TesouroNacional

2023 PAF

Published in 01/26/2023

Annual Borrowing Plan

Ministry of Finance
National Treasury Secretariat

SECRETARIA DO TESOURO NACIONAL

MINISTÉRIO DA FAZENDA

Federal Public Debt: Annual Borrowing Plan 2023. 1/
Ministry of Finance, National Treasury Secretariat, Brasília:
National Treasury Secretariat, January, 2023, number 23.
1. Federal Public Debt 2. Annual Borrowing Plan 3.
Planning 4. Strategy
I. Brazil. National Treasury Secretariat II. Title

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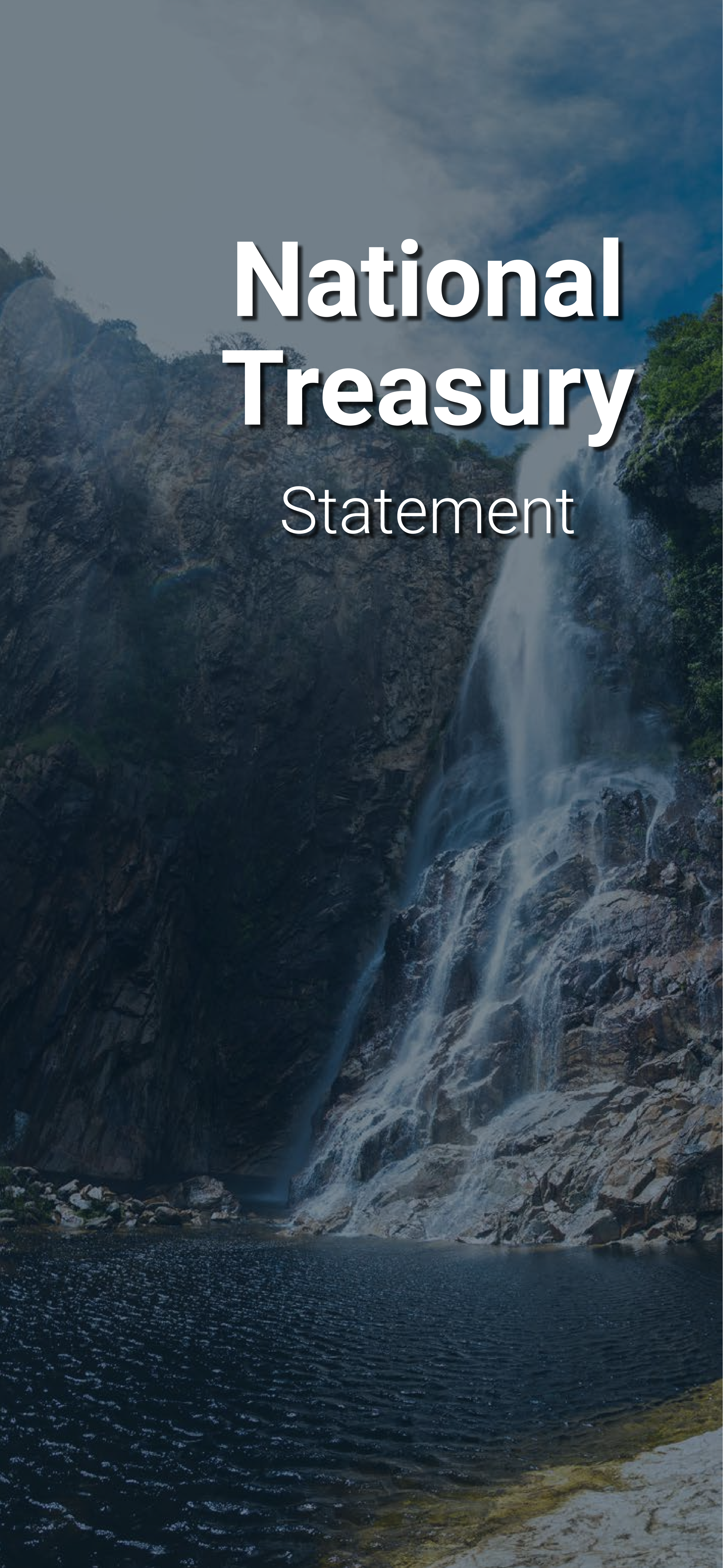
Last update: 01/26/2023

Summary



National Treasury

Statement

In this Annual Borrowing Plan (ABP), the National Treasury presents the main elements that will guide Federal Public Debt (FPD) management in 2023.

The international scenario should remain challenging in 2023, with monetary tightening in major economies and ongoing geopolitical tensions, such as the war in Ukraine. In the domestic scenario, the end of the electoral period and increased clarity on macro-fiscal guidelines for the coming years result in a favorable environment for government bond issuances.

The General Government Gross Debt (GGGD) is forecast to reach 73.3% of GDP in December 2022, a level lower than the period immediately prior to the pandemic. However, the GGGD level remains high when compared to the investment grade emerging countries, whose average is 61% of GDP, highlighting the importance of measures to control public spending and improve tax collection.

The proposal for a new fiscal framework guided by the level of public debt and the priority of the political agenda for the approval of a tax reform in 2023, is expected to support the debt trajectory for the coming years and, as a result, also the FPD management. The recent improvement of the country's visibility among international investors, who are concerned with the sustainability agenda, is also relevant for debt management, due to the characteristics of this investor base.

The increase in the amount of FPD maturing in the short term in recent years, resulting from the fiscal deficits prior to 2022 and increased issuance of short-term bonds in 2020, has presented challenges to the strategy of lengthening the public debt maturity. In this scenario, the commitment to fiscal balance will be essential to establish, in the market, favorable conditions for increased bond issuance that promote the improvement of the federal government's debt profile.

Through ABP 2023, the National Treasury provides transparency on how the public debt management fulfills for the federal government's borrowing needs. Moreover, the document emphasizes the importance of monitoring the cash reserves which are available exclusively for debt payment, the so-called liquidity reserve. The maintenance of this reserve at prudent levels is important for the mitigation of refinancing risk and ensuring the good functioning of the public bond market, besides providing flexibility in the execution of the financing strategy.

1 Macroeconomic Scenarios and Borrowing Requirements

1.1 Macroeconomic Scenarios

The year 2023 will likely be a very challenging year for the global economy. The high inflation of 2022, unseen in many countries in forty years, led to the start of raising interest rates by the main central banks of the world. This trend is expected to continue into 2023, and rates are expected to remain at elevated levels for most of the year. The consequent tightening of financial conditions is expected to affect the real economy, and the United States and Europe will experience a slowdown and possibly even a recession in the first half of 2023. In Europe, the situation is aggravated by the prolonged and uncertainty surrounding the war in Ukraine, which will complete one year by February 2023. In contrast, with the relaxation of China's zero-Covid policy, the country's reopening is expected in the first half of 2023, which would avoid a further global economic slowdown.

For Brazil and other emerging countries, this international scenario exerts pressure on the devaluation of their national currencies due to high interest rates, mainly in the United States. This could lead to increased inflationary pressures through imports in some countries. At the same time, China's reopening will be especially positive for Brazil, due to its companies that export commodities to the Asian country.

At the domestic level, 2023 is an opportune year to advance the reform agenda, such as tax reform, preserving the microeconomic advances of recent years, and reinforcing the commitment to fiscal sustainability. The scenario envisions a slower economic growth rate compared to 2022, in a context marked by (i) a Selic interest rate still at a high level, with inflation above the target (converging in 2024); and (ii) external scenario with lower global economic growth, reduced international liquidity and lower commodity prices.

As for risks in the baseline scenario, in the external environment, the main point of attention is whether central banks will be able to control inflation. If inflation is more persistent, central banks may have to continue with monetary tightening, raising basic interest rates above expectations, which could decelerate the economy more intensely, both in Europe and in the United States. For example, it is possible that the reopening of China will create new inflationary pressure due to the pent-up demand during the last three years. As a result, central banks that had already completed the monetary tightening may have to increase interest rates again, further tightening monetary and financial conditions. There are also geopolitical risks, such as an escalation of the war in Ukraine and a deterioration in Western countries' relations with Russia, as well as increasing tensions between the United States and China throughout 2023.

Based on this, our conservative scenario includes, on the external front, greater inflationary persistence in the US economy, leading the Federal Reserve to implement stronger and more persistent monetary tightening. This causes a greater deceleration in the US economy, with impacts on asset prices in global financial markets.

Domestically, this external scenario adds to the risk of a perceived prolonged fiscal consolidation. This would lead to more inflationary pressures and tighter financial conditions, and thus a less favorable environment for economic growth.

