Africa's foreign exchange market: where are the greatest pressures?

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Confidential

Executive Summary

Since mid-2021, the dollar has appreciated against most other currencies around the world, driven by a combination of rising global risk aversion, better terms of trade in the United States, and the rapid tightening of U.S. monetary policy. This upward trend in the dollar was reflected in a decline in most emerging currencies. Africa was no exception: of the 54 countries in the region, only five saw their currencies appreciate against the greenback in February 2023 over the year.

The magnitude of the change in currencies against the dollar has therefore varied considerably from one country to another in the region. These differences in performance reflect, first, the respective economic structures of African economies: net commodity exporting (importing) countries have benefited (suffered) from an improvement (deterioration) in their terms of trade. Several highly vulnerable debtor countries, some of which are in the process of restructuring their sovereign debt, have also been penalized by a sharp decline in their exchange rates. For others, the downward pressure on their currencies was offset by central bank intervention in the foreign exchange market. For example, in the WAEMU, these interventions have decreased by more than a quarter over the past year.

In order to take into account this diversity of exchange rate regimes and the different reactions to the shock, by including both exchange rate and foreign exchange reserve variations, we calculate an index of pressure on the foreign exchange market for the countries in the region that includes these two variables. This confirms that many countries' currencies have come under downward pressure, led by Ghana and Egypt and to a lesser extent Malawi, Mozambique, Kenya, Angola and Tunisia. At the other end of the scale, only two countries experienced strong upward pressure on their currencies: Algeria and Libya.

1. The dollar has appreciated against most currencies since mid-2021

Between mid-2021 and last October, the dollar appreciated against almost all the currencies of countries with a flexible exchange rate system, reaching a level not seen for more than 20 years, according to the effective exchange rate index calculated by the Bank for International Settlements. However, it would still be significantly lower than in the early 1980s. Although it then lost some ground over the next four months, the risks of a banking crisis in the United States and Europe in March led it to appreciate a little.

There are several reasons for this strong appreciation of the dollar. **First, investors' risk aversion in a global context of high economic uncertainty has triggered a "flight to safety" dynamic in the financial**

markets, which has supported the dollar. Indeed, the greenback, notably because of its status as the world's reserve currency, is considered an asset capable of protecting investors' wealth when markets are faced with heightened fears. Moreover, the dollar is the currency of the world's largest economy, which, despite rising interest rates, appears to face less uncertainty than European economies that are highly dependent on Russian oil and gas.

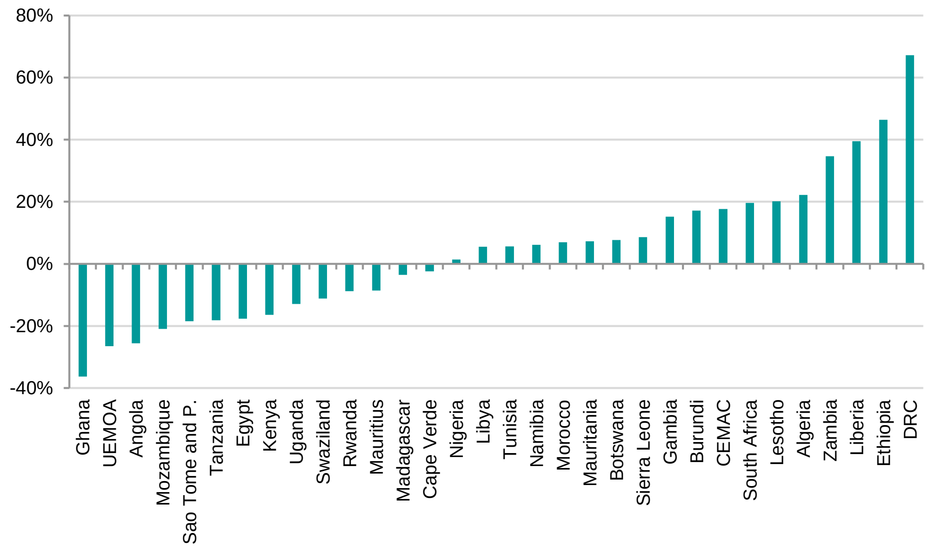
Second, monetary policy developments are another factor in the dollar's appreciation, as the tightening by the U.S. Federal Reserve (Fed) has been relatively more significant than that by other central banks. The Fed is the central bank of a developed country that has seen the largest increase in policy rates since early 2021, by 4.75 percentage points. In comparison, the European Central Bank's refinancing rate was raised by 3.5 p.p. and the Bank of Japan's rate remained steady at 0%. As a result, this relative increase in U.S. asset yields is contributing to the purchase of U.S. assets at the expense of foreign assets, leading to an appreciation of the dollar.

