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Identifying Determinants of FX Stability in Mozambique

Samuel Mann and Alexis Meyer-Cirkel

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Identifying Determinants of FX Stability in Mozambique

Prepared by Samuel Mann and Alexis Meyer-Cirkel

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ABSTRACT: In early 2021, as monetary policy tightening reversed a multi-year trend of metical depreciation, the exchange rate vis-à-vis the US dollar de facto stabilized. This report discusses elements of the market structure and other drivers of metical stability since mid-2021. The particularities of Mozambique, a small open economy with an export sector that has a strong foreign currency cost structure, provide important insights into that discussion, as does the structure and development of the foreign exchange (FX) market.

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Author's E-Mail Address:	SMann2@imf.org, AMeyerCirkel@imf.org

WORKING PAPERS

Identifying Determinants of FX Stability in Mozambique

Prepared by Samuel Mann and Alexis Meyer-Cirkel[1]

[1] The authors would like to thank Edson Manguinhane, Santos Bila, and Elena Esbaile for excellent research assistance.

Contents

Glossary

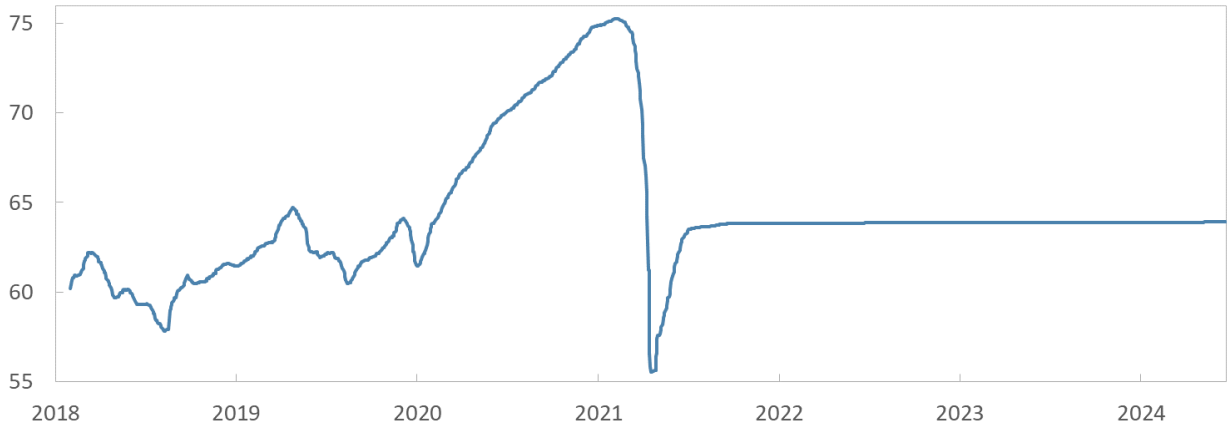
AREAER	Annual Report on Exchange Arrangements and Exchange Restrictions
BM	Bank of Mozambique
EDM	Electricidade de Moçambique
FDI	Foreign Direct Investment
FX	Foreign Exchange
FXI	Foreign Exchange Intervention
HCB	Hidroeléctrica de Cahora Bassa
IMF	International Monetary Fund
LNG	Liquefied Natural Gas
MZN	Mozambique metical
NEER	Nominal Effective Exchange Rate
REER	Real Effective Exchange Rate
USD	United States dollar

Identifying Determinants of FX Stability in Mozambique

INTRODUCTION

Since mid-2021, the Mozambican metical has remained stable against the US dollar, even though the exchange rate is de jure floating (Figure 1). Volatility has been absent despite extensive swings in economic conditions, including climate shocks, an insurgency and internal displacement, changing extractive sector dynamics, and substantive changes in monetary and macroprudential policy, indicating that macroeconomic fundamentals cannot explain the metical's recent stability. To understand why the exchange rate has become de facto stabilized, this report examines the history of Mozambican exchange rate regimes, market structure and regulation, the role of market participants, policy measures, and other relevant factors.

Figure 1: Daily USD/MZN Reference Exchange Rate (2018 – 2024)



Source: Haver Analytics

While the identified drivers of FX stability seemingly cannot explain the stabilized exchange rate individually, they collectively establish the current equilibrium.[1] A preference by importers and exporters for a stable exchange rate, coupled with the central bank's attention to and understanding of the strong exchange rate pass-through of imported inflation, seems to have supported the current degree of metical stability. Moreover, various frictions, such as very shallow markets, highly concentrated FX supply, an unusual mechanism for determining the daily reference rate and supervision might all explain the absence of day-to-day volatility.

Going forward, various market improvements, as well as export diversification could lead to a more natural floating exchange rate. A proposed new methodology for calculating the reference rate will likely translate existing transaction rate volatility to reference rate volatility. A deeper market for hedging instruments might allow exporters and importers to reduce exchange rate risks even in the absence of a fixed exchange

[1] Leaning on terminology from game theory, we here use the term "equilibrium" to describe a situation in which no agent has an incentive to change their behavior, rather than to refer to a market-determined equilibrium exchange rate level.

rate. Over the medium and long term, export diversification can potentially reduce concentration in FX supply, thereby paving the way for a floating exchange rate with reduced risk of disorderly market conditions.