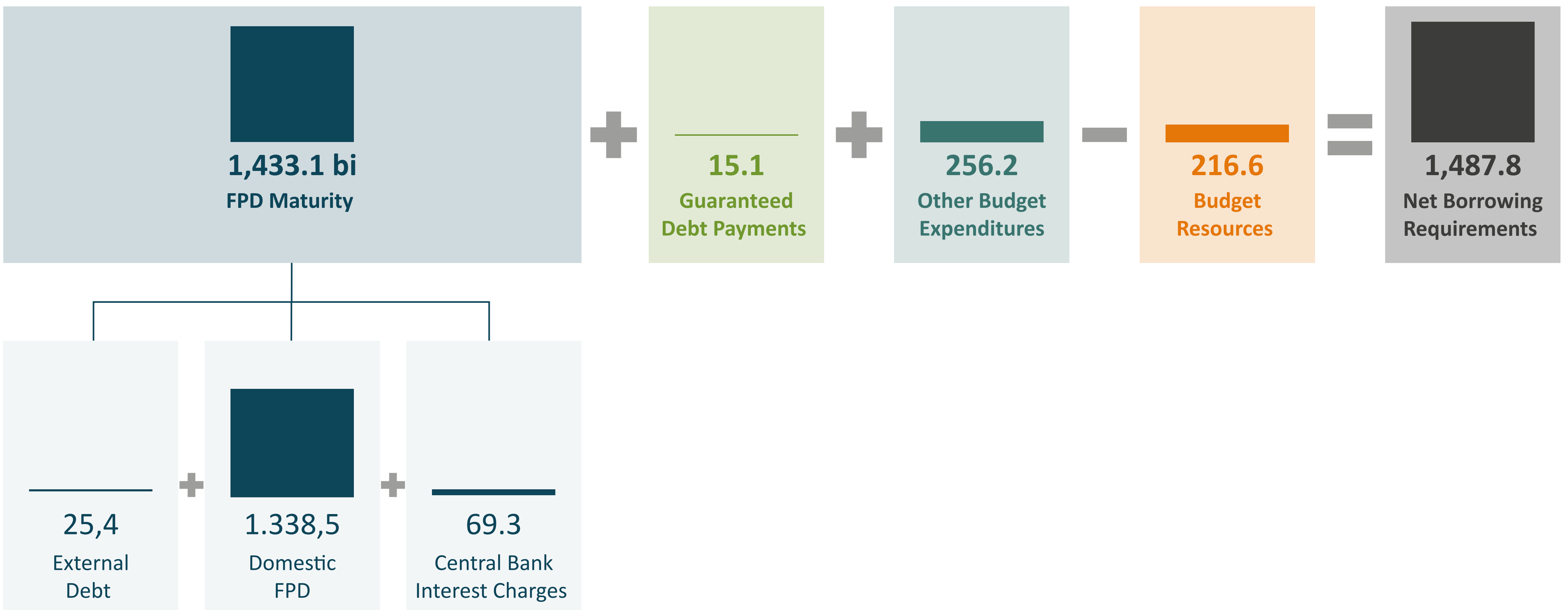
On the other hand, there is also a more optimistic scenario, in which (i) the perception of fiscal responsibility is stronger; and (ii) the structural reforms progress. This scenario would favor economic growth and lead to a decrease in structural interest rates.

Scenarios involving severe shocks or extreme situations have not been contemplated for the decision of the limits in this 2023 Annual Borrowing Plan.

1.2. Borrowing Requirements In 2023

The estimated net borrowing requirement of the Federal Government for the year 2023 is BRL 1,487.8 billion[1]. As shown in Figure 1, the net borrowing requirement corresponds to the sum of the federal debt maturities[2], the forecast for subnationals' non-performing guaranteed loans and other budgetary expenses[3] to be paid with issuances' proceeds, and is net of the non-debt budget resources dedicated to debt service (For conceptual information on the borrowing requirements, see the Methodological Annex).

Figure 1 – Borrowing Requirements in 2023 (BRL billion)



Source: National Treasury and SOF

FPD maturities estimated for 2023 add up to BRL 1,433.1 billion. Of this amount, BRL 1,363.9 billion refer to market debt, shown in more detail in Chart 1 and Figure 2, while BRL 69.3 billion represent charges on the securities portfolio held by the Central Bank, which, due to the force of law [4], cannot be refinanced. As for the composition, there is a predominance of maturities of fixed (40.0%)[5] and floating-rate bonds (37.0%). Domestic maturities represent most of the forecast for the year (BRL 1,338.5 billion). Throughout the year, January and September stand out as the months with the highest maturities, followed by March, May, and July which also have significant figures.

[1] *This amount should not be necessarily seen as the volume of bond issuances to be carried out over the year, as the Treasury still can use resources from the liquidity reserve. The amount to be issued may be equal, lower or higher, depending on the debt management in view of the market conditions that arise throughout the year.*

[2] *The Federal Public Debt (FPD) corresponds to the sum of the Domestic Federal Public Debt – DFPD – and the External Federal Public Debt – EFPD, the latter being subdivided into bonds and loans. The statistics presented throughout this document refer exclusively to the debt in the market, not considering the portion of DPMFi held by the Central Bank. The information on this debt is available in the annexes to the FPD Monthly Reports at www.gov.br/tesouronacional, Public Debt Monthly Report (MDR).*

[3] *The largest portion corresponds to primary budget expenditures.*

[4] *Complimentary Law 101/2000, Art. 29.*

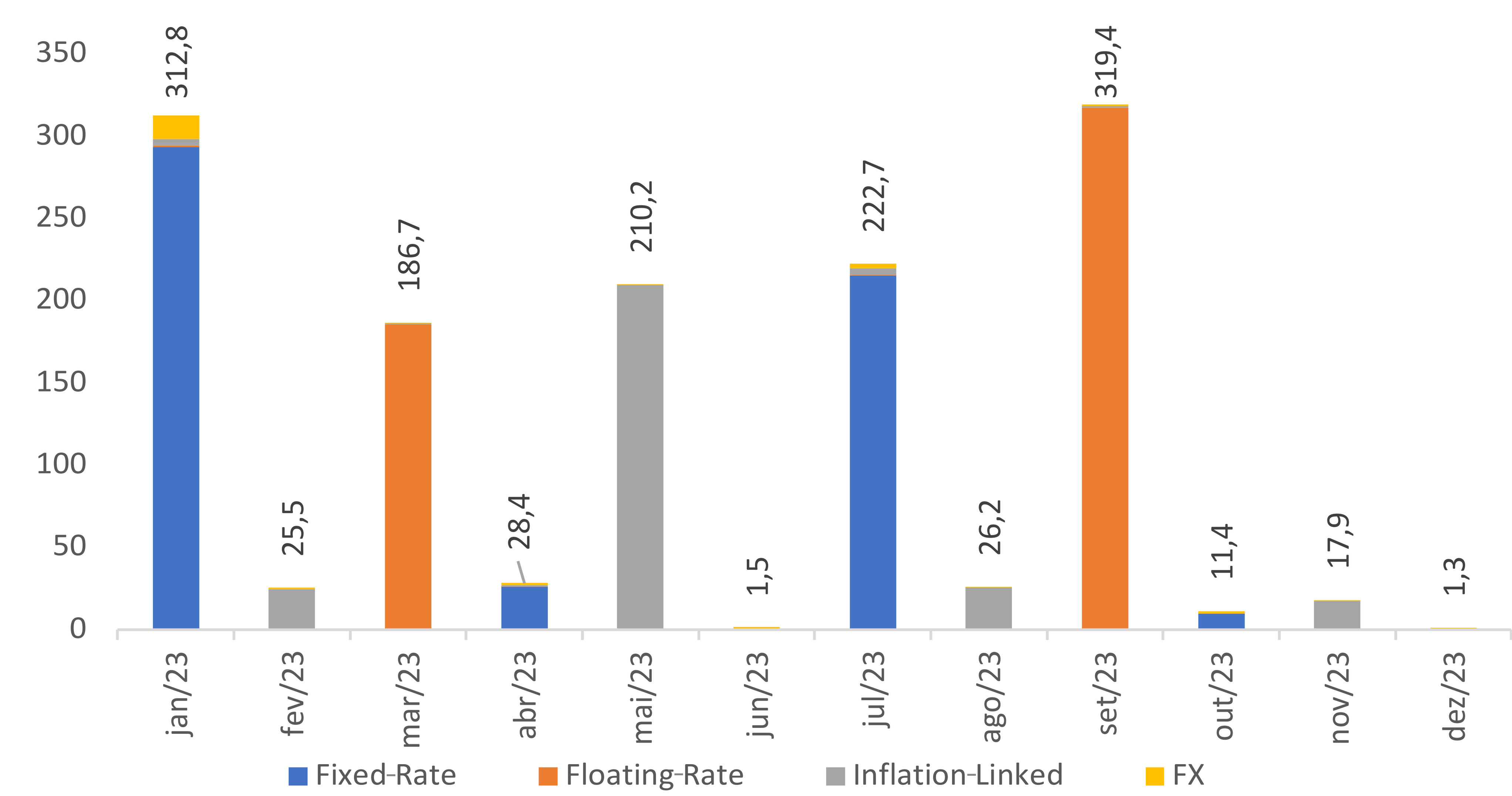
[5] *It should be noted that BRL 0.8 billion, referring to the Global BRL bonds, of the External Federal Debt, are allocated in fixed-rate debt, while BRL 1.7 billion of the domestic is allocated in foreign-exchange debt.*

Table 1 ***– Estimated FPD maturity in the market for 2023 (BRL Billion and % of the total)***

Indexer	FPD		DFPD	
	BRL bn	% of total	BRL bn	% of total
Fixed-rate	545.5	40.0%	544.7	40.7%
Floating-rate	504.5	37.0%	504.5	37.7%
Inflation-linked	287.6	21.1%	287.6	21.5%
Exchange rate	26.3	1.9%	1.7	0.1%
Total	**1,363.9**	**100.0%**	**1,338.5**	**100.0%**

Source: *National Treasury*

Figure 2 ***– Estimated FPD maturity in market for 2023 (BRL billion)***



FPD	BRL billion	%
Principal	1,216.8	89%
Interest	147.1	11%
Total	**1,363.9**	**100%**

4-month period	BRL billion	%
Jan-Apr	553.4	41%
May-Aug	460.5	34%
Sep-Dec	350.0	26%
Total	**1,363.9**	**100%**

Source: National Treasury.
Position on 12/31/2022, does not include the maturities of securities to be issued throughout 2023.

