

FMR

Financial Markets Report

Second Quarter 2024



Financial Markets Report

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1. Introduction

Banco de la República (the Central Bank of Colombia, *Banrep*) generates information for decision-making, accountability, and public dissemination. In particular, the *Financial Markets Report* is part of the principle of public dissemination and contributes to meeting *Banrep's* objective of providing quality economic information and research.

In this context, the Report seeks to provide the public with a general analysis of the behavior and trends of domestic and international financial markets for the second quarter of 2024 (2Q24). In addition, it highlights the main factors that explain these markets' behavior and their interactions and describes the changes in monetary policy and other decisions of the main central banks, with especial emphasis on the decisions of banks in the region.

The global economic environment in which the markets studied in this Report developed was characterized by the resilience of economic activity, although with some signs of slowdown towards the end of the period, and the persistence of some inflation metrics above central banks' targets. This supported the cautious monetary policy stance in developed economies, as well as expectations that the contractionary stance will be maintained for a longer period than anticipated by market agents at the end of the first quarter of 2024 (1Q24, see *International Environment*).

In addition, the international environment was marked by uncertainty surrounding major trade conflicts, high geopolitical tensions, upcoming elections in several developed economies, and concerns about the fiscal outlook in these economies. These circumstances led to a moderation in appetite for assets in emerging economies.

Regarding global financial conditions, no significant changes were observed compared to 1Q24. While fixed-income securities experienced significant declines in line with adjustments in monetary policy expectations, stock markets mostly showed favorable performance supported by the strong performance of technology companies. This, together with the widespread strengthening of the dollar in the U.S., offset the increase in interest rates and led to financial conditions closing the quarter at levels similar to those at the end of 1Q24.

In the commodity sector, oil prices declined during the period under review in response to announcements from the Organization of the Petroleum Exporting Countries and its allies (OPEC+) about relaxing its 2024 production cuts and increased U.S. production. In other energy-related commodities, Liquefied Natural Gas (LNG) experienced a significant recovery, while coal prices fell. Precious metals appreciated due to higher demand for safe-haven assets amid international uncertainty. On the other hand, industrial metals appreciated, driven by increased demand from the Chinese real estate sector and, in the case of copper, by the growth in renewable energy and low global inventory levels.

In this scenario, most central banks in the region moderated the pace of their monetary policy rate (MPR) cuts due to rising inflation, some favorable economic activity data, and expectations of lower cuts in developed economies. In Colombia, inflation and inflation expectations continued their downward trend. This, together with higher-than-projected 1Q24 Gross Domestic Product (GDP) growth and less favorable external conditions, supported the decisions of the Board of Directors of *Banco de la República* (BDBR) to cut the MPR by a total of 100 basis points during the

quarter, bringing it to 11.25% at the end of the quarter (see *Monetary Policy and Inflation in Latin America*).

Locally, public debt experienced declines, especially over the long term, in line with the global context and moderating appetite for assets in emerging economies. This phenomenon is framed in a context of increased uncertainty regarding the country's fiscal soundness, the Government's reform agenda, and some discussions about potential adjustments to Colombia's institutional framework.

In this scenario, Pension and Severance Funds (FPCs in Spanish) and foreign investors, who are the main holders of government bonds (TES: bonds issued by the Colombian Government), continued to demand TES in the spot market, particularly in the long term of the yield curve. However, there was a moderation in FPC purchases compared to 1Q24 (see *Domestic and Foreign Public Debt Market*).

On the other hand, the local stock market showed favorable performance accompanied by improved liquidity driven by several factors. These included some important corporate events, the good performance of some companies, such as those in the energy sector, and the rebalancing of the MSCI COLCAP Index (see *Stock Market*). In addition, this report contains a box providing a characterization of foreign investors in the Colombian equity market, offering an overview of their participation and dynamics in this market (see *Box 3: Foreign Investors' Participation in the Colombian Stock Market*).

In the foreign exchange market, the dollar appreciated against developed and emerging market currencies, driven by expectations of a prolonged restrictive monetary policy in the U.S. The Colombian peso (COP) weakened, in line with the performance of its regional peers and the general strengthening of the U.S. dollar (USD). According to market analysts, this weakness also reflected uncertainty surrounding the country's fiscal situation. In this context, liquidity and exchange rate volatility deteriorated slightly compared to 1Q24 (see *Colombian Foreign Exchange Market*).

Under the Foreign Reserves (IR) Accumulation Program announced by *Banrep* in December 2023, USD 825 million had been purchased by the end of 2Q24. This figure represents 69% of the amount auctioned up to June 2024 and 55% of the program's total target of USD 1,500 million. In particular, this report includes a box detailing this program and analyzing its effectiveness in maintaining FRs at adequate levels during the first half of 2024 (see *Box 2: Progress of the Reserves Accumulation Program*).

All of the above is detailed in *Table 1*, which presents the variation during 2Q24 of key financial market indicators for major developed economies, Colombia and our main regional peers, as well as for major commodities relevant to these economies. It also includes some indicators reflecting the risk perception in most of these economies.

Table 1. Summary of Financial Markets during 2Q24

Local currency rate (bps)	Exchange rate ²	Stock Market	EMBI+ ³ (bps)	Commodity ⁴
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	Policy rate (bps) ¹	2 years	10 years			5-year CDS (bps)		
United Kingdom	0	4	26	0.2%	2.7%			
Japan	0	17	32	-6.3%	-1.9%			
Germany	-25	-2	20	-0.7%	-3.7%	4.9		
USA	0	10	17	1.3%	3.9%	-0.6	12.2	
Colombia	-100	36	80	-8.0%	3.6%	23	38	-1.2%
UVR		82	74					
Brazil	-25	148	96	-11.6%	-3.3%	32	23	-3.4%
Mexico	0	50	57	-10.6%	-8.6%	19	20	-2.0%
Chile	-150	-69	49	4.0%	-3.5%	3	-3	9.6%
Peru	-50	-13	-26	-3.4%	5.4%	11	-3	9.6%
Other EM ⁵	0	0	9	-0.1%	4.1%	6	115	0.1%

Source: Bloomberg and *Banco de la República*.

Note: Cells in green are used to indicate favorable performance in the indicator under analysis, while reddish tones indicate the opposite. The intensity of the colors is associated with the magnitude of the changes relative to other assets with similar characteristics.

1. (bps) Indicates that the performance of the variable under analysis is in basis points. Changes in policy rates, local currency sovereign bond yields, 5-year CDS, and EMBI are reported in basis points (bps).

2. Positive changes in the exchange rate reflect an appreciation of the exchange rate.

3. The CDS and EMBI+ fields of the United States correspond to the Vix and the Move, respectively, while the CDS field of Germany corresponds to the Vstxxx.

4. The "Commodities" category corresponds to Brent Crude Oil in Colombia; WTI in Mexico; copper in Chile and Peru; and soy in Brazil

5 The "Other EM" category corresponds to Turkey, South Africa, Russia, Indonesia, India, Thailand, China, Malaysia, Poland, and the Czech Republic.

Finally, in addition to the information on the development of financial markets during the quarter, this report also includes a box exploring the relationship between the spread between the Overnight Reference Banking Indicator (O/N IBR) and the MPR, identifying some factors that may explain the performance of this spread (see *Box 1: Analysis of the Relationship Between the Rate Spread and the Liquidity Demand in the Financial System*).

2. Executive summary

2.1. International Environment

Global economic activity remains resilient and accompanied by the release of some higher-than-expected inflation figures in major developed economies, which have also shown high persistence. In this context, officials at major central banks maintained a cautious stance, which has continued to push MPR expectations upward, leading to an anticipated prolonged contractionary policy. However, financial conditions closed 2Q24 at levels similar to those observed at the end of the previous quarter, amid high volatility.

During the quarter, there was a moderation in appetite for emerging economies amidst greater international uncertainty due to trade and geopolitical conflicts, upcoming elections in several developed economies, and concerns about the fiscal outlook in these economies. In this context, net foreign portfolio investment inflows to emerging economies moderated.

Regarding commodity markets, oil prices declined compared to the previous quarter due to OPEC+'s announcement of relaxing its voluntary cuts program and increased inventories in the U.S. On the other hand, some energy commodities, such as LNG references, appreciated due to higher demand driven by climate factors. In addition, gold and silver hit record highs, driven by higher demand for safe-haven assets amid geopolitical risks. On the other hand, some industrial commodities, such as iron, steel, and aluminum, have corrected their prices due to increased demand from China.

2.2. Risk Perception at the Local Level

Risk perception indicators at the local level increased, consistent with trends observed in most emerging economies. However, several analysts agree that some local factors may have also influenced this behavior. In particular, they point to uncertainty regarding fiscal matters and the government's reform agenda, as well as some statements by senior government officials about potential defaults on the country's foreign currency commitments and the search for a constituent assembly.

In turn, growth expectations remain low, reflecting the weak GDP growth in 2023 and persistently low levels of retail and consumer confidence indicators. This scenario is part of the macroeconomic adjustment ongoing since 2023, addressing inflationary pressures and fiscal and external deficits, and is also reflected in the moderation of consumption levels towards a more sustainable rate. However, a recovery in growth is expected by 2025, approaching its potential level. In this context, several analysts consider that the performance of local risk perception for the remainder of the year and, therefore, the performance of local assets, will largely depend on economic recovery and the future evolution of fiscal and current account deficits.

2.3. Fixed-Income and Money Markets

Monetary Policy and Inflation in Latin America

Inflation measures in the region's countries showed mixed performance, while inflation expectations derived from financial markets point to widespread increases. The international environment and the upturns in inflation expectations, together with some favorable economic activity performance, explained the moderation in the pace of monetary policy rate cuts in most region's countries during the quarter.

Locally, financial markets continue to anticipate inflation levels closer to the target in Colombia. In particular, inflation expectations from the public debt market suggest that inflation would return to *Banrep's* tolerance range within the policy horizon (24 months) during the early months of 2026. However, there are still upside risks to inflation due to the outlook for the impact of the adjustment to diesel fuel oil prices (ACPM in Spanish), downward inflation rigidity in some services (including leases and energy tariffs), and the potential impact on imported goods prices due to the Colombian peso (COP) depreciation, largely explained by the international strength of the dollar.

In line with the decreasing trend of inflation and its expectations, the BDBR decided to cut the MPR by 100 bps, bringing it to 11.25% during 2Q24. In turn, financial markets continue to discount additional MPR cuts for Colombia; however, the pace of these cuts decreased compared to expectations in 1Q24.

Colombian Money Market

During 2Q24, *Banrep* implemented measures to maintain adequate liquidity flows in the system, preventing significant and persistent deviations of the O/N IBR from the MPR (see *Box 1: Analysis of the Relationship Between the Rate Spread and the Liquidity Demand in the Financial System*). The facilities for supplying and temporarily contracting liquidity in the economy were complemented with TES sales.

During the quarter, low deposit levels from the General Directorate of Public Credit and the National Treasury (DGCPTN in Spanish) at *Banrep* and high volatility of these deposits were maintained. In addition, similar to the previous quarter, there was significant demand for *Banrep's* monetary contraction instruments, together with demand for temporary expansionary operations.

Domestic and Foreign Public Debt Market

Developed countries' government bonds depreciated in line with expectations of a more prolonged contractionary monetary policy in these economies due to the release of stronger-than-expected inflation and economic data in the U.S.

In Latin America, government bond rates also depreciated, reflecting the global context and moderating appetite for emerging assets due to deteriorating risk indicators in these economies and some particular developments in the region. Locally, Colombian securities experienced greater depreciations compared to peers, amid increased uncertainty regarding the country's fiscal soundness, the Government's reform agenda, and discussions about potential adjustments to Colombia's institutional framework.

Regarding participants in the local public debt market, foreign investors continued their buying trend from the first quarter of 2024, influenced by the increase in Colombian bond yields and the depreciation of the COP during the quarter. So far this year, there has been a shift in the foreign investor base towards monetary authorities, who exhibit more stable performance in the market. In addition, the inclusion of India, starting in June 2024, in one of the benchmark indexes most used by foreign investors to invest in government bonds of emerging economies, including Colombia, is expected to have a moderate effect on these agents' flows locally.

In turn, FPCs continued to show significant inflows into the Colombian public debt market, although at a lower amount compared to the previous quarter. Both foreign investors and FPCs have increased the duration of their portfolios through purchases of long-term securities.

Private Debt Market

The funding cost through Certificates of Deposit (CDTs in Spanish) remained relatively stable during the quarter and continues to average lower than in the last two years. However, a slight reversal in rates for 1- to 3-year securities has been observed. In addition, there is a significant accumulation of maturities of CDTs for the third quarter of the year, especially in August, in securities issued at terms between 1 and 3 years.

On the other hand, funding through the placement of corporate debt securities increased compared to the previous quarter, with greater participation of non-financial sector entities.

2.4. Foreign Exchange Market

In 2Q24, the U.S. dollar appreciated against most developed and emerging market currencies, driven by expectations of tighter monetary policy in the U.S. for longer than expected. The behavior of emerging market currencies was mixed; however, most Latin American peers depreciated during the quarter due to the external environment, increased political and fiscal uncertainty, and some idiosyncratic factors.

The COP weakened in line with most currencies in the region, affected by the strengthening of the U.S. dollar and idiosyncratic factors. In particular, the COP depreciated in the last month of the quarter due to increased concerns about the country's fiscal situation.

In 2Q24, *Banrep* purchased USD 400 million (m) as part of the Foreign Reserves Accumulation Program announced in December 2023. So far, *Banrep* has accumulated reserves totaling USD 825 m, representing 69% of the amount auctioned in the first half of the year and 55% of the program's total target (USD 1,500 m). In addition, as indicated in the introduction, this report includes a box that provides details of the program and analyzes its effectiveness in maintaining foreign reserves at adequate levels during the first half of 2024 (see *Box 2: Progress of the Reserves Accumulation Program*).

2.5. Stock Market

During the quarter, stock markets exhibited divergent performances. Although the market was driven by the appreciation of technology and microchip-related stocks, leading indexes such as the

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Nasdaq and the S&P500 in the United States to record highs, mixed economic data and expectations of lower interest rate cuts led other indices, such as the Stoxx600, to decline.

Locally, the MSCI COLCAP Index maintained the strong performance from 1Q24. This performance, contrary to that observed in other markets in the region, was supported by corporate events such as the completion of the takeover bid (OPA in Spanish) by Nutresa, Celsia's share buyback, and the strong performance of energy companies such as Terpel and the shares of the Grupo Empresarial Antioqueño (GEA).

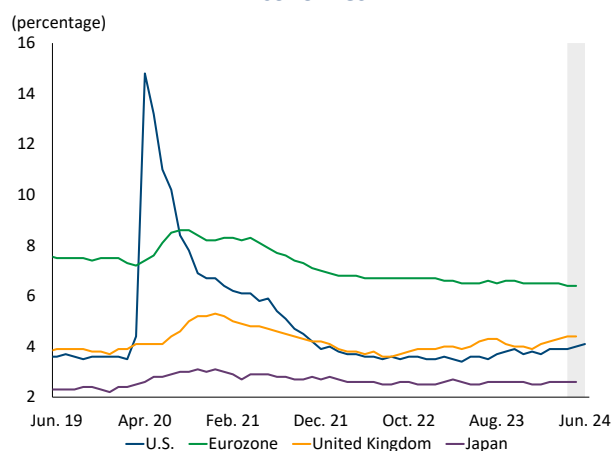
In addition, this report includes a box providing a detailed characterization of foreign investors in the Colombian equity market, offering an overview of their participation and dynamics in this market (see *Box 3: Foreign Investors' Participation in the Colombian Stock Market*).

3. International Environment

Global economic activity continues to exhibit the resilience observed throughout 2023 and 1Q24.

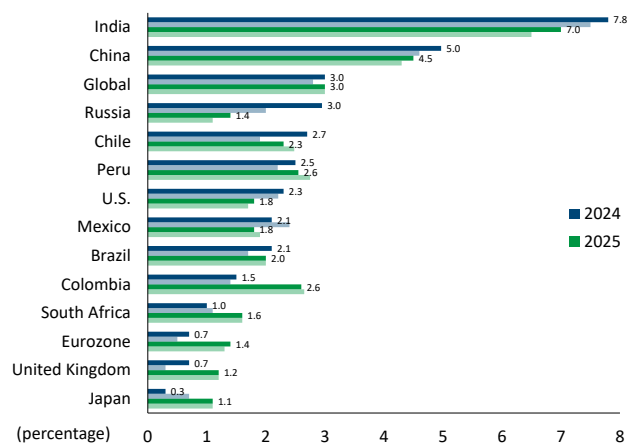
Despite the high inflation rates that have characterized the last three years and the contractionary monetary policy adopted by most central banks in response to these rates (which led the bulk of the market to anticipate a potential economic recession at some point), global economic activity continues to exhibit the resilience seen in recent years. This is reflected in the continued strong performance of the labor market, characterized by low unemployment rates (*Graph 1*), and in the release of PMI¹ figures, which are mostly positive in major developed economies. In this context, analysts have upgraded their global economic growth forecasts² (*Graph 2*). For European economies, these indicators suggest a recovery from the last two years. According to the June 2024 edition of the Annual Economic Report (AER) by the Bank for International Settlements (BIS), economic activity and the financial system have proven to be resilient and appear to be moving past the legacy of the COVID-19 pandemic and the commodity price shock caused by the war in Ukraine. However, some slowdown in economic activity has started to emerge. This is reflected in the rise in unemployment rates towards the end of the quarter and the deterioration of consumer confidence in the United States and Japan (*Graph 3*).

Graph 1. Unemployment Rate in Developed Economies



Source: Bloomberg. **Note:** The eurozone, United Kingdom, and Japan series run through May, while the U.S. series run through June.

Graph 2. Growth Forecast



Source: Bloomberg. **Note:** The darkest bars correspond to the most recent expectations (June) and the lighter bars correspond to the March 2024 expectations.

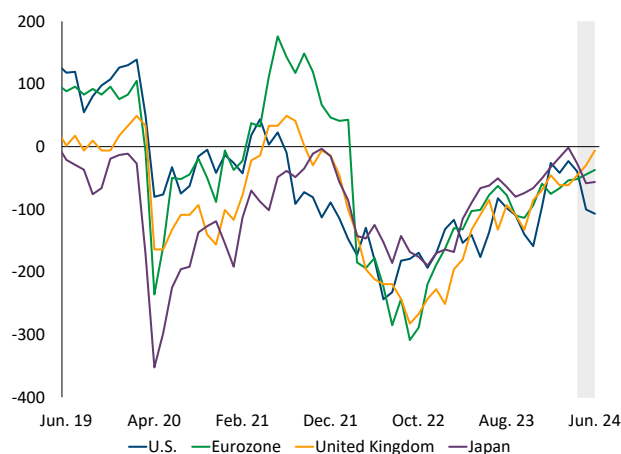
Some higher-than-expected inflation figures were released during the quarter in major developed economies, reflecting persistence above their target levels. For these economies, both

¹ The PMI is a macroeconomic indicator that reflects the economic situation of the manufacturing or services sector based on a monthly survey of a number of purchasing professionals from various companies in that sector. Thus, a PMI figure above 50 indicates expansion versus the previous month, while a figure below indicates contraction versus the previous month.

² For 2024, India is expected to continue as the global leader with growth approaching 8.0%, followed by China. While China’s growth aligns with the target set by its authorities (5.0%), the country still shows significant weakness in the manufacturing and services sectors and a greater contraction in construction.

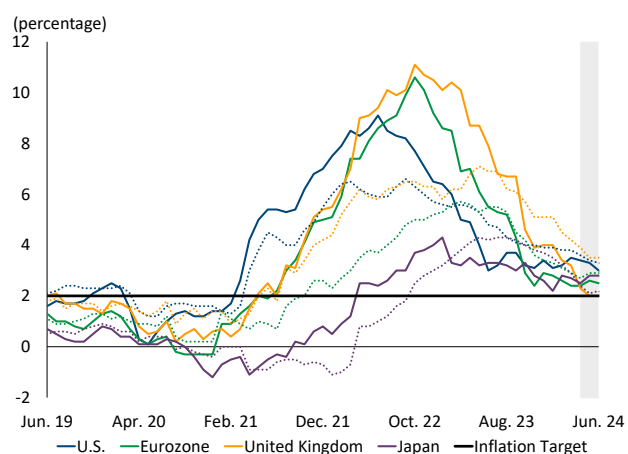
headline and core inflation³ figures published during the quarter surprised on the upside, mostly showing high persistence (mainly explained by the performance of services inflation) at levels above the 2.0% target set by their central banks (*Graph 4*). In this sense, most inflation expectations derived from the market⁴, both short-term and long-term, also remained above their inflation targets (*Graph 5*).

Graph 3. Consumer Confidence Indicators in Developed Economies



Source: Bloomberg. **Note:** Standardized series are presented with information since 2000. In United States, the consumer sentiment indicator measured by the University of Michigan is presented.

Graph 4. Inflation in Developed Economies



Source: Bloomberg. **Note:** The solid lines correspond to headline inflation and the dotted lines to core inflation.

In this context, officials from major central banks have maintained a cautious stance, which has supported expectations that the contractionary monetary policy will remain in place for a longer period. With inflation levels still above the monetary authorities' target and aggregate demand performing resiliently across several developed economies, the Federal Reserve (FED), the European Central Bank (ECB), the Bank of England (BoE), and the Bank of Japan (BoJ) have all upheld a contractionary monetary policy stance during the quarter. In the case of the ECB, while the downward inflation trend led to a 25 bp rate cut in June, the persistence of inflation led the Bank to increase its inflation projections⁵ and several of its officials to advocate for pausing further cuts until upcoming inflation data show a sustainable path towards the 2.0% target⁶. In line with the above, the BIS's AER highlights that the work of central banks is not yet complete and that

³Core inflation measures seek to eliminate the effects of temporary price shocks. To this end, those items with very volatile price behavior or that are beyond the control of monetary policy, such as food or some regulated products (fuels, utilities, transportation), are excluded.

⁴ According to the swaps market, one-year inflation expectations fell 14 bps to 2.37% in the United States and 33 bps to 1.90% in the Eurozone, while in the United Kingdom, they rose 65 bps to 4.44%. Over the long term (5-year to 5-year), expectations remained at 2.58% in the United States and 2.30% in the Eurozone and fell 7 bps to 3.39% in the United Kingdom.

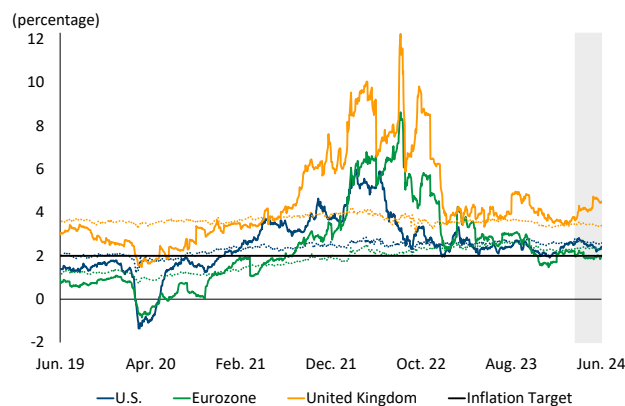
⁵ Compared to the March projections, the ECB's technical staff increased its average inflation projections for 2024 from 2.3% to 2.5%, for 2025 from 2.0% to 2.2%, while for 2026, it reduced it from 2.0% to 1.9%. Regarding core inflation, the Bank also increased its projections for 2024 from 2.6% to 2.8%, for 2025 from 2.1% to 2.2%, while for 2026, it maintained it at 2.0%. Concerning growth, the Bank increased its projection for 2024 from 0.6% to 0.9%, but reduced it for 2025 from 1.5% to 1.4%, while for 2026 it maintained it at 1.6%.

⁶ At the June meeting, ECB President Christine Lagarde stated that the rate cut did not imply a commitment to a particular rate path, but that each future monetary policy decision would be based on the available information. Subsequently, Lagarde mentioned that the Bank would first have to ensure inflation was under control before considering further rate cuts. Meanwhile, ECB Board Member Isabel Schnabel said that the disinflation process could likely be somewhat bumpy, suggesting that the ECB must remain flexible regarding its interest rate decisions.

additional efforts to control inflation are intertwined with other risk factors for the economy, such as uncertainty regarding fiscal soundness and low productivity growth in several economies.