The analysis in this report is not an attempt at estimating an exchange rate valuation, and the report does not focus on drivers of FX valuation and fundamentals. Instead, the report takes a backward-looking approach to understand why the exchange rate has been de facto stabilized since mid-2021 by shedding light on elements such as market structure and the perspectives of market participants. The External Sector Assessment in the 2024 Staff Report discusses exchange rate fundamentals and valuation.[2]

BACKGROUND AND MARKET DYNAMICS

Since its independence, Mozambique has had seven different de facto exchange rate regimes. A fixed exchange rate was adopted from independence in 1975 to 1986. Following the rapid devaluation in 1987–88, the exchange rate followed a crawling peg. In 1994, the government liberalized the foreign exchange market, unified the exchange rates, and adopted a floating-rate regime. From 1999 to 2002 the de facto exchange rate was classified as free floating. Between 2003 and 2007, the exchange rate followed a managed float under which the Bank of Mozambique (BM) set the daily official rate and intervened when the weighted average selling rate of commercial banks and exchange bureaus deviated significantly from the daily rate announced during the preceding days. During the floating regime from 2008 to 2019, the BM announced commercial banks' average buying and selling rates in the interbank market. In early 2020, the exchange rate depreciated within a 2 percent band against the dollar leading to reclassification to a crawl-like arrangement. Since mid-2021, the metical has effectively stabilized against the US dollar. While the start of the stabilized arrangement coincided with a tightening cycle, the exchange rate has remained stabilized even as the BM embarked on an easing cycle in January 2024.

Table 1: Mozambique's De Facto Exchange Rate Regimes, (1975–2023)

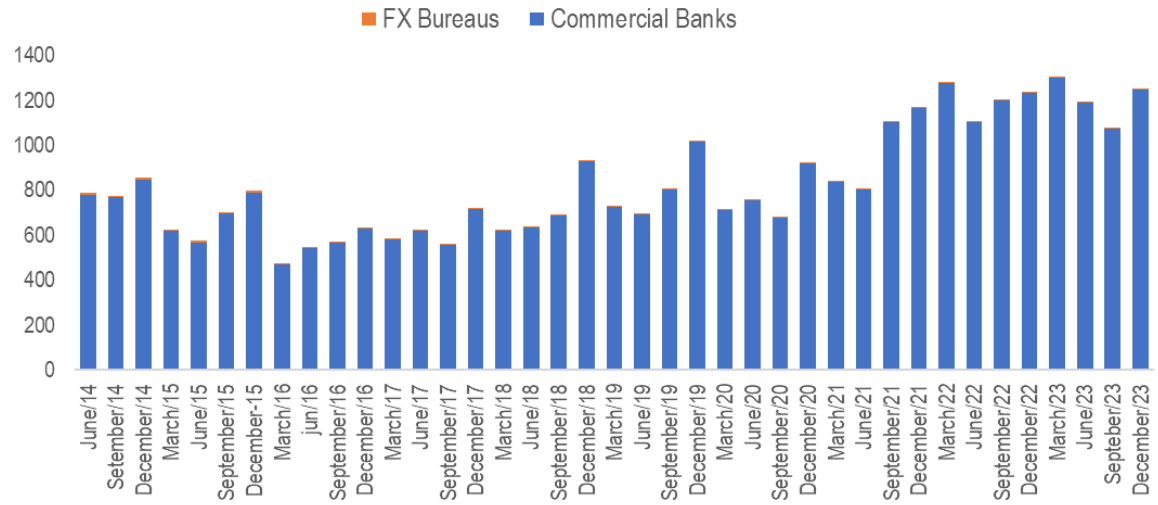
Regime	Period	De Facto Exchange Rate Regime
I	1975–1986	Fixed
II	1987–1988	Market-determined
III	1989–1992	Crawling peg
IV	1993–1998	Floating
V	1999–2002	Independently floating
VI	2003–2007	Managed floating with no predetermined path for the exchange rate
VII	2008–2019	Floating
VIII	2020–2021	Crawl-like arrangement
IX	2021–2023	Stabilized arrangement

Source: IMF Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER)

[2] The External Sector Assessment can be found in Annex II of the 2024 Staff Report: https://www.imf.org/en/Publications/CR/Issues/2024/07/12/Republic-of-Mozambique-2024-Article-IV-Consultation-Fourth-Review-Under-the-Three-Year-551839

The FX Market is dominated by commercial banks, with a market share of over 99 percent (Figure 2). Nonetheless, Foreign Exchange Bureaus have been playing a role in exchanging foreign currency at freely negotiated rates, mainly for travel-related purposes. About 15 banks and 4 foreign exchange bureaus are authorized by the BM to buy and sell foreign exchange. FX supply primarily originates in the extractive sector, with changes in coal prices significantly affecting available FX volumes. Furthermore, energy sector exports contribute to a steady inflow of foreign currency (see also Figure 5 for main export products). Trading on the interbank market is minimal. While some banks make temporary intraday price adjustments, these are not reflected the final closing levels or reference rate, which remain stable as banks are uncertain about their freedom to move the closing level.

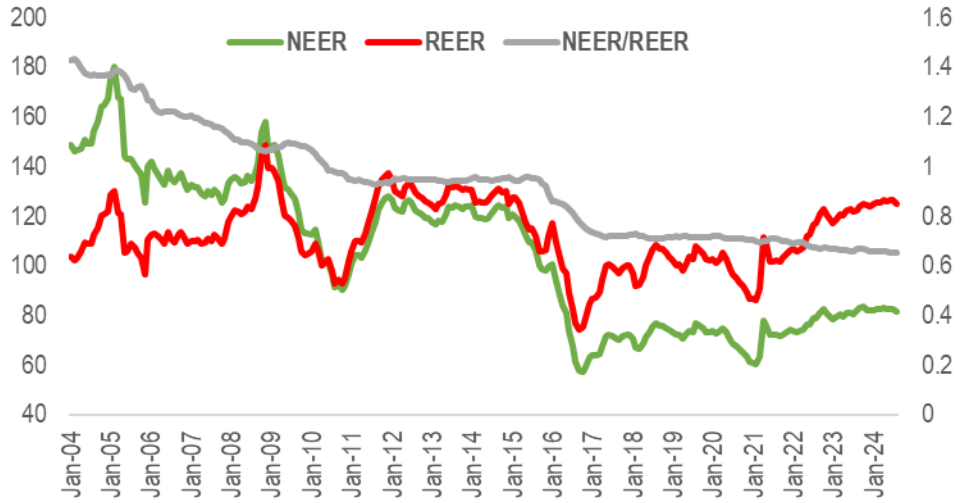
Figure 2: Foreign Exchange Market Transaction Volume



