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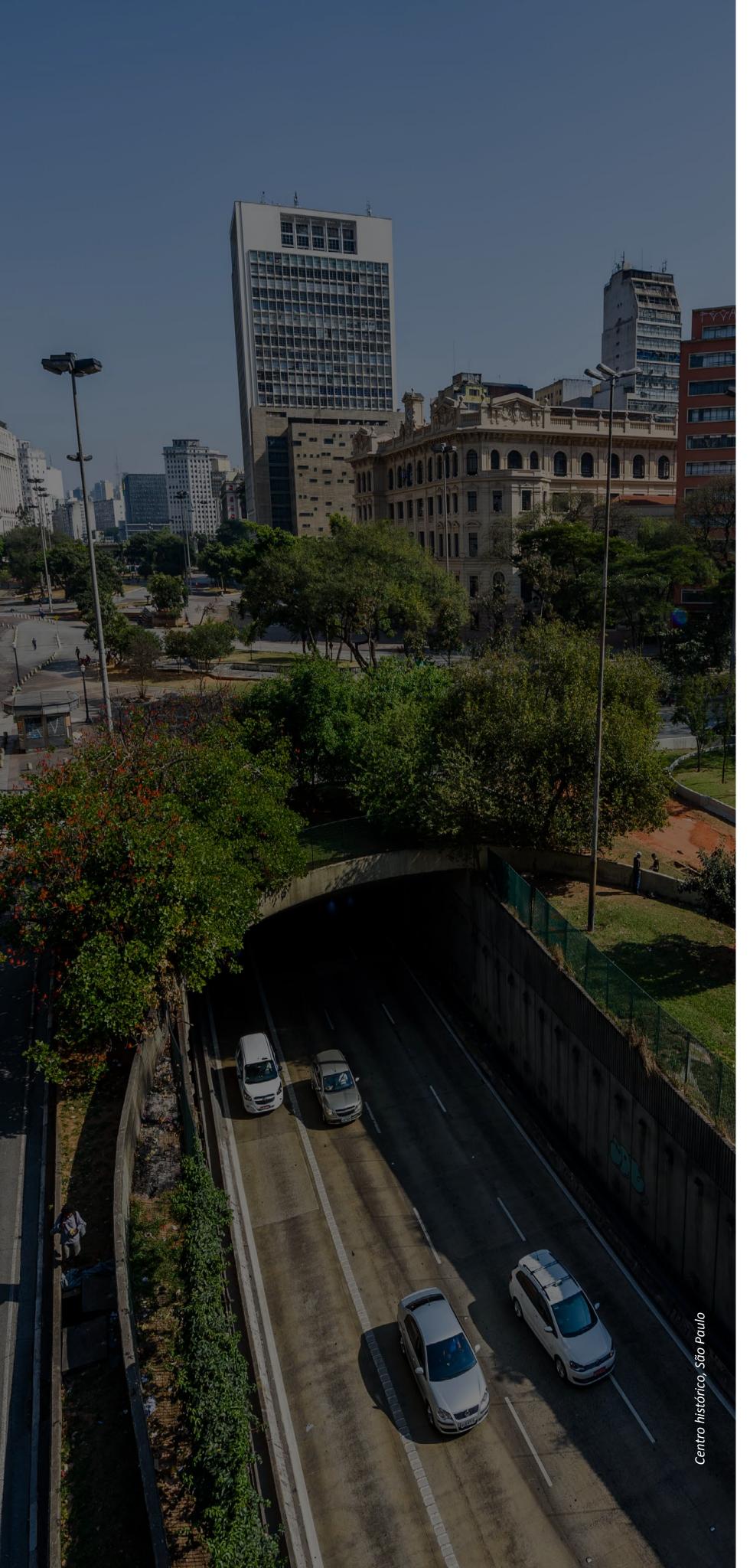
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# Summary

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This edition of the Annual Debt Report (ADR) presents the results of the Federal Public Debt<sup>1</sup> (FPD) for 2021. The document discusses the evolution of the borrowing strategy and the FPD leading indicators considering the guidelines and expectations outlined in the Annual Borrowing Plan (ABP) for the year.

In its 19th edition, ADR is part of the National Treasury's commitment to foster transparency by publishing several reports, data, and projections on public debt. In this sense, in February 2021, the Treasury began to disclosure the public debt liquidity reserve, a relevant instrument for mitigating risks, in its Monthly Debt Report.

Two distinct moments characterized FPD management in 2021. After the publication of the ABP in January, volatility declined significantly in the domestic and international markets throughout the first half of the year, especially when compared to the scenario expected for the year. This reduction allowed the Treasury to offer more bonds with longer maturities, including fixed-rate and inflation-linked bonds than initially planned. As a result, rollover risk declined and debt indicators showed an improvement in composition and maturity structure. With a better issuance profile, in May the Treasury announced a review of the FPD reference limits as initially defined in the 2021 ABP.

In the second half of the year, higher risk aversion in the international scenario and fiscal uncertainties in the domestic one influenced the issuance profile. The share of floating-rate bonds increased, while fixed-rate bonds decreased, especially those with shorter maturity. As a result, fixed-rate bonds and the debt maturing in 12 months ended the year below the ABP forecast, even considering the reference limits reviewed in May. Although below ABP reference limits, these results should be seen as positive, as it translated into a lower rollover risk derived from a lower concentration of short-term debt.

Throughout the year, the National Treasury successfully strengthened the public debt liquidity reserve. Therefore, the Treasury starts 2022 with enough cash to pay the equivalent of about 9 months of domestic debt maturities. In addition, FPD has maintained some important features consolidated in recent years, such as a small share of external debt and a diversified investor base. These elements corroborate the Treasury's ability to adapt to market conditions and manage well the balance of FPD risks.

However, the continuation of improvement that will bring results in terms of the cost-risk ratio and a decline in the level of public debt requires a fiscal consolidation and the progress of structural reforms that foster economic growth and, consequently, creates more favorable macroeconomic conditions for fiscal sustainability.

<sup>&</sup>lt;sup>1</sup> The Federal Public Debt (FPD) corresponds to the sum of the Domestic Federal Public Debt (DFPD) – with the External Federal Public Debt (EFPD), the latter being subdivided into securities and contractual. The statistics presented throughout this document refer exclusively to debt held by the public, not considering the portion held by the Central Bank. Information on this debt is available in the annexes to the FPD Monthly Reports at: www.gov.br/tesouronacional



## 1.1 Macroeconomic context

The first months of 2021 were marked by the second wave of the COVID-19 pandemic, with effects across major economies, including the return of social-distancing restrictions. However, throughout the first half of the year, the deceleration of the pandemic and the progress of vaccination favored the global economic recovery, also relying on the continuation of monetary stimulus measures in major economies and new fiscal stimulus measures in the US.

However, the year was also marked by the gradual reduction of these stimuli since the global economic recovery was followed by inflationary pressure worldwide, causing the main central banks to signal policy shifts for 2021. The FED, for example, despite not having increased the basic interest rate, has started to reduce its bond-buying program. Likewise, central banks in emerging markets, including Brazil, have initiated a contractionary monetary cycle, by raising interest rates.

In Brazil, the first months of the year were also marked by the evolution of the second wave of the COVID-19 pandemic. Vaccination was still underway and new lockdowns were declared in some locations. As of the second quarter, there was a shift to a more positive outlook for the pandemic in Brazil, outlining the progress of vaccination with a drop in the number of new daily cases.

In this context, economic activity had a good performance in the first months of the year and GDP registered a 1.3% growth in the first quarter, even in a period of more intense sanitary crisis. However, the recovery pace was not sustained in the following periods. GDP fell in the 2nd and 3rd quarters. The weaker activity throughout the year resulted in a slow recovery of the labor market, with unemployment rates still high at the end of 2021.

Regarding monetary policy, expectations began to point to inflation above the target in 2021, with successive upward revisions throughout the year. Inflation continued to surprise since the last quarter of 2020, despite the significant idle capacity of economic activity. With several supply shocks, some factors stand out to explain this price dynamic, such as pressure on food prices, fuels, and, especially, electricity tariffs. In turn, these factors were influenced by variables such as the exchange rate devaluation, rising commodity prices, and adverse weather conditions. The increase in service prices was also noteworthy, reflecting the gradual normalization of the sector.

The Monetary Policy Committee (Copom) then began the Selic interest rate hike cycle to contain inflationary pressures. Already in the March meeting, even with the worsening of the pandemic, Copom started to reduce the extraordinary stimulus implemented in 2020. Throughout the year there was also an increase in fiscal risks, which put pressure on the country's risk pre-

mium and the exchange rate. Thus, the balance of risks led to the intensification of the monetary tightening process. By the end of 2021, the benchmark rate (Selic) reached 9.25% per year.

On the fiscal side, given the worsening of the pandemic in the first quarter, it became necessary to return to support measures for employment, income, and credit. In this sense, it was authorized in March the reinstitution of the emergency benefit, through Constitutional Amendment No. 109/2021, which, on the other hand, this greater spending triggered the limit of mandatory expenditures of the federal and local governments, and included the public debt sustainability as a guiding standard for fiscal policy, still to be regulated by a Complementary Law.

In April, Law No. 14143/2021 was enacted, modifying the 2021 Budget Guidelines Law to suspend the fiscal rules applied to the health expenditures to fight the COVID-19 pandemic, as well as those supporting small businesses and the emergency aid. The total extraordinary expenditures referring to these exceptional expenses was BRL 84.5 billion, according to the Primary Revenues and Expenditures Evaluation Report of the 5th bimester of 2021.

At the end of November, the report consolidated the perception that tax collection was a positive surprise compared to expectations, which had a favorable impact on the projections for the primary result<sup>2</sup> and public debt for the year. The expected Central Government primary deficit was BRL 226.2 billion in the first report published in March compared to BRL 95.8 billion in the report for the 5th bimester.

However, throughout the second half of the year, there was an increase in fiscal risks and political uncertainties, with the perception that the medium--term fiscal consolidation framework became even more challenging. The expenditure forecast had to accommodate the expressive growth in judicial sentences for 2022 and the expansion of the income transfer program. Constitutional Amendments No. 113/2021 and No. 114/2021 (originated from Bill

The economic environment characterized by inflation above the target, short-term interest rate hikes, tighter financial conditions, and increased fiscal risks poses an additional challenge to the recovery of economic activity. This context, which became evident in the second half of the year, was influenced by the dynamics of the financial markets, which proved to be volatile, negatively affecting the profile of Treasury issuances when compared to placements made in the first half of the year.

#### The financial market in 2021

In 2021, despite uncertainties such as the pandemic and the central banks' reaction to global inflation, emerging economies faced less volatility when compared to the initial period of the pandemic in 2020. This scenario, especially in the first half of 2021, proved to be more favorable to the National Treasury's auctions than 2020.

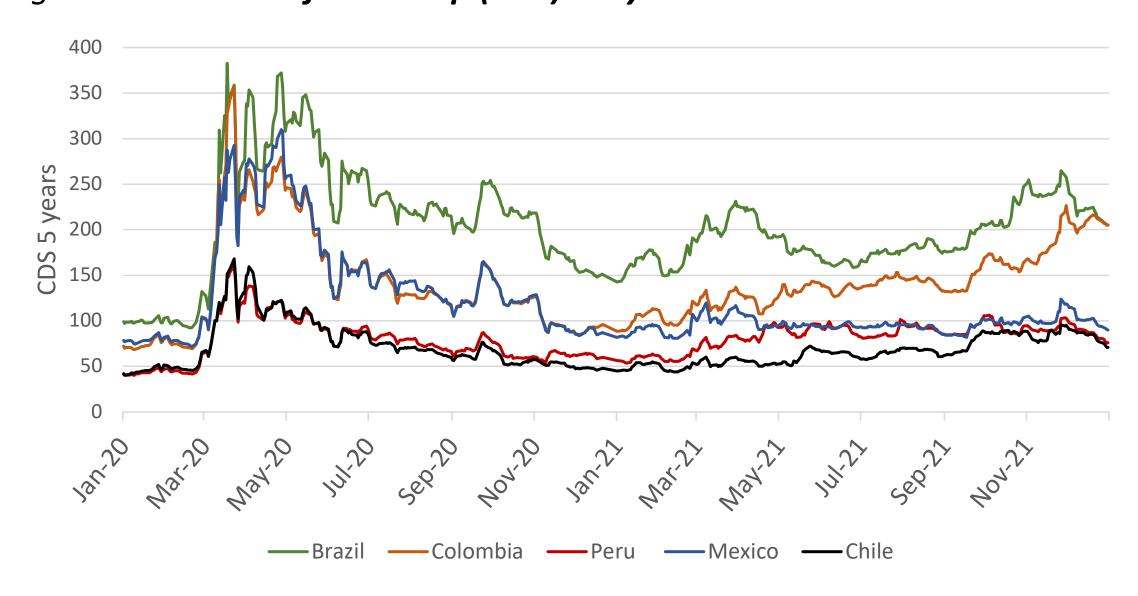
In the second half of 2021, concerns about the fiscal outlook of countries such as Brazil and Colombia accentuated the perception of risk concerning other countries in the region that also suffered from the global uncertainties arising from the pandemic. In that context, market demand for government bonds with longer maturities has decreased, which impacted the profile of issuances throughout the second half of the year. Figure 1 shows the changes in risk perception (5-year CDS<sup>3</sup>) in selected countries of the Latin America and Caribbean region.

No. 23/2021) defined the revision of the indexation of the spending cap, synchronizing it with the adjustment of expenses linked to the INPC price index (typically social security expenses, which are very sensitive to the adjustment of the minimum wage), and limiting the expenses with judicial sentences to 2016 levels plus inflation.