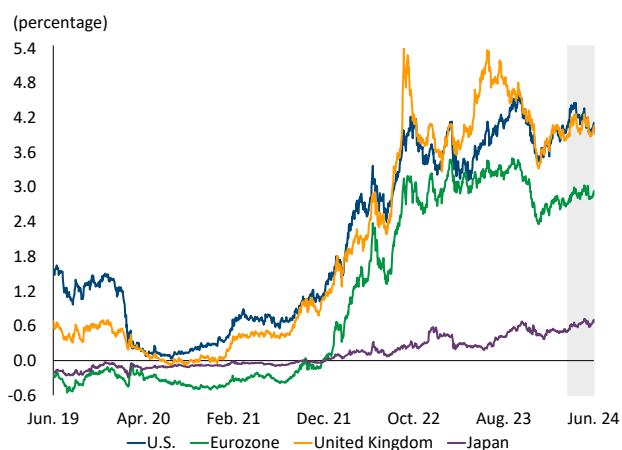
In line with the above, financial markets exhibited expectations of fewer monetary policy rate cuts in major developed economies⁷ (Graph 6). In the United States, the futures market discounted about three 25 bp reductions each during 2024 at the beginning of the quarter, in line with the projections of most Federal Open Market Committee (FOMC) members in March. However, by the end of the quarter, the market had moderated its expectation to two cuts, above the only cut projected by the FOMC in June (Graph 7). In the ECB, the market was right in projecting that the Bank would also take a cautious stance and would not cut its rates further in July, despite having made a first cut in June. For the year-to-date, the swaps market went from discounting about four cuts (of 25 bps each) to three for the ECB, and about three cuts to two for the BoE.

Graph 5. Inflation Expectations in the Swaps Market



Source: Bloomberg. Note: Strong lines correspond to one-year headline inflation expectations and dotted to long-term expectations (5-year to 5-year).

Graph 6. Five-year OIS Rates



Source: Bloomberg.

Financial conditions⁸ in most developed economies ended 2Q24 at levels similar to those observed at the end of the previous quarter, amidst high volatility. As a result of the change in monetary policy expectations, fixed-income securities rates increased significantly during the quarter (see *Fixed-Income and Money Markets*). This contributed notably to the tightening of financial conditions in most developed countries at the beginning of the quarter. However, the subsequent appreciation of stock markets in these economies⁹ (see *Stock Market*) offset the increases in interest rates, leading to financial conditions closing the quarter at levels similar to those seen at the beginning of the quarter (Graph 8). According to several analysts¹⁰, this may have

⁷ In accordance with the Overnight Index Swaps (OIS) market, which reflects expectations of the average MPR at different maturities.

⁸ Financial conditions can be interpreted as the transmission mechanism through which the monetary policy stance impacts economic activity. Usually, a financial conditions index is composed of currency performance, corporate debt spreads, stock market performance, and interest rates at different maturities.

⁹ Amid favorable corporate outcomes and optimism about the future of artificial intelligence.

¹⁰ For example, an IMF analysis finds that the easing of financial conditions offsets the impact of the recently implemented contractionary monetary policy by central banks, which in turn creates a tradeoff for monetary authorities (see [Looser Financial Conditions Pose Conundrum for Central Banks](#)).

encouraged officials from major central banks to maintain a hawkish¹¹ stance to avoid a loosening of financial conditions in their economies that could jeopardize the adjustment of inflation towards the target.

However, there was a moderation in appetite for emerging economies. This may have been related to greater international uncertainty due to increased trade conflicts and geopolitical tensions, upcoming elections in several developed economies, and concerns about the fiscal outlook in these economies. While international risk appetite indicators, such as the *Vix*¹², *Vstoxx*¹³, and *Move*¹⁴, remained low for most of the quarter (*Graph 9*), several market analysts agree that this may be largely due to technical factors¹⁵ and some market complacency despite the existence of several global risks. These risks include intensifying trade conflicts after the governments of the United States and several European countries decided to impose higher tariffs on several products from China. In addition, there is electoral uncertainty in the United States and Europe¹⁶ and elevated geopolitical tensions in Ukraine, the Middle East, and Taiwan. Finally, there are also ongoing fiscal concerns in the United States and several European economies¹⁷. In this context, investors moderated the appetite for emerging economies that had been observed since 4Q23, which was also reflected in the increase in risk perception indicators for emerging economies (see *Risk Perception at the Local Level*).

¹¹ A term used to refer to the stance of members involved in setting the benchmark rate and is usually associated with those members who have a stronger stance on inflation dynamics, while there is another term (dovish) to refer to those who give greater weight in their decisions to employment and economic activity considerations.

¹² The *Vix* reflects the implied volatility in 30-day options on the S&P 500 stock index.

¹³ The *Vstoxx* reflects the implied volatility in the 30-day options on the Euro Stoxx 50 stock index.

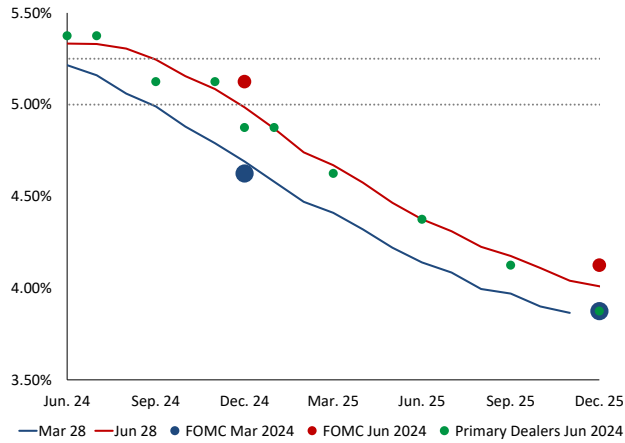
¹⁴ The *Move* reflects the implied volatility in the 30-day options on United States Treasuries.

¹⁵ These include: *i*) the oversupply of equity derivatives (e.g., as part of covered-call strategies, which have gained popularity in recent years) pressuring down their prices and thus their implied volatility; and *ii*) the low correlation among stocks that are part of these stock market indexes, which implies that the movements of some stocks are offset by movements in the opposite direction of others, decreasing the aggregate volatility of the indexes.

¹⁶ With Donald Trump likely to become the president of the United States again, higher tariff could be imposed not only on China but globally, as evidenced during his previous term. In addition, electoral uncertainty was also evident in Europe with the call for general elections in the United Kingdom, and the results of the European Parliament elections, which led President Macron to call early elections in France.

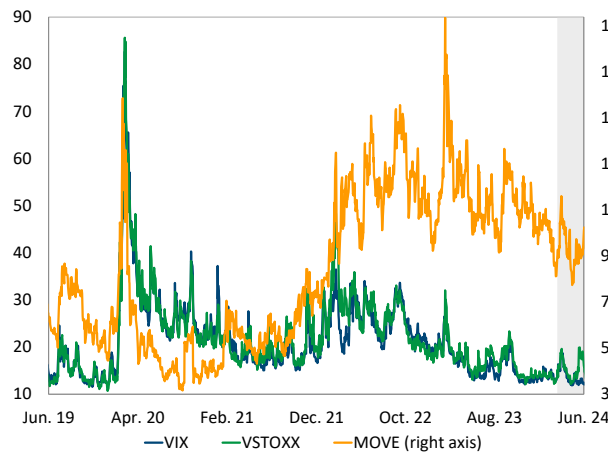
¹⁷ While debt levels as a share of GDP are at historically high levels in a number of these economies, high fiscal deficits suggest that the public debt trajectory may continue to rise in the coming years.

Graph 7. Implied Path of U.S. Monetary Policy (Futures Market)



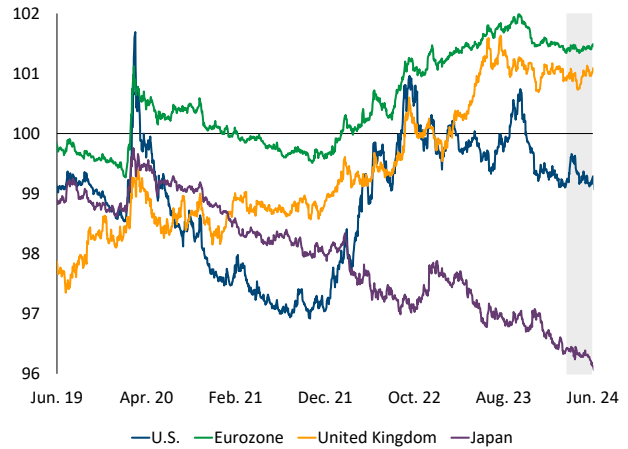
Source: Bloomberg, FED. **Note:** Dotted lines indicate the target range of the Fed Funds rate, effective June 28. The solid lines correspond to expectations from the futures market, the blue and red dots correspond to the median of the FOMC projections, and the green points correspond to the median of the responses given by Primary Dealers in the latest survey conducted by the New York Fed.

Graph 9. Risk Perception Indicators



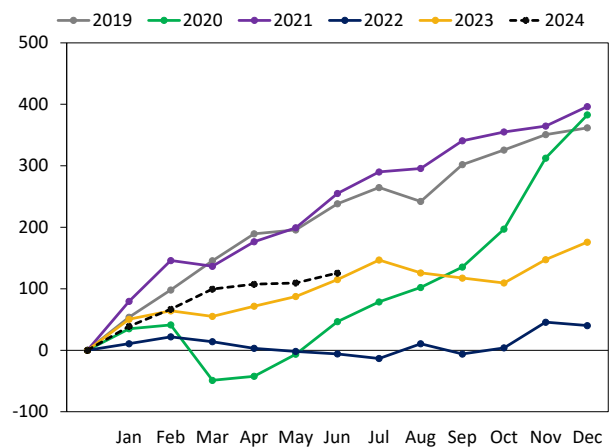
Source: Bloomberg.

Graph 8. Financial Conditions Index



Source: Goldman Sachs. **Note:** An increase (decrease) in the index indicates a tightening (loosening) of financial conditions. The value of 100 indicates the long-term level.

Graph 10. Cumulative Foreign Portfolio Investment Flows to Emerging Economies (USD Billions)



Source: IIF.

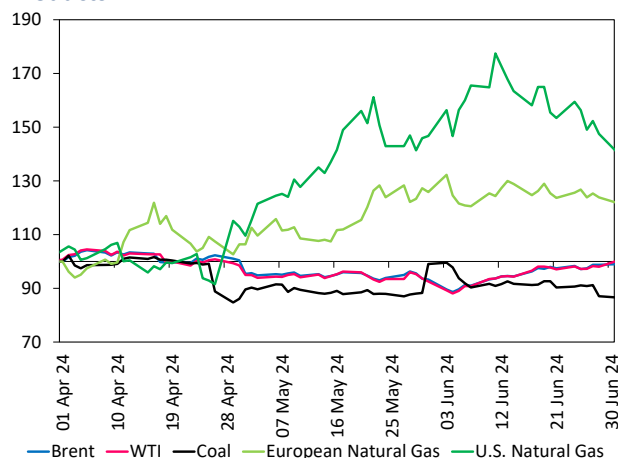
In this context, net foreign portfolio investment inflows to emerging economies moderated. In accordance with preliminary figures released by the Institute of International Finance (IIF), net inflows in 2Q24 amounted to USD 26 billion (b)¹⁸, lower than inflows observed during the previous quarter (USD 100 b). This moderation may have been explained by outflows from China¹⁹, mainly in April. In turn, Latin America had net inflows totaling USD 3.3 b (Graph 10).

¹⁸ Of which USD 35 b correspond to fixed-income market inflows and USD 9 b to equity market outflows.

¹⁹ During 2Q24, portfolio outflows from China amounted to USD -13 b.

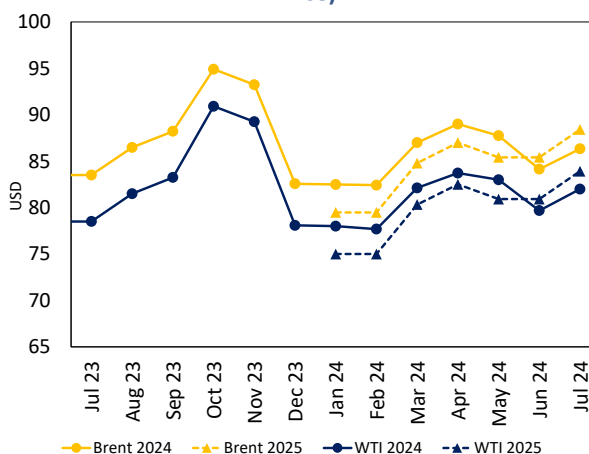
On the other hand, oil prices fell during the quarter following OPEC+’s announcement of relaxing its voluntary cuts program throughout 2024, coupled with an increase in U.S. production in June²⁰. Although supply pressures registered since 2023 following daily production cuts by OPEC+ persist, along with potential supply chain disruptions due to the Middle East conflict, the OPEC+ announcement on June²¹ 2 eased upward pressures on prices, bringing both benchmarks to prices below USD 80 dollars per barrel (d/b, *Graph 11*). However, prices were subsequently corrected upwards as the market reassessed the announcement, considering current inventory levels and the uncertainty regarding compliance with the organization's announcement.

Graph 11. Change in the Prices of Energy-Generating Products



Source: Bloomberg. Note: Base 100 = 28 March 2024.

Graph 12. Oil Price Forecasts (Annual Average Spot Price)



Source: EIA Short-Term Energy Outlook (STEO). Note: As of January 2024, the EIA has incorporated forecasts for 2025. The latest values are from the July 2024 STEO.

In the Short-Term Energy Outlook published in July 2024, the U.S. Energy Information Administration (EIA) forecasts that the 2024 prices of the Brent and WTI references will average USD 86 d/b and 82 d/b, respectively (*Graph 12*). The agency expects that daily production will decrease in line with OPEC+ cuts by 2024, resulting in higher inventory pressures and leading to average prices of USD 86 d/b in 2025.

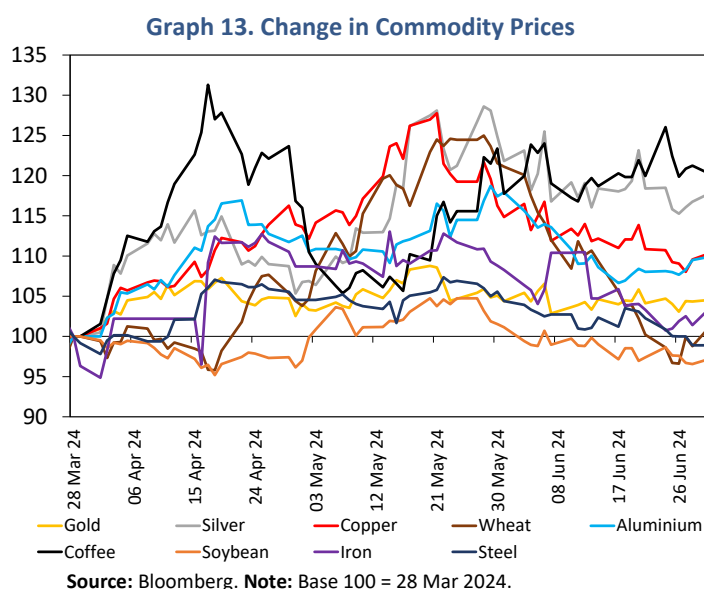
In contrast, other power-generating commodities, such as the European and U.S. LNG references, showed strong price increases, while coal prices depreciated due to lower demand. Although LNG prices had declined during 1Q24 due to stabilizing energy markets and lower seasonal demand, in 2Q24, prices showed a strong increase driven by a warmer-than-expected summer and higher demand. In addition, maintenance on the Norwegian continental shelf of LNG contributed to price volatility by temporarily reducing production capacity.

²⁰ The WTI and Brent references showed a decline of 2.0% and 1.2%, respectively.

²¹ Voluntary cuts of 2.2 million barrels per day will be phased out on a monthly basis until the end of September 2025 to support market stability.

Precious and industrial metals saw price increases²². Gold and silver hit record highs, driven by higher demand for safe-haven assets amid geopolitical risks. At the same time, industrial metals increased in price due to higher demand from the Chinese real estate sector. Copper, in particular, reached record highs due to the boost from renewable²³ energy and low global inventory levels of the metal (*Graph 13*).

Agricultural commodities, such as wheat and soybeans, depreciated during the quarter, while coffee prices appreciated. Wheat and soybean prices have maintained the trend of the previous quarter due to higher global supply, while coffee prices rose significantly during the quarter due to reduced production in Vietnam (*Graph 13*). In addition, according to FAO²⁴, global food prices increased by 1.36% between the first and second quarters of 2024.



4. Risk Perception at the Local Level

Risk perception indicators at the local level increased, consistent with trends observed in most emerging economies. Notably, the Credit Default Swaps²⁵ (CDS) (*Graph 14*) and Emerging Market

²² Gold closed the quarter with appreciations of 4.3%, while silver appreciated 16.7%. In addition, gold reached record highs of USD 2,425 per troy ounce and silver reached 11-year highs of USD 31.9 per ounce. In turn, some industrial metals such as iron, copper, and aluminum appreciated 5.3%, 9.6%, and 9.5%, respectively; steel depreciated 0.3%.

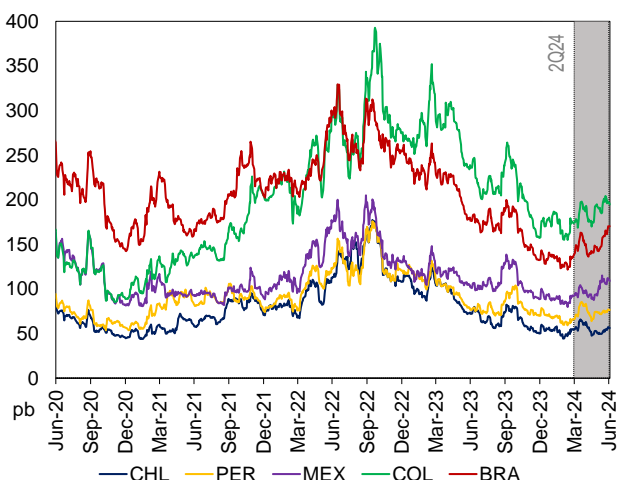
²³ Copper plays a crucial role in the transition to renewable energy. Copper is an essential component in a wide range of green energy devices and systems, including solar panels, wind turbines, and electric vehicles. Increasing reliance on these technologies has driven global demand for copper.

²⁴ [FAO Food Price Index](#)

²⁵ CDS is a financial derivative designed to transfer the credit risk exposure of a debt security to the counterparty in exchange for the payment of a premium. A higher premium reflects a higher credit risk of the issuing country. The five-year CDS rose 33 bps in Brazil, 23 bps in Colombia, 19 bps in Mexico and Chile, 11 bps in Peru, and 3 bps in Chile, while for a sample of emerging economies it increased by 6 bps.

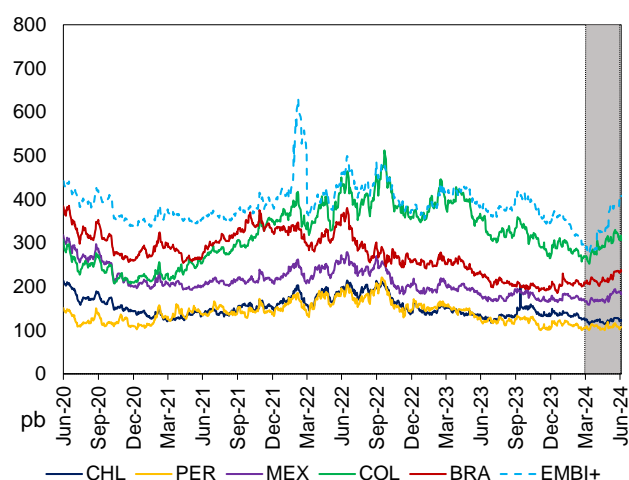
Bond Indexes²⁶ (EMBI) (*Graph 15*) have risen across most emerging economies during the quarter. This trend is in line with the moderation in appetite for these economies amid heightened global uncertainty (see *International Environment*).

Graph 14. Five-year CDS in Latin America



Source: Bloomberg.

Graph 15. EMBI+ in Latin America



Source: J.P. Morgan.

However, several analysts agree that some local factors may also have influenced this behavior.

In particular, they point to uncertainty regarding fiscal policy in the face of: *i*) Government statements to loosen the fiscal rule; *ii*) the President’s statement regarding a potential debt default should Congress not approve an increase in the borrowing limit; *iii*) the low level of tax revenue so far this year; and *iv*) Government announcements regarding a possible debt renegotiation with the International Monetary Fund (IMF). Subsequently, markets reacted positively to the Finance Minister’s statements in favor of limiting spending, which were later reflected in the publication of the Medium-Term Fiscal Framework (MTFF)²⁷ and the approval by Congress²⁸ of an increase in the foreign currency borrowing limit. On the other hand, analysts identified the Government's reform agenda and the search for a Constituent Assembly as sources of local uncertainty.

Growth expectations remain low for 2024 but indicate a projected improvement for 2025, approaching potential levels. Regarding inflation, analysts expect it to return to *Banrep’s* tolerance range by 2025. In accordance with the Financial Opinion Survey²⁹ (EOF in Spanish),

²⁶ EMBIs are indicators estimated by JP Morgan, which correspond to the difference (expressed in bps) between the interest rate paid on dollar-denominated debt securities, issued by emerging countries in international markets and the interest rate of the United States Treasuries, considered as risk-free assets. This indicator can be understood as the relative funding cost of each country’s debt, which, according to the IMF, can be characterized as: *i*) moderately stressed (greater than or equal to 300 bps); *ii*) stressed (greater than or equal to 700 bps); and *iii*) very stressed (greater than or equal to 1,000 bps). Unlike the EMBI+, which incorporates only sovereign securities, the EMBIG also incorporates quasi-sovereign securities (e.g., bonds issued by Pemex). During the quarter, the EMBI+ (EMBIG) increased by 37 bps (13 bps) in Colombia, 21 bps (19 bps) in Brazil, and 18 bps (5 bps) in Mexico, and decreased by 7 bps (corresponding to EMBIG) in Chile and 4 bps (+2 bps) in Peru, while for a sample of emerging economies it increased by 109 bps (49 bps).

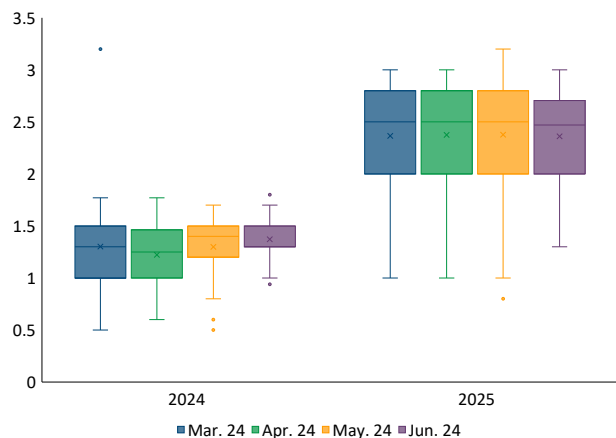
²⁷ [Medium-Term Fiscal Framework 2024, Fiscal Strategy for Sustainable Economic Recovery.](#)

²⁸ On 20 June, Congress approved [Bill 405/24C-284/24S](#), which increased the borrowing limit in foreign currency by USD 17.6 billion.

²⁹ Survey conducted monthly by Fedesarrollo and the Colombian Stock Exchange (BVC in Spanish).

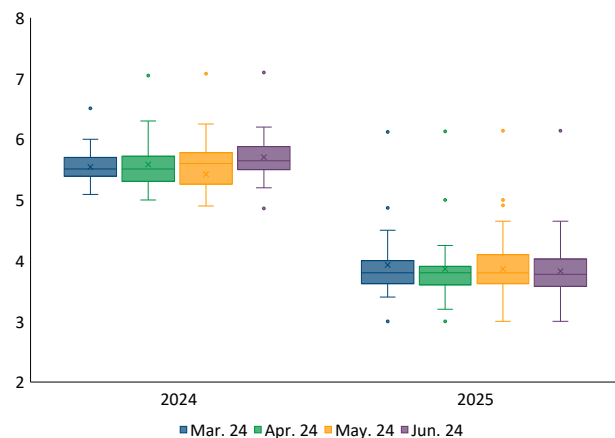
growth expectations for 2024 remained at 1.3% during the quarter, with a projected 2.5% growth rate for 2025. While growth expectation for the current year remains at historically low levels, the expectation for next year reflects an acceleration of economic growth projected by the market, which is close to the potential of the Colombian economy (*Graph 16*). As for inflation expectations, the same survey showed a slight increase from 5.5% to 5.6% by the end of 2024, while expectations remained at 3.8% by the end of 2025, within the tolerance range around *Banrep's* target (*Graph 17*).

