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International Reserves Management Report

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Executive Summary

The Banco Central do Brasil prioritizes the transparency of the international reserves management process. This publication is the 17th volume of the International Reserves Management Report, and it describes in detail the evolution of Brazil's international reserves, highlighting the changes in management throughout the year 2024.

The management of the international reserves is based on a sound governance framework, which comprises the hierarchy defined at multiple decision levels, as well as an IT system with daily performance control and evaluation, and investment monitoring. To this end, a framework based on three pillars was conceived: i) benchmark portfolio; ii) operational limits, and iii) performance evaluation. In addition, market, credit, liquidity, and operational risks are also monitored daily.

The Board of Governors, within the Governance, Risk and Control Committee (GRC), is responsible for establishing the strategic goals and the risk-return profile of the international reserves. In accordance with the guidelines defined by the Board, the strategic allocation seeks countercyclical behavior and protection against foreign exchange rate fluctuations, observing BCB's conservative risk appetite and criteria such as security, liquidity, and profitability, prioritized in that order.

On December 31st, 2024, the international reserves amounted to US\$ 329.73 billion. At the end of 2023, they amounted to US\$ 355.03 billion. The main reason for this decrease in value was the dollar sales by the BCB in the domestic market, carried out in the last quarter of the year.

The average yearly Value at Risk (VaR) of the investments, a market risk metric that considers both the interest rate and foreign exchange rate components, was 4.9% on average in 2024, below the previous year's 6.1%.

In 2024, the interest rate component of the VaR of reserves slightly decreased from the annual average of 2023, from 5.0% to 3.8%. This is due to a decrease in the volatility of interest rates in fixed income markets in which international reserves are invested in 2024 in relation to the previous year. The currency component of VaR also decreased, going from 1.7% in 2023 to 1.6% in 2024. Since the currency allocation has not changed significantly, this decrease is a consequence of the lower volatility of other currencies against the dollar compared to the previous year. As for credit risk, the average distribution of assets by rating in 2024 shows a concentration of exposure in counterparties with "Aaa" credit ratings. In

comparison to 2023, the liquidity risk, which considers the average bid-ask spread of the assets in the portfolio, has decreased in 2024.

The return on investments of international reserves stems from some factors that influence the assets' values in the portfolios, such as the interest rate levels and the parity of the investment currencies against the US dollar (*numeraire* currency of the reserves). Throughout 2024, there were significant fluctuations in the US sovereign interest rates curve, with maturities of significant relevance to the reserves closing the year at levels slightly above those seen at the beginning of the period. The level of interest rates throughout the year, in turn, led to a relevant gain from carry, which was responsible for a significant part of the positive result. In terms of exchange rate, there was a small appreciation of the US dollar against the other currencies that make up the international reserves, which contributed negatively, but marginally, to the result. Therefore, the return of the international reserves investments in 2024 was positive by 3.02%, with -0.18% due to foreign exchange rate fluctuations and 3.20% generated by interest rates and other factors.

The International Reserves Management Report is divided into four chapters. The first one presents the foundations on which the international reserves management is based. Chapter 2 describes the investment policy of the reserves. The third chapter discusses the several risks involved in these investments. The last chapter describes the aggregate returns of the reserves, allowing us to verify the adequacy of the strategies *vis-à-vis* the long-term objectives defined by the BCB. The Report also contains an Annex with data from which the graphs are derived, as well as a glossary with the main terms used throughout the document.

1

International Reserves Management

This chapter presents the foundations upon which the management of the international reserves is based.

1.1 Economic environment

In the main Western economies, 2024 was marked by a gradual adjustment in monetary policy, reflecting the consequences of the interest rate hikes in previous years to combat the inflationary wave following the COVID-19 pandemic. During this period, central banks began to reverse the trend of rising short-term interest rates, interrupting the movement or initiating reductions, in response to consistent signs of a slowdown in inflation and the weakening of economic activity in some sectors.

Yield curves went through a normalization process, while volatility in fixed income markets was reduced compared to the peaks observed in 2023. Throughout the year, inflationary pressures decreased, both on the supply side – with commodity prices and problems in production chains stabilized – and on the demand side. The fiscal and monetary stimuli that boosted the economy in previous years had a residual impact in 2024, contributing to a more balanced economic environment.

In the US and Europe, monetary authorities maintained a cautious stance, assessing the impacts of previous policies before adopting additional measures. Throughout 2024, especially from the second half of the year, the perception that global inflation was under control consolidated, leading to firmer expectations of interest rate cuts, which were to materialize from June 2024 for Europe and September for the US. This boosted the prices of financial assets and strengthened the appetite for risk in the markets.

Regarding economic growth, there was a continued normalization of growth rates that began in 2022, after the post-pandemic recovery seen in 2021. Table 1.1 shows that a growth rate similar to that expected for 2024 is projected for 2025, with the exception of Russia, where a greater slowdown is projected than in other countries, and Japan, for which a resumption of growth is projected after a contraction estimated for 2024. Brazil should also see a slowdown, although less pronounced.

Table 1.1 – Real GDP Growth (%)

Period	2023	2024	2025 ^{1/}	2026 ^{1/}
World	3.3%	3.2%	3.3%	3.3%
Advanced Economies	1.7%	1.7%	1.9%	1.8%
USA	2.9%	2.8%	2.7%	2.1%
Euro Zone	0.4%	0.8%	1.0%	1.4%
Japan	1.7%	-0.2%	1.1%	0.8%
Emerging economies ^{2/}	4.4%	4.2%	4.2%	4.3%
China	5.2%	4.8%	4.6%	4.5%
India	8.2%	6.5%	6.5%	6.5%
Russia	3.6%	3.8%	1.4%	1.2%
South Africa	0.7%	0.8%	1.5%	1.6%
Brazil	2.9%	3.7%	2.2%	2.2%

Source: International Monetary Fund

1/ IMF projections for 2025 and 2026 obtained from the World Economic Outlook published in January/2025.

2/ This group includes developing economies.

At the beginning of 2024, the outlook for a controlled economic slowdown in the United States prevailed, based on signs of a slowdown in inflation, stabilization of interest rates at high levels, and a still resilient labor market. Throughout the year, the US economy showed moderate but consistent growth, surpassing expectations of a more severe recession. The labor market, despite a slight increase in unemployment, remained strong, supporting consumption. The Federal Reserve (Fed) signaled caution in its monetary policy throughout the year, starting to cut interest rates as of September in response to the continuous drop in inflation. This stance generated optimism in the financial markets, resulting in a significant appreciation of assets and a weakening of the dollar against the main currencies (a movement partially reversed in the US currency after the new government was elected in the last quarter).

By the end of 2024, there was a consolidated understanding that inflation in the US had been structurally controlled, while economic growth remained below potential, in line with the “soft landing” scenario. This context reinforced expectations of additional interest rate cuts in 2025, especially if inflation continues to decline and the labor market remains balanced.

In the Eurozone, the economic impacts of geopolitical tensions, especially the war between Russia and Ukraine, were still felt, but to a lesser extent. Economic growth was modest, reflecting an uneven recovery among member countries. Throughout the year, the European Central Bank (ECB) maintained its monetary policy stable, with moderate interest rate cuts starting in the second quarter, as inflation fell back to closer-to-targets levels. This change in stance boosted financial markets, especially at the end of the year, creating a favorable environment for 2025.

The United Kingdom also showed modest economic growth in 2024, but above initial expectations. The disinflation process continued, and the increase in interest rates observed until 2023 began to have more significant effects, with a slowdown in consumption and a slight increase in unemployment. In response, the Bank of England introduced gradual cuts in interest rates in the second half of 2024, favoring the appreciation of fixed-income securities prices and contributing to a slight recovery in investor confidence, who felt more secure in allocating capital in a more stable economic environment.

In Japan, inflation slowed in 2024, oscillating between 2% and 3%, signaling stabilization, although remaining above recent historical averages. This scenario allowed the Bank of Japan (BoJ) to begin gradual adjustments in its monetary policy, with the short-term interest rate raised to slightly positive levels, marking the beginning of a cautious normalization after years of intense stimulus. Control of the yield curve was maintained, focusing on stabilizing long-term rates. At the same time, the yen, traditionally seen as a safe asset, benefited from economic stabilization in the main Western economies. As global volatility reduced, the more favorable interest rate differential for the Japanese currency resulted in a slight appreciation against the dollar at the end of the year.

In China, 2024 was marked by government efforts to sustain economic growth in the face of structural challenges. Although growth was weaker than in previous decades, the economy managed to expand by close to 5%, driven by fiscal and monetary stimulus. The real estate sector, however, continued to struggle, requiring additional government support measures. Low inflation, combined with interest rate cuts throughout the year, stimulated consumption and investment, boosting consumer confidence and reducing expectations of a severe economic weakening, which supported the currency.

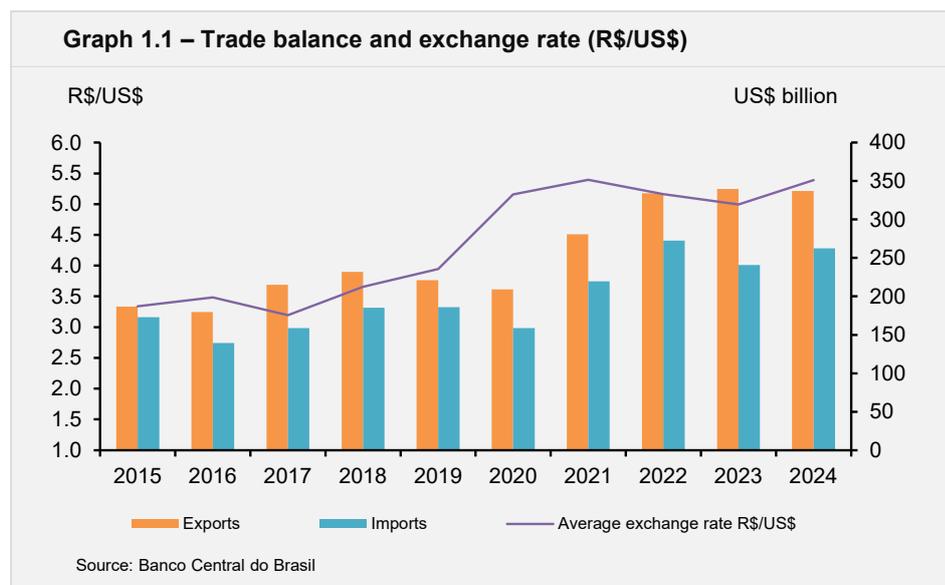
By the end of 2024, the main risks in the international scenario included: i) the possibility of inflationary pressures resurfacing, frustrating expectations of sharper interest rate cuts; ii) worsening geopolitical conflicts, with impacts on supply chains and commodity markets; iii) a sharper global economic slowdown, resulting from the monetary tightening of previous years; iv) political and institutional instability in major economies, undermining market confidence; v) persistent weaknesses in the Chinese real estate sector, with significant global impacts; and vi) uncertainties related to the new economic policies of the United States government, especially in global trade.