The debt expenses forecast in the borrowing requirement also inlcudes the honoring of guarantees of BRL 15.1 billion[6] (For conceptual information on the borrowing requirements, see the Methodological Annex).

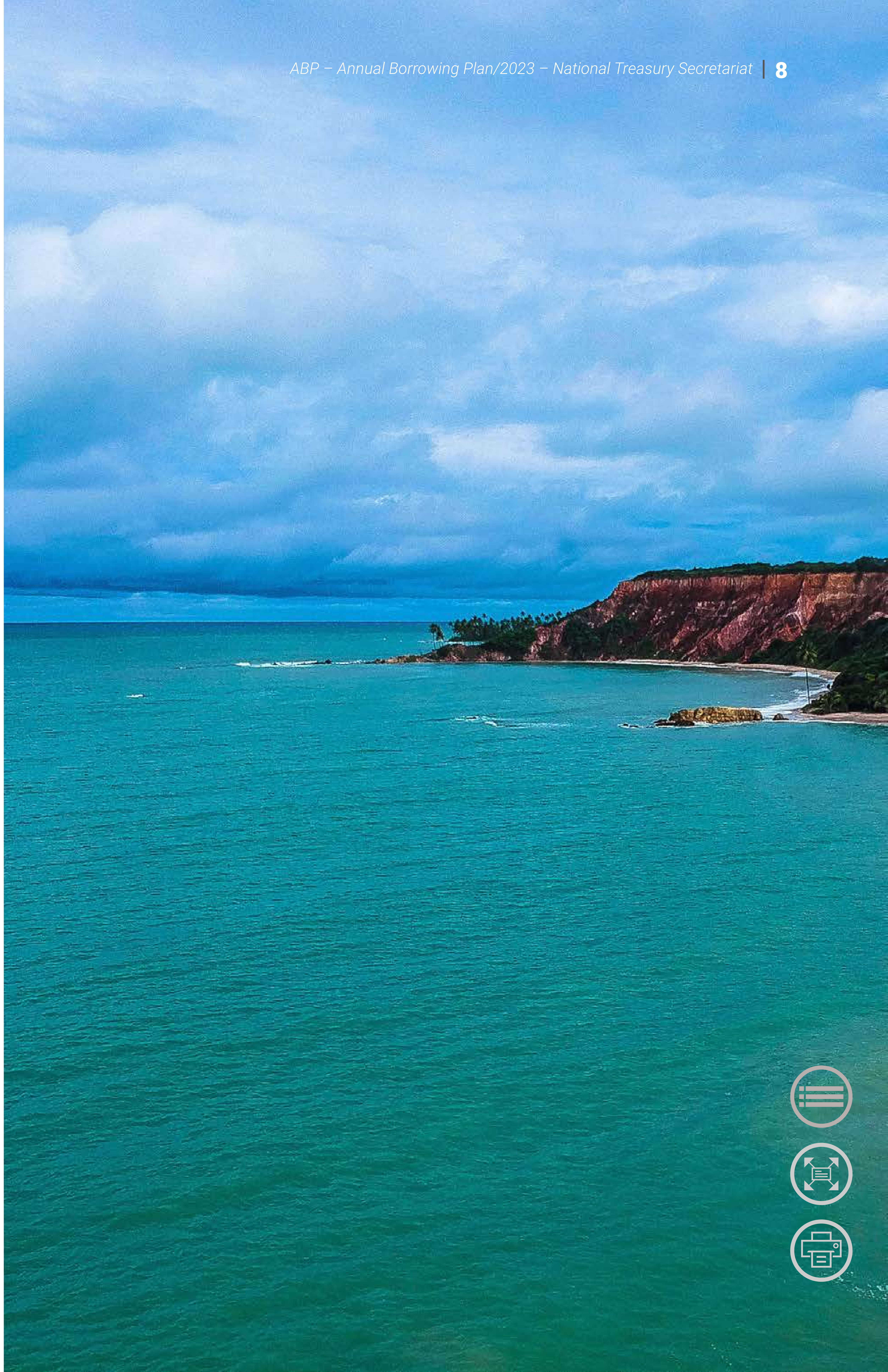
In addition to debt maturities, the 2023 budget also provides for the use of issuances proceeds to pay other budgetary expenses, in the amount of BRL 256.2 billion. Of this amount, BRL 69.0 billion are conditioned to the approval of supplementary credits by an absolute majority vote in Congress, in compliance with the device known as the Golden Rule, defined in item III, of art. 167 of the Federal Constitution. This year the funds are primarily allocated for social security expenses[7].

As already mentioned, the 2023 budget foresees the allocation of BRL 216.6 billion in budget revenues (sources) not arising from the issuance of government bonds for the payment of FPD. This budget forecast includes two types of resources: (i) revenues dedicated to the payment of FPD, in the amount of BRL 100.5 billion and (ii) free sources, that is, resources without specific earmarking, in the amount of BRL 116.1 billion.

[6] This forecast is an estimation for the execution of guarantees in 2023. The 2023 budget provides additional margin to cover the honoring of guarantees in case of new adhesions to the Fiscal Recovery Regime (FFR) and court injunctions. The following states were considered for the forecast of execution of guarantees in the borrowing requirements: Rio de Janeiro, Goiás, Rio Grande do Sul, Minas Gerais, Alagoas, Maranhão, Pernambuco, Piauí and Rio Grande do Norte.

[7] According to art. 23 of the 2023 Budget Guidelines Law (Law 14.436/2022):
"Art. 23. The 2023 Budget Bill and the issuing Law may contain revenues from credit operations and primary current expenditures, the execution of which is conditioned to approval by the National Congress, by an absolute majority, in accordance with the provisions of item III of the caput of art. 167 of the Constitution, except for the hypothesis provided for in § 3 of this article."
The amount of these conditioned expenses and, therefore, the funding need estimated in this ABP, may be reduced during the year if there is a financial or tax-revenue surplus, as provided in paragraph 3 of the aforementioned article, in verbis:
"§ 3 The amounts referred to in § 1 may be reduced as a result of the replacement of the source of funds conditioned by another source, observing the provisions of line "a" of item III of § 1 of art. 50, including that related to a credit operation already authorized, made available by previous alteration of the source of funds, despite the provisions of art. 62."

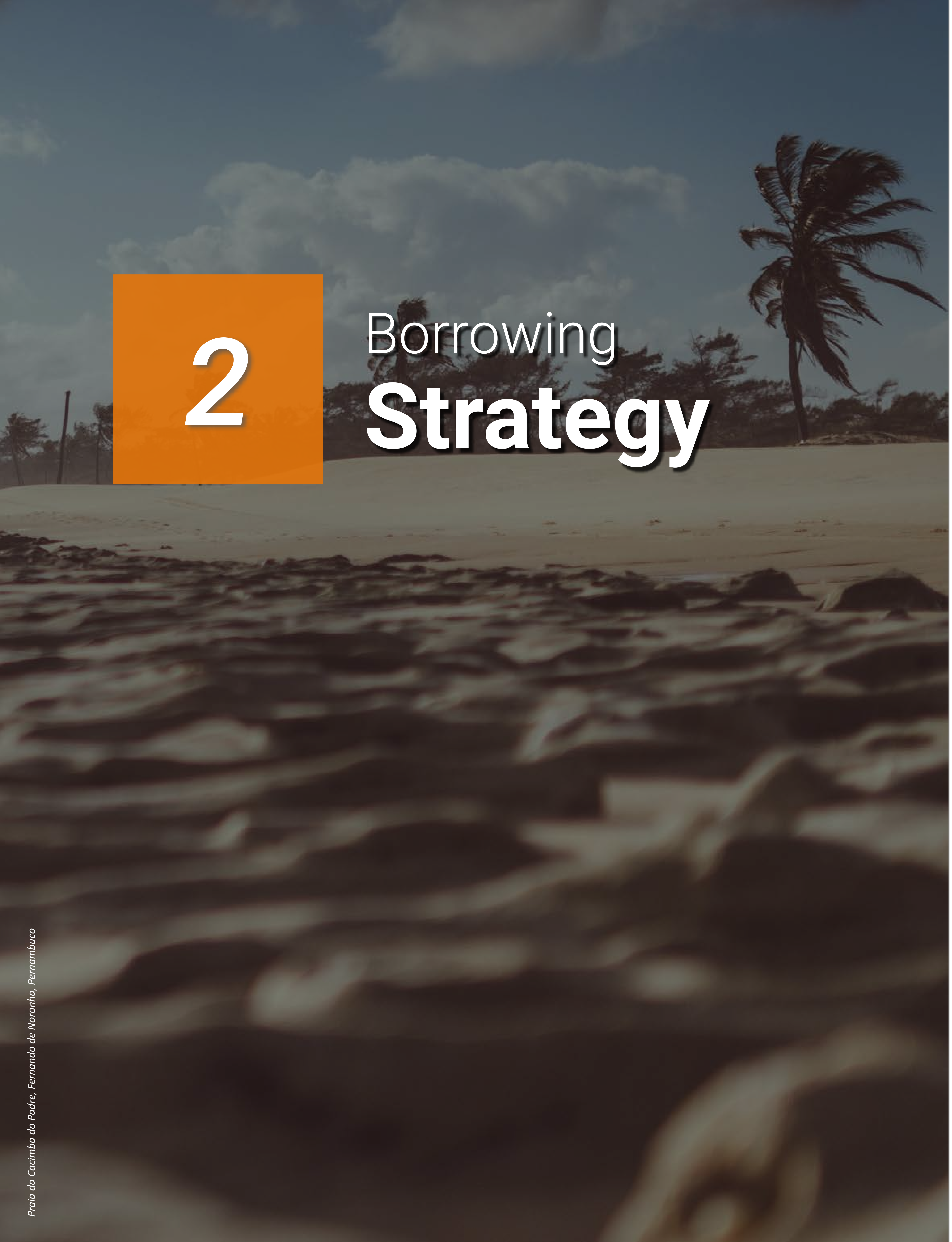
Finally, it is important to highlight the current volume of the liquidity reserve[8] dedicated to debt payments, which closed the month of December 2022 at BRL 1,175.80 billion, representing financial sufficiency for at least the next 8 months[9] of domestic service for market operations and with the Central Bank. In addition to the liquidity reserve in domestic currency, the National Treasury already has enough foreign currency resources to pay off all external debt maturities in 2023.



