TesouroNacional

2022 RAD

Published in 01/26/2023

Annual Debt Report

Ministry of Finance
National Treasury Secretariat

SECRETARIA DO TESOURO NACIONAL
MINISTÉRIO DA FAZENDA

Annual Debt Report: 2022.
1/Ministry of Finance, National Treasury, Brasil a: National Treasury Secretariat,
January 2023, number 20.
1. Federal Public Debt 2. Federal Public Debt Annual Report 3. Public Debt Management 4. Planning 5. Strategy I. Brazil. National Treasury Secretariat II. Title

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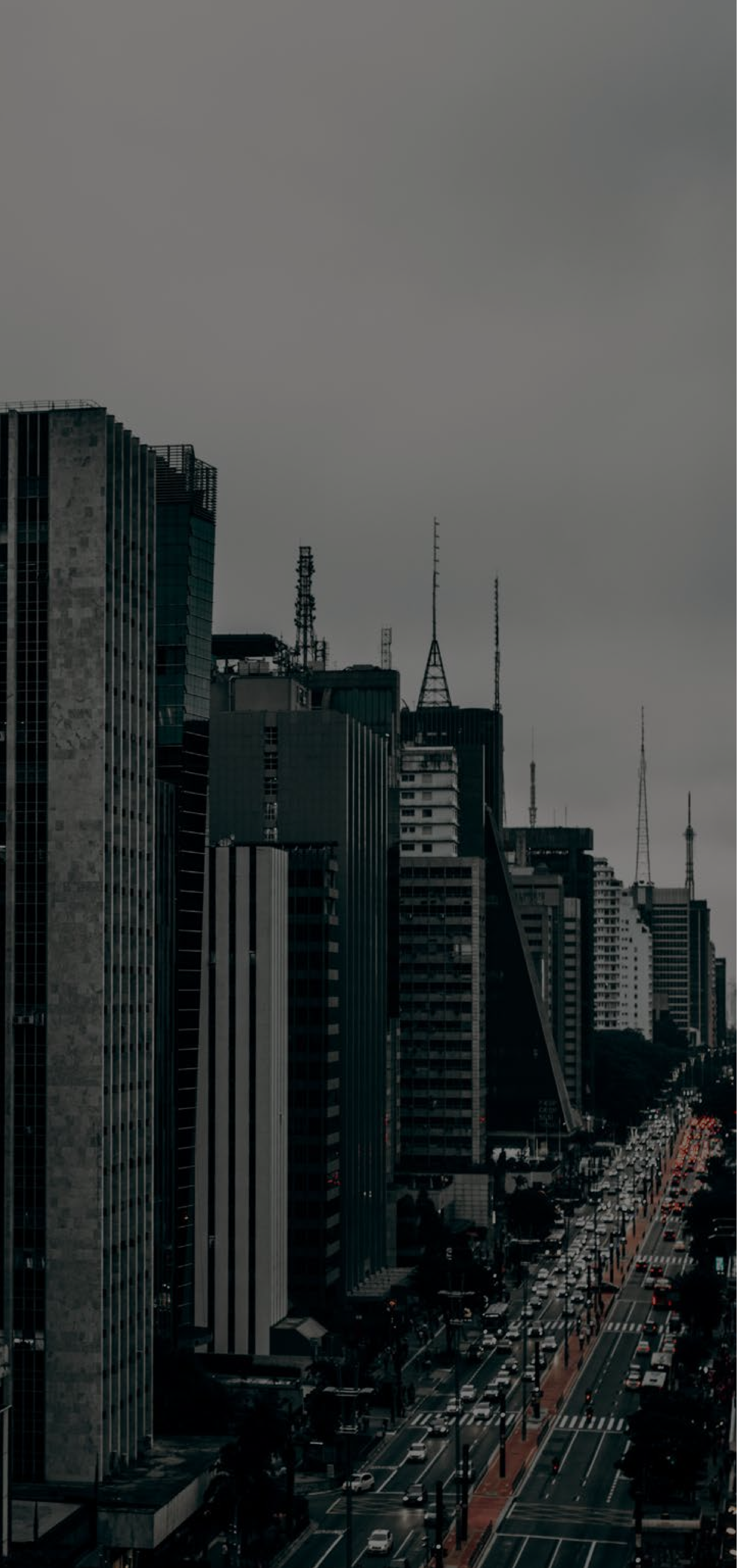
Last update: 01/26/2023



Sumário

The National Treasury presents the Annual Debt Report, which brings the main events concerning the management of the Federal Public Debt in 2022.

Throughout 2022, despite the recovery of the central economies, high global inflation and the rise in interest rates were constant challenges imposed on the international scenario. This was exacerbated by the outbreak of war between Russia and Ukraine and the resulting volatility in the foreign markets that imposed a need to pace of the issuance of public debt.

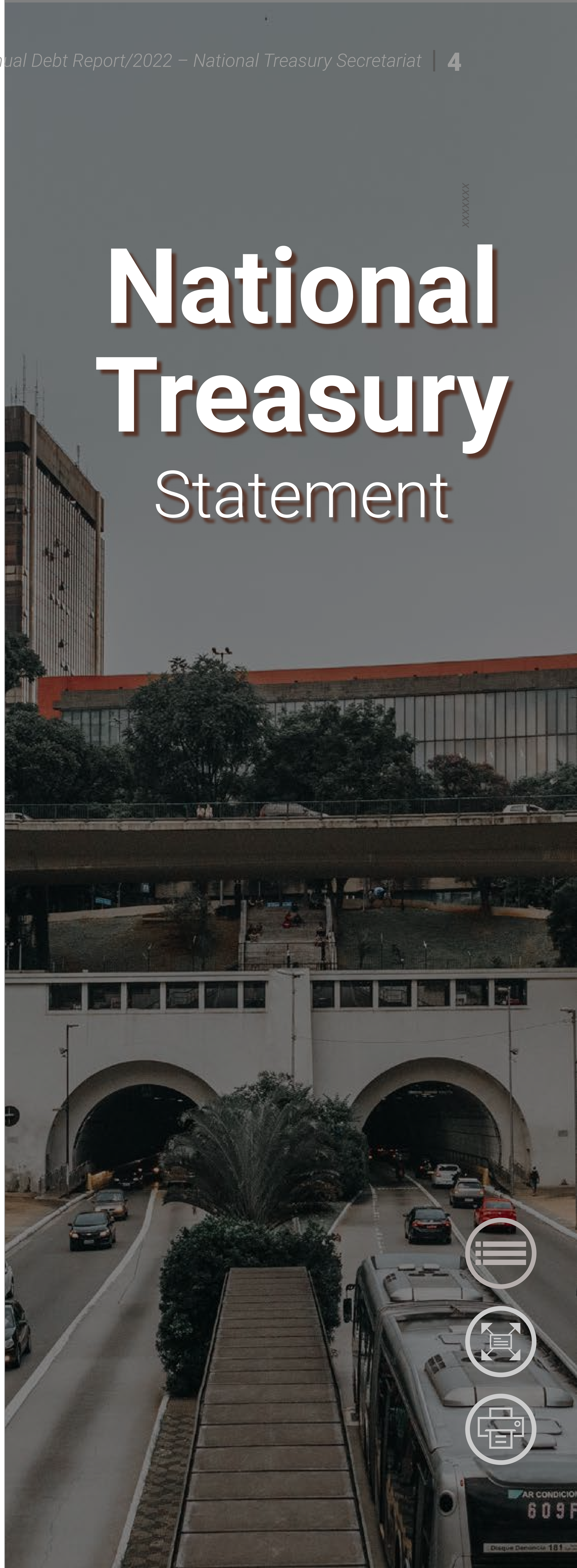
In the domestic scenario, the monetary tightening, the political turbulence of an election year, the consolidation of a better economic growth outlook for 2022, and the evolution of fiscal results influenced the most the debt management. In the fiscal aspect, revenue has consistently performed above the expectations, which allowed changing the forecast of the 2022 primary result of the central government from a primary deficit of R$ 76.3 billion, as approved on the budget, to a surplus of R$ 34.1 billion as published in Primary Revenue and Expenditure Evaluation Report of December 2022.

The favorable fiscal performance of the central government was also seen on subnational entities, events that coupled with the economic growth promoted a decline on the General Government Gross Debt (GGGD). The GGGD ended 2022 with estimates close to 73.3% of the GDP, below the pre-pandemic level of 74.4% (closing of 2019), but still high compared to investment-grade emerging markets (61%). This reinforces the significance of measures keep public spending under control and improve tax collection.

In the firt half of the year, at times when market conditions debilitated demand for securities with longer maturity, the National Treasury increased the offer of floating-rate bonds to balance the issuance of short-term fixed-rate ones. In the second half of the year, as conditions improved, between August and October, the Treasury resumed the supply longer fixed-rate and inflation-linked bonds. This strategy was key to improve risk indicators and to keep the liquidity reserve stable at comfortable levels.

The tightening monetary cycle that marked the Brazilian economy in 2022 imposed additional challenges to the debt management, such as higher cost of issuances, rising from 8.49% at the end of 2021 to 12,08% in December. This increase, however, remained below the hike of the benchmark Selic interest rate given the FPD profile.

The Annual Report evaluates National Treasury's financing strategy in 2022 and the performance of FPD's indicators. The performance proved to be in line with the initial expectations except for the outstanding debt stock that finished the year below the lower reference limit due to the lower issuance at times of volatility in period. The debt composition and maturity profile indicators closed 2022 within the pre-established ranges set by the previous Annual Borrowing Plan.



1 Macroeconomic and Financial context in 2022

1.1 Macroeconomic Context

The year 2022 began with the global economy still recovering from the effects caused by disruptions in supply chains caused by the pandemic, with global inflation accelerating and amid a new outbreak caused by the Omicron variant of the coronavirus. There was an expectation that the progress of population immunity would alleviate the adverse effects of the pandemic, which happened in most parts of the world, with the exception of China. The monetary tightening by the world's central banks turned out to be stronger than initially expected at the beginning of the year, due to the persistence of the inflationary process.

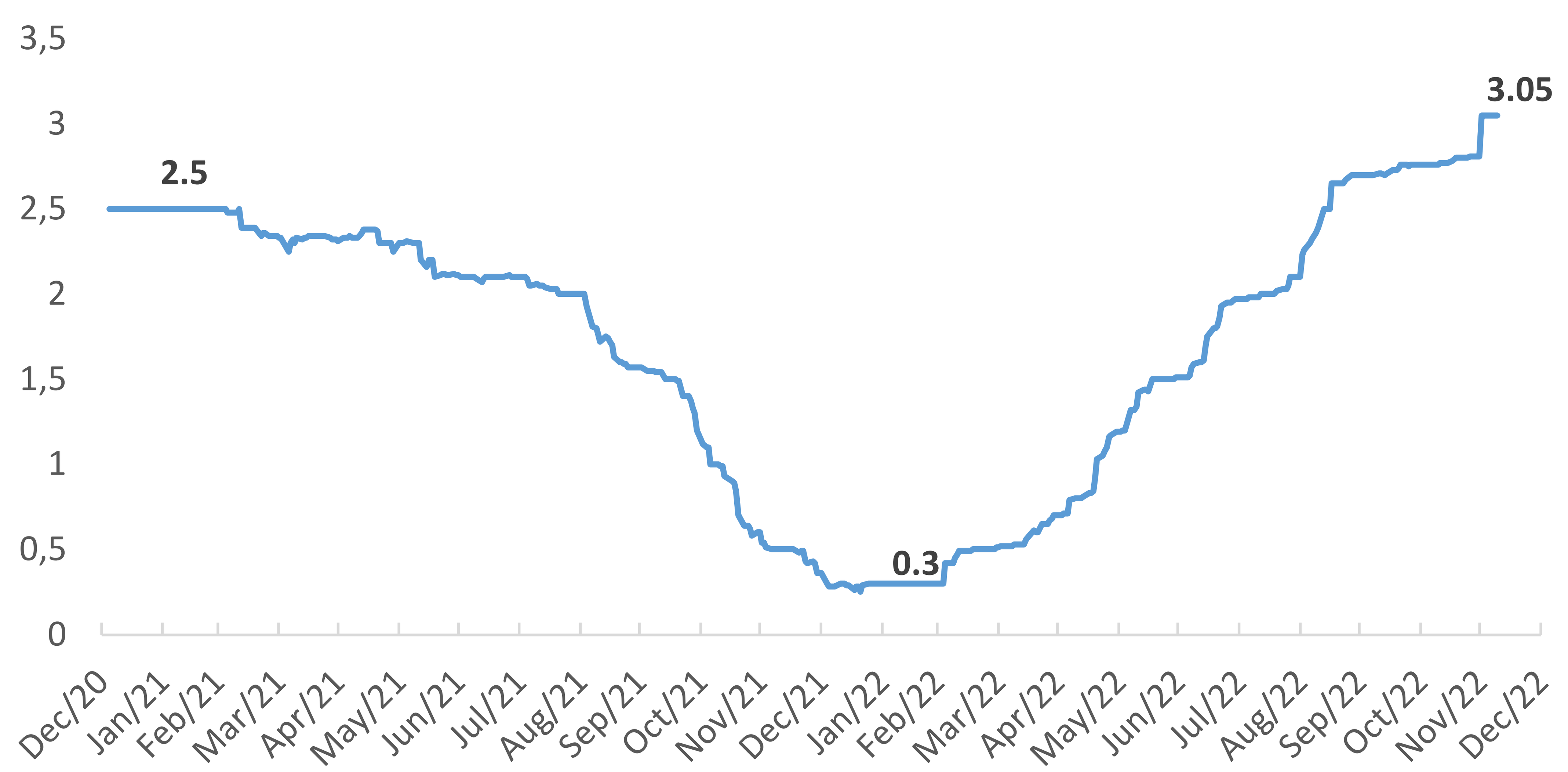
The outbreak of the war between Russia and Ukraine, at the end of February, added to the already unfavorable context of the pandemic and inflationary pressures. In addition to the humanitarian and geopolitical consequences, the war has exerted additional pressure on food and energy prices, partly due to the international sanctions imposed on Russia by the United Sates, the European Union and other countries.

The monetary authorities' reaction to inflation, amid concerns about the slowdown in economic activity, sparked warnings that the global economy could be heading towards a recession. The Federal Reserve started a cycle of monetary tightening in March, raising the base interest rate of the US economy from a range of 0% to 0.25% in January to its current level of 4.25% - 4.50%, the highest level since the financial crisis of 2008. The European Central Bank, on the other hand, made a similar move as of July, raising its rates from negative territory to its current 2.00% (deposit rate). Despite these efforts, inflation levels in the US and the Eurozone remained high throughout the year. In China, the main focus was the lower-than-expected growth rate at the beginning of the year, which ended 2022 at 3.2%, compared to the target of 5.5%.

In Brazil, the beginning of 2022 saw the resurgence of the pandemic and the continued deterioration of growth expectations for the year, which fell continuously from 2.5% at the beginning of the previous year to 0.3% in February 2022[1]. However, starting in March, economic activity data presented a positive and persistent surprise, with economic dynamism supported by the services sector. At the end of September, the median of Focus market expectations for growth in 2022 had already surpassed the level of early 2021 (Figure 1).

[1] *Focus – Market Readout (Central Bank).*

Figure 1 – ***Median of Focus* expectations for GDP growth in 2022 (% per year)***



(*) Median of expectations reported in the previous 30 working days.
***Source**: Boletim Focus (Central Bank).*

In March 2021, with the Consumer Price Index (CPI) registering a variation of 5.2% in the trailing 12 months ending in February, the Central Bank Monetary Policy Committee (Copom) initiated the monetary tightening that would take the Selic rate target from 2% to 13.75% in August 2022. Despite the adjustment promoted by the Copom, the robustness of domestic economic activity kept inflation pressures high in the first months of the year, adding with new international shocks in energy and food prices. The adoption of tax relief measures, mostly aimed at fuel prices, led to a drop in 12-month accumulated inflation as of July, with a sequence of 3 months of negative CPI rates.

As the tax relief measures acted to reduce headline inflation, with effects largely seen as temporary, underlying inflation metrics, such as services inflation and core inflation, recorded more moderate disinflation, reflecting the resilience of aggregate demand. In this context, inflation expectations for 2022 and 2023 underwent successive revisions throughout the year, but remained at levels that were incompatible with the inflation target.

On the fiscal front, 2022 showed a better-than-expected outcome when compared to the expectations in the beginning of the year. Despite the increase in expenses mainly due to higher expenditures with social programs, the main one being Auxílio Brasil, revenue presented a positive surprise. This result reflected (i) the recovery of the domestic economy, (ii) the rise in commodity prices, (iii) the increase in income from concessions and permissions, and (iv) income from dividends. However, most of this revenue performance is explained by non-recurring events, such as dividend revenues from Petrobras and concessions resulting from the privatization of Eletrobras, or tax collections associated with a favorable commodities cycle.

As a consequence, the forecast for the central government's primary balance for the year was raised, starting from the primary deficit forecast of BRL 76.3 billion, in the Annual Budget Law (LOA), to a surplus of BRL 34.1 billion, in the extemporaneous December Primary Revenue and Expenditure Evaluation Report (RARDP). In turn, the General Government Gross Debt (GGGD) ended 2022 at around 73% of GDP, registering a drop compared to 2021 (78.3% of GDP), mainly due to nominal GDP growth and favorable fiscal results achieved. The early payments of BNDES' loans to the National Treasury, which totaled BRL 72.3 billion in 2022, also contributed to the reduction of the GGGD. With this result, GGGD was below the pre-pandemic level of 74.4%of GDP (2019).

The benign fiscal balance observed in 2022 was not sufficient to alleviate medium-term fiscal uncertainties. On the contrary, there was growing concern among economic agents about the country's medium-term fiscal trajectory, as a consequence of debates at the National Congress concerning measures that have an additional impact on primary expenditures.

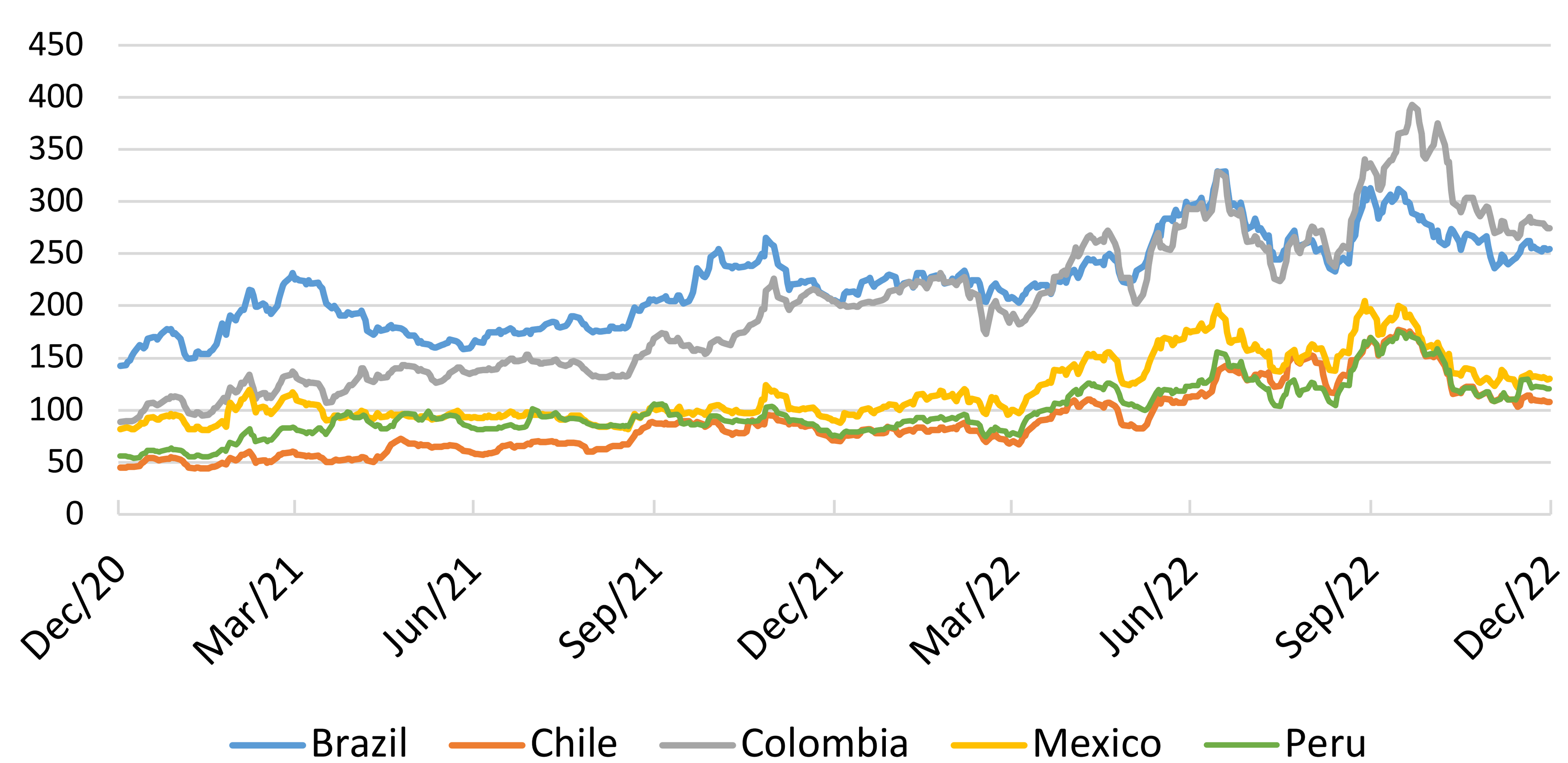
Notably, the Proposed Amendment to the Constitution (PEC) 01/2022, which was approved and resulted in Constitutional Amendment (EC) no. 123/2022, creating new benefits and expanding current ones in an election year, with a cost of more than BRL 40.0 billion to public accounts. In the same context, but in addition to the EC, there was also the adoption of a set of tax exemptions, which also have a short-term effect on revenue collection.