In addition, the recent rise in the U.S. terms of trade - the ratio of the price of U.S. exports to the price of U.S. imports - **has also contributed to the appreciation of the dollar**. This increase indicates that the price of U.S. exports has risen faster than the price of its imports. This driven price effect is associated with higher export receipts and thus higher demand for dollars. After being almost stable between 2015 and 2020, **the US terms of trade increased by around 10% in the third quarter of 2022** (the period of the peak in commodity prices) compared with the same quarter in 2020, reflecting the rise in food and energy prices that began in 2021 and was reinforced by the outbreak of conflict in Ukraine. The U.S. is a net exporter of agricultural products, and has recently become a net exporter of energy, notably through its natural gas exports. However, world prices for this type of product have risen significantly this year.

2. Many African countries' currencies have been under downward pressure since last year

This upward trend in the dollar has resulted in a decline in most emerging currencies. Africa was no exception: of the 54 countries in the region, only 5 (including Nigeria and Algeria) saw their currencies appreciate against the greenback in February 2023 over one year. And among the currencies that remained stable (due to a fixed exchange rate regime such as the franc zones) or depreciated, the use of foreign exchange reserves in some cases helped mask at least some of the downward pressure on currencies. As Figure 1 shows, the decline in foreign exchange reserves was particularly strong in Ghana, the WAEMU countries, Angola, Mozambique, Kenya, Egypt and Tanzania. At the other end of the scale, other countries have managed to accumulate more foreign exchange reserves in this unfavorable context of a generalized rise in the dollar. These are mainly net commodity exporting countries that have benefited from terms of trade gains, such as Algeria, Zambia and the countries of the Central African franc zone.

Chart 1: Foreign exchange reserves (annual growth, moving average between March 2022 and December 2022)



Source : GSA

The shock to commodity prices thus had a direct impact on the terms of trade of countries dependent on their profits. Faced with the deterioration of the terms of trade for commodity-importing countries and the pressure on their currencies, the authorities reacted in different ways: while many had to allow a significant depreciation, those with less flexible exchange rate regimes relied on their reserves to support the parity.

The Exchange Rate Pressure Index (EMPI), developed by Girton and Roper[1] , takes into account this diversity of exchange rate regimes and the different reactions to the shock, by including both exchange rate and foreign exchange reserve variations. It is calculated as follows:

$$\mathbf{EMPI_{i,t}} = e_{i,t} - (\alpha/\beta) * r_{i,t}$$

With :

- $e_{i,t}$ = change in exchange rate,
- $r_{i,t}$ = change in foreign exchange reserves,
- α = standard deviation of the change in the exchange rate,
- β = standard deviation of the change in reserves.