[8] *The federal government's cash availabilities are part of the Single Treasury Account, while the debt liquidity reserve is a subdivision of the latter. Such availabilities are classified into budgetary sources, according to their origin, of which two groups make up the liquidity reserve, namely: (a) the issuance proceeds, which originate from raising funds in the market through securities; and (b) the exclusive sources for debt payment, according to specific legislation for each source (return of credit operations to financial institutions and regional governments, for example). The balance of the liquidity reserve has been published in the Monthly Debt Report since the January/2021 edition.*

[9] *FPD management seeks to maintain a minimum cash balance enough to cover at least 3 months of service, as a way of mitigating the refinancing risk.*

2 Borrowing Strategy



Praia da Cacimba do Padre, Fernando de Noronha, Pernambuco

This section discusses the general outlines of the federal government bond issuance program in 2023, as a way to meet the National Treasury's borrowing requirements and maintain the liquidity reserve at adequate levels.

In addition to seeking adherence to market conditions, the financing strategies within the 2023 Annual Borrowing Plan were designed in light of the objective and guidelines on debt management.

The objective of FPD management is to efficiently meet the federal government's borrowing needs, at the lowest cost in the long-term, while maintaining prudent levels of risk. Additionally, it seeks to contribute to the proper functioning of the Brazilian government bond market.

In order to achieve this objective, the following qualitative guidelines will guide the development of FPD financing strategies, respecting market conditions:

- Gradual replacement of floating-rate bonds with fixed-rate and inflation-linked bonds;
- Smoothing of the maturity structure, with special attention to debt maturing in the short term;
- Increase of the outstanding average maturity;
- Promote the development of the yield curve;
- Incentive to liquidity of federal government bonds in the secondary market;
- Diversification and broadening of the investor base; and
- Maintenance of liquidity reserve above its prudent level.

2.1. Domestic Debt

The federal government's borrowing needs are primarily met by issuing bonds in the local market, which include fixed-rate bonds (LTN and NTN-F), inflation-linked (NTN-B) and floating-rate bonds, indexed to the Selic interest rate (LFT). LTN stand out for their high liquidity in the secondary market and ease of hedging interest rate risk (matched operations). The NTN-F and NTN-B contribute to lengthening the debt and diversifying the investor base. Finally, LFT are part of the strategy to avoid the concentration of maturities in the short term, in addition to presenting expectations of lower ex-ante costs.

Of bonds to be offered in 2023, fixed-rate bonds will come with four reference maturities for LTN (6, 12, 24, and 48 months) and three maturities for NTN-F (6, 8 and 10 years). Without changes in relation to the previous year, the NTN-B will have reference maturities corresponding to 3, 5, 10, 15, 25 and 40 years, issued alternately fortnightly (3, 10 and 25 years in one week, and 5, 15, 40, the following week). The LFT will be issued weekly, with maturities of 3 and 6 years. The inclusion of the 3-year vertex for the LFT brings flexibility to cash management throughout the year, given the 2023 budget expendituresand the potential macroeconomic risks described above.

Table 2 presents the securities to be offered in the first quarter of 2023, for each reference maturity. The auction notices (published under the Treasurys ordinances or "portarias") will define the bid selection criteria, which can be: (i) uniform-price auction (Dutch auction), in which all winning bids pay the same price as the minimum accepted bid; or (ii) multiple-price auction (traditional auction), in which each winning bidder pays the price submitted in their respective bid.

The National Treasury may consider issuing other benchmark bonds, provided they are compatible with public debt management guidelines and market conditions. Likewise, liability management operations may be carried out, with the aim of ensuring the proper functioning of the secondary market.

Table 2 – ***Benchmark bonds to be offered in the 1st quarter of 2023***

Bond	Maturity	1st Quarter	Indexer	Coupon
LTN	6-month	Oct/23	Fixed-rate	Zero-coupon
	12-month	Apr/24		
	24-month	Apr/25		
	48-month	Jul/26		
NTN-F	7-year	Jan/29	Fixed-rate	10% per year, payable semiannually
	10-year	Jan/33		
LFT	3-year	Mar/26	Floating-rate	Zero-coupon
	6-year	Mar/29		
NTN-B	3-year	Aug/26	Inflation-Linked Rate	6% per year, payable semiannually
	5-year	Aug/28		
	10-year	May/33		
	15-year	Aug/40		
	25-year	Aug/50		
	40-year	Aug/60		

Source: *National Treasury*

In 2023, the National Treasury will continue to publish the auction calendar on a quarterly basis. The calendar will appear on its website in Portuguese and English at least 15 days before the beginning of each quarter, ensuring transparency and predictability to the Treasury actions. This form of communication provides the debt manager with the flexibility to adjust its strategy to market conditions in a timely manner.

2.2. External Debt

For the issuance of the external Federal Public Debt (EFPD), in addition to the general FPD guidelines, more specific qualitative guidelines are also considered:

- Creation and improvement of benchmarks in the yield curve;

- Possibility of external liability management operations aimed at enhancing the efficiency of the external yield curve;

- Monitoring of the External Contractual Debt, pursuing alternative operations capable of generating financial gains for the National Treasury; and

- Improving and diversifying of the investor base.

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.

In 2023, the National Treasury intends to issue benchmarks in the US dollar curve and use tools such as the buyback program and other external liability management operations, withdrawing less efficient bonds from the market.

The Treasury continues to closely monitor the main changes and trends in the international fixed-income market and may adapt its actions to align with the best debt management practices. It can also evaluate issuance opportunities in other currencies, such as euros (EUR) and reais (BRL). Additionally, the National Treasury may launch its first thematic bond in the international market in 2023.

3 Expected Results

3.1 The FPD In The Short Term (2023) And Optimal Composition

The expected results for the main indicators of the FPD at the end of 2023 result from forecasts, supported by the economic scenarios referred to in Section 1, and in different combinations of government bond issuances mentioned in Section 2. Thus, in Table 3, the National Treasury presents limits (or ranges) for the indicators of FPD outstanding, composition and maturity structure expected at the end of the year. This format ensures the necessary flexibility to debt management so that the execution of the financing strategy is adherent to the economic environment and the conditions prevailing in the securities market at any given time.

Table 3 ***– Reference Limits for the FPD in 2023 and Benchmark Portfolio***

Statistics	2022	Reference limits to 2023		Benchmark Portfolio	
		Minimum	Maximum	Reference	Interval
Outstanding debt (BRL billion)					
FPD	5,951.4	6,400.0	6,800.0	-	-
Composition (%)					
Fixed-rate	27.0	23.0	27.0	40.0	+/- 2.0
Inflation-linked	30.3	29.0	33.0	35.0	+/- 2.0
Floating-rate	38.3	38.0	42.0	20.0	+/- 2.0
FX	4.5	3.0	7.0	5.0	+/- 2.0
Maturity structure					
% maturing in 12 months	22.1	19.0	23.0	20.0	+/- 2.0
Average maturity (years)	3.9	3.8	4.2	5.5	+/- 0.5

Source: *National Treasury*

Table 3 also shows the optimal composition of the FPD for the long term, also known as the benchmark portfolio[10]. This set of parameters guides the development of financing strategies and constitutes quantitative guidelines to be pursued over time for the FPD risk indicators, considering the composition by bond indexers and the maturity structure. Deviations in these indicators compared to the benchmark may be necessary[11], as we observe in this 2023 ABP and in previous years, to adjust the debt strategy to the current macroeconomic and financial conditions, in order to avoid pressures that result in excessive costs or risks in the short term.

The expected range for the FPD outstanding at the end of 2023 reflects both the appropriation of interest and the effects of the macroeconomic scenario on the remuneration factors of the bonds, as well as the result of the balance between planned issuances and redemptions for the year. When the percentage of debt refinancing is 100%, that is, the Treasury issues the same amount of debt maturing in the market, in a given time interval, the evolution of the debt outstanding is given by its average cost. But, in case of favorable market conditions, the Treasury may issue above the volume

[10] The benchmark portfolio is obtained through the use of quantitative models in order to define the debt bonds composition of that optimizes the relationship between costs and risks in the long term, given the expected demand constraints for each type of bond. The FPD benchmark portfolio is presented in the form of specific thresholds, with a tolerance range around them, for the main FPD indicators. It is one of the main tools for debt planning, complementing the qualitative debt management guidelines presented in section 2..

[11] This point will be explored further ahead..

of maturing debt, reaching a refinancing percentage above 100%, and using the financial resources to strengthen the debt cash balance.

This ABP strategy seeks, in addition to meeting the financing needs, to maintain a liquidity reserve above the prudent limits required for the proper management of scheduled redemptions. The increase in the FPD outstanding, when associated with the strengthening of debt cash balance, has a neutral effect on General Government Gross Debt and Public Sector Net Debt, since it reduces, on the other hand, the volume of Central Bank repo operations. In other words, net issuances or redemptions of FPD securities in the market lead to a change in the structure of the central government's debt, between the National Treasury and the Central Bank, without altering its total volume.