Source: Bank of Mozambique

Over the past two decades, the metical's Real Effective Exchange (REER) rate has remained relatively stable around its historical average, while the Nominal Effective Exchange Rate (NEER) depreciated significantly. Major episodes of depreciation took place in 2009–10 following the Global Financial Crisis and following the 2016 "hidden debt" scandal (Figure 3). In between these episodes, both the NEER and REER were relatively stable. Overall, the REER has repeatedly reverted towards its long-run average over the past 20 years, while the NEER experienced an overall depreciation over the same horizon.

Figure 3: Mozambique Nominal and Real Effective Exchange Rates

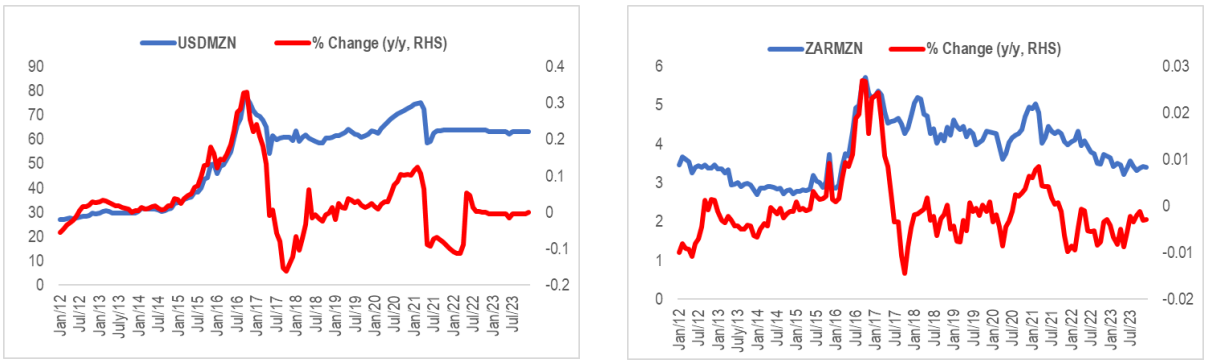


Source: Bank of Mozambique and IMF Staff Calculation

A de facto stabilized arrangement with the US dollar was established in mid-2021. Following a period of steady depreciation between September 2019 and February 2021, unexpected monetary policy tightening in February 2021 triggered a strong appreciation. The bilateral exchange rate against the US dollar appreciated by 26 percent, followed by a depreciation of 15 percent. The exchange rate stabilized in the aftermath of BM sanctioning one of the domestic banks and issuing a two-year suspension from exchange rate-related activities for fraudulent behavior. This regulatory action is often reported by the financial sector as a major driver of stabilizing the exchange rate against the US dollar. While analysts have since raised questions on what the currency valuation level should be based on fundamentals, and whether the current exchange rate is misaligned, none of the market participants voiced strong opinions[3] in favor of a devaluation. Against this backdrop, this note explores two questions: What economic fundamentals drive exchange rate trends in Mozambique? Can the structure of the FX market account for the widely accepted stability of the metical?

[3] The views of key market participants summarized here, including those of main exporters and the banking sector, have been collected in the context of the 2024 Article IV discussions.

Figure 4: Metical Exchange Rate against USD and ZAR



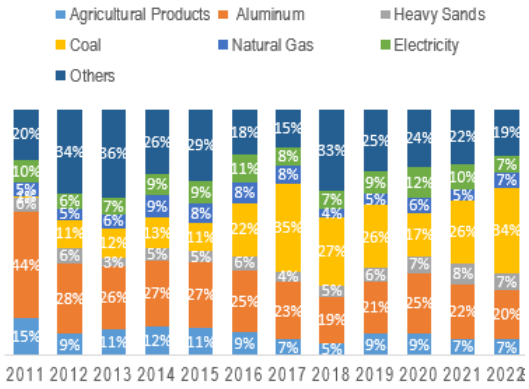
Source: Bank of Mozambique and IMF Staff Calculation

TRADE AND MARKET FLOWS

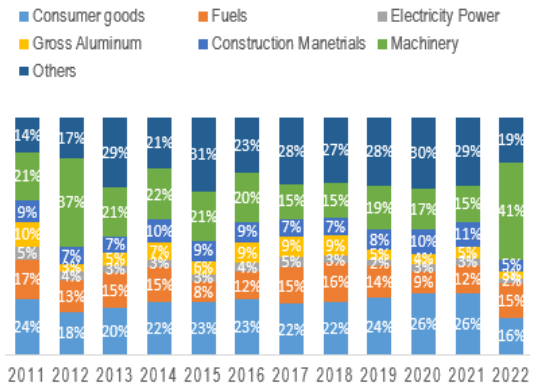
Mozambique's main export and import products fall into three groups: Megaprojects (mostly extractive industries), other industrial products, cash crops and food products. The main exports include aluminum, minerals, and agricultural cash crops, while the main imports include fuel, industrial and manufactured products, particularly vehicles, machinery and construction materials, and basic foodstuffs.

Figure 5: Export and Import Structure

Exports



Imports



Source: Bank of Mozambique and IMF Staff elaboration

Mozambique's export basket is narrow, reflecting limited economic diversification. Exports are dominated by large megaprojects, including coal, aluminum, gas, heavy sands, and electricity, contributing jointly to approximately 75 percent of overall exports in September 2023 (Figure 5). The main export destinations are India (19 percent), China (15 percent), and South Africa (12 percent). As will be elaborated in more detail below, major exporters have limited sensitivity to exchange rate fluctuations because a significant portion of payments and receipts are denominated in foreign currency, often in offshore accounts, and the share of local input in production is limited.