Subsequently, the discussions around PEC 32/2022, which culminated in EC 126/2022, further negatively impacted economic and financial conditions. EC 126/2022 expanded the spending cap by BRL 145.0 billion for the 2023 fiscal year, to allow the extension of certain public policies, especially the Bolsa Família. Thus, the growth of uncertainties surrounding the trajectory of expenditures and the spending cap had a significant impact on economic expectations, notably reflected on the yeld curves and in the debt financing strategy, as discussed further ahead.

1.2 Financial Market in 2022

The scenario of persistent global inflation and geopolitical conflicts brought uncertainties and volatility to the financial market in 2022, proving particularly challenging for emerging economies, especially in a context of greater monetary tightening by major central banks and increased risks of global recession. In Figure 2, the performance of the Credit Default Swap[2] (CDS – 5 years) illustrates an increase in the risk perception of Latin American countries, which was also reflected in the domestic yield curves. With the exception of Colombia, Brazil underperformed its peers, heavily influenced not only by the external context, but mainly by the perception of risks related to the country's fiscal trajectory.

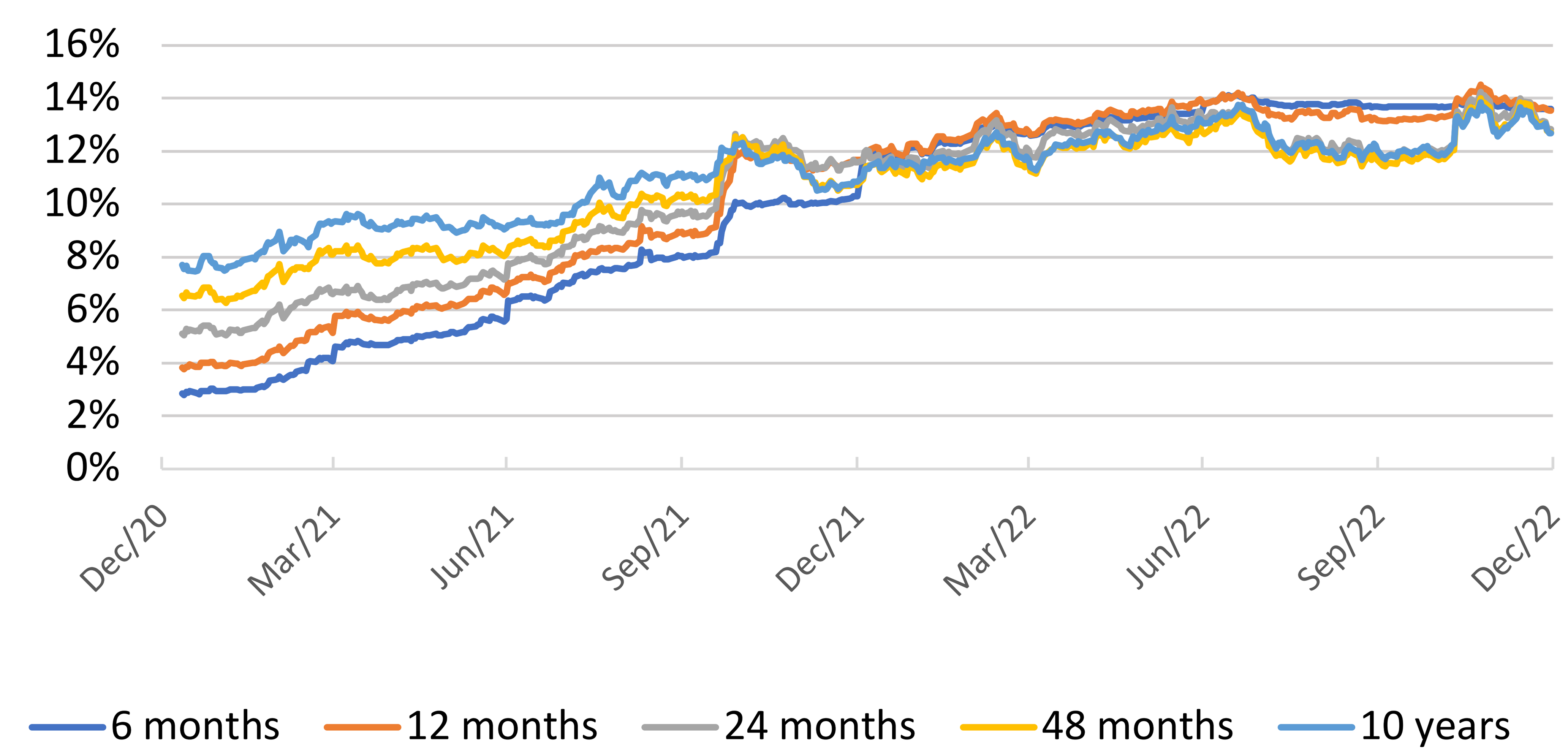
Figure 2 – ***Credit Default Swap (CDS) 5 years - selected countries (basis points)***



Source: Bloomberg

On the national scene, concerns due to inflation in the first quarter and uncertainties regarding the medium-term fiscal trajectory, as mentioned in section 1.1, pressured domestic interest rates. At the beginning of the second semester, the more benign inflation scenario – indicative of a turning point in expectations – as well as the contractionary monetary policy, resulted in a growing demand for longer-term National Treasury bonds, which impacted the issuance profile. However, discussions on revisions to the fiscal framework and the 2023 budget proposal reversed the downward trend in rates in that period, notably in long-term interest rates, as seen in Figure 3. Fiscal expectations proved to be unanchored, creating noise for short- and long-term interest rates, especially in the context of discussions on PEC 01/2022, which preceded the election period, and PEC 32/2022, after the elections.

Figure 3 – ***Evolution of interest rates on bonds with maturity reference of 6, 12, 24 and 48 months and 10 years (% p.a.)***



Source: *Anbima*

Thus, it is possible to see, from Figure 3, a shift in the yield curve to higher levels in 2022. For example, the interest rate on 10-year instruments reached levels close to 14% per annum, with an upward trend for most of the year. This increase on the entire extension of the yield curve had an impact on the National Treasury's financing strategy, which had to adopt caution in its auctions in moments of greater volatility, ensuring the proper functioning of the market for government bonds. As a result, the National Treasury reduced the

[2] *The CDS (Credit Default Swap) is a swap contract that remunerates the investor when the institution specified in the contract defaults. Therefore, the CDS is related to the probability of an institution or country complying with its obligations. In this report, we use CDS with a 5-year term as a reference.*

pace of issuance during most of the second half of the year.

Furthermore, this increase in interest rates had a negative impact on FPD cost indicators, as will be presented in the next sections of this document. Once again, the need for a reduction in fiscal uncertainties in the coming years is reinforced as a critical element for a downward trend in interest rates, a reduction in the cost of FPD and an improvement in the environment for issuing bonds by the Treasury.

1.3 Annual Borrowing Plan

The net borrowing requirement of the Federal Public Debt verified in 2022 was BRL 1,186.3 billion, BRL 48.3 billion below the forecast at the beginning of the year, a difference that can be explained by the deviations of its components as shown in Figure 4. .

On the expenditure side, debt maturities were BRL 49.6 billion higher than projected, mainly due to issuances of bonds that matured in the same year (BRL 18.4 billion) and early redemptions of the retail program (BRL 23.1 billion). By definition, the borrowing requirement, at its forecast, only considers the expected maturity for the current outstanding debt at the time. For this reason, these values were observed only in the ex-post calculation of maturities for the year.

*Figure 4 – **National Treasury borrowing requirements***

		Forecast	−	Executed	=	Difference
	FPD Maturity	**BRL 1,310.5 bn**		**BRL 1,367.5 bn**		**BRL -57.0 bn**
	External Debt	BRL 16.9 bn		BRL 16.5 bn		BRL 0.4 bn
	Domestic Debt	BRL 1,205.2 bn		BRL 1,262.8 bn		BRL -57.6 bn
	Central Bank Interest Charges*	BRL 88.4 bn		BRL 88.3 bn		BRL 0.1 bn
+	**Primary Expenditures**	**BRL 149.3 bn**		**BRL 37.3 bn**		**BRL 112.0 bn**
+	**Guarantees Honored**	**BRL 10.0 bn**		**BRL 9.8 bn**		**BRL 0.2 bn**
−	**Budget Revenues**	**BRL 235.2 bn**		**BRL 228.4 bn**		**BRL 6.8 bn**
	Free-allocation Revenues	BRL 108.2 bn		BRL 13.8 bn		BRL 94.4 bn
	Revenues Earmarked to Debt	BRL 127.0 bn		BRL 167.9 bn		BRL -40.9 bn
	De-linkes Funds Resources	--		BRL 46.7 bn		BRL -46.7 bn
=	**Net Borrowing Requirements**	**BRL 1,234.6 bn**		**BRL 1,186.3**		**BRL 48.3 bn**

**By virtue of article 39 of the Fiscal Responsibility Law (Complementary Law no. 101/2000), the interest payments of the Central Bank (BCB) portfolio, net of inflation, cannot be refinanced through Treasury's direct issuances.*

***Source**: National Treasury*

Primary expenditures to be covered by debt proceeds had a significant reduction, BRL 112.0 billion lower than expected. The 2022 budget law (LOA) contained primary current expenditures to be carried out with resources from credit operations, subject to the approval of supplementary credit (to attend the constitutional provision of the golden rule), totaling BRL 149.3 billion. However, after calculating the financial surplus for the previous year, it was possible to reallocate sources related to originally conditioned expenses (Budget Office - SOF Ordinance no. 1,523, of 02/18/2022), reducing the need for government financing in this amount.

On the other hand, there was payment of expenses associated with Remaining Payables, totaling BRL 11.0 billion, partially offsetting the effect of the above-mentioned rearrangement of the primary expenses to be covered by debt proceeds.

Lastly, on the expenses side, the execution of guarantees, which are further explored in section 4 of this report, had a figure in line with the projection for the year.

On the revenues side, budget resources other than credit operations allocated for debt service (BRL 253.2 billion) had a total value close to the initial forecast (BRL 228.4 billion). However, there were significant changes in its composition, with a reduction in free-allocation sources (from BRL 108.2 billion to BRL 13.8 billion), while earmarked sources for debt service increased (from BRL127.0 billion to BRL 167.9 billion). Besides this, there was an untying of several public funds, authorized by EC 109/21, with mandatory destination to debt service, which effectively reduced the need for credit operations by BRL 46.7 billion in 2022.

The reduction in the allocation of free-allocation sources was the result of an optimization of budgetary resources, including the above-mention efforts to reduce the use of debt proceeds to cover primary expenses as mandated by the budget law, as well as the availability of the financial surplus from the previous year for debt payment.

The increase in the execution of debt earmarked sources, in turn, was a result of its greater-than-expected availability throughout the year, both from results from previous years (financial surplus) and from new inflows in 2022. In this group, the resources effectively used in 2022 reduced the net borrowing requirement as shown in Figure 4. The portion of those resources that was not yet executed reinforces the liquidity reserve for debt management, which will be explored in section 1.4, below (see Table 1).

Notably, the National Treasury received in 2022 resources coming from a positive operational result from the Central Bank (BRL 72.8 billion), early payment of the BNDES loans (BRL 72.3 billion)[3] and dividends paid to the federal government (BRL 87.0 billion). These amounts were not foreseen in the 2022 Annual Borrowing Plan and contributed to bolster the liquidity reserve for debt management.

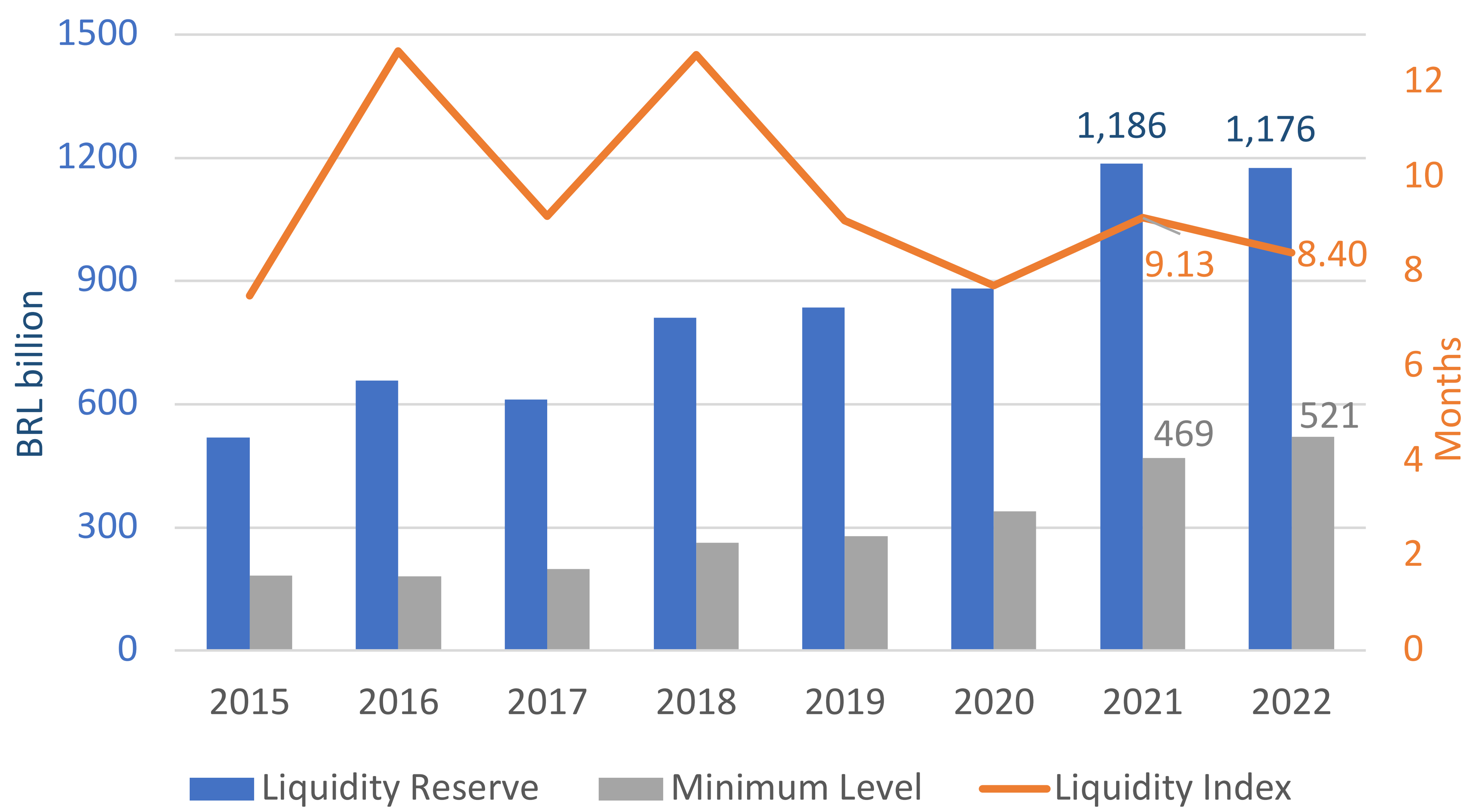
1.4 Liquidity Reserve

The challenges faced by the Treasury throughout the pandemic and the recent turbulence in the financial market reinforce the importance of maintaining cash availability for debt repayment, known as the liquidity reserve (or debt cushion). This reserve ensures degrees of freedom for the Treasury decision on the issuances, especially in moments of greater volatility, allowing it to adapt its offer according to market conditions.

The debt cushion ended 2022 amounting to BRL 1.18 trillion, equivalent to around 8.4 months of debt maturities in the market (Figure 5). This level brings high security for debt management, especially if we consider that the minimum reference understood as secure is equivalent to 3 months of maturity. One advantage of sustaining sufficient cash to cover FPD maturities for a certain period is the possibility for the debt manager to stay out of the market during times of turbulence, when the costs of issuing debt become excessively high. It is, therefore, the main tool for mitigating refinancing risk, which will be discussed in the following sections.

Although there is no specific target for the liquidity reserve, the Treasury aims to maintain a level that allows it to preserve stability in the financial market and act countercyclically during periods of stress The coverage of this reserve in terms of the number of months of debt maturity has gained relevance in recent years due to the challenges presented by the increased amount of DFPD[3] maturities, as a result of years of consecutive primary deficits by the central government and more recent issuances to finance pandemic-related expenses.

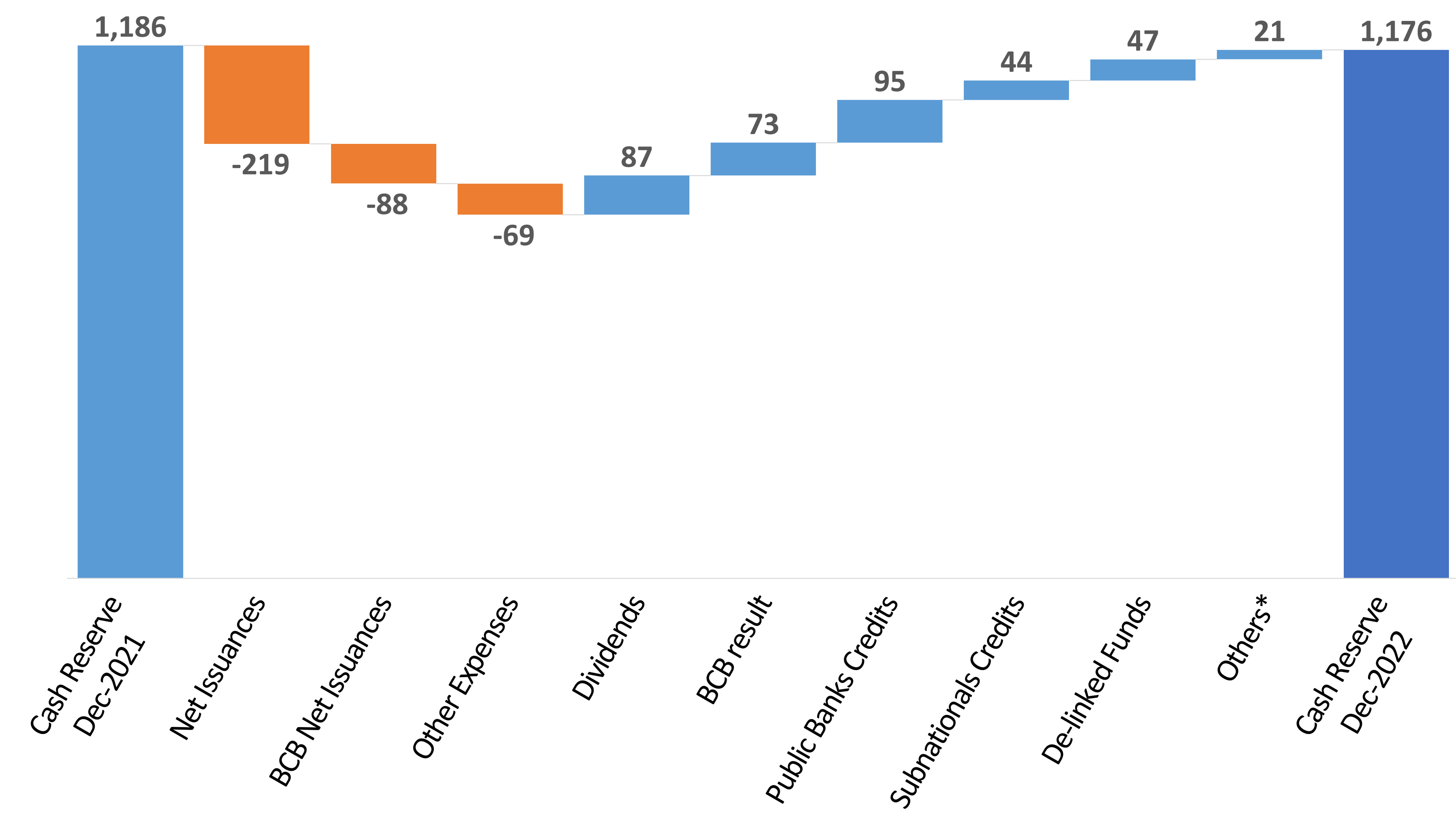
Figure 5 – ***Evolution of the public debt liquidity reserve and coverage of domestic service in months – end-year balance***



Sour*ce: National Treasury*

Throughout the year, DFPD issuances were below redemptions by BRL 219.1 billion, equivalent to a refinancing rate of 83%, as shown in section 2.1. Additionally, BRL 88.3 billion was paid in charges of the maturities of the BCB portfolio. These payments cannot be refinanced by issuances to the BCB, which increases the Treasury's borrowing needs[4]. In addition, there was payment of other budgetary expenses not related to debt flows, in the amount of BRL 69.3 billion, with issuance proceeds. These factors had a reduction effect on debt cash holdings, as shown in Figure 6.

Figure 6 – ***Sources of Variation in Liquidity Reserve through 2022 – BRL billion***



** Comprises external credit operations, selling of bonds and securities and ordinary funds*

Sour*ce: National Treasury*

Even so, the liquidity reserve remained at high levels due to the inflow of funds from other sources, among which we mention the de-linked of funds (BRL 46.7 billion), the return of Union credits with public banks (BRL 95.1 billion), most of which refer to early payments of BNDES loans (BRL 72.3 billion), credits from subnational entities (BRL 43.5 billion), the result of the Central Bank (BRL 72.8 billion) and dividends (BRL 87.0 billion). In addition, BRL 21.3 billion was allocated to free sources for debt payment, reducing the impact of net redemptions on the debt liquidity reserve.

Part of the revenues that entered in 2022 were used for expenses incurred during the same year. This is the case for the free-allocation resources and de-linked funds previously mentioned. Even so, they contributed to strengthening the liquidity reserve, as it allowed the National Treasury to reduce the need for revenue from bond issuances. This point is particularly important in a year when there were moments of volatility, resulting in less favorable conditions for bond issuances and full refinancing of debt maturities.

In this regard, Table 1 shows the composition of the liquidity reserve by sources of funds at the end of the year and its variation throughout 2022. By definition,

[3] Domestic Federal Public Debt (DFPD)

[4] As mentioned in the section on borrowing requirements, by virtue of article 39 of the Fiscal Responsibility Law (Complementary Law No. 101/2000), the interest payments of the Central Bank (BCB) portfolio, net of inflation, cannot be refinanced through Treasury's direct issuances.

this reserve is only composed of revenues from bonds' issuances and exclusive sources for debt payment. To illustrate how this composition evolved, note that in this classification the Treasury still has BRL 209.1 billion in resources from the Federal Government credits with public banks, of which BRL 95.1 billion entered in 2022 and BRL 114.0 billion correspond to previous years[5]. Most of this cushion, however, comprises funds from bond issuances (BRL 799.3 billion at the end of 2022, against BRL 939.9 billion at the beginning of the year).