Regarding the composition of the FPD for 2023, it is expected that the share of floating-rate bonds (LFT) will continue to increase, with a reduction in the share of fixed-rate debt. In a context of slow fiscal consolidation, marked by successive primary deficits that have predominated in recent years, the LFT is preferable as a debt financing instrument compared to short-term fixed-rate bonds. Compared to short-term fixed-rate bonds, LFT has the advantage of having lower ex-ante cost and avoiding shortening the debt average maturity.

The benchmark portfolio prescribes an increase in the share of fixed-rate bonds in the FPD, but also requires attention to the concentration of debt maturing in the short term. Given the recent increase in the outstanding debt, it is not always possible to converge risk indicators in these two dimensions (indexers and maturities) at the same time. In this sense, the short-term financing strategy prioritizes longer-term instruments.

Increased LFT participation is known to improve risk indicators derived from the debt's maturity structure, such as increasing average maturity and lowering/maintaining the percentage of debt maturing in 12 months. The change in FPD composition in favor of a greater participation of fixed-rate securities requires greater capacity to issue bonds with longer maturities, which currently depends on a scenario of structural primary surpluses in public accounts that will make it possible to reduce the debt in the medium term. This would also contribute to greater participation by foreign investors, who are significant holders of long-term fixed-rate bonds.

Regarding the composition, another guideline of the ABP is to increase the share of inflation-linked bonds. These securities are important for extending the debt maturity, in addition to having a natural correlation with tax collection and GDP (due to inflation indexation), which contributes to matching revenues and expenses and smoothes the trajectory of the debt-to-GDP ratio.

Finally, the exchange rate exposure will remain within the desired values for FPD, around 5%. Notwithstanding the higher volatility of the exchange rate in comparison to the other indexes, this level is considered positive, taking into account the contribution of external issuances to the structuring of the external sovereign curve and to the improvement and diversification of the investor base.

Another frequently monitored parameter is the FPD maturity structure, through the indicators of the percentage maturing in 12 months and the outstanding average maturity. The first indicator shows the concentration of debt maturing in the short term, while the second reflects the average time remaining for redemptions, which are weighted by the present values of principal and interest flows. These indicators will indicate the refinancing risk of the debt, and the higher the first indicator and lower the second indication, the larger the risk.

Smoothing the maturity structure in an environment of concentrated short-term maturities is a challenge. However, the expectation for 2023 is that the maturity structure of the debt will stabilize. The percentage maturing in 12 months has managed to remain at comfortable levels, around its long-term benchmark of 20%. Small fluctuations around this value, with a margin of 2 points more or less, are necessary to accommodate fluctuations due to the concentration of maturity in specific years.

In turn, FPD average maturity has presented a stable trajectory over time, but a more positive evolution of this indicator is desirable. Convergence to its long-term benchmark, 5.5 years, however, will depend on the ability to increase the use of instruments with longer maturities. The NTN-F and NTN-B contribute to the lengthening of the average maturity, besides helping to increase the diversification of the investor base, but the increase in demand for these securities is intrinsically linked to the improvement in the macro-fiscal environment, progress towards the investment grade and return of non-resident investors.

3.2 The Medium-Term Outline For The FPD

Medium-term projections indicate a gradual convergence of FPD indicators toward the benchmark portfolio over time, which intensifies from the middle of the current decade. However, current trajectories show that it will take longer for the debt composition to approach the benchmark than was expected a year ago. This is due, as explained above, to the short-term increase of floating-rate bonds in FPD, which has led to a decrease in the presence of fixed-rate bonds.

Scenarios with more restrictive market conditions make it difficult to introduce longer maturities for fixed-rate bonds, which may result in a low relative participation of this indicator in FPD over the entire period.

However, it is expected that there will be an increase in the share of inflation-linked bonds, showing convergence to the benchmark portfolio (35% of FPD). Finally, the share of the foreign-exchange debt is expected to remain stable at levels close to the benchmark of 5% of FPD throughout the analyzed period. Both inflation-linked and foreign-exchange bonds (external debt) are important for lengthening the average maturity of the FPD.

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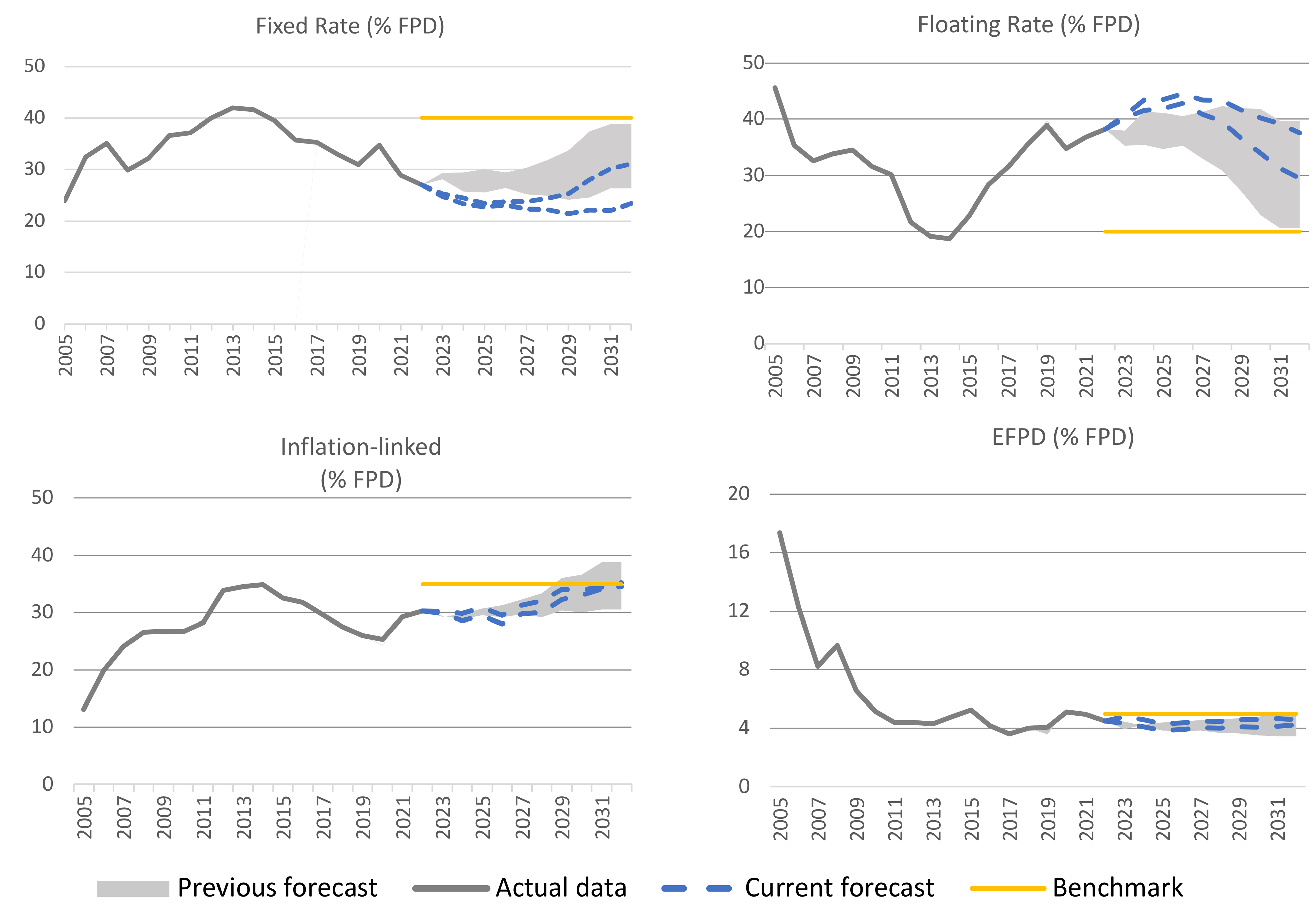
*Figure 3 – **FPD composition - medium-term forecast - % of FPD***