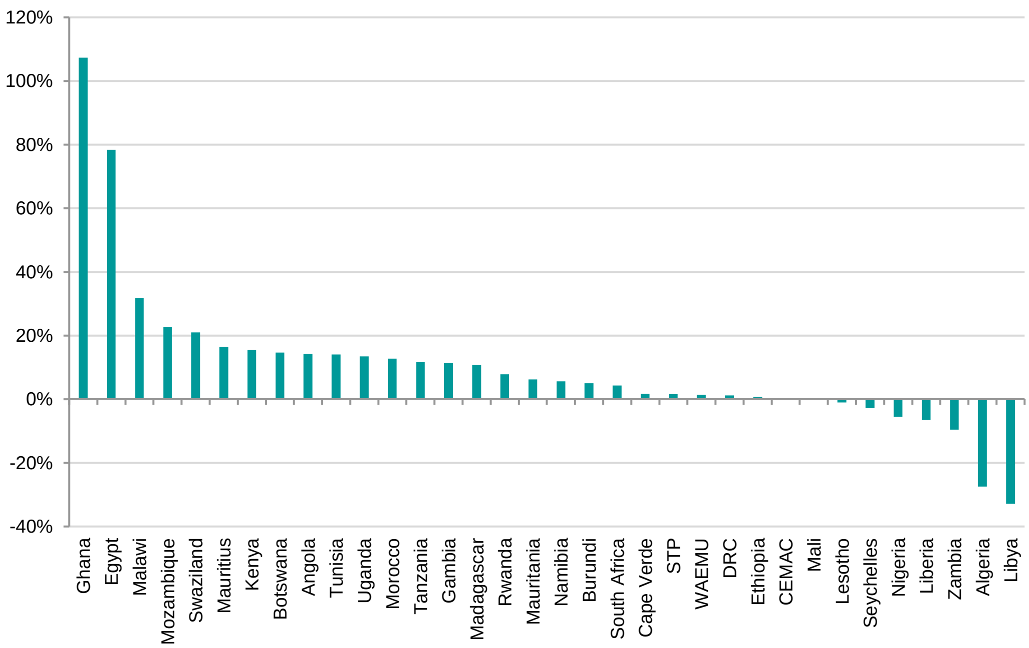
We calculated the most recent value (Chart 2 and Map 1) of this indicator as well as the value at the end of 2021 (Map 2). For the countries in the monetary zones (WAEMU and CEMAC), a single score has been calculated for these unions. For countries in the franc zone (WAEMU and CEMAC), São Tomé and Príncipe and Cape Verde, the change in the exchange rate against the euro was used, as the respective currencies of these countries/zones are pegged to it. In addition, changes in reserves were calculated with reserve amounts denominated in dollars, except for the CEMAC zone and Ethiopia, for which foreign exchange reserves were denominated in national currency.

[1] Girton, L., & Roper, D. (1977): "A Monetary Model of Exchange Market Pressure Applied to the Postwar Canadian Experience". The American Economic Review, 67(4), 537-548. http://www.jstor.org/stable/1813387

The results indicate stronger downward pressure in 2022 (Map 1) compared to 2021 (Map 2). Unsurprisingly, countries associated with a high risk of debt distress experienced the highest outflows of capital and exerted the greatest downward pressure: Ghana, Egypt, Malawi, and, to a lesser extent, Kenya and Tunisia. **These are therefore mainly countries in the process of restructuring their sovereign debt (Ghana, Malawi) or for which this risk is high (Egypt, Kenya, Tunisia).** The group of currencies under pressure also includes Mozambique and Angola (see Figure 2). At the other extreme, the few countries that have benefited from upward pressure on their currencies are generally commodity exporters: Libya, Algeria, Zambia and Nigeria.