Table 1 – ***Variation in liquidity reserve by source in 2022 - BRL billion***

Source	Initial balance	Revenue	Expense	Final balance
Central Bank interest charge	76.3	72.8	97.8	51.3
Return of credits from public banks	114.0	95.1	0.0	209.1
Return of credits from subnational entities	11.4	43.5	20.0	34.8
Dividends	44.3	87.0	50.1	81.2
Resources from government bonds issuance	939.9	1,551.6	1,692.2	799.3
Total	**1,185.9**	**1,850.0**	**1,860.1**	**1,175.8**

** Income from issuances includes the refinancing of the principal of the securities that matured in the Central Bank's portfolio, in addition to issuances on the domestic market. .*
***Sour**ce: National Treasury*

[5] *As mentioned earlier, in the case of early payments by the BNDES, when these funds are not used in the Bank's return year, they are available to the Treasury for payment of FPD maturities in subsequent years. However, even before using these resources, the GGGD decreases when it is receivedo.*

2 Borrowing Strategy in 2022

Two expectations at the beginning of the year would directly impact global markets in 2022: (i) the slowdown of the COVID-19 pandemic, as the immunization of the population increased; and (ii) the monetary tightening by world central banks, to curb the inflationary growth initiated in the post-pandemic environment. Both expectations were confirmed, directly influencing the behavior of the Brazilian economy and, consequently, the planning and execution of strategies related to the Federal Public Debt.

The strategy established by the 2022 ABP considered an environment of high uncertainty, reminiscent of 2021 events, having as pillars the search for the maintenance of prudent levels of cash reserves, the mitigation of public debt refinancing risk and the assurance of functionality of the government bonds market.

The first two months of the year were marked by favorable conditions for implementing the strategy, in line with ABP planning. Factors such as the dynamics of short-term interest rates brought about a high demand for government bonds, in particular floating- rate bonds (LFT). In this period, the National Treasury opted, as of April, to interrupt short-term LFT issuances and to anticipate the changing of the 6-year LFT benchmark from the maturity date in March 2028 to September 2028, with the intention to lengthen the public debt profile.

However, with the outbreak of the war in Ukraine and the confirmation of the global monetary tightening, the environment in foreign markets deteriorated significantly. Domestically, volatility and the increase in risk premiums intensified as a result of the fiscal concerns that emerged around PEC 01/2022, later approved as Constitutional Amendment 123/2022, creating and expanding benefits in an election year, with a cost of more than BRL 40.0 billion on the fiscal balance. Additionally, there were also tax exemptions, also with short-term fiscal effects. This context had adverse impacts on the domestic market and on the demand for government bonds. Negative economic conditions reverberated until July, when Brazil began to show clear signs of better inflation control, despite the persistence of inflation abroad.

The second semester, especially in the period between August and October, was characterized by strong demand for 48-month fixed-rate bonds (LTN) and 5-year inflation-linked bonds (NTN-B), which contributed to the improvement of public debt indicators in the period and maintenance of the high level of the liquidity reserve. Subsequently, the conditions for debt financing were negatively impacted by the discussions around PEC 32/2022, approved as EC 126/2022, raising the spending cap by BRL 145.0 billion for the 2023 fiscal year, to allow the extension of certain public policies.

Despite general uncertainties, typical of an election year, the FPD ended the year with indicators within the indicative limits originally planned in the 2022 ABP, with the exception of the outstanding position, which was below the lower limit due to issuances in smaller volumes than initially forecast. The National Treasury, however, was able to mantain a comfortable position of liquidity reserve, as highlighted in section 1.4.

2.1 Domestic Debt

Regarding bonds offered in public auctions in 2022, fixed-rate bonds had four reference maturities for LTN (short term: 6 and 12 months; medium-term: 24 and 48 months), while for NTN-F the Treasury kept the same tenors as the second half of 2021 (6 and 10 years).

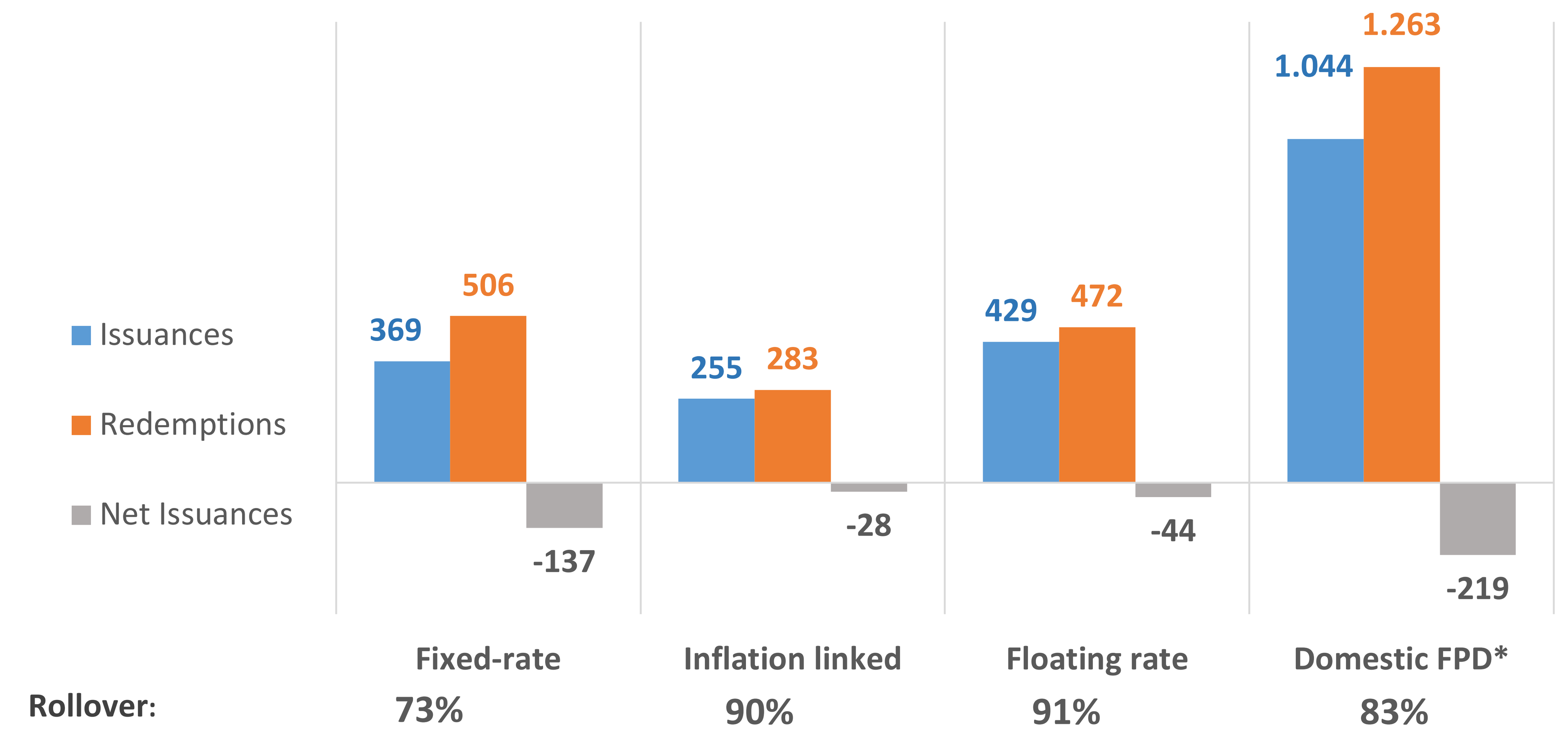
For inflation-linked bonds (NTN-B) 6 maturities were offered, with alternating weekly auctions. One week featured tenors of 3, 10 and 25 years (maturities in May 2025, August 2032, and May 2045), and another featured tenors of 5, 15 and 40 years (maturities in May 2027, May 2035 and August 2060).

For LFT issuances, two tenors were maintained until March. A shorter one, with maturity in May 2025, and a longer one, with a maturity of six years. From April on, the National Treasury only issued LFT with the longer maturity of six years.

In 2022, despite the volatile economic environment, the National Treasury decided not to hold auctions for exchange or early-rollover. Unlike 2021, the maturity schedule did not bring relevant refinancing challenges while maintaining stability in liquidity reserves at prudent levels, due to not only issuance proceeds but also other sources of funds.

In the year's consolidated result for the domestic Federal Public Debt (DFPD), redemptions exceeded issuances by BRL 219.1 billion, which corresponds to a refinancing rate of 83%, compared to 111% in the previous year. There was a net redemption of BRL 137.3 billion for fixed-rate bonds, with a refinancing rate of 73%. Floating-rate and inflation-linked bonds had net redemptions of BRL 27.7 and BRL 43.9 billion, respectively, as seen in Figure 7.

*Figure 7 – **Net Issuance and Rollover Rate by Indexer***



** Only operations with an impact on liquidity are considered..*
***Sour**ce: National Treasury.*

Funding through DFPD auctions totaled BRL 1,001.3 billion in 2022, lower than the previous year, which was BRL 1,474.1 billion, as shown in Table 2. The main financing instrument was the 6-year LFT, which accounted for 38.2% of traditional issuances. Followed by 48-month fixed-rate bonds (19.8% of total issuance), while all fixed-rate issuances represented 36.3% of the total. Finally, NTN-B accounted for 24.2% of the total, mainly on the shorter vertices of 3 and 5 years.

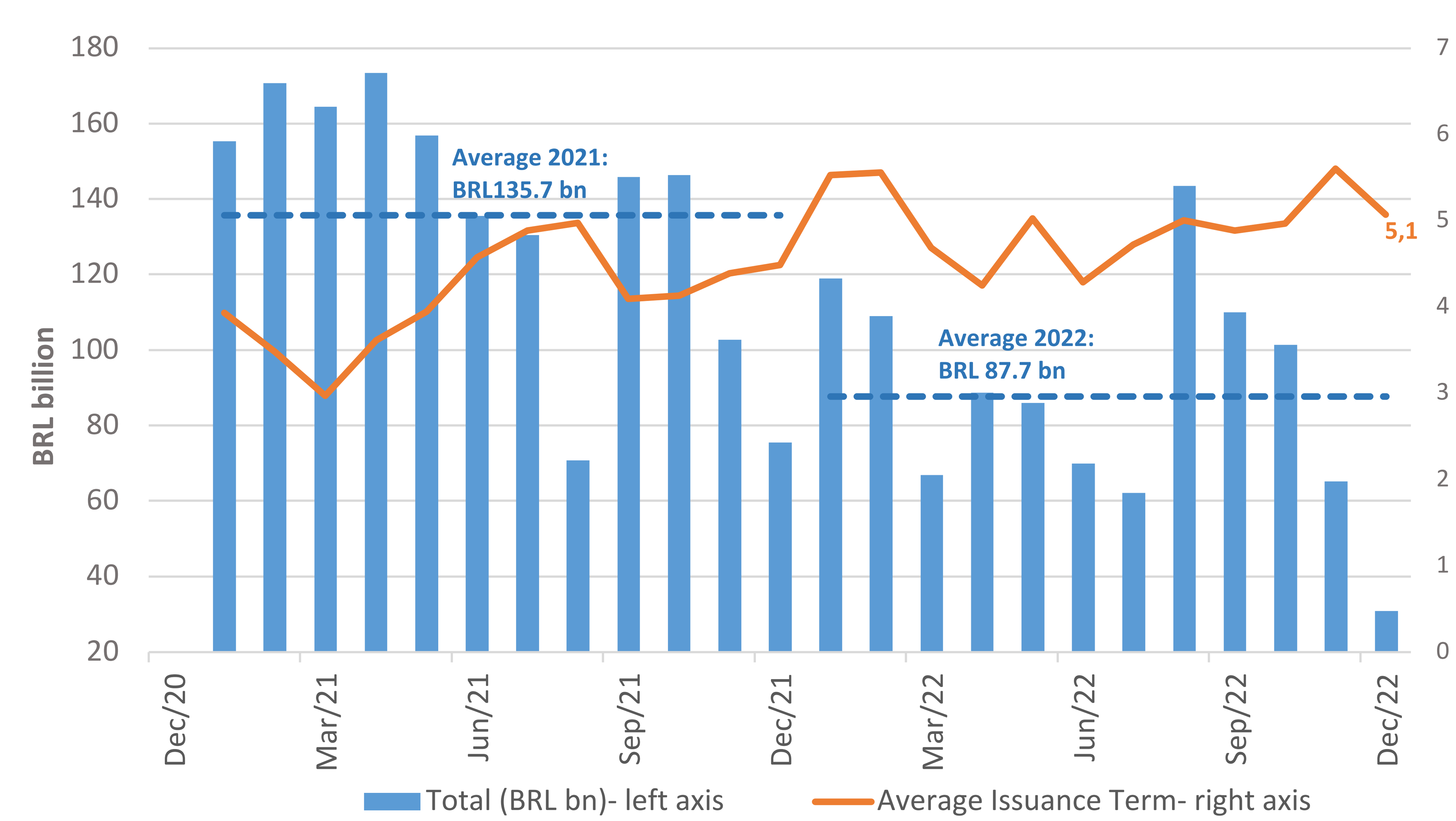
Table 2 – ***Issuance of DFPD bonds – only regular auctions* for the market***

	2021		2022	
Bonds Issued	**Total**	**%**	**Total**	**%**
LFT	**612.9**	**41.6%**	**395.7**	**39.5%**
LFT - 01 year	116.4	7.9%	-	-
LFT - 02 years	144.9	9.8%	-	-
LFT - 03 years	-	-	13.6	1.4%
LFT - 06 years	351.6	23.9%	382.0	38.2%
LTN	**439.1**	**29.8%**	**334.5**	**33.4%**
LTN - 06 months	50.1	3.4%	23.4	2.3%
LTN - 12 months	77.3	5.2%	21.4	2.1%
LTN - 24 months	181.9	12.3%	91.0	9.1%
LTN - 48 months	129.8	8.8%	198.7	19.8%
NTN-F	**66.4**	**4.5%**	**29.1**	**2.9%**
NTN-F - 06 years	19.5	1.3%	-	-
NTN-F - 07 anos	-	-	16.2	1.6%
NTN-F - 08 years	23.1	1.6%	-	-
NTN-F - 10 years	23.8	1.6%	12.9	1.3%
NTN-B	**355.7**	**24.1%**	**242.0**	**24.2%**
NTN-B - 03 years	93.4	6.3%	52.3	5.2%
NTN-B - 04 years	86.0	5.8%	-	-
NTN-B - 05 years	54.7	3.7%	83.2	8.3%
NTN-B - 10 years	52.5	3.6%	35.7	3.6%
NTN-B - 15 years	-	-	39.0	3.9%
NTN-B - 20 years	14.1	1.0%	-	-
NTN-B - 25 years	-	-	10.5	1.0%
NTN-B - 40 years	55.0	3.7%	21.3	2.1%
Total	**1,474.1**	**100%**	**1,001.3**	**100%**

**Extraordinary exchange auctions were not considered. Bonds issued in 2022 that matured in 2022 were also excluded.Source: National Treasury.*

The monthly average of DFPD issuances was BRL 87.7 billion, while in 2021 and 2020 this average was BRL 135.7 billion and BRL 108.0 billion, respectively. This reduction was a consequence of a volatile economic environment, which caused a more cautious issuance strategy, particularly in the months of June and July (when the debates on PEC 01/2022, which preceded the election period) and in the months of November and December (during the debates on PEC 32/2022, after the elections), as shown in Figure 8. Liquidity reserve above prudential levels mitigated refinancing risks and brought flexibility to the timing of the issuances. Although the volume of issuances has reduced in the post-pandemic scenario, it remains at higher levels than in 2019, when the average monthly funding was BRL 61.5 billion, reflecting the greater borrowing need and the high level of indebtedness.

Figure 8 – ***Domestic debt issuances - volume and average maturity***



***Source**: National Treasury.*

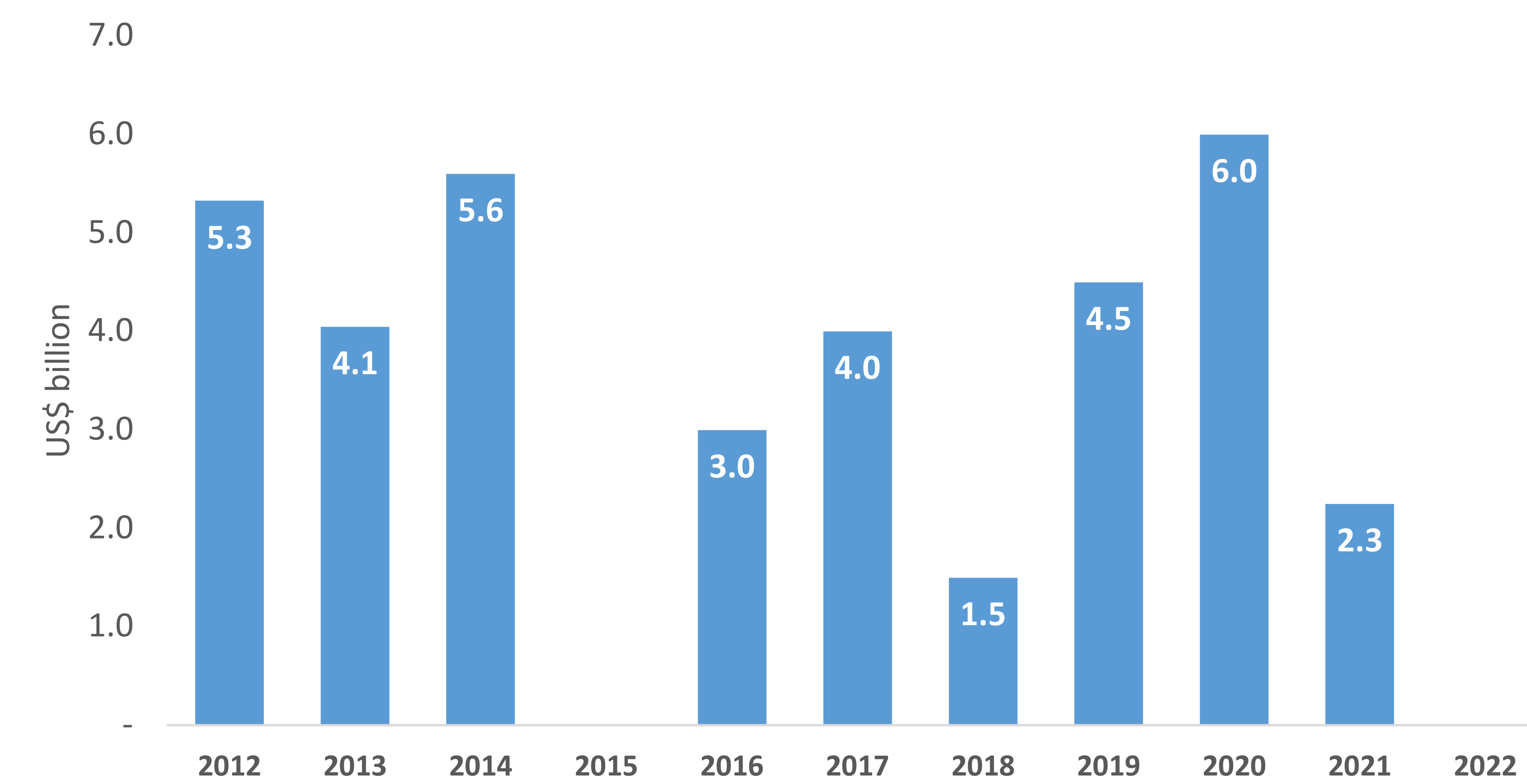
Compared to 2021, as issuance volume decreased, the National Treasury continued to seek to place longer-term bonds, although at times in the first semester market conditions frustrated these bonds demand. Even so, it was possible to increase the share of bonds with maturity between 48 and 60 months in the debt composition, with emphasis on 5-year inflation-linked bonds (NTN-B) and 48-month fixed-rate bonds (LTN). Throughout the year, the downward trend in the average maturity of issuances, which reached 4.3 years in April, was reversed and ended December at the 5.1-year mark, as shown in Figure 8.

2.2 External Debt

The federal government's borrowing needs are primarily met by issuing bonds in the local market. In this way, the external Federal Public Debt (EFPD) strategy is aimed at creating and improving liquid and efficient benchmarks that can serve as a reference for the corporate sector, broaden and diversify the investor base and contribute to lengthening the FPD.

Although the 2022 ABP contemplated the possibility of issuance of Global Bonds, the Treasury refrained from it due to adverse conditions prevailing in the internal and external market. (Figure 9).

Figure 9 – ***External Federal Public Debt issuances –US$ billion, current values***



Source*: National Treasury*

In management of the EFPD, the National Treasury seeks to acquire foreign currency in advance to honor the forecasted debt service. Such resources can be acquired through the international issuances or through the purchase of dollars in the local foreign-exchange market. Thus, in 2022, the Treasury began the period already with enough resources to honor the foreign debt service for the year and, even in the absence of external issuances, it was possible to acquire dollars to meet the forecast need for 2023.

