

# Box 1: A Measurement of the Level of Negative Foreign Exchange Mismatches of Real Sector Companies in Colombia in 2022

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## 1. Introduction

During 2022, Colombian companies that resorted to international financing sources faced interest rate increases and a sharp depreciation of the peso against the dollar (21%).<sup>1</sup> This may have important implications for the balance sheets of real sector companies with a negative exchange rate mismatch<sup>2</sup> since this raises the foreign vulnerability of the economy through its effects on investment, growth, liquidity, and solvency.<sup>3</sup>

In order to typify this phenomenon and have a general overview of the private and public real sector companies that show it, this box describes the recent results<sup>4</sup> of this phenomenon. The second stage of this exercise quantified the impact that the negative exchange rate mismatch could have on companies' balance sheets and on the risk they could transmit to the financial sector. For this stage, it is necessary to have the information from the 2022 financial statements. However, at the time this box was prepared that information was not available. That is why an update of the exercise will be presented in the next *Financial Stability Report*.

This box consists of three parts: the first is this introduction; the second describes the results with the analysis divided between private sector companies (section 2.1) and public sector companies (section 2.2), and the third corresponds to the conclusion. The main results of this overview show a growth in the negative exchange rate mismatch for real private sector companies driven mainly by higher long-term debt and it's mostly held by companies operating in the transportation, warehousing, and communications; manufacturing; commerce, and services sectors. With respect to public sector firms, there was a reduction in their negative mismatch in 2022 with respect to 2021 which was due, in particular, to the establishment of financial investments abroad by these companies in the hydrocarbon sector.

## 2. Results of negative exchange rate mismatches

### 2.1. Real private sector companies in Colombia.

The results of private companies in the real Colombian sector with negative mismatches are described below. This analysis does not include companies in the financial sector, neither depository (banks) nor non-depository (other financial companies). It also excludes some

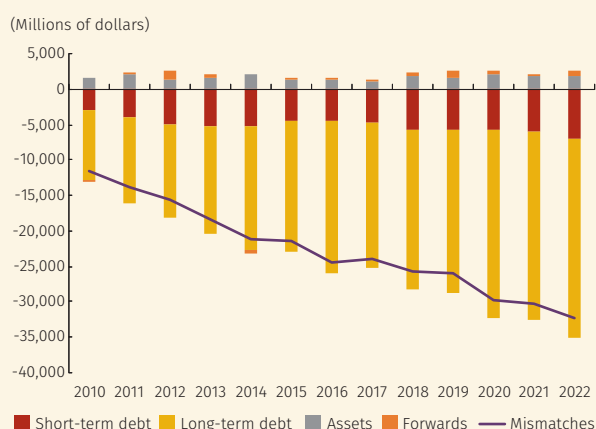
1 Market exchange rate (MER) at the end of 2022 versus the one at the end of 2021.

2 A company has a negative exchange mismatch when their liabilities in foreign currency are greater than their assets in foreign currency.

3 Box 1 of the Financial Stability Report for the first half of 2021 (Carmona, Osorio, and Niño, 2022) provides a brief overview of the literature on the subject.

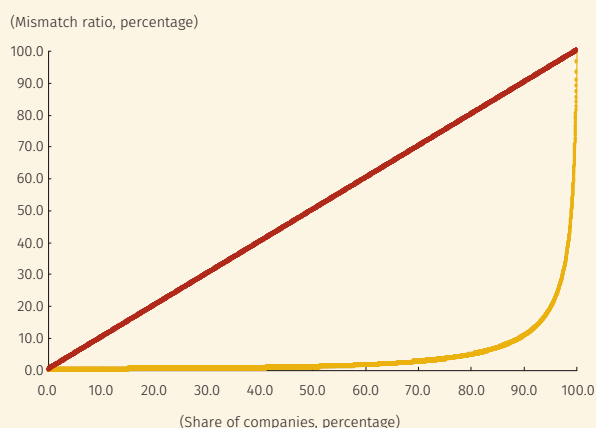
4 Box 1 of the Financial Stability Report for the first half of 2021 (Carmona, Osorio, and Niño, 2022) details the sources of information and the calculation methodology.