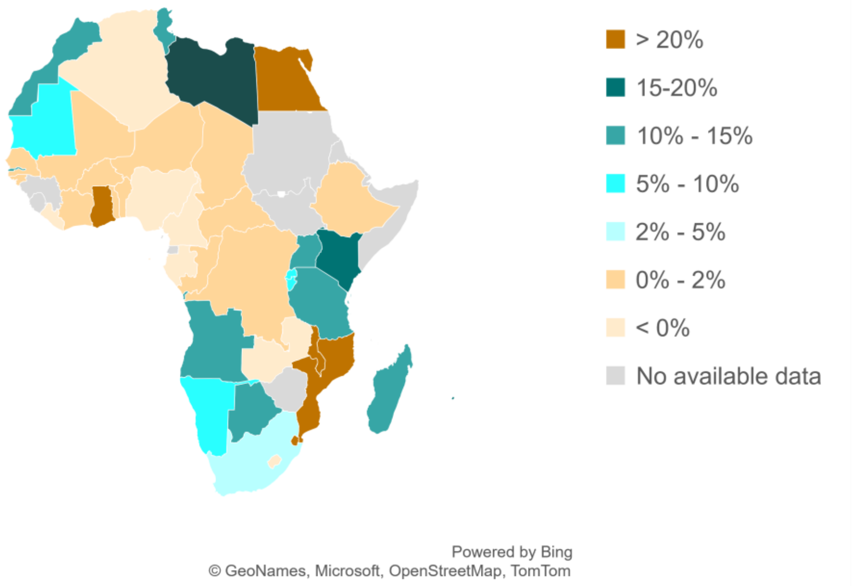
Finally, it should be noted that in the case of the currency areas (WAEMU and CEMAC), the magnitude of the pressures (upward in the case of Central Africa and downward in the case of West Africa) is minimized by the indicator, which by construction gives greater weight to changes in reserves when the standard deviation of the exchange rate is zero, which is the case in an area with a fixed exchange rate regime. The evolution of foreign exchange reserves is therefore a better illustration of the evolution of pressures on the currency in this specific case.

Graph 2: Pressure index on the foreign exchange market in 2022 (>0: depreciating pressure, (<0: appreciating pressure)



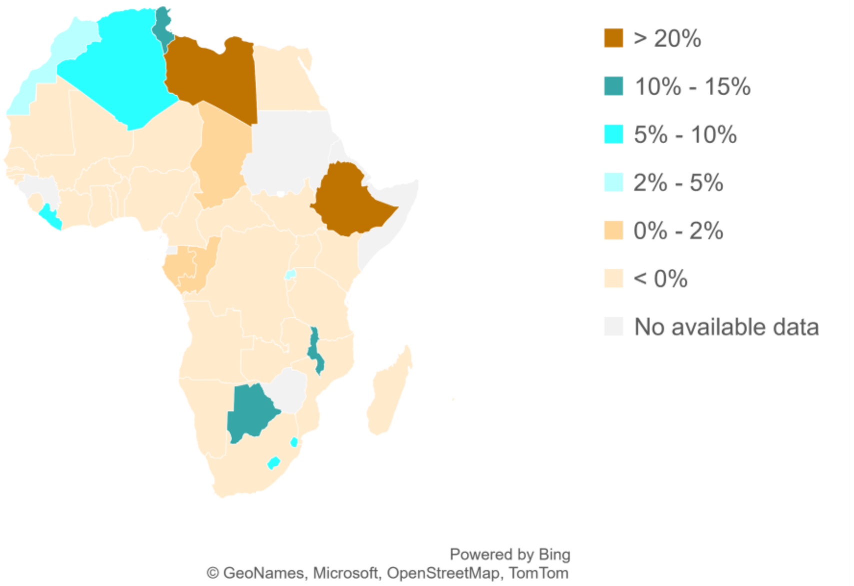
Source : GSA

Map 1: Pressure index on the foreign exchange market in 2022 (>0: depreciating pressure, (<0: appreciating pressure)