<sup>&</sup>lt;sup>2</sup> On 12/20/2021, an extemporaneous version of the Primary Revenue and Expenditure Evaluation Report was published, in which the primary deficit for the Central Government was estimated at BRL 89.8 billion compared to the BRL 95.8 billion estimated in the 5th bimester report.

<sup>&</sup>lt;sup>3</sup> CDS (Credit Default Swap) is a swap contract that remunerates the investor when the institution specified in the contract defaults. Therefore, CDS reflects the probability of an institution or country to comply with its obligations. In this report, 5-year CDS contracts are used as a reference.

Figure 1 – Credit Default Swap (CDS) – 5 years – selected countries



In Brazil, after a period of volatility in short-term interest rates throughout the first half of 2020, due to the pandemic, expansionary monetary policy and the inflation scenario in the country kept these rates at historically low levels until the beginning of 2021, when surprises with inflation indicators begin to alter the market's perception of the future scenario. At first, this change led to a gradual increase in short-term rates, mainly influenced by expectations with the restrictive monetary policy cycle. The upward trend in interest rates in this period took place in a lower volatility environment compared to 2020, which favored the Treasury's funding profile. Figure 2 pictures the evolution of interest rates on reference bonds for maturities of 6-, 12-, and 24-month, and 10 years.

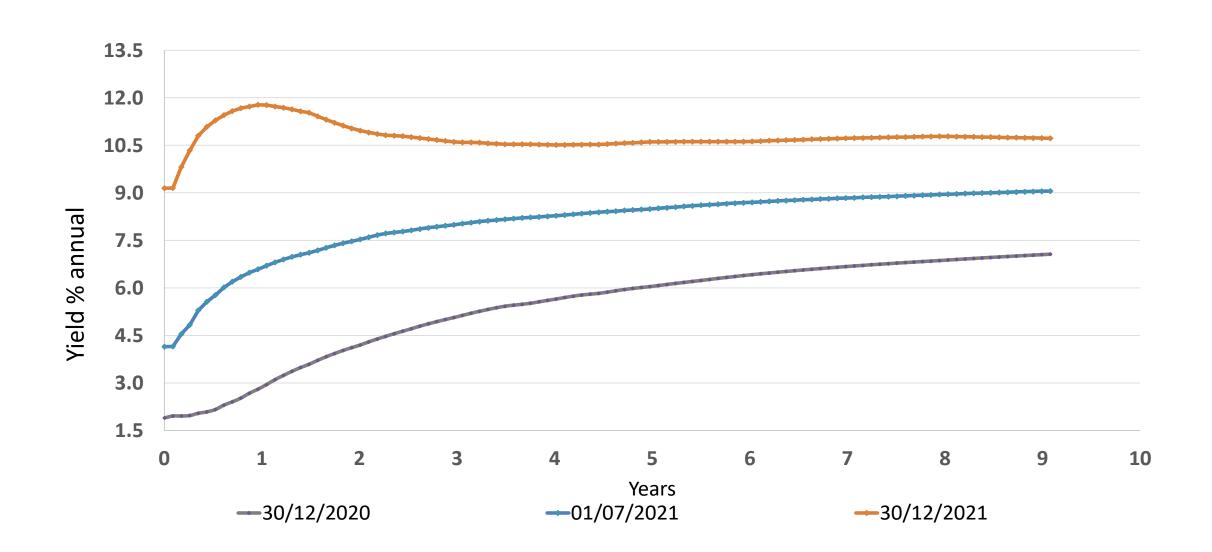
Long-term rates, in turn, are more sensitive to changes in risk perception regarding the sovereign's fiscal sustainability. The long end of the curve was impacted by the effects of the pandemic in the first half of the year and more sharply in the second half, in face of fiscal uncertainties beyond the additional primary spending to mitigate the effects of the pandemic. This shift in the yield curve (Figure 3) impacted the public debt cost indicators, as will be presented in the next sections of this document.

Figure 2 – Evolution of interest rates on bonds for maturities of 6, 12, and 24 months, and 10 years (% p.a.)



**Sour**ce: National Treasury

Figure 3 – **Yield Curve** 



**Sour**ce: National Treasury

## 2.1 Borrowing Requirements

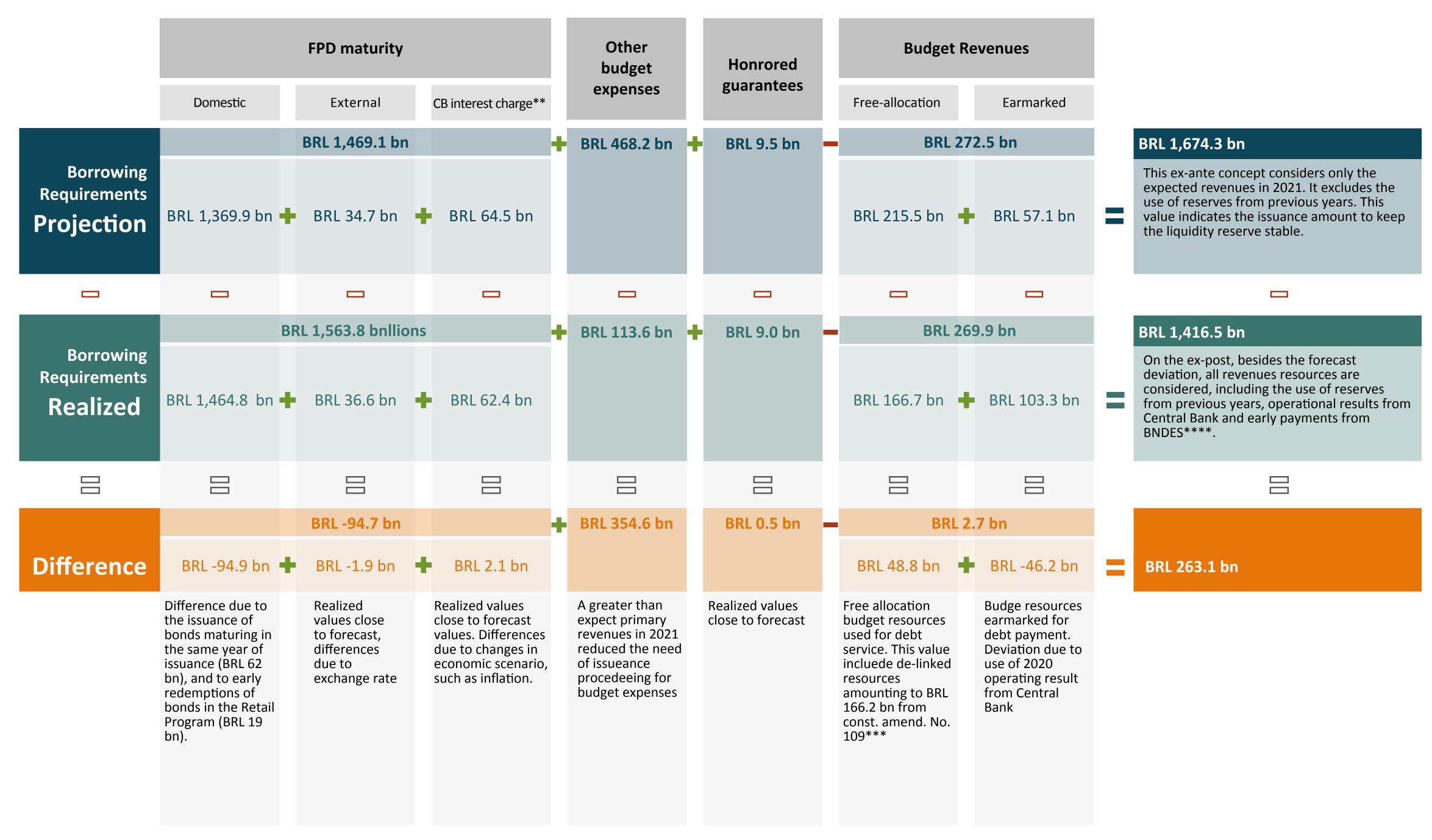
In 2021, the gross borrowing requirements<sup>4</sup> was BRL 1,686.4 billion, BRL 260.4 billion less than the projected amount pictured in the 2021 ABP (BRL 1,946.8 billion). This outcome is mainly due to the reduction in bond issuances to meet the expenditure budgets over the year, as the federal primary revenue performed better than predicted. Hence, the effective ex-post borrowing requirements was BRL 1,416.5 billion, BRL 263.1 billion less than the projected value in the 2021 Annual Borrowing Plan. Figure 4 compares the difference between the planned and ex-post borrowing requirements in 2021.

The higher availability of budget revenues<sup>5</sup> earmarked for debt service, plus a lower requirement of debt proceeding for budget expenditure – in the face of a FPD rollover percentage above 100% – contributed to an increase in the Treasury's liquidity reserve. This is an important result for the public debt manager that helps to mitigate the market volatility risk in face of higher maturity seen in the last years.

<sup>&</sup>lt;sup>4</sup> Gross borrowing requirements represent the sum of the maturing Federal Public Debt, other budget expenses, and expenses with hoored guarantees.

<sup>&</sup>lt;sup>5</sup> In 2021, the Constitutional Amendment No. 109 de-linking BRL 166.2 billion from public funds that were used on these following days: BRL 140,8bi on 4/01; BRL 16.8bi on 5/17; BRL 25.4bi on 9/01; BRL 15.7mi on 12/9 and BRL 9.0 on 12/30. Additionally, the BNDES transferred BRL 75.8 billion to National Treasury from ordinary settlement (BRL 12.8 billion as planned in ABP 2021) and early settlement (BRL 63.0). They were transferred on these days: BRL 36.5 billion on 3/8; BRL 1.5 billion on 3/16; BRL 13.5 billion on 7/1; BRL 3.0 billion on 7/26; BRL 5.0 billion on 10/22; and BRL 3.5 billion on 12/28. Early settlements are exclusively for the purpose of public debt payments. If not used in the same year, as in 2021, they must be set aside for this purpose in a subsequent period . The gross debt of the general government falls as the funds are transfered to the National Treasury.

Figure 4 - National Treasury Borrowing Requirements



<sup>\*\*</sup> The term financial surplus refers to fiscal resources earmarked for the debt management conserved from previous fiscal years.

<sup>\*\*</sup> According to Article 39 of the Fiscal Responsibility Law (Complementary Law No. 101/2000), the real interest rate of the Central Bank (Central Bank of Brazil) portfolio cannot be refinanced with public bonds.

<sup>\*\*\*</sup> Although the de-linking of resources is labeled as free-allocation sources, EC Nº 109 established that these resources can be only used for public debt payments.

<sup>\*\*\*\*</sup> This value, however, does not equal the amount the total issuances in 2021. When National Treasury issues more than the net borrowing requirements, it raises the liquidity reserve. **Source**: National Treasury

## 2.2 Strategy implementation

The ABP 2021 set off from borrowing requirements particularly high, mostly due to the short-term bonds issued in the year before. Moreover, in the beginning of 2021, the COVID-19 pandemic still imposed precautions and fostered uncertainty, despite the ongoing vaccination process.

In the face of an uncertain environment and expecting high maturing debt over the year, the ABP strategy focused on prioritizing measures to maintain the public debt liquidity reserve at prudent levels to cover expenses, mitigate the refinancing risk, and foster the proper functioning of the government bonds market. Take as an example the auction calendar: once published yearly, it became quarterly. This resulted in more flexibility to the debt management. Another measure was the implementation of exchange auctions that were aimed to smooth the maturity concentration in some periods of the year.

In general, the first semester of 2021 was defined by more favorable market conditions for issuances than predicted at the end of 2020, with satisfactory demand for long-term NTN-B and fixed-rate bonds. Thus, the National Treasury could focus on a higher long-term issuance, rather than short-term LTN, maturing in up to 12 months, and on keeping a suitable liquidity reserve level. This allowed the maintenance of the high issuance levels carried out in the second semester of 2020, but with some indicators improvements towards values once observed before the COVID- 19 pandemic. This is the case of the debt issuance average maturity.

In this context, in May, it was announced the revision of the ABP risk indicators' reference limits. The new limits responded to a better scenario for the end of the year, in contrast to what it was expected when the ABP was released, in January 2021. The ABP revision brought new references for FPD outstanding volume, composition, and maturity structure, notably a lower expectation for short-term fixed-rate issuances, underscoring the strategy of a longer maturity profile .

On the other hand, the second semester of 2021 revealed a more challenging scenario for the issuance strategy. High interest rate volatility was significant,

especially in August, a period of uncertainty and risk aversion from investors and reduced demand for longer duration bonds.

### 2.2.1 Domestic debt

Regarding government bonds offered in 2021, fixed-rate bonds had four reference maturities for LTN (short-term: 6 and 12 months; medium-term: 24 and 48 months) and three maturities for NTN-F (long-term: 6, 8 and 10 years). The new 8-year NTN-F was added in order to broaden the list of government bonds offered, an attempt to provide more options for NTN-F, at a time of strong preference for short-term bonds, and was withdrawn from the auctions at the second semester.

The inflation-linked bonds (NTN-B) were offered in 6 tenors, with alternate weekly auctions. In one week, government bonds were offered maturing in Aug-24, Aug-28, and Aug-40, and in the following week maturing in Aug-26, Aug-30, and May-55.

As for the floating-rate issuances (LFT), the two maturity vertices were maintained. A shorter one, which started in 2021 with a one-year maturity, which was extended to 2 years, and a longer one, with a maturity of 6 years. The demand for these government bonds was driven, among other factors, by expectations of an increase in the Selic interest rate. The average of LFT monthly issuances rose from BRL 18.5 billion in 2020 to BRL 54.9 billion in 2021.