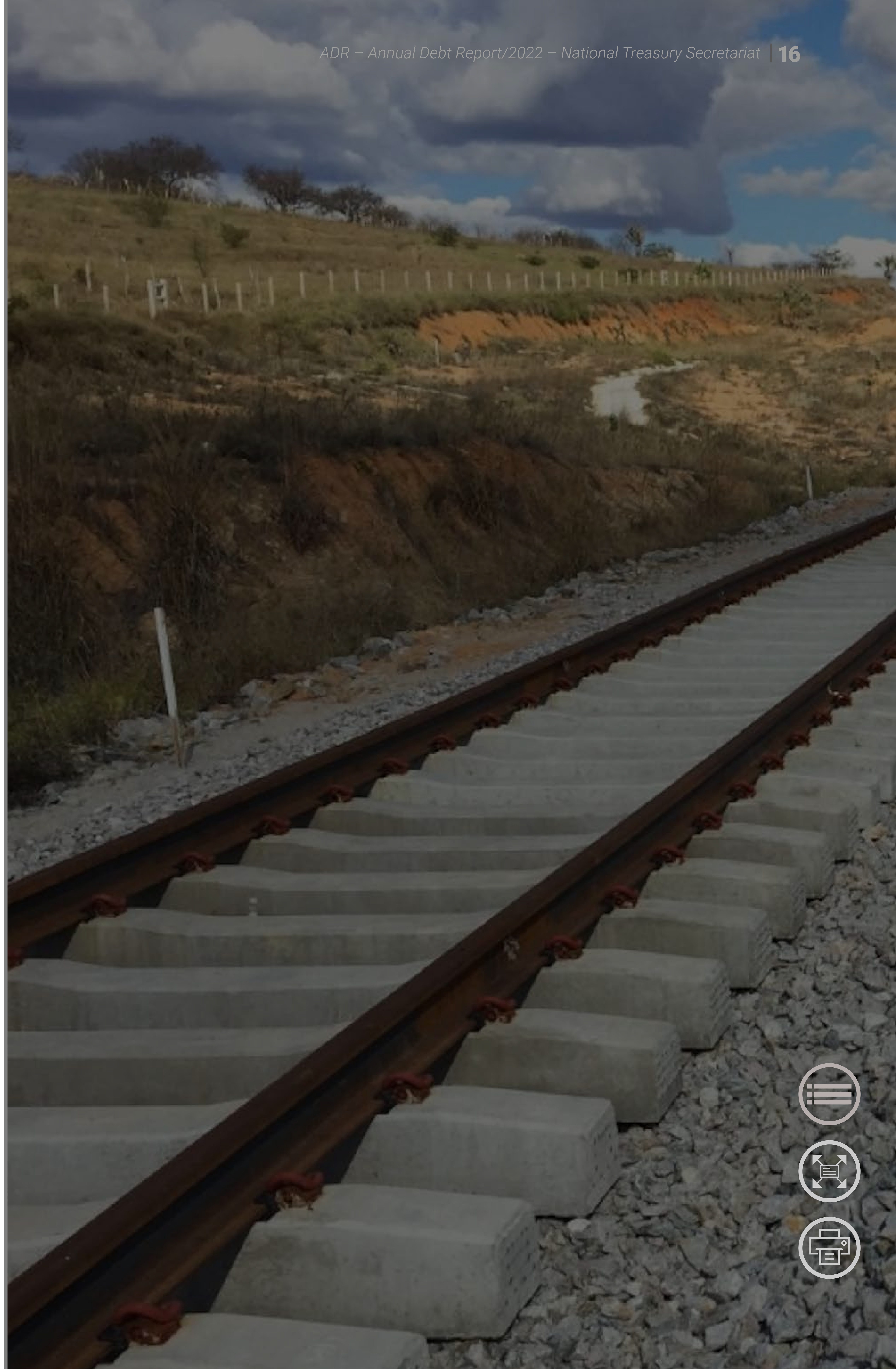
In addition, throughout 2022, Brazil secured loans were contracted with international organizations, totaling US$ 997.4 million in loans in dollars and € 350.0 million in loans in euros, as shown in Table 3 below.

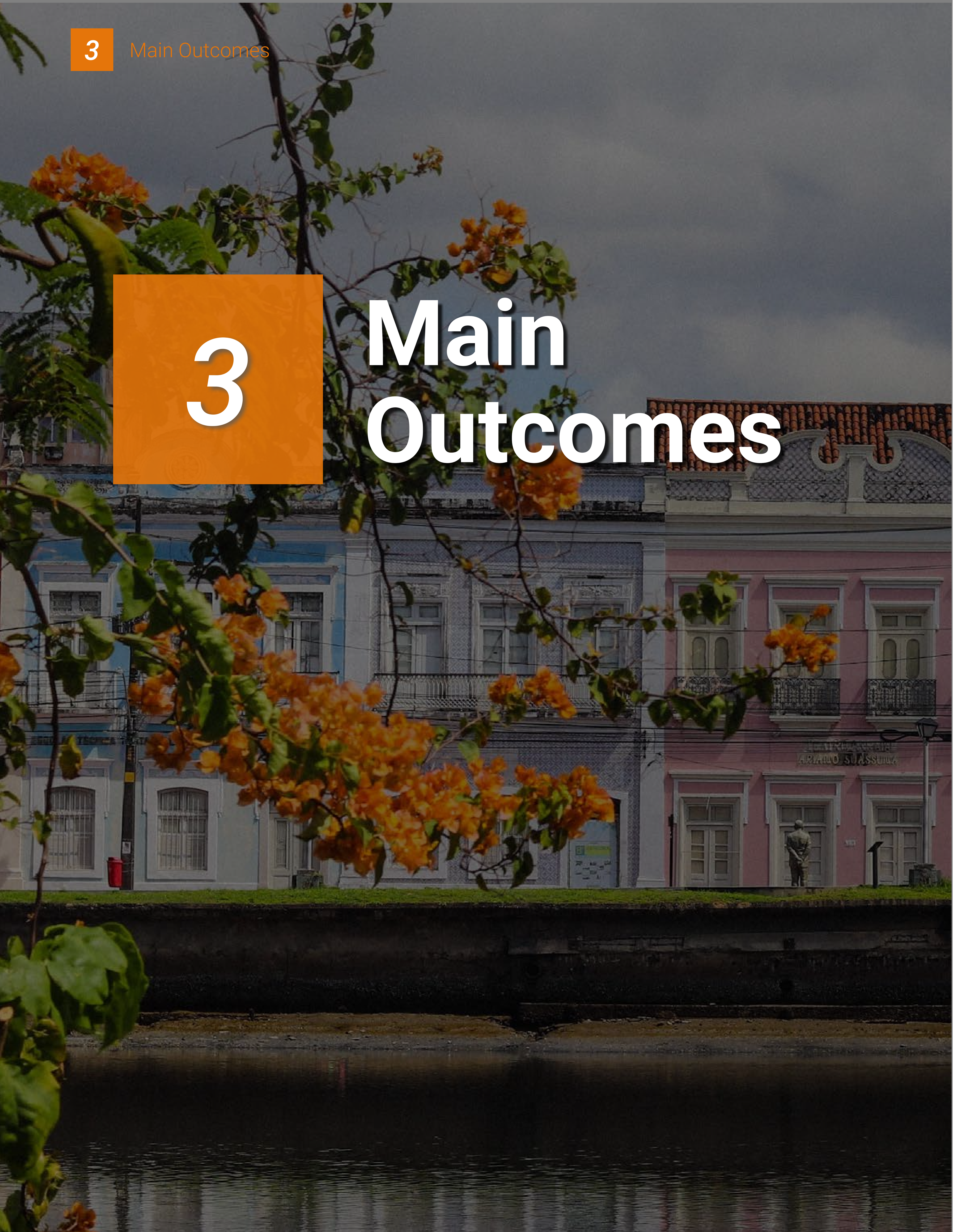
Table 3 – ***External loans operations***

Institution	Total (Millions)
World Bank (IBRD)	**USD 797.4**
Inter-American Development Bank (IDB)	**USD 200.0**
KfW Entwicklungsbank (KfW)	**EUR 350.0**

Sour*ce: National Treasury*

Besides the liquidity reserve in local currency, the National Treasury already has sufficient foreign reserves to meet the principal and interest payments of the external debt scheduled to mature in 2023.





3 Main Outcomes

Debt management in 2022 showed results in line with the expectations established in the 2022 ABP for FPD composition and maturity structure indicators. Notably, there was an increase in the participation of floating-rate bonds in the FPD, with a reduction in those with fixed rates.

The predominance of LFT increases FPD sensitivity to changes in short-term interest rates (market risk), but favors extending debt maturity indicators. Thus, while on one hand the debt composition moved in the opposite direction of the long-term FPD guidelines, on the other hand, this dynamic made it possible to improve the maturity and refinancing risk indicators.

Another highlight of the year was the maintenance of the debt liquidity reserve within prudential levels, which is an effective tool to mitigate refinancing risk.

3.1 FPD Indicators And Risk Management

3.1.1 2022 Annual Borrowing Plan

FPD indicators ended the year within the reference limits of the 2022 ABP, with the exception of the debt outstanding, which was below the lower limit, as shown in Table 4. Regarding debt composition, fixed-rate bonds were close to their upper limit, and floating-rate bonds to their lower limit. The share of inflation-linked bonds and exchange rate debt were close to the center of the respective ranges. Regarding the maturity profile, the average maturity was close to its lower limit and the percentage maturing in 12 months to its upper limit, showing the restriction of demand for longer-term bonds in recent years.

Table 4– ***Main results of the Federal Public Debt***

Indicators	Dec/21	Dec/22	2022 ABP Ranges		"Benchmark portfolio"
			Minimum	Maximum	
Outstanding Volume (BRL billion)					
FPD	5,613.7	5,951.4	6,000	6,400	-
Composition (%)					
Fixed-rate	28.9	27.0	24	28	40,0 ± 2,0
Inflation-linked	29.3	30.3	27	31	35,0 ± 2,0
Floating-rate	36.8	38.3	38	42	20,0 ± 2,0
FX	5	4.5	3	7	5,0 ± 2,0
Maturity Structure					
% maturing in 12 months	21	22.1	19	23	20,0 ± 2,0
Average maturity	3.8	3.9	3.8	4.2	5,5 ± 0,5

Sour*ce: National Treasury*

3.2.1 Outstanding Debt

In 2022, the FPD outstanding grew by BRL 337.8 billion, or approximately 6.0% in relation to the previous year. This difference is explained by accrued interest, BRL 556.0 billion, which was partially offset by net redemptions of BRL 218.2 billion. Most of this result is attributed to DFPD variations, as shown in Table 4. In the case of EFPD, the negative interest appropriation reflects the effect of the exchange rate variation on the external debt.

Table 5 ***– FPD variation factors (BRL billion)***

Indicators	Debt Outstanding			Factors of variation			
	2021	2022	Diff.	Issuances (a)	Redemptions* (b)	Net Issuances (a-b)	Appropriated interest
FPD	5,613.7	5,951.4	337.8	1,062.0	1,280.2	-218.2	556.0
DFPD	5,348.9	5,699.0	350.0	1,052.6	1,263.9	-211.3	561.4
EFPD	264.7	252.5	-12.3	9.5	16.3	-6.9	-5.4

** Includes portfolio transfer operation between the market and BCB in the net amount of BRL 1,092 billion, as explained in spreadsheet 2.9 of annex to the December 2022 Monthly Debt Report.*

Sour*ce: National Treasury.*

The outstanding debt in 2022 was below the lower limit of the ABP, mainly because of net redemptions of DFPD of BRL 211.3 billion. This value corresponds to a DFPD refinancing rate (issuances/redemptions) of 83.3%, which is mainly due to below-average issuances in the most volatile months of the year, as discussed in section 2.1.

3.2 FPD Risks

3.2.1 Composition of FPD

In 2022 there was a reduction in the proportion of fixed-rate bonds to 27.0% in December 2022, compared to 28.9% in the same month of the previous year. It is the smallest participation of fixed-rate bonds for a year-end closing since 2005, as shown in Figure 10.

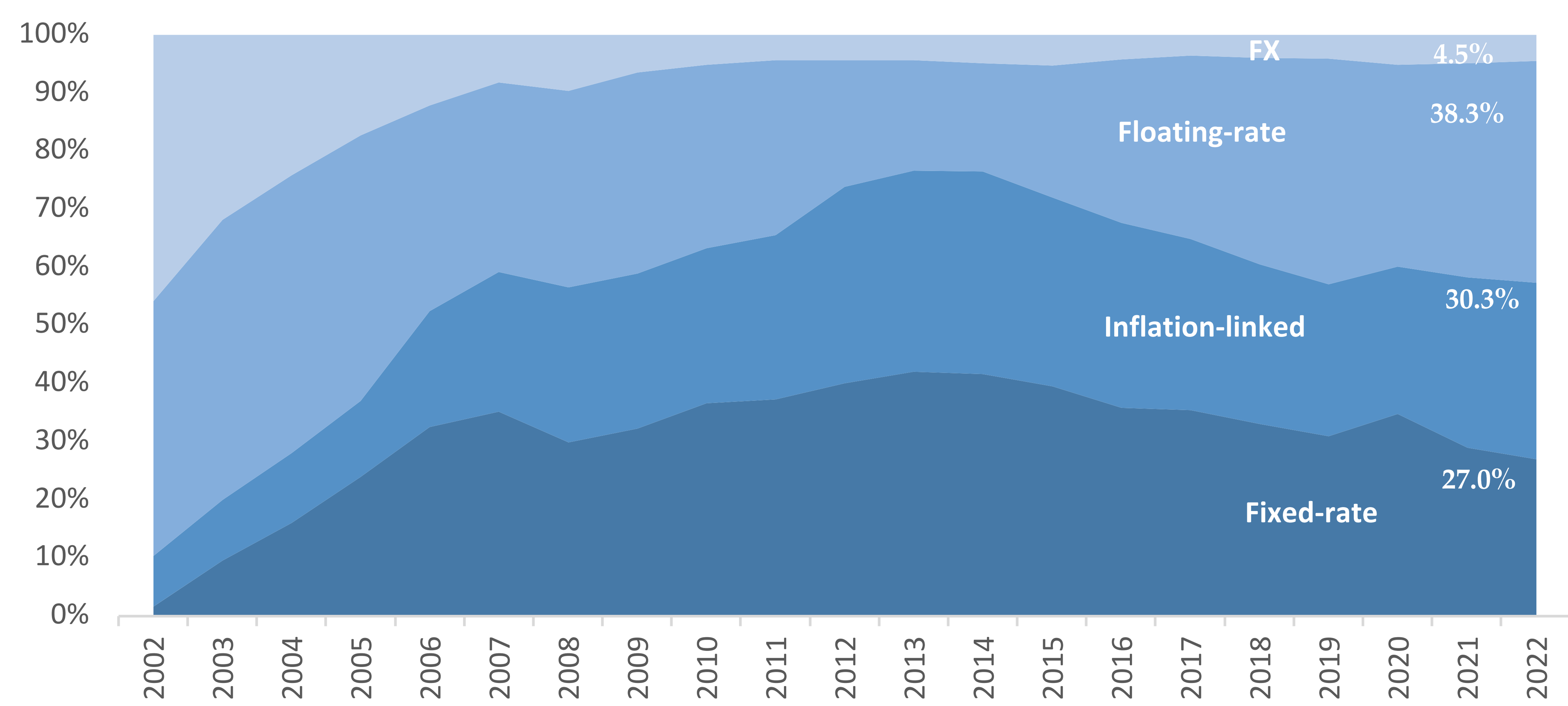
In the opposite direction, there was an increase in the share of floating-rate bonds from 36.8% in 2021 to 38.3% at the end of 2022. It is the second highest proportion in the annual series since 2005, nearly the same as verified in 2019, which was 38.9%. In addition, the participation of these instruments in the FPD showed its lowest percentage in 2014 (18.7%) and has been reverting the trend since then, with the exception of 2020.

There was also an increase in the participation of inflation-linked bonds, 30.3% in 2022 against 29.3% in 2021. The share of these instruments in the FPD had been trending downward since 2014, when it reached its highest level, at 34.9%.

As explained in section 2, in 2022 debt management continued with its efforts to issue longer-term instruments, such as LFT and NTN-B, as an alternative to placing very short-term fixed-rate bonds (up to 1 year).

Figure 10 shows the evolution of the FPD composition. The growth in the share of LFT in the FPD outstanding is a movement that accompanied the expansion of the debt-to-GDP ratio, in the face of persistent fiscal deficits in recent years. For the matter of risk management, increasing the share of fixed rate bonds in the FPD is desirable, as long as it does not imply an increase in debt maturing in the short term. With the increase in the financing needs and the given limitation of fixed-rate bonds maturity at issuance, LFT gain relevance in the financing strategy.

Figure 10 – ***Composition of FPD***



Sour*ce: National Treasury*

Composition analysis is a useful indicator to monitor FPD market risk. It refers to the risk of increasing the FPD cost or its outstanding due to fluctuations in the FPD denominated indexers. This analysis is especially critical to the floating-rate bonds. Larger shares of LFT tend to imply a higher market risk. But this risk wouldn't be mitigated by the increase of very short-term fixed-rate bonds, due to its need to be quickly refinanced, becoming equally sensitive to interest rate shocks, besides having a higher cost.

Changes in debt interest rates tend to have limited impact on debt service in the short term, making it an analysis of particular interest for budgeting purposes. In general, these impacts are absorbed in the form of changes in the debt outstanding, with their effects distributed over several years, depending on the maturity of at issuance. Table 6 shows how the Federal Public Debt (FPD) budgetary expenditure would change in the face of changes of one percentage point in interest rates and inflation or of 1% in the exchange rate. As expected, the interest rate shock has the greatest effect on the evolution of debt expenditure, followed by the inflation rate shock.

Table 6 – ***Sensitivity of debt budgetary expenditure to 1% interest, exchange rate and inflation shocks.***

Indexer	2023		2024		2025	
	BRL million	% GDP	BRL million	% GDP	BRL million	% GDP
Inflation	2,951	0.028	3,580	0.032	2,714	0.023
Interest	5,040	0.047	4,070	0.036	4,157	0.035
FX	266	0.003	435	0.004	516	0.004

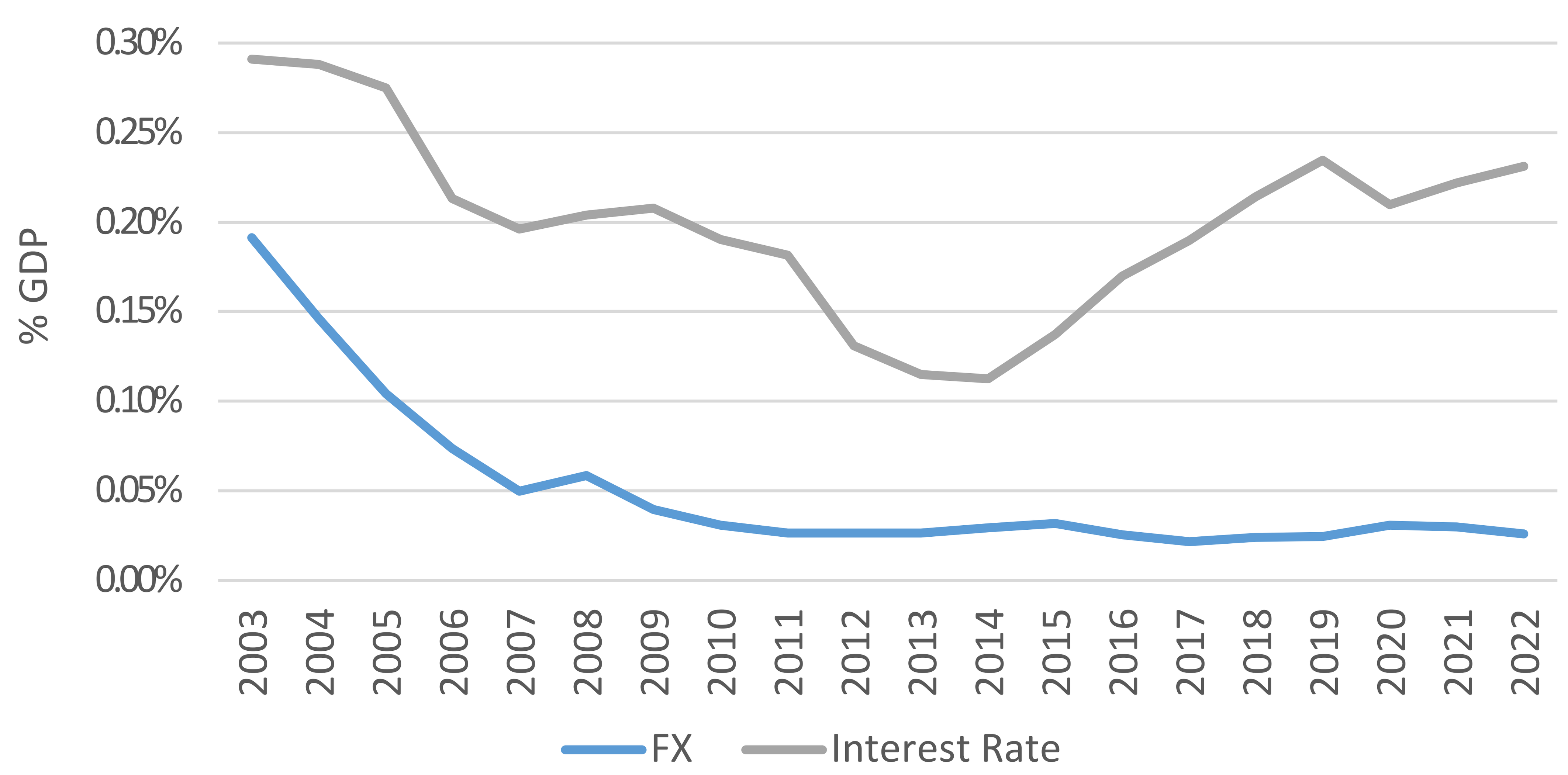
Sour*ce: National Treasury*

The impact of shocks on the outstanding debt is more intense, particularly for changes in interest and exchange rate. Figure 11 shows the FPD-to-GDP sensitivity to changes of 1 percentage point in interest rates and 1% exchange-rate variation[6]. Besides estimating the outstanding debt impact, the analysis also shows how the debt-to-GDP ratio would change in the present, in response to the same shocks, if the debt composition were the same as seen in previous years. It can be inferred that the current composition entails interest-rate risk similar to that seen with the profile verified in 2005. The impact of an interest-rate shock on the outstanding debt is smaller in years when the share of LFT in the FPD was smaller, especially in the period from 2010 to 2014, reversing the trend from 2015 onwards. The exchange-rate risk has remained stable since approximately 2011, since the foreign-currency denominated debt became less prevalent in the FPD. [7]

[6] This shock was not applied to the remunerated price indices portions of the FPD outstanding, since it is an assessment of the impact of real shocks (in particular, as it uses the ratio between FPD and GDP as a reference). In addition, although the public debt may be sensitive to changes in inflation, in nominal terms, government revenues tend to be positively correlated with the inflation rate, which reduces the relevance of this risk factor, since there is a hedge share of price index-adjusted debt, which is captured indirectly by analyzing debt as a proportion of GDP..