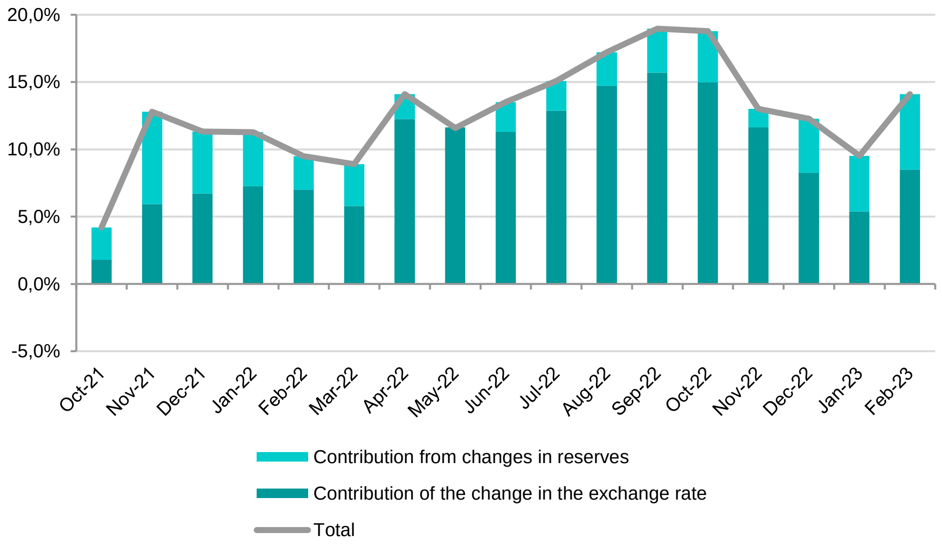
Source: GSA

Map 2: Pressure index on the foreign exchange market in 2021 (>0: depreciating pressure, (<0: appreciating pressure)