Graph 16. Growth Forecast for Colombia



Source: EOF.

Graph 17. Inflation Expectations for Colombia



Source: EOF.

In turn, both retail and consumer confidence indicators deteriorated during the quarter. According to Fedesarrollo's confidence indicators³⁰, consumer confidence³¹ turned negative during the quarter, reflecting negative balances in both expectations and perceptions of economic conditions. Similarly, industrial confidence³² was negative, while retail confidence³³ remained low compared to recent history. The decline in industrial confidence resulted from reductions in both the volume of orders and production expectations for the next quarter. In turn, the performance of retail confidence was associated with the deterioration of both the perception of the current situation and expectations for the next six months, which was offset by a reduction in inventory levels (*Graph 18*).

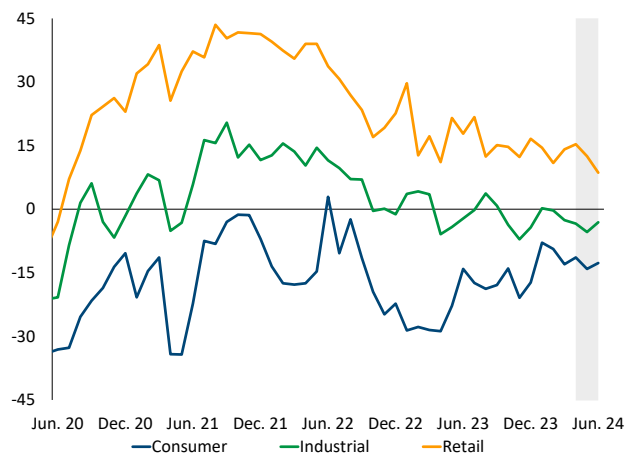
³⁰ Confidence indexes are diffusion indicators, that is, based on qualitative questions, a balance is obtained on those who expect an improvement compared to those who expect a deterioration. The critical value of the index is zero, so positive values reflect optimism and negative values reflect pessimism.

³¹ The consumer confidence indicator is divided into two sub-indices: the consumer expectations index, which inquires about 12-month expectations; and the economic conditions index, which asks about the perception of the consumer's current situation.

³² The industrial confidence indicator is divided into three components: inventory levels, current volume of orders, and production expectations for the next quarter.

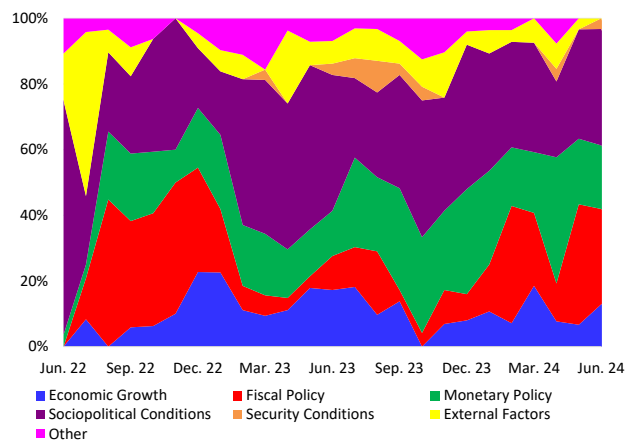
³³ The retail confidence indicator is divided into three components: perception of the current economic situation of the company or business, inventory levels, and expectations of the economic situation for the next six months.

Graph 18. Confidence Indicators for Colombia



Source: Fedesarrollo.

Graph 19. Most Relevant Factors when Making Investment Decisions in Colombia



Source: EOF.

In this context, several analysts consider that the performance of local risk perception for the remainder of the year and, therefore, the performance of local assets, will largely depend on economic recovery and the future evolution of fiscal and current account deficits. This is part of the macroeconomic adjustment underway since 2023, addressing inflationary pressures and fiscal and external deficits, and is also reflected in the moderation of consumption levels towards a more sustainable level. On the one hand, the current account deficit showed a significant correction in 2023, decreasing from 6.2% of GDP in 2022 to 2.5% in 2023. In turn, the fiscal deficit fell from 5.3% of GDP to 4.3% during the same period. However, the MTFF anticipates widening both deficits to 2.6% and 5.6% in 2024, respectively. This is consistent with the increased uncertainty on the fiscal front, which was reflected in the May and June EOF results, where the fiscal situation ranked first and second (after sociopolitical conditions), respectively, as the most relevant factors influencing investment decisions³⁴ (*Graph 19*). In this context, most analysts consider that the evolution of these deficits will be decisive in shaping local risk perception and, therefore, the performance of local assets for the remainder of 2024.

³⁴ In the May survey, 36.7% of the surveyed agents identified the fiscal situation as the most relevant factor in their investment decisions, followed closely by fiscal conditions with 33.3%, while monetary policy ranked third with 20.0%. In June, 35.5% highlighted sociopolitical conditions, followed by fiscal policy with 29.0% and monetary policy with 19.4%.

5. Fixed-Income and Money Market

5.1. Monetary Policy and Inflation in Latin America

The downward trend in inflation observed in previous months slowed, with some countries in the region experiencing increases in these metrics (*Graph 20 and Table 2*)³⁵. Particularly, in Mexico, Brazil, and Chile, inflation increased, surpassing the target set by their central banks. This increase was mainly explained by an upturn in food prices in these economies, in line with global food price trends. On the other hand, the slower pace of inflation adjustment may also be explained by slight reductions in services inflation³⁶. In turn, in Colombia, inflation continued its downward trend, but the increase in food inflation and the high level of services inflation held back the pace of reductions³⁷.

Table 2. Inflation in the Last Two Quarters and Inflation Target

Country	March 2024	June 2024	Target
COL	7.36%	7.18%	3.00%
BRA	3.93%	4.23%	3.00%
CHL	3.70%	4.19%	3.00%
MEX	4.42%	4.98%	3.00%
PER	3.05%	2.29%	2.00%

Source: Bloomberg and central banks in the region. Based on the reports in central banks' websites.

The above, together with the upturns in inflation expectations, some favorable economic activity performance, and expectations of lower MPR cuts in developed economies, may have influenced the moderation in the pace of benchmark rate cuts in most region's countries. During the quarter, short-term inflation expectations implied in financial markets in Brazil, Mexico, and Chile reversed their trend and registered increases³⁸ (*Graph 21*). In addition, the release of some economic

³⁵ During 2Q24, inflation increased by 49 bps, 56 bps, and 30 bps in Chile, Mexico, and Brazil. In Colombia, it fell by 18 bps, but at a slower pace than in the previous quarter (192 bps). Inflation in Peru fell by 76 bps, although it increased by 30 bps in June.

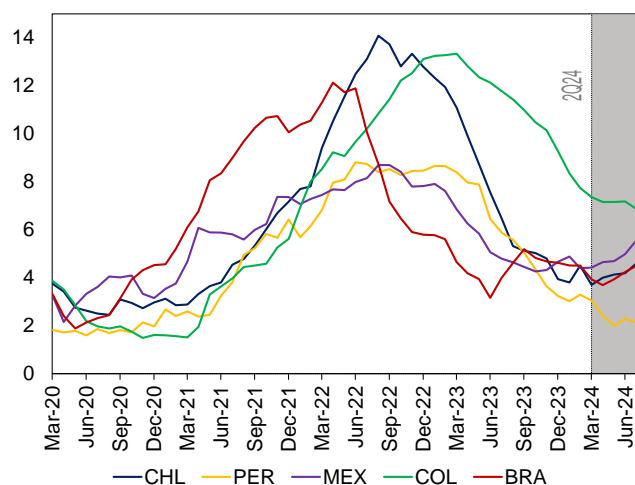
³⁶ In the July 2024 World Economic Outlook Update, the IMF indicates that high services inflation implies a challenge for the disinflation and monetary policy normalization process. As a result, the risk of higher inflation increases and a longer outlook for higher interest rates looms amid growing trade tensions and upside policy uncertainty.

³⁷ At the end of 2Q24, food and services inflation stood at 4.72% (previous quarter 3.11%) and 4.47% (previous quarter 5.09%) for Brazil; at 6.25% (previous quarter 4.98%) and 5.15% (previous quarter 5.37%) for Mexico; at 6.58% (previous quarter 3.61%) and 4.98% (previous quarter 4.87%) for Chile; at 5.27% (previous quarter 1.73%) and 7.89% (previous quarter 8.29%) for Colombia; and at -1.23% (previous quarter 1.32%) and 2.10% (previous quarter 2.87%) for Peru.

³⁸ At the end of 2Q24, one-year inflation expectations stood at 5.07% (previous quarter 4.37%), 4.20% (previous quarter 3.98%), and 3.30% (previous quarter 3.11%) for Brazil, Mexico, and Chile, respectively. Expectations in the monthly survey of the Central Bank of Peru remained slightly stable at 2.53% (previous quarter 2.56%).

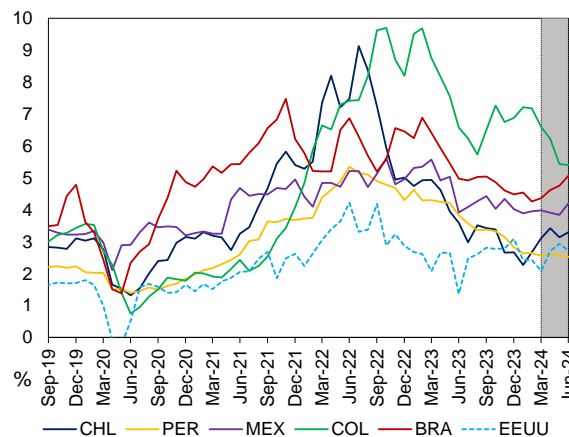
activity figures that surprised the market on the upside³⁹, together with expectations of lower MPR cuts in developed countries, contributed to a slowdown in the pace of MPR reductions in the region's countries⁴⁰.

Graph 20. Inflation in the Countries of the Region



Source: Bloomberg.

Graph 21. Short-term Inflation Expectations in the Countries of the Region



Source: Bloomberg and Banrep. Note: The information for Chile is obtained as the breakeven inflation of the Chilean Average Chamber Swaps for the one-year term. In the case of Brazil, Mexico, and the U.S. information from Bloomberg's one-year BEI is used. The BEI in Colombia corresponds to the one-year term.

Locally, financial markets continue to anticipate inflation levels closer to the target. In particular, Forward Breakeven Inflation (FBEI⁴¹) measures, adjusted by risk premiums, suggest that inflation would return to *Banrep's* tolerance range within the policy horizon (24 months) during the early months of 2026 (*Graph 22 and Graph 23*). During the quarter, the one-year inflation expectation

³⁹ In Brazil the 1Q24 GDP grew 2.5% YoY (exp.: 2.3%; prev.:2.1%) and April economic activity grew 4.01% (exp.: 3.90%; prev. month: -1.72%). In Mexico, April industrial production (actual: 5.1% YoY; exp.: 4.2%; prev. month: -3.0%), April retail sales (actual: 3.2%; exp.: 1.0%; prev. month: -1.7%), and the April Global Economic Activity Indicator (IGAE in Spanish) (actual: 5.42%; exp.: 3.53%; prev.: -1.29%) surprised the market positively. In turn, inflation in Chile resumed a positive trend in May (actual: 4.1% YoY; exp.: 4.1%; prev. month: 4.0%).

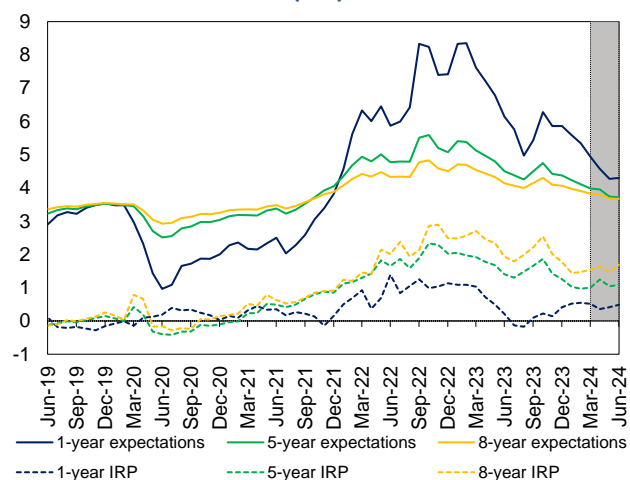
⁴⁰ During 2Q24, the Central Bank of Brazil (BCB in Spanish) cut its MPR by 25 bps (previous quarter: 100 bps) bringing it to 10.50%. Banco de México (Banxico) kept its MPR unchanged at 11.00% throughout the quarter, having previously lowered it by 25 bps in 1Q24. The Central Reserve Bank of Peru (BCRP) cut its MPR by 50 bps in 2Q24, the same as in the previous quarter, and set it at 5.75%. The Central Bank of Chile (BCC in Spanish) cut its rate by 75 bps in 2Q24, lower than in 1Q24 (175 bps).

⁴¹ Break Even Inflation (BEI) is a measure calculated as the difference between nominal bond rates and inflation-indexed bonds. This indicator can be used to approximate the inflation expectations of financial markets at different maturities. On the other hand, this measure indicates the average inflation over a given period, for example, the 2-year BEI indicates the average of 1-year and 2-year expectations. Sometimes, it is useful to know the specific expectations in each of the years, for which the Forward Break-Even Inflation (FBEI) is calculated. This measure allows for the estimation of annual inflation expectations in one year to two years.

drawn from the public debt market⁴², and adjusted for inflation risk premiums⁴³, decreased to 4.43% (previously 5.00% bps). This reduction (57 bps) was smaller than the decline recorded in the previous quarter (91 bps).

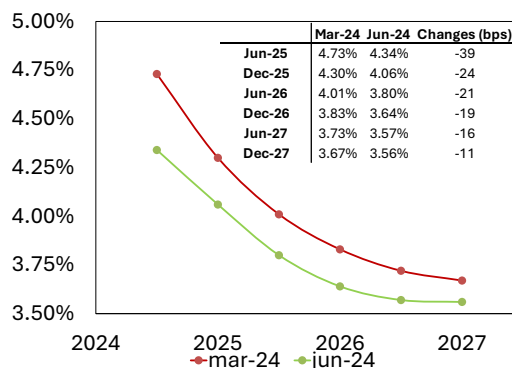
Upside risks to inflation persist due to the outlook for the impact of ACPM price adjustments, downward inflation rigidity in some services (including leases and energy tariffs), and the potential impact on imported goods prices due to the COP depreciation, which is largely explained by the international strength of the dollar (see Colombian Foreign Exchange Market). In addition, some market analysts pointed out that a potential *La Niña* event towards the end of 2024 could exert upward pressure on food prices, although this risk has diminished with expectations that this climate phenomenon will be mild. In line with the upside risks to inflation, inflation risk premiums implied in financial markets remained elevated.

Graph 22. 1-Year, 5-Year, and 8-Year BEI Decomposition of Inflation Expectations and Inflation Risk Premium (IRP)



Source: *Banrep*. **Note:** Decomposition is estimated with average information for each month following Abrahams et al. (2015) "Decomposing Real and Nominal Yield Curves" and Espinosa et al (2015) " Inflation Expectations, Inflation Risk Premium and Liquidity Premium: A Decomposition of the Break-Even Inflation for Colombian Government Bonds."

Graph 23. FBEI at Different Maturities Net of Inflation Risk Premium and Relative Liquidity at Different Maturities



Source: Precia, SEN, and Master Trader. **Calculations:** *Banrep*. **Note:** The estimate is based on inflation expectations from the BEI decomposition, which is estimated with monthly average data from Precia.

In line with the downward trend in inflation and its expectations, the BDBR decided to cut the MPR by 100 bps, bringing it to 11.25% during 2Q24 (Graph 24). At the April and June 2024 meetings, the BDBR decided to reduce the benchmark interest rate by 50 bps at each meeting. At both meetings, five members voted for this decision and two members suggested deeper cuts. BDBR's decisions have been interpreted as cautious and are in line with the IMF technical staff's

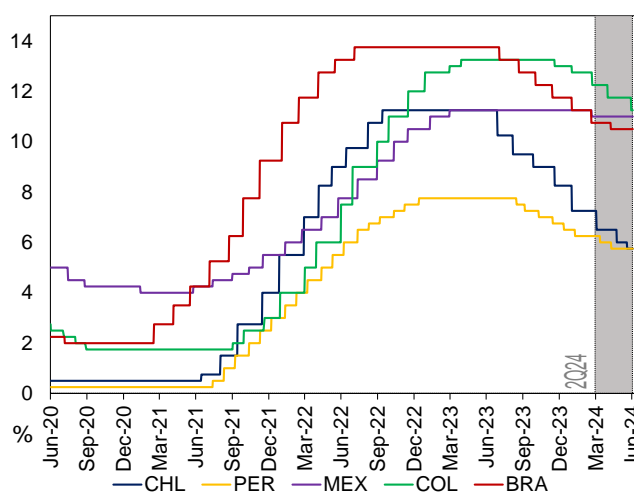
⁴² According to the *Banrep's* Encuesta mensual de expectativas de analistas económicos (EME in Spanish, Monthly Survey of Analysts' Economic Expectations) one-year inflation expectations decreased from 4.70% to 4.37% between the first and second quarters. However, expectations for December of this year increased from 5.60% to 5.72%.

⁴³ The inflation risk premium is defined as the compensation required by investors to assume risks derived from fluctuations in inflation. A higher inflation risk premium could be associated with greater uncertainty regarding the evolution of inflation.

assessment of the Colombian economy in February 2024, which stated that monetary policy normalization should continue to proceed cautiously. In addition, other important aspects considered by the BDBR in its decisions included⁴⁴ *i*) the GDP growth of 0.9% in 1Q24, which exceeded *Banrep*'s technical staff's estimates (0.3%); *ii*) the positive performance of the Colombian Economy Tracking Indicator (ISE in Spanish) during the early months of the year⁴⁵, which led to a revision of *Banrep*'s technical staff's economic growth projection for 2024 to 1.4% (prev. 1.1%); and *iii*) less favorable external financial conditions.

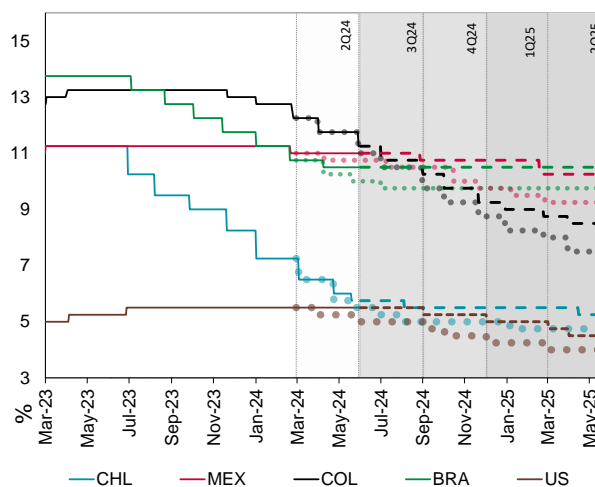
Financial markets continue to discount MPR cuts for Colombia. However, the pace of cuts slowed compared to expectations in 1Q24. Overnight Index Swap (OIS) market rates discount lower reductions in the MPR compared to expectations observed at the end of 1Q24 (*Graph 25*). This dynamic was associated with expectations of lower rate cuts in developed economies (see *International Environment*) and the evolution of economic activity and inflation indicators in the local market. On the other hand, expectations of lower MPR cuts in Colombia were in line with the lower cuts expected in other countries of the region⁴⁶.

Graph 24. Monetary Policy Rates in Latin American Countries



Source: Bloomberg and *Banrep*.

Graph 25. Market-implied MPR Expectations



Source: Bloomberg and *Banrep*. Information updated with data as of 27 March and 28 June 2024. Note: Dots represent discounted expectations in the previous quarter, while dashes represent expectations in the current quarter.

5.2. Colombian Money Market

During 2Q24, the Central Bank implemented measures to maintain adequate liquidity flows in the system, preventing significant and persistent deviations of the O/N IBR from the MPR (see

⁴⁴ According to BDBR's minutes of the April and June meetings. See <https://www.Banrep.gov.co/es/noticias/minutas-Banrep-abril-2024> and <https://www.Banrep.gov.co/es/noticias/minutas-Banrep-junio-2024>

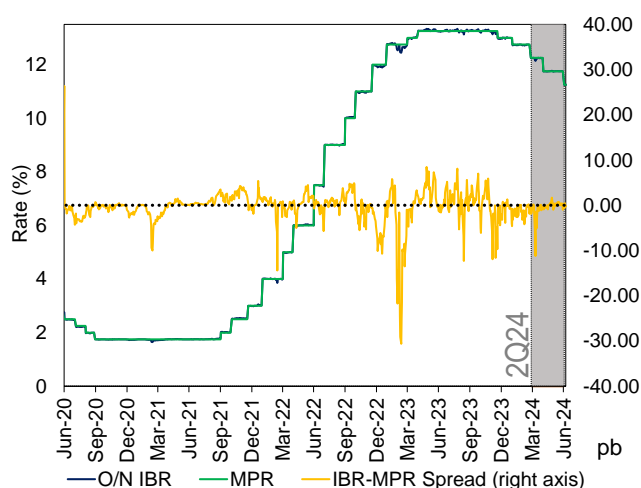
⁴⁵ The annual growth of the seasonally-adjusted indicator for April was 1.7%.

⁴⁶ Financial markets are anticipating a December 2024 MPR of 9.25% (prev. 8.75%), 10.50% (prev. 9.75%), 5.50% (prev. 5.00%), and 10.75% (prev. 9.75%) in Colombia, Brazil, Chile, and Mexico, respectively.

Recent Liquidity Situation and the Role of *Banco de la República* (**available only in Spanish**) and Box 1: Analysis of the Relationship between the Rate Spread and Liquidity Demand in the Financial System). During the quarter, the O/N IBR rate was 0.5 bps below the daily average MPR (*Graph 26*). Among the measures implemented by *Banrep* to help keep this differential low were the sales of TES B for COP 6,166.6 billion (value at market prices)⁴⁷. TES sales were accompanied by facilities for supplying and temporarily contracting liquidity.

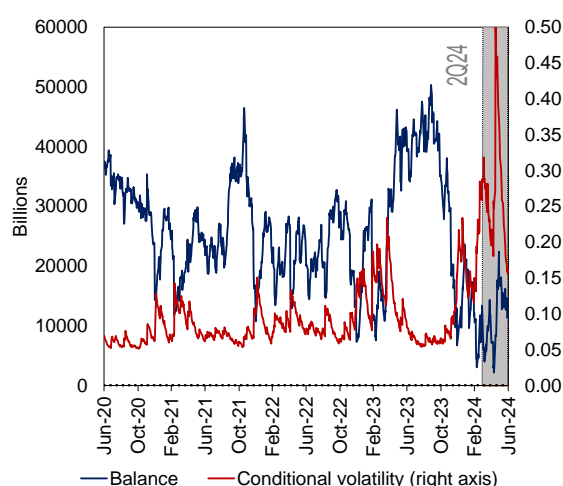
During the period, DGCPTN deposits at *Banrep* remained low and exhibited high volatility (*Graph 27*). The high volatility of DGCPTN deposits, observed since 1Q24, persisted. In addition, deposits reached a low not seen in more than 10 years. The lower levels of DGCPTN deposits at *Banrep* are mainly associated with operating and investment expenses.

Graph 26. *Banrep's* Benchmark Rate, O/N IBR, and Spread between the O/N IBR and the MPR



Source: Bloomberg and *Banrep*.

