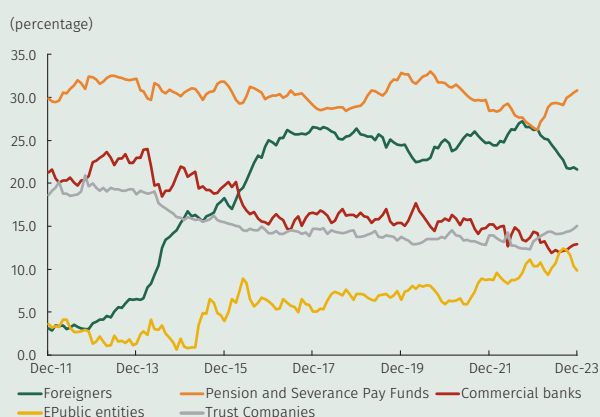


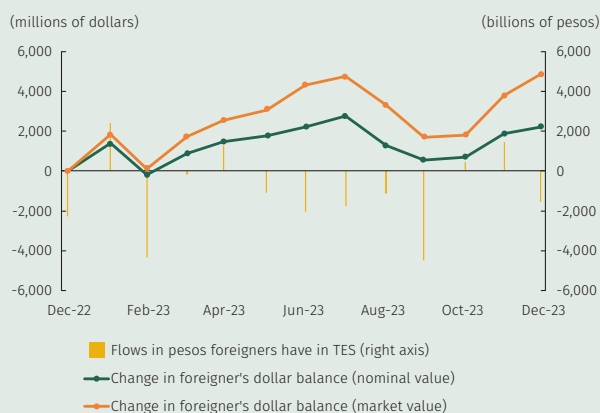
## Box 2 Development of Foreign Investors' Trends in the Local Public Debt Market and the Role of Pension Funds as Stabilizing Agents in this Market during 2023

Graph B2.1  
Participation by Type of Agent in the Total Circulating TES in Pesos and UVR (without Fonpet transfer)



Note: this excludes the transfer of the Fonpet portfolio made by local pension funds and trust companies to the Ministry of the Treasury and Public Credit (public entities) in April 2023. In order to approximate what the change in the portfolio would be if the effect generated by the transfer of the TES to Fonpet is excluded, an exercise was done in which it is assumed that this does not occur and that these balances remained in the local pension funds and in the trust companies. Source: Banco de la República.

Graph B2.2  
Change in the Balance Foreigners Hold in the TES Market Expressed in Dollars<sup>a/</sup> vs. Flows in Pesos Foreigners Have in TES



a/ Corresponds to the difference in the TES balance held by foreign investors in nominal value expressed in dollars as of December 2022 (the nominal value excludes the effect of the appreciation of securities and allows the exchange rate effect to be seen).

Notes: 1) For conversion to dollars, the exchange rate for the day prior to each cutoff is used.

2) This graph seeks to approximate the position of foreign investors in a currency such as the dollar, and shows that, although sales in Colombian pesos have occurred, the dollar position of foreign investors has not been reduced.

Source: Banco de la República.

Foreign investors made significant sales of their holdings of local public debt securities during 2023. Specifically, they sold COP 9.1 t in peso-denominated TES and COP 2.4 t in UVR-denominated TES respectively. This represented a 11.7% decrease in their balance in pesos compared to what was seen at the end of December 2022.<sup>1</sup>

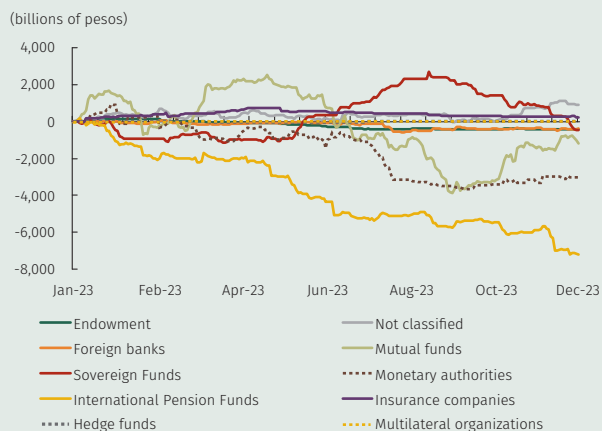
Nevertheless, foreign investors remain the second largest holders of local public debt securities<sup>2</sup> (Graph B2.1). They have been the second largest holders of these securities after pension and severance funds since 2016. They have maintained this position even in stressful events such as the covid-19 pandemic.