In February and March, the National Treasury held anticipated exchange auctions, which consisted of the exchange of close-to-maturity bonds for longer ones. In February 2021, the LFT 1/3/2021 was rolled over (with placement of LFT with maturities at 1/3/2022, 1/9/2023 and 1/9/2027). In March 2021, the LTN 1/4/2021 was rolled over (with placement of LTN 1/4/2022, 1/1/2023 and 1/7/2024, and NTN-F 1/1/2025). The Treasury had already carried out this type of auction previously. From 2011 to 2015, several fixed-rate and LFT anticipated exchange auctions were held similar to the auctions performed in 2021.

Exchange auctions in 2021 reached a large financial volume, particularly the

1/3/2021 LFT one, which totaled BRL 46.4 billion, or approximately 25% of the outstanding amount. The LTN 1/4/2021 auctions, on the other hand, reached BRL 21.9 billion, or approximately 7% of the outstanding amount.

The year ended with a total financial volume raised of BRL 1.63 trillion, the highest for the historical series. The monthly average of issuances reached BRL 135.7 billion. For comparison, the monthly average in 2020 was BRL 108 billion and BRL 61.5 billion in 2019.

Differently from 2020, when the increase in the monthly issuance was a result of greater placement of short-term fixed-rate bonds, the 2021 levels were supported by a better profile of bonds issued. The Treasury reduced the issuance of short-term fixed-rate bonds (6- and 12-month LTN), increasing the placement of bonds with longer maturity, such as inflation-linked (NTN-B), floating-rate (LFT) and fixed-rate bonds (24- and 48-month LTN). This was influenced mainly by the improvement in the macroeconomic scenario in the first half of the year. Table 1 shows the improvement in the issuance profile throughout the year, highlighting the reduction in short-term fixed-rate bonds, 6- and 12-month LTN, which reduced their share from 34% in 2020 to 9% of the total debt in 2021. As shown in the following sections, this scenario led to the review of the reference limits for the FPD composition and maturity structure defined in the 2021 ABP and increased the average maturity of issuances.

Table 1 – Issuance - Only Regular Auctions\*

BRL Billion	2020		2021	
Issued bonds*	Total	%	Total	%
LFT	222.2	18.0%	612.9	41.6%
LFT - 01 year**	-	-	116.4	7.9%
LFT - 02 years**	27.4	2.2%	144.9	9.8%
LFT - 03 years**	32.3	2.6%	-	-
LFT - 06 years	162.5	13.2%	351.6	23.8%
LTN	777.5	63.1%	439.1	29.8%
LTN - 06 months	208.3	16.9%	50.1	3.4%
LTN - 12 months	209.1	34% 17.0%	77.3	<b>9%</b> 5.2%
LTN - 24 months	126.5	10.3%	181.9	12.3%
LTN - 48 months	233.5	18.9%	129.8	8.8%
NTN-F	46.5	3.8%	66.4	4.5%
NTNF - 06 years	-	-	19.5	1.3%
NTNF - 07 years	27.7	2.2%	-	-
NTNF - 08 years	-	_	23.1	1.6%
NTNF - 10 years	18.8	1.5%	23.8	1.6%
NTN-B	186.8	15.1%	355.7	24.1%
NTNB - 03 years**	74.9	6.1%	93.4	6.3%
NTNB - 04 years	-	_	86.0	5.8%
NTNB - 05 years**	83.1	6.7%	54.7	3.7%
NTNB - 10 years	20.0	1.6%	52.5	3.6%
NTNB - 20 years	3.9	0.3%	14.1	1.0%
NTNB - 40 years	4.8	0.4%	55.0	3.7%
Total	1,233.0	100.0%	1,474.1	100.0%

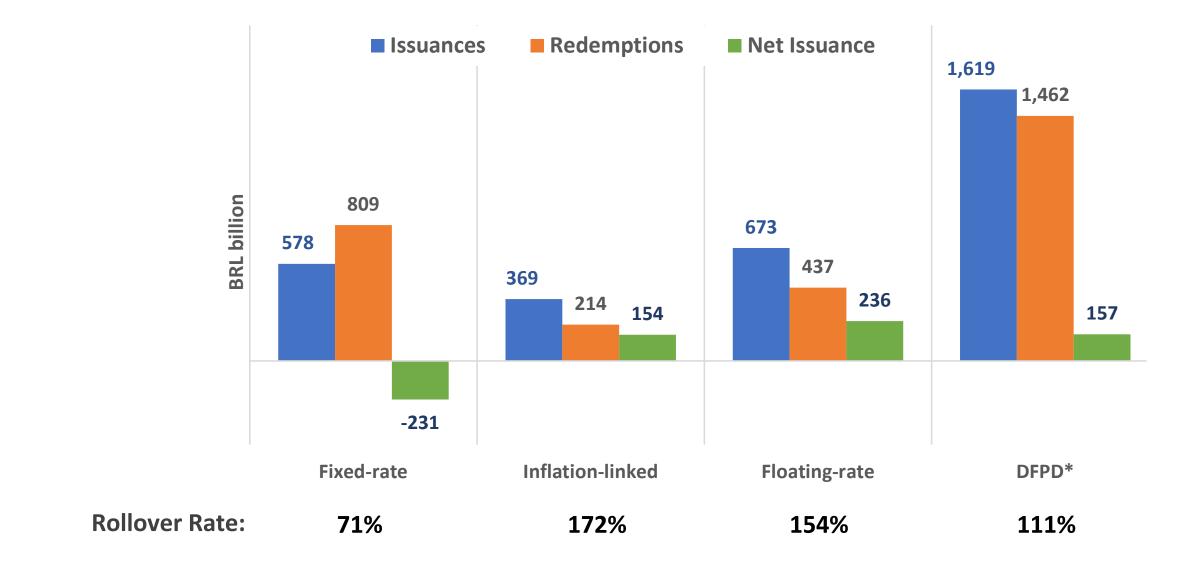
<sup>\*</sup>Extraordinary exchange auctions, and bonds issued and maturing in 2021 were not considered.

**Sour**ce: National Treasury

<sup>\*\*</sup>New benchmarks.

In the consolidated result for year, FPD issuances exceeded redemptions by BRL 157 billion, which corresponds to a rollover rate of 111%, compared to 143% in the previous year. Net redemptions of fixed-rate bonds summed BRL 231 billion, with a 71% rollover rate. Floating-rate and inflation-linked bonds had a high rollover rate, with net issuance of BRL 236 billion and BRL 154 billion respectively. These values are shown below in Figure 5.

Figure 5 – **Net Issuance and Rollover Rate by Indexer** 



<sup>\*</sup> Only bond issuances and redemptions with an impact on liquidity are considered **Sour**ce: National Treasury

#### 2.2.2 External debt

In 2021, external debt continued to serve as a diversification and lengthening instrument for the public debt, providing the liquidity of the dollar sovereign yield curve, and a reference for the Brazilian corporate sector.

The National Treasury carried out one operation in the international market in 2021, a new 10-year benchmark issuance, Global 2031, and the reopening of the current 30-year benchmark, the Global 2050, both in US dollars, taking advantage of a window of relative stability and reduction of the county-risk premiums. The two issuances totaled US\$ 2.25 billion, as shown in Table 2.

Table 2 – External Debt Issuances

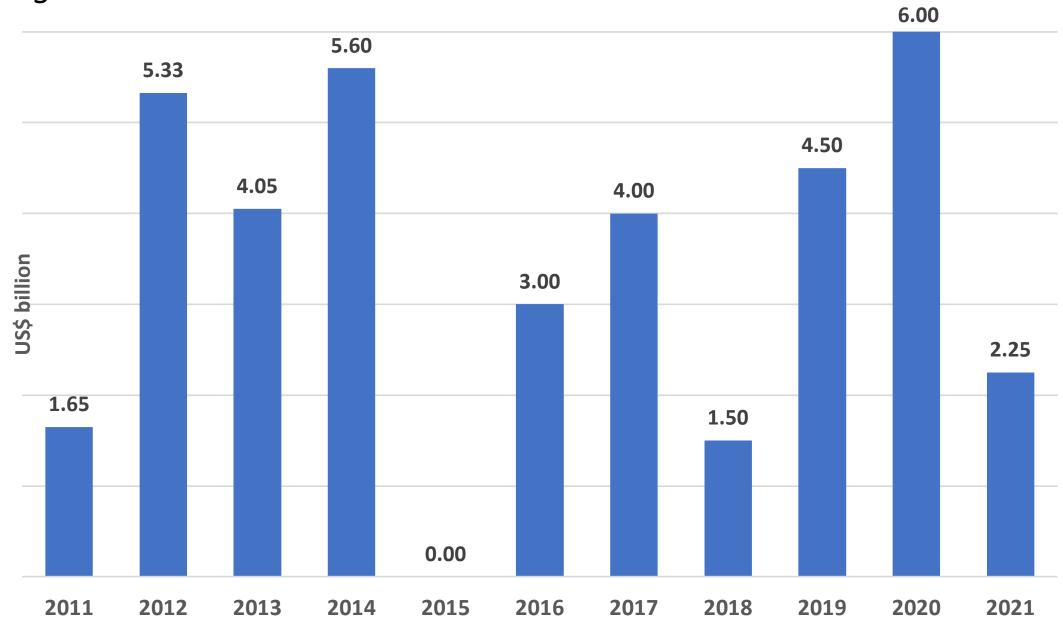
Bond	Maturity	Volume*	Yield (%)	Coupon
Global 2031	12/09/2031	\$1.50	3.875	12/3 e 12/09
Global 2050	14/01/2050	\$0.75	4.925	14/01 e 14/07
Total		\$2.25		

\*Em bilhões de dólares norte-americanos. **Sour**ce: National Treasury

For more information, access the issuance report.

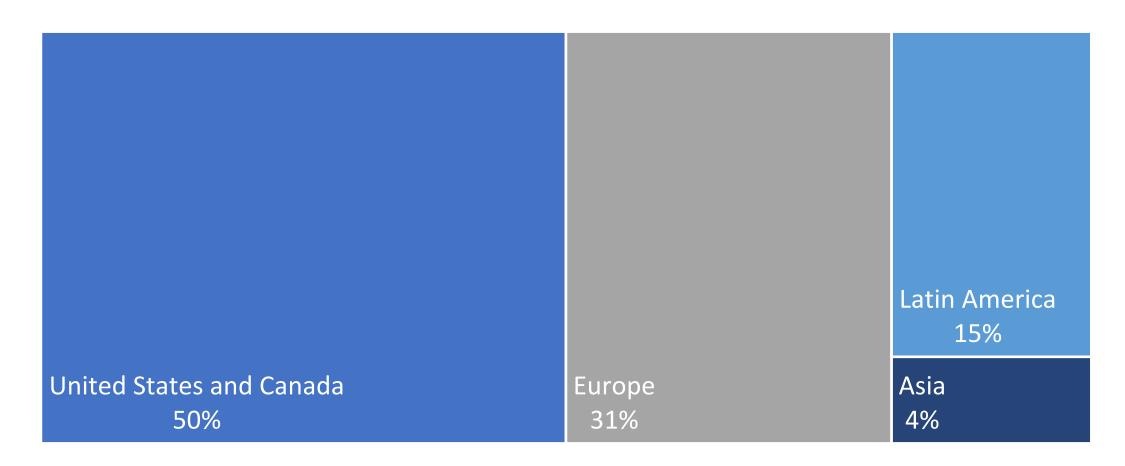
The financial volume raised in the international market in 2021 was lower than in 2020 and in 2019. Figure 6 depicts the history of external financial volume raised in recent years, highlighting the effect in the previous two year, although the volume was still higher than in 2018.

Figure 6 – External Debt Issuances



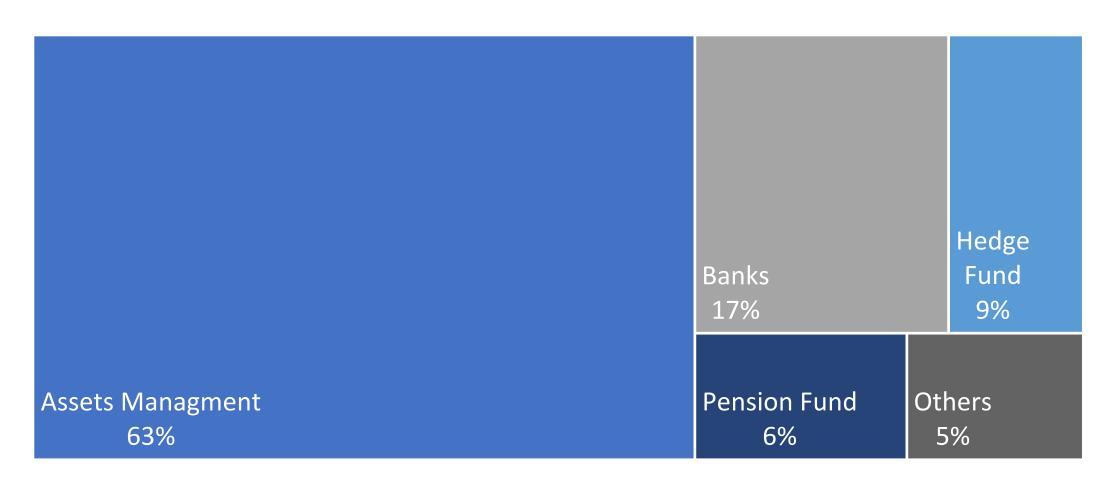
The issuance of USD 1.5 billion from Global 2031 resulted in an annual coupon of 3.75%, the lowest rate for this maturity since 2015. The order book in both tranches reached a volume close to three times the final amount issued, with the main presence of American and European investors, as illustrated in Figure 7. Finally, Figure 8 presents the types of investors present in the order book of the two issued bonds, with Fund Manager standing out.