1.2 Economic and financial indicators

The amount of international reserves depends on several factors, such as domestic and foreign macroeconomic variables, as well as elements that impact the financial return of its investment portfolio. In this section, some indicators that influence the reserves are discussed.

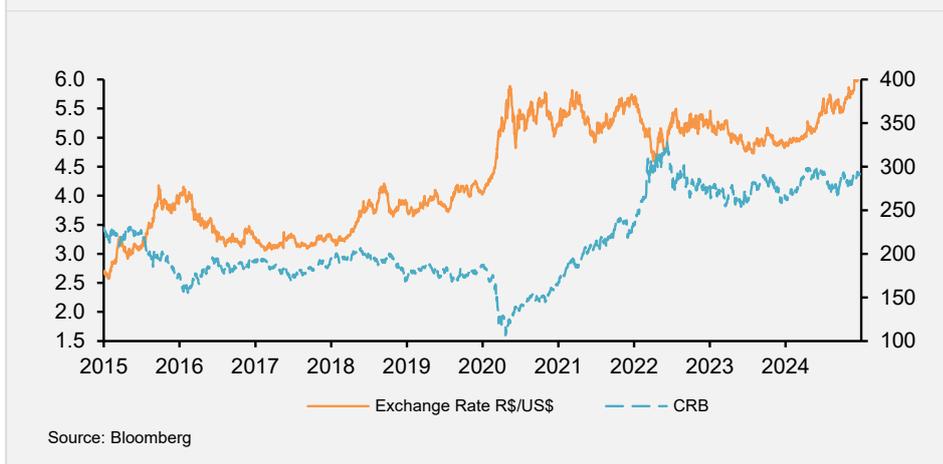
1.2.1 Macroeconomic indicators

Graph 1.1 shows the evolution of the components of the Brazilian trade balance, i.e., exports and imports, as well as the dollar/real exchange rate from 2015 to 2024. In 2024, the Brazilian trade surplus was US\$74.6 billion, representing a reduction of 24.6% compared to the record of US\$98.9 billion recorded in 2023. Exports remained practically stable, with a slight drop of 0.8%, totaling US\$337 billion, while imports increased by 9%, reaching US\$262.5 billion, driven by the strengthening of domestic demand and investments in capital goods. The exchange rate showed significant volatility throughout the year, with the dollar closing 2024 at R\$6.19, accumulating an appreciation of 28% against the real.



From the perspective of a country whose exports are heavily concentrated in commodities, variations in the international prices of these products directly impact the exchange rate. Graph 1.2 illustrates the relationship between the Commodity Research Bureau (CRB) commodity index and the daily dollar/real exchange rate over the years. Historically, these indicators have shown a negative correlation. However, since the beginning of the pandemic, changes in the perception of risk in the financial market, associated with domestic factors, and specific supply issues in the commodities markets have resulted in a decoupling between the indices. Between 2020 and 2022, there was an increase in the CRB index, which stabilized in 2023 and 2024, without a corresponding movement of exchange rate appreciation. In 2024, the continued depreciation of the real, even in the face of stable commodity prices, reflected the predominant influence of internal and external factors on the exchange rate, affecting the predictability of Brazilian foreign trade.

Graph 1.2 – Exchange Rate (R\$/US\$) and CRB

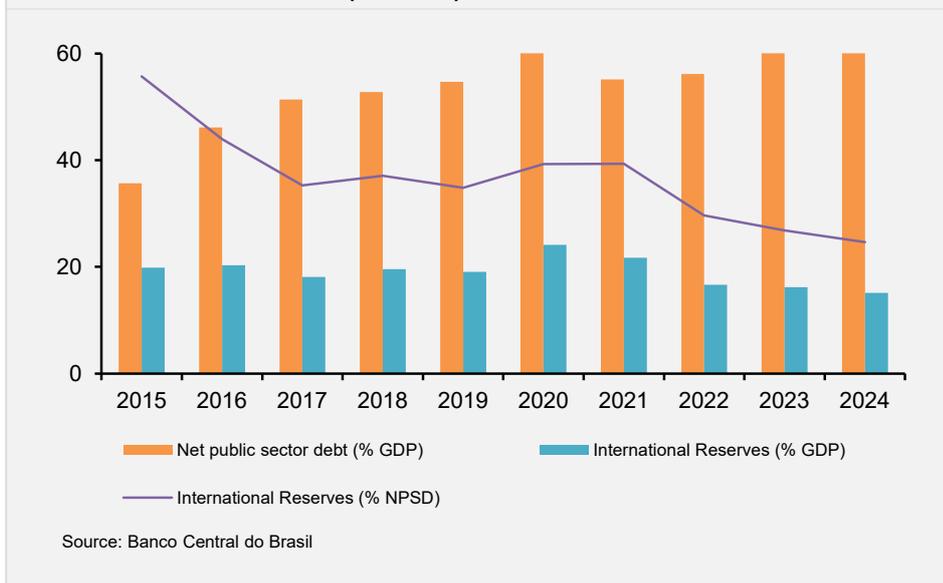


As illustrated in Graph 1.3, net debt reached 61.48% of GDP in November 2024, continuing the upward trend observed over the past few years. International reserves totaled 15.14% of GDP, a slight decrease compared to the value recorded at the end of 2023 (16.20% of GDP). The Graph also shows the ratio between the volume of international reserves and net debt, which decreased from 26.81% in 2023 to 24.62% at the end of 2024.

It is worth noting that the nominal value of dollar reserves decreased in relation to 2023, but the appreciation of the US currency was sufficient to increase the value of local currency reserves at the end of 2024. Even so, the growth in the public sector's net debt in 2024 was proportionally greater, hence the drop observed in the ratio between the volume of international reserves and net debt.

On December 31, 2024, Brazil's international reserves totaled, in cash terms, US\$329.73 billion, a reduction compared to the figure observed at the end of 2023 (US\$355.03 billion). The main reason for this reduction was the dollar sales operations by the BCB in the domestic market, carried out in the last quarter of the year.

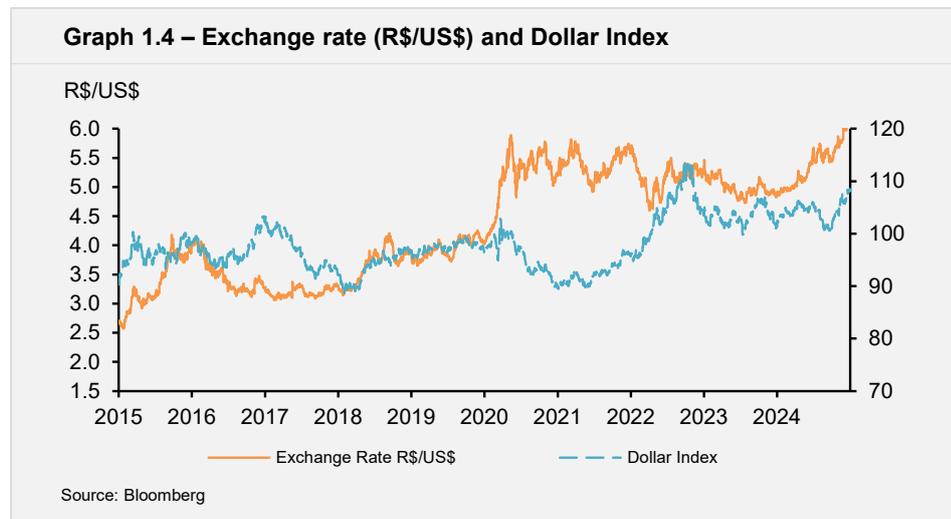
Graph 1.3 - Net public sector debt (NPSD), international reserves (% GDP) and international reserves (% NPSD)



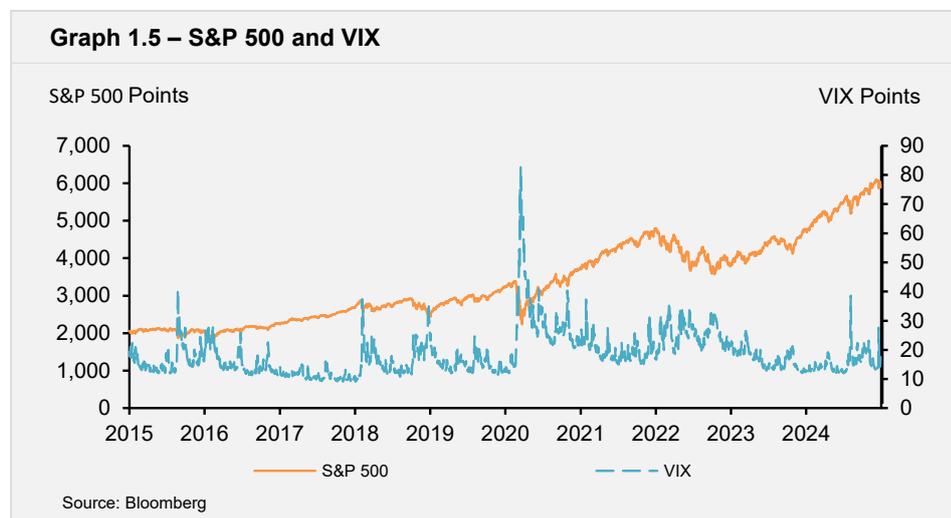
1.2.2 Financial indicators

Among the factors that affect the return of investments of the international reserves, indicators from the currency, equities and interest rate markets stand out.