According to some of the agents consulted, the sales by foreign investors were due to profit taking and the investment policies of some of these agents, but not to a greater perception of risk towards Colombia (Graph B2.2). In particular, they have highlighted the fact that the profit taking is related to the appreciation accumulated by Colombian securities in 2023. As for the appreciation of the peso vis-a-vis the US dollar so far this year, which increases the value of Colombian assets, this has led some investors who have a stable exposure strategy to sell securities. With respect to this second idea, when the change in the TES balance held by foreign investors expressed in dollars, which is presumably the currency in which most of these agents measure the exposure of their portfolio, is analyzed, this change was even found to be positive during 2023 (Graph B2.2). The perception of Colombia's sovereign risk, in turn, declined more than that of its regional peers did during the same period (see Section 4.2.1).

When the flows are broken down by the maturity of the securities traded, it is clear that foreign agents registered net inflows in long term bonds<sup>3</sup> during 2023. These purchases partially offset their sales in short and medium-term securities and indicate that these agents maintain their appetite for the Colombian market. In addition, this trend could be related to the strong performance of longer-term securities during the year and to the fact that the high levels of interest rates on these securities allowed foreign investors to obtain profitability for a prolonged period of time.

- 1 Foreign investors closed 2023 with a balance of COP 107.5 trillion in peso- and UVR-denominated TES.
- 2 The share of outstanding peso-denominated TES held by foreign investors went from 37.2% to 30.4% while in UVR-denominated TES, it went from 5.7% to 4.7% during 2023. Within the total TES balance, their share went from 26.3% to 21.6%.
- 3 The long tranche of the curve includes those securities with a maturity greater than or equal to five years. The short tranche, those with a maturity of less than two years. The medium tranche, in turn, groups the remaining references.

Graph B2.3  
Cumulative Flows in 2023 by Type of Foreign Investor in the TES Market



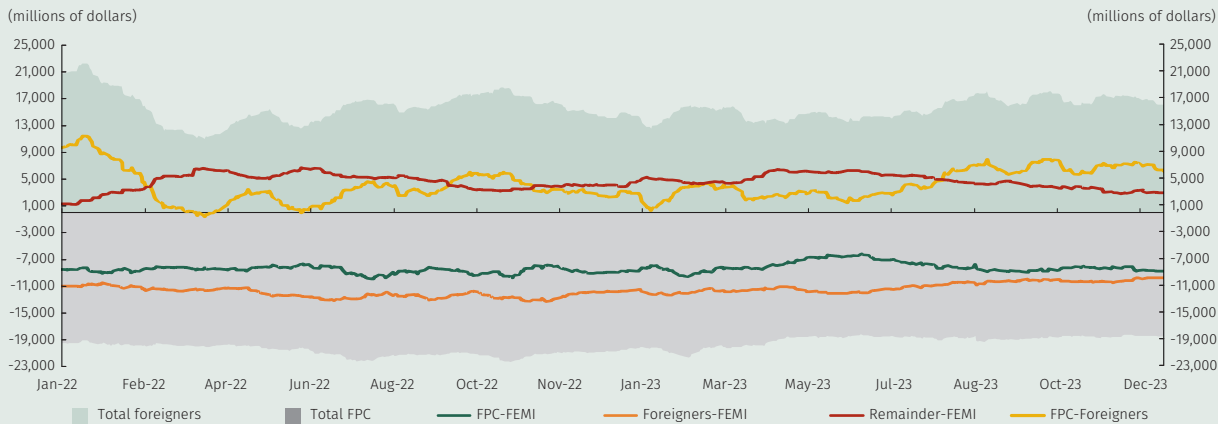
Source: Banco de la República.