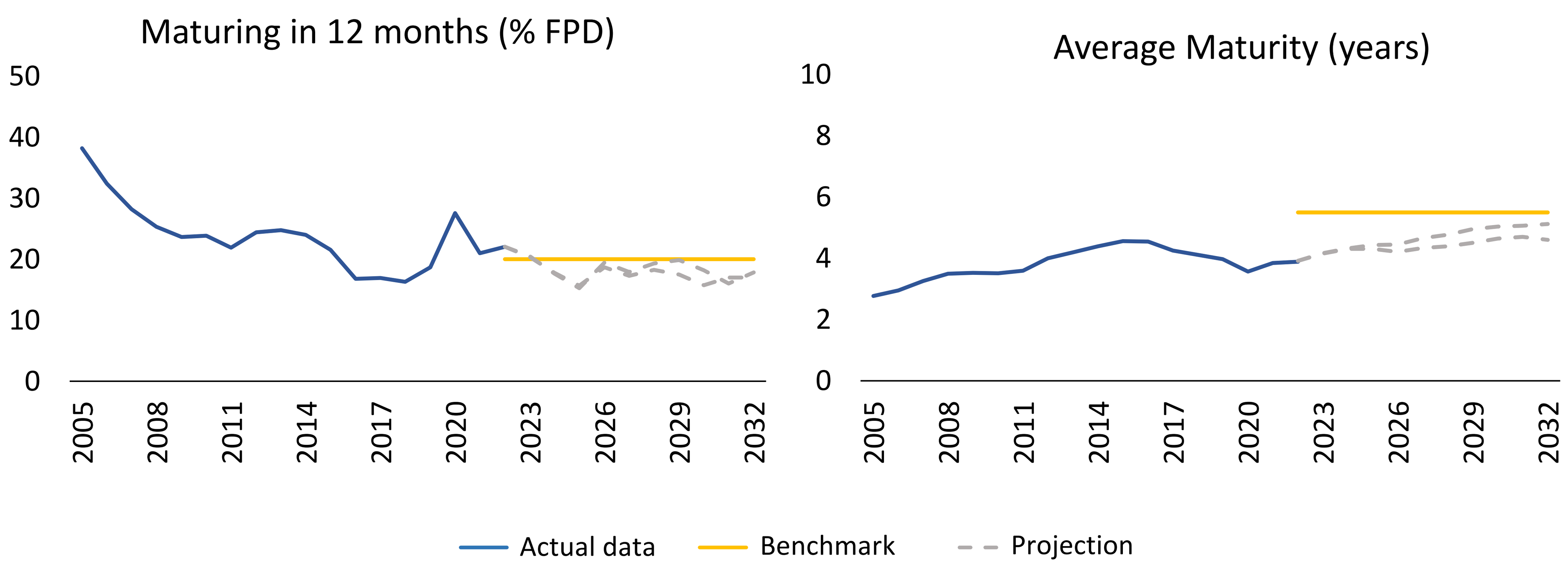


Source: *National Treasury*

The improvement in the debt profile depends not only on the composition by indexing factors, but also on the smoothing of the maturity structure. Therefore, it is important that all indicators converge to the desired reference limits, and, in particular, for the effects on the average maturity indicator to be observed whenever an increase in the share of fixed-rate bonds is sought.

In Figure 4, projections show the stability of the percentage of FPD maturing in 12 months around its long-term benchmark (20%) with slight fluctuations over the period, which reflect the dynamics of debt maturities with concentration in specific years. For a FPD around 60% of GDP (as of Dec/22), this is equivalent to approximately 12% of GDP in debt service, practically the totality of this value being refinanced annually, in a context of primary deficits.

Figure 4 – ***FPD maturity structure - medium-term projection***



Source: *National Treasury*

In this sense, this proportion of short-term debt is still relatively high compared to peer countries[12]. However, it is considered a comfortable level in light of the history of this indicator in Brazil, which has already reached values higher than 30% of FPD maturing in 12 months in the early 2000s (Figure 4). It is important to consider the complexity of lengthening the debt, in the face of a fiscal consolidation process that has been slow. Besides this, in order to mitigate the refinancing risk, the National Treasury maintains a high liquidity reserve, ending 2022 with the equivalent of 12.0% of GDP in cash, which means an anticipation of periods of higher amounts and provides flexibility in more volatile situations in the financial markets.

Reducing the concentration of maturities in the short-term implies extending debt maturities, as previously mentioned. In Figure 4, the expectation is that FPD average maturity will increase in coming years, even under the most conservative scenarios. However, the simulations do not currently indicate convergence to the 5.5-year benchmark portfolio within the horizon of the projections[13].

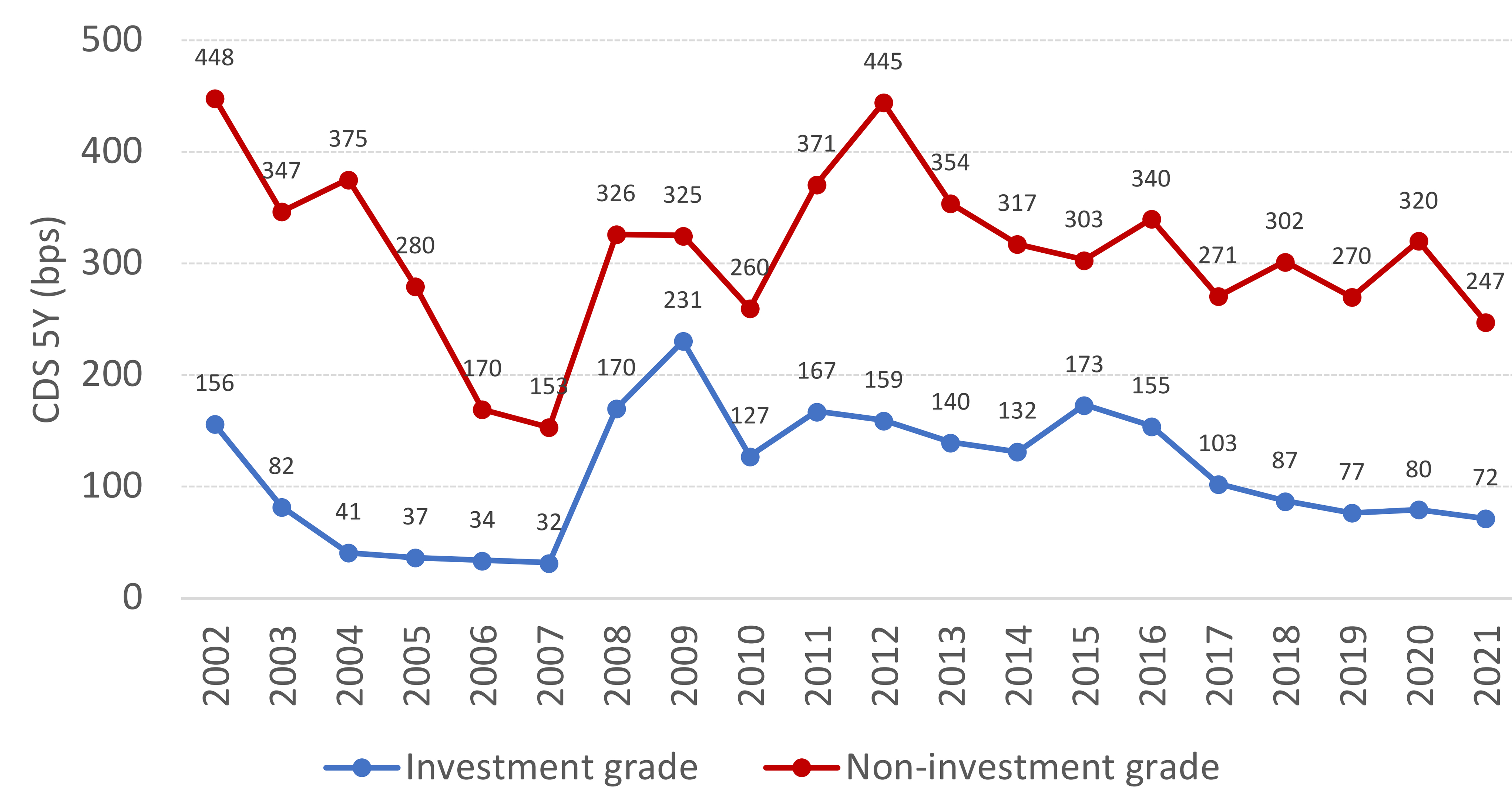
[12] For example, in a sample of 21 emerging economies in 2021, the average central government debt maturing in 12-months was 7.3% of GDP in countries with investment grade rating (Kazakhstan, Chile, China, Croatia, Philippines, Hungary, India, Indonesia, Malaysia, Mexico, Qatar, Romania and Thailand) and it was 9.8% of GDP in countries with speculative grade rating (South Africa, Colombia, Egypt, Jordan, Morocco, Nigeria, Pakistan and Turkey).

[13] Although it is more commonly used in international comparisons, the average life does not take into account intermediate interest payments or the present value of debt flows, which differs from the average maturity metric followed in this ABP

As the main challenge of the medium-term financing strategy, overcoming the demand restrictions for longer-term bonds depends on a change in the perception of fiscal risks by investors, which, in turn, depends on advances in the public account consolidation agenda. The improvement of this scenario is a fundamental step towards achieving an investment grade rating and thus expanding the base of non-resident investors in Brazil.

An improvement in financing conditions means lower costs for both the government and companies, allowing lower indebtedness and extending the maturities of their financial commitments. In this sense, the recovery of the investment grade has value beyond just being a good-paying seal, as it can reduce Brazil's risk premium by up to 2 percentage points on a persistent basis. This difference can be observed, on average, by comparing the evolution of the 5-year CDS for emerging countries with and without an investment grade, in Figure 5.