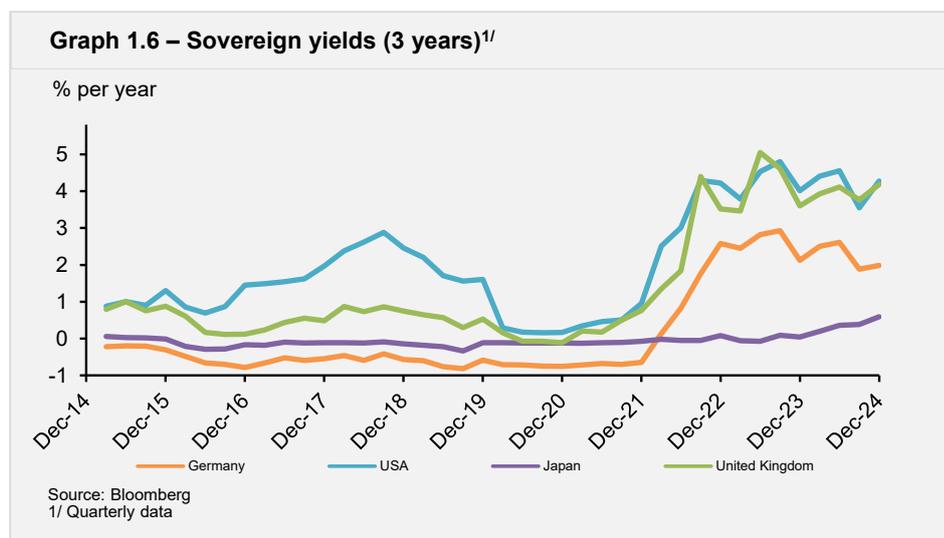
In currency markets, the appreciation or depreciation of the US dollar in relation to other currencies influences part of the result of investments in reserves. Graph 1.4 shows the evolution of the dollar index, whose increase represents the appreciation of the US dollar in relation to a basket of currencies and, therefore, a depreciation of investments made in other currencies when measured in US dollars. For comparison, Graph 1.4 also shows the dollar/real exchange rate. Unless decouplings are resulting from idiosyncratic issues in the Brazilian economy or from major global shocks (such as COVID-19), there is a correlation between the two series in the long term.



Regarding the US stock market, represented in Graph 1.5 by the S&P 500 index and the VIX (a measure of risk associated with the stock index), 2024 ended with the S&P 500 up 23.31% compared to the end of 2023. The S&P index was positively affected by the end of the monetary tightening cycle and the start of the Fed's rate cut. The graph also shows that, in 2024, the VIX index, despite ending the year at a level above that of 2023, remained at relatively normal levels, after its post-pandemic normalization in 2023, only showing a few moments of greater volatility throughout the year.



In 2024, sovereign fixed income markets continued to be volatile, influenced by uncertainties about persistent inflation and the pace of monetary adjustment in major economies. Although central banks in the US and Europe signaled possible interest rate cuts in 2023 in light of the gradual cooling of inflation, the movement in rates was less significant than expected, resulting in a slight drop only compared to the 2023 peaks. This caution by central banks in the face of residual inflationary risks resulted in a scenario that limited a broader appreciation of fixed income assets, keeping the market focused on the communications of monetary authorities.



1.3 Governance

In accordance with Law 4595, of December 31st, 1964, the BCB has the exclusive responsibility to be the depositary of the gold, foreign currency, and special drawing rights (SDR) reserves. In the BCB, it is the responsibility of the Board of Governors, within the Governance, Risk and Control Committee (GRC), to establish the strategic objectives and the profile of risk and return of the country’s international reserves.

The governance structure of the international reserves is supported by the Integrated Risk Management Policy of the BCB¹. The investments are made in accordance with guidelines established by the GRC, which defines the risk-return profile through an appropriate benchmark portfolio, the operational limits for the authorized deviations from this benchmark, and the performance evaluation criteria.

The organizational structure reinforces the control and information flow mechanisms, enabling the institution to have an investment process focused on adequate risk management. The GRC was created in May 2017, aiming to improve corporate governance, risk management, and internal controls at the BCB, leading to a better decision-making process.

1 According to Resolution BCB # 70, of February 11, 2021, available at BCB’s website.

Risk management at the BCB considers several distinct risk dimensions, such as financial, strategic, reputational, legal, and operational. This integrated approach, known as Enterprise Risk Management (ERM), contributes significantly to the continuous improvement of the BCB's tasks, optimizing the allocation of institutional, human, and financial resources. Besides that, it makes things clear with respect to the institution's risk tolerance and helps to align it according to the BCB's strategic goals.

With the adoption of an integrated and structured risk management model, the BCB is aligned with the best international practices, consolidating its excellence in this area.

Reserve management is organized in two levels. The first level is the long-term strategic management, which is responsible for the investment allocation that contributes to most of the returns seen in the reserves. The SAA-Strategic Allocation Committee, of an advisory nature, is the instance that has, among other attributions, the task of presenting proposals to the GRC for investments of the reference (long-term) portfolio.

At the second level is the short-term management that may deviate from the benchmark portfolio within the limits set by the GRC. The active management has the objective of improving the returns in the short-term by taking advantage of circumstantial market opportunities. The TAA-Active Management Committee, of deliberative character, is the instance responsible for this activity.

The investment parameters and criteria are monitored by an internally developed system. The controls run on a daily basis, and any breach in the operational limits is automatically reported to all members of the GRC.

Regarding the operational aspects, the process of investing the international reserves comprises the investment, compliance, and settlement tasks. Compliance and settlement are critical procedures since they affect safety, liquidity, and profitability given that the reserves are traded in an environment of multiple currencies, regions, and time zones.

The international reserves management process is subject to five different types of control: i) internal control by the International Reserves Department (Depin), through its Internal Control Division (Dicoi); ii) internal control by the Corporate Risks and Benchmarks Department (Deris); iii) internal control by the BCB's Audit; iv) external control by the Brazilian Court of Audit (TCU); and v) external control by an independent auditor.

2

Investment Policy

The investment policy reflects the risk preference of the Banco Central do Brasil.

The GRC defines the investment policy based on the long-term strategic goals of the international reserves, such as: providing confidence to the market that the country is capable of honoring its international commitments and supporting the execution of its exchange rate and monetary policy. As the strategic consequences of these goals, the BCB seeks a strategic allocation, based on the integrated national foreign currency Asset-Liability Management (ALM), that has a countercyclical behavior and reduces the country's exposure to exchange rate fluctuations. The Strategic Asset Allocation process also takes into consideration portfolio diversification, average term of investment of the external debt, and exposure to climate and environmental risks, among other factors deemed strategic. With these principles in mind, the strategic allocation is determined with the aid of risk-return optimization techniques, since the criteria of safety, liquidity, and profitability are prioritized in this order.

The GRC defines a benchmark portfolio as a reference for the allocation of the reserves according to a long-term strategic profile that reflects the Central Bank's conservative risk appetite in terms of risk and return. Short-term fluctuations in variables that affect asset prices, such as interest and exchange rates, are not considered in long-term decisions.

Intentional deviations from the benchmark portfolio related to oscillations in market conditions can be made and are monitored by internal control systems. In other words, the international reserves are actively managed, being allowed to marginally deviate from the benchmark portfolio within operational limits previously defined by the GRC.

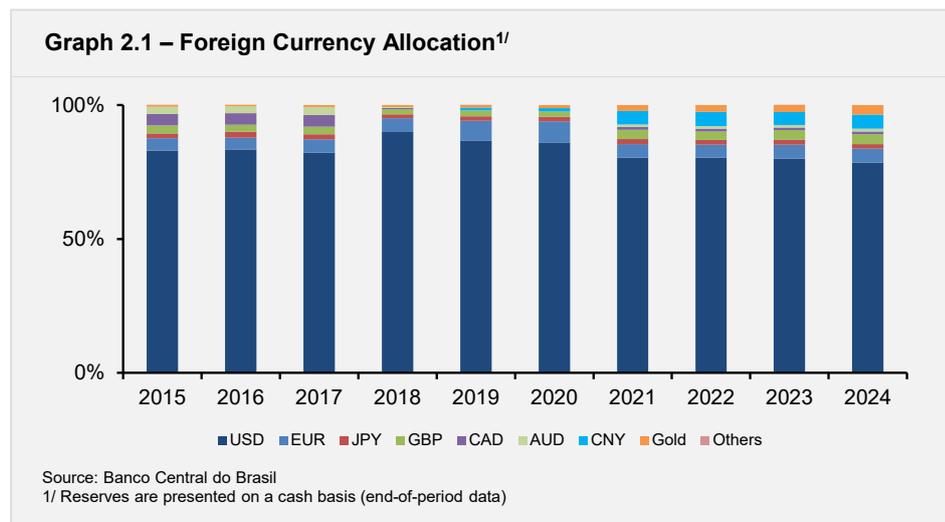
The governance framework and operational processes associated with reserve management enable the BCB to uphold financial efficiency and prudence, ensuring the rational and effective allocation of the resources under its custody.

The key aspects of the investment policy of the international reserves are described below. In general, this investment policy can be segmented in terms of allocation by currency, by asset class, and by average investment term. The data shown below have the US dollar as the base currency, refer to the portfolio internally managed by the BCB, and do not consider specific instruments used in the local market, such as dollar/real repo auctions.

2.1 Currency allocation

As previously mentioned, one of the goals of the international reserves management is the reduction of the country's exposure to foreign exchange risk. Thus, the BCB seeks to build a diversified portfolio with a countercyclical behavior that provides, as a priority, the hedging of the exchange rate risk of the gross external debt². In December 2024, the currency allocation of the reserves was: 78.45% in US dollars (USD), 5.31% in renminbi (CNY), 5.23% in euros (EUR), 3.69% in pounds sterling (GBP), 3.55% in gold, 1.73% in Japanese yen (JPY), 1.05% in Canadian dollars (CAD) and 0.99% in Australian dollars (AUD). Graph 2.1 shows the evolution of the currency allocation at the end of each year.

We can see in Graph 2.1 that, for the whole period, the US dollar has been the currency with the largest share of the reserves. In 2019 and 2020, there was a small increase in the position in euros, followed by more currency diversification in 2021, without impact on the countercyclical profile of the portfolio as a whole, when compared to the investment profile in 2020. As a result, Canadian and Australian Dollars were included in the strategic allocation and the renminbi exposure grew, and, due to its countercyclical characteristics in periods of market stress, gold exposure also increased. Since 2022, there has been no significant change in the currency allocation of the international reserves.



² The values of gross external debt segmented by currency can be consulted in the statistics published monthly in the Banco Central do Brasil website.

2.2 Asset classes

The international reserves are invested primarily in fixed income assets, especially in sovereign bonds, agency bonds from several countries, bonds issued by supranational organizations, and fixed-term bank deposits. Agencies are entities sponsored by a national government, created to promote the development of certain sectors of the economy, and raising funds mainly through the issuance of bonds in the international markets. Central governments issue bonds in order to finance their fiscal deficits.