Mozambique's main imports are consumer goods (25 percent), machinery (17 percent), and fuel (14 percent). Over a quarter of imports come from South Africa, followed by South Korea (16 percent) and China (14 percent). Machinery imports are mainly related to megaprojects, which are mostly financed by foreign direct investment and, therefore, generate limited additional demand for foreign currency. Payment for consumer goods is largely transacted through the traditional, i.e. commercial bank, FX market, which is possibly the main source of demand for foreign exchange. Between 2009 and March 2023, FX demand to cover the bill for fuel imports was partly supplied by the BM at the reference market rate, a policy that intended to minimize the uncertainty of the FX supply for an essential commodity. This policy was phased out in 2023, with provisions ending in June 2023.

Mozambique's current account deficit has been widening as imports significantly exceeded exports, driven mainly by imports of capital goods for megaprojects and consumer goods (Table 2). The large current account and trade balance deficits have been mostly financed by FDI inflows for megaprojects. Even after excluding megaprojects, the current account and trade balance deficits remain high and are a main source of structural FX demand. The non-megaproject current account deficit has also been mostly financed by FDI.

Table 2: Mozambique's External Financial Transactions (Million USD)

	2017	2018	2019	2020	2021	2022
Current Account	**(2,413)**	**(4,436)**	**(2,934)**	**(3,869)**	**(3,601)**	**(6,295)**
Excl. Megaprojects	(3,515)	(3,760)	(3,581)	(4,034)	(4,679)	(5,350)
Megaprojects	1,102	(676)	647	165	1,078	(946)
Trade Balance	**(2,671)**	**(4,831)**	**(3,914)**	**(4,291)**	**(3,987)**	**(6,503)**
Excl. Megaprojects	(3,764)	(4,383)	(4,577)	(4,390)	(5,864)	(5,942)
Megaprojects	1,093	(448)	663	99	1,876	(561)
Financial Account	**2,211**	**4,615**	**2,842**	**3,762**	**3,538**	**6,234**
Foreign Direct Investment	2,293	1,903	3,410	3,035	5,102	1,975

Source: Bank of Mozambique and IMF Staff elaboration

PROFILE OF MARKET PARTICIPANTS

i. Importers

The relatively low complexity of the domestic economy, its import dependency, and the resulting inelasticity of demand all increase sensitivity to FX volatility. Mozambique is a net importer, with extensive dependence on imported fuel, manufactured products, foodstuffs and other agricultural goods, constituting the majority of overall imports. Furthermore, import demand tends to be very inelastic due to the small and undiversified nature of the economy. Importers in Mozambique can be summarized into three main groups:

- **Fuel Companies**: Fuel companies are among the major importers in Mozambique, making up approximately 14 percent of imports as of September 2023. Fuel is mostly sold locally in the domestic currency. This suggests that exchange rate fluctuations have a significant impact on fuel distributors.

An exchange rate depreciation increases the overall import bill, which, due to the administered nature of fuel prices is typically passed through to the final customer only in part and with a lag.

- **Megaprojects**: In the current investment and setup phase, megaprojects are major importers in Mozambique, making up approximately 17 percent of overall imports as of September 2023. The contribution of liquefied natural gas (LNG) projects to overall imports will likely increase further from 2024 as Total's Mozambique LNG project is expected to resume activity. Most of the expenses related to these projects are in Capex and debt service, which are both in foreign currency. Due to their export orientation and access to accounts in foreign currency, these megaprojects are broadly insulated from exchange rate fluctuations. While the electricity company Electricidade de Moçambique (EDM) and the aluminum company Mozal are also major importers, these companies are net exporters and, as such, are further described in the following section.
- **Small importers**: Micro and small importers, importing mainly consumption goods, represented approximately 25 percent of overall imports in 2023. Most transactions of small importers are cross-border trades amounting to an estimated average of USD 3,075 million per year. The South African rand dominates these cross-border transactions, suggesting that micro and small importers are sensitive to ZAR/MZN exchange rate fluctuations.

ii. Exporters

The largest exporters in the country have a natural preference for FX stability, due to low domestic input content and export-oriented production, often priced in US dollars. With production costs hinging on imported inputs, any depreciation of the exchange rate impacts the production costs almost proportionally, eliminating any potential gains in competitiveness. Increased predictability from low FX volatility further increases a preference for stable exchange rates. The following points describe the major exporters' operations, including the potential implications of exchange rate fluctuations:

- **Vulcan Minerals**: Vulcan, the operator of the Moatize coal mine, was Mozambique's largest company in 2021 and the largest exporter in 2022, with exports reaching approximately USD 2.2 billion. Vulcan coal production is fully export-oriented and, like other megaprojects in Mozambique, most of its cost structure is tied to foreign currency and payments are made through offshore accounts, with only a small share of onshore domestic payments in metical. Coal mining is a capital-intensive production process[4], with an estimated average labor cost share below 20 percent of total costs in Mozambique, based on data for South Africa. Given these characteristics, a depreciation of the metical exchange rate would be expected to have a limited impact on the enterprise's profitability. In addition, anecdotal evidence suggests that any exchange rate depreciation has a detrimental impact on labor productivity because a weaker domestic currency directly increases the cost of living for employees. Thus, further increasing the firm's preference for exchange rate stability may avoid a higher incidence of absenteeism and collective action.
- **Hidroeléctrica de Cahora Bassa (HCB)**: About 73 percent of electricity production is exported mainly to South Africa (ESKOM) and billed in South African rands in the context of long-term contracts[5]. Most of HCB's operational costs are in meticais, with the exception of some maintenance services that are paid in dollars. This cost structure suggests that HCB is comparatively more exposed to metical-rand

[4] Ozdemir, Burak and Mustafa Kumral (2019). A system-wide approach to minimize the operational cost of bench production in open-cast mining operations. International Journal of Coal Science & Technology, 6: 84-94.