Graph 27. DGCPTN's Interest-Bearing Deposits at *Banrep* and their Volatility



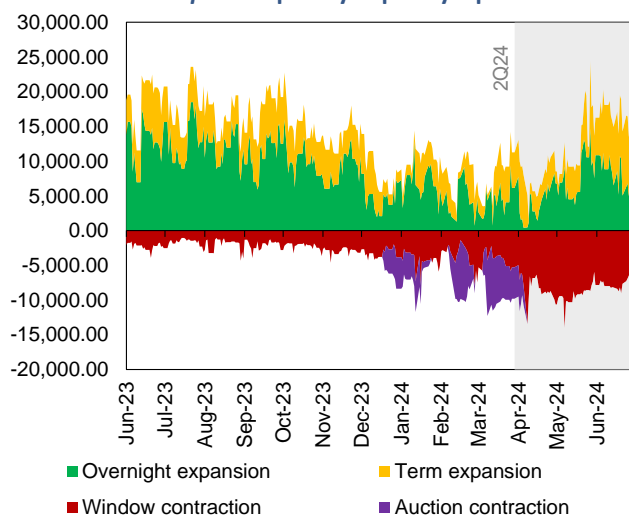
Source: *Banrep*. Note: Conditional volatility is calculated with GARCH model (1,1), which includes modeling the mean with an ARMA model of order AR = 5 and MA = 3 on the percentage change of the DGCPTN daily balances at *Banrep*.

Similar to 1Q24, there was also a significant demand for *Banrep's* monetary contraction instruments and temporary expansionary operations (*Graph 28*). Traders pointed out that this fact may be related to the presence of liquidity surpluses in entities that do not have direct access to the Electronic Trading System (SEN in Spanish⁴⁸) and the simultaneous transactions market. In addition, they stated that placing their liquidity surpluses with *Banrep* is attractive in terms of yield and operability.

⁴⁷ Between January and May 2024, *Banrep* accumulated sales for COP 16,499.2 b. At the end of 2Q24, *Banrep* held 4.4% (previous quarter 6.0%) of the TES issuance in pesos and UVR of the Colombian Ministry of Finance and Public Credit (MHCP in Spanish). In June, *Banrep* did not sell any TES.

⁴⁸ The SEN is a technological infrastructure managed by *Banrep* for the trading and recording of transactions on government bonds held in custody at the Central Securities Depository (DCV in Spanish). SEN users can visualize in real time the conditions of the public debt market and carry out trading, simultaneous, and repo transactions with these securities. Entities participating in the Market Makers Program for Government Bonds (PCMTDP in Spanish), regulated by the MHCP, have access to the SEN.

Graph 28. Evolution of *Banrep*'s Temporary Liquidity Operations Balance (Billions)



Source: *Banrep*.

5.3. Domestic and Foreign Public Debt Market

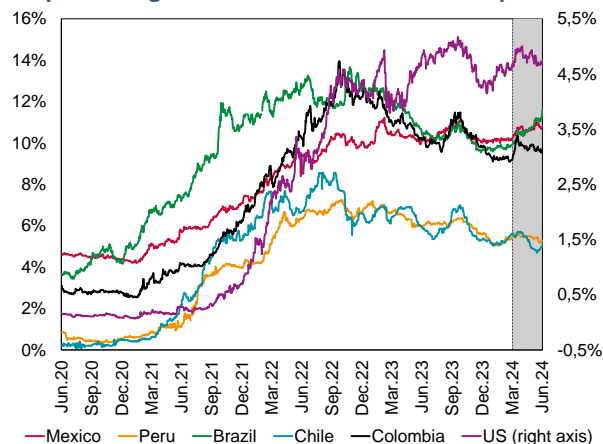
During 2Q24, government bonds of developed countries depreciated in line with expectations that monetary policy rates will remain high for an extended period in these economies. This depreciation followed the release of stronger-than-expected inflation and economic data in the U.S. (see *International Environment*). In this context, the yield curves in these countries steepened in the face of greater depreciation of long-term securities, in line with the observed resilience of economic activity⁴⁹.

In Latin America, government bond rates also depreciated, in line with the global context and a moderation in the appetite for assets in emerging economies (see *International Environment*). This trend occurred amidst deteriorating risk indicators for these economies (see *Risk Perception at the Local Level*), as well as some idiosyncratic factors in the region⁵⁰. In line with these factors and the behavior of developed economies, the yield curves of most countries in the region also steepened in the face of greater depreciation of long-term securities (*Graph 29, Graph 30, Graph 31, and Graph 32*).

⁴⁹ The 10-year to 2-year slope of the U.S. yield curve increased by 8 bps from -42 bps to -34 bps between March and June 2024.

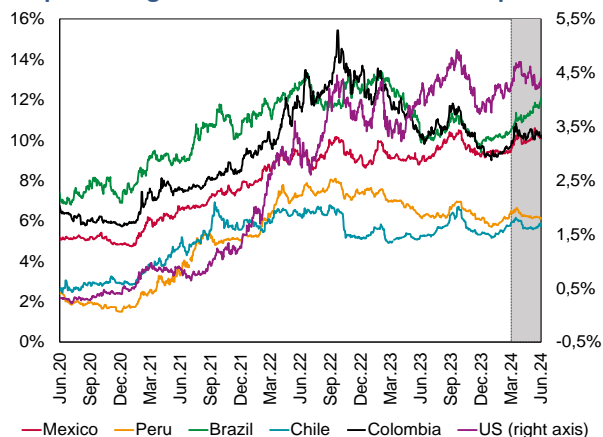
⁵⁰ *i)* In Mexico, devaluations were related to political uncertainty arising from the legislative election results, which granted a majority to the pro-government party. This increased fears that legislators might approve reforms that could erode controls on power and the institutional framework, and concerns that the president-elect might push for reforms that could increase government intervention in the economy. Banxico's cautious stance in the face of inflation, economic activity, and labor market data also surprised on the upside; *ii)* In Chile, devaluations were attributed to the slower pace of MPR cuts by the BCC, in response to economic resilience and the increase in inflation projections for the end of the year; *iii)* In Brazil, devaluations were due to uncertainty regarding fiscal policy and the BCB's cautious stance in the face of some strong economic data and rising inflation projections and expectations for year-end, and *iv)* In Peru, valuations were related to inflation data for March, April, and May, which showed pullbacks to the 2.0% target of the Central Reserve Bank of Peru.

Graph 29. Regional and U.S. 2-Year Zero-Coupon Rates



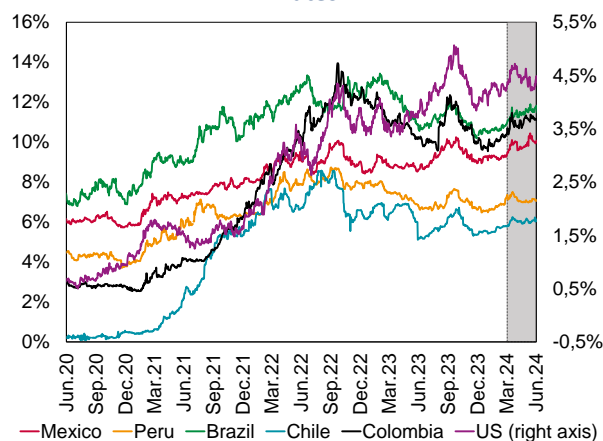
Source: Bloomberg and Banrep.

Graph 30. Regional and U.S. 5-Year Zero-Coupon Rates



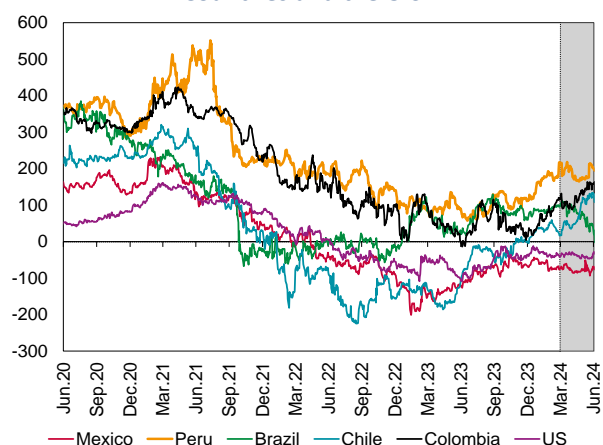
Source: Bloomberg and Banrep.

Graph 31. Regional and U.S. 10-Year Zero-Coupon Rates



Source: Bloomberg and Banrep.

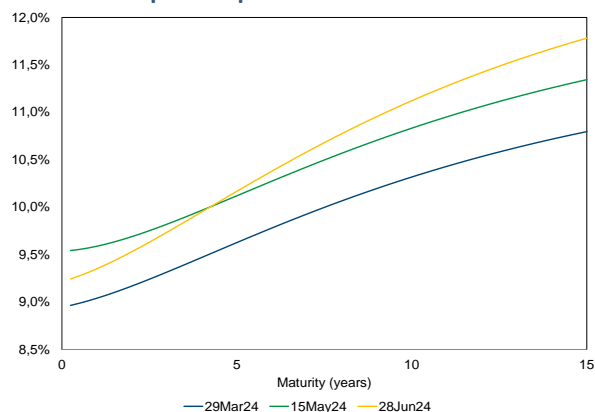
Graph 32. Yield Curve Slope in Latin American Countries and the U.S.



Source: Bloomberg, Banrep. Note: It is calculated as the spread between the 10-year and 2-year zero-coupon rates.

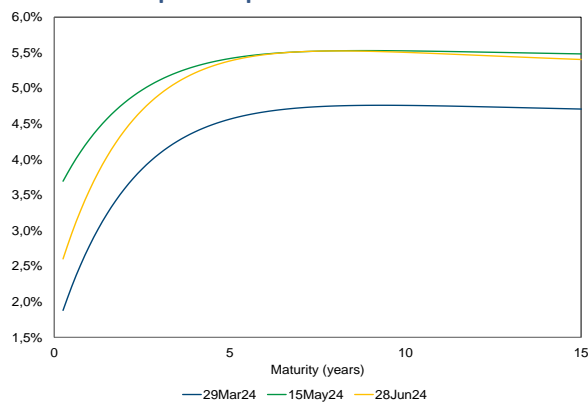
Locally, Colombian securities experienced greater depreciation compared to their peers, amid increased uncertainty regarding the country's fiscal soundness, the Government's reform agenda, and discussions about potential adjustments to Colombia's institutional framework. (Graph 33, Graph 34; see Risk Perception at the Local Level). Yield curves of TES in pesos and Real Value Unit (UVR) steepened during the period, driven by greater depreciation in long-term securities, which were affected by the increase in fiscal uncertainty during the period. This dynamic occurred despite the appetite for long-term securities by foreign investors and FPCs. The depreciation of short-term securities could have been contained by the demand from public entities.

Graph 33. Spot Curve of TES in Pesos



Source: Banrep.

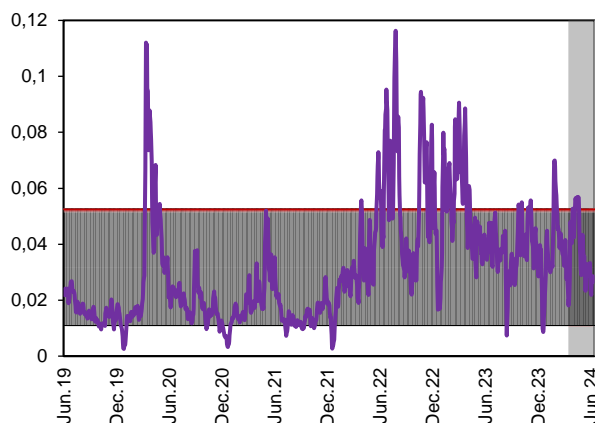
Graph 34. Spot Curve of TES in UVR



Source: Banrep.

During the quarter, liquidity in the TES market declined slightly⁵¹, while volatility remained stable⁵² and agents' intermediation capacity in the debt markets increased⁵³ (Graph 35). Thus, during the period, there were no stress scenarios (high volatility), and market participants have more space to receive and execute new orders in the debt market.

Graph 35. Dealer Capacity Utilization for the Total Debt Market



Source: Central Securities Depository (DCV in Spanish) and Central Securities Depository (Deceval in Spanish). **Calculations:** Banrep. Note: Higher values of the indicator indicate a lower capacity of agents to receive and execute new orders in the debt markets. The red lines correspond to one standard deviation from the historical mean of the data.

⁵¹ The average BAS (measured as the spread between bid and ask prices) increased from 4.5 bps in 1Q24 to 6.7 bps in 2Q24. In turn, the average depth decreased from COP 137.3 b to COP 130.3 b.

⁵² The average volatility of the TES market, estimated with a GARCH model (1.1), increased from 0.074% in 1Q24 to 0.088% in 2Q24.

⁵³ The intermediation capacity utilization indicator is based on the daily trading flows of each agent in the Colombian public and private secondary debt markets, broken down by reference traded. For more details on its construction, see *Recuadro 2: La capacidad de los agentes de intermediar en el mercado de contado de deuda pública y del mercado secundario de deuda privada locales: Un análisis y propuesta de indicador.*

Regarding participants in the local public debt market, foreign investors continued with the buying trend registered during 1Q24, influenced by the increase in yields of Colombian securities and the depreciation of the COP during 2Q24⁵⁴. Foreign investors made purchases of COP 2.5 trillion (t) in peso-denominated TES during 1Q24, concentrated in long-end references. Thus, they remain the second-largest holders of TES⁵⁵, behind FPCs:

So far in 2024, a shift of the foreign investor base towards monetary authorities has been observed, as these entities exhibit more stable performance compared to other types of foreign investors (Graph 36). Monetary authorities made net purchases of COP 1.2 t⁵⁶ in TES in pesos and UVR during 2Q24⁵⁷. Mutual funds made net purchases of COP 1 t during this period, although they continue to show net sales for the year to date. This suggests a shift towards a group of foreign investors with lower volatility in their TES flows since 2014 (see *Box 3: Caracterización de inversionistas extranjeros en el mercado de contado de TES* in the Financial Markets Report for the 3Q23).

In addition, the inclusion of India, starting in June 2024, in one of the benchmark indexes most used by foreign investors to invest in government bonds⁵⁸ of emerging economies, including Colombia, is expected to have a moderate effect on these agents' flows locally. India's inclusion in the GBI-EM Global Diversified Index⁵⁹ will occur gradually, with monthly increases in its share of 1.0% until reaching a ceiling of 10% in March 2025. This modification in the index would gradually decrease the weighting of several countries included, including Colombia. This could lead to TES sales by foreign agents using the GBI-EM as a reference to invest in Colombia. However, no significant effects on these agents' flows are anticipated, as the process will be gradual, over a wide time window, and the magnitude of the decrease in weighting will be uniform across existing issuers in the index⁶⁰.

⁵⁴ During 2023, foreign investors made significant sales of TES for COP 11 t, in line with their investment policies influenced by the strong performance of Colombian securities and the appreciation of the peso during the year. These factors increased the value of TES within the foreign agents' dollar-denominated portfolios, leading them to sell Colombian securities to keep their exposure to these assets stable. Thus, so far in 2024, the peso has depreciated, and combined with the increase in TES yields, this has favored purchases by foreign agents seeking to keep their exposure stable and capture profits in the future with the higher yields of securities.

⁵⁵ The share of foreign investors in the total balance ended the quarter at 20.9%.

⁵⁶ With which they accumulate net purchases of COP 3.9 t during 2024.

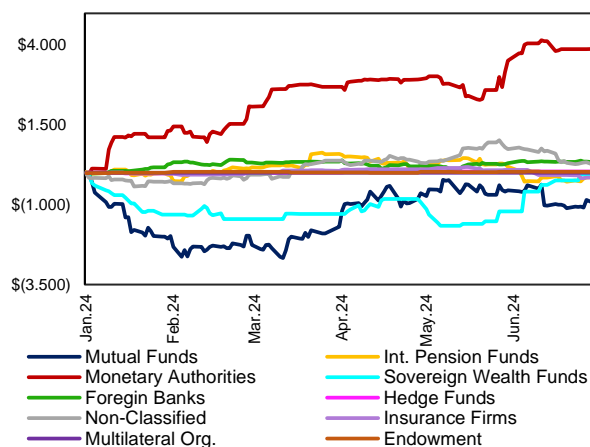
⁵⁷ Other major buyers during 2Q24 included sovereign wealth funds, which also recorded net inflows of COP 1.2 t during that period.

⁵⁸ The index includes local currency securities from these countries.

⁵⁹ An index constructed by JP Morgan from a basket of local currency government bonds of a group of emerging countries.

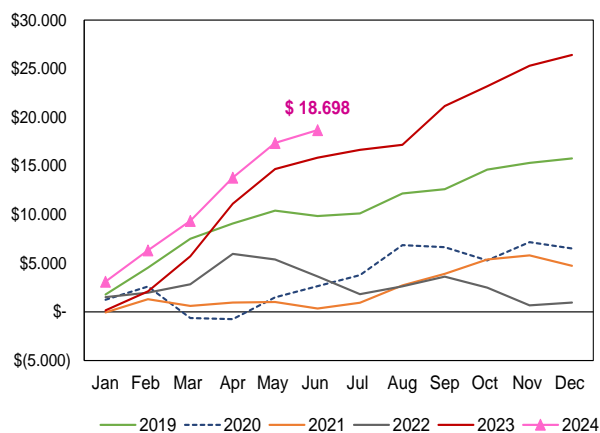
⁶⁰ According to estimates reported by JP Morgan, the decrease in current issuer weightings will be around 17% for most issuers. The gradual inclusion of this new issuer would be similar to China's entry into the GBI-EM between February and November 2020. At that time, there was no significant impact on foreign investors' flows, and net inflows in TES from these agents totaled COP 8.9 t for the year.

Graph 36. Cumulative Flows in 2024 by Type of Foreign Investor in the TES Spot Market (Billions)



Source: Banrep. **Note:** Endowments correspond to non-profit organizations in other countries, such as foundations or universities, that invest in TES.

Graph 37. Cumulative Net Purchases per Year of Pension and Severance Funds (FPCs) in the TES Spot Market (Billions)



Source: Banrep.

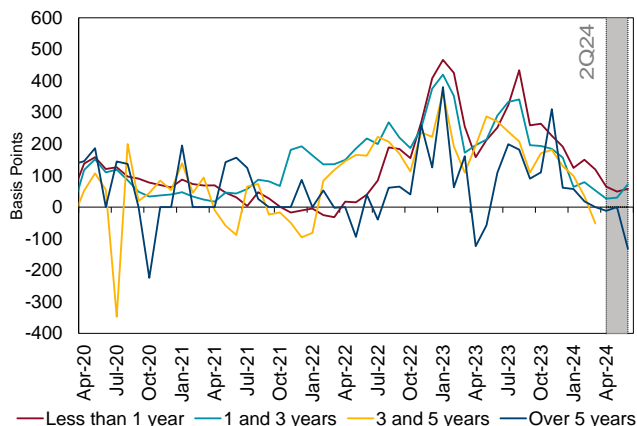
FPCs continued to make purchases in the Colombian public debt market, although at a smaller amount compared to the previous quarter (Graph 37). Both foreign investors and FPCs have increased the duration of their portfolios through purchases of long-term securities. FPCs made purchases of COP 9.3 t in local currency government bonds during 2Q24, concentrated in the long end of the curve (COP 9.1 t). Thus, their share in total local currency public debt increased from 31% to 32% between March and June 2024.

5.4. Private Debt Market

The funding cost through CDTs remained relatively stable during the quarter and continues to average lower than in the last two years. However, a slight reversal in rates for 1- to 3-year securities (Graph 38) has been observed. In addition, a significant accumulation of CDT maturities is expected for the third quarter of the year⁶¹. CDT placements during the quarter were close to those observed in the previous quarter and remain at historically high levels. In particular, placements were mainly at less than one year (85%) and at fixed rates (88%) (Graph 39).

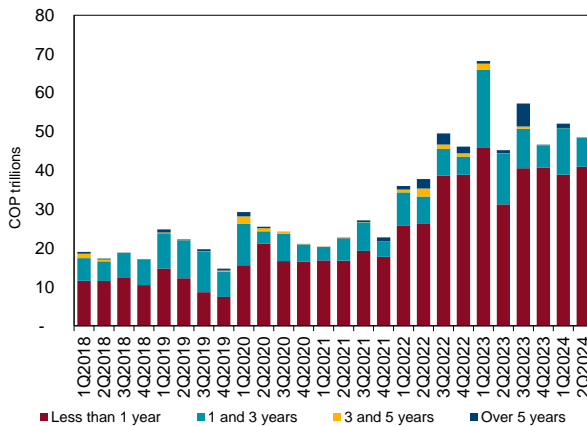
⁶¹ According to Deceval information, maturities of dematerialized CDTs for the third quarter of the year exceeded COP 57 t, the highest since information has been available.

Graph 38. Spread between CDT and TES Placement Rates



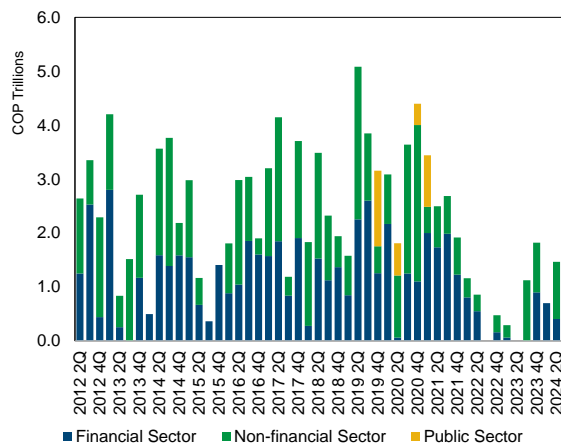
Source: Deceval, Precia, *Banrep*. **Calculations:** *Banrep*. **Note:** Only CDTs denominated in COP fixed-rate or indexed to IBR or CPI are included. For variable rate CDTs, inflation expectations (BEI), and policy rate expectations (OIS) are taken. The spread is calculated as $[(1+icdt)/(1+TES)] - 1$. For each term, the zero-coupon rate of the monthly average TES is subtracted, as applicable: i) less than 1 year, the 6-month term is subtracted; ii) from 1 to 3 years, the 2-year rate is subtracted; iii) from 3 to 5 years, the 4-year rate is subtracted, and; iv) over 5 years, the 5-year rate is subtracted.

Graph 39. Amounts Placed in Dematerialized CDTs by Term



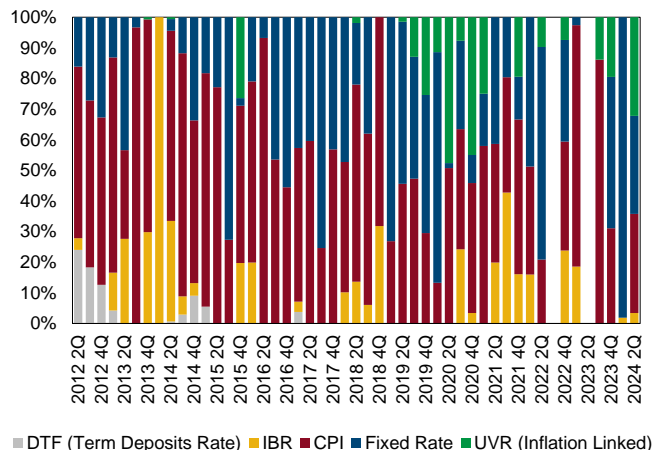
Source: Deceval. **Note:** Only securities denominated in COP with fixed rates or rates indexed to IBR and CPI are included.

Graph 40. Total Amount issued in the Primary Private Debt Market in the BVC (COP Billions)



Source: BVC.

Graph 41. Share in Private Debt Issuance by Type of Rate



Source: BVC.

In addition, funding through the issuance of corporate debt securities increased compared to the previous quarter due to greater participation by non-financial sector entities (*Graph 40*). In line with this, in 2Q24, issuances were made through the Colombian Stock Exchange (BVC in Spanish) for COP 1.5 t⁶² at a weighted average maturity of 10 years. The majority of issuances were

⁶² Issuances in 1Q24 amounted to COP 0.7 t.

made by non-financial sector entities, representing 72% of the total. Issues were distributed among fixed-rate, Consumer Price Index (CPI), and UVR indexed issues (each representing 32%) (*Graph 41*).