[7] The risk associated with exchange rate variation is under control, as a result of the maintenance of levels below 5% of the share of the public debt pegged to foreign currencies since 2011, which adheres to the debt structure proposed by the benchmark portfolio. In addition, the Public Sector has US$ 324.7 billion in international reserves as of December 2022, which represent a hedge for the exchange rate exposure of public debt..

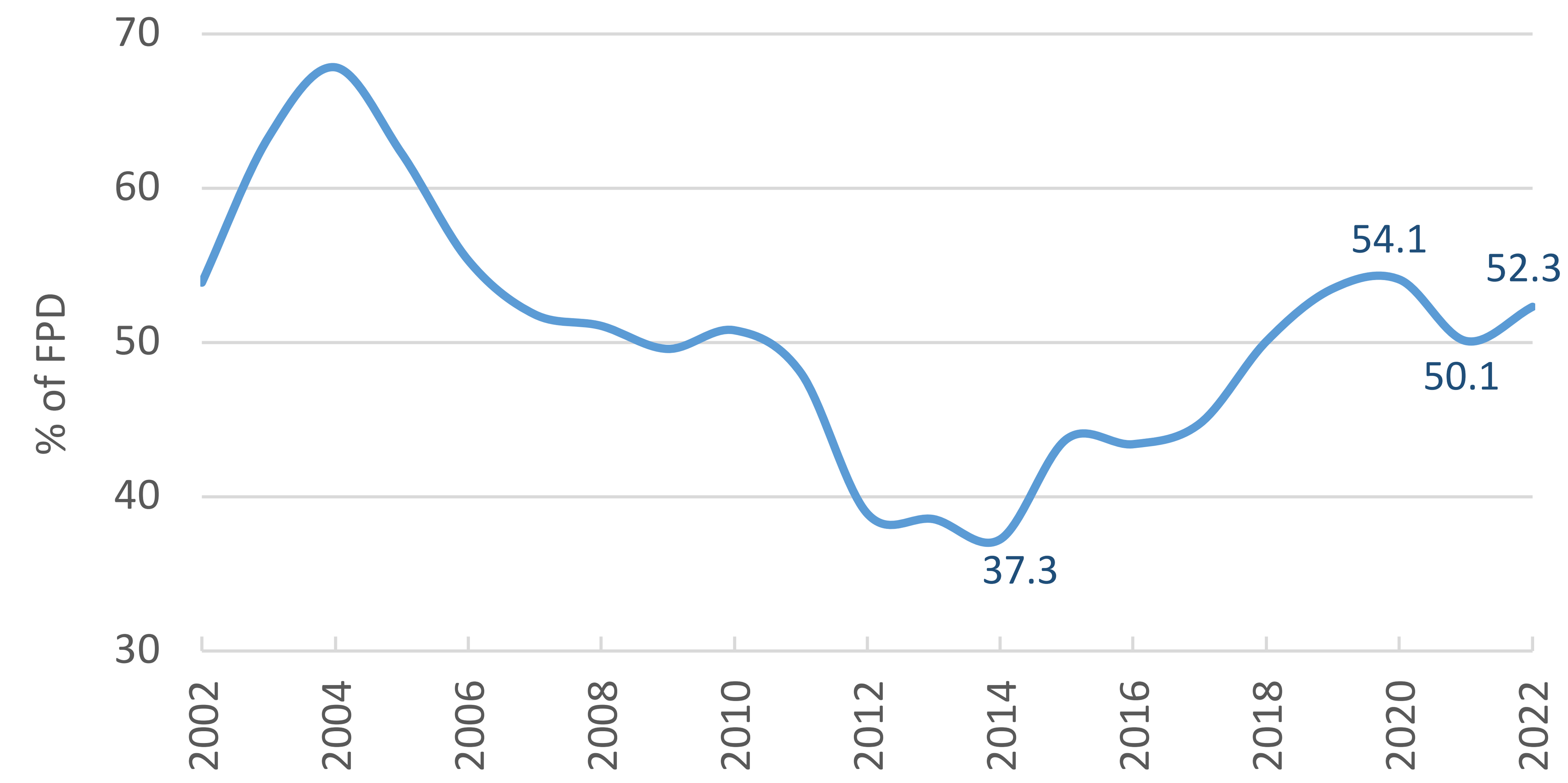
*Figure 11 – **Federal Det-to-GDP sensitivity to interest and exchange-rate shocks***



***Note:** The analysis applies 1 percentage point shocks. in interest rates and 1% variation in exchange rate. This is a counterfactual analysis, in which the shock is always applied to the current debt-to-GDP ratio (as of December 2022), but varying the composition of the FPD according to historical data.*
***Source**: National Treasury*

In a broader analysis, the interest-rate risk falls on two dimensions: (a) FPD maturing in 12 months, whose cost will be necessarily redefined upon its refinancing; and (b) FPD indexed to floating-rate interest maturing beyond 12 months. The sum of these two components results in the re-fixing risk indicator. This metric combines the effects of composition and maturity profile. This re-fixing rate increased from 50.1% at the end of the previous year to 52.3% at the end of 2022 (Figure 12). From this perspective, replacing LFT with bonds with very short-term fixed rates would not reduce FPD interest rate risk.

*Figure 12 – **12-month re-fixing rate (% of total FPD)***



***Source**: National Treasury*

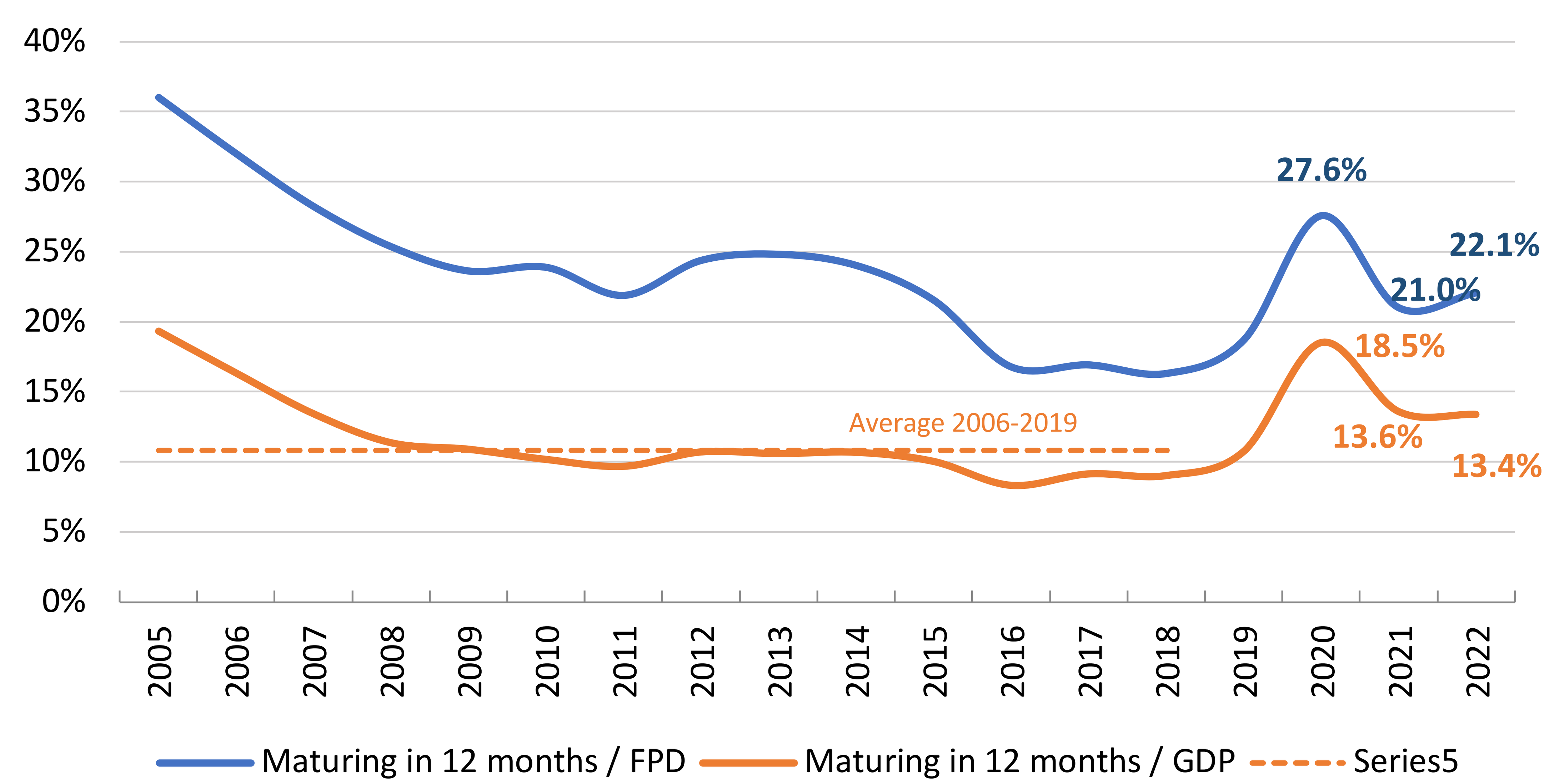
3.2.2 Maturity Structure and Refinancing Risk

The analysis of the debt maturity structure allows the monitoring of the refinancing risk. The refinancing risk refers to the possibility that the National Treasury, when refinancing its maturing debt, may encounter adverse financial conditions and higher issuing costs, or, at the limit, may not be able to raise enough funds to honor its payments.

The main indicators of FPD refinancing risk are the percentage of debt maturing in 12 months, which reflects the short-term debt concentration, and the average maturity of the outstanding debt, which considers the average time remaining for debt payments. The issuance strategy in 2022 kept refinancing risks close to stability throughout the year.

The percentage of debt maturing in 12 months of the FPD ended the year at 22.1%, compared to 21.0% of FPD in the previous year. On the other hand, considering as a share of the GDP, the debt maturing in 12 months fell from 14.1% in 2021 to 13.4% in 2022. Despite the downward trend of the last two years, the level of debt maturing in 12 months as a share of GDP is still above the historical average recorded between 2006 and 2019, of 10.8%, as shown in Figure 13. This reflects the increase in the debt-to-GDP ratio over the last few years.

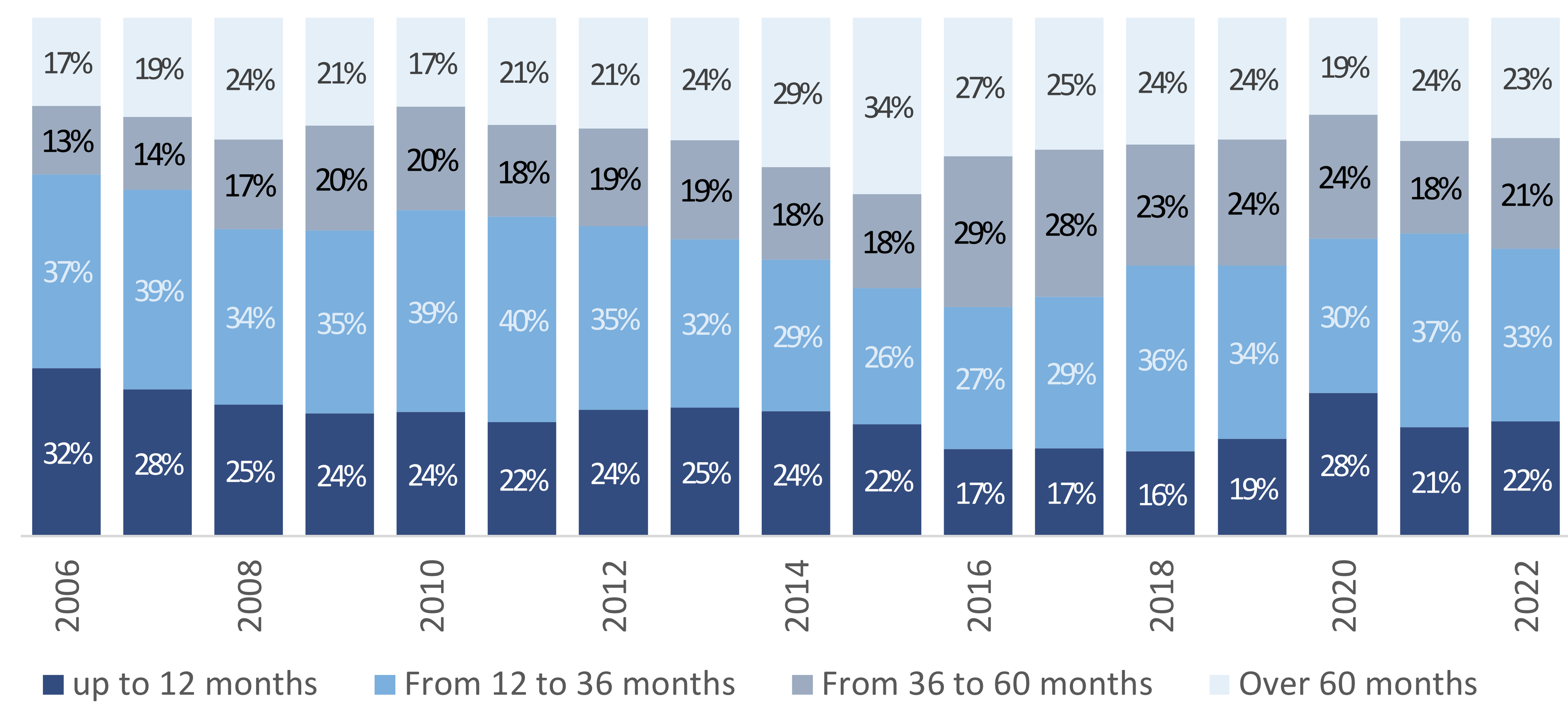
*Figure **13 – Debt maturing 12 months- as part of total FPD and of GDP***



***Sour**ce: National Treasury*

Figure 14 breaks down the FPD in terms of maturities, with a predominance of bonds maturing between 12 and 36 months. The reduction of this bracket was interrupted in 2020, when there was an increase in the issuance of short-term fixed-rate bonds. In 2021 and 2022, the share of bonds with maturities of up to 12 months returned to levels seen in 2015, but remained higher than the average seen between 2016 to 2019, which was the period with the lowest share. Even though the short-term participation became more favorable in the last 2 years, there is still a concentration of 55% of bonds maturing within 3 years. This highlights the need of lengthen the maturity profile of FPD to 2015 levels, when the composition presented its best profile, with a predominance of bonds with longer maturities.

*Figure **14 – Breakdown of FPD by maturity.***

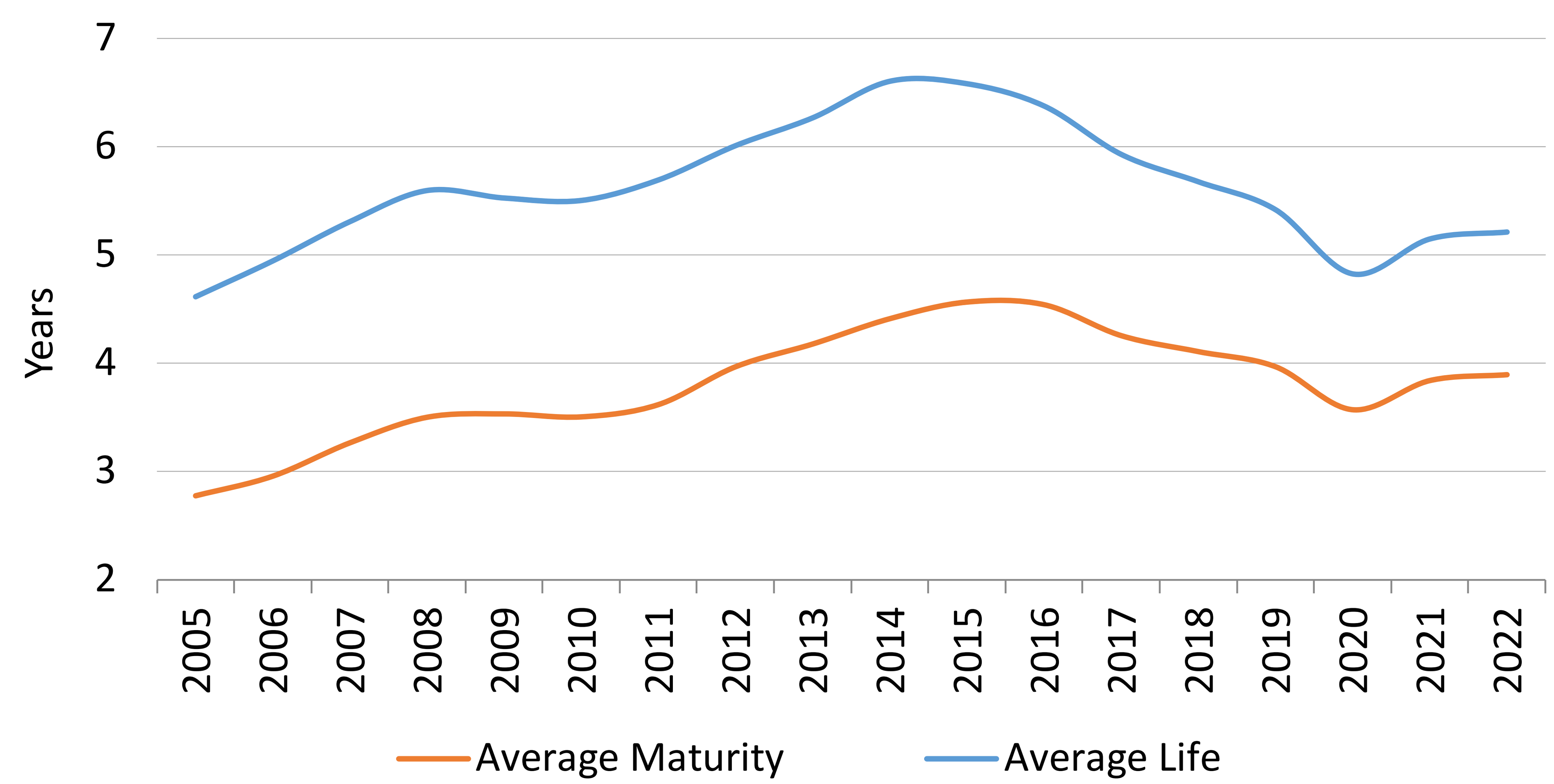


***Sour**ce: National Treasury.*

The average maturity of the FPD, in turn, increased from 3.8 years in 2021 to 3.9 years in 2022. Although the issuance of LFT contributes to longer maturity compared to shorter fixed-rate bonds, its average maturity is still shorter than the long-term benchmark for FPD. Hence, the increase in the average maturity should prioritize the issuance of bonds with longer maturities, preferably over 5 years (Figure 15).[8]

[8] The figure compares the average maturity indicator with the average life indicator. The average maturity represents the average time remaining for redemptions, which are weighted by the present values of principal and interest flows, and the percentage maturing in 12 months indicates the concentration of short-term bonds maturities. The average life indicator does not consider intermediate interest coupon payments or the present value of principal flows. Therefore, it is considered more appropriate for Public Debt statistics in Brazil to use the average maturity indicator as the main reference measure for the maturity structure. For more information about the average maturity methodology, see Public Debt: Brazilian Experience (2009) in www.tesourotransparente.gov.br/publicacoes.

*Figure **15** – **FPD Average Maturity and Average Life***

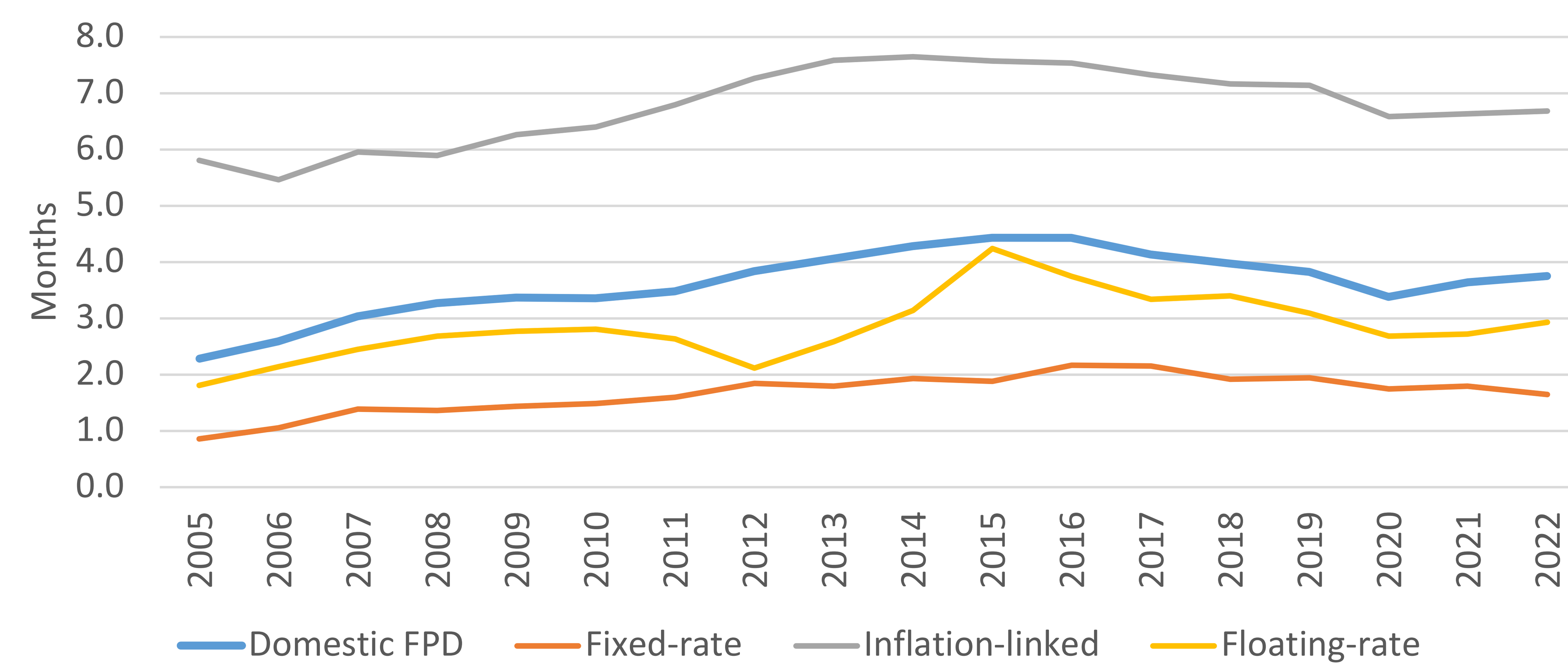


***Sour**ce: National Treasury*

The increase in average maturities for the FPD (Figure 15) and the DFPD (Figure 16) in 2022 is primarily due to longer maturities of floating-rate and inflation-linked bonds. Furthermore, fixed-rate issuances were affected by both having a lower maturity and a lower participation in the FPD, since as a rule these bonds have shorter maturities.