Figure 7 – **Share by Region** 

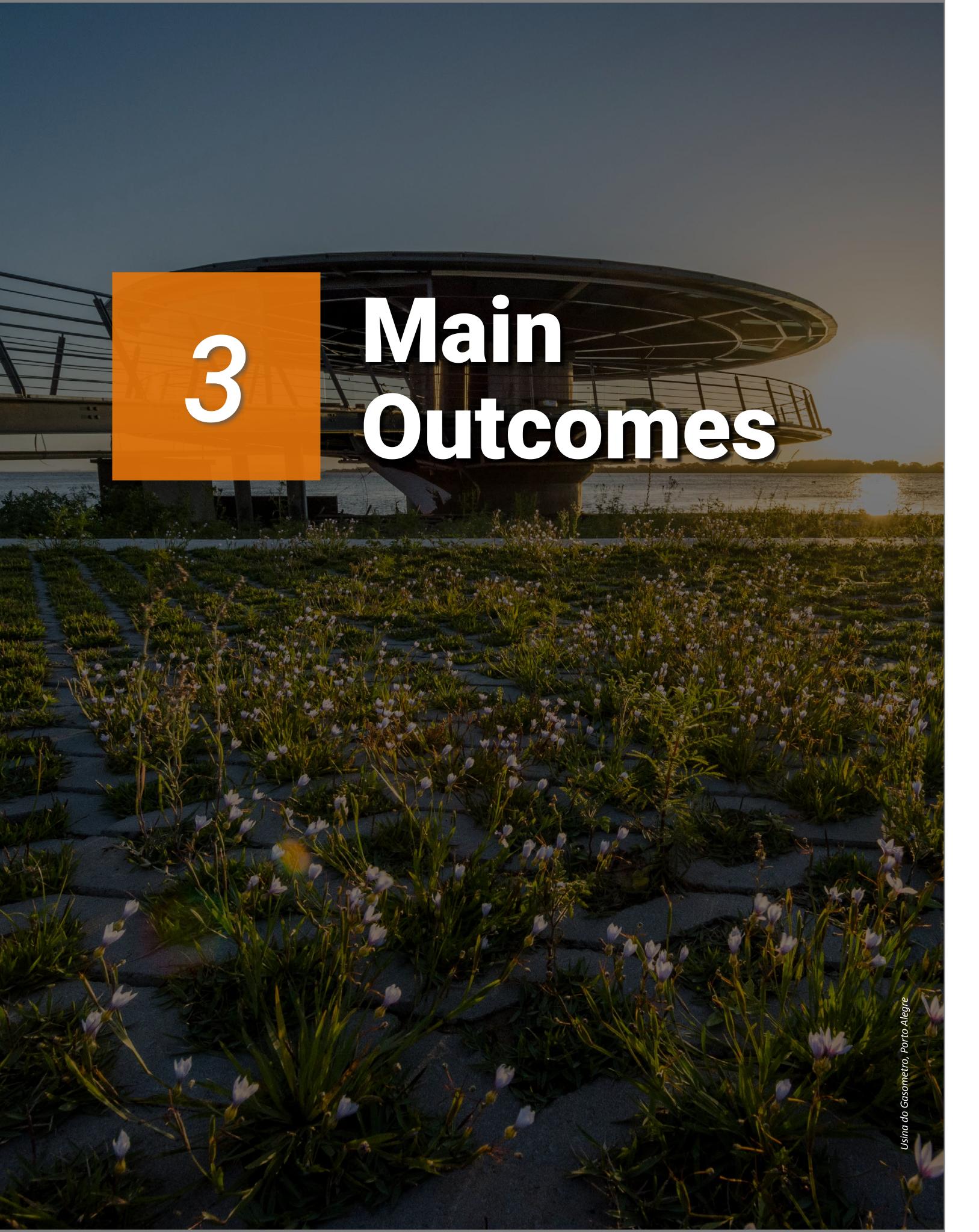


**Sour**ce: Bookrunners

Figure 8 – Share by Investors' Type



**Sour**ce: Bookrunners



The debt management in 2021 presented results that exceeded the expectations originally set out in the 2021 borrowing plan. In May 2021, given that positive performance, the National Treasury reviewed the FPD reference limits. The improvement in the FPD profile in the first half of the year — with a reduction short-term fixed-rate securities (especially 6- and 12-month LTN) and greater placement of longer bonds and inflation-linked securities — led to a reduction in refinancing risk and an improvement in the composition of the debt stock and in the maturity structure.

Market dynamics in the second half of the year brought risk aversion in the international scenario and uncertainties about fiscal issues in the domestic scenario. Despite that adverse environment, it was possible to maintain the gains from lengthening maturities, particularly with longer-term LFT. This emissions dynamics in the second half of the year, however, resulted in deviations from some reference limits of the revised ABP, as will be seen in more detail below.

# 3.1. FPD Indicators and Risk Management

# 3.1.1 2021 Annual Borrowing Plan Revision and Results

Market conditions in the first few months of 2021 provided an opportunity for the debt management to improve the profile of its issuances. As already mentioned, in May 2021 there was a review of the reference limits defined in the 2021 ABP, as shown in Table 3.

Table 3 – Main Federal Public Debt

Statistics	Dec/20	Dec/21	2021 ABP reference limits		2021 ABP reviewed limits*		
			Minimum	Maximum	Minimum	Maximum	
Outstanding debit (BRL billio	n)						
FPD	5,009.6	5,613.7	5,600.0	5,900.0	5,500.0	5,800.0	
Composition (%)	Composition (%)						
Fixed-rate	34.8	28.9	38.0	42.0	31.0	35.0	
Inflation-linked	25.3	29.3	24.0	28.0	26.0	30.0	
Floating-rate	34.8	36.8	28.0	32.0	33.0	37.0	
FX	5.1	5.0	3.0	7.0	3.0	7.0	
Maturity structure							
% Maturing in 12 months	27.6	21.0	24.0	29.0	22.0	27.0	
Average Maturity (years)	3.6	3.8	3.2	3.6	3.4	3.8	

<sup>\*</sup> Revised ABP, available at: https://sisweb.tesouro.gov.br/apex/f?p=2501:9::::9:P9 ID PUBLICACAO ANE-XO:13428

The revised limits signaled a reduction in the amount outstanding of the debt, a greater share of floating-rate and inflation-linked securities, and a reduction in short-term, fixed-rate securities. This change in composition had a positive impact on the maturity structure, contributing both to a reduction in the share of debt maturing in 12 months and to an increase in the average maturity of the FPD.

The announcement of the ABP review was important to adjust the market's expectations about the National Treasury's financing strategy. However, at the end of 2021, some indicators were outside the reference limits indicated in the revised ABP. The share of fixed-rate securities in the total Federal Public Debt dropped to 28.9%, below the lower reference limit of 31.0%. Similarly, the share of the FPD maturing in 12 months was 21.0% at the end of the year, below the lower reference limit of 22.0%. The other indicators were in accordance with the new intervals of reference.

At the end of the year, the FPD outstanding stock was within the expected range, close to the lower limit. Regarding debt composition, inflation-linked and floating-rate bonds were within the reference range, but close to their upper limits. The share of foreign exchange debt was within the ABP reference range. In terms of maturity profile, the average maturity indicator converged to the upper limit of the ABP reference, reflecting the strategy of prioritizing

longer-term securities, according to market conditions.

The maintenance of prudent levels of cash available for debt repayment, the so-called debt liquidity reserve, brought flexibility to the debt management, improving its indicators. The cushion was reinforced throughout the year, because of both the execution of the strategy of issuing bonds with non-issuance revenues (reducing the concentration of short-term maturities), as well as the increase in fiscal revenues, such as the de-linking of budget resources from funds (BRL 140 billion) and the anticipated payment of credits to the federal government by public banks (in particular, BNDES, in the amount of BRL 63.0 billion). Furthermore, the better result of the Central Government's primary revenues throughout the year<sup>6</sup> reduced the need to issue debt to finance other budget expenditures. This effect can be seen in Figure 4.

In this context, the additional volume of non-issuance revenues increased the liquidity reserve by an amount similar to the additional revenues (BNDES payments, de-linking of resources from funds, and primary revenues) when considering that the Treasury issuance strategy was maintained throughout the year. This resulted in an improvement in the cash balance at the end of the year. A measure of how the management liquidity risk improved is shown in more detail in section 3.1.4. as the number of months that the liquidity reserve can service the debt without the need for new issuances.

The liquidity reserve ensures flexibility to the debt manager to carry out the planning of debt issuance, especially in times of greater volatility, allowing the offer of securities to be adjusted each week according to market conditions. Despite a weaker reliance on longer bonds in the first months of 2021 (see subsection 2.2.1), there was no need to resume the placement of short-term securities (e.g., LTN), since cash availabilities were already at safe levels.

# 3.1.2 Outstanding Debt

In 2021, the FPD outstanding stock increased by BRL 604.0 billion, or approximately 12.1% relative to the previous year. The variation includes both net

<sup>&</sup>lt;sup>6</sup> The difference in the primary revenue projection for 2021 between the 1st and 5th bi-monthly evaluation reports represented an increase of BRL 269.6 billion.

issuances of BRL 154.9 billion and accrued interests in the amount of BRL 449.1 billion, as shown in Table 4. For the Domestic FPD, net issuances contributed to cover primary expenditures, in particular the renewal of emergency aid in the face of the worsening of the pandemic in the first quarter of 2021. For the External FPD, accrued interests include the effect of exchange rate fluctuations over the debt outstanding.

Table 4 - Determinants of FPD variation (BRL billion)

	Outstanding debt			Determinants of variation			
Statistics	2020	2021	Variation	Issuances (a)	Redemptions (b)	"Net issuances" (a-b)	Accrued interest(3) (c)
FPD	5,009.6	5,613.7	604.0	1,656.7	1501.8	154.9	449.1
DFPD	4,766.2	5,348.9	582.8	1,628.1	1465,0*	163.1	419.7
EFPD	243.5	264.7	21.3	28.6	36.8	-8.2	29.5

<sup>\*</sup>Includes transfer between BCB and market portfolios amounting to BRL 1,068 million, as shown in table 2.9 of the Monthly Debt Report Dec. 2019 (annex.)

**Sour**ce: National Treasury

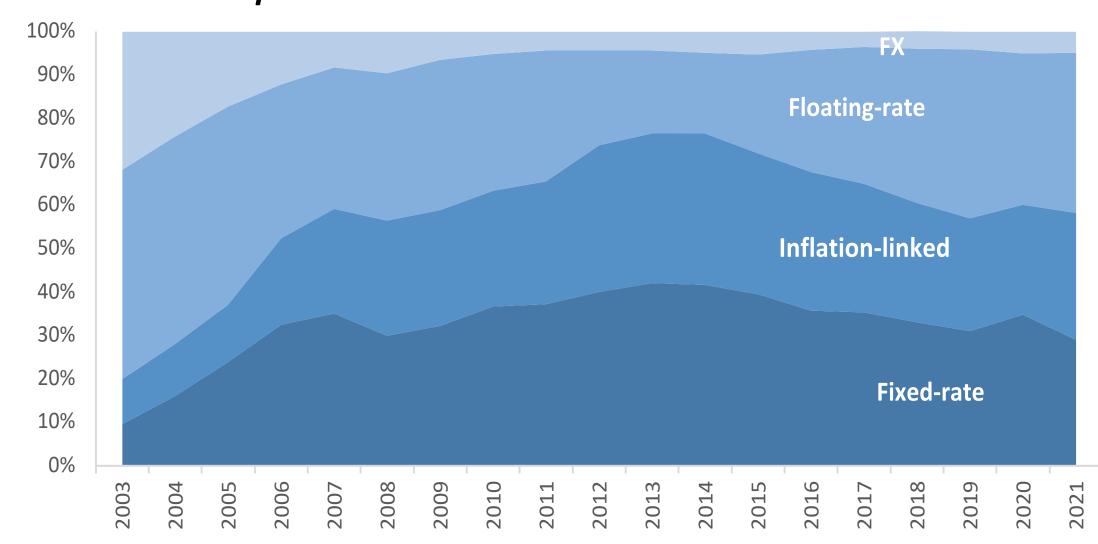
## 3.1.3 Stock composition and market risk

Changes in FPD composition throughout 2021 mainly reflect issuances that favored longer-term bonds. Therefore, there was a decrease in the share of fixed-rate bonds from 34.8% in December 2020, to 28.9% in December 2021. This is the lowest share of fixed-rate bonds since 2005. On the other hand, the share of inflation-linked bonds increased from 25.3% in 2020 to 29.3% in 2021. There was also an increase in the share of floating-rate bonds, from 34.8% in 2020 to 36.8% in 2021.

Over 2020, there has been a significant increase in the FPD share of short--term fixed-rate bonds (6- and 12-month LTN), with a negative impact on the FPD maturity profile. However, this circumstance began to change in 2021, with a rapid drop in the share of very short-term fixed-rate bonds and greater participation of LFT and NTN-B as debt financing instruments. Figure 9 shows the historical evolution of the FPD composition.