**Graph B1.1**  
Recent Developments and General Overview of Negative Exchange Rate Mismatches



Source: Banco de la República, DANE, DIAN, MHCP; calculations by Banco de la República.

**Graph B1.2**  
Real Private Sector Companies Negative Exchange Rate Mismatch Lorenz Curve



Source: Banco de la República, DANE, DIAN, MHCP; calculations by Banco de la República.

companies that have financial leasing liabilities because they are secured by a real asset (capital asset) of the same value. The inclusion of the latter could bias the analysis of the effects of the exchange rate risk.

In the last twelve years, the negative currency exchange mismatch measured in dollars has shown a rising trend (a greater negative mismatch). This value is expressed in nominal terms and without scaling to some measurement of company size. This growing negative mismatch is mainly the result of the growth in economic activity, which means that companies require more working capital and have greater financing needs to make productive investments. Given the above together with the greater ability of Colombian companies to get access to international financial markets, the foreign currency debt they have incurred has been rising but their foreign currency assets have not been increasing to the same extent in the same currency.<sup>5</sup>

In 2022, 8,491 Colombian companies were estimated to have had USD 32,436 billion (b) in negative foreign exchange mismatches. This figure rose USD 2,037 b with respect to 2021 when 8,243 companies accumulated a negative mismatch of USD 30,399 b (Graph B1.1). Around 90% of the value of the negative mismatch is accounted for by 10% of the companies (Graph B1.2), which suggests a high degree of concentration in recent years.

Based on the components, this annual upswing in the negative mismatch is mainly the result of the increase in long-term debt (USD 1,369 b) and the short-term debt (USD 1,013 b) that was partially offset by the rise in foreign currency financial assets<sup>6</sup> (USD 184 m) and the higher net forward position<sup>7</sup> (USD 162 m) (Graph B1.1).

The foreign currency debt that is part of the negative mismatch these companies have can be classified into three groups based on the type of lender. Fifty-seven percent of this debt corresponds to what has been contracted between companies with a direct investment link.<sup>8</sup> In terms of risk, this debt implies a lower level of vulnerability since there is greater flexibility in the financial conditions. Secondly, there is the debt with foreign financial institutions (non-resident banks) that totals 37%. Last of all, 6.0% of this balance has Colombian banks as counterparties.

When the negative mismatch is distributed by economic sector, transportation, warehousing, and communications with 22.6% of the total are in first place. This sector includes port and airport operating companies as well as mobile telecommunications companies. The second largest sector is commerce, hotels and restaurants with 14.1%. In this sector, the main companies are large supermarkets and marketers of imported products. The manufacturing industry sector is in third place with 14.0%, and here the producers of supplies for the construction industry and food and beverages are the most noteworthy. With 13.6% of the total, the services sector, where the main compa-

5 Foreign currency assets do not necessarily grow at the same rate as foreign currency debt to the extent that such flows are destined to the local economy for investment, working capital, or other uses.

6 Loan assets, bonds, and deposits.

7 Purchase minus sale.

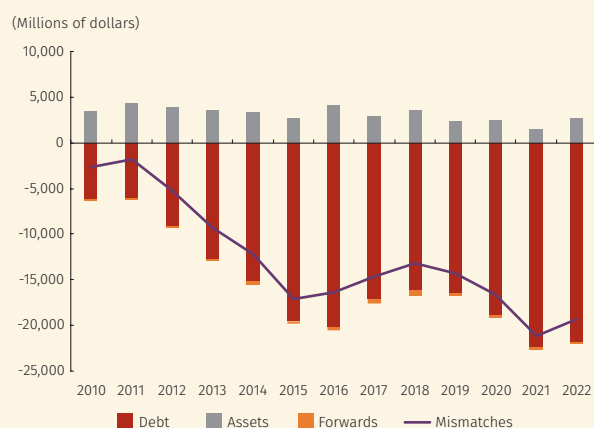
8 The lender is the parent company or subsidiary of the debtor company.