In short, the recent improvement in the maturity structure was made possible by reducing the supply of short-term bonds throughout the year, especially 6- and 2-month LTN and short-term LFT. One of the main factors that made it possible to improve the maturity structure of the FPD was the robustness of the liquidity reserve, which was achieved through the deliberate choice of issuing longer bonds.

*Figure **16 – DFPD Average Maturity by Indexer***



***Sour**ce: National Treasury*

A sustainable lengthening of the debt maturity requires, however, a structural change in the demand for government bonds, one that could favor for NTN-F, for example, whose main holders are non-resident investors, and NTN-B with maturities above 10 years, mostly demanded by pension funds.

3.3 Public Debt Cost

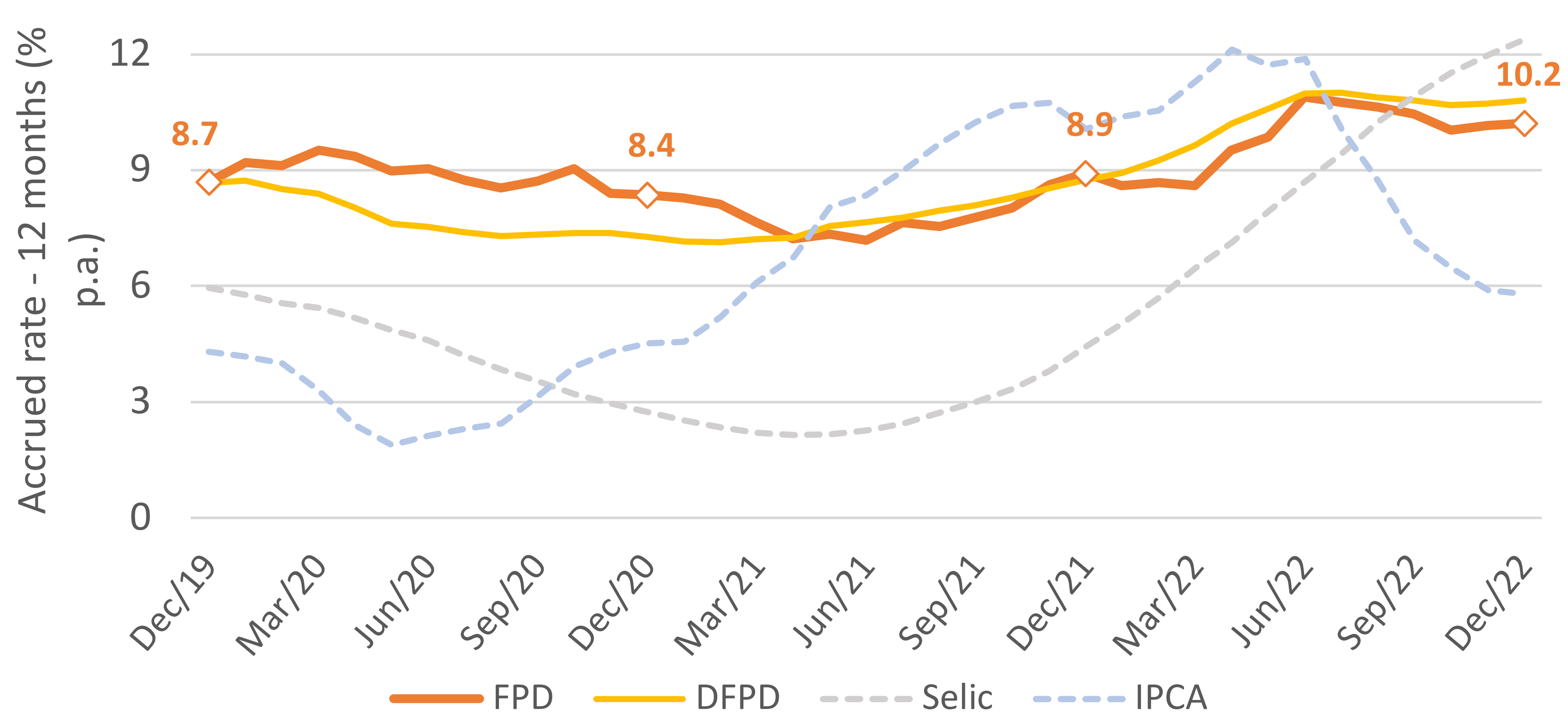
Average debt cost indicators increased throughout 2022, following the movement of the Selic interest rate and its effects on the domestic yield curve. In Figure 17, after reaching the lowest value in the historical[9] series in February 2021 (7.15% per year), the average accumulated cost over 12 months of the DFPD outstanding began to rise again, reaching 10.8% per year at the end of 2022. Nonetheless, this trajectory was not linear, having accelerated until June, but stabilizing thereafter, in response to the reduction in the inflation rate in the second semeste.

The increase in the 12-month average cost followed the Selic rate rise, however, with lower volatility. In fact, the average FPD cost has remained more stable in relation to the behavior of public debt indexers over the last 3 years,

[9] The monthly historical series begins in December 2006 and is available in the Monthly Debt Report.

given the diversified composition of the FPD portfolio. This allowed to softens the impacts of the basic interest rate. Therefore, the accumulated Selic rate in 2022 was 12.38% per year, while the average cost of DFPD was 10.8% per year. In turn, the average FPD cost was 10.2% per year in the same period, lower than the DFPD indicator due to the favorable exchange rate effect on the external debt (Figure 17).

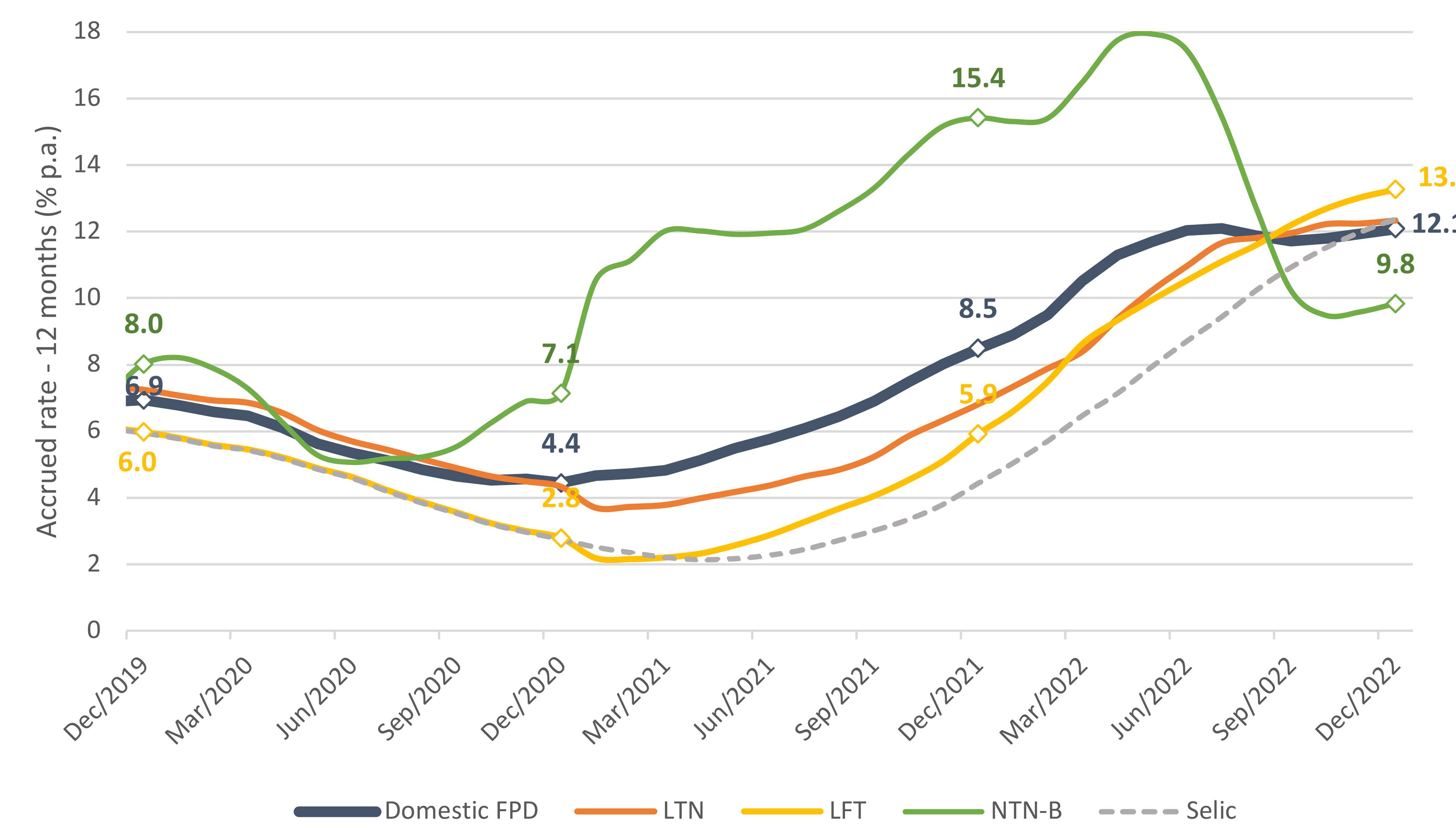
*Figure **17** – **Average cost of FPD, DFPD, and Selic rate (accumulated in 12 months, % p.a.)***



***Sour**ce: National Treasury*

In turn, the average cost of issuance[10] of DFPD also increased throughout 2022, rising from 8.5% per year in 2021 to 12.1% in December 2022 (Figure 18). This indicator reflects the most recent financing conditions, when weighting only the issuances carried out in the last 12 months and, thus, tends to react more quickly to changes in the Selic interest rate in the short term.

*Figure **18 – DFPD average issuance cost by indexer (accumulated in 12 months, % p.a.)***



Source: National Treasury

The increase in debt cost indicators in 2022 demonstrates the FPD's sensitivity to fluctuations in short-term interest rates, with accrued interest being its main variation factor (Table 5 in Section 3.1). The long-term FPD risk profile would be improved by market conditions that allow for an increase in the share of long-term fixed-rate and price inflation-linked bonds, which would reduce the impact of changes in interest rates on the FPD cost.

[10] *The average cost of issuance in a DFPD public offering is an indicator that reflects the internal rate of return – IRR of National Treasury bonds in the domestic market, plus the average variation of their indexes, considering only the placement of bonds in public offerings (auctions and Tesouro Direct retail program) in the last 12 months.*

In September 2022, the Treasury published in Portuguese the hotsite "Dinâmica da Dívida" (https://tesouro.github.io/divida/) , which visually illustrates the main factors that explain the evolution of the Public Debt for each year. The objective of the hotsite is to communicate to a broader audience the concepts and information related to public debt management and to improve the visibility of debt dynamics.

3.4 Investor Base

One of the guidelines behind the elaboration of FPD financing strategies and that contributes to a more efficient FPD management is the expansion and diversification of the investor base. The existence of different risk profiles and investment horizons minimizes the effects of the behavior of a given group on government bond prices and mitigates debt risks to the extent that it contributes to increasing the liquidity of securities on the secondary market and reducing their volatility.

The National Treasury classifies investors into six main groups:

- Financial institutions: includes the portfolio of domestic and foreign commercial banks, domestic and foreign investment banks, and brokerage houses and distributors. It also includes state-owned banks and the BNDES. The financial institutions investments in investment funds are also linked to this category.

- Funds: includes investment funds governed by CVM Instruction 555, of 12/17/2014, and other funds. Exceptions are investments by banks, pension plan entities, non-resident investors, government, and insurance companies, which are allocated to their respective categories.

- Pension Funds: includes investment funds and own portfolio of open and closed pension funds and RPPS.

- Non-residents: includes non-resident client accounts created by means of Circular Letter no. 3,278, of June 18, 2007. Non-resident investors are considered to be individuals or legal entities and funds or other collective investment entities with residence, head office, or domicile abroad. This includes securities held by non-residents through investment funds.

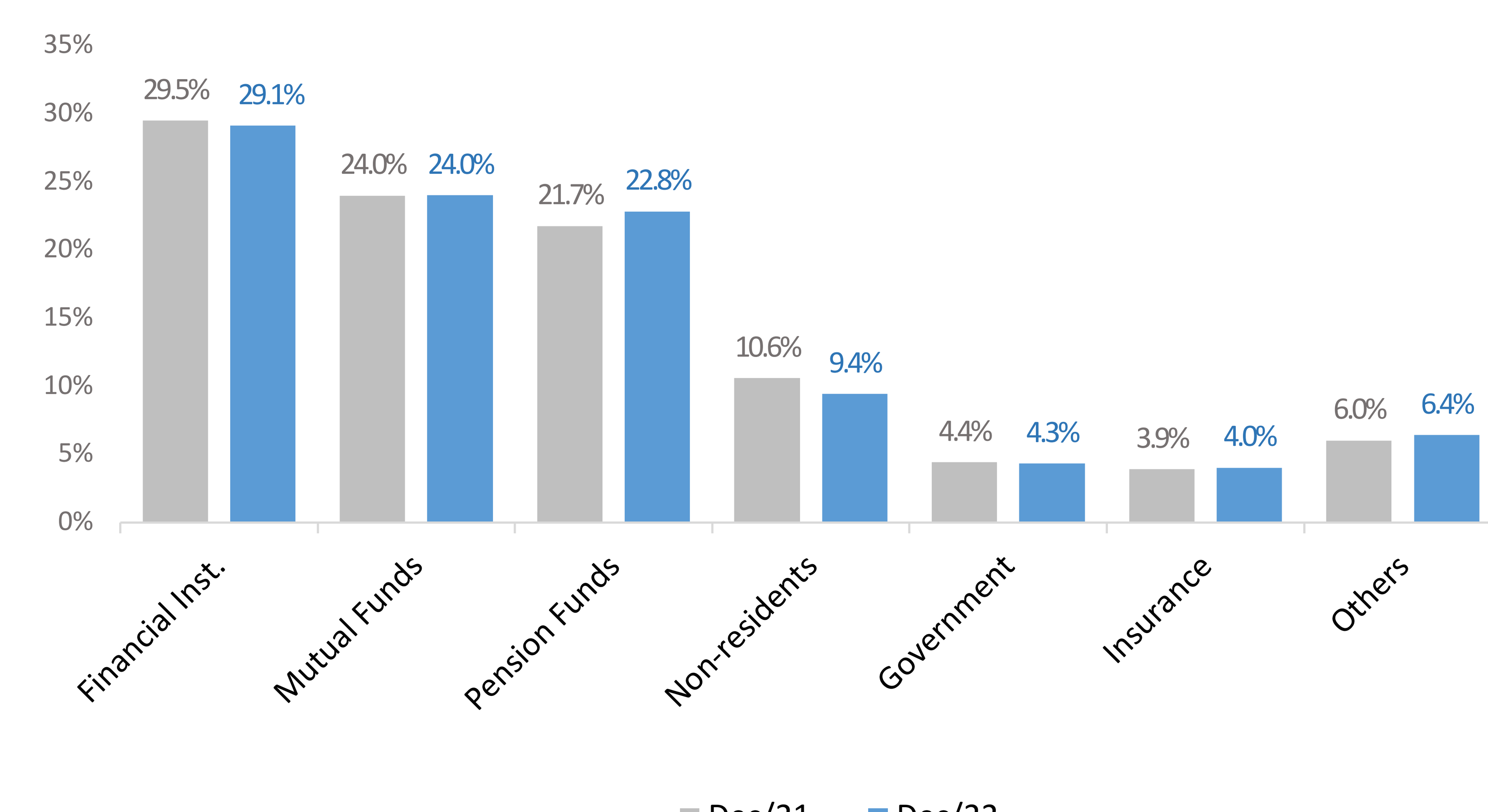
- Government: includes funds and resources managed by the Federal Government such as FAT, FGTS, extra-market funds, sovereign fund, and guarantee funds.

- Insurance companies: besides their own, also includes reinsurance companies.

- Others: includes resident individual client accounts, including thoso of the retail program, and corporate own portfolio (proprietary account) and others.

In 2022, Financial Institutions remained as the main group of holders, ending the year with a 29.5% share. Next came the Funds and Pension Funds groups, with 24.0% and 22.8%, respectively. It is noteworthy that the Financial Institutions group has remained the largest holder of debt since 2020. Funds and Social Security have maintained a close proportion in the last 5 years, varying between 22% and 27% of the total composition. In this way, the diversity of the base of holders is maintained, as detailed in Figure 19.

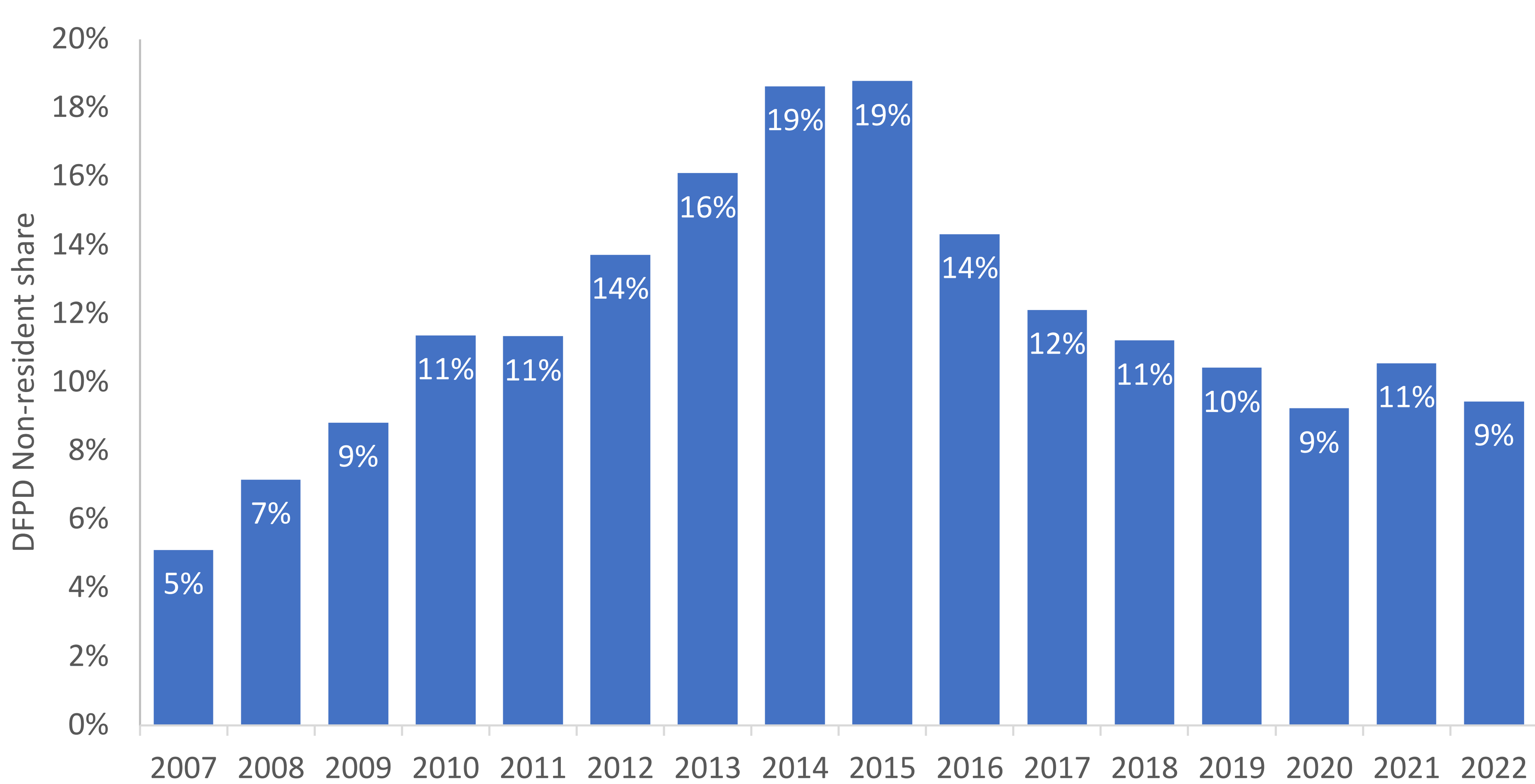
*Figure **19- Evolução da Base de Detentores da DPMFi (% da DPMFi)***



***Sour**ce: National Treasury and Selic*

Regarding the group of non-residents, it is worth noting that its participation in DFPD has been gradually reduced since 2015, as a result of Brazil's loss of investment grade, and has been hovering near 10% since 2019, as illustrated in Figure 20. The DFPD outstanding held by the group has decreased from R$ 565.0 billion in 2021 to R$ 533.5 billion in 2022, with a decrease in relative participation from 10.6% to 9.4%.