[5] https://www.hcb.co.mz/wp-content/uploads/2024/05/Relatorio-e-Contas-2023-PT.pdf

exchange rate movements, the recent appreciation of metical against the rand likely having had a negative impact on HCB.

- **Electricidade de Moçambique (EDM)**: About 20 percent of the electricity handled by EDM is exported to neighboring countries[6]. A considerable proportion operational costs are related to the acquisition of electricity and electrical material—mainly from Eskom, HCB and IPP's—with prices referenced in rand and the US dollar. Furthermore, EDM has also partly resorted to fixing some wages and pensions to US dollars to protect staff against depreciation[7]. This suggests that a depreciation of the metical against the rand and US dollar has a negative impact on EDM's results.
- **MOZAL, SA (MOZAL)**: Roughly 90 percent of MOZAL's aluminum production is exported, with the remaining 10 percent sold to the local company Midal Cables, with contracts in US dollars. In the cost structure, about 53 percent is made up of raw materials (alumina, coke, pitch), which are imported and denominated in dollars. The next largest input item is electricity, causing over 21 percent of the cost, with prices set in rand. Labor costs only make up about three percent of the cost breakdown[8].
- **SASOL**: Sasol Mozambique's sales are mostly denominated in US dollars. The gas produced by Sasol is almost wholly exported under long-term contracts to the Sasol mother company and to international customers[9]. Most of Sasol's operating costs are in rand and US dollars, while funding is sourced from its shareholders in rand or dollars, as required. Therefore, fluctuations of the rand-dollar exchange rate would have a greater impact on Sasol's turnover and earnings than the metical exchange rate against either the rand or the dollar.

Domestic banks report that both exporters and importers are satisfied with the current equilibrium of a stable exchange. Clients cite the benefits from reduced uncertainty, coupled with the small sensitivity of profits to the exchange rate. Overall, key stakeholders express a preference for stability, which does not necessarily imply a preference for an exchange rate that does not move.

iii. Banking sector

FX balance sheet mismatches, while limited, make the banking sector liable to losses from exchange rate volatility. The banking sector plays an outsized role in the FX market as a facilitator of transactions with the private sector and the government, and by holding domestic assets and mobilizing funding in foreign currency. These transactions often expose the Mozambican banking sector to exchange rate fluctuations. At the end of 2022, approximately 20 percent of banks' assets were in foreign currency while approximately 22 percent of liabilities were in foreign currency. Approximately 16 percent of banks' credit and 25 percent of banks' deposits were in foreign currency. The foreign liabilities over assets ratio stood at 98 percent in December 2022 (Figure 6), suggesting that the banking sector's balance sheet is partly protected against FX movements. However, the duration of liabilities is typically smaller than that of assets, as approximately 87 percent of foreign liabilities are demand deposits. This suggests that an exchange rate depreciation creates vulnerabilities for the banking sector.

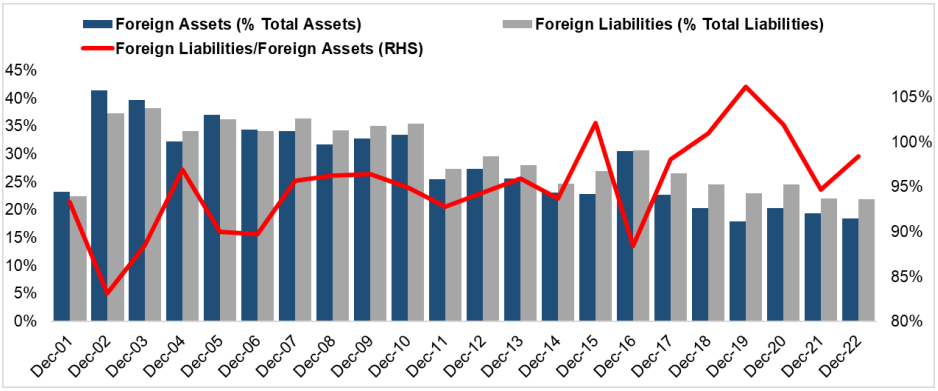
[6] EDM 2023 Annual Report: https://www.edm.flexibihost.com/en/document/reports/relat%C3%B3rio-e-contas-2023-completo

[7] https://clubofmozambique.com/news/mozambique-edm-sets-exchange-rate-for-workers-remuneration-at-75-meticais-per-us-dollar-o-pais-191714/

[8] See details: 2022-full-year-financial-results-presentation.pdf (south32.net)

[9] https://www.sasol.com/mozambique

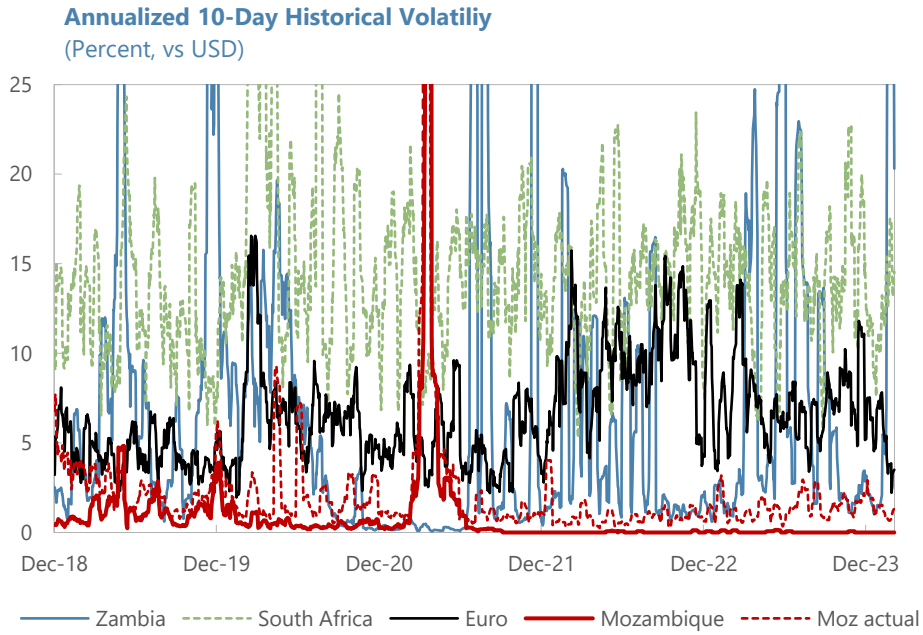
Figure 6: Banking sector asset and liability structure



