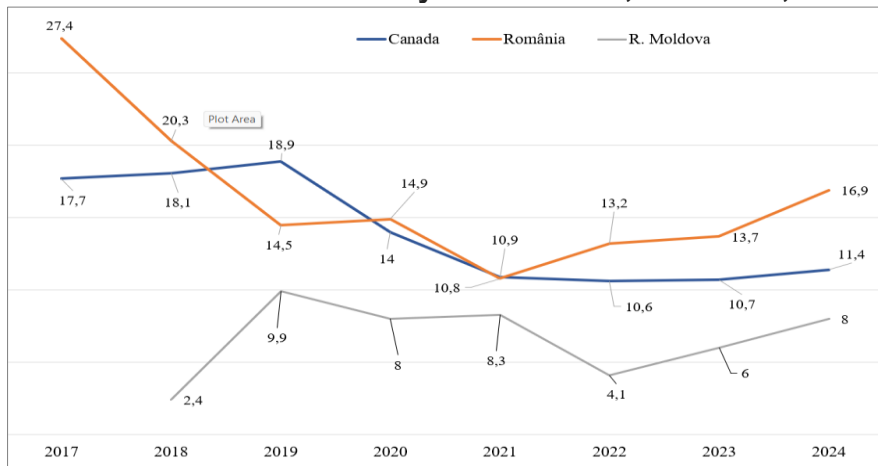


Source: produced by authors based on data of the Ministries of Finance of Brazil, Canada and Türkiye

The liquidity risk of the GS secondary market¹ in the Republic of Moldova and the analysed countries for the same period are depicted in Figure 7.

Figure 7

Evolution of the liquidity of GS secondary market in the Republic of Moldova and the analysed countries, 2017-2024, %



Source: produced by authors based on data of the Ministries of Finance of the Republic of Moldova, Canada and Romania

¹ Calculated as the ratio between the GS volume traded on the GS secondary market and the volume of GS in circulation.

According to Figure 7, the liquidity of the GS secondary market in the Republic of Moldova is significantly lower than in Canada and Romania. At the same time, the indicator is in a downward trend during 2018 - 2022, implying an increase in investors' liquidity risks. This decrease for 2022 compared to 2021 is explained by the reduction (by 2 times) in the volume of GS traded on the domestic secondary market. Such a decrease is appropriate for Canada and Romania as well, for the same period.

Starting with 2023, all three countries have experienced an increase in the liquidity level of the GS secondary market. In our opinion, on one hand, a well-developed GS market is more attractive to investors, offering them various investment opportunities in a timely manner, a higher level of investment certainty and opportunities to minimise and manage the related investment risks effectively. On the other hand, a high investment attractiveness of GS issued on the internal market, based on the key elements identified by the authors in this research, contributes, respectively, to a diversification of the range of investors in the market and to the development of the GS market.

5. Conclusions

As a result of this research and the comparative analysis with other countries (Brazil, Canada, Hungary, Romania, Turkiye), we conclude that the investment attractiveness of GS is of a particular importance, providing the State with access to the necessary financial resources and providing investors with safe and profitable investment opportunities. Moreover, as mentioned above, a high investment attractiveness of GS can help boosting the development of the domestic GS market. In these circumstances, given the role of the GS in providing the State with the necessary financial resources, the low development level of the internal GS market of Republic of Moldova and of the GS investment attractiveness, as well as the problems that Republic of Moldova is currently facing on the domestic GS market (increased refinancing risks, the predominance of short-term GS in the issuance portfolio, the massive concentration of market investors in one category of participants - banks), implies the undeniable need to increase the GS investment attractiveness issued on the internal market of R. Moldova.

In the light of the research carried out and set by the authors in this article, as well as taking into account the analysed international

practices, the authors have identified and set 4 determinant elements of the GS investment attractiveness: accessibility and market infrastructure; GS diversity; financial benefits of the GS; and GS investment risk management. Therefore, the authors have identified opportunities to increase the investment attractiveness of GS issued on the domestic market of the Republic of Moldova, which are correlated with the respective four determinants of GS investment attractiveness mentioned above (Figure 2), namely:

- On the “Accessibility and market infrastructure” dimension – expanding the category of primary dealers on the GS market in Moldova, creating the conditions for a connection between a domestic depository and an international one, and initiating trading the GS on the regulated market, similar to the experience of Romania. The implementation of such a measure will increase the accessibility of foreign investors in the domestic GS market and contribute to greater expansion and diversification of the investor base in the Republic of Moldova's GS market, including by attracting foreign investors.

- On the “GS diversity” dimension – examining the appropriateness of issuing indexed GS, green bonds and benchmark GS, similar to the experience of Hungary, Turkiye, Brazil and Canada. These initiatives will increase the attractiveness of domestic GS and attract new categories of investors (retail, foreign), given that these types of GS can ensure an efficient management of the investor's liquidity risk, being in line with current, globally adopted policies to ensure the sustainability of the economy, society and climate.

- Under the “Financial benefits” dimension – full exemption or reduction of income tax on GS holdings, similar to the Romanian practice, which will make GS issued on the Republic of Moldova's market more financially attractive.

- On the dimension of “Investment risk management” – issuance of indexed GS according to the practices applicable in Turkiye, Hungary and Brazil. Focusing on these tools would give investors the opportunity to restructure investment portfolios and manage liquidity risk effectively in the GS secondary market.