The increase in the share of LFT in the outstanding debt is a trend that has been observed since 2014, except for 2020, when there was an increase in the issuance of 6- and 12-month LTN to finance expenses to face the health and economic effects of the pandemic. That increased the debt-to-GDP ratio, in the face of persistent fiscal deficits in recent years. Regarding debt risk management, increasing the share of fixed-rate bonds is desirable, if the short-term maturities bonds do not increase. In this sense, if the public debt increases and it is not possible to lengthen the fixed-rate bonds' maturities, the LFT increases its participation in the financing strategy.

Figure 9 – **FPD Composition** 



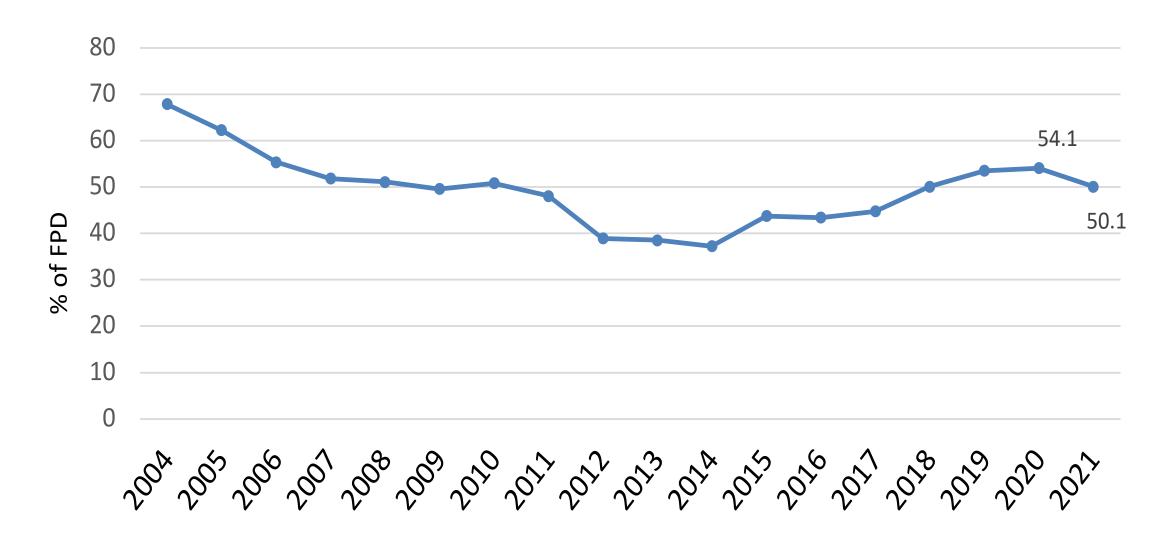
**Sour**ce: National Treasury

Composition analysis is a useful indicator to monitor FPD market risk. It refers to the risk of increasing the FPD cost or the outstanding amount due to fluctuations in the FPD reference rates. This analysis is especially critical to the floating-rate bonds. Larger shares of LFT tend to imply a riskier debt. But this risk wouldn't be mitigated by the increase of the share 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.

In fact, the share of debt exposed to interest rates fluctuations has two components: (a) debt maturing in twelve months, whose cost will be redefined

upon refinancing; (b) the share of floating-rate debt maturating in a period longer than twelve months. The sum of those two components results in an indicator so-called refixing risk or the share of debt with a renewed interest rate in 12 months. This metric combines the effects of changes in composition and in debt maturity profile. After repeated increases between 2014 and 2020, this indicator has decreased in 2021, as shown in Figure 10, benefiting from the increasing share of inflation-linked bonds, that typically have longer maturity than other instruments.

Figure 10 – Share of debt with refixing risk in 12 months (% of FPD)



**Sour**ce: National Treasury

However, for future progress, one must consider that the decrease in market risk exposure depends on the demand for longer maturity bonds, which, in turn, depends on the perception of fiscal risks by investors.

In that sense, it is essential to proceed with the structural reform agenda and preserve the spending cap rule in the short term to complete the process of fiscal consolidation and enable the full recovery of the economy.

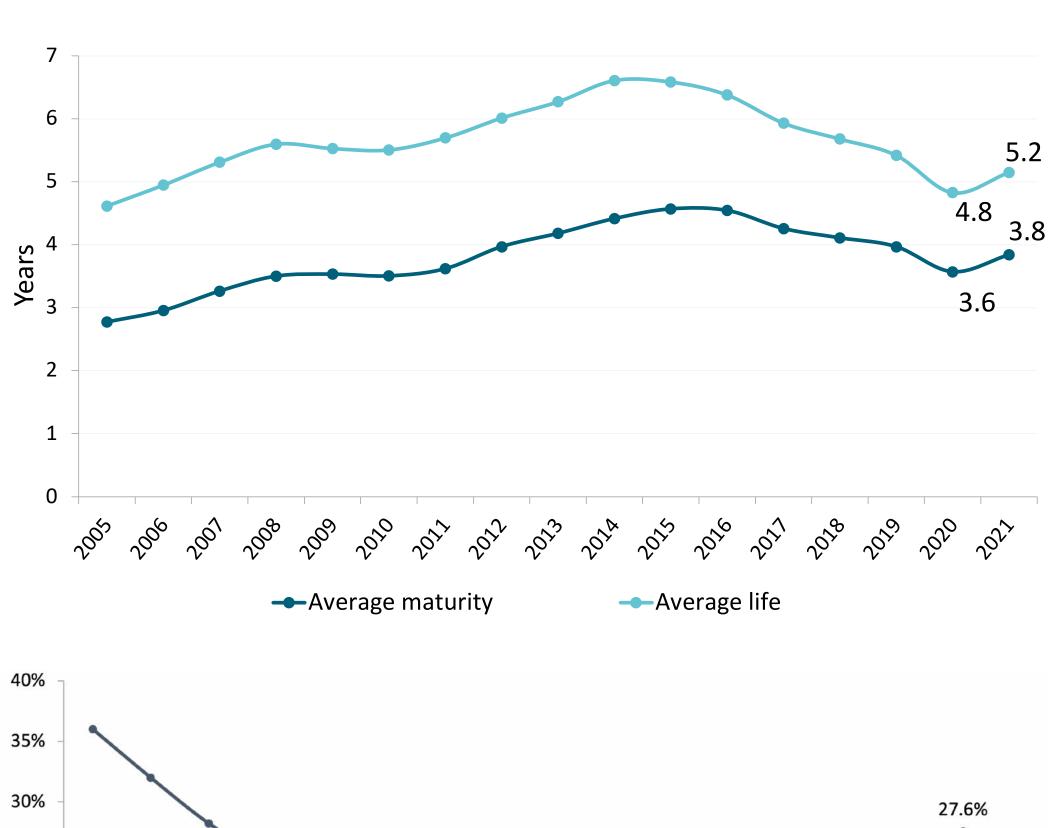
## 3.1.4 Maturity Structure and Rollover Risk

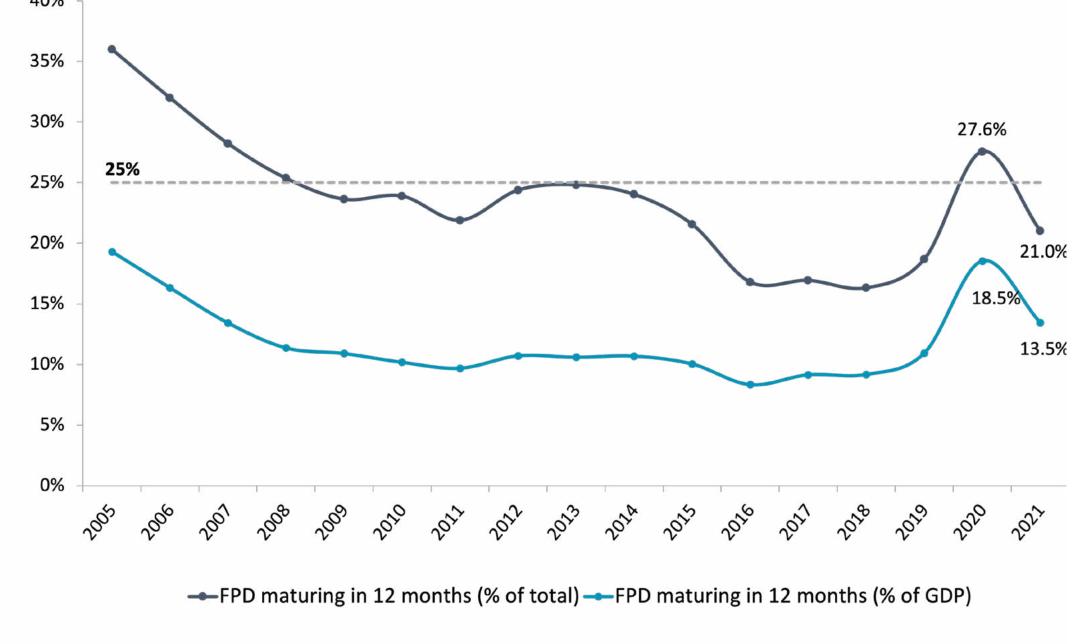
The analysis of the debt maturity structure allows the monitoring of the rollover risk. This is the possibility that the National Treasury, when refinancing its maturing debt, may encounter adverse financial conditions that cause an increase in its issuance costs, or, at the limit, may not be able to raise funds to honor its payments.

The main indicators of FPD rollover risk are the share 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 longer maturity structures correspond to lower rollover risks.

The issuance strategy for government bonds in 2021 resulted in a significant reduction in the debt rollover risk. The share of debt maturing in 12 months of the FPD registered a 6.6 points reduction in the year, ending the year at 21.0% of the FPD, compared to 27.6% of FPD in the previous year. This result reversed most of the 2020 increase (the indicator in 2019 was 18.7% of the FPD), due to the issuance of short-term maturities bonds to partially cover the extraordinary primary deficit in the first year of the COVID-19 pandemic. Considering GDP ratio, the share of debt maturing in 12 months fell from 18.5% of GDP in 2020 to 13.5% of GDP in 2021. Despite the significant drop of 5.0 points, the level is still above the historical average registered between 2006 and 2019 of 10.7% of GDP, as shown in Figure 11.

Figure 11 – **FPD maturity structure: average maturity and share of debt maturing in 12 months** 



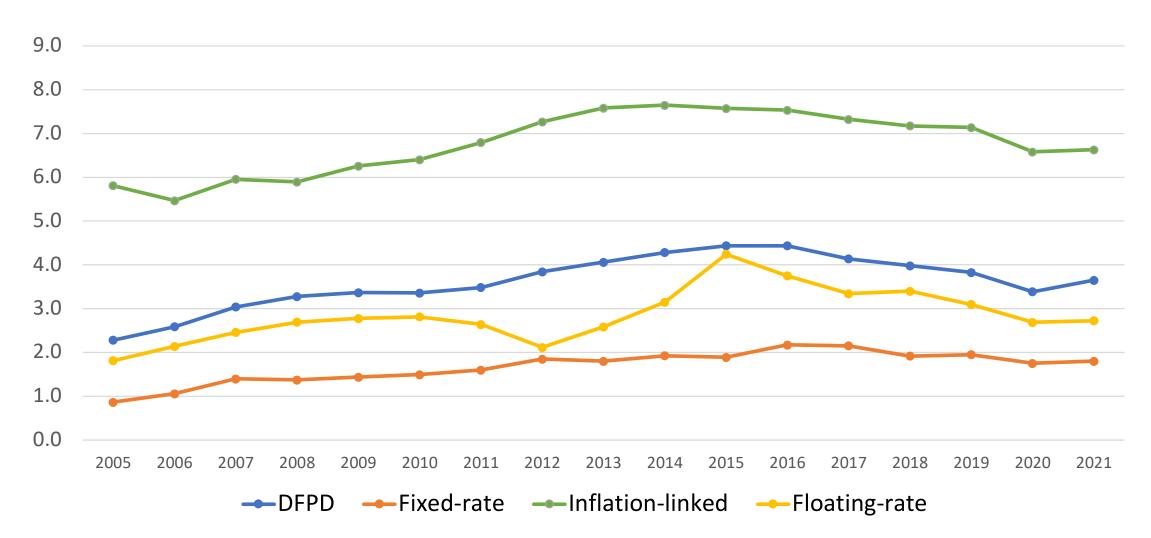


The average maturity, in turn, increased from 3.6 years in 2020 to 3.8 in 2021, returning to the level prior to the COVID-19 pandemic. This indicator also be-

nefited from the increased LFT issuance, especially those with a 6-year maturity and, mainly, from the increase in the share of inflation-linked bonds in the FPD in 2020.

The improvement in the FPD average maturity in 2021 interrupts the trend that had occurred since 2015, which was explained by the decrease in the average maturity of all types of government bonds (Figure 12), combined with the change in debt composition, especially the loss in the share of long-term bonds, such as NTN-B and NTN-F.

Figure 12 – Outstanding DFPD maturity profile by indexer



**Sour**ce: National Treasury

In sum, the improvement in the maturity structure compared to the previous year was possible due to favorable changes in market conditions in 2021, which made it possible for the National Treasury to reduce short-term fixed-rate bond issuances in relation to the initial plan. Moreover, the lengthening of the short-term LFT and the increased demand for LFT and NTN-B, including the intermediate and long-term ones, contributed to the improvement of the issuance profile.