Figure 5 – ***Risk premium: 5-year CDS median for emerging countries***



Source: *World Bank*
Preparation: *National Treasury*

3.3 FPD Risk Analysis: Market Risk And Refinancing Risk

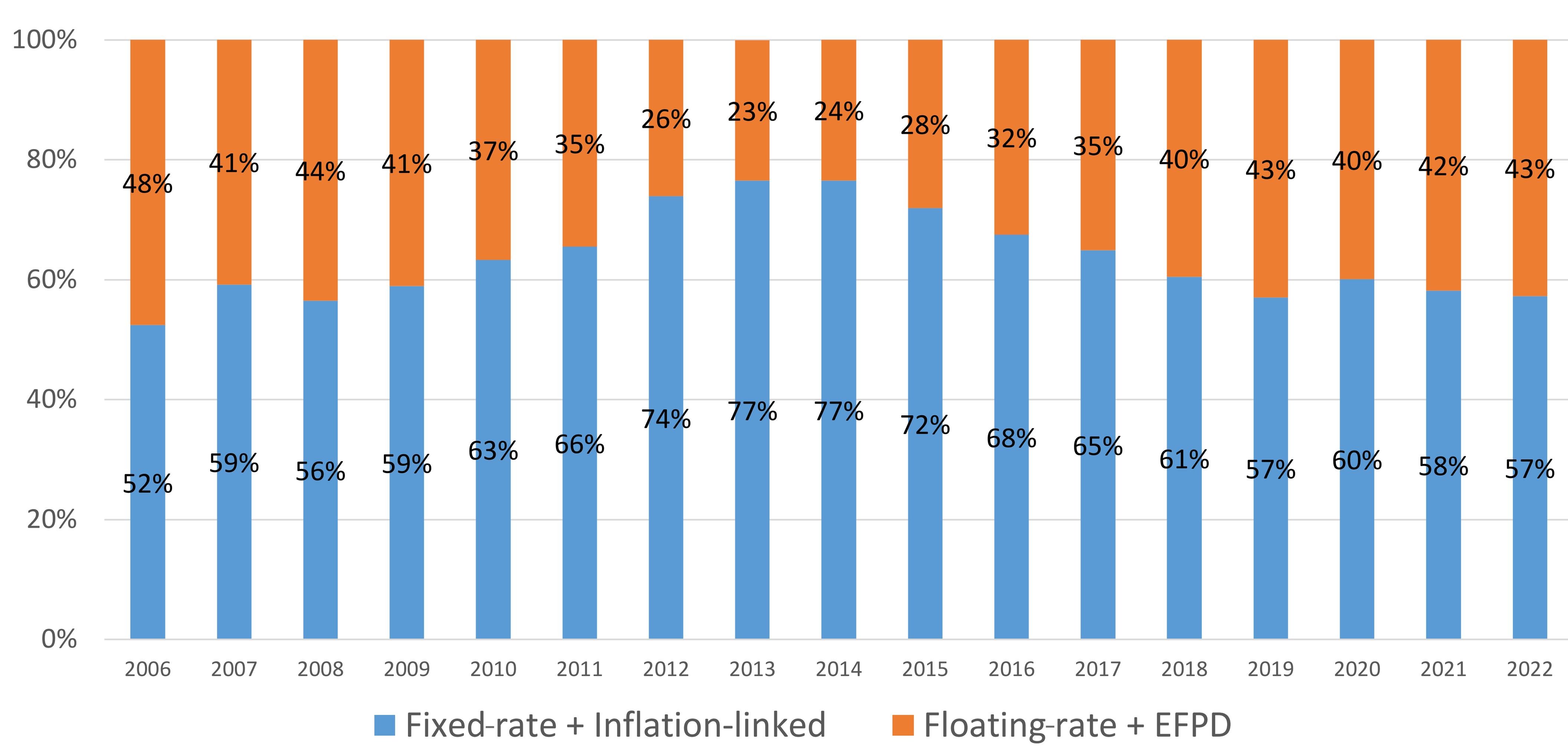
3.3.1. Market Risk

The composition of the FPD is the timeliest indicator of the market risk, due to its ability to capture the sensitivity of the outstanding debt to changes in the cost of issuance of government bonds, which might occur on account of fluctuations in the interest rate, the exchange rate or the inflation rate.

In the last few years, the FPD composition has seen an increase in the share of floating-rate bonds, such as the LFT, which entails a greater exposure to market risk. Variations in the LFT's benchmark rate (the Selic) cause changes in the average cost proportionally to their share in the FPD.

Figure 6 shows the evolution of the share of the public debt most exposed to market risk, which are debt linked to the Selic, sensitive to interest rate shocks, and foreign currency debt, sensitive to exchange rate shocks. On the other hand, the combination of fixed-rate and inflation-linked debt is less vulnerable to these shocks. After a period of decline, between 2010 and 2015, the share of public debt exposed to interest rate and exchange rate fluctuations has increased again since 2016 and is now similar to the 2008 level.

Figure 6 ***– Market Risk and FPD Composition***

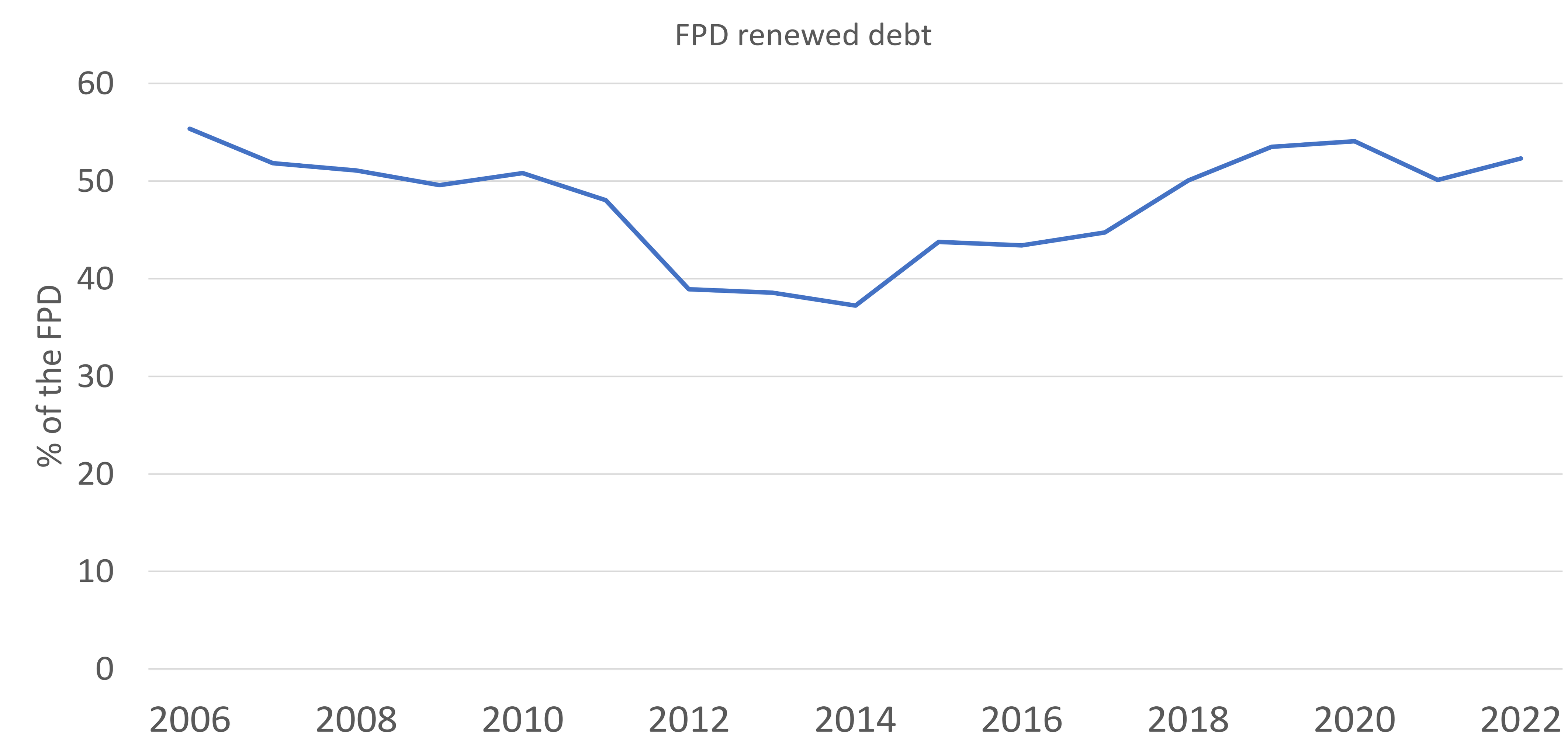


Source: *National Treasury*

Besides floating-rate and foreign-exchange bonds, any debt maturing in the short term will need to be refinanced and will subsequently have its cost redefined and, therefore, is also exposed to the interest rate risk. In this way, the share of FPD sensitive to changes in short-term interest rates comprises, besides the share of floating-rate bonds in general, the share of FPD maturing in 12 months. The sum of these two components corresponds to the share of FPD that will have its cost renewed in the next 12 months, which is an indicator of the debt's interest rate risk. This indicator combines the effects of changes in the composition (share of floating-rate bonds) and changes in the maturity structure (short-term debt) of the FPD.

Figure 7 shows that this indicator has also increased in the last few years. This reinforces the message that, in order to improve the debt profile, it is necessary to gradually replace floating-rate and short-term fixed-rate bonds for inflation-linked and long-term fixed-rate bonds.

Figure 7 – ***Share of debt cost renewal in 12 months (% of FPD)***



Source: *National Treasury*

The increase in the market risk seen in Figures 6 and 7, associated with a greater share of LFT in the FPD, is directly related to the prevalence of fiscal deficits over the last years. The uncertainty over the effectiveness of the fiscal consolidation process and, consequently, on public debt sustainability, makes it more difficult to issue fixed-rate and inflation-linked bonds with longer maturity.

Besides this, in recent years, especially after Brazil lost its investment grade status, there has been a structural reduction in demand for longer-term bonds, such as the NTN-F. These bonds are primarily bought by the group of non-resident investors. This change in the bonds demand profile has also affected the dynamics of FPD average maturity.

From 2015 to 2022, various stressful events in the economy and financial markets occurred, reinforcing the uncertain economic environment and causing high volatility in many economic indicators, such as GDP growth, exchange rate, and inflation rate. It is essential to have a more stable economic environment in order to reverse the current trend of market risk.