References

1. Darovanaia, A. (2005). *Bazele funcționării piețelor de capital*. Editura ASEM.
2. Ebeke, C., & Lu, Y. (2015). Local currency emerging market bond yields and foreign holdings: A fortune or misfortune? *Journal of International Money and Finance*, 59, pp. 203–219. <https://doi.org/10.1016/j.jimonfin.2015.07.006>
3. Fîrțescu, B. (2005). Sisteme moderne de finanțare a economiei și funcționalitatea acestora. *Analele Științifice ale Universității „Alexandru Ioan Cuza” din Iași – Științe Economice*, 50–51, pp. 347–351.
4. Hîncu R., Litocenco A (2020). The investment attractiveness of the government securities, as an instrument of government debt in the Republic of Moldova. *Analele Universității „Eftimie Murgu”, Fascicola II-Studii Economice*, Anul XXVII, pp. 47 – 57.
5. Hîncu, R., Gumovschi, A., & Suhovici, A. (2010). Reglementarea activității investiționale: Practici internaționale și naționale. *Analele Științifice ale Academiei de Studii Economice din Moldova*, (8), pp. 192–199.
6. International Monetary Fund & World Bank (2021). Guidance Note for Developing Government Local Currency Bond Markets, *Analytical Notes 2021/001*. <https://doi.org/10.5089/9781513573922.064>
7. Kapingura, F.M., & Makhetha-Kosi, P. (2014). The causal relationship between bond market development and economic growth in Africa: A case study of South Africa. *Mediterranean Journal of Social Sciences*, 5(3), pp. 126–131. <https://doi.org/10.5901/mjss.2014.v5n3p126>
8. Litocenco, A. (2015). The investment activity of the joint stock companies from the Republic of Moldova. *Simpozionul științific internațional al tinerilor cercetători, Ediția a XIII-a, Academia de Studii Economice a Moldovei*. Vol. I, pp. 63–67.
9. Litocenco, A. (2016). Aspecte legale de reglementare a activității investiționale în statele membre ale Uniunii Europene. *Conferința științifică internațională „25 de ani de reformă economică în Republica Moldova: Prin inovare și competitivitate spre progres economic”, Ediția a XXV-a, Academia de Studii Economice din Moldova*. Vol. V, pp. 217–221.
10. Litocenco, A. (2024a) Creșterea atractivității investiționale a valorilor mobiliare de stat în scopul finanțării economiei naționale. Teză de doctor în economie, Chișinău, Available at: <https://www.anacec.md/files/Litocenco-teza.pdf>.

11. Litocenco, A. (2024b) Creșterea atractivității investiționale a valorilor mobiliare de stat în scopul finanțării economiei naționale. Rezumatul tezei de doctor în economie, Chișinău Available at: <https://www.anacec.md/files/Litocenco-rezumat.pdf>.
12. Matei, I. (2013). Empirical analysis of the links between sovereign bond markets and economic growth for European non-EMU countries. *Banks and Bank Systems*, 8(3), pp. 58-71.
13. Ministry of Finance of Brazil. (2017-2024). *Annual Public Debt Reports*. <https://www.gov.br/tesouronacional/en/federal-public-debt/publications-about-federal-public-debt/public-debt-reports>
14. Ministry of Finance of Canada. (2017-2024). *Annual Debt Management Reports*. <https://www.canada.ca/en/department-finance/services/publications/debt-management-report.html>.
15. Ministry of Finance of Hungary (2017–2024). *Annual government debt management reports*. <https://akk.hu/content/path=annual-reports>
16. Ministry of Finance of Republic of Turkiye. (2017–2024). *Annual public debt management reports*. <https://en.hmb.gov.tr/public-debt-management-reports>
17. Ministry of Finance of the Republic of Moldova. (2017-2024). Annual state budget execution reports. <https://mf.gov.md/ro/trezorerie/rapoarte-privind-executarea-bugetului/rapoarte-anuale>.
18. Ministry of Finance of the Republic of Moldova. (2017-2024). Public sector debt and state guarantees annual reports. <https://mf.gov.md/ro/datoria-sectorului-public/rapoarte/datoria>.
19. Ministry of Public Finance of Romania. (2017-2024). Annual Public Debt Reports. <https://mfinante.gov.ro/ro/web/trezor/datorie-guvernamentala>.
20. Muharam, H., Ghazali, I., & Denny Arfinto, E. (2018). Bond Market Development, Economic Growth, and the Role of Foreign Investment. *KnE Social Sciences*, 3(10). <https://doi.org/10.18502/kss.v3i10.3426>
21. OECD (2016). Green bonds: Mobilising the debt capital markets for a low-carbon transition. OECD Policy Perspectives. https://www.bolsacr.com/sites/default/files/ServiciosTecnicos/green_bonds_oecd.pdf
22. OECD (2019). *Sovereign borrowing outlook*. OECD Publishing. <https://doi.org/10.1787/23060476>
23. OECD (2021). *Sovereign borrowing outlook*. OECD Publishing. <https://doi.org/10.1787/23060476>

24. Pradhan, R. P., Arvin, M. B., Norman, N. R., & Hall, J. H. (2014). Causal nexus between economic growth, banking sector development, stock market development and other macroeconomic variables: The case of ASEAN countries. *Review of Financial Economics*, 23(4), pp. 155–173. <https://doi.org/10.1016/j.rfe.2014.07.002>
25. Pradhan, R.P., Zaki, D.B., & Maradana, R.P. (2015). Bond market development and economic growth: The G-20 experience. *Tékhne*, 13(1), pp. 51–65. <https://doi.org/10.1016/j.tekhne.2015.09.003>