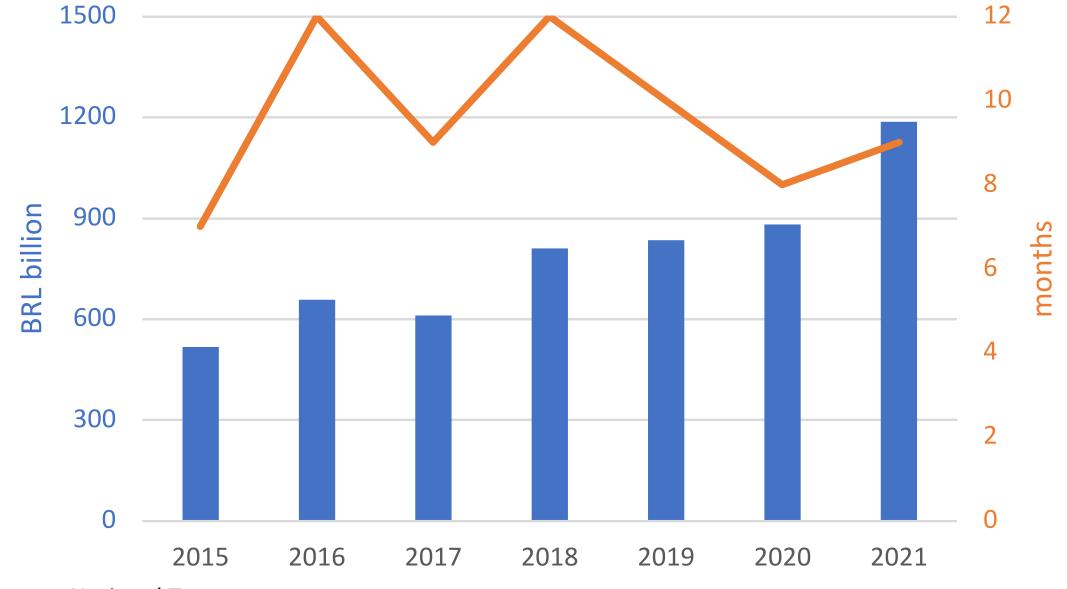
The sustainable debt lengthening requires, however, a structural change in the demand for government bonds, which favors the placement such as NTN--F, whose main holders are non-resident investors, and NTN-B with maturities above 10 years, whose main claimants are pension funds.

The recent behavior of the maturity indicators, which show the FPD rollover risk, demonstrates the relevance of the Treasury maintaining a liquidity reserve at adequate levels, which can provide degrees of freedom for debt management.

In 2021, as mentioned earlier in section 3.1, some factors contributed to stronger cash balance for the debt management. The debt liquidity reserve ended 2021 with BRL 1.2 trillion in cash, an amount equivalent to about 9 months of debt maturities in the market, one of the highest values of the historical series. The public debt liquidity cushion coverage in the number of months of debt maturity gains relevance when we consider the challenges arising from the growth of DFPD maturities in recent years.

The maintenance of sufficient cash to cover FPD maturities for a certain period offers the debt manager the possibility to stay out of the market in moments of turbulence, periods in which issuance costs become excessively high. It is thus the main tool to mitigate the rollover risk.

Figure 13 – Evolution of the public debt liquidity reserve and coverage of domestic service in months – end-year balance

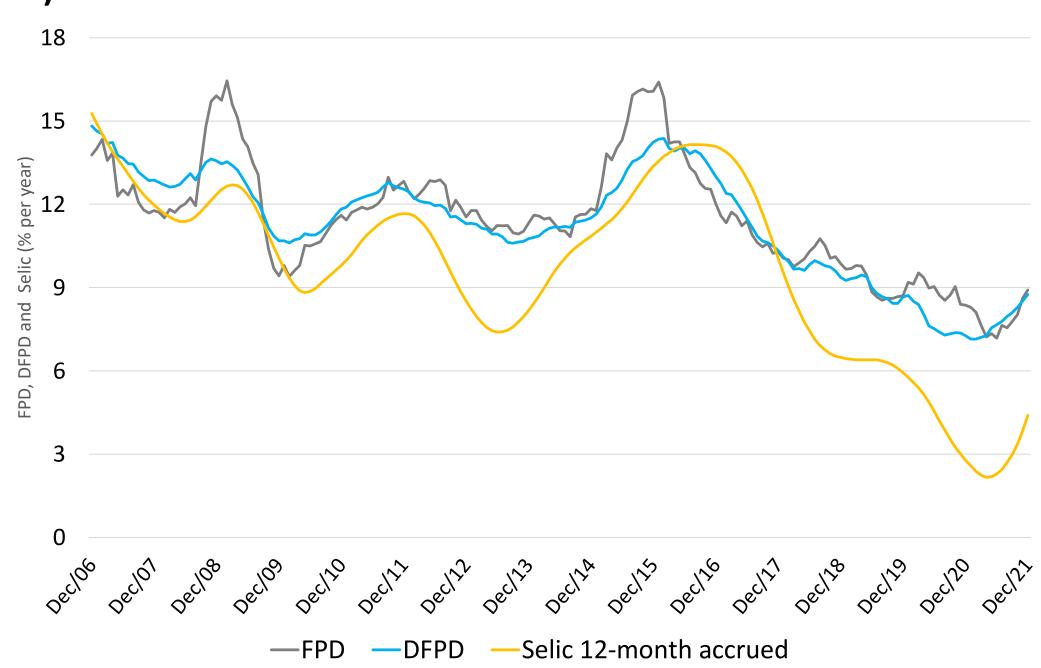


**Sour**ce: National Treasury

## 3.1.5 Average Cost

Average debt cost indicators increased throughout 2021, following the movement of the Selic interest rate and its effects on the domestic yield curve. Figure 14 shows that after reaching the lowest figure in the series in February 2021 (7.15% per year) the DPFD 12-month average cost rose again, reaching 8.75% per year at the end of 2021. The average cost of the FPD attained 8.91% per year in 2021, higher than the domestic debt statistics because of exchange rate variations on the external debt.

Figure 14 – Average cost of the FPD, DFPD, and Selic rate (12- month accrued)



**Source:** National Treasury

The DFPD average issuance cost also increased during 2021, from the lowest the historical series, 4.44% per year at the end of 2020 to 8.49% per year in 2021 (Figure 15). The average issuance cost only reflects more recent issuances (last 12 months), which is why it tends to follow the changes in the monetary policy interest rate. The bond type analysis shows an increase in all bonds' average issuance cost (Figure 16).

Figure 15 – **DFPD issuance cost (12 month accrued, % per year)** 

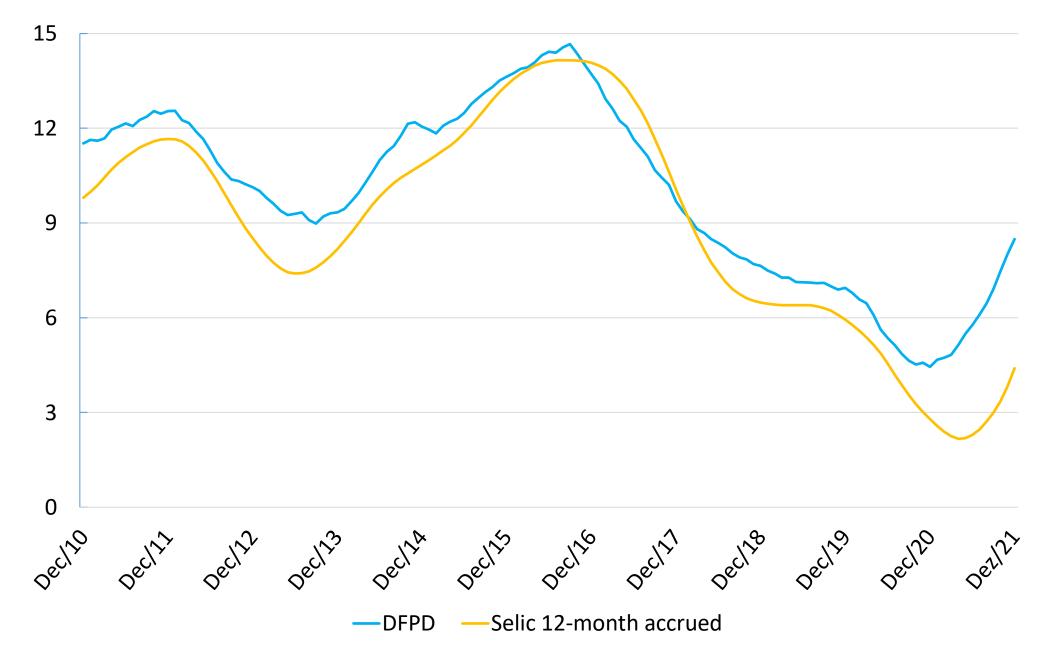
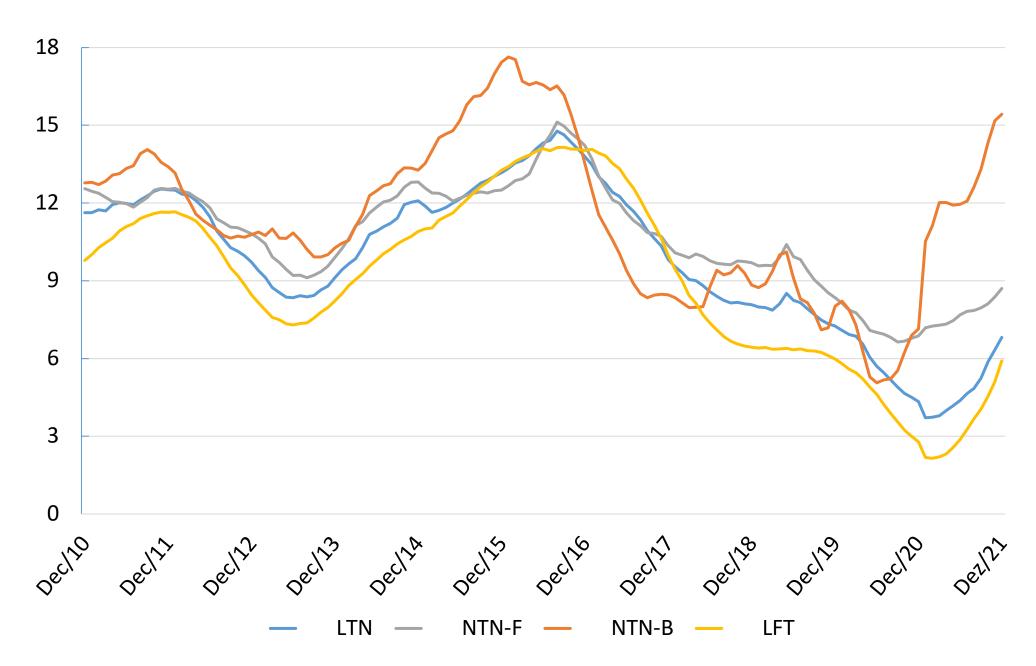


Figure 16- Average cost of DFPD issuance by type of bond (12 month accrued, % per year)



**Source:** National Treasury

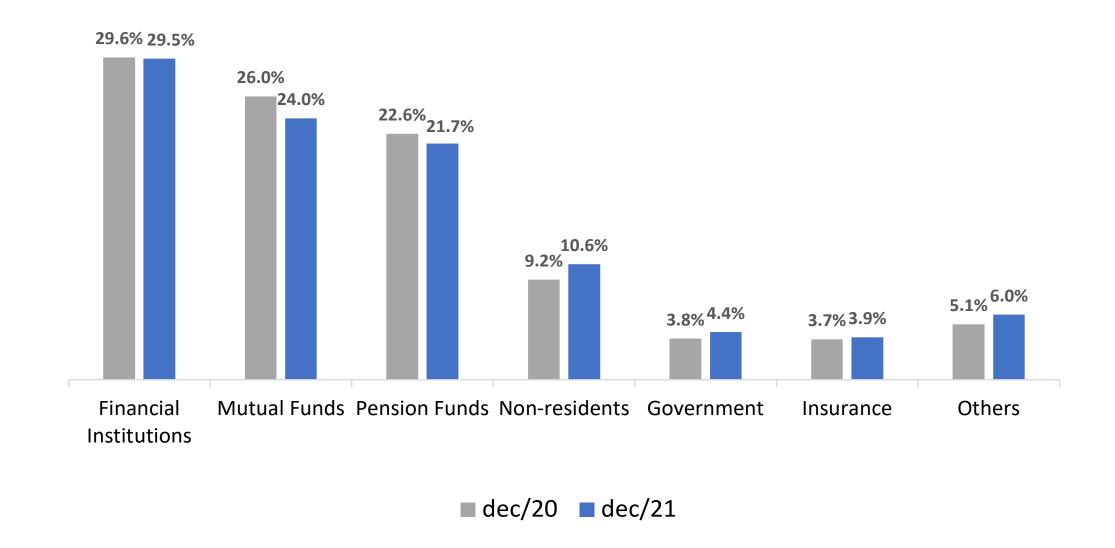
The increase in debt cost indicators in recent months have demonstrated the FPD sensitivity to fluctuations in short-term interest rates. This demonstrates the urgent need to accelerate fiscal consolidation and to create favorable macroeconomic conditions to reduce the public indebtedness level and interest expenses. Furthermore, a debt reduction path would favor not only its future cost but also the perception of country risk. This would benefit the implementation of the FPD guidelines, such as the increase in the share of long fixed-rate bonds and inflation-linked bonds.

## **3.2 Investors Base**

The expansion and diversification of the investor base are some of the guidelines for FPD borrowing strategy and contribute to debt management efficiency. The presence of investors with different risk profiles and investment horizons mitigates debt risks as it contributes to reducing their volatility and increasing bonds' liquidity.