6. Foreign Exchange Market

6.1. Global Foreign Exchange Market

The USD appreciated against most developed (according to the DXY index⁶³, the dollar appreciated by 1.3% during 2Q24) and emerging market currencies, driven by expectations of a longer-than-expected tightening of U.S. monetary policy (see *International environment*). In this context, the Japanese yen and the euro weakened. The yen depreciated, mainly following the BoJ's decision to keep the MPR unchanged in its April and June meetings, and due to disappointing inflation data from Tokyo in March, which came in below market expectations (*Table 3*) and (*Graph 42*).

Emerging market currencies were mixed; however, most Latin American peers depreciated during the quarter due to the general strengthening of the dollar, increased political and fiscal uncertainty⁶⁴, and some idiosyncratic factors. According to market agents, the main local factors influencing the performance of the region's currencies were as follows: *(i)* the Mexican peso experienced the largest depreciation among its peers, impacted by political uncertainty in June, following the surprising legislative election result (where the new Congress will have a pro-government majority), which increased fears that legislators might approve reforms that could erode controls on power and the institutional framework, and concerns that the president-elect might push for reforms that could increase government intervention in the economy; *(ii)* the Brazilian real depreciated given the uncertainty surrounding the government's plans to increase revenues⁶⁵ and the potential impact of fiscal events on monetary policy; *(iii)* the Peruvian sol also weakened, although to a lesser extent compared to its regional peers, amid the country's political uncertainty⁶⁶, and following the decision of the Central Reserve Bank of Peru (BCRP in Spanish) at its June meeting to maintain its MPR at 5.75%, while the market expected a 25 bp cut; and *(iv)* the Chilean peso appreciated, partially correcting the depreciation observed during 1Q24, supported by the rise in copper prices (which reached record highs in May) and amid the release of Chile's 1Q24 GDP⁶⁷ (*Graph 43*).

⁶³ Index comparing the U.S. dollar with six major currencies. The euro (EUR) weights 57.6%, the Japanese yen (JPY) 13.6%, the pound sterling (GBP) 11.9%, the Canadian dollar (CAD) 9.1%, the Swedish krona (SEK) 4.2%, and the Swiss franc (CHF) 3.6%.

⁶⁴ This was reflected in an increase in most of the CDS for the countries in the region.

⁶⁵ After the Senate rejected the Government's latest proposal to increase public revenues.

⁶⁶ This led to S&P to downgrading the country's sovereign debt rating from BBB to BBB- at the end of April.

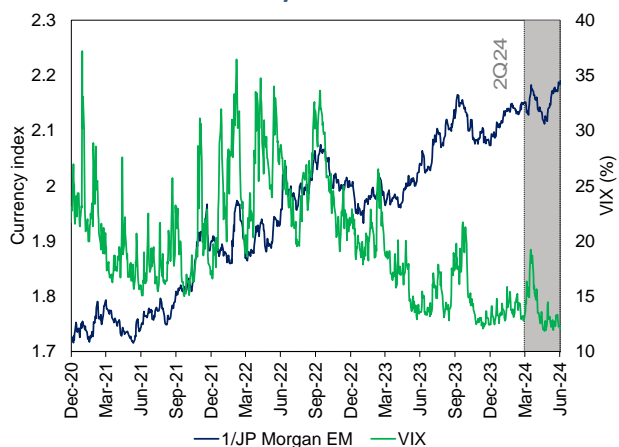
⁶⁷ Although the figure came in below expectations, it was the highest quarterly growth recorded since 2021.

Table 3. Currency Depreciation against the U.S. Dollar

	Country	1Q24	2Q24	Country	1Q24	2Q24	
LATIN AMERICA	Colombia	0.5%	8.0%	ASIA	Korea	4.4%	2.5%
	Brazil	3.3%	11.6%		Indonesia	3.0%	2.5%
	Mexico	-2.4%	10.6%		Thailand	6.1%	2.3%
	Argentina	6.1%	6.3%		China	1.7%	0.2%
	Peru	0.4%	3.2%		India	0.2%	0.1%
	Chile	11.3%	-4.0%		Malaysia	2.9%	0.8%
MAJOR CURRENCIES	Euro Zone	2.3%	1.5%	Hong Kong	0.2%	0.0%	
	Great Britain	0.9%	1.2%	OTHER	Iceland	2.4%	1.2%
	Japan	7.3%	4.3%		Russia	3.3%	1.1%
	Canada	2.2%	1.6%		Poland	1.1%	1.9%
	Australia	4.5%	1.0%		Turkey	9.6%	0.4%
	New Zealand	5.7%	2.0%		Israel	1.9%	1.7%
	Switzerland	7.1%	1.7%		South Africa	2.8%	-0.7%

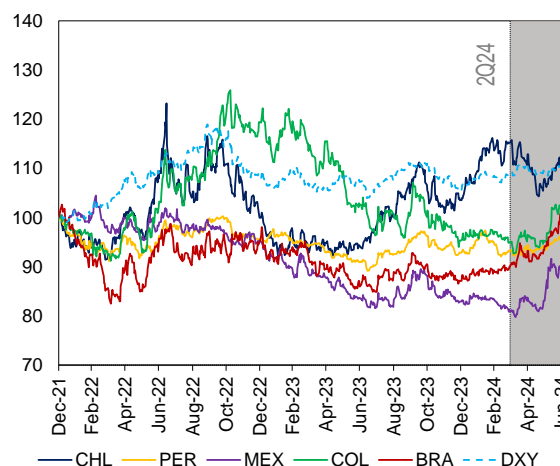
Source: Bloomberg. **Note:** A positive value indicates depreciation, and a negative value indicates appreciation.

Graph 42. VIX and an Index to Track Emerging Currency Dynamics



Source: Bloomberg. **Note:** The JP Morgan EM index is exhibited as 1/index because an increase in the original series indicates an appreciation. Thus, an increase in the 1/index series indicates a depreciation of its basket of currencies.

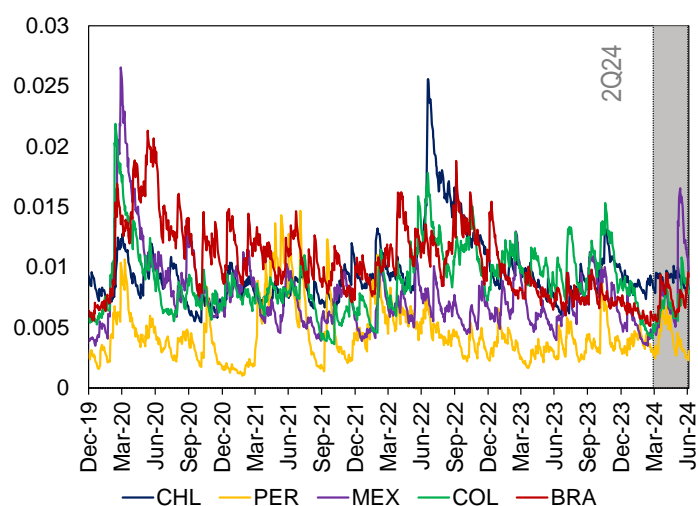
Graph 43. Latin America and U.S. Dollar Exchange Rates



Source: Bloomberg. **Note:** Base 100 = 30 Dec 2021.

The average conditional volatility of the COP and the region’s currencies analyzed increased during the quarter (**Graph 44**). During this period, the Chilean peso experienced the highest average volatility, followed by the Mexican peso, the Brazilian real, the COP, and the Peruvian sol.

Graph 44. Conditional Volatility of Latin American Exchange Rates



Source: Banrep.

The central banks of the major Latin American economies analyzed have an inflation-targeting framework and a flexible exchange-rate regime, accompanied by occasional interventions in the foreign exchange market to meet their policy objectives. Thus, during the quarter, most of the region's central banks carried out operations in the foreign exchange market, continuing with the operations observed in previous quarters.

The central banks of Peru and Brazil continued to carry out operations through various instruments in the foreign exchange market, in line with the behavior observed over the last year. The BCRP sold USD 83 m in the spot market, while holding a buying position through Non-Delivery Cross-Currency Swaps and Resetable Certificates of Deposit (CDRs in Spanish) amounting to USD 381 m and USD 17 m, respectively⁶⁸ (Table 4). On the other hand, the Central Bank of Brazil (BCB) maintained a selling position through Non-Delivery Cross-Currency Swaps amounting to USD 1,969 m (Table 5).

Table 4. BCRP Foreign Exchange Intervention (Net Purchases Including Maturities)

	Net spot purchases (A)	Non-Delivery Cross-Currency Swaps (B)*	CDR's (C)**	CDL's (D)***	Change in foreign exchange position (A + B + C + D)
2023	-81	-2,220	-132	-	-2,433
1Q24	-235	-3,223	124	-	-3,334
April	0	-98	0	0	-98
May	-78	1,088	17	0	1,028
June	-5	-609	0	0	-614
2Q24	-83	381	17	0	315

Source: BCRP website Notes: Figures in USD millions. It includes maturities and renewals of operations. *Referred to by BCRP as Foreign Exchange Swaps for Sale (or Purchase). It does not affect the level of foreign reserves. **CDR's: BCRP's Resetable Certificates of Deposit. ***CDL's: BCRP's Certificates of Deposit Payable in U.S. dollars. It has a temporary effect on BCRP reserves.

⁶⁸ As of 28 June 2024, the BCRP's balance in the Non-Delivery Cross-Currency Swaps market reached USD 14,696 m. This increase occurred due to a lack of future currency suppliers, leading the BCRP to assume this position in the market.

Table 5. BCB's Foreign Exchange Intervention (Net Purchases Including Maturities)

	Net spot purchases (A)	FX-repos and CCS (B)**	Repos with dollar-denominated securities (C)***	Non-Delivery Cross-Currency Swaps (D)****	Change in foreign exchange position (A + D)
2023	0	13,000	0	-283	-283
1Q24	0	0	0	97	97
April	0	0	0	-1,999	-1,999
May	0	0	0	305	305
June	0	0	0	-275	-275
2Q24	0	0	0	-1,969	-1,969

Source: BCB website. **Notes:** Figures in USD millions. It includes maturities and renewals of operations. *Spot transactions consider the settlement date of the foreign currencies (t+2 from the auction day). **FX-repos are referred to by the BCB as credit line auctions or FX repos, while CCS are referred to by the BCB as variable rate credit line auctions; these mechanisms have a temporary effect on the level of foreign reserves. ***This mechanism temporarily alters the level of foreign reserves. ****Referred to by the BCB as FX-interest rate swaps or FX swaps; this mechanism has no effect on the level of foreign reserves.

The Central Bank of Chile (BCCh in Spanish) continued to renew the maturities of its NDF program, with a balance of USD 2,676 m, while the Bank of Mexico (Banxico) did not carry out any operations in the foreign exchange market.

During 2Q24, *Banrep* purchased USD 400 m as part of the Foreign Reserves Accumulation Program announced in December 2023. As of June 28, *Banrep* had accumulated reserves totaling USD 825 m, representing 69% of the amount auctioned to date and 55% of the program's total accumulation target of USD 1,500 m (Table 6). This report includes a box providing details on this program and highlighting its effectiveness in maintaining foreign reserves at adequate levels during the first half of 2024 (see Box 2: *Progress of the Reserves Accumulation Program*).

Table 6. Banrep's Foreign Exchange Intervention (Net Purchases Including Maturities)

	Net spot purchases (A)	Put options auction (B)	NDF forward sales (C)	FX-repos (D)*	Change in foreign exchange position (A + B + C)
2023	-	-	-	-	-
1Q24	0	425	0	0	425
April	0	200	0	0	200
May	0	200	0	0	200
June	0	0	0	0	0
2Q24	0	400	0	0	400

Source: *Banrep* website. **Notes:** Figures in USD millions. It includes maturities and renewals of operations. **Banrep* refers to this instrument as FX-Swap. These instruments temporarily alter the level of foreign reserves.

6.2. Colombian Foreign Exchange Market

The COP depreciated in line with the performance of most currencies in the analyzed region, affected by the strengthening of the dollar and idiosyncratic factors. In particular, the COP depreciated in the last month of the quarter due to concerns about the country's fiscal situation. concerns about the country's fiscal situation. According to market agents, the currency's depreciation initially responded to the external context of increased global risk perception. However, the currency depreciation towards the end of the period may have been related to concerns regarding the Colombian government's statements about a potential default on its

foreign currency obligations and increased fiscal challenges⁶⁹. In addition, the currency may also have been affected by lower-than-expected foreign exchange revenues for tax payments and the unfavorable performance of the Mexican peso following the elections, which may have affected investors' incentives to engage in carry trades in the region's currencies.

Throughout the quarter, liquidity measures⁷⁰ exhibited an average deterioration compared to the previous quarter, particularly in June (Graph 45). This was reflected in an increase in the BAS measure⁷¹ and a decrease in depth measurements⁷². However, liquidity remains at levels higher than those observed in the last two years. In 2Q24, the average daily trading volumes in the spot market (USD 1,887 m) and forward⁷³ peso-dollar market (USD 3,693 m) increased compared to 1Q24⁷⁴ (Graph 45). The higher trading volumes in the forward market may be associated with high peso volatility, which has encouraged foreign agents to seek foreign exchange hedging.

Hedging costs, as reflected in the spread between implicit and theoretical one-month devaluation, remained close to zero. In addition, there was high demand from various agents in the forward market (Graph 46). Consequently, during the quarter, the devaluation spread averaged 0.33%. Regarding demand in the forward market: *i)* foreign investors held a net buying position, leading their balance to new historical highs and *ii)* FPCs made net purchases, continuing to reduce their net selling position in this market. As a result of this demand, the Foreign Exchange Market Intermediaries (FXIs), which act as counterparties for various agents, increased their net selling position in the forward market, reaching an all-time high (USD 6,173 m) on June 25.

⁶⁹ These fiscal challenges led to an increase in the foreign currency borrowing limit and adjustments in the MTF. On 20 June, the Congress of Colombia approved a bill to increase the foreign borrowing limit by USD 17.6 b, bringing it to USD 87.6 b.

⁷⁰ Measures through the Bid-Ask Spread (BAS) and depth measures at COP 5, COP 10, and total.

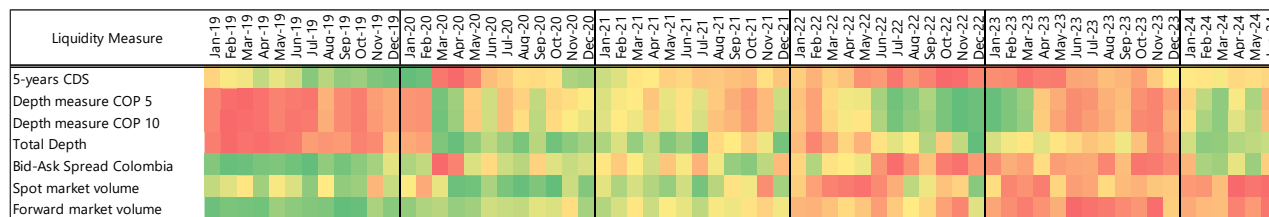
⁷¹ The average BAS in 2Q24 was 0.046%, compared to 0.044% in 1Q24. In June 2024, the average BAS stood at 0.056%. The BAS is calculated as the average of the difference between the best bid price and the best ask price in the Set-FX spot session for every second between 8:30 a.m. and 1:00 p.m. of each day, divided by the average Set-FX rate of the day.

⁷² The depth measures correspond to the average sum of the amounts of the purchase quotes and the sum of the amount of the sales quotes of the peso-dollar, which are in a range of +/- COP 5 and +/- COP 10, and the total of the best bid/ask price, accordingly. The information is extracted from the Set-FX spot session every five minutes between 8:30 a.m. and 1:00 p.m. The average depth measures at COP 5, COP 10, and total in 2Q24 were USD 9.4 m, USD 17.5 m, and USD 51 m, respectively, compared to USD 11 m, USD 21.3 m, and USD 53.8 m in 1Q24, respectively. Additionally, in June 2024, the average depth measures at COP 5, COP 10, and total were USD 7 m, USD 13.4 m, and USD 49.5 m, respectively.

⁷³ It includes transactions between Foreign Exchange Market Intermediaries (FXIs) and transactions between FXIs and their clients. In Colombia, the foreign exchange market operates on an intermediation scheme, where all foreign currency (mandatory channelable operations) must be transferred or traded through some qualified financial institutions, known as FXIs, or through the clearing mechanism. The BDBR determines who can be FXIs and establishes the requirements they must meet to operate in the market, their obligations, and the foreign exchange transactions they can perform.

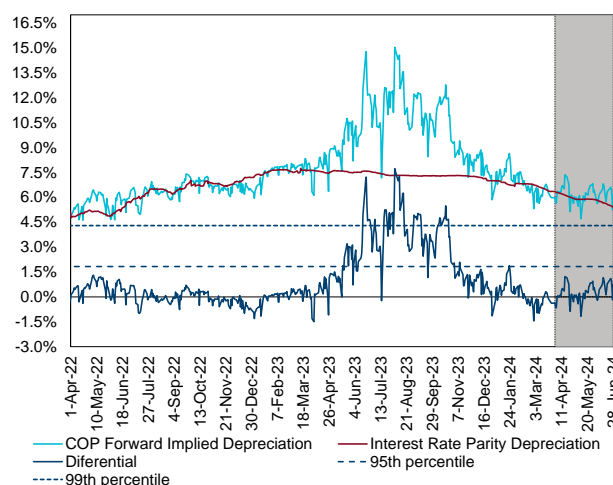
⁷⁴ The average daily trading volumes in 1Q24 in the spot and peso-dollar forward markets were USD 1,602 m and USD 3,199 m, respectively.

Graph 45. Foreign Exchange Market Liquidity Measures



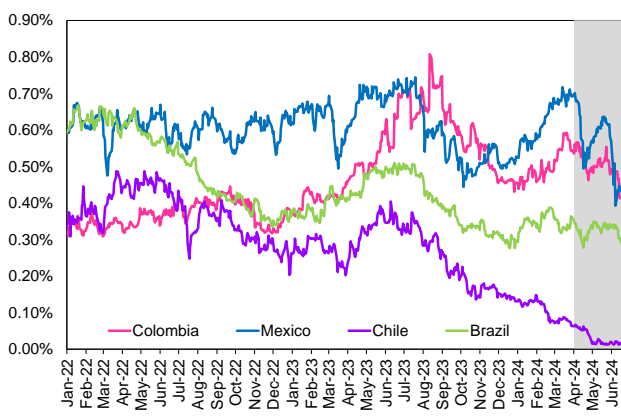
Source: Bloomberg and *Banrep*. **Note:** Each cell corresponds to the percentile of the monthly average liquidity measure, considering the time window from January 2019 to June 2024. A red (green) cell indicates a lower (higher) level of liquidity. The Bid-Ask Spread is calculated as the average of the difference between the best bid price and the best ask price in the Set-FX spot session for every second between 8:30 a.m. and 1:00 p.m. each day, divided by the average Set-FX rate of the day. The depth measures correspond to the average sum of the amounts of the purchase quotes and the sum of the amount of the sales quotes of the peso-dollar, which are in a range of +/- COP 5 and +/- COP 10, and the total of the best bid/ask price, accordingly. The information is extracted from the Set-FX spot session every five minutes between 8:30 a.m. and 1:00 p.m.

Graph 46. Implied (Observed), Theoretical One-Month Devaluation and Its Difference



Source: Bloomberg and *Banrep*. **Note:** The Interest Rate Parity Depreciation is calculated as $[(1+IBR\ 1\text{month})/(1+\text{SOFR}\ 1\text{month})]-1$.

Graph 47. Carry-to-Risk Ratio (3 months)



Source: Bloomberg. **Note:** Corresponds to the interest rate spread adjusted to volatility. The rate spread is extracted from the 3-month forward contracts using the following formula: $\text{forward rate}/\text{spot rate}^{(365/90)}$. Volatility corresponds to the implied volatility of 3-month at-the-money options.

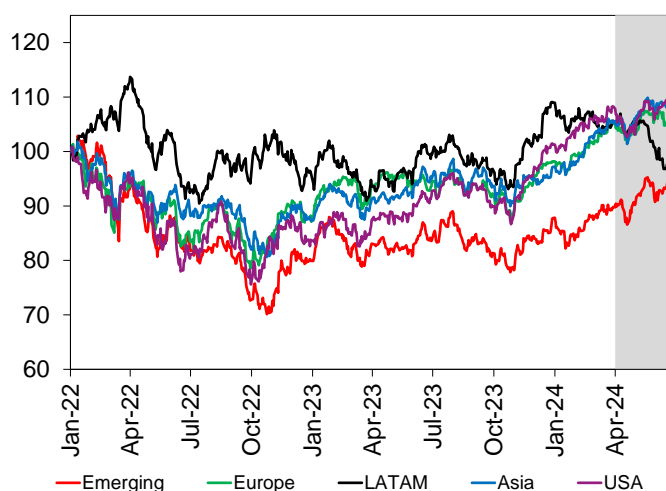
Investors' incentives to take carry trade⁷⁵ positions on the COP decreased during the quarter, mainly due to increased expectations regarding the implied volatility in exchange rate derivative contracts. This trend was also observed in Mexico and Brazil (*Graph 47*). Meanwhile, the decrease in the carry indicator for Chile continues to be explained by a lower interest rate differential.

⁷⁵ Currency carry trade is an investment strategy in which the investor borrows a low-interest rate currency (funding currency) and invests that money in a high-interest rate currency (target currency). The carry-to-risk ratio (CTR) is a measure of carry trade incentives, calculated as the volatility-adjusted interest rate spread. The rate spread is extracted from the 3-month forward contracts using the following formula: $\text{forward rate}/\text{spot rate}^{(365/90)}$. Volatility corresponds to the implied volatility of 3-month at-the-money options. An increase in the CTR indicator implies a greater incentive to take carry trade positions. Such increase could be caused by high-interest rate spreads or low levels of foreign exchange volatility.

7. Stock Market

During 2Q24, stock markets exhibited mixed performances. While U.S. and Asian markets continued the upward trend from 1Q24, driven by the artificial intelligence and microchip industries, Latin American markets depreciated, and European markets showed little significant change.⁷⁶ The technology and artificial intelligence sectors maintained their momentum from 1Q24, leading the Nasdaq and S&P500 indexes to record highs during the quarter. This growth was driven by the appreciation of major technology companies⁷⁷, with Nvidia's shares rising sharply, following an increase in its semiconductor revenue forecast. However, the Dow Jones index closed the quarter with devaluations, negatively affected by increased expectations of a longer contractionary monetary policy. Similarly, the European Stoxx 600 index reversed its positive trend from 1Q24 and contracted towards the end of 2Q24, amid increased political uncertainty in France (Graph 48)

Graph 48. Evolution of Stock Indexes Worldwide



Source: Bloomberg. Note: Base 100 = 30 Dec 2021.

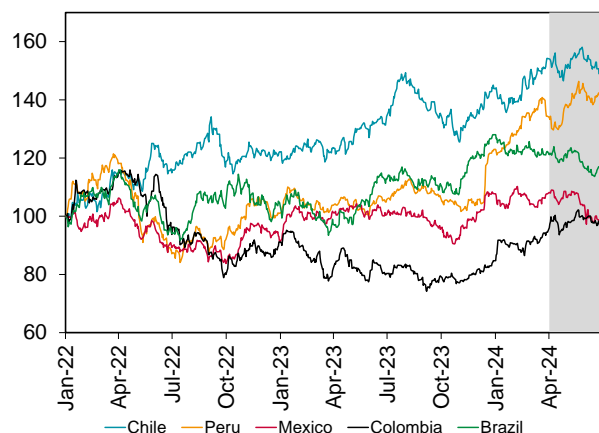
In Latin America, the major stock indexes had mixed performances. In line with the moderation of appetite for emerging markets, the appreciation of the dollar, and idiosyncratic factors, the Mexican, Brazilian, and Chilean stock indexes depreciated 8.6%, 3.5%, and 3.3%, respectively, with the first two being the most depreciated indexes in the region so far in 2024. Brazil's IBOVESPA was affected by fiscal concerns, while the Mexican index responded negatively to the election results. The Peruvian and Colombian indexes maintained their upward trend from 1Q24, recording gains of 5.4% and 3.4%, respectively (Graph 49). Throughout the quarter, the conditional

⁷⁶ As of 28 June 2023, these figures were calculated for Asian countries using the MSCI AC Asia Pacific Local Index, which showed a positive change of 4.2% (the countries and/or regions included in the index were both developed and emerging. The first group included Australia, Hong Kong, Japan, New Zealand, and Singapore. The second included China, India, Indonesia, South Korea, Malaysia, The Philippines, Taiwan, and Thailand). In the case of the United States, the average variation of the S&P 500, Dow Jones, and Nasdaq Composite indexes was used, registering variations of 3.9%, -1.7%, and 8.3%, respectively. For Europe, the Stoxx 600 was used, which depreciated 0.2%, and for Latin America, the MSCI Emerging Markets Latin America Local Index, which contracted 6.1%. This index weights the equity assets listed on the stock markets of Brazil, Chile, Colombia, Mexico, and Peru).