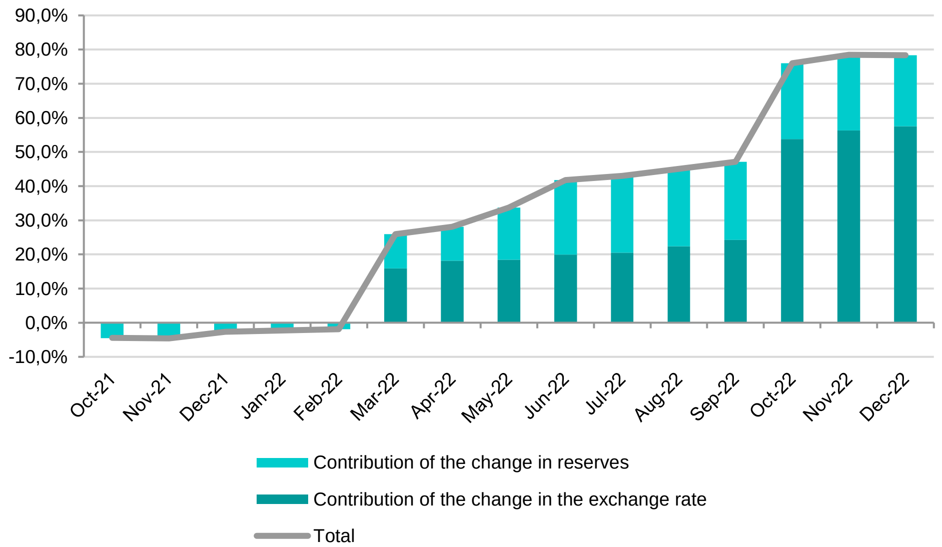
Source: GSA

Figure 3: Tunisia - contributions to the foreign exchange market pressure index



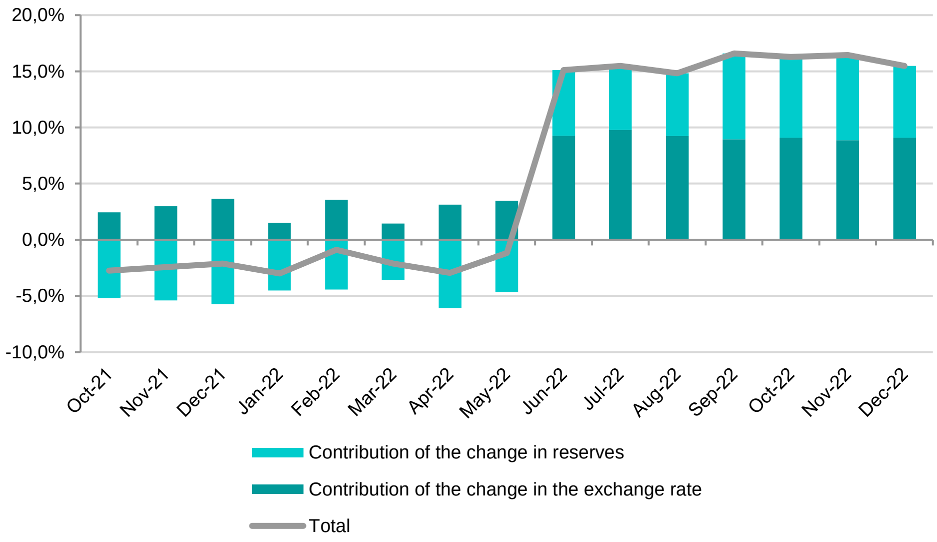
Source : GSA

Figure 4: Egypt - contributions to the foreign exchange market pressure index



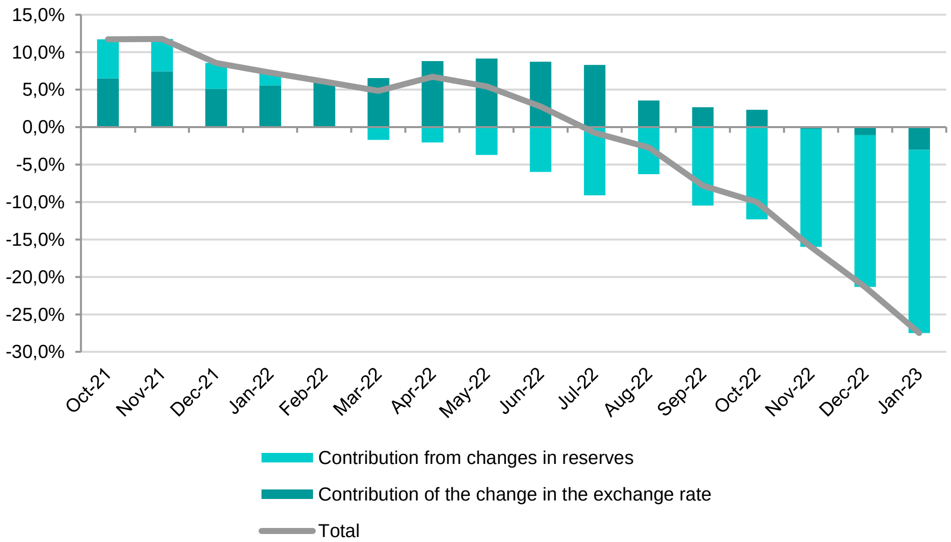
Source : GSA

Figure 5: Kenya - contributions to the foreign exchange market pressure index



Source : GSA

Figure 6: Algeria - contributions to the foreign exchange market pressure index



Source : GSA

Table: Last available date for foreign exchange reserves by country

Country	Last available data
South Africa	February-23
Algeria	January-23
Angola	January-23
Botswana	November-22
Burundi	January-23
Cape Verde	October-22
Egypt	December-22
Ethiopia	October-22
Gambia	August-22
Ghana	December-22
Kenya	December-22
Lesotho	November-22
Liberia	September-22
Libya	December-22
Madagascar	January-23
Malawi	December-22
Mali	January-23
Morocco	January-23
Mauritius	February-23
Mauritania	December-22
Mozambique	December-22
Namibia	December-22
Nigeria	February-23
Uganda	January-23
DRC	December-22
Rwanda	January-23
São Tomé and Principe	January-23
Seychelles	February-23
Sierra Leone	August-22
South Sudan	August-22
Swaziland	January-23
Tanzania	January-23
Tunisia	February-23
Zambia	September-22
CEMAC	November-22
WAEMU	January-23

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