In 2021, financial institutions became the main group of DFPD bondholders, ending the year with a 29.5% share (29.6% in 2020). Followed by mutual funds, with 24.0%, lower than the 26.0% seen in the previous year. The third-largest group, pension funds, also decreased its DFPD share, from 22.6% in 2020 to 21.7% in 2021. Despite these changes, the DFPD investor base has remained diversified, with no significant changes, as shown in Figure 17.

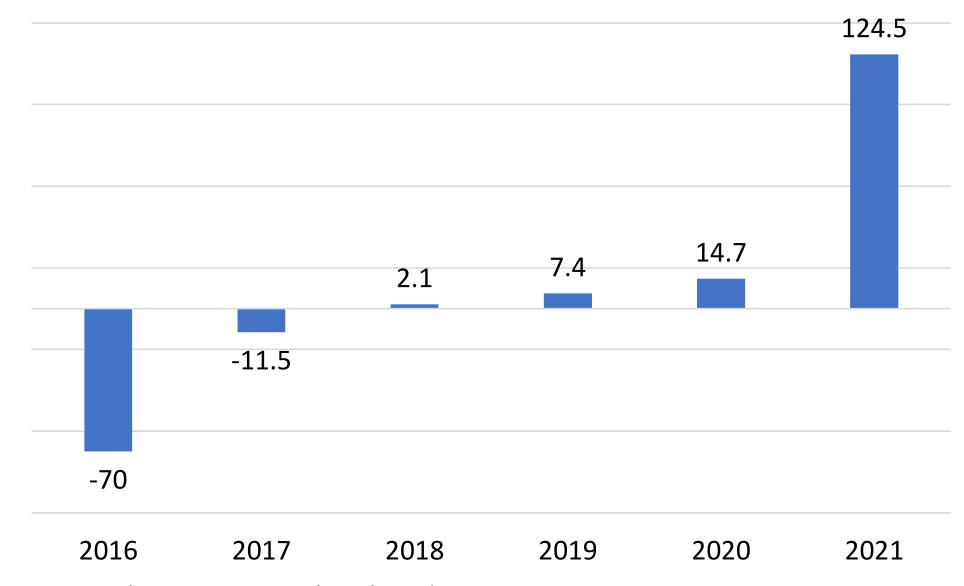
Figure 17 – **DFPD investor base composition change (% of DFPD)** 



**Source:** National Treasury e Selic

The share of outstanding FPD held by non-residents increased by BRL 124.5 billion in 2021 (Figure 18). This represents an increase in 1.4 p.p. in their share in the investor base.

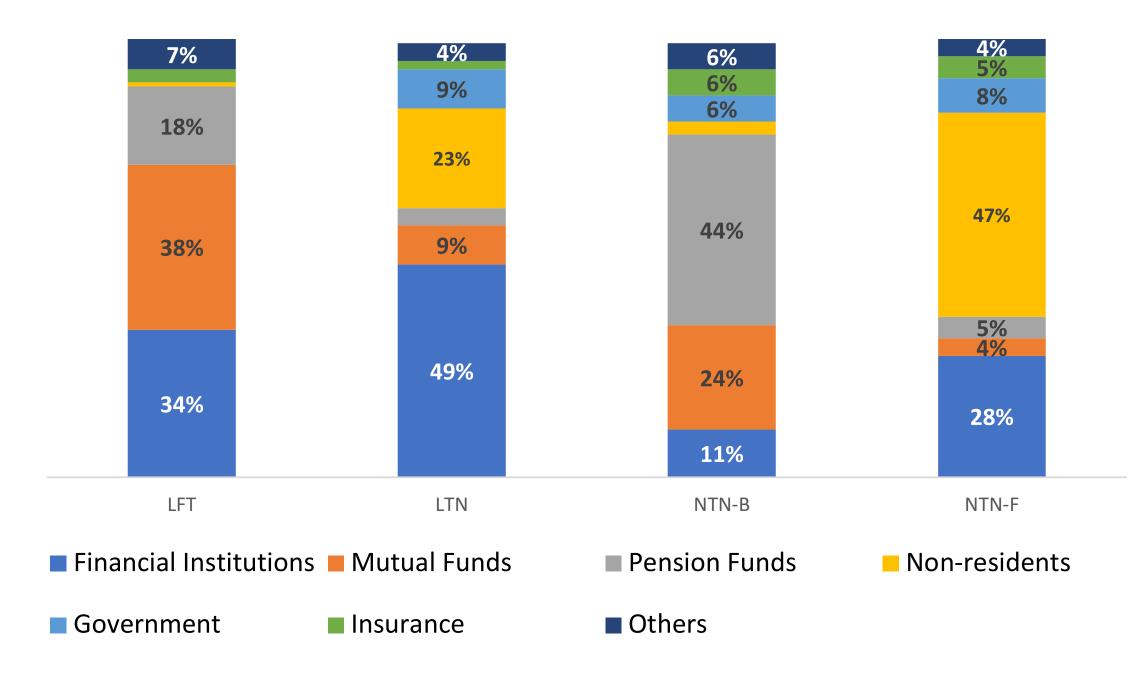
Figure 18 – Variation in non-residents' government bonds portfolio (BRL billion)



Source: National Treasury, Central Bank, and CVM

The increase in long-term interest rate stimulated the demand of non-residents and pension funds for long-term bonds, which explains the significant share of these bonds in their portfolio. Figure 19 shows the share of investors by type of bond. Among the highlights, it is worth mentioning that pension funds hold 44% of NTN-B, non-residents hold 47% of NTN-F and 49% of fixed-rate bonds (LTN) are in the financial institutions' portfolio.

Figure 19 - Share of investors by type of bond



**Source:** National Treasury

# 3.3. Tesouro Direto (Retail Program)

Among its investors, the National Treasury pays particular attention to the Tesouro Direto Program, a retail program for the sale of government bonds to individuals. More than an investment alternative offered to small savers, the program also has educational purposes on personal finances for society in general.

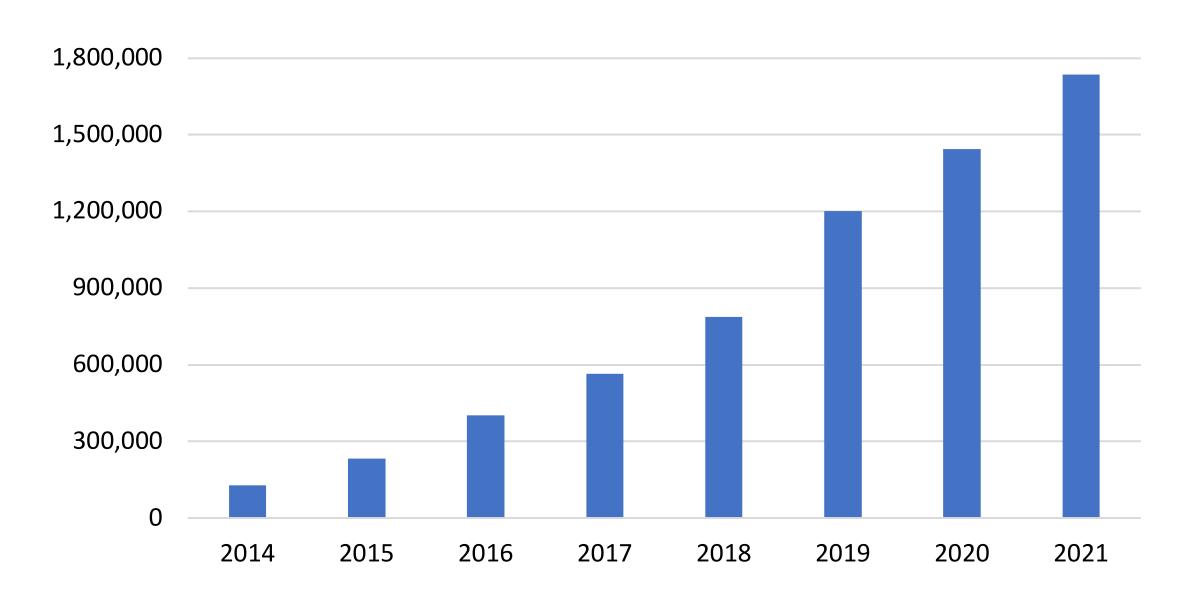
In order to improve the investor experience, in 2021, the program launched the settlement of early redemptions on D+0 for investor requests made until 1:00 PM on business days. Prior to this improvement, redemptions orders made on weekends and holidays were paid to investors' financial institutions on the second business day (D+2). Now, with the D+0 settlement, the investor also reduces the time for receiving funds from operations during weekends and holidays to D+1.

Communication with investors has also improved with the launch of <u>Tesouro</u> Direto Blog, with more detailed information about the program. Improvements were implemented in commercial support, with the *chatbot* through WhatsApp, a tool that facilitates the clarification of the main questions.

Regarding the program's performance in 2021, according to the Tesouro Direto statistics, the program's outstanding amount grew 26.3% to BRL 79.2 billion. Inflation-linked bonds (IPCA+ and IPCA+ with coupon payment) represents the largest share, 50.1% of the total amount...

The number of active investors (those enrolled and with financial assets in the program) grew by 370,442. It is the second-best performance in the historical series, being surpassed only by 2019, when the program had 414,863 new active investors. With this result, Tesouro Direto Program reached the mark of 1.8 million active investors in 2021.

Figure 20 – Active investors in the Tesouro Direto Program



**Source:** National Treasury

## **Dealer System and Secondary Market**

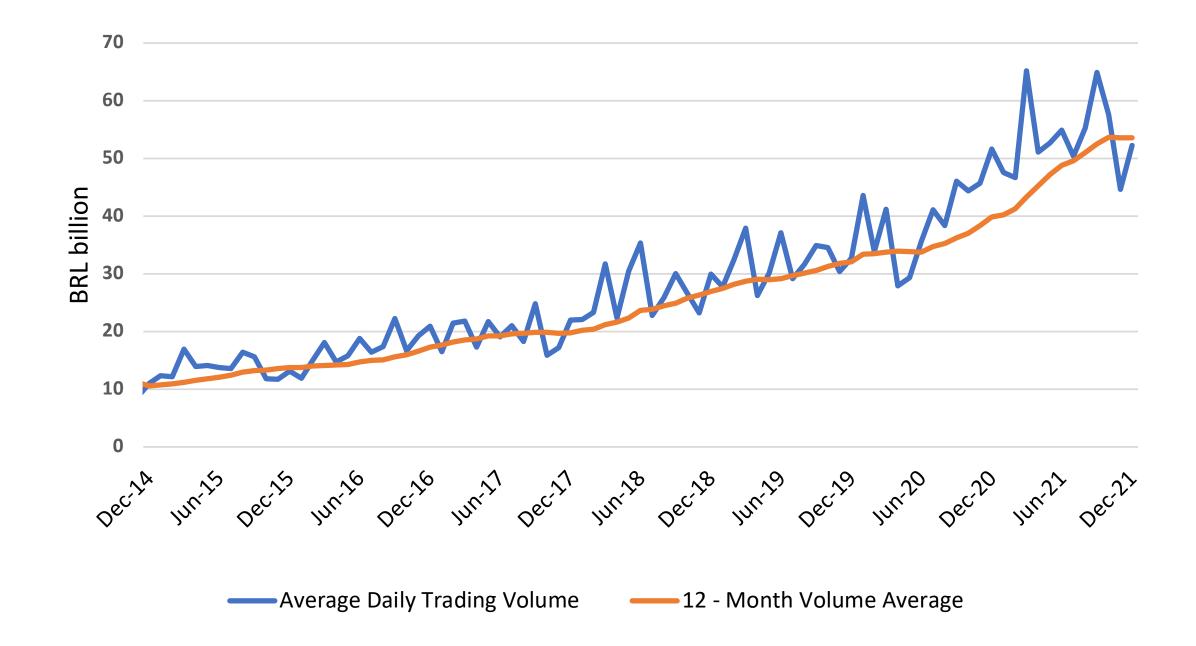
The National Treasury accredits financial institutions with the objective of promoting the development of the primary and secondary bond markets. Known as dealers, these institutions operate both in primary issuances of federal public securities, in which the Treasury requires them to have a minimum participation in public offerings, and in the secondary market of these securities, via distribution and market formation, contributing to a more efficient monitoring of the secondary segment and the developments of the industry in which these institutions are inserted.

Continuing with the strategy of using the dealers system to promote the LFT market, the National Treasury issued in February the Ordinance No. 689 which took effect on August 10, 2021 and introduced an adjustment in the percentages allocated to the exercise of the second round (offering of securities at non-competitive prices, under conditions defined in the competitive auction ordinances). It should be noted that only are entitled to the second round those dealers who have met their performance targets in: i) primary market, ii) secondary market, and iii) LFT secondary market.

Furthermore, seeking to increase the similarity with what happens in the bond market and boost the NTN-B market, which has longer average maturity, the National Treasury changed the period for the purchase exercise of this securities segment at non-competitive price (second round) to D+1.

The data in Figure 21 illustrate the growth trend in the volume traded on the secondary market since the separation of the Central Bank and National Treasury dealers system in 2015. The average daily volume, which was approximately BRL 12 billion in January 2015, reached BRL 52.3 billion in December 2021, considering the extra-group concept (trade between institutions from different financial conglomerates).