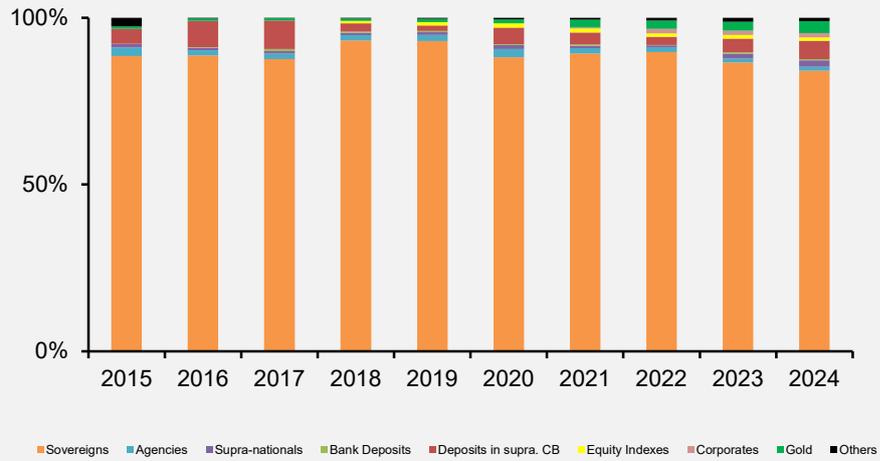
Supranationals are multilateral organizations, such as the World Bank and the Bank for International Settlements (BIS), which issue bonds and, in some cases, act as financial intermediaries. Local governments are subnational entities generally with more limited powers than those of the government of the country to which they belong. The BCB also uses exchange-traded funds (ETFs) as instruments, to obtain exposure to fixed and variable income markets. In 2021, BCB included green bonds in its strategic portfolio, and, more recently, sustainability and social bonds have been added.

Graph 2.2 shows the percentage composition by asset class observed in the period from December 2015 to December 2024 (end-of-period data) and Graph 2.3 shows the same evolution in US dollars. In both graphs, allocation in ETFs is segmented by Stock Indices and US Corporates Investment Grade. BCB has exposure to US stocks and, after 2021, exposure to the US Corporates Investment Grade indices has been added.

In December 2024, the reserves were allocated as follows: 84.08% in sovereign bonds; 5.51% in deposits in central banks and supranational organizations; 3.55% in gold; 1.98% in securities of supranational organizations; 1.21% in agency securities; 1.28% in Corporates Investment Grade ETFs; 0.99% in stock index ETFs; 0.34% in deposits in commercial banks; and 1.04% in other asset classes, such as local government bonds.

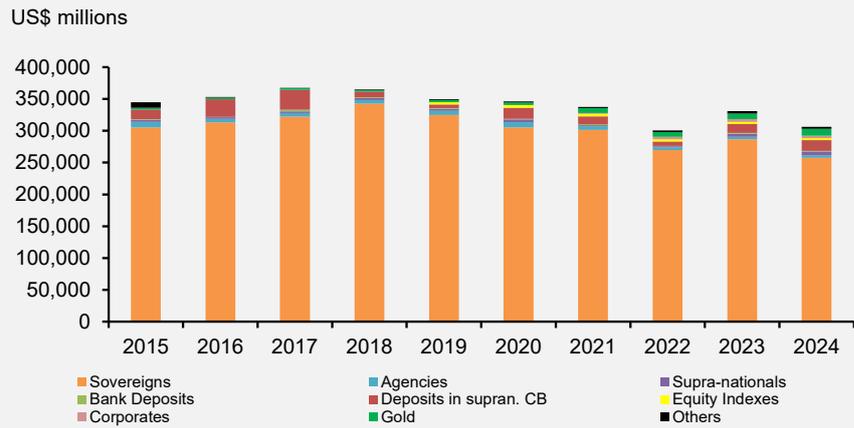
Exposure to the North American MBS (Mortgage-backed securities) market is currently carried out through TBAs (to-be-announced) and represented, at the end of the year, approximately 3.07% of the internally managed portfolio. Most of the TBA portfolio cash is invested in US Sovereign Bonds or supranational organizations bonds, accounted within its respective portion from the previous paragraph.

Graph 2.2 – Asset Allocation^{1/}



Source: Banco Central do Brasil
 1/ Reserves are presented on a cash basis (end-of-period data)

Graph 2.3 – Asset Allocation^{1/}

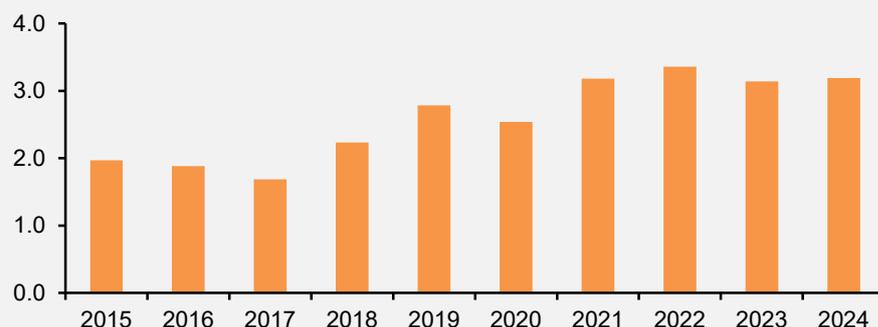


Source: Banco Central do Brasil.
 1/ Reserves are presented on a cash basis (end-of-period data).
 Values in US\$ millions.

2.3 Average term of investment

The choice of the average maturity of the investment of the international reserves is aligned with the criteria of safety, liquidity, and profitability, in this order. Graph 2.4 shows the evolution of the average term of investment for the period between December 2015 and December 2024 (end-of-period data).

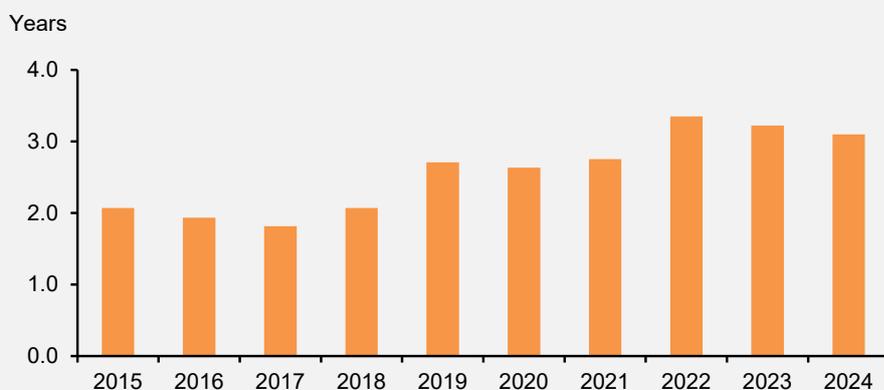
Graph 2.4 – Average term of investment - End of Period^{1/}



Source: Banco Central do Brasil
1/ Reserves are presented on a cash basis (end-of-period data)

The investment parameters of the international reserves are based on integrated management of national assets and liabilities. Since 2021, the average term of the external debt, public and private, has been considered in the definition of the average term of investment of the reserves and, as a result, a broader range of maturities, which includes securities from 1 to 10 years, has been incorporated into most of the benchmark indices. Consequently, there was an increase in the portfolio's average term, which ended in 2024 at 3.19 years (Graph 2.4).

Graph 2.5 – Average term of investment



Source: Central Bank of Brazil
1/ Reserves are presented on a cash basis (annual average).

3

Risk Management

Market, credit, liquidity, and operational risk are monitored in the international reserves' investment process.

The risk analysis related to the investment process is a key aspect of understanding the financial performance and aligning the benchmark portfolio to the investment objectives. As already mentioned, the different types of risks taken in international reserves investments are controlled daily by an IT system developed internally by the BCB. This system comprises the market, credit, and liquidity risks calculations, operational losses registration, and several other operational limit controls defined by the GRC.

The market risk of a portfolio is the risk of financial loss due to market price variations of the portfolio's assets. Liquidity risk refers to the risk of the owner of an asset not being able to sell it or closing a position when desired, without incurring significant costs. Credit risk is the risk of an institution not being able to meet payments due to the issuance of securities, deposits or any other contractual obligation or financial commitments made to investors. Operational risk is defined as the risk of direct or indirect loss resulting from inadequate or failed internal processes, people, and systems, or from external events.

In addition to the risks mentioned above, the perceived impacts of climate risks on investment portfolios have motivated central banks to increasingly consider this information in their decision-making processes. Nevertheless, there are still no methodologies and metrics that are consolidated in the literature and in the international market as best practices in climate risk assessment for the construction of investment portfolios. On the other hand, there is an ongoing effort for investors and institutions to disclose and monitor the climate risks of their financial positions based on existing metrics in order to contribute to building a consensus regarding the best way to measure them.

The BCB has gradually introduced parameters related to environmental and climate risks in the process of evaluating and selecting investments and counterparties. Additionally, the optimization exercises for the strategic allocation of international reserves take into consideration several asset classes, including those associated with green bonds³.

3 For more information on sustainability initiatives at the BCB, including developments regarding international reserve investments, see the Report on Social, Environmental and Climate Risks and Opportunities, available at: <https://www.bcb.gov.br/en/publications/report-risk-opportunity>.

3.1 Market risk

There are several sources of market risk related to the management of the international reserves. The main one is the risk of price variation of the reserve currencies and the interest rates in these currencies. It is important to highlight that the reference currency (numeraire) used by the BCB for the international reserves' management is the US dollar.

In order to measure the reserves market risk, the BCB uses the Value at Risk – VaR, as can be seen in the next section. Additionally, stress tests are used for measuring the sensitivity of the reserves to risk factors, as can be seen in section 3.1.2.

3.1.1 Value at Risk

The main market risk measure used by the BCB for the international reserves is the Value at Risk (VaR), a risk metric that provides the portfolio's loss estimation for a certain time horizon and defined confidence level.