Based on the type of foreign investor, there was a shift towards mutual funds and sovereign wealth funds throughout the year as international pension funds and monetary authorities presented an ongoing trend of sales. International pension funds were the main sellers during 2023, with COP7.2 t in sales followed by monetary authorities with net sales of COP3.0 t (Graph B2.3). In contrast, mutual funds accumulated the lowest sales with COP 335 b during 2023, followed by sovereign wealth funds with COP 544 b.

The sales by foreign investors were more than offset by purchases made by the pension and severance funds in the local public debt market. The latter registered record purchases of TES during 2023 (COP 26.4 t) and consolidated their position as the main holders of these securities with a 31% share.

Regarding their participation in the foreign exchange derivatives market, pension and severance funds maintain a net selling balance against foreign investors and market intermediaries (FEMI) in peso-dollar derivative contracts<sup>4</sup> to hedge part of the foreign exchange exposure of their investments abroad. This, in part, has allowed the development of the foreign exchange hedging market.<sup>5</sup> The pension and severance funds reduced their position by USD 2,236 million<sup>6</sup> in 2023 while their share in the amounts agreed on in this market remained stable at around 11% (Graph B2.4).

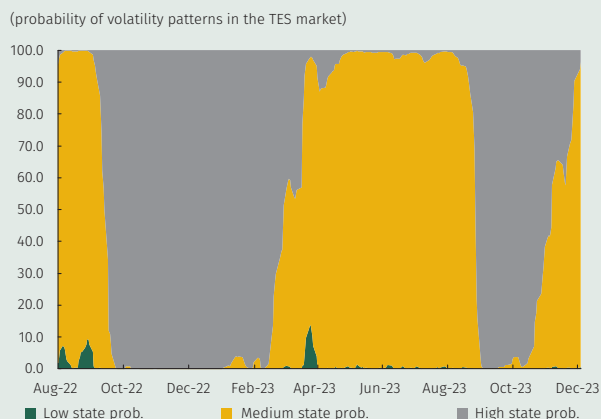
Graph B2.4  
Net Purchase-Sale Balances (purchases-sales) Forwards, and Peso-Dollar Swaps



Note: total foreigners includes net balances of foreigners with FEMI and foreigners with FPC and total FPC includes net balances of FPC with FEMI and FPC with foreigners. Source: Banco de la República. Information updated as of 29 December 2023.

- 4 Derivative contracts in the peso-dollar market are mainly forwards and swaps.
- 5 The average daily amounts traded in the peso-dollar forward market have risen 168% over the last ten years and gone from USD 1,370 million in 2013 to USD 3,672 million in 2023.
- 6 This was lowered USD 220 million against FEMIs and USD 2,016 million against foreigners.

Graph B2.5  
Probability of Volatility States in the TES Market



Source: Banco de la República.

**In addition to the flows of its participants, the volatility of TES rates is a key element in the analysis of this market since it is related to lower liquidity<sup>7</sup> that can lead to higher transaction costs and may discourage agents from trading in the market.** Using methodological approaches, volatility can be characterized as low, medium and high.<sup>8</sup> Thus, it is clear that the TES market would have been more likely to be in a state of medium or high volatility during most of 2023 (Graph B2.5).

**Considering the above, the flows from the different agents may have an impact on the volatility of the TES market.** Thus, Botero and Orozco (2023) find that pension and severance fund purchases appear to be associated with decreases in the volatility of TES yields. Furthermore, the results obtained by these authors indicate that foreign investors' sales are likely to be associated with increases in market volatility when the market is in a state of high volatility.

**In this context, pension and severance funds are considered to have served as stabilizers in the public debt spot market during 2023.** This is due to the fact that they absorbed the magnitude of foreign sales and because of the evidence that suggests that they had an impact on lower volatility in that market.

## Reference

Botero, Oscar y Camilo Orozco. 2023. "Análisis de los flujos de inversionistas extranjeros en la volatilidad del mercado de contado de TES", *Reporte de Mercados Financieros* (technical report), third quarter, Banco de la República..

7 The lower liquidity in the TES market can be measured through higher transaction costs.

8 The methodology used is a Markov chain that makes it possible to identify the moments in time when the volatility of the TES market rates is within certain values. These ranges, called states, correspond to low, medium, and high volatility scenarios. This methodology has the advantage of modeling the TES rates and at the same time identifying whether or not the volatility is within any of the above-mentioned states.