**Table B1.1**  
Negative Exchange Rate Mismatch  
by Economic Sector

Economic Sector	Negative mismatch (millions of dollars)	Negative mismatch share (percentage)	Percentage of companies with FDI (percentage)
Transportation, Warehousing, and Communications	7,333	22.6	3.9
Commerce, hotels, and restaurants	4,571	14.1	3.6
Manufacturing Industry	4,555	14.0	7.9
Community, social and personal services	4,417	13.6	1.2
Remaining sectors	11,560	35.6	8.4

Source: Banco de la República, DANE, DIAN, MHCP; calculations by Banco de la República.

**Graph B1.3**  
Negative Mismatch for Public Sector Companies



Source: Banco de la República, DANE, DIAN, MHCP; calculations by Banco de la República.

panies are engaged in business services, is in fourth place. Companies operating in the listed sectors accounted for 64% the total value of the negative exchange rate mismatch in 2022 (Table B1.1).

Companies in the transportation, warehousing, and communications sector have very little export and import activity since this is a mostly non-tradable activity, and this makes the risk associated with their mismatch level higher since they do not have possible natural hedges. In spite of the above, these companies have a high degree of power and a high market share in their respective markets. This allows them to pass the higher costs associated with a depreciation of the peso on to their consumers. Furthermore, due to their link to international trade, transportation companies have a high percentage of their revenue denominated in dollars. This counteracts the effect of an exchange rate depreciation. As for the remainder, companies in the other sectors have a high participation in export and import markets (manufacturing industry and commerce).

## 2.2. Public sector Colombian companies

The negative mismatch of public sector companies, which total sixteen corporations, amounted to USD 19,343 billion in 2022, 96% of which is concentrated in three conglomerates that belong to the mining-energy and electricity, gas, and water supply sectors. The companies that account for the mismatch are actively involved in the export of goods, and therefore have natural hedges. In general, these companies have significant direct investments abroad, particularly in Central and South America, and have a high market share in their respective markets. This allows them to pass the higher costs associated with a depreciation of the peso on to their customers.

With respect to 2021, the reduction in the mismatch was 8.3% (USD 1,760 b) and was mainly due to foreign financial investments made by these companies in the hydrocarbon sector.

Regarding the description of foreign currency debt, the maturity for which it is mainly contracted is greater than one year (99%). Of these instruments, 61% correspond to bonds issued in international markets, 32% to foreign commercial banks, and the remaining 7.0% correspond to obligations with bilateral and multilateral banks. In terms of foreign exchange earnings, net exports of public sector companies account for about half of the amount of their negative foreign exchange mismatch.

## 3. Conclusion

The main results of this overview show a growth in the negative exchange rate mismatch of real private sector companies that is driven mainly by higher long-term debt and mostly held by companies operating in the transportation, warehousing, and communications; manufacturing; commerce; and services sectors. Regarding public sector companies, there was a reduction in their negative mismatch in 2022 with respect to 2021 that was primarily due to these companies setting up financial investments abroad in the hydrocarbon sector.

In order to analyze the economic implications of the nominal increase in the negative mismatch in depth, it is necessary to calculate indicators that show these levels relative to the size of

the companies and their foreign trade imbalances relative to their income also. This is the objective of the second stage of this exercise which will be published in a box in the *Financial Stability Report* for the second half of 2023.

### References

Carmona-Duarte, A.; Martínez-Osorio, A.; Niño-Cuervo, J. (2022). "Box 1: Negative exchange rate mismatch of the real sector in Colombia in 2021," first half-year Financial Stability Report.