Source: Bank of Mozambique and IMF Staff Calculation

FX MARKET LEGAL AND OPERATIONAL FRAMEWORK AND DYNAMICS

Figure 7: FX Volatility for MOZ and Comparators



Note: “Mozambique” refers to the USD/MZN reference rate. “Moz actual” refers to actual USD/MZN transaction rates.
Source: Haver Analytics and IMF Staff Calculation

Before mid-2021, volatility in the USD/MZN exchange rate was consistently positive, though already at a lower level than comparators (Figure 7). As is standard practice in a more developed FX market, net exporters supplying foreign exchange to the market were accustomed to transacting with their bank of choice. Since the number of significant FX providers in Mozambique is relatively small, the market structure could be

described as one of oligopolistic competition, which may have heightened competition among banks for foreign currency and contributed to depreciation pressures on the exchange rate, as exporters would “auction off” export proceeds in search of the most favorable exchange rate. While a company’s treasury department prefers a weaker exchange rate when bringing in foreign currency, major exporters have reported that any depreciation typically directly affects the cost of living of employees, thereby bringing with it the need for upward wage adjustments, eroding any gains from increased export earnings. Hence, over a longer horizon, many exporters report a preference for currency stability over short-term gains from favorable spot market transactions.

At the same time, the concentration of market power among only a handful of exporters and banks increases the scope for, and impact of, abuse of insider information, such as the timing of the FX supply from export proceeds. In part to address the potential abuse of insider information, the BM has designed regulations to limit exporters from “shopping around” to find the most favorable exchange rate, as described below. The BM acted to reduce FX volatility and disorderly market conditions resulting from shallow markets. To curb volatility and avoid excessive exchange rate movement, the Bank of Mozambique has been managing the FX market and the exchange rate through a combination of market intervention, supervision, and adjustments to regulation. Specifically, the BM took the following actions:

- In June 2021, the Bank of Mozambique suspended Standard Bank from foreign exchange market operations and barred the Chief Executive and other senior officers from exercising executive functions in the financial industry for six years due to alleged fraudulent manipulation of the exchange rate, creation of an illegal payment system outside the country and irregular derivatives transactions. As the largest player in the FX market, accounting for almost half of FX turnover at the time of suspension, Standard Bank was a key market maker and provider of liquidity. Following the suspension of Standard Bank, the Bank of Mozambique also conducted onsite inspections at other large banks. Such a level of supervision is likely to have significantly impacted market dynamics and market participants' willingness to deviate from the prevailing reference rate.

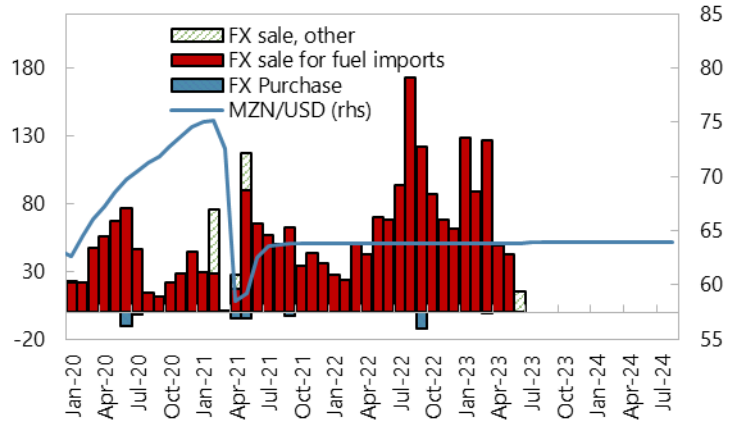
- The FX law establishes the rules and procedures to be followed when performing acts, negotiations, transactions, and operations in the FX market to promote stability, transparency, and integrity. The FX law and related regulations require all exporters to convert export receipts with the bank that provided the Letter of Credit and at the bank’s bid rate prevailing at the moment when export revenues are credited. With this measure, the central bank intended to limit exporters from “auctioning” their export revenues, thus ensuring predictability from the beginning of the import/export process until its completion.

The new foreign exchange intervention (FXI) framework foresees interventions under specific conditions. Official FX market interventions have two main objectives, as set out in the BM’s FXI policy and regulation:

- Address “disorderly” conditions in the market resulting from notable imbalances between the demand and supply of currencies in the market, which significantly impact the volatility of the exchange rate; and

- Accumulate and maintain an adequate stock of international reserves to ensure compliance with the country's commitments to the outside world and preserve market confidence in the national currency.