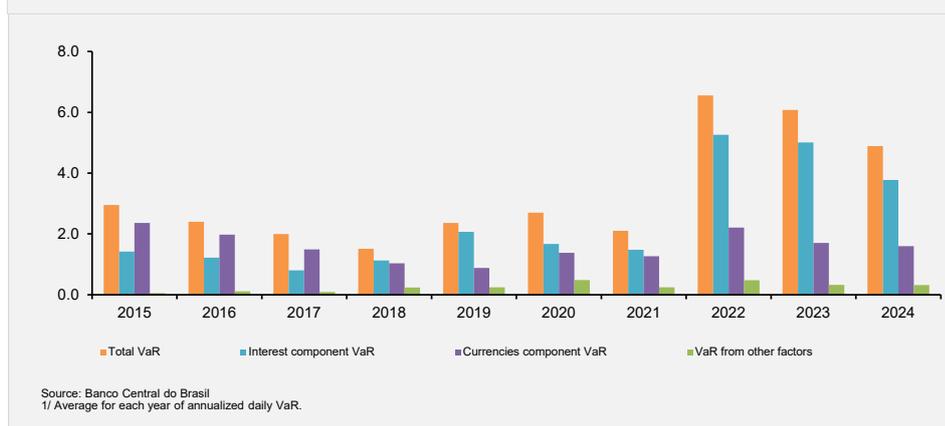
The VaR is calculated on a daily basis for the reserves and for the active management portion of the investments, with a 95% confidence level for the time horizon of one day. That is, it is expected that a daily loss greater than the VaR should only happen on 5% of the days. Besides the total VaR, the BCB also calculates its interest rate and exchange rate components, which represent the key market risk factors.

Graph 3.1 shows the average, for each year, of the annualized daily values of the VaR of international reserves in percentage terms, as well as the VaR arising from interest rate variations and that of currency exposure. The total VaR reached 4.9% per year on average, below the value observed in the previous year, which was 6.1%.

In 2024, the interest rate component of the VaR of reserves declined relative to the 2023 annual average, from 5.0% to 3.8%, due to the decrease in volatility of interest rates in fixed income markets where the international reserves are invested. The currency component of VaR also declined from 1.7% to 1.6% in 2024. As the allocation has not changed significantly, this decrease is also a consequence of the lower volatility in exchange rates observed in 2024.

The international reserves have exposures to risk factors related to US stocks and commodities. The volume invested in these classes is small when compared to the total volume of international reserves. Their contribution to risk in 2024 was not significantly different from the previous year. The average of the equities and commodities components of the annualized VaR was 0.32% during 2024, compared to 0.33% in 2023.

Graph 3.1 – International reserves VaR^{1/}



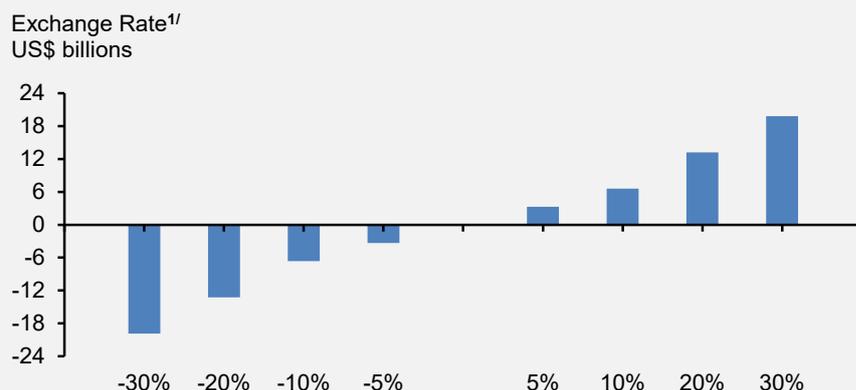
3.1.2 Stress tests

The stress test is another tool used for measuring the market risk of the international reserves' portfolio. It seeks to quantify the negative impact of shocks and hypothetical events that are unfavorable to the BCB's positions. Thus, the stress/crisis scenarios are designed to evaluate the potential financial losses caused by an adverse shock to each of the risk factors to which the reserves are exposed.

The tests are performed considering the BCB's positions at the end of 2024, and the risk factors used in these tests are the exchange rates of the US dollar against the remaining currencies in the reserves, as well as their respective yield curves. Graph 3.2 shows the impact of the fluctuation of all the other currencies against the US dollar on the return of the reserves, varying in amplitude from 0% to 30%. Any appreciation of the US dollar against the remaining currencies in the reserves should have a negative impact on the returns.

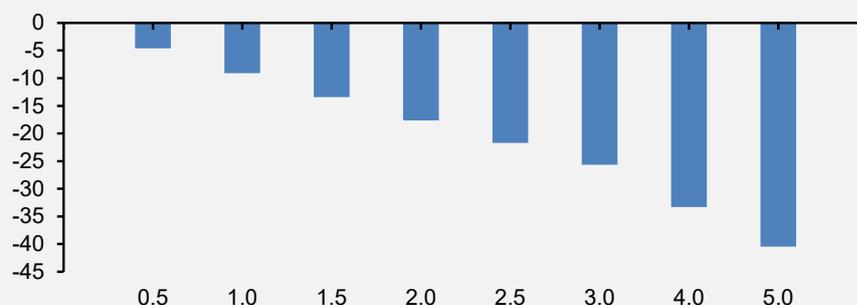
Graph 3.3 shows the results of parallel shifts of 0.5 to 5.0 percentage points to the yield curves of the markets where the reserves are invested. The larger the shift in the international interest rates, the larger the negative effect on the market value of the reserves. It is important to highlight that, in 2024, despite intermediate-term interest rates (two years or longer) ending the year at higher levels than those observed at the beginning of the period, the portfolio still delivered a positive performance. This outcome can be attributed not only to the carry—supported by interest rates remaining well above zero—but also to the yield curve dynamics and the portfolio's volume throughout the year.

Graph 3.2 – Forex stress test



Source: Banco Central do Brasil.
1/ Impact of the exchange rate variations against the US dollar on the value of the reserves, as of 12.31.2024.

Graph 3.3 – Interest rate stress test



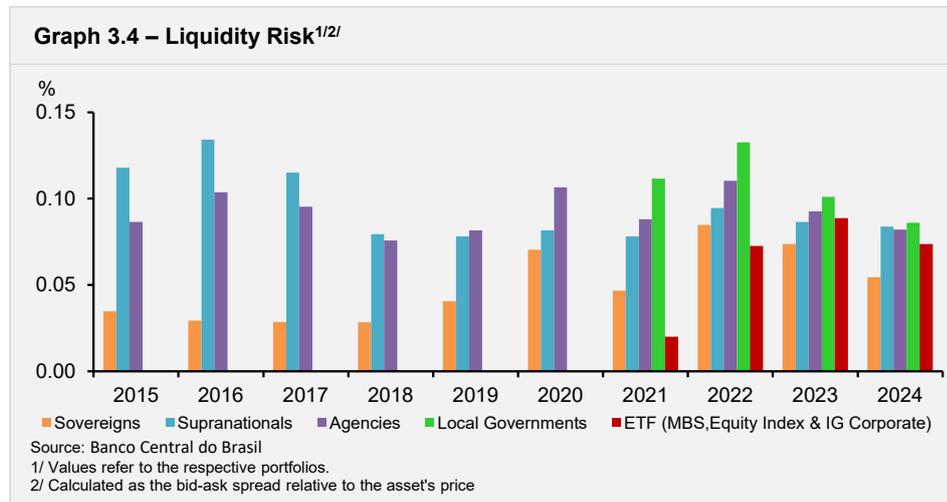
Source: Banco Central do Brasil.
1/ Impact of parallel shifts of the yield curves on the value of the international reserves, as of 12.31.2024.

3.2 Liquidity risk

One of the pillars of the investment policy of the international reserves is liquidity. Therefore, restrictions in terms of asset classes are considered in the allocation process to mitigate liquidity risk. Liquidity risk corresponds to the risk of not being able to sell an asset or to close a position without incurring significant costs.

To ensure an adequate level of liquidity in the management of international reserves, the BCB has established guidelines that set limits on the size of holdings and the maturity of investments. For sovereign, supranational, and agency securities, these guidelines include maximum purchase limits per issuance and caps on the share of each asset's outstanding amount. In the case of exchange-traded funds (ETFs), limits are based on each fund's market capitalization. These operational constraints are designed to: (i) minimize the potential market impact of asset sales by the BCB; and (ii) limit the influence of individual issuances on the overall portfolio return.

In addition to the controls already mentioned, the BCB also monitors the portfolio's liquidity risk using some liquidity cost scores. These scores take into consideration the bid-ask spreads of all the portfolio holdings, and they are calculated for each type of bond issuer (sovereigns, supranationals, agencies, local governments, and ETFs).



As we can see in Graph 3.4, the liquidity risk, computed as the difference between bid and ask prices, decreased in 2024 relative to 2023 for all asset classes, except for the ETFs. We can also note that the liquidity risk of assets issued by sovereigns is consistently lower than that of assets issued by local governments, agencies, and supranational organizations.

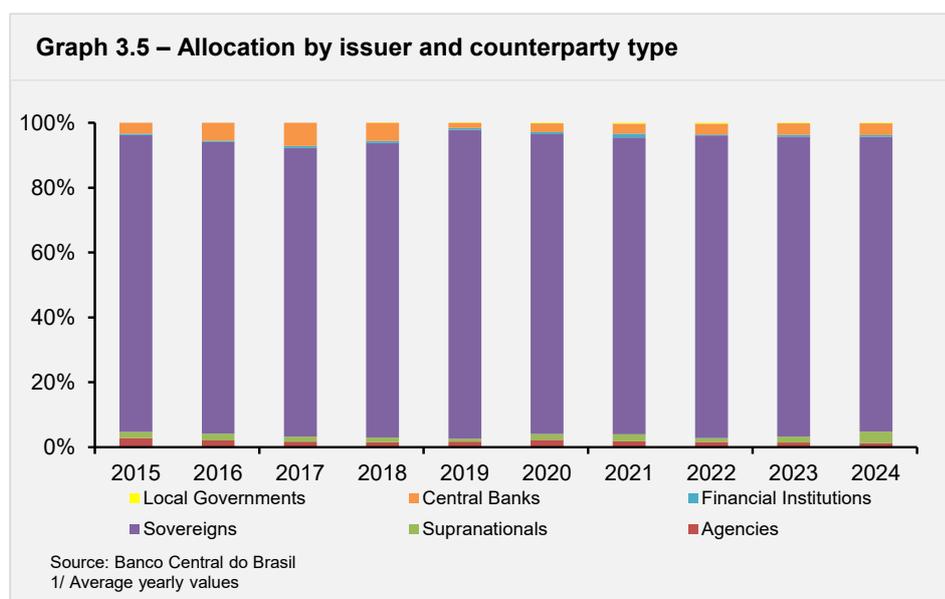
3.3 Credit Risk

The aim of this section is to present the annual evolution of the exposure of the international reserves to credit risk, as well as the control mechanisms for such exposure. In addition, we present some concepts concerning credit risk and asset distribution according to three criteria: type of issuer or counterparty, geographic region, and creditworthiness.