Figure 20 – ***Evolution in the participation of DFPD by non-residents (%)***

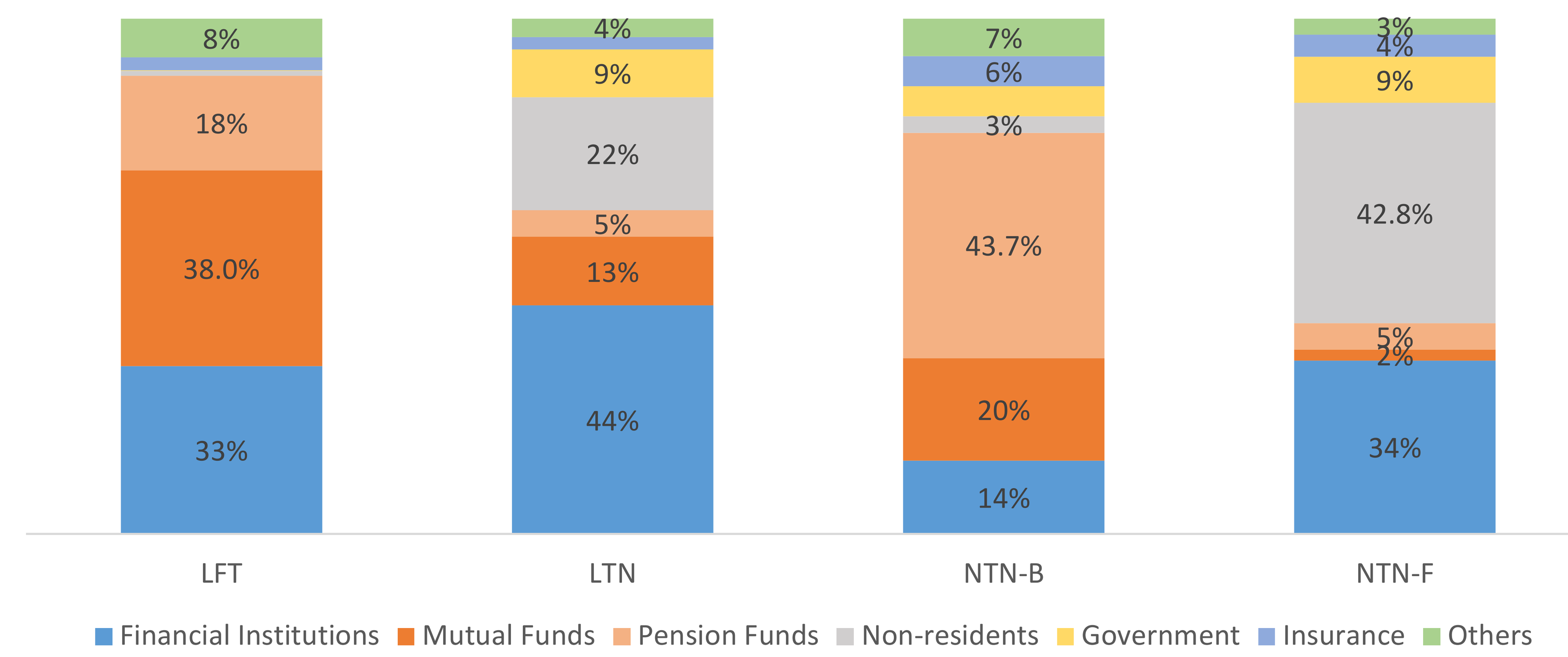


Sour*ce: National Treasury, Central Bank and CVM*

In relation to the nominal variation in the volume of government bonds in the portfolio of the other groups of holders in 2022, the Pension Funds and Investment Funds were the groups that presented the most significant positive variations, with BRL 103.8 billion and BRL 79.6 billion, respectively. Financial Institutions and Insurance Companies, on the other hand, increased their outstanding by BRL 10.0 billion and BRL 61 billion, respectively.

Figure 21 shows the participation of holders by security, with the following highlights: 43.7% of the total NTN-B, on the market, are held by the Pension Fund group, 42.8% of the NTN-F are held by non-residents, 44.3% of the LTN are in the portfolio of financial institutions and 38.0% of the LFT outstanding is held by Investment Funds.

Figure 21 ***– Participation of holders of DFPD by security – December 2022 (%)***



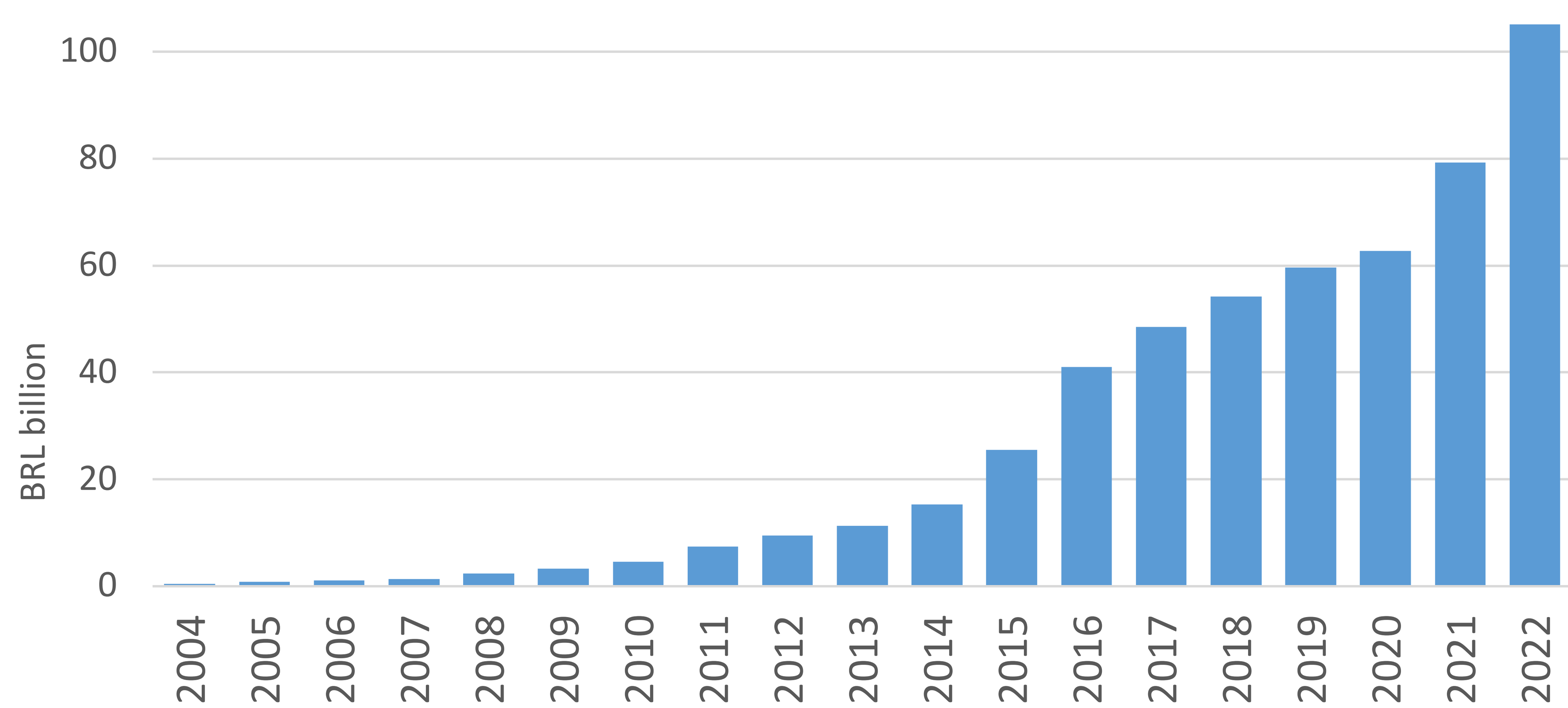
Sour*ce: National Treasury, BCB and CVM*

3.5 Tesouro Direto (Retail Program)

3.5.1. Tesouro Direto - the retail market in 2022

In 2022, the Tesouro Direto, the retail program for government bonds, reached BRL 105.1 billion in outstanding (Figure 22), which represented an increase of 32.7% compared to 2021. Currently, the program corresponds to 1.8% of FPD. Inflation-linked bonds ("Tesouro IPCA+" and "IPCA+ com juros semestrais") still hold the largest share of the retail outstanding, with 51.5%. However, the Selic Treasury (indexed by Selic interest rate) was the best-selling, with 57.5% of the total, surpassing its performance from last year when it was also the best-selling but to a lesser extent (34.7%).

*Figure 22 – **Evolution of the Tesouro Direto outstanding – BRL billion***



***Sour**ce: National Treasury*

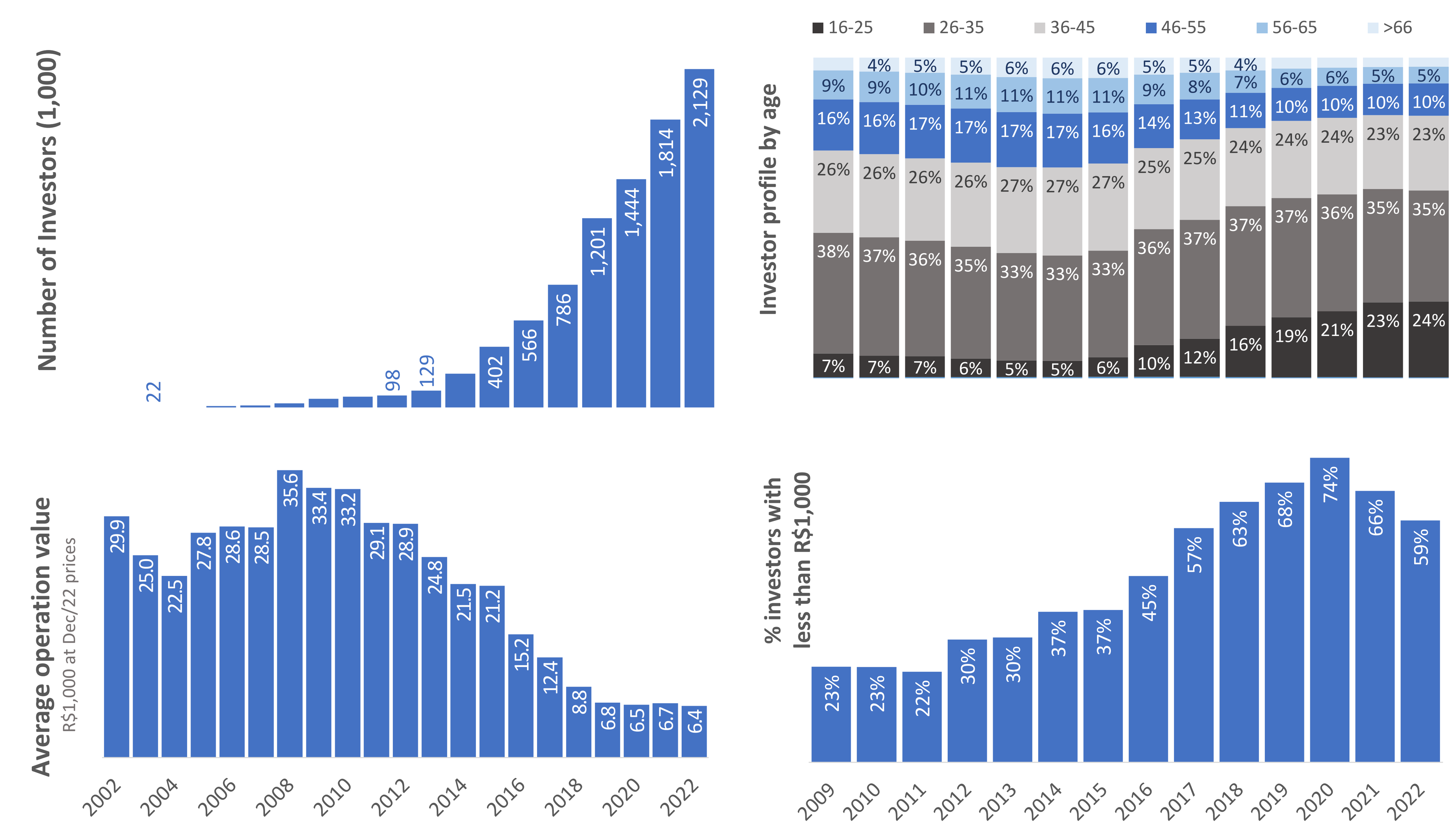
As for maturities, there was an increase in demand for short- and medium--term bonds (1 to 5 years) compared to 2021. In 2022, sales for these bonds were BRL 29.0 billion, up from BRL 16.6 billion in 2021 Retail outstanding is concentrated in bonds maturing from 1 to 5 years (65.7%), similar to the previous year (64.8%). However, the increase in the share of bonds in one year stands out: 5.8% in 2022 compared to 1.0% in 2021, mostly due to the significant amount of LTN and LFT maturing in the first quarter of 2022.

3.5.2. Tesouro Direto - 20 years of the retail market

The retail program celebrated 20 years in 2022. The program is intended for the sale of government bonds to individuals and provides an investment alternative to small savers, while also contributing to the financial education of society.

In 2022, the program reached the mark of 2.1 million investors. It was a long way to reach that number of people. It took twelve years to reach 100,000 active investors. Since then, the program has added at least 100,000 new investors each year, with a highlight in 2019 when 400,000 new investors joined the program. From 2014 to 2022, there was an average increase of 223.5 thousand active investors per year. Figure 23 shows this evolution of active investors and other relevant indicators that describe the retail program performance.

Figure 23-Evolution of the Tesouro Direto since its inception



***Sour**ce: National Treasury*

Tesouro Direto investors are typically represented in 26 to 35 age bracket, with participation usually above 30% since start of the program. However, the 16 to 25 age group has been showing a significant gain. Until 2015, this group represented only around 5% of investors. Since then, it has grown sharply each year, reaching 24% in 2022.

The behavior of investors also changed during this period. Until 2012, sales operations below BRL 1,000 represented on average 20% of the total. This proportion grew constantly until 2020, when it peaked at 67%. In 2022, around 61% of all operations were up to BRL 1,000.

Following this trend, the average sales operation has been falling over time. The average value per operation until 2014, adjusted by CPI to December 2022, surpassed BRL 21,000. Since then, this amount has been decreased to around BRL 6,300 in 2022.

3.5.1. Three innovations for the 20-year celebration

In celebration of its 20th anniversary, Tesouro Direto introduced three major innovations in 2022 with the goal of improving the investor experience. The first innovation is a new simplified registration process to participate in the program, which was launched in early December. Citizens who are not yet investors, or those who wish to register with a new financial institution, can now use their registration on the GOV.BR portal to join the Program. After validating the personal identification, the investor just needs to choose one of the partner financial institutions to start investing. The process has now become more agile and brought greater convenience to people.

The second innovation is the possibility to buy bonds using PIX. This is the Brazilian electronic instant payment system, created by the Central Bank, which is currently the most popular form of payment in the country. At this first stage, Pix payment is only available to investors who register using the new simplified registration mentioned above.

The third innovation is the new bond, "Tesouro RendA+", announced at the end of December. This bond has pension-reserve approach and allows the investor to accumulate a balance that, in the future, will provide him with a stream of income for over 20 years, in monthly payments. The product was inspired by the Standard-of-Living-indexed Forward-starting Income-only Securities (SeLFIES[11]), long-term inflation-linked government bonds, with an accumulation period followed by one of income flows at the time of retirement. This bond provides, in a simple and safe way, an opportunity for retirement planning, with a forecast of future income in real terms.

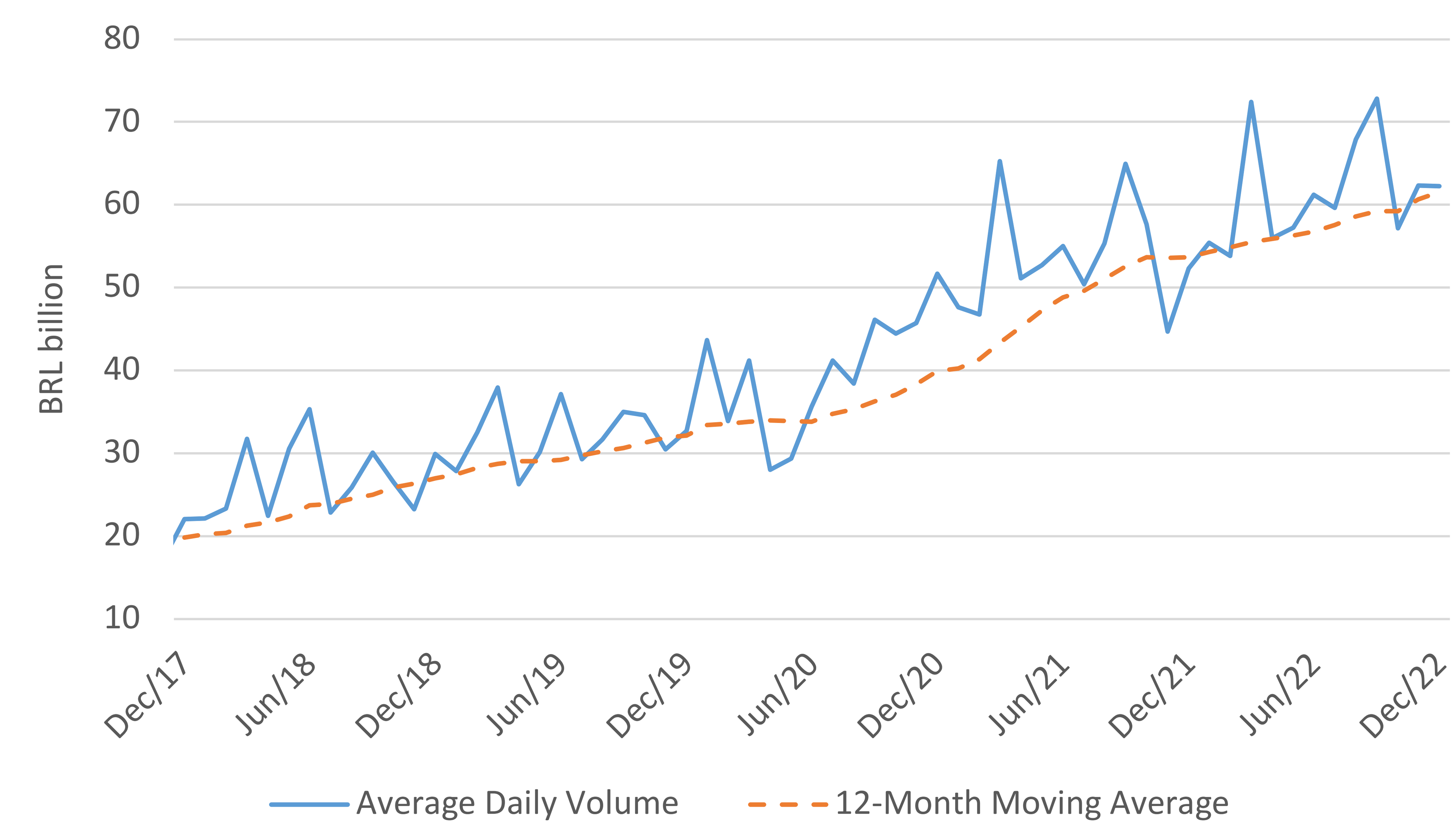
[11] *The SelFIEs (Standard-of-Living indexed, Forward-starting, Income Only Securities), created by Arun Muralidhar and Robert C. Merton, were described in a May 2022 article "SELFIES CAN HELP BRAZIL CREATE A SUPER SUPPLEMENTARY PENSION". These would be a new type of government bond indexed to an indicator that allows the recomposition of income and allows easy retirement planning by the investor*

3.6 Dealer System and Secondary Market

The National Treasury accredits financial institutions with the objective of promoting the development of the primary and secondary bond markets. The National Treasury Ordinance no. 689, of February 11, 2021, which came into effect on August 10th, 2021, is the most recent version of the rules established for dealer institutions. These institutions are required to operate in both primary issuances of federal bonds, with a minimum participation in public offerings, as well as in the secondary market for these securities, through distribution and market formation.

Based on the data in Figure 24, it is possible to observe a growth trend in the volume traded on the secondary market over the last five years, reaching BRL 62.2 billion in December 2022, considering the extra-group concept[12].

*Figure 24 – **Volumes traded in the secondary market (BRL billion)***

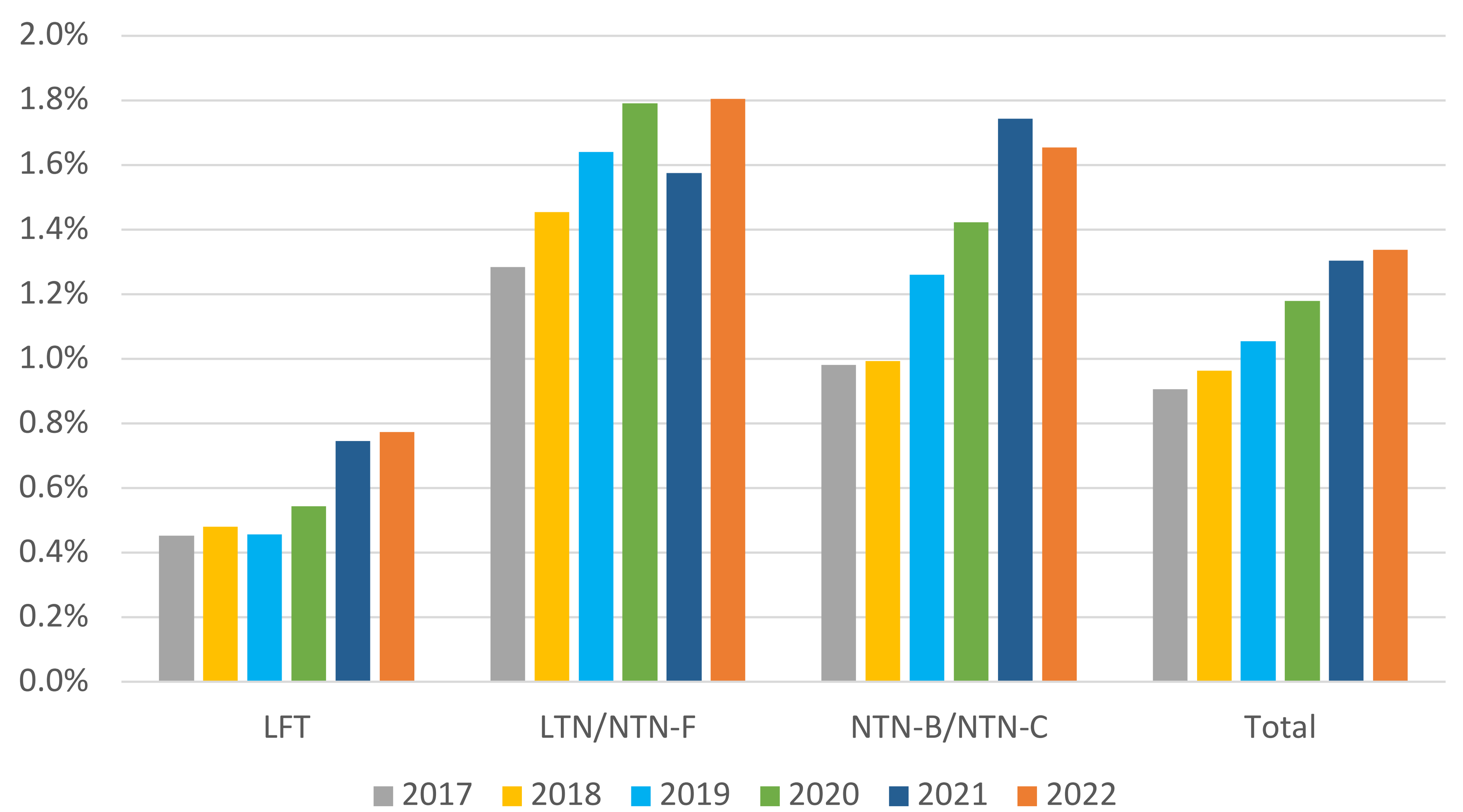


***Source**: National Treasury*

[12] *Trade between institutions from different financial conglomerates*

Additionally, the ratio between the volume traded and the outstanding of bonds (Figure 25), an important liquidity metric, has shown an upward trend over the last five years, corroborating advances in the market. Despite the decrease in percentage terms for the inflation-linked bonds (NTN-B and NTN-C) in the last year, there was an increase in the total traded volume of bonds linked to the inflation index.