⁷⁷ Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia, and Tesla.

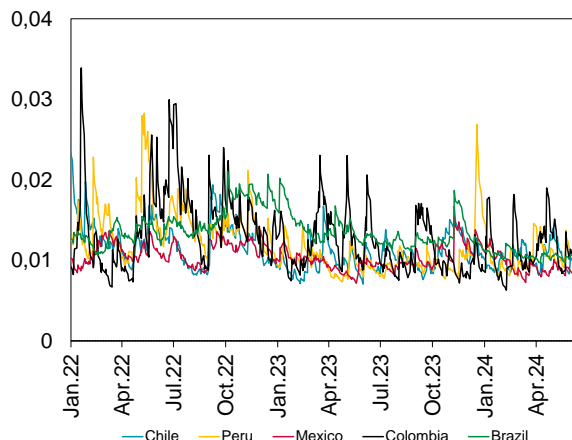
volatilities⁷⁸ of these indexes showed marginal variations compared to 1Q24. Except for Mexico and Peru, volatilities were lower than in the previous quarter (*Graph 50*).

Graph 49. Evolution of the Region’s Stock Indexes



Source: Bloomberg. Note: Base 100 = 30 Dec 2021.

Graph 50. Conditional Volatility of Stock Indexes



Source: Bloomberg. Calculations: Banrep.

At the local level, the MSCI COLCAP Index showed favorable performance and liquidity above the annual average, maintaining the trend observed during 1Q24. This performance was supported by corporate events such as the completion of operations between the Gilinski Group and GEA⁷⁹ and the continuation of Celsia’s share buyback plan. In addition, other companies performed well during the quarter, such as those in the energy sector, Terpel, and GEA species. These events, combined with the MSCI COLCAP rebalancing, led to an average daily trading volume of COP 92.3 b during the quarter, surpassing levels seen in 1Q24 and throughout 2023 (*Graph 51*).

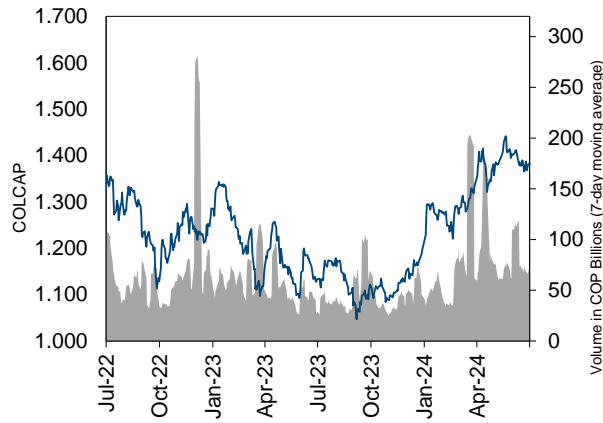
Finally, during the quarter, the local stock market was characterized by net purchases from the real sector (COP 179 b), maintaining a buying position during the last year. This position was offset by the sales from FPCs (COP 194 b), which were the largest sellers in the market, along with individuals (COP 98 b) and insurance companies (COP 96 b) (*Graph 52*). Foreign investors made purchases amounting to COP 37 b during the quarter, whereas in 2023 and 1Q24, they had accumulated sales totaling COP 352 b. As shown in *Box 3: Foreign Investors’ Participation in the Colombian Stock Market*, these investors have consistently been net sellers over the last five years, except for 2022, when they were net buyers in the stock market.

⁷⁸ Measured through GARCH models (1.1).

⁷⁹ In this series of transactions, the Gilinski Group and its partner became the majority investors in Nutresa, while transferring their holdings in Grupo Sura and Grupo Argos to the companies within the GEA.

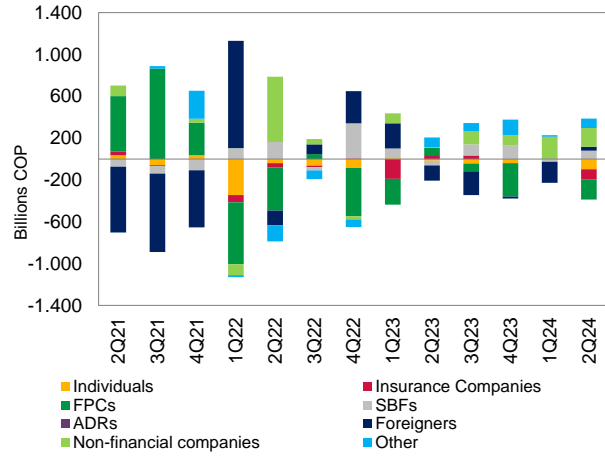
Financial Markets Report

Graph 51. MSCI COLCAP and Daily Trading Volume



Source: Bloomberg.

Graph 52. Net Purchases in the Local Equity Market by Type of Agent



Source: BVC. Calculations: Banrep.

8. Boxes

Box 1: Analysis of The Relationship Between the Rate Spread and the Liquidity Demand in the Financial System⁸⁰

Fredy Alejandro Gamboa Estrada
Sebastián Sanín Restrepo⁸¹

Introduction

This box aims to analyze the relationship between the rate spread between the overnight IBR and the MPR, and the liquidity demand in the financial system.⁸² To achieve this objective, the differences in monetary policy implementation among Colombia, the United States, and the European Union are analyzed. Secondly, it is evaluated whether the methodology proposed by the IMF (Chen, et al., 2023) to analyze the relationship between the rate spread and the demand for reserves in the United States and the European Union could be applied to the Colombian context. Finally, an update of the estimates provided in Box 3 of the 4Q22 Financial Markets Report (Cardozo et al., 2022) is provided, which assessed the main determinants of the IBR-MPR interest rate spread in Colombia prior to the COVID-19 pandemic. This exercise also includes other explanatory variables, such as TES purchases by *Banrep* and DGCPN deposits at *Banrep*, which may play an important role in the dynamics of the rate spread.

Implementation of Monetary Policy in Colombia

Monetary policy implementation in Colombia is similar to a system of scarce reserves or an interest rate corridor around the target rate. Under this framework, depository institutions, or banks, are incentivized to maintain the minimum amount of reserves necessary, ensuring there is an opportunity cost for holding reserves, since the overnight interest rate is above the deposit facility rate, which is the rate at which the central bank pays for the reserves deposited by banks (BIS, 2024). In this scheme, the central bank provides the necessary reserves to cover the liquidity needs of the financial system.

In Colombia, the main monetary policy instrument is the monetary policy interest rate, where *Banrep* supplies or withdraws liquidity from the economy to ensure that the IBR is very close to the monetary policy interest rate. *Graph B1. 1* illustrates the operation of the scarce reserves system, showing a negatively sloped reserve demand curve, the supply of reserves by *Banrep*, and

⁸⁰This paper is of a provisional nature; opinions and possible errors are the sole responsibility of the authors, and its contents are not binding on *Banco de la República* or its Board of Directors.

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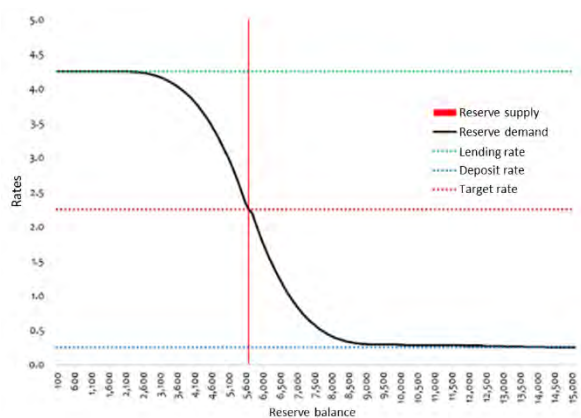
⁸² This box analyzes the demand for reserves of the financial system, which corresponds to the reserve requirement, or deposits held by financial institutions at *Banco de la República*. Resources in excess of these minimum requirements are referred to as excess reserve requirements.

an interest rate corridor with an upper threshold equal to the rate at which reserves are lent to the financial system, the midpoint of the corridor equal to the MPR, and a lower threshold equal to the rate at which financial system deposits are remunerated at *Banrep*. As shown in the graph, *Banrep* adjusts the monetary base supply to bring the short-term interest rate to the mid-point of the exposed interest rate corridor.

During the COVID-19 pandemic, Colombia’s monetary policy may have had some similarities to the ample-reserves regime adopted by the Fed and the European Central Bank (ECB), as a substantial amount of liquidity was injected into the economy to counteract the negative effects of the pandemic on the financial sector and markets.⁸³ Unlike the scarce reserves system, in an ample reserves framework, the central bank provides reserves exceeding liquidity needs, and thus balances in central bank accounts are remunerated at the deposit facility rate, incurring no opportunity cost, with the overnight rate being equal to or often below the deposit facility rate. In this case, the size of reserves can be very large (BIS, 2024).

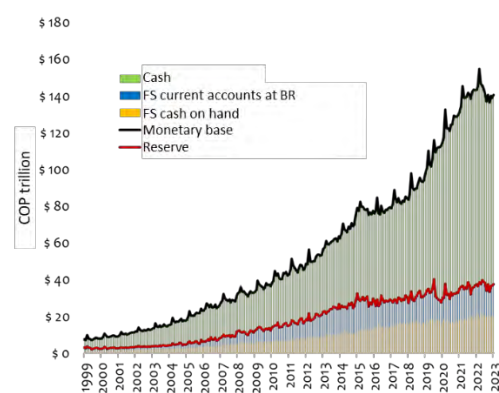
Graph B1. 2 exhibits the progress of the monetary base in Colombia, highlighting that, unlike the Fed and the ECB, the bank reserves did not see a significant increase after the global financial crisis, while other components of the monetary base, such as cash, explain the dynamics of this monetary aggregate.

Graph B1. 1 The Corridor System



Source: Authors' calculations.

Graph B1. 2 The Monetary Base in Colombia



Source: Banrep.

⁸³ The Fed and the ECB introduced liquidity facilities and conducted large-scale asset purchases to improve conditions in financial markets and stimulate the economy during the global financial crisis (GFC). These policy instruments, in addition to influencing financial market conditions, also added a substantial amount of reserves to the banking system. Thus, the GFC changed the operational framework of monetary policy in the United States and the European Union to an ample-reserves regime (Alfonso *et al.*, 2022). In this implementation framework, changes in the money supply and interest rates are unrelated and serve different functions.

IMF Methodology

Estimated Reserve Demand

A set of bank reserve demand functions is estimated following the work of Chen, *et al.* (2023). These specifications allow identifying reserve levels for which the volatility of short-term interest rates is minimal. The general form of the model is given by: $r_i = f(g(R_i))$, where r_i is the short-term interest rate (e.g., IBR), R_i is the excess reserves or reserve surplus, and $g(R_i) = c + w_r R_i$. The function $f(\cdot)$ can take different forms, and in particular, the following are considered:

Table B1. 1 Reserve Demand Functions

Curve	Function
Logistics	$r_i = \alpha + \frac{k}{1 - \beta e^{g(R_i)}} + \varepsilon_i$
Reduced logistics	$r_i = \alpha + \frac{1}{1 - \beta e^{g(R_i)}} + \varepsilon_i$
Double exponential	$r_i = \alpha + \beta e^{\rho e^{g(R_i)}} + \varepsilon_i$
Exponential	$r_i = \alpha + \beta e^{g(R_i)} + \varepsilon_i$
Arc tangent	$r_i = \alpha + \beta \arctan(g(R_i)) + \varepsilon_i$
Linear	$r_i = g(R_i) + \varepsilon_i$

For Colombia, different specifications used by Chen *et al.* (2023) are estimated, with the scaled IBR as the dependent variable, based on the excess bank reserves as a share of total financial system assets.^{84,85} The sample used in the estimates corresponds to biweekly data from 22 January 2008 to 21 November 2023.

Graph B1. 3 exhibits the results of the reduced logistic function⁸⁶, revealing that the scaled IBR does not deviate with changes in excess reserves, indicating an inelastic estimated reserve demand function. Since other variables may influence the relationship between the rate spread and excess reserves, net purchases of TES by *Banrep* are included as a control variable, as they are a key factor in the liquidity dynamics of the financial system. **Graph B1. 4** presents the results of this specification and yields robust results compared to those reported in **Graph B1. 3**.

⁸⁴ Different specifications were also estimated, including bank reserves and the monetary base, as explanatory variables, yielding results similar to those estimated with excess reserves.

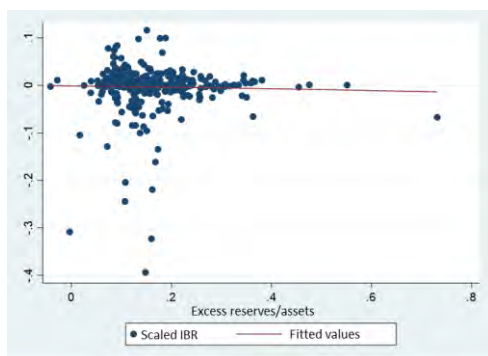
⁸⁵ A scaled version of the IBR is used as follows:

$$IBR \text{ scale} = \frac{IBR - MPR}{\text{Expansion window} - \text{Contraction window}}$$

where MPR is the monetary policy rate, while the expansion and contraction windows correspond to $MPR \pm 100$ bps, respectively.

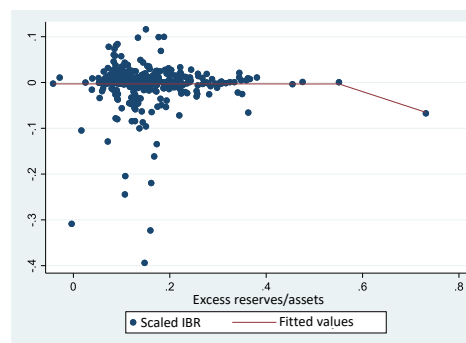
⁸⁶ The results are robust for the other parametric and non-parametric specifications included in Table BX.1, as well as when using the interbank interest rate (TIB in Spanish) as the short-term interest rate.

Graph B1.3 Reduced Logistic Function



Source: Authors' calculations.

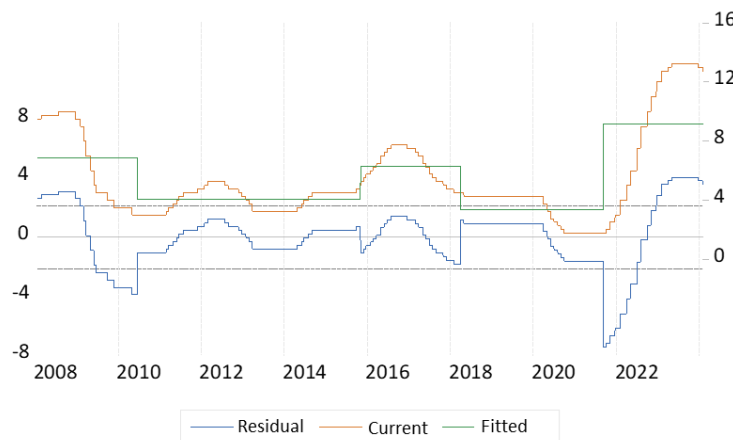
Graph B1.4 Reduced Logistic Function with Net Purchases of TES



Source: Authors' calculations.

The relationship between the rate spread and excess reserves may change during periods of expansion and contraction. To identify potential regime shifts in the monetary policy rate, a structural break model using Ordinary Least Squares (OLS) is employed.⁸⁷ Graph B1. 5 illustrates the structural breaks observed in the monetary policy rate during the analyzed period. Consequently, reserve demand models are estimated for each identified regime shift to analyze whether the relationship between the rate spread and excess reserves varies depending on the monetary policy stance.

Graph B1.5 OLS Model with Structural Breaks for the Monetary Policy Rate



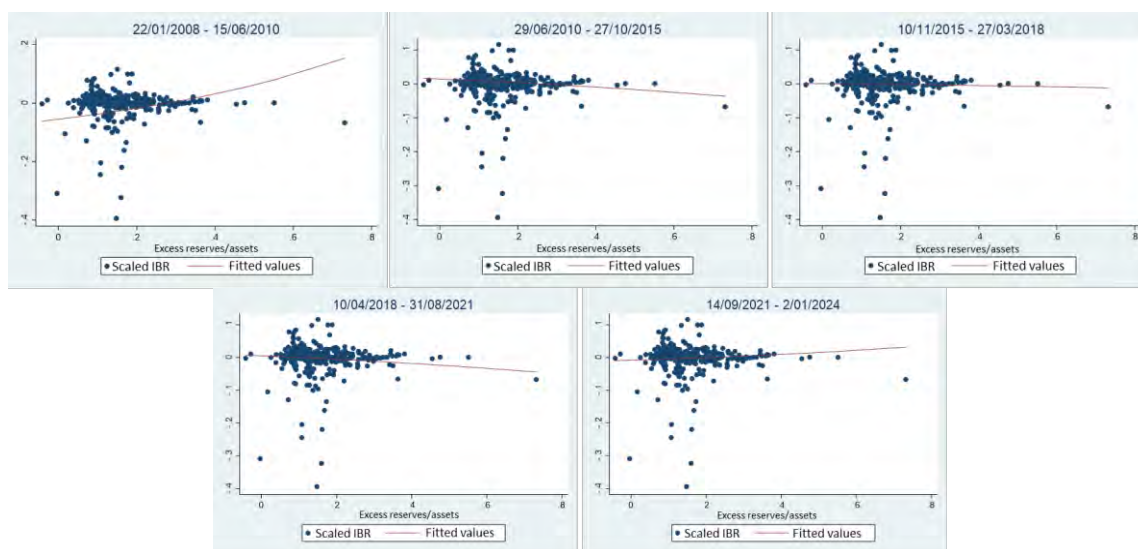
The results do not indicate significant changes in the relationship between the rate spread and excess reserves for each period identified in the structural break OLS model. Graph B1. 6 presents the results for the reduced logistic function. These results are robust when including net purchases of TES as a control variable and for each of the other parametric and non-parametric specifications described in Table B1. 1.

In contrast to the findings by Chen *et al.* (2023) for the United States and the European Union, where a reserve demand curve is identified that captures the relationship between short-term

⁸⁷ This model also considers consistent or robust errors to heteroscedasticity and autocorrelation (HAC).

interest rates and excess reserves in different scenarios, no such relationship is found between these two variables in the Colombian case using this methodology.

Graph B1.6 Reduced Logistic Function for Periods of Monetary Policy Rate Regime Change



Estimation of the Determinants of the Rate Spread Between the IBR and the MPR

Since the analysis of the relationship between the rate spread and excess reserves using the IMF methodology does not fit well with the Colombian case, it is necessary to evaluate other determinants and methodologies that might explain the dynamics of the rate spread in Colombia.

Literature indicates that there are different variables⁸⁸, in addition to those related to central bank open market operations that meet liquidity needs and, therefore, can also influence money market interest rates and explain their dynamics relative to the policy rate. This adds complexity to the estimation of the relationship between rate rate spread and liquidity demand.

The exercise on the main determinants of the rate spread between the IBR and the MPR presented in Box 3 of the Financial Markets Report for 4Q22 (Cardozo *et al.*, 2022) is updated by incorporating other explanatory variables, such as the DGCPN deposits at *Banrep* and *Banrep's* net purchases of TES.⁸⁹ In particular, an EGARCH model was estimated for the rate spread between the IBR and the MPR, with a mean equation as presented in Equation 1. The description of the variables included is provided in *Table B1. 2*. Upon updating this exercise with data through November 2023, a structural break was identified on 30 March 2020 in the relationship between the rate spread and the control variables included in the model.

⁸⁸ For more details, see Wert, 2003; Linzert & Schmidt, 2011; González *et al.*, 2013; Martin *et al.*, 2020.

⁸⁹ This specification is in reduced form and, therefore, has some limitations. Since simple correlations between the dependent variable and the explanatory variables are being evaluated, potential specification and endogeneity biases can be observed. For example, this model does not include an equation that determines the performance of TES purchases and sales by *Banrep*.

$$\begin{aligned}
 (IBR - MPR)_t &= \beta_0 + \phi_1 (IBR - MPR)_{t-1} + \phi_2 (IBR - MPR)_{t-2} + \beta_1 \times portfolio \\
 &+ \beta_2 \times deposits_t + \beta_3 \times \left(\frac{repos}{reserve} \right)_t + \beta_4 \times excess_reserves_t \\
 &+ \beta_5 \times \left(\frac{TES}{amount} \right)_t + term + \beta_7 \times limit_utilization_t \\
 &+ \beta_8 \times deposits_TGN_t + \beta_9 \times TES_purchases_t + \beta_{10} \times vol \\
 &+ \beta_{11} \times emd + \beta_{12} \times wed + \beta_{13} \times dee \\
 &+ \beta_{14} \times d30Mar2020
 \end{aligned} \tag{1}$$

Table B1. 2 Variables Included in the IBR-MPR Rate Spread Model

Variable	Description
IBR-MPR	rate spread
portfolio	real annual loan portfolio growth
deposits	real annual growth of demand deposits
repos/reserve	ratio of repos to bank reserves
Excess reserves	daily excess reserves percentage
TES/amount	ratio of available TES to the presented amount
term	weighted term by the balance of the expansion repos
limit_utilization	ratio of the utilized limit to the liquidity amount offered by <i>Banrep</i> in its repo operations
deposits_TGN	DGCPTN deposits at <i>Banrep</i>
TES_purchases	net purchases of TES by <i>Banrep</i>
vol ⁹⁰	conditional volatility of the IBR-MPR spread
emd	month-end dummy
wed	weekend dummy
dee	extreme event dummy which is equal to 1 when the absolute value of the rate spread is greater than 2 standard deviations from the rate spread
d30Mar2020	dummy variable corresponding to the structural break point of 30 March 2020

Estimates⁹¹ using the full sample suggest that an increase in the repo-to-reserve ratio, higher loan portfolio growth, a greater percentage of excess reserves, increased limit utilization, and higher TGN (National Government Treasury) deposits at *Banrep* are associated with a larger spread between the IBR and the MPR. For example, the effects of loan portfolio growth on the IBR-MPR spread may be associated with procyclicality or particular relevance of the credit channel. A higher level of excess reserves, especially during the early days of the reserve period (González *et al.*, 2013), may affect the rate spread, as institutions are willing to assume higher interest rates to meet their liquidity demand.

On the other hand, a higher weighted term of expansion repos, higher deposit growth, a higher TES-to-amount ratio, and higher TES purchases reduce the IBR-MPR spread. Results related to maturity may suggest a substitution effect between term resources and overnight resources.

⁹⁰ Volatility corresponds to the standard deviation of the conditional variance of the rate spread.

⁹¹ Table B1. 3 reports the results for the full sample from 02 January 2008 to 24 November 2023 (column 1), for the period before the structural break of 30 March 2020 (column 2), and for the period after this regime change (column 3).