Credit risk is defined as the uncertainty related to the occurrence of a credit event which results in a loss in value of holdings linked to this counterparty. A credit event occurs when a counterparty does not fulfill its payment commitments. The BCB's counterparties considered to pose a credit risk are the ones on which the BCB has claims, such as agencies, central banks, central governments, financial institutions, supranational organizations, and local governments⁴. The category of financial institutions includes both commercial and investment banks. The graphs in this section show that most of the reserves are allocated in sovereign bonds, and, within this group, in US treasuries.

⁴ ETFs can have their market value affected by the credit risk of the underlying assets, as in the case of corporates. However, such exposures are not included in the Graphs in this section.

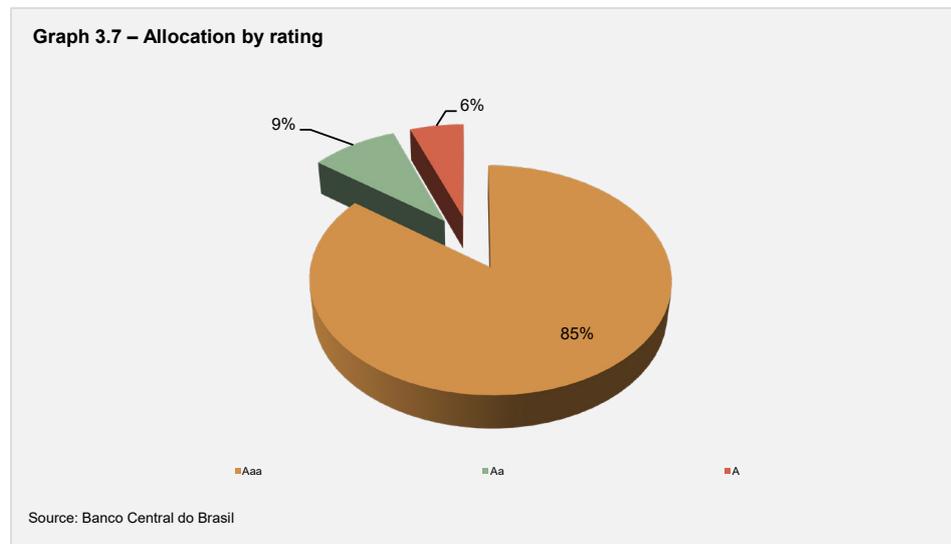
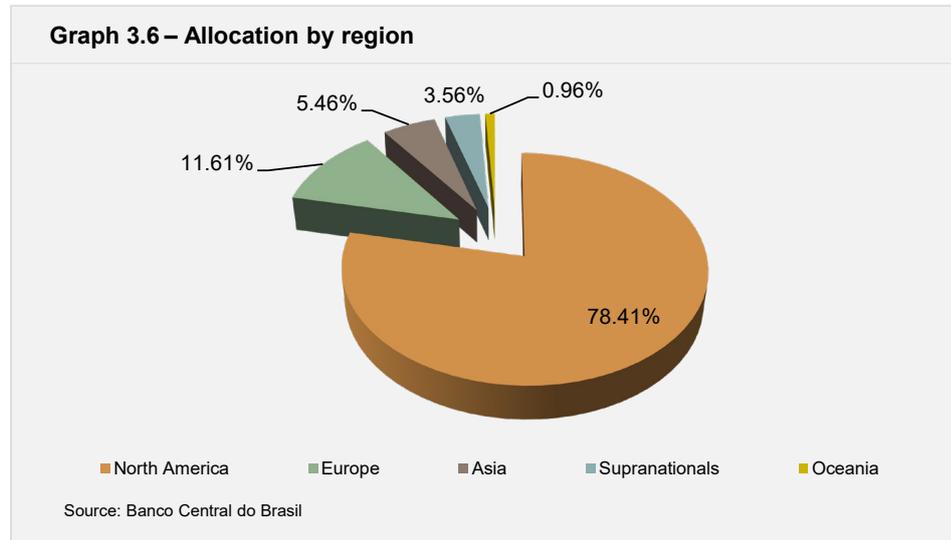
The following graphs illustrate that a significant portion of international reserves is allocated to sovereign bonds, with U.S. Treasury securities representing the largest share within this category. Graph 3.5 presents the evolution of the annual average distribution by type of issuer and counterparty. In 2019, the share of sovereign bonds increased, accompanied by a decline in allocations to central banks. From 2020 onward, the share of sovereign bonds gradually decreased in favor of other asset classes. In 2024, there was a marginal reduction in investments in sovereigns, agencies, and local governments, while allocations to supranational institutions, central banks, and financial institutions increased relative to 2023.



The portfolio’s credit risk level is a function of its composition and of the issuers and/or counterparties’ credit quality. The individual credit risk of agencies, supranational organizations and local governments authorized for investment by the BCB is low due to the limits established, considering that only investments in fixed income instruments with high credit quality are allowed, according to the rating of credit risk assessment agencies and according to internal assessments.

As for the credit risk control of financial institutions, two types of limits were put in place: one per transaction and another for the entire portfolio. Each transaction is subject to operational limits that define the minimum credit quality, the maximum exposure per issuer or counterparty and the maximum term of each exposure. Market indicators and accounting information are also considered in the credit analysis of the counterparties and issuers of the bonds in the reserves’ portfolio. The aggregate limits for the portfolio aim at restricting the total credit exposure. Pursuing this goal, the BCB employs a statistical model of credit risk developed internally.

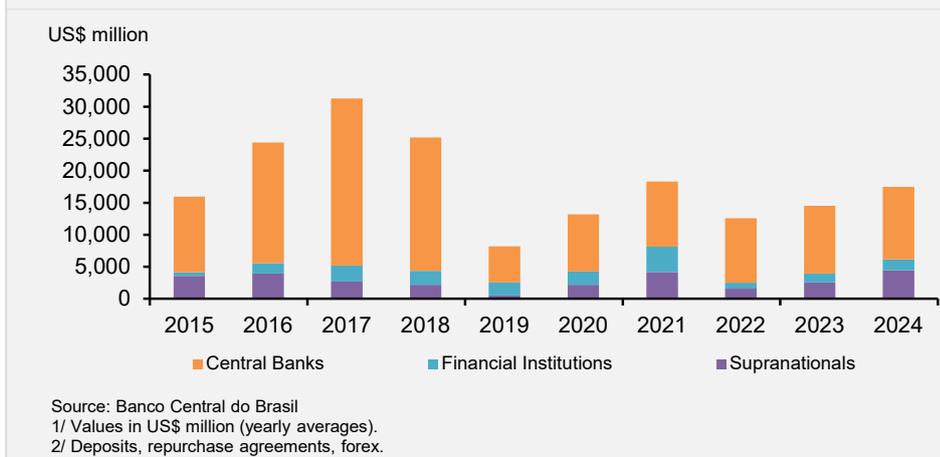
Graphs 3.6 and 3.7 refer to average exposure data for 2024. The allocation of assets with credit risk by geographic region is shown in Graph 3.6. Most of the allocation (78.41%) is in North American issuers and counterparties. As previously mentioned, this is due to the large share of the reserves that is invested in United States sovereign bonds, as a consequence of the prevalence of the US dollar in the reserves. Graph 3.7 shows the allocation by credit risk rating, and we can see that 85% of the exposure has an Aaa rating, whereas 9% has an Aa rating and 6% an A rating.



Graph 3.8 shows the exposure’s evolution to credit risk arising from money market instruments⁵. It should be noted that this exposure is due to time deposit operations, repurchase agreements and/or derivatives such as swaps and forwards with financial institutions, central banks, and supranational organizations, and does not include bonds. From 2022 onwards, there was a gradual increase in the volume of operations with all classes of institutions.

⁵ Money Market instruments are short-term investments such as fixed-term deposits and repos.

Graph 3.8 – Total credit risk exposure to money market operations^{1/2/}



3.4 Operational risk

Operational risk can be defined as the possibility of direct or indirect loss resulting from failure, deficiency, or inadequacy of internal processes, systems, or external events. In the past, this type of risk was controlled only with the use of qualitative management practices. Current practices, on the other hand, seek to measure operational risks by means of quantitative models as robust complements of internal controls. The Integrated Risk Management Policy of the BCB is driven by guidelines and recommendations contained in relevant references in risk management and business continuity such as the Committee of Sponsoring Organizations of the Treadway Commission (COSO), ISO 31000, ISO 22301, among others, and in Basel recommendations.

The tools of operational risk management (set out in this Policy) and used at the BCB during the stages of identification, assessment, prioritization, treatment, monitoring and review of risk are: Risk and Control Self-Assessment (RCSA), the Key Risk Indicators (KRIs) and the Incident History Log (IHL).

In the RCSAs, the risks associated with each process and their root causes are identified through the perception of the business managers. They are classified according to the nature of the potential incidents with negative impacts. The initial approach to the risk self-assessment is performed through interviews where the most relevant risks associated with each business process are identified and classified according to an event-based taxonomy. The result of this identification and evaluation process of the operational risks provides a broad view of the processes, actions, and projects as well as their interactions. This allows the design of risk mitigation measures by the organization. Thus, risks in the processes associated with the management and execution of policies of the international reserves are currently identified and plans for the mitigation of those risks are already defined.

The IHL consists of the creation of a database of operational risk incidents, which can be of two types: miss and near-miss. This tool makes it possible to monitor incidents as well as analyze trends, which lead to better controls. Considering incidents that took place is a powerful tool in reevaluating processes, avoiding new losses, and correcting perceptions as to the potential risks of each business line.

KRIs help the assessment and monitoring of the processes related to the international reserves management.

When it comes to operational aspects, international reserves management involves trading, compliance, and operations settlement processes. Compliance and settlement are critical procedures in reserve management, as they affect security, liquidity, and profitability in an environment with settlement in different currencies, markets, and time zones.

For compliance and settlement processes, transaction volume and asset diversification are both important as they represent additional workflows, and thus more exposure to operational risk. In 2024, turnover reached US\$ 4.14 trillion, with 6,979 transactions, an estimated 101,343 SWIFT messages and 997,033 accounting records. Unlike the amounts registered in the contracts, which consider the trade value, the compliance and settlement processes consider all flows related to the transactions due to the operational risks.

In 2024, the total number of operational incidents represented 1.38% of the total transactions, below the rate of 2.20% observed in 2023.

4

Returns

The performance evaluation allows for the verification of the strategy suitability vis-à-vis the defined strategic objectives.

The analysis of returns obtained from the international reserves must be done considering the strategic objectives of the BCB and the different mechanisms used for its calculation. The BCB considers the accounting result for the preparation of its balance sheet and the data from the managerial system developed internally to support the investment decisions and the internal controls.