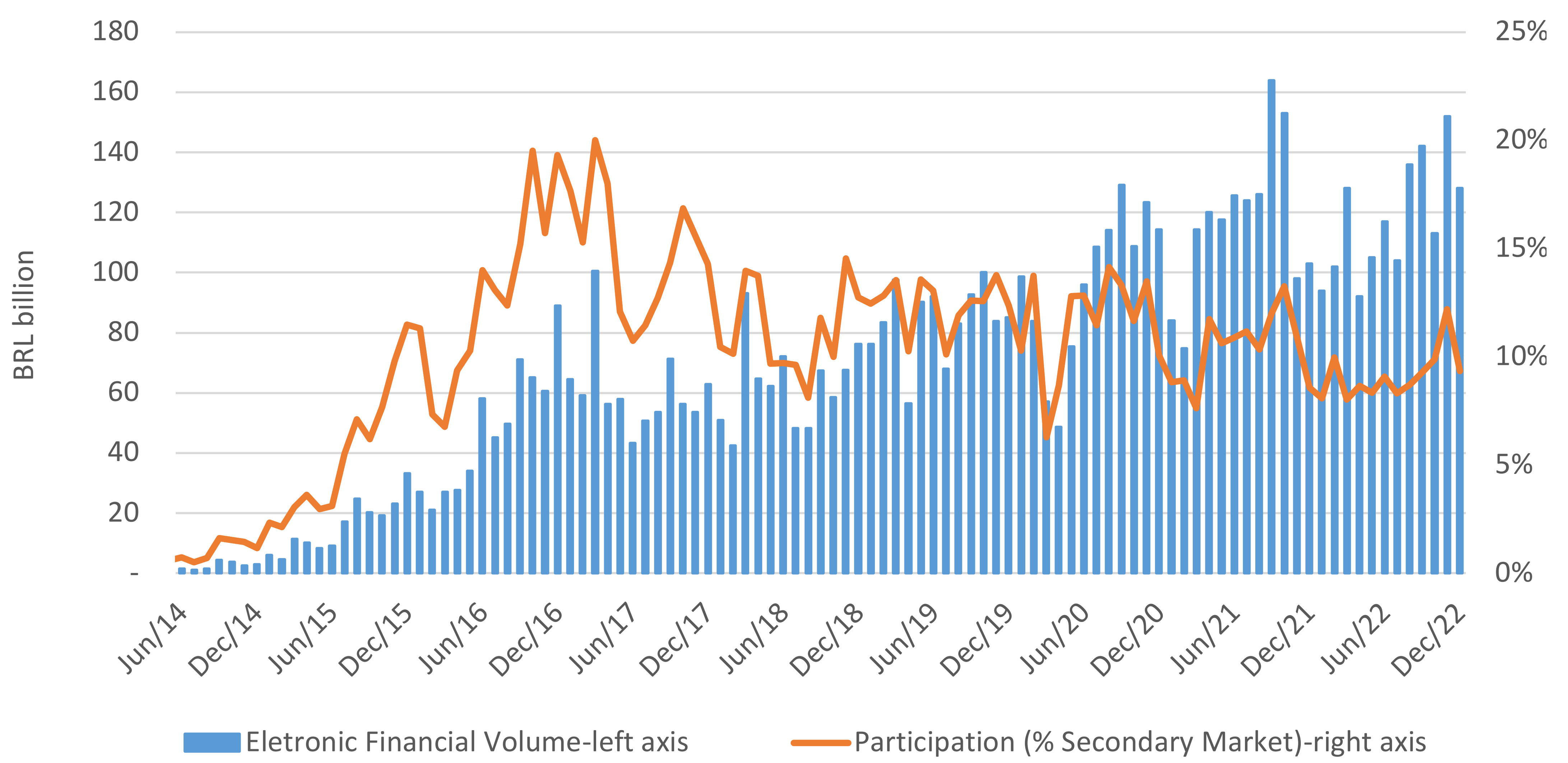
*Figure 25 – **Average Daily Trading Volume versus Outstanding Amount.***



***Sour**ce: National Treasury*

Finally, advances in liquidity and price transparency are also observed in the development of electronic platforms for trading government bonds. This is another segment that has incentives from the National Treasury through its system of dealers. Progress on this front has been significant in recent years, with the monthly volume traded on electronic platforms growing over the last five years, peaking at BRL 164 billion in September 2021 (Figure 26). In 2022, the share of electronic platforms for trading government bonds decreased in relation to 2021, a movement that can be partially explained by the market volatility. The highest trading volume was also reached in November (BRL 152 billion).

*Figure 26 – **ETPs Monthly Volume and Secondary Market Shares***



***Sour**ce: National Treasury*

4 GUARANTEED DEBT

The Federal Government provides guarantees on credit loans to subnational entities (states and municipalities), federal state-owned companies and controlled entities (companies belonging to state government), in order to reduce their credit risk and allow them to borrow at rates lower than would be possible otherwise.

In the context of the National Treasury, the Federal Guarantee System includes the provision of guarantees by the Federal Government, the monitoring of the outstanding balance of guarantees as well as the executed guarantees and counter-guarantees. In this way, the guaranteed debt is a contingent liability of the Federal Government and is included in its budgetary and financial needs. Therefore, its monitoring and evaluation is relevant for the management of the public debt.

Currently, the Federal Government has 869 credit operations guaranteed under the responsibility of the National Treasury. As shown in Table 7, by the end of 2022, the outstanding balance of guarantees granted to credit operations totaled BRL 276.9 billion, of which BRL 105.4 were from domestic operations and BRL 171.5 billion were from foreign operations.

Table 7 ***– Historical Outstanding Guaranteed Debt and Guarantees Executed (BRL billion)***

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Domestic Guarantees	**52.7**	**80.6**	**112.3**	**111.1**	**111.5**	**114.3**	**109.3**	**114.1**	**112.9**	**105.4**
States	39.9	61.9	81.8	81.3	84.7	91.4	90.9	97.3	96.7	90.1
Municipalities	0	1.5	3.5	4	3.9	3.9	4.9	6.9	8.2	9.2
State-Owned Enterprises	11.3	15.8	25.2	24.7	22.5	18.8	13.5	9.8	8	6.1
State-Controlled Entities	1.5	1.4	1.7	1.1	0.4	0.2	0	0	0	0
External Guarantees	**56.1**	**70.2**	**110.6**	**103.8**	**121.8**	**143.9**	**146.6**	**181.9**	**190.5**	**171.5**
States	35.7	47.7	77.8	75.5	91.2	107.7	109.6	135.2	137.4	123.8
Municipalities	5.6	7	10.6	10.7	11.1	13.5	14.6	20	22.4	21.7
State-Owned Enterprises	13.2	13.8	18.4	13.9	14	15.3	14.7	17.2	21.5	18.4
State-Controlled Entities	1.6	1.7	3.8	3.7	5.6	7.5	7.7	9.5	9.2	7.6
Total Guarantees	**108.8**	**150.8**	**222.9**	**214.9**	**233.3**	**258.2**	**255.9**	**296**	**303.4**	**276.9**
Executed Guarantees	**-**	**-**	**-**	**2.4**	**4.1**	**4.8**	**8.4**	**13.3**	**9.0**	**9.8**

Sour*ce: National Treasury.*

In 2022, the Federal Government paid BRL 9.8 billion to honor guarantees provided in credit operations. The executed guarantees referred to defaults in 9 states: BRL 4,0 billion by the State of Rio de Janeiro, BRL 2,0 billion by the State of Minas Gerais, BRL 1.3 billion by the State of Goiás, BRL 886.6 million due by the State of Rio Grande do Sul, BRL 547.9 million by the State of Maranhão, BRL 443.9 by the State of Pernambuco, BRL 352.2million by the State of Piauí, BRL 242.6 by the State of Alagoas, BRL 35.1 by the State of Rio Grande do Norte, besides BRL 32.1 million by the Municipality of Taubaté, in the state of São Paulo.

At present, the states of Rio de Janeiro, Rio Grande do Sul and Goiás have adhered to the Fiscal Recovery Regime (Regime de Recuperação Fiscal – RRF in Portuguese). In these cases, the execution of the states' collaterals has been suspended. Instead, part of this total is refinanced in 360 months, through a restructuring plan (as established by art. 9º-A of Complementary Law no. 159/2017 and art. 23 of Complementary Law no. 178/2021) and the rest is reimbursed to the Federal Government following a staggering of payments according to § 2º of art. 9º of the Complementary Law no. 159/2017.

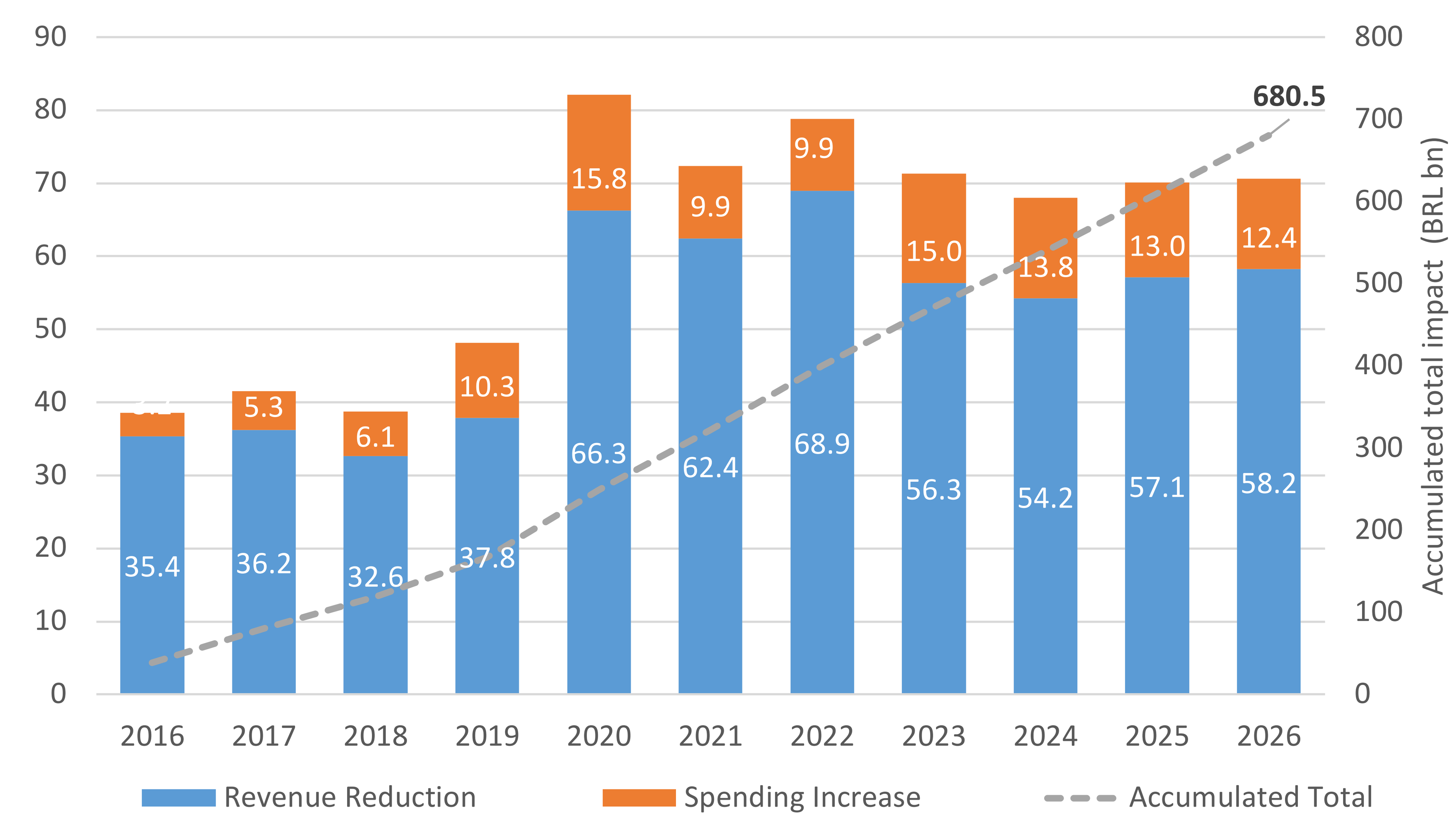
Besides these three states, the Federal Government is also prevented from executing the collateral in the states of Alagoas, Piauí, Maranhão, Pernambuco, and in the Municipality of Taubaté, São Paulo. In this case, this is due to judicial decisions by the Federal Supreme Court (Supremo Tribunal Federal – STF, in Portuguese), related to the deduction from the loss of revenue from the ICMS tax (Imposto sobre Circulação de Mercadores e Prestação de Serviços – ICMS, in Portuguese), as a consequence of the Complementary Law no. 194/2022.

The increase in executed guarantees without corresponding recovery of counter-guarantees ultimately results in an increase in FPD, since these expenses are paid with debt issuance. In this way, the default of some entities has the effect of increasing the Federal Government's financial expenses, burdening society as a whole. In 2022, of the BRL 9.8 billion executed guarantees, only BRL 212.4 million (2,2% of the total executed) were recovered through counter-guarantees. The remaining BRL 9.6 billion impacted directly and immediately the FPD's resources.

In addition to the impact of executed guarantees on the FPD, the Federal Government's income from subnational entities' debt restructuring plan has been falling due to renegotiations with subnational entities, prompted by the Complementary Laws no. 148/2014, no. 156/2016 and no. 178/2021. These laws retroactively altered correction indexes and interest rates, and extended amortization period, culminating in the reduction of the expected financial flow to the Federal Government. In addition to this impact on revenues, the RRF and the court decisions increased the Federal expenses due to the need to honor subnational entities' guarantees, without the possibility of accessing their counter-guarantees.

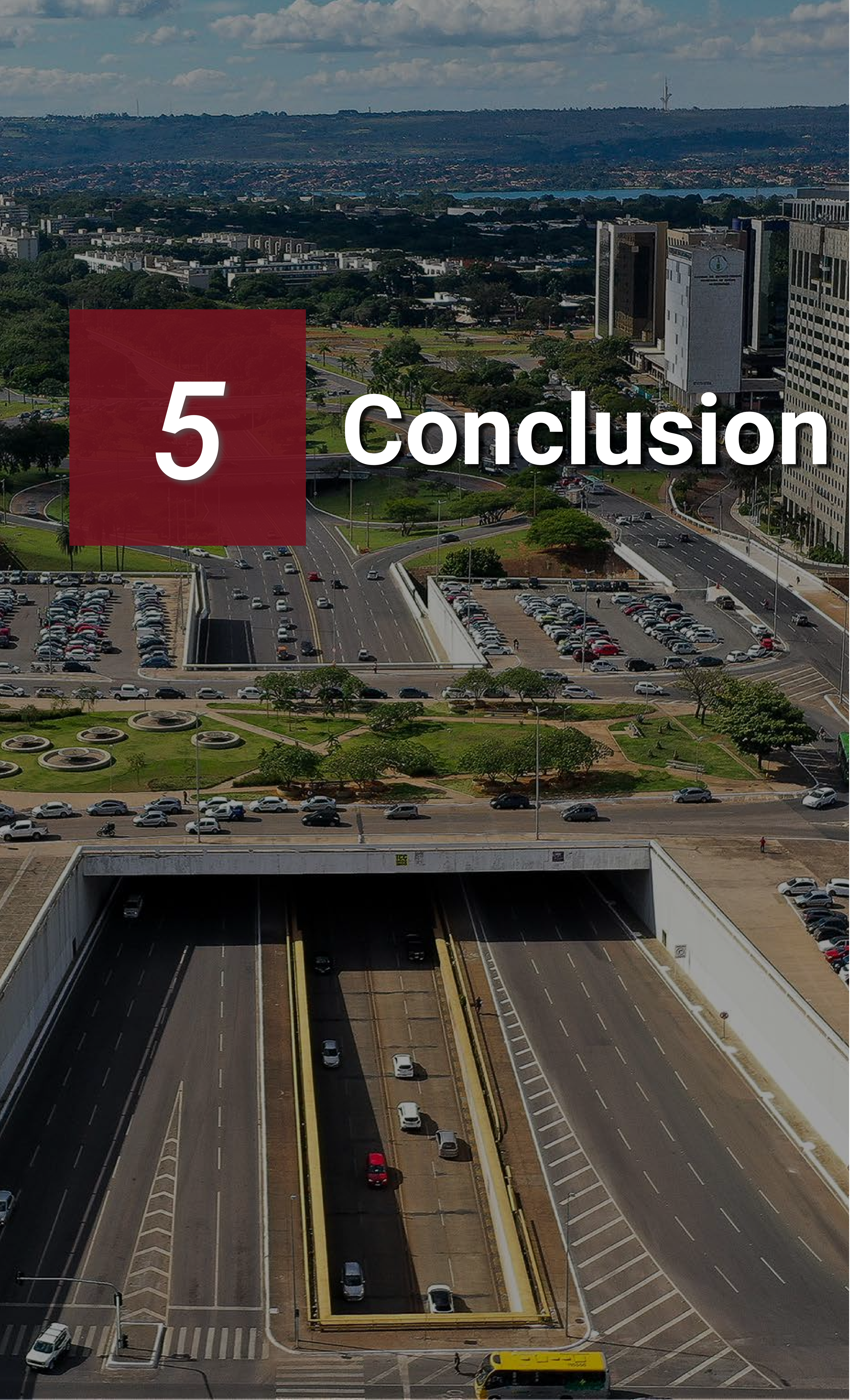
The total impact due to restructuring operations since 2014, including the impact from both revenue reductions and increase in executed guarantees expenses, is shown in Figure 27. Adjusted to December 2022 prices, the total impact in 2022 was BRL 78.8 billion, of which BRL 68.9 billion were from frustrated revenues and BRL 9.9 billion from expenses with executed guarantees. This impact represents an increase of the same proportion in the Federal Government's borrowing requirements over the past year.

Figure 27 – ***Impact of subnational entities' debt restructuring and honored guarantees – BRL billion****



**In constant prices, adjusted by the December 2022 CPI.*
Source*: National Treasury.*

The National Treasury publishes the quarterly Guaranteed Debt Report (GDR), which provides a comprehensive view of this contingent liability. In addition to this report, the following sections in the Treasury's website (in Portuguese) provide more information on this topic. Data from the report are available on a descriptive page, which explains the guarantees granted by the Federal Government in a didactic and innovative way. Finally, there is also a dedicated statistical page which brings detailed data on the guarantees, and a special page on the guarantees honored by the Federal Government.



5 Conclusion

The year of 2022 was marked by high volatility in the domestic and international macroeconomic environment, which influenced the planning and the execution of the Federal Public Debt (FPD) management strategy.

Even though the market conditions in the first semester caused demand for long-term bonds to fall short of expectations at times, the National Treasury continued to issue floating-rate bonds and reduced the issuance of short-term fixed-rate bonds, which benefited the refinancing risk indicators for the FPD.

The maintenance of the liquidity reserve at adequate levels, which benefitted from revenues earmarked for debt services that originated mostly from the Central Bank result, from payments made by BNDES and from the de-linked budgetary funds, permitted the National Treasury to reduce its debt issuance and favor the issuance of bonds of long-term maturity, even at times of high market volatility. In the second semester, the market conditions were more favorable, especially between August and October, and the National Treasury was able to increase its issuance, due to a greater demand for LTN with 48 months maturity and NTN-B with 5 years maturity. This contributed to an improvement in the public debt indicators in this period and for the preservation of the liquidity reserve.

In this way, the results presented in this report were consistent with the expectations laid out in the 2022 Annual Borrowing Plan (ABP) for the indicators of outstanding composition and maturity structure. An exception to this was the indicator of outstanding debt, which ended 2022 below the lower-bound limit, due to less issuance of bonds during periods of high market volatility.

Finally, it is important to note that the preservation of the liquidity reserve in the prudential threshold for 2022, which is an important tool to mitigate refinancing risk, was possible even with an 83% refinancing rate. This was due to the influx of budgetary resources from revenues earmarked for debt services and not to debt issuance, as well as the improvement in the fiscal results of the central government.

For the next few years, the prospect of a reduction in these earmarked budgetary resources, combined with an increase in the borrowing requirements due to expected fiscal deficits, highlights the importance of structural reforms that can establish the necessary conditions of macroeconomic stability for the issuance of long-term bonds. Considering the large volume of FPD maturing in the next few years, this is of the utmost importance.