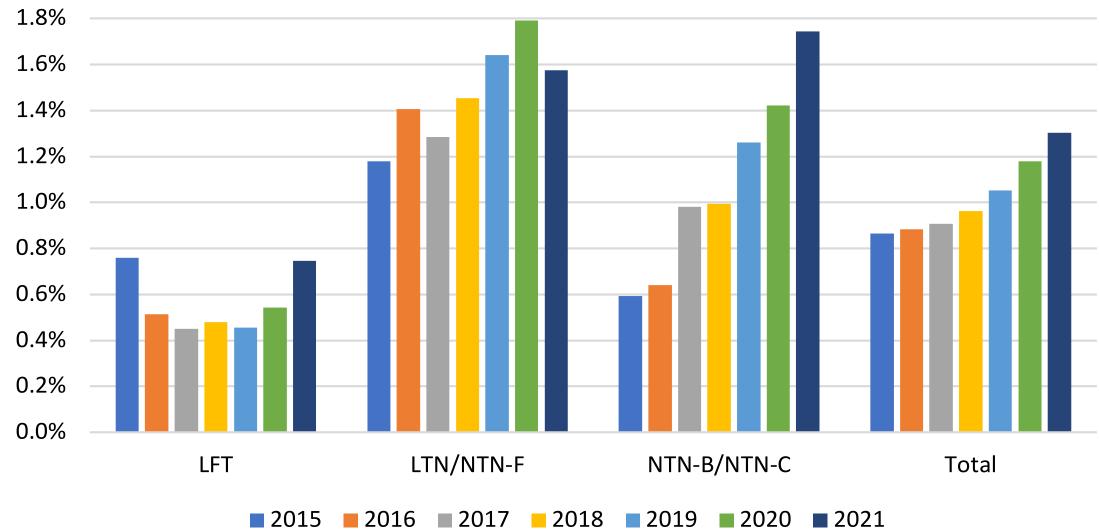
Figure 21 – **Volumes traded in the secondary market** 



**Source:** National Treasury

The ratio between the volume traded and the stock of securities (Figure 22), an important liquidity metric, increased in 2021 (until November), except for fixed rate securities. Despite the decline in percentage terms, there was an increase in the total volume of fixed-rate securities traded.

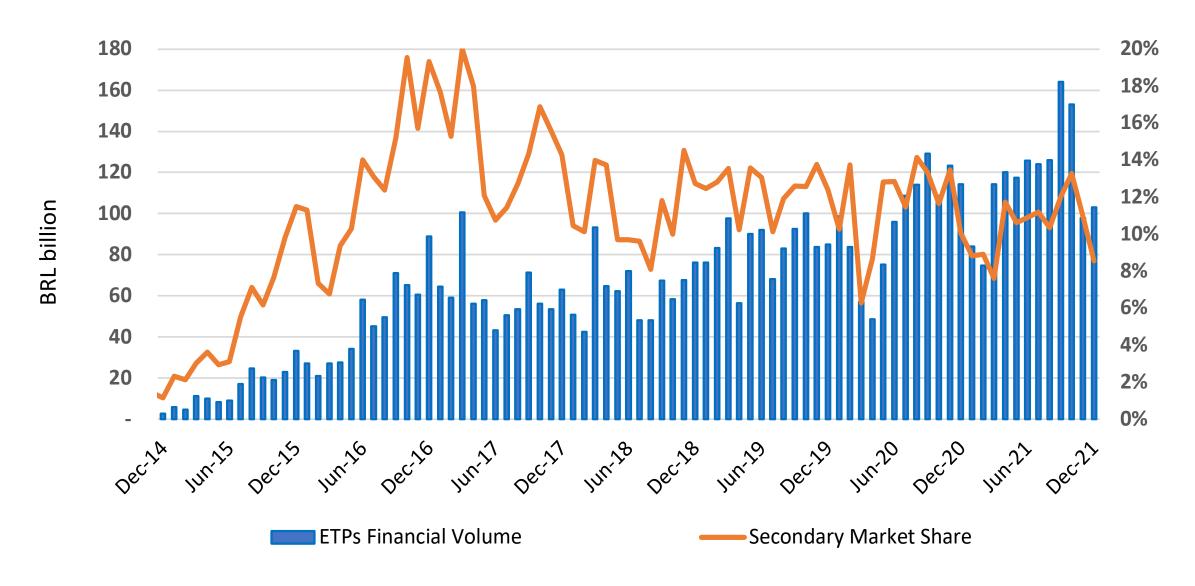
Figure 22 – Average Daily Trading Volume versus Outstanding Amount



**Source:** National Treasury

Another segment that the National Treasury seeks to encourage through its dealer system, in order to promote liquidity and price transparency, is electronic platforms for trading public securities. The advance on this front has been positive in recent years, going from around BRL 6 billion in volume traded on electronic platforms in January 2015 to around BRL 103 billion in December 2021.

Figure 23 – ETPs Monthly Volume and Secondary Market Shares



**Source:** National Treasury

The guaranteed debt<sup>7</sup> of subnational entities (states and municipalities), federal state-owned companies and controlled entities (companies belonging to state government) is a contingent liability of the Federal Government, so the monitoring of its balance, as well as the execution of guarantees<sup>8</sup> is relevant for management of the Federal Public Debt.

As shown in Table 5, at the end of 2021, the outstanding balance of guarantees granted to credit operations under the responsibility of the National Treasury summed BRL 303.4 billion, of which BRL 112.9 billion from domestic operations and BRL 190.5 billion from foreign operations.

Table 5 – Honored Guarantees in 2021 (BRL billion)

	2016	2017	2018	2019	2020	2021
<b>Domestic Guarantees</b>	111.1	111.5	114.3	109.3	114.0	112.9
States	81.3	84.7	91.4	90.9	97.3	96.7
Municipalities	4.0	3.9	3.9	4.9	6.9	8.2
SOEs	24.7	22.5	18.8	13.5	9.8	8.0
SCEs	1.1	0.4	0.2	0.0	0.0	0.0
<b>External Guarantees</b>	103.8	121.9	144.0	146.6	181.9	190.5
States	75.5	91.2	107.7	109.6	135.2	137.4
Municipalities	10.7	11.1	13.5	14.6	20.0	22.4
SOEs	13.9	14.0	15.3	14.7	17.2	21.5
SCEs	3.7	5.6	7.5	7.7	9.5	9.2
<b>Total Guarantees</b>	214.9	233.4	258.3	255.9	295.9	303.4
<b>Executed Guarantees</b>	2.4	4.1	4.8	8.4	13.3	9.0

**Source:** National Treasury

In 2021, the value of honored guarantees reached R\$8.96 billion, referring to defaults in five states (BRL 8.96 billion) and one municipality (BRL 1.56 million). The table below presents the honored guarantees of subnational entities throughout 2021.

Table 6 – Honored Guarantees in 2021 (BRL million)

Borrower	Executed Guarantees 2021	%	
States	8,963.3	100.0%	
Rio de Janeiro	4,180.5	46.6%	
Minas Gerais	3,130.0	35.8%	
Goiás	1,301.5	14.2%	
Amapá	194.3	2.1%	
Rio Grande do Norte	157.0	1.3%	
Municipalities	1.6	0.0%	
Belford Roxo - RJ	1.6	0.0%	
Total	8,964.8	100.0%	

**Source:** National Treasury

Currently, the Federal Government is prevented from recovering the counter-guarantees referring to honored guarantees of states that have obtained injunctions from the Federal Supreme Court (STF) or that have adhered or are in the process of adhering to the Fiscal Recovery Regime<sup>9</sup> (Regime de Recuperação Fiscal - RRF in Portuguese). The increase in honored guarantee without the corresponding recovery of counter-guarantees has the final effect of increasing the FPD, since these expenses are paid with debt issuance. In

<sup>&</sup>lt;sup>7</sup> Debt that the Federal Government is responsible for paying in case of default by the original creditor.

<sup>&</sup>lt;sup>8</sup> Situation in which the Federal Government effectively pays the obligation, as the creditor has defaulted.

<sup>&</sup>lt;sup>9</sup> Established by Complementary Law No.159/2017 and amended by the CL No.178/2021, it establishes an economic recovery plan for states in serious fiscal situation, in which differentiated conditions are granted for debt payments, access to credit, among others, in return for tax reforms and other measure to balance state finances.

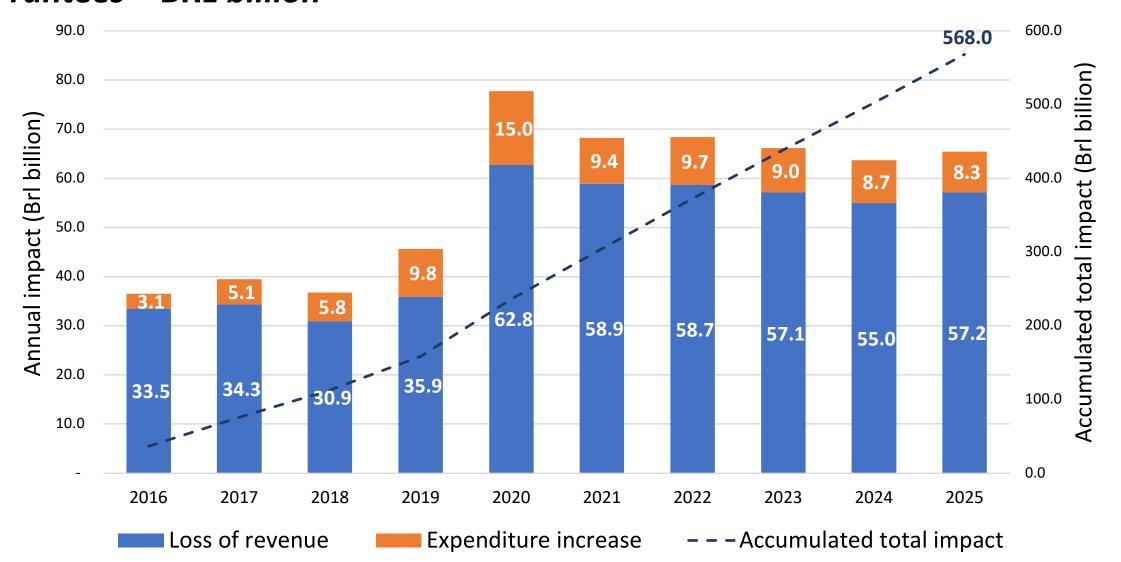
this way, the default of some entities has the effect of increasing the Federal Government's financial expenses, burdening tax-payers.

In addition to the impact of honors on the FPD, Federal Government income from subnationals' debt restructuring plan have been falling due to renegotiations with subnational entities that were enable by legislation (Complementary Laws No. 148/2014, No. 156/2016, and No. 178/ 2021), which retroactively changed 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 subnationals' guarantees, without the possibility of accessing their counter-guarantees.

The total impact due to the debt restructuring operations since 2014, including impact from both revenue reductions<sup>10</sup> and increase in honored guarantee expenses, is shown in Figure 24.

The total impact in 2021 was BRL 77.8 billion, of which BRL 62.8 billion correspond to frustrated revenues and BRL 9.4 billion to expenses with honored guarantees. This impact represents an increase of the same proportion in the Federal Government's borrowing requirements over the past year.

Figure 24 – Impact from subnationals' debt restructuring and honored guarantees - BRL billion\*



\*Adjusted by CPI to 31 Jan 2021 **Source:** National Treasury

Regularly, the National Treasury publishes the Guaranteed Debt Report (GDR) with a global view of its contingent liability.

The subject has additional material in the Treasury's website (in Portuguese). 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, and on a dedicated statistical page, which brings detailed data on the guarantees. At last, there is a special page about the guarantees honored by the Union.

<sup>&</sup>lt;sup>10</sup> The impact on revenues can be briefly broken down into three parts. The first, arising from CL No. 148/14, represents a reduction of contractual charges and exchange of inflation indexation. The second, the result of CL No. 156/16, represents a decrease in the short- and medium-term revenues stream from the extension and grace period for amortization. The third, arising from CL No. 178/21, similarly to the previous one, represents a decrease in the revenue stream due to the refinancing of previous debts.

The Federal Public Debt strategy execution in 2021 successfully reduced the share of short-term debt and lengthened the average maturity. In addition, the National Treasury effectively strengthened its liquidity reserve<sup>11</sup>, The cash balance starts 2022 in an amount equivalent to at least 9 months of debt service. The liquidity reserve offers an important buffer for managing the challenges that remain in the short term, allowing the debt manager to act with ease in times of greater volatility.

The year 2021 illustrates the importance of having management flexibility to adjust the borrowing strategy to market conditions. The first half was favorable to higher volumes of issuances, allowing the rollover of high maturity payments without resorting to very short-term instruments. This strategy improved the maturity profile of coming periods, reversing part of the impacts of the pandemic on the FPD structure. In the second half of the year, under greater volatility, but with a comfortable cash position, the Treasury adjusted issuances as a way of ensuring a smooth operation of the fixed-income market. The Treasury decreased the issuance of fixed-rate bonds (LTN and NTN-F) and increased the issuance of floating-rate bonds (LFT).

The challenges faced by the FPD management throughout 2021 make it clear the need to proceed with the fiscal reform agenda to consolidate a macroeconomic environment favorable to the reduction of public debt and improvement of the debt composition. Although in recent years cost indicators have benefited from a greater share of floating-rate bonds, given the Selic rate reduction observed in 2020, the recent cycle of monetary tightening illustrates the risks to which the debt trajectory is exposed.

In this context, this Annual Debt Report contributes to promoting the discussion of the relevance of a fiscal scenario favorable to the public debt management by providing information on the borrowing strategy performance and the results of the main FPD indicators. The Treasury remains committed to finding an adequate balance between debt costs and risks, always attentive to market conditions.

<sup>&</sup>lt;sup>11</sup> The comparison of cash availabilities to pay the debt is done with DFPD maturities and interest payments relative to the bonds in the Central Bank portfolio