The accounting return, while informative, is not the most appropriate metric for investment decision-making, as it does not reflect returns relative to the amount invested—an amount that fluctuates with foreign currency purchases and sales. Additionally, since the reserves are allocated in international markets, expressing performance in Brazilian real incorporates exchange rate fluctuations between the US dollar and the real, complicating the analysis of returns by market. To address these limitations, the BCB employs a managerial system that calculates investment returns on a daily basis, in accordance with international standards. This approach enables more accurate monitoring of investment strategies across different markets.

The return on the investments of the international reserves stems from some factors that influence the value of the portfolios, such as the interest rate levels and the exchange rate of the investment currencies against the US dollar (numeraire currency of the reserves). Throughout 2024, the U.S. sovereign yield curve experienced notable fluctuations. Short-term interest rates ended the year slightly above their levels at the beginning of the period, while long-term rates closed marginally higher than at the end of 2023. Persistently elevated interest rates over the year contributed to a substantial carry gain, which was the primary driver of performance. On the foreign exchange front, the US dollar appreciated slightly against the other currencies comprising the international reserves, exerting a marginally negative impact on overall reserve performance. Thus, the accumulated return of the internally managed international reserves was a 3.02% gain, with a positive return of 3.20% resulting from mark-to-market on interest rates and other factors, and -0.18% due to variations in currency parities.

Graph 4.1 presents the investment results of the U.S. dollar-denominated reserves, along with their currency and interest rate components. For operational reasons, the interest rate component shown in the chart corresponds to the total return on reserves excluding exchange rate variations. This result is highlighted, given the predominance of fixed income investments within the reserve portfolio.

Graph 4.1 – Returns of the international reserves^{1/}



Source: Banco Central do Brasil
1/ Internally managed portion of reserves

As seen in graph 4.2, the rise in the US interest rates between 2021 and 2023 stands out among the highest in the last 20 years, both in terms of magnitude and speed. In 2024, interest rates remained at historically high levels, which resulted in significant returns on investment.

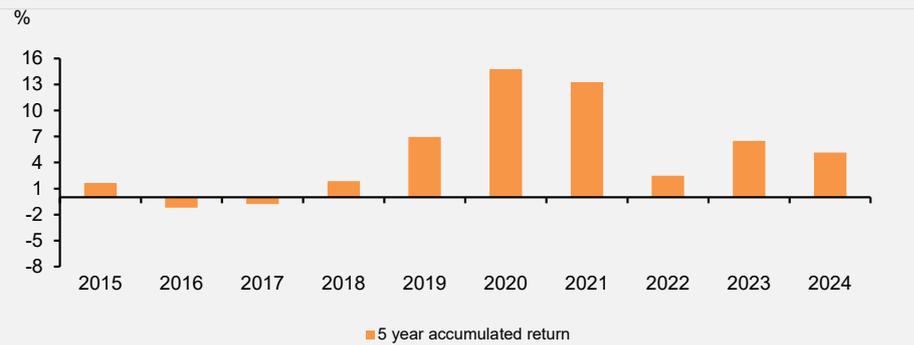
Graph 4.2 – US sovereign rates: 6-month term, 3-year term and 5-year term^{1/}



Source: Banco Central do Brasil and Bloomberg
1/ Quarterly data

The strategic allocation of international reserves is guided by a long-term investment horizon. Accordingly, the following chart presents the five-year rolling cumulative return, measured in U.S. dollars, over the past ten years. The cumulative performance was positive throughout the period, with the exception of the results recorded in 2016 and 2017. Notably, the cumulative return on international reserves between January 2020 and December 2024 was 5.14%.

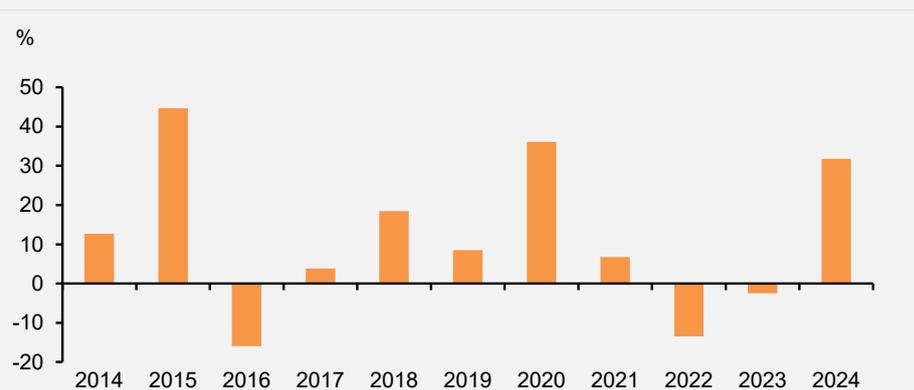
Graph 4.3 – International reserves 5 year accumulated return (moving window)^{1/}



Source: Banco Central do Brasil
1/ Internally managed portion of reserves

A complementary analysis can be conducted using the Brazilian real as the base currency for evaluating the reserves. The exchange rate between the real and the U.S. dollar was R\$/US\$ 4.84 at the end of 2023, closing 2024 at R\$/US\$ 6.19. Thus, the real depreciated against the dollar in 2024, resulting in a management gain of 31.77% in reais for the reserves over the period. Graph 4.4 displays the ten-year performance, in reais, of the internally managed reserves.

Graph 4.4 – Returns of the international reserves in Brazilian Real^{1/}



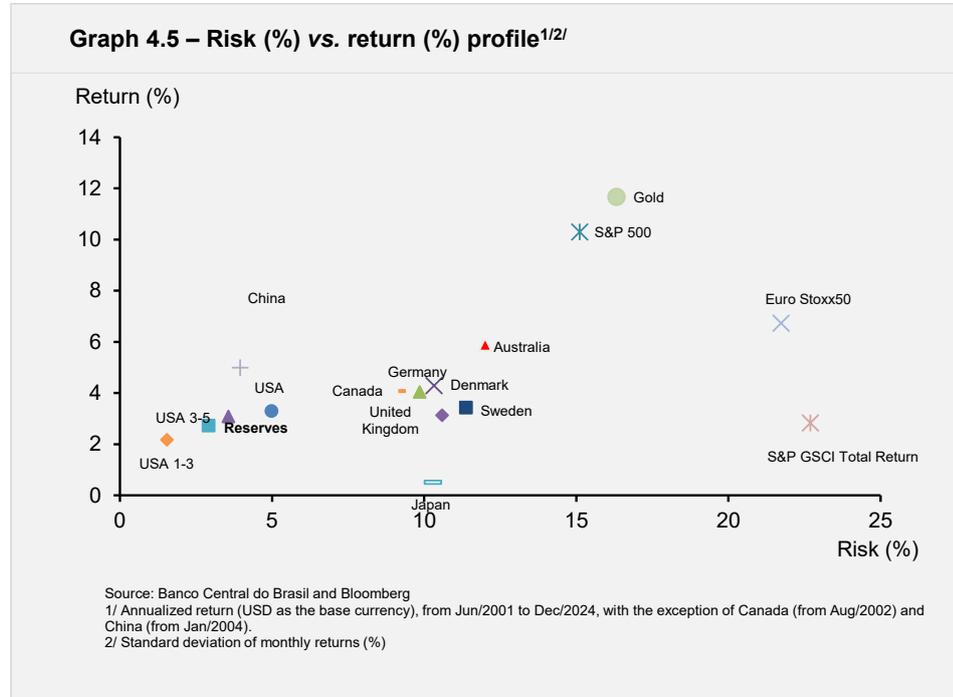
Source: Banco Central do Brasil
1/ Internally managed portion of reserves

4.1 Risk-return profile

This section compares the risk-return profile of investments of the international reserves in the period from January 2001 to December 2024 across some asset classes. The BCB’s investment horizon is long-term, and the analysis of the risk-return profile is based on monthly values obtained from the management system.

Graph 4.5 presents the average return and the annualized standard deviation based on monthly data. The U.S. Treasury bonds are represented by the indexes of 1 to 3 years maturity (USA 1-3), 3 to 5 years maturity (USA 3-5) and the whole curve (USA). Sovereign bond indices for Germany, the United Kingdom, Canada,

Denmark, Sweden, Australia, China and Japan are also shown in the graph. In addition, the gold, S&P 500, Euro Stoxx 50 and S&P GSCI Total Return Commodities indices were also included. The graph makes it possible to compare the risk-return profile of the reserves with that of these indices, using the US dollar as the base currency. The returns are consistent with the investment policies and with the risk-return preference of the GRC.



Annex

Note

This annex presents tables with the data used for the graphs shown in this report. It does not include the data from chapter 1, from graph 4.2 and Section 4.1, as they can be obtained from historical series available to the public. The numbers of the tables are the same as the graphs presented in the report.

The tables use managerial data on the operations performed in the international reserves management process.

Table 2.1 – Foreign Currency Allocation^{1/ 2/}

Period	US\$	EUR	JPY	GBP	CAD	AUD	CNY	Gold	Others
2015	82.95%	4.62%	1.81%	3.01%	4.29%	2.65%	0.00%	0.66%	0.01%
2016	83.46%	4.42%	2.13%	2.60%	4.35%	2.59%	0.00%	0.70%	-0.25%
2017	82.25%	4.97%	1.83%	2.82%	4.49%	2.88%	0.00%	0.76%	0.00%
2018	89.93%	5.13%	1.49%	1.92%	0.47%	0.30%	0.00%	0.75%	0.00%
2019	86.77%	7.35%	1.73%	2.11%	-0.12%	0.00%	1.10%	0.94%	0.12%
2020	86.03%	7.85%	1.72%	2.02%	0.00%	0.00%	1.21%	1.19%	0.00%
2021	80.34%	5.04%	1.93%	3.47%	1.01%	0.97%	4.99%	2.25%	0.00%
2022	80.42%	4.74%	1.86%	3.15%	1.01%	0.92%	5.37%	2.52%	0.00%
2023	79.99%	5.24%	1.80%	3.58%	1.01%	0.98%	4.80%	2.60%	0.00%
2024	78.45%	5.23%	1.73%	3.69%	1.05%	0.99%	5.31%	3.55%	0.00%

1/ Reserves are presented on a cash basis (end-of-period data)