Similarly, a greater volume of TES available as collateral for repo operations results in less pressure on the IBR-MPR rate spread. Column 1 shows that all variables are statistically significant, except for the limit utilization variable, and that the signs of each variable are as expected. It is also observed that excess reserves have played an essential role in determining the rate spread and that DGCPTN deposits had a significant impact on the rate spread before March 2020. The volatility of the rate spread is significant before March 2020, but loses relevance afterward.⁹²

Table B1. 3 Determinants of the IBR-MPR Rate Spread (EGARCH Model (1,1))

	(1)	(2)	(3)
Constant ($\hat{\beta}_0$)	-0.0123	-0.0074	-0.358
$(IBR - MPR)_{t-1}$	0.9777***	0.9977***	0.8430***
$(IBR - MPR)_{t-2}$	-0.0659***	-0.0812***	-0.0380
$portfolio_t$	0.0054***	0.0063***	0.0002
$deposits_t$	-0.0333*	-0.0171	-0.0574
$\left(\frac{repos}{reserve}\right)_t$	0.0025***	0.0033***	0.0084***
$excess_reserves_t$	0.0142***	0.0136***	0.0149***
$\left(\frac{TES}{amount}\right)_t$	-0.0052***	-0.0059***	-0.0021***
$term_t$	-0.0009***	-0.0032***	-0.0018**
$limit_utilization_t$	0.0003	0.0000	-0.0019*
$deposits_TGN_t$	0.0239***	0.0263***	0.0098
$TES_purchases_t$	-0.0003***	-0.0000	-0.0002
vol	0.0555***	0,0799***	0.0259
emd	-0.1026***	-0.0619**	-0.2806***
wed	-0.1033***	-0.1088***	-0.0685**
dee	-1.7124***	-2.2508***	-6.7679***
$d30Mar2020$	28.5831***	(n.a.)	(n.a.)
R^2 adjusted	0.9617	0.9688	0.7894
Q2(36) statistic ARCH test	0.9996	0.9998	0.9824

Notes: One asterisk indicates that the coefficient is significant at 90%, two at 95%, and three at 99%. (n.a.) denotes not applicable.

Conclusions

This box presents an analysis of the relationship between the rate spread and reserve demand in Colombia. The IMF approach (Chen et al., 2023) is used to analyze the impact of excess reserves on the rate spread, and subsequently, evaluate other determinants affecting its dynamics.

The methodology used by the IMF (Chen et al., 2023) does not yield the same results for the Colombian case, as monetary policy implementation in Colombia is framed within an interest

⁹² Additional exercises were carried out by interacting excess reserves with TES purchases, and no evidence was found that TES purchases increase the effect of excess reserves on the rate spread. Likewise, when interacting the TGN deposits variable at *Banrep* with other control variables, it is observed that an increase in deposits does not increase the sensitivity of the rate spread to the repo-to-reserve ratio, although it increases the impact of excess reserves on the spread.

rate corridor or a scarce reserves regime, unlike the United States and the European Union, which adopted an ample reserves framework following the GFC. The results are robust when estimating the models proposed by the IMF across different periods of monetary policy easing or tightening.

When evaluating other determinants of the rate spread, it is observed that, although between 2018 and 2019 the spread between the IBR and the MPR was less responsive to the repo-to-reserve ratio, this response increased after March 2020, when a structural break in the relationship between the rate spread and its determinants occurred. In addition, it is evident that excess reserves, the TES-to-amount ratio, and the term of expansion repos have had a significant impact on the rate spread in recent years.

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Box 2: Evolution of the Foreign Reserves Accumulation Program

Laura Viviana León Díaz
Diego Alejandro Martínez Cruz
Cristhian Hernando Ruiz Cardozo

Introduction

On 19 December 2023, the Board of Directors of *Banco de la República* (BDBR) announced the start of a Foreign Reserves (FRs) Accumulation Program for a maximum amount of USD 1,500 million (m)⁹³. The purpose of this program is to ensure adequate levels of external liquidity and prepare for a potential gradual reduction in Colombia's access to the International Monetary Fund (IMF) Flexible Credit Line (FCL), as announced during the renewal of this instrument⁹⁴. This decision also considered the uncertainty in the global context at that time.

The official statement accompanying this decision informed that *Banco de la República* (*Banrep*) would use put options⁹⁵ to accumulate FRs, with a monthly limit of up to USD 200 m. These options could only be exercised when the Representative Market Exchange Rate (TRM in Spanish) was below its average of the last 20 business days. This condition helps to prevent *Banrep* from making purchases in situations of upward pressure on the exchange rate. In addition, it was emphasized that the measure was not intended to influence the exchange rate or modify its level or volatility.

This analysis provides a review of the characteristics of FRs accumulation options and presents the preliminary results of the Foreign Reserves Accumulation Program for the first half of 2024. It highlights the progress in meeting the objectives that motivated its implementation.

In particular, it is noted that the accumulation of FRs has allowed them to remain at adequate levels, as reflected in the robustness of internationally used metrics, such as the IMF's Assessing Reserve Adequacy (ARA)⁹⁶, implemented by *Banrep* to measure whether the level of FRs is sufficient to cover potential risks that justify its accumulation. This, in turn, constitutes a robust signal of the strength of the country's external position.

Background and Characteristics of Reserves Accumulation Options

The objectives and instruments of intervention have been mainly related to achieving or maintaining an adequate level of FRs, containing strong pressures on the exchange rate, and moderating volatility in contexts where foreign exchange hedging markets were not sufficiently

⁹³ <https://www.banrep.gov.co/en/news/jdbr-decided-program-accumulate-foreign-reserves>

⁹⁴ On April 26, 2024, the IMF approved a new two-year arrangement in favor of Colombia under the FCL for an amount in Special Drawing Rights (SDRs) of 6,133.5 m (300% of Colombia's quota to the organization), which is equivalent to about USD 8,100 m. This agreement replaced the previous one, approved in 2022, for an amount in SDRs of USD 7,155.7 m (corresponding to 350% of Colombia's quota) and is considered by the Colombian authorities as a precautionary instrument to face external risks.

⁹⁵ Derivatives are financial instruments that depend on the value of some other asset (e.g., futures, forwards, and options). A put option is a derivative financial contract that gives the buyer the right, but not the obligation, to sell an asset at a specific price, in this case foreign exchange, before a specified maturity date. In turn, the seller of the option acquires the obligation to buy the underlying asset at the agreed price, known as the strike price, if the option is executed by the buyer.

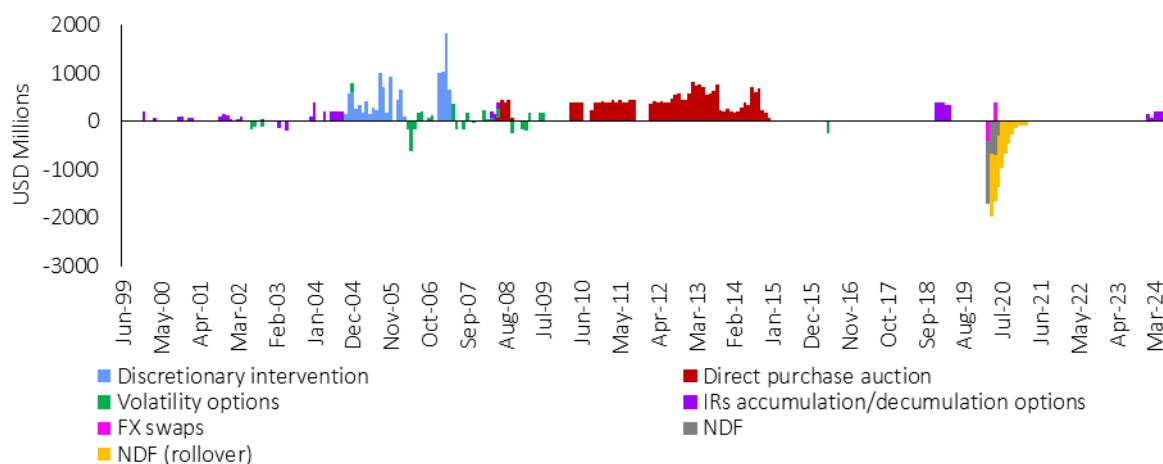
⁹⁶ See Moghadam *et al.*, (2011), IMF (2013) and IMF (2015).

developed⁹⁷. In this regard, the main intervention modalities have included FRs accumulation and decumulation options, volatility options, discretionary foreign currency purchases in the market, and daily auctions for the purchase of fixed amounts of reserves.

The FRs accumulation options were the first intervention instrument used by Banrep in the foreign exchange market, offered for the first time in December 1999 (Graph B2. 1). At that time, they were used to bring FRs to adequate levels, after reductions experienced during the late 20th-century financial crisis, minimizing the impact on the exchange rate.

Through this mechanism, approximately USD 5,234 m were accumulated between 1999 and 2019. In particular, the instrument was used during the following periods: (i) from November 1999 to December 2002, (ii) from July 2003 to August 2004, (iii) from March to May 2008, and (iv) from September 2018 to April 2019. The auctions were suspended at times when the Colombian peso faced strong depreciation pressures and when it was considered that the desired level of reserves had been reached.

Graph B2. 1 Progress of Banrep's Monthly Intervention in the Foreign Exchange Market (Net Purchases)



Source: Banrep. **Note:** Further details of the characteristics of the other instruments for foreign exchange intervention can be found in the Regulatory Circular DOAM-143, corresponding to Subject 5: *Banco de la República's* intervention in the foreign exchange market.

With this instrument, agents⁹⁸ **can acquire contracts at a fixed premium through a uniform price auction**⁹⁹, **granting them the right to sell dollars to Banrep during the auction month at the TRM in effect on the exercise date.** This right may be exercised at any time before the option expires, provided that the TRM is below its average of the last 20 business days¹⁰⁰.

⁹⁷ For further details, see Cardozo, Vargas, and Villamizar (2019), Box5: Considerations for Intervention in the Foreign Exchange Market by *Banco de la República* ([link](#)), and Rincón, H. *et al.* (2020).

⁹⁸ The agents that can participate in these options are the Foreign Exchange Options Intermediaries (FOIs), formed by the Foreign Exchange Market Intermediaries (FXIs), referred to in numerals 1 and 3 of Article 8. of the External Resolution 1 of 2018 of the Board of Directors of *BanRep*, and the Ministry of Finance and Public Credit.

⁹⁹ In this mechanism, participants can submit one or several bids, and approved bids will pay the same price or cut-off rate. Each agent can submit up to 5 bids for a total amount that does not exceed the auction quota, and the ratio between the maximum premium and the minimum premium submitted by the same agent cannot exceed 3. If any of these limits are exceeded, the bid(s) with the lowest premium will be annulled.

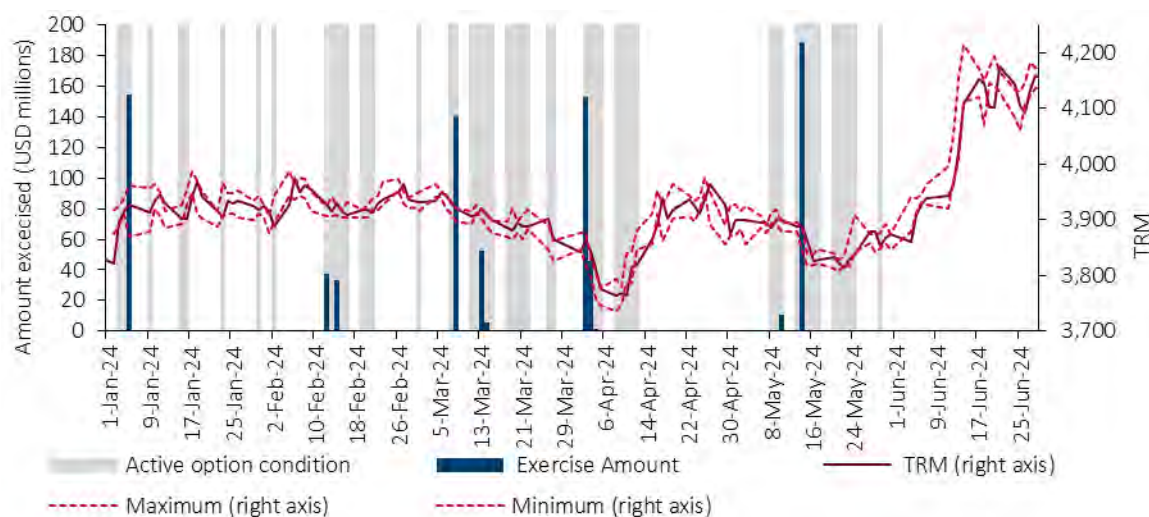
¹⁰⁰ The agents must report the intention to exercise between 10 a.m. and 1 p.m., and the transaction must be carried out that day until 3 p.m.

It is important to note that the interventions using this mechanism are usually relatively small compared to the volumes traded in the spot market. This ensures that the instrument does not affect market liquidity conditions. Thus, *Banrep's* interventions have no impact on the volatility or level of the exchange rate. In the recent period, the average monthly volume traded in the foreign exchange market in 2024 has been approximately USD 26,400 million. This amount is significantly higher than the USD 200 million per month accumulated through put option auctions. Therefore, the Foreign Reserves Accumulation Program represents only 0.8% of the monthly traded amount on average, indicating the limited impact *Banrep's* intervention could have on the foreign exchange market.

Evolution of the Reserves Accumulation Program

During the first half of 2024, six put option auctions for FRs accumulation were conducted, totaling USD 1,200 m, and the exercise condition was active for 55 trading days. Each auction has registered a significantly higher demand than the available quota, which totals USD 6,444 m, demonstrating strong market appetite for the instrument.

Graph B2.2 Exercise of Put Option for Reserves Accumulation



Source: *Banrep*. **Note:** The graph shows the periods during which the exercise condition of *Banrep's* reserve accumulation put options has been active, that is, the periods in which the TRM is below the 20-day moving average. It also shows the amounts exercised. Additionally, the graph includes the TRM in effect for each trading day and the trading range (maximum and minimum) for each day.

At the end of June, *Banrep* had accumulated FRs for USD 824.9 m, representing 69% of the resources auctioned so far and 55% of the program's total target (USD 1,500 m). Most of the accumulation occurred between March and May. Due to the depreciation trend of the peso in June, the exercise condition was not active, leading to no dollars being sold to *Banrep* (Graph B2. 2).

In line with the reserve accumulation throughout the year, FRs have increased by USD 1,293 m, totaling USD 60,901 m by June 2024. This increase is also attributed to positive returns on foreign reserves obtained during the year, supported by higher international interest rates.

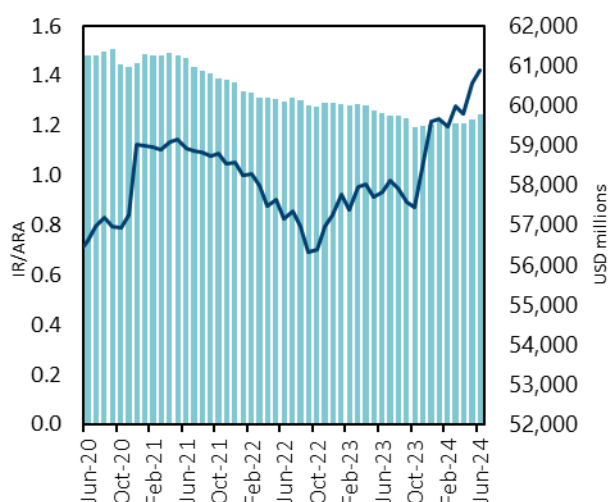
In line with the above, different metrics used to assess the adequacy of FRs indicate that these are at adequate levels. The methodology proposed by the IMF shows a slight improvement (Table B2. 1 and Graph B2. 3). The methodology, known as Assessing Reserve Adequacy (ARA)¹⁰¹, aims to cover risks associated with the loss of access to external financing, loss of confidence in the local currency, reversal of capital flows, and potential collapse in external demand¹⁰². An economy is considered to maintain adequate reserve levels if the ratio of FRs to ARA falls between 1.0 and 1.5. With the latest available data, as of June 2024, Colombia’s ratio stood at 1.24, compared to 1.21 in December 2023. Additionally, Colombia ranks fourth in the FRs/ARA metric among its regional peers, ranking close to Mexico.

Table B2. 1 FRs Adequacy Metrics

Metric	June-24	Recommended range
FRs / M3	30.2%	Greater than 20%
FRs / Imports	9.34	Greater than 3
FRs / (External debt repayments + current account deficit)	0.97	Greater than 1
FRs / ARA	1.24	Between 1 and 1.5

Source: Banrep.

Graph B2. 3 Evolution of FRs and the FRs/ARA Ratio



Source: Banrep.

Valuation of Options Auctioned in 2024

Studies on the value of the options used by *Banrep* highlight a difference between the theoretical price calculated by models and the auctioned value. Authors suggest that this difference may be due to low demand for the options during auctions, limited market knowledge about the instrument, or a valuation of volatility that differs from the market-observed volatility. First, Stozitzky (2015) uses the algorithm proposed by Longstaff and Schwartz (2001), the least squares monte carlo (LSM), modified to include a Merton (1976) mixed jump-diffusion model. His findings indicate that a deviation from the theoretical price could be explained by low demand for the options at the time of auction or limited market knowledge about the instrument. Second, Rojas and Villamizar (2021) (WTC) find similar results by replicating the value of American options using a portfolio of European options¹⁰³. According to these methodologies, there is a positive relationship between the premium paid for the option and the exchange rate volatility, suggesting

¹⁰¹ For further details, see Moghadam *et al.*, 2011, IMF (2013) and IMF (2015).

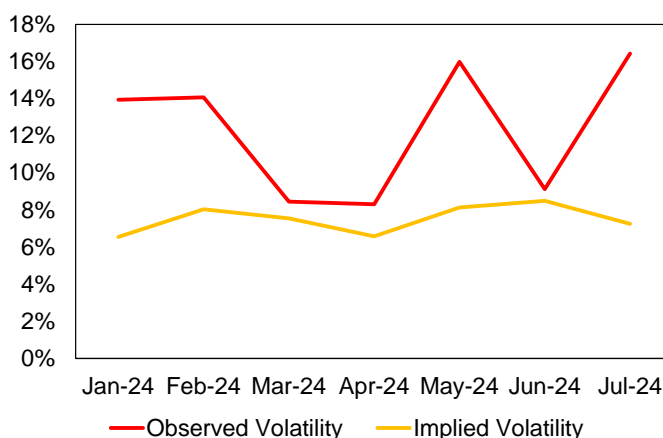
¹⁰² This metric establishes that reserves should cover the main balance of payments risks in foreign exchange market pressure periods.

¹⁰³ A European option is a type of financial contract that gives the holder the right, but not the obligation, to buy or sell an underlying asset at a predetermined price on a specific date. In turn, the buyer can exercise an American option at any time, before and at maturity.

that the estimated value of the options might differ from the auctioned value because agents use a measure of volatility different from the one observed in the market.

When replicating the LSM and WTC methodologies, it is found that agents estimated an implied volatility lower than the one observed in the market (Graph B2. 4). When submitting their bids, each agent may value the option based on market conditions, exchange rate volatility, and the performance of their 20-day moving average, among other factors. Using the auction cut-off price suggests that, on average, agents have valued the option price with a lower volatility than the market volatility observed that day.

Graph B2. 4 Estimated Implied Volatility and Observed Volatility



Source: *Banrep*. **Note:** The calculation of implied volatility is obtained as the average of the implied volatilities using the two valuation methodologies (LSM and WTC)

In addition, there is no clear relationship between the option price and the amount bid. A high discrepancy in the prices presented by agents across different auctions is highlighted. This is evident in the bids presented in the auctions, where it is possible to find bids from COP 1,300 to COP 29,000 per USD 1,000.

Based on the results of the FRs accumulation option auctions held to date, it is observed that participants typically offer a higher premium in exchange rate appreciation scenarios. On the other hand, in appreciation scenarios, agents tend to exercise options on the first days of the month. *Graph B2. 5* illustrates the positive and significant relationship¹⁰⁴ between the difference between the TRM and its 20-day moving average¹⁰⁵ and the ratio of the TRM to the auction cut-off premium for the day¹⁰⁶. This relationship suggests that agents tend to pay a higher premium relative to the TRM for the auctioned option when the exercise condition is active. Moreover, when

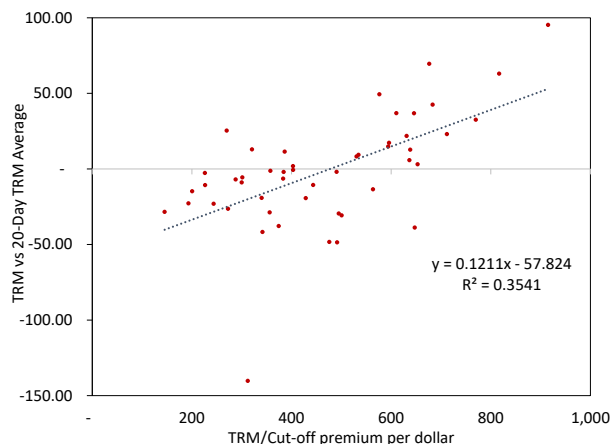
¹⁰⁴ The regression coefficient associated with this relationship is significant, and the coefficient of determination (R^2) is positive and significant.

¹⁰⁵ Values below zero indicate that the exercise condition is active on the day of the auction. It could also be interpreted as a variable that measures the short-term appreciation trend of the exchange rate, with positive values representing a depreciation trend and negative representing an appreciation trend.

¹⁰⁶ To make the premium comparable over time, its value is scaled with respect to the TRM of the day of the auction. In this way, a higher premium value concerning the TRM would indicate a higher option value.

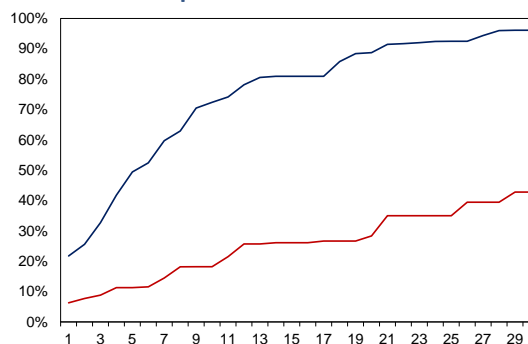
agents acquire options during periods of Colombian peso appreciation, they tend to exercise, on average, 80% of the auctioned amount within the first 15 days of the month (*Graph B2. 6*). In contrast, when participants purchase options in depreciation scenarios, agents exercise, on average, 42% of the option’s value. These findings suggest that agents often pay a higher price for these options in exchange rate appreciation scenarios.

Graph B2. 5 Exchange Rate Trend and Auction Cut-Off Price



Source: *Banrep*. **Note:** To approximate the short-term trend of the exchange rate, the difference between the TRM on the auction day and the 20-day moving average of the TRM is used. The auction price variable is scaled relative to the TRM value on the auction day.

Graph B2. 6 Cumulative Execution Percentage of Auctions in Appreciation Scenarios and Average Cumulative Execution Percentage of Auctions in Depreciation Scenarios



Source: *Banrep*. **Note:** The blue line represents the average daily cumulative execution of auctioned options on the day when the TRM was below its 20-day moving average. In contrast, the red line represents the average daily cumulative execution of auctioned options on the day when the TRM was above its 20-day moving average.

Conclusions

The Foreign Reserves Accumulation Program has proven effective in strengthening external liquidity levels amid reduced access to the FCL and a persistently complex international environment. The program is expected to continue strengthening the country’s external position, with FRs levels expected to remain adequate according to various metrics. This will allow the economy to face risks and challenges that may arise in an uncertain global economic environment with greater resilience, ensuring greater stability and responsiveness to potential financial crises or market fluctuations.

In addition, it is important to note that the program has not affected liquidity conditions and depth of the foreign exchange market. This is because the auction amounts are lower than the trading volumes in the market. Specifically, the Foreign Reserves Accumulation Program accounts for only 0.8% of the average monthly trading volume in the foreign exchange market, ensuring that the intervention of *Banco de la República* (the Central Bank of Colombia) has no impact on the volatility or the exchange rate level.

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Box 3: Foreign Investors' Participation in the Colombian Stock Market

Laura Viviana León Díaz

Camilo Andrés Orozco Vanegas

Introduction

In recent years, foreign investors have exhibited a lower appetite for Colombian equities, with their participation decreasing from 16% at the end of 2018 to 11% in June 2024. This decline may be attributed to the reduction in Colombia's participation in international benchmark indexes for emerging markets, as well as a challenging global market environment following the COVID-19 pandemic. Additionally, changes in tax policies may have increased the investment costs for these investors¹⁰⁷.

Despite this, foreign investors have remained crucial players in this market, capturing 37% of the total trading volume in the last five years. Their transactions have been primarily concentrated in the shares of Bancolombia (common and preferred), Ecopetrol, and ISA, which are also among the most representative in the MSCI COLCAP Index¹⁰⁸.

Understanding the dynamics and composition of these investors is important given their significant role in the Colombian stock market and the recent discussions regarding a possible reclassification from emerging to frontier market¹⁰⁹. Colombia is currently classified as an emerging market by MSCI, the world's leading provider of stock indexes, and as such, three Colombian stocks are included in its Emerging Markets Index (MSCI EM), which is the minimum requirement for inclusion in this group¹¹⁰. Given the recent deterioration in market liquidity, and particularly, issues with one of the stocks in the MSCI EM index, there are concerns about a possible reclassification of Colombia from emerging to frontier market¹¹¹. However, in the latest MSCI annual review results published in June, Colombia is not under review for reclassification.