Figure 8: Bank of Mozambique Interventions on the FX Market (in USD million)



Source: Bank of Mozambique and IMF Staff Calculations

The current methodology for calculating the reference rate hides existing volatility in transactions, resulting in an artificially stable reference rate. The reference rate is calculated as an average of quotes submitted by banks on a centralized platform three times a day. Importantly, actual transactions do not form a part of the calculation of the reference rate. Statistically, the variation in the rates at which banks transact foreign exchange among each other and with clients is very small at an annualized weekly volatility of less than 1.5 percent. As such, this measure of the exchange rate is also classified as a “stabilized arrangement” under the IMF’s AREAER methodology. That said, the reference rate is currently isolated from even this limited volatility, further ingraining the stability of the reference rate. Under the current equilibrium, banks submit the previous reference rate as their quote on the centralized platform resulting in the updated reference rate being equal to the previous one. While other aspects mentioned in this report may contribute more significantly to the overall level of the exchange rate, this feature of the FX market is likely the crucial element in eliminating all volatility at the current level. A revision to the methodology for calculating the reference rate to include actual transactions is planned for the end of 2024.

POLICYMAKER PREFERENCE

Historically, the Bank of Mozambique has shown itself to be among the most hawkish central banks in the region. In 2021, the BM started proactively hiking interest rates well before most other central banks—both in the region and globally—and ahead of inflation accelerating substantially. After inflation moderated from its highs in 2022, the BM kept its policy stance very tight, with ex post real policy rates above 10 percent for an extended period of time—among the highest in the world.

The central bank's hawkish stance is closely connected to the exchange rate. First and foremost, as stated in several press releases, the BM is aware of the potential impact of a depreciation of the exchange rate on inflation via higher import prices. Aisen, Manguinhane and Simione (2021) estimate that the exchange rate pass-through in Mozambique is sizable and fast, with 50 percent of exchange rate variation passing through to prices in less than six months. Therefore, it is likely that the BM keeps its policy rates at a high level not only due to the direct impact on inflation but also to support the exchange rate and thereby minimize imported inflation.

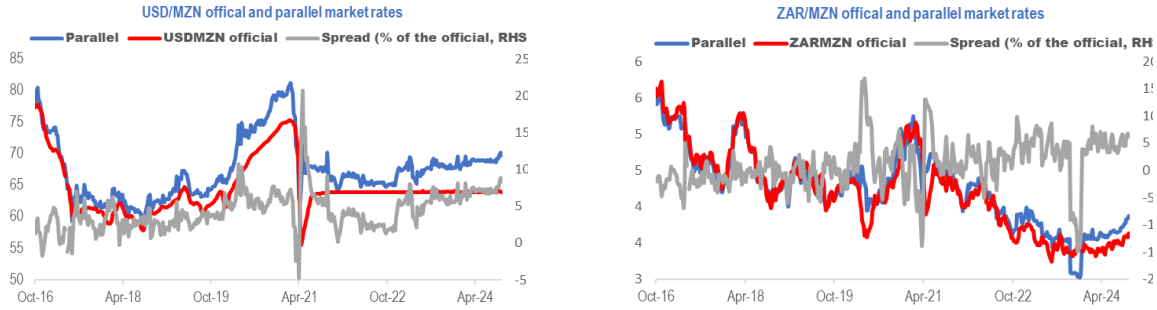
Going beyond the policy rate, the BM has used other policy tools to support the currency. In particular, the BM has increased required reserve coefficients for bank deposits on multiple occasions, most recently to 39.0 percent for deposits in local currency and 39.5 percent for deposits in foreign currencies.[10] As this measure has led to a significant reduction in the demand for foreign exchange (via lower liquidity and tighter financial conditions), it further counteracted any potential pressures for depreciation.

INDICATORS OF EXCHANGE RATE (DIS)EQUILIBRIUM

i. Parallel market premium

The parallel FX market in Mozambique is comparatively small, with spreads typically below 10 percent above the official rate. The parallel market in Mozambique is very small and cash based, and is therefore often described as a "curb market". As such, its usefulness as a gauge of market disequilibrium may be limited. Nonetheless, its main characteristics are worth exploring, especially during metical stability. Figure 9 shows the evolution of the official and parallel market exchange rates for the metical against the US dollar and the rand. The figure suggests that the parallel market premium tends to be high during periods of high volatility. From 2018 to 2020, spreads between the official and parallel USD/MZN market have averaged 420 basis points, with the metical trading weaker on the parallel market. This compares to an average spread of approximately 80 basis points for ZAR/MZN for the same period. During the recent period of metical stability starting in mid-2021, the USD/MZN parallel market spread has averaged around 500 basis points. That the spread has not meaningfully increased over this time may indicate that the official exchange rate is not too far away from its equilibrium value and that, consequently, any build-up of exchange rate pressures has been limited. Likewise, the current curb market has not grown into a more widely used parallel market could also indicate limited misalignment in the official exchange rate. Moreover, arbitrage opportunities are limited on both the formal FX market, as well as on the parallel market.

Figure 9: Official and Parallel Market Exchange Rates



Source: Bank of Mozambique and IMF Staff Calculations

[10] The Bank of Mozambique does not remunerate required reserves. The high required reserves ratio therefore acts as a tax on the financial system.