2/ Negative values reflect short positions on the currency

Table 2.2 – Asset Allocation^{1/}

Period	Sovereigns	Agencies	Supra-nationals	Bank Deposits	Deposits in supra. CB	Equity Indexes	Corporates	Gold	Others
2015	88.47%	2.57%	1.01%	0.16%	4.50%			0.66%	2.62%
2016	88.70%	1.60%	0.70%	0.20%	7.87%			0.70%	0.24%
2017	87.64%	1.61%	0.74%	0.65%	8.49%			0.76%	0.11%
2018	93.18%	1.56%	0.78%	0.36%	2.47%	0.74%		0.75%	0.17%
2019	93.03%	1.78%	0.86%	0.41%	1.63%	1.04%	0.00%	0.94%	0.33%
2020	88.18%	2.45%	1.22%	0.23%	4.99%	1.29%	0.00%	1.19%	0.45%
2021	89.26%	1.64%	0.63%	0.47%	3.61%	1.13%	0.44%	2.25%	0.58%
2022	89.71%	1.43%	0.61%	0.10%	2.42%	1.04%	1.34%	2.52%	0.83%
2023	86.57%	1.23%	1.38%	0.44%	4.13%	1.13%	1.28%	2.60%	1.23%
2024	84.08%	1.21%	1.98%	0.34%	5.51%	0.99%	1.28%	3.55%	1.04%

1/ Reserves are presented on a cash basis (end-of-period data)

Table 2.3 – Asset Allocation^{1/}

US\$ million

Period	Sovereigns	Agencies	Supra-nationals	Bank Deposits	Deposits in supran. CB	Equity Indexes	Corporates	Gold	Others
2015	305,183.33	8,866.73	3,493.59	533.12	15,526.57			2,290.09	9,051.54
2016	313,064.35	5,640.11	2,467.90	713.05	27,766.31			2,479.09	837.69
2017	321,978.04	5,897.99	2,709.60	2,399.18	31,177.89			2,793.00	425.04
2018	342,687.09	5,732.24	2,850.67	1,307.10	9,068.31			2,770.03	626.54
2019	324,986.38	6,199.78	2,990.23	1,422.02	5,702.82	3,619.18	0.00	3,280.61	1,142.21
2020	305,099.82	8,484.21	4,228.92	802.57	17,256.33	4,452.57	0.00	4,100.02	1,565.15
2021	301,252.94	5,546.21	2,125.66	1,570.65	12,176.41	3,800.31	1,495.69	7,582.10	1,962.33
2022	269,624.84	4,288.41	1,838.38	290.74	7,268.82	3,117.14	4,037.11	7,586.52	2,492.03
2023	286,536.39	4,064.39	4,571.65	1,465.73	13,661.16	3,753.15	4,237.17	8,609.12	4,084.76
2024	257,565.87	3,719.58	6,079.78	1,052.50	16,891.72	3,039.60	3,922.78	10,876.98	3,182.84

1/ Reserves are presented on a cash basis (end-of-period data).

Table 2.4 – Average term of investment^{1/}

Period	Years
2015	1.97
2016	1.88
2017	1.69
2018	2.23
2019	2.78
2020	2.54
2021	3.18
2022	3.36
2023	3.14
2024	3.19

1/ Reserves are presented on a cash basis (end-of-period data).

Table 2.5 – Average term of investment^{1/}

Period	Years
2015	2.07
2016	1.93
2017	1.81
2018	2.07
2019	2.71
2020	2.63
2021	2.75
2022	3.35
2023	3.22
2024	3.10

1/ Reserves are presented on a cash basis (annual average)

Table 3.1 – International Reserves VaR^{1/}

Period	Total VaR (%)	Interest rate VaR (%)	Currency VaR (%)	Others VaR (%)
2015	3.0	1.4	2.4	0.1
2016	2.4	1.2	2.0	0.1
2017	2.0	0.8	1.5	0.1
2018	1.5	1.1	1.0	0.2
2019	2.4	2.1	0.9	0.2
2020	2.7	1.7	1.4	0.5
2021	2.1	1.5	1.3	0.2
2022	6.6	5.3	2.2	0.5
2023	6.1	5.0	1.7	0.3
2024	4.9	3.8	1.6	0.3

1/ Yearly average for each year of the annualized daily VaR.

Table 3.2 – Forex stress test^{1/}

Variation	Return US\$ billion
-30.0%	-19.83
-20.0%	-13.22
-10.0%	-6.61
-5.0%	-3.30
5.0%	3.30
10.0%	6.61
20.0%	13.22
30.0%	19.83

1/ Impact of the exchange rate variations against the US dollar on the value of the reserves, as of 12.31.2024.

Table 3.3 – Interest rate stress test^{1/}

Variation	Return US\$ billion
0.5%	-4.6
1.0%	-9.1
1.5%	-13.4
2.0%	-17.6
2.5%	-21.7
3.0%	-25.7
4.0%	-33.3
5.0%	-40.5

1/ Impact of parallel shifts of the yield curves on the value of the international reserves, as of 12.31.2024.

Table 3.4 – Liquidity risk^{1/ 2/}

Period	Sovereigns (%)	Supranationals (%)	Agencies (%)	Local Gov. (%)	ETF - MBS, Stock Indexes & IG Corporate' (%)
2015	0.03	0.12	0.09		
2016	0.03	0.13	0.10		
2017	0.03	0.12	0.10		
2018	0.03	0.08	0.08		
2019	0.04	0.08	0.08	0.15	0.02
2020	0.07	0.08	0.11	0.16	0.05
2021	0.05	0.08	0.09	0.11	0.02
2022	0.08	0.09	0.11	0.13	0.07
2023	0.07	0.09	0.09	0.10	0.09
2024	0.05	0.08	0.08	0.09	0.07

1/ Values correspond to their respective portfolios

2/ Calculated as the average bid-ask spread.

Table 3.5 – Allocation by issuer and counterparty type

Period	Agencies	Supranationals	Sovereigns	Financial Institutions	Central Banks	Local Governments
2015	2.78%	1.90%	91.48%	0.45%	3.38%	
2016	2.12%	2.08%	89.81%	0.47%	5.52%	
2017	1.71%	1.51%	88.96%	0.68%	7.15%	
2018	1.57%	1.37%	90.82%	0.59%	5.63%	
2019	1.73%	0.93%	95.17%	0.57%	1.56%	0.04%
2020	2.28%	1.81%	92.41%	0.63%	2.68%	0.19%
2021	1.83%	2.11%	91.51%	1.21%	3.10%	0.24%
2022	1.59%	1.18%	93.30%	0.34%	3.34%	0.24%
2023	1.42%	1.86%	92.49%	0.50%	3.55%	0.18%
2024	1.24%	3.56%	90.82%	0.59%	3.65%	0.14%

Table 3.8 – Total credit risk exposure with money market operations^{1/ 2/}

Period	Supranationals	Financial Institutions	Central banks
2015	3,556	551	11,853
2016	3,948	1,598	18,862
2017	2,697	2,490	26,095
2018	2,181	2,186	20,812
2019	518	2,025	5,652
2020	2,169	2,091	8,908
2021	4,162	3,970	10,177
2022	1,575	952	10,062
2023	2,558	1,379	10,560
2024	4,464	1,718	11,310

1/ Values in US\$ million (yearly averages).

2/ Deposits, repurchase agreements, forex.

Table 4.1 – Returns of the international reserves^{1/}

Period	Total return (%)	Interest rate return (%)	Exchange rate return (%)
2015	-1.60	0.58	-2.18
2016	0.70	1.07	-0.37
2017	2.27	0.74	1.53
2018	1.17	1.55	-0.38
2019	4.33	4.25	0.08
2020	5.57	4.38	1.19
2021	-0.62	0.20	-0.82
2022	-7.45	-6.09	-1.36
2023	5.11	4.67	0.44
2024	3.02	3.20	-0.18

1/ Internally managed portion of reserves

Table 4.4 – Returns of the international reserves in Brazilian Real^{1/}

Period	Return in BRL (%)
2015	44.68
2016	-15.95
2017	3.80
2018	18.49
2019	8.53
2020	36.11
2021	6.72
2022	-13.47
2023	-2.47
2024	31.77

1/ Internally managed portion of reserves

Glossary

The definitions present the sole objective of helping the general understanding of the concepts described in the report

Active management

Particular way of financial management in which it is tried to anticipate movements of market, variations of liquidity and other dynamic facts, with the objective of obtaining a better risk adjusted return in relation to the benchmark.

Basis Point (b.p.)

One basis point corresponds to 0.01 percentage point.

Benchmark

It is a reference portfolio that is typically used as representation of the choice of risk and return of the investor.

CDS

Credit Default Swap. Financial instrument through which it is possible to buy or sell insurance against default of assets issued by companies or countries.

CRB

Commodity Research Bureau. Commodities index price daily evaluated by Thomson Reuters/Jefferies.

Default

Technical situation in which the debtor does not fulfill a contractual obligation.

ETF (Exchange Traded Funds)

Index funds traded like stocks on exchanges. The indices can be composed of either fixed income (e.g. MBS) or equity (e.g. S&P 500)

Government agencies

They are agencies sponsored by governments with the objective of supporting strategic areas of the economy as construction, education etc.

MBS (Mortgage-Backed Securities)

Fixed-income securities guaranteed by bundled mortgages or real estate loans.

Money market

Segment of the financial market composed of short-term assets (until one year) and usually of major liquidity, such as commercial papers, certificates of negotiable deposits (CDs), treasury bills, buybacks agreements (repos), etc.

Rating

Grade given by a risk agency that expresses the credit risk of institutions, countries and assets.

Rating Agencies

They are agencies, usually private, which rate the credit risk of institutions, countries and assets.

Spread

Price difference between the quotations for buying and selling an asset or between quotations of two different assets.

Supranationals

Bonds issued by multilateral organisms, such as the International Monetary Fund (IMF), Inter-American Development Bank (IDB), the Bank for International Settlements (BIS), the World Bank (IBRD) etc.

Swift

Society for Worldwide Interbank Financial Telecommunications. It is a global system of telecommunications whose main objective is to provide message service, which enables the Central Bank of Brazil to settle operations with international reserves.

Treasuries/T-bills

Debt instruments issued by the US Treasury. Treasury bills (T-bills) are issued with up to one-year term and do not pay coupons before maturity. The other treasuries (bonds and notes) are issued with a higher term and pay coupons periodically.

Value at Risk

Estimated value for the investment loss, in a certain time horizon, with a given confidence level.

VIX

Implicit volatility index, based upon S&P500 calls.

Volatility

Degree of prices variability or assets returns.

Yield

Profitability. Dividend or interests paid as percentage of the current value.



BANCO CENTRAL DO BRASIL