This box provides a brief analysis of the evolution of foreign investors in the local stock market, their characteristics, and the composition of their portfolio at the local level.

¹⁰⁷ In the tax reforms approved at the end of 2018 and the end of 2019, the income tax applied to dividends was increased from 5.0% to 7.5% and from 7.5% to 10%, respectively (Toro *et al.*, 2023).

¹⁰⁸ The MSCI Colcap index is the primary benchmark index of the Colombian stock market. It is composed of the 20 issuers, and 25 most liquid stocks in the market, weighting the stocks by adjusted market capitalization.

¹⁰⁹ In 1994, Colombia was classified as an emerging country by MSCI, considering compliance with the requirements established in the provider's methodology in terms of liquidity, size, stability, and market access facilities. In turn, a country classified as a frontier market is characterized by a small stock market, low liquidity, with barriers to access to foreign investors and political and financial instability. In this regard, being part of a new index as a result of the reclassification could imply a change in the type of investors, less dynamism, and lower investment flows to the stock market.

¹¹⁰ Currently, the MSCI EM index includes the participation of Bancolombia's preferred and common stocks, as well as ISA's stocks. According to the provider's methodology, to be part of the emerging markets group, a country must have at least 3 stocks to be included in this group.

¹¹¹ In the fourth quarter of 2023, discussions began regarding the possibility of MSCI reclassifying the Colombian market from emerging to frontier, considering the deterioration in the market liquidity, particularly of ISA's stock, which, by not complying with the liquidity requirements, could be removed from the index and put at risk Colombia's classification as an emerging market.

Background

Between 2010 and 2013, foreign investors increased their holdings in the country's stock market by more than 180%, while Colombia's participation in the MSCI Emerging Market Index¹¹² (MSCI EM) increased from 0.6% to 1.0% (Graph B3. 1 and Graph B3. 2). Additionally, during this period, the foreign investment regime was modified, simplifying access of these investors to the local financial market¹¹³, the country's credit rating was upgraded, and some initiatives aimed at developing the market were advanced, including the start of the Latin American Integrated Market (MILA in Spanish) and the creation of the first Exchange-Traded Fund (ETF) (Toro et al., 2023).

Subsequently, between 2013 and 2015, foreign investors reduced their balance in the market, in line with Colombia's lower weighting in the MSCI index, which, had dropped to 0.4% by December 2015. Despite this, the participation of these investors in relation to the total market remained stable, even amid significant declines in oil prices that affected local market valuations¹¹⁴. Following this, foreign investor participation remained stable until 2018.

Finally, since 2018, there has been a sustained decrease in foreign investor participation in the market, coinciding with Colombia's reduced participation in the MSCI EM index (0.1% as of Dec-2023) and discussions about a potential reclassification from an emerging market to a frontier market¹¹⁵. The country's lower weighting has been associated with the inclusion of Chinese yuan-denominated stocks, known as "A-Shares," in the MSCI EM index, along with the classification of Saudi Arabia, Argentina¹¹⁶, and Kuwait as emerging markets (Toro et al., 2023). Additionally, other events may have influenced foreign investor behavior in this market, such as the COVID-19 pandemic, sovereign credit rating downgrades, and multiple reforms impacting market costs for issuers and participants¹¹⁷.

¹¹² In 1994, MSCI, the world's leading stock index, classified Colombia as an emerging country. This is based on compliance with the requirements established in the provider's methodology of liquidity, size, stability and market access facilities. According to this classification, Colombian shares are included in the emerging markets index calculated by the provider.

¹¹³ On December 29, 2010, the *General Regime of Foreign Capital Investments in Colombia and Colombian Capital Abroad* (Decree 4800 of 2010) was modified in such a way that, among other determinations, the requirement for foreign investors to constitute a *Foreign Capital Investment Fund* to advance their investments in the local financial market was eliminated, allowing them to be made from that moment on through local administrators.

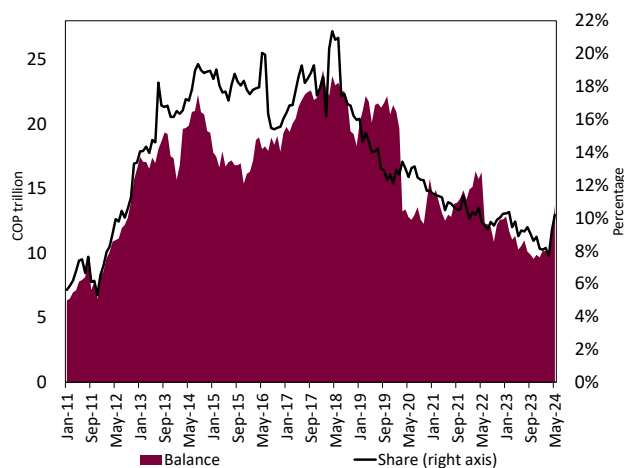
¹¹⁴ Between June 2014 and January 2016, oil prices fell nearly 70%, and the Brent oil benchmark reached a low of USD 27.88 per barrel on January 20, 2016. The MSCI Colcap index showed a 31% drop in the same period.

¹¹⁵ A market classified as frontier is characterized by a small stock market, low liquidity, barriers to access for foreign investors, and political and financial instability.

¹¹⁶ Argentina was classified as emerging in 2019 but lost that classification in 2021.

¹¹⁷ In the tax reforms approved at the end of 2018 and end of 2019, the income tax applied to dividends was increased from 5.0% to 7.5% and from 7.5% to 10%, respectively (Toro et al., 2023). In 2021, Colombia lost its investment grade rating from two of the credit rating agencies, Standard & Poor's and Fitch Ratings.

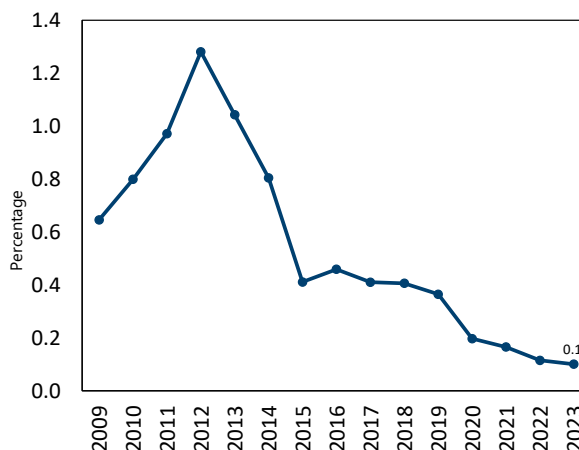
Graph B3. 1. Foreign Investors' Participation in the Colombian Stock Market (float-adjusted).



Source: Banrep's IPEXT format, Bloomberg. Data as of May 2024.

Note: Participation is calculated as the balance of foreign investors in the equity market in USD, reported in the IPEXT format at the average monthly exchange rate, relative to the market capitalization in USD extracted from the World Federation of Exchanges and float-adjusted. The float refers to the percentage of the market available for trading, i.e., the share not held by controlling investors.

Graph B3. 2. Colombia's Weighting in the MSCI Index of Emerging Countries



Source: Bloomberg.

Foreign Inverstors' Participation

Foreign Investors' Flows

Since 2010, the participation of foreign investors in total market trading has increased¹¹⁸. In the last five years, they have become the most important agents (37%¹¹⁹) (Graph B3. 3). However, this has occurred in a context of a significant reduction in market liquidity¹²⁰. In turn, in the last five years, individual investors have traded 14% and Pension Funds 16%¹²¹. Additionally, Stock Brokerage Firms (SBFs), which act as intermediaries in this market, have had a share of 18% of the amounts traded.

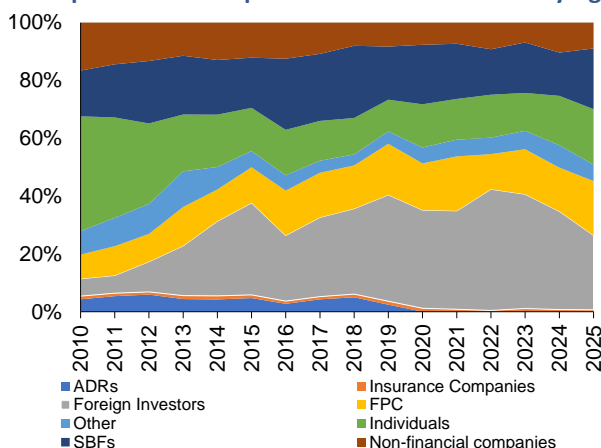
¹¹⁸ Foreigners' share in total market negotiations increased from 6.0% in June 2010 to 37% in June 2024.

¹¹⁹ With information from January 2019 to June 2024.

¹²⁰ Amounts traded in the market decreased from COP 92.5 trillion (t) in 2012 to COP 27 trillion in 2023.

¹²¹ Percentages are calculated as the share of purchases and sales made by each type of agent from January 2019 to June 30, 2024.

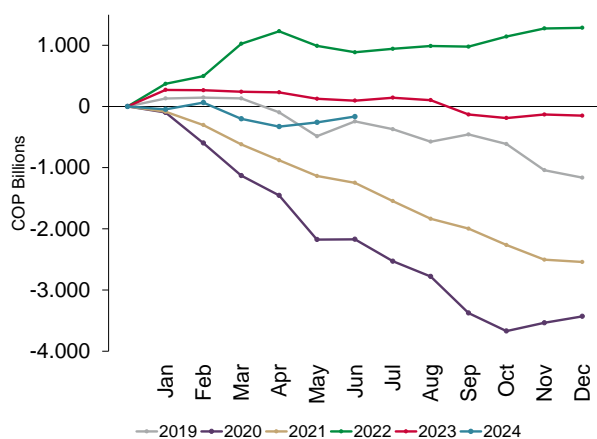
Graph B3. 3. Participation in Amounts Traded by Agent



Source: BVC data. Calculations: Banrep.

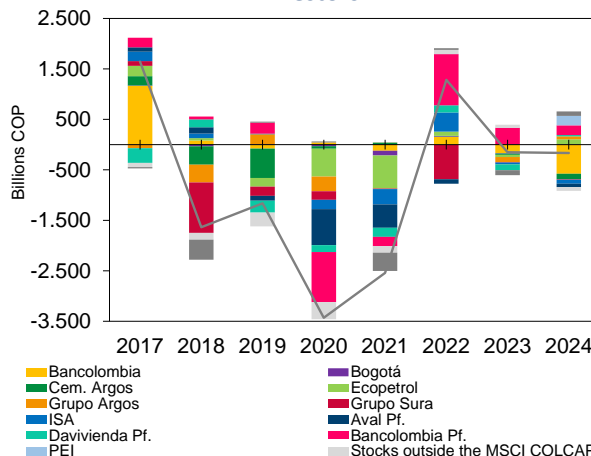
The flows of these agents have reversed. Between 2010 and 2017, they mainly showed net purchases, whereas in the following years, they have accumulated sales, except in 2022 (Graph B3. 4). This may reflect the lower appetite of these agents for Colombian stocks in the recent period. In addition, their trading is concentrated in shares of Bancolombia (preferred and ordinary), Ecopetrol, and ISA (Graph B3. 5).

Graph B3. 4. Cumulative Net Purchases by Foreign Investors



Source: BVC. Calculations: Banrep.

Graph B3. 5. Net Purchase Flow per Share by Foreign Investors



Source: BVC. Calculations: Banrep.

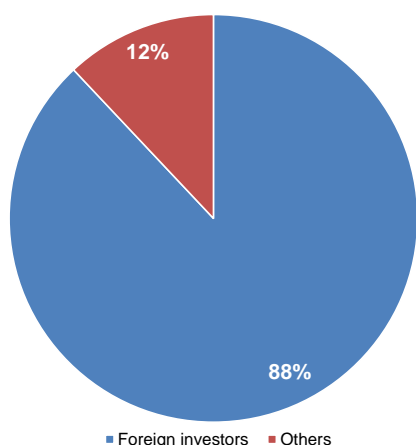
Foreign Investors' Balance

Although foreign investors have been reducing their holdings in the stock market, they still hold 12% of the total outstanding shares¹²² (Graph B3. 6). Since 2019, the balance of foreign investors has decreased by 62.3%. This decline was explained by the withdrawal of mutual funds, whose balance decreased from COP 11.6 trillion (t) in June 2015 to COP 5.10 trillion in July 2024 (Graph B3. 7). As of July 2024, this group of investors remains the most important within the composition of foreign investors with 55%, followed by international pension funds representing 15% of the

¹²² The balance information used in this subsection includes information from foreign portfolio investors with known identity and/or non-controlling. Within the classification of foreigners, 7.9% belong to controlling foreigners, and the remaining 4.1% belong to other types of foreigners.

group, foreign banks with 13%, and monetary authorities with 10%. This is similar to the composition of foreign investors in the public debt market (see *Recuadro 3: Caracterización de inversionistas extranjeros en el mercado de contado de TES* in the Financial Markets Report for the third quarter of 2023).

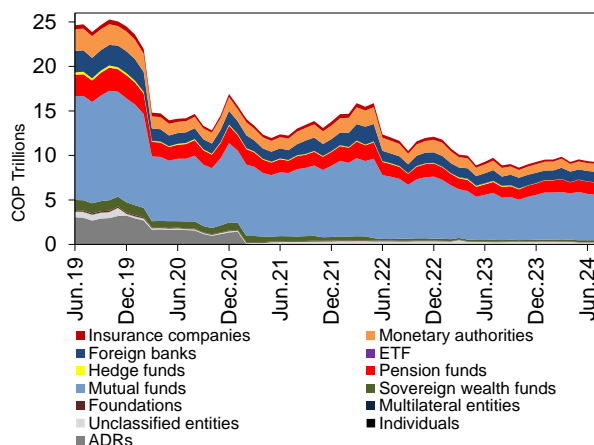
Graph B3. 6. Participation of Foreign Investors in the Stock Market



Source: Deceval. Calculations: Banrep.

Note: The category of foreigners includes agents classified as such by Deceval, excluding those whose identities are unknown, which are included in the “Others” share. Within the classification of foreigners, 7.9% belong to controlling foreigners, and the remaining 4.1% to other types of foreigners.

Graph B3. 7. Balances of Types of Foreign Investors in the Stock Market

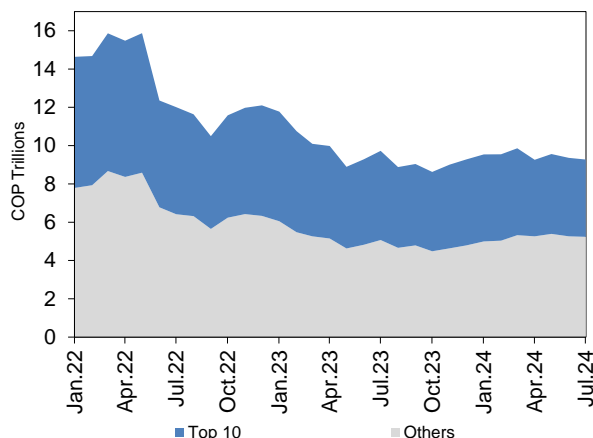


Source: Deceval. Calculations: Banrep.

On the other hand, although the ten largest foreign shareholders account for 43.5% of the total foreign agents’ balance as of June 2024, there is no significant concentration in this market (*Graph B3. 8*). When analyzing concentration using the Herfindahl Hirschman Index (HHI), it is evident that there is not a high concentration in the total foreign investor base or the most important groups, such as mutual funds (*Graph B3. 9*). However, the only case of high concentration is observed in the monetary authorities. This group, composed of a few agents, presents an average HHI of 52% since 2019.

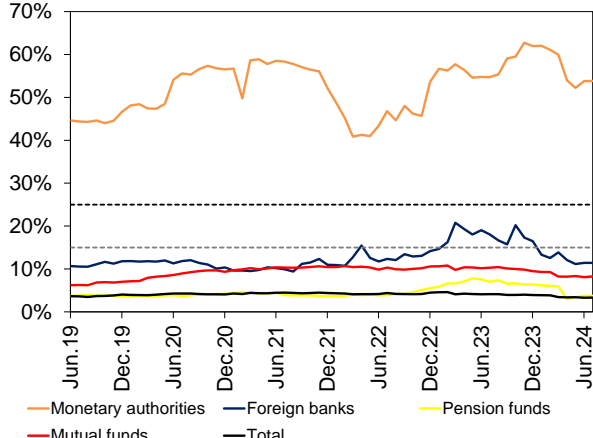
In line with the flows observed in section *Foreign Investors’ Flows* of this box, although foreign investors’ holdings in the stock market are focused on the shares of Bancolombia, ISA, and Ecopetrol, the participation of these investors in this group of shares is diversified and does not present a high concentration. However, the reduction in the appetite of these agents for Ecopetrol shares is highlighted, which could be associated with its exit from the MSCI EM index in December 2022. Consequently, their portfolio has lost diversification in the last five years and they have tended to concentrate their participation in the issuer Bancolombia, which represents 56.4% of their portfolio in local stocks (*Graph B3. 10*). Despite this, after calculating the HHI for stocks with the largest foreign holdings, there is no evidence of high concentration for Bancolombia issues, however, in line with Ecopetrol’s exit from the MSCI EM index, since 2022 a lower diversity of agents with this shares is seen (*Graph B3. 11*).

Graph B3. 8. Balance per Foreigner



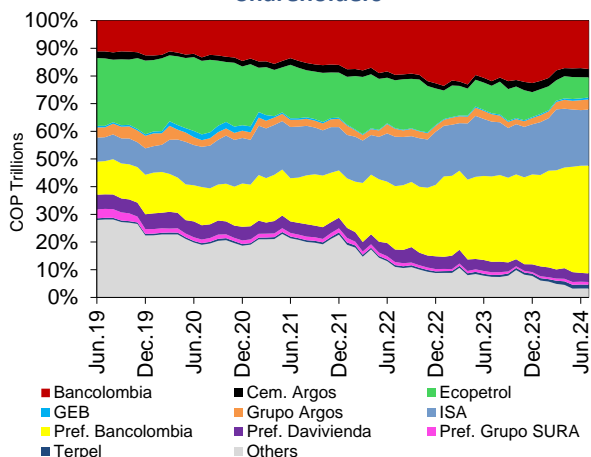
Source: Deceval. Calculations: Banrep.

Graph B3. 9. Foreign Investors' HHI by Type and Total



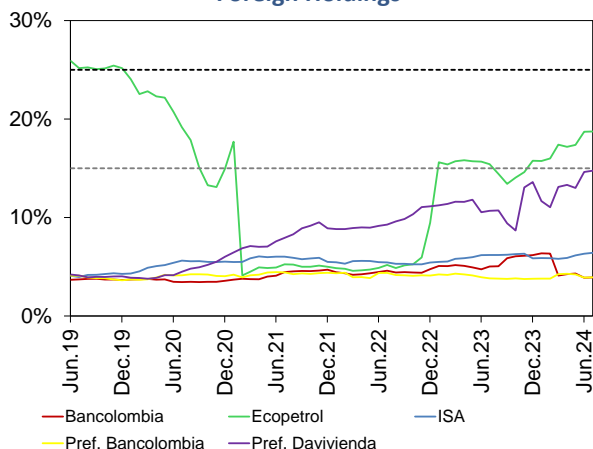
Source: Deceval. Calculations: Banrep. Note: The gray dotted line corresponds to the value of 15% (moderately concentrated), while the black dotted line corresponds to the value of 25% (highly concentrated).

Graph B3. 10. Local Stocks Portfolio of Foreign Shareholders



Source: Deceval. Calculations: Banrep.

Graph B3. 11. HHI of the Shares with the Largest Foreign Holdings



Source: Deceval. Calculations: Banrep. Note: The gray dotted line corresponds to the value of 15% (moderately concentrated), while the black dotted line corresponds to the value of 25% (highly concentrated).

Final Considerations

Despite the decrease in their holdings, foreign investors continue to play a relevant role in the Colombian stock market, positioning themselves as the main players in the total negotiations. The progress of the total balance of these agents in recent years follows the behavior of Colombia's participation in the MSCI EM index. Consequently, their investments have been concentrated in the stocks that are still part of the index, which has caused a loss of diversification in their portfolios. Moreover, as in the public debt market, mutual funds and international pension funds stand out as the most significant foreign agents.

In this context, the public and private sectors have collaborated to promote greater development of the stock market and other securities markets in recent years. This collaboration seeks to strengthen fundamental aspects such as liquidity, accessibility, issuers, and international promotion of these markets. As a result, the National Government has promoted several bills to boost the stock market. The proposed reforms include greater participation of market makers, facilities for short sales and temporary transfer of securities, as well as the promotion of the issuance and placement of securities under more flexible conditions for issuers. Likewise, regulatory provisions have been implemented to increase the participation of Collective Investment Funds, Stock Brokerage Firms, and other stock market agents.

Finally, other initiatives have been launched, such as the regional integration of the Stock Exchanges of Chile, Peru, and Colombia. Once in operation in 2025, this integration is expected to promote greater liquidity and market depth, as well as an increase in the number of participants, making this market one of the most relevant in Latin America.

References

Toro, J. (coordinator); Arango, L.; Gamboa, F.; León, L.; López, M.; Martínez, D.; Melo, L.; Quicazán, C.; Rincón, H.; Rodríguez, N.; Romero, J.; Ruiz, M.; Ruiz, C.; Sánchez, A.; Sarmiento, M.; Villamizar, M. (2023). Flujos de capital de portafolio en Colombia. Ensayos sobre Política Económica (ESPE), issue. 105, July 2023.

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Glossary of Abbreviations

4Q23: Fourth quarter of 2023	CHL: Chile	CPI: Consumer Price Index
1Q24: First quarter of 2024	CHF: Swiss franc	ISE: Colombian Economy Tracking Indicator
2Q24: Second quarter of 2024	COL: Colombia	BDBR: Board of Directors of <i>Banco de la República</i>
ACPM: diesel fuel	COP: Colombian peso	JPY: Japanese Yen
IEA: International Energy Agency	DGCPTN: General Directorate of Public Credit and the National Treasury	MEX: Mexico
Banrep: <i>Banco de la República de Colombia</i>	DTF: Interest rate on 90-day term certificates of deposit	MTFF: Medium-Term Fiscal Framework
Banxico: <i>Banco de México</i>	EMBI: Emerging Market Bonds Index	MHCP: Ministry of Finance and Public Credit of Colombia
BAS: Bid-Ask Spread	EME: Monthly Survey of Analysts' Economic Expectations by <i>Banrep</i>	OIS: Overnight Index Swaps
BCB: <i>Banco Central de Brasil</i>	EOF: Financial Opinion Survey by Fedesarrollo and the BVC	O/N: Overnight
BCCh: Central Bank of Chile	EUR: Euro	OPA: Takeover Bid
ECB: European Central Bank	FAO: Food and Agriculture Organization of the United Nations	OPEC: Organization of the Petroleum Exporting Countries
BCRP: Central Reserve Bank of Peru	FBEI: Forward Breakeven Inflation	PCMTDP: Market Makers Program for Government Bonds
BEI: Breakeven Inflation	FED: U.S. Federal Reserve.	PER: Peru
BoE: Bank of England	IMF: International Monetary Fund	GDP: Gross Domestic Product
BoJ: Bank of Japan	FPCS: Pension and Severance Funds	SEN: Electronic Trading System
BRA: Brazil	FOMC: Federal Open Market Committee	SEK: Swedish krona
BVC: Colombian Stock Exchange	GEA: Grupo Empresarial Antioqueño (Antioquia Business Group)	SOFR: Secured Overnight Financing Rate
DCV: Central Securities Depository	LNG: Liquefied Natural Gas	TES: Colombian sovereign bonds
CAD: Canadian Dollar	GBP: Pound sterling	FR: Fixed Rate
CDR.: Resettable Certificates of Deposit	IBR: Reference Banking Indicator	MPR: Monetary Policy Rate
CDS: Credit Default Swaps	IIF: Institute of International Finance	USD: U.S. dollar
CDT: Certificates of Deposit	FXI: Foreign Exchange Market Intermediaries	UVR: Real Value Unit