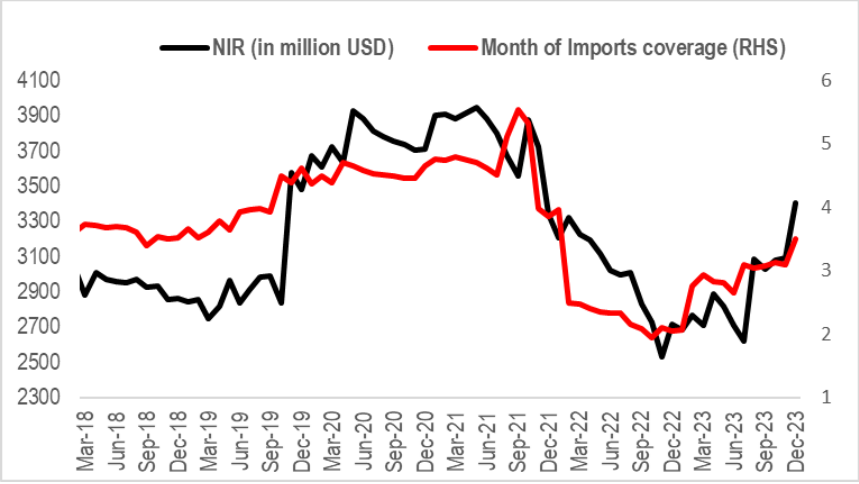
ii. Unfulfilled FX demand & wait time

In the absence of a significant parallel market, another sign of an FX misalignment could be a delay in accessing foreign currency. In Mozambique, both the banking sector and the central bank can monitor open FX demand via a central platform. There is no published series, but market participants have access to the information and can note two peaks in excess demand at times of policy changes (monetary policy tightening in 2021 and the announcement that the BM would no longer provide FX for fuel imports in mid-2023). That said, while the market seems to adjust even after significant policy changes, with excess demand having returned to lower levels in the past, considerable open demand has existed since the beginning of 2024 and the current (October 2024) approximation shared by the banking sector suggests around $440 million in unmet demand, excluding dividends, which many multinationals would like to repatriate. So far, the vehicle for dealing with open demand has been increased wait time for market participants, rather than meaningfully detaching the parallel market from the official rate. In the second half of 2024, the wait time for an average FX transaction has extended to about three months, depending on the type and amount of payments. Bureaux de change volumes are still low compared to the main market, and while the parallel market is small, it is experiencing growth, trading at a premium of about 15% in late 2024.

iii. Net International Reserves and Foreign Currency Supply

International reserves have recovered substantially in 2023 (Figure 10). Following the central bank's decision to no longer supply FX for fuel imports, net international reserves recovered to USD 3.4 billion by end-December 2023 (or 3.5 months of projected 2023 non-megaproject imports), up from USD 2.7 billion at end-December 2022. As the exchange rate remained de facto stabilized against the dollar, it became evident that FX interventions by the central bank were not the main cause of sustaining the exchange rate. That said, absent other policy decisions, such as the increase in required reserves, the decision to no longer provide FX could potentially have triggered a revaluation of the currency.

Figure 10: Net International Reserves and Months of Imports Coverage



Source: Bank of Mozambique

DISCUSSION

Why is the de jure floating USD/MZN exchange rate stabilized since mid-2021, both in terms of the reference exchange rate and actual transaction rate?

Looking at the range of potential factors presented above, many forces are working together to create the current equilibrium of a de facto stabilized exchange rate. These include:

- Policymaker preferences for low imported inflation
    - High real policy rates
    - High required reserve coefficients
- Aftereffects of supervision in early 2021
- Market design with a reference rate that does not reflect actual transaction rates
- Importer preferences for a stable FX to increase predictability
- Exporter preferences for a stable FX due to US dollar-dominated cost structure
- Market frictions (such as shallow markets and highly concentrated FX supply), which increase risks associated with floating exchange regimes

Taken together, the above factors have likely led to the creation of an equilibrium that has been robust to various shocks. Since the start of the de facto stabilized exchange rate, several events had the potential to lead to volatility, including Russia's invasion of Ukraine (and associated economic stress), multiple tropical cyclones, the monetary policy easing cycle starting in January 2024, and presidential elections. While speculative, it can be assumed that most of the above factors alone would not have led to such a stable equilibrium.

When and how the exchange rate breaks out of the current equilibrium will likely depend on a combination of market sentiment, policy action, and changes to market design. Banks may become less reluctant to adhere to the current equilibrium as memories of past supervisory and regulatory events become less dominant, and market fundamentals may shift as monetary policy becomes more accommodative in the context of low inflation. Furthermore, once the new methodology for calculating the reference rate is applied, any volatility in transaction rates is expected to also be reflected in the reference rate.

Policymakers must carefully navigate a transition out of the current equilibrium to minimize disruption and potentially disorderly market conditions. Indicators for market pressure seemingly point to the exchange rate being not far away from its fundamental level. Nonetheless, a deviation from the current equilibrium could be disruptive as the market develops a new dynamic. To navigate this process, the BM must closely monitor potential emerging pressures in the market and adhere to its intervention policy to counteract any disorderly market conditions.

CONCLUSION

This report has sought to identify the reasons underlying the exchange rate stability of the metical against the US dollar since mid-2021. By examining the history of the Mozambican exchange rate system, market structures and regulations, and the role of market participants and policymakers, we find that the

Mozambican FX market does not fit the standard textbook model of a free-floating exchange market, despite its de jure floating classification.

While the identified drivers of FX stability cannot explain the stabilized exchange rate individually, they work collectively to establish a de facto fixed exchange rate equilibrium. The policymaker's preference for low inflation, particularly low imported inflation, leads to policies that reduce demand for FX. At the same time, a preference of both importers and exporters for a stable exchange rate keeps market forces contained. Moreover, various frictions, such as very shallow markets and highly concentrated FX supply, together with a somewhat unusual mechanism to determine the daily reference rate, and the aftereffects of supervision, might all explain the absence of day-to-day volatility. The absence of increasing indicators of market pressures also indicates that the current exchange rate is not very far away from its fundamental equilibrium value.

Going forward, various market improvements and export diversification could lead to a more natural floating exchange rate. A proposed new methodology for calculating the reference rate, planned to be introduced in 2024, will likely translate the existing transaction volatility into reference rate volatility. Further developments on the spot and money markets have the potential to reduce shallowness and, thereby, excessive risk premia. Improved possibilities for FX hedging might allow exporters and importers to reduce exchange rate risks even in the absence of a fixed exchange rate. Over the medium and long term, export diversification can potentially reduce the concentration of the FX supply, thereby paving the way for a floating exchange rate with reduced risk of disorderly market conditions.

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