3.3.2. Refinancing Risk

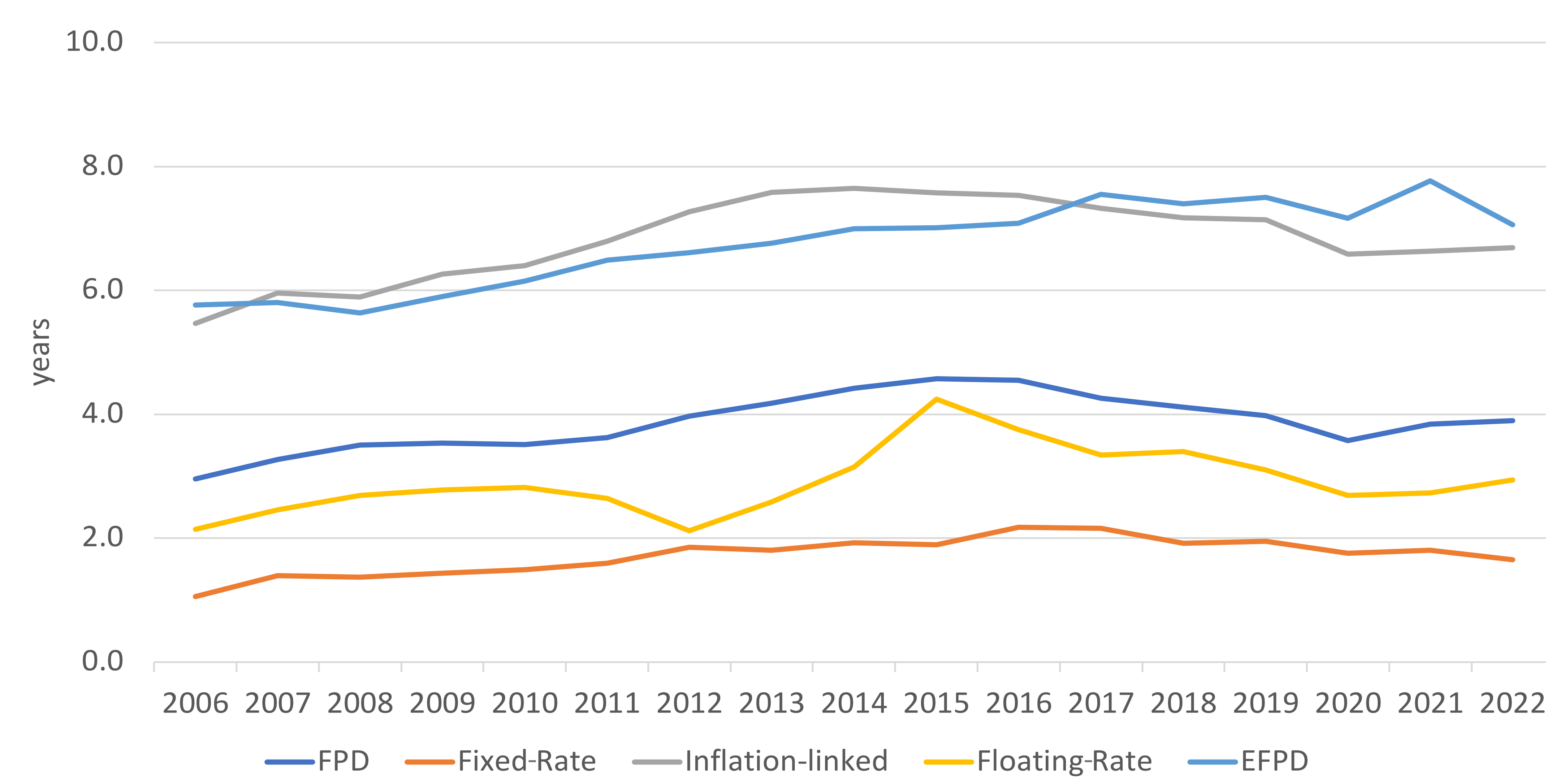
On the other hand, the maturity structure is decisive for the refinancing risk, which represents to the National Treasury the possibility of higher issuance costs caused by adverse financial conditions, when financing the maturing debt. Or, even more, the impossibility of raising resources in order to pay its commitments. The FPD maturity structure lengthening is crucial for mitigating this type of risk.

Figure 8 shows the historical performance of the outstanding FPD average maturity, by bond indexers. The more relevant bonds for FPD maturity lengthening are the inflation-linked bonds, such as NTN-B. Indeed, the FPD average maturity increased as the inflation-linked bonds raised its share in the FPD outstanding, particularly from 2006 to 2014. However, more recently, the increase in borrowing requirements and, therefore, the shorter maturities of NTN-B issuances, such as the 3-year benchmark, led to a marginal reduction of inflation-linked bonds average maturity.

With the fiscal scenario deterioration that started in 2015, the increase in LFT issuances played a role in the FPD average maturity reduction in the last years, as this bond became the main source for financing. In terms of maturity, the LFT is shorter than inflation-linked bonds, but is longer than fixed-rate bonds. Although the LFT has more recently contributed to reducing the maturity concentration in the short horizon, as it replaces short-term fixed-rate issuances, its effect on improving FPD average maturity is limited. Nowadays, the LFT average maturity is 3 years, shorter than the FPD's (4 years).

Finally, Figure 8 illustrates a challenge observed in recent years. Although it is recommended to increase fixed-rate bonds in the debt composition, the average maturity of these bonds (currently less than 2 years) is still low compared to other financing instruments. This shows that the increase in the fixed-rate share in the debt must be accompanied by an effort to lengthen these bonds. Certainly, the convergence towards the benchmark of FPD average maturity involves lengthening fixed-rate bonds in the medium-term debt strategy, as well as an increase in the share of inflation-linked bonds, which are already characterized by longer maturities. Therefore, it is important to make progress not only in the improvement of the composition, but also in the maturities of FPD bonds, which requires macro-fiscal conditions that favor demand for long-term bonds.

Figure 8 ***– FPD Average Maturity Evolution (in years)***



Source: *National Treasury*

In conclusion, in order to reduce significantly the market and the public debt refinancing risks, it is required that the combination between composition and maturities converges, in the long-term reference values (benchmark portfolio).

Lastly, it should be noted that the National Treasury maintains a liquidity reserve for debt payment. This refers to financial availability in the Single Account, dedicated to the purpose of honoring FPD commitments. This liquidity reserve allows the National Treasury to anticipate periods of higher maturity concentration, reduces the FPD refinancing risk and guarantees the payment of eventual contingent liabilities. In addition, the reserve ensures debt management flexibility to act in case of adverse conditions and excessive volatility in the government bond market.

4 Final Remarks

The scenarios used to prepare the 2023 ABP take into account the challenges that were evident in international environment through 2022 and that are expected to continue throughout 2023, such as the war in Ukraine and the monetary tightening cycle observed in main global economies. In the domestic scenario, the projections consider a reduction of the monetary tightening to begin in the second half of 2023, and an improvement of the country's fiscal position, through a framework of fiscal rules that should guarantee the sustainability of the public debt.

Since the beginning of the pandemic in 2020, the Treasury has managed to mitigate the impacts of the growth in public debt on refinancing risk, by maintaining the FPD liquidity reserve at prudent levels. In addition, the concentration of short-term maturing debt remained at a comfortable level, especially with the decrease in the share of short-term fixed-rate bonds. Although the greater issuance of floating-rate bonds (LFT) contributed to lengthening maturities, this strategy has limitations, since the average maturity of the LFT is 3 years, which is below the 4-year average level of the FPD.

The convergence of the composition and structure of maturities to the long-term reference requires macro-fiscal conditions that make the issuance of long-term fixed-rate and inflation-linked bonds feasible in the domestic market. In this context, progress in all dimensions of debt risk is expected to take place over the medium horizon, depending on whether those conditions are met.

In summary, public debt management demands fiscal responsibility as a fundamental assumption, through an agenda that guarantees debt sustainability and sustainable economic growth.

Methodological
Annex

A – Borrowing Requirements

The borrowing requirements are compounded by debt expenditures, divided into FPD maturities and payments related to subnational governments' non-performing guaranteed debt, and by other budget expenditures to be paid with revenues arising from government bond issuances. On the other hand, the concept of net borrowing needs subtracts from this amount the budget resources not originating from the issuance of government bonds, but that will be used to pay off the public debt.

The definition of borrowing requirements used in the ABP follows the budget logic, and, therefore, considers only revenues that are forecasted to be collected during the current year. Thus, by design, revenues arising from the financial surplus, obtained in past fiscal years, are not included here. Such revenues compound the cash availabilities to pay the debt. One reason for not including a forecast of the use of the financial surplus of the ex-ante borrowing requirement concept is to prevent the same revenue from being considered in the estimate for more than one year. If the resource is not used in the same financial year as it was collected, it would distort borrowing requirements time series analysis. The ex-post view, which is usually presented in the Annual Debt Reports, takes into account the financial surplus actually used during the year, so that the net ex-post result indicates the amount of expenditure that has been paid out with resources of bond issuances, regardless of the variation in cash position.

Cash available for debt payment makes up the liquidity reserve, also known as the debt cushion, which is an important tool for managing the public debt and, therefore, must be preserved. For this reason, the borrowing requirements indicator should not be interpreted as the volume of bond issuances to be carried out over the year, but as the amount that should be issued to maintain stable the level of liquidity reserve.

B – Guaranteed Debt

The amounts earmarked for the payment of non-performing guaranteed debt mainly refer to payment flows in contracts of states defaulting on debts guaranteed by the federal government, which have adhered or may accede to the Fiscal Recovery Regime – FRR (Complementary Law no. 159, of 2017). The budget forecast for non-performing guaranteed debt includes a margin to ensure execution of guarantees of non-performing guaranteed debt from states whose collaterals are not recovered due to judicial injunctions.