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Recognizing Reality: Unification of Official and Parallel Market Exchange Rates

by Simon T Gray

***IMF Working Papers* describe research in progress by the author(s) and are published to elicit comments and to encourage debate.** The views expressed in IMF Working Papers are those of the author(s) and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.

I N T E R N A T I O N A L M O N E T A R Y F U N D

IMF Working Paper

Monetary Capital Market

Official and Parallel Exchange Rates—Recognizing Reality**Prepared by Simon Gray**

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Abstract

Some central banks have maintained overvalued official exchange rates, while unable to ensure that supply of foreign exchange meets legitimate demand for current account transactions at that price. A parallel exchange rate market develops, in such circumstances; and when the spread between the official and parallel rates is both substantial and sustained, price levels in the economy typically reflect the parallel market exchange rate. “Recognizing reality” by allowing economic agents to use a market clearing rate benefits economic activity without necessarily leading to more inflation. But a unified, market-clearing exchange rate will not stabilize without a supportive fiscal and monetary context. A number of country case studies are included; my thanks to Jie Ren for pulling together all the data for the country case studies, and the production of the charts.

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I. INTRODUCTION

For all legitimate current account transactions, there should be a single exchange rate; but in some countries, there are two (or more) exchange rates for current account transactions—an “official” rate at which demand for FX is not fully satisfied, and a parallel market rate. This may contravene the country’s obligations under the IMF’s Article VIII:¹ an exchange restriction or a Multiple Currency Practice (MCP) may arise if the authorities require banks to operate at an exchange rate that does not clear the market, or create separate or segmented FX markets on their territory with excessive spreads between the rates in the different markets. While conceptually, it may be “difficult to treat the spreads arising in illegal parallel markets as the result of an official action, given that the authorities themselves have prohibited transactions from taking place in that market” (IMF 2019, para 37), the existence of parallel FX markets—and the problems associated with this phenomenon—are very real.

Balance of payments weakness and associated exchange rate pressures, related to COVID-19, have seen an increase in such cases. This note discusses the impact of a spread growing over time between the official and parallel market exchange rates for current transactions purposes, and what happens when it is eliminated by a move to a market-clearing rate.² “Recognizing reality” by abandoning an “official rate” that is not accessible to a significant part of the economy, and moving to a unified, market-clearing rate for current transactions, removes distortions and inefficiencies imposed on the economy by an official rate that is out of line with economic reality. In most cases the inflation consequences of the move—presumptively to the parallel market rate—are relatively small, as prices already reflect the parallel market rate.³ But unification at a market-clearing rate will not of itself bring an end to an inflation and depreciation cycle: supportive interest rate and fiscal policies are important factors in determining the market-clearing rate, both at the time of adjustment, and in the future.

An “official” exchange rate is here used to mean an exchange rate that commercial banks and other regulated entities are legally required to use, when recording actual

¹ Article VIII Section 3 prohibits multiple currency practices (MCP) without the approval of the Fund. Under the Fund framework, an MCP is defined by the Fund as action by a member or its fiscal agencies that “of itself gives rise to a spread of more than 2 percent between buying and selling rates for spot exchange transactions between the member’s currency and any other member’s currency.” See Decision No. 6790-(81/43) of March 1981, as amended, and currently under review. The existence of multiple exchange rates can also be inconsistent with a member’s obligation not to restrict, without Fund approval, payments and transfers for current international transactions. While this note focuses on economic aspects of moving to a market-clearing exchange rate, the authorities should be aware of the legal implications of their actions, as they may also impact a country’s ability to use the Fund’s resources. The authorities are encouraged to consult with IMF staff before implementing reforms discussed in this note.

² In crisis situations, a parallel market rate might arise for a short period e.g., if emergency restrictions are adopted that prioritize FX funding for certain imports e.g., food, fuel and medicines. This is different to spreads that develop over time as a result of persistent policy choices.

³ Morris (1995) has a “key assumption of the model that the price level moves with the parallel market exchange rate, with the official exchange rate relevant only for shifting rents”.

transactions, and for instance when calculating customs and tax liabilities. It may also be used for statistical purposes. The official exchange rate should reflect the actual exchange rate used in market transactions, whether because the official rate determines market rates (supply is sufficient to meet demand), or simply reflects the actual market rate.⁴ In some cases, authorized FX dealers are legally allowed to set exchange rates freely, but the central bank then uses informal guidance (“immoral suasion”) to keep the official market exchange rate at a desired level.

A market-clearing rate implies an exchange rate at which demand and supply are in balance: those seeking FX for legitimate current account transactions can obtain it freely when demanded, and those holding FX surplus to their immediate needs are willing to sell it. It does not necessarily require the adoption of a free-floating exchange rate policy. The authorities may be able to fully satisfy demand at a fixed exchange rate (e.g., Gulf States with long-term fixed nominal rates against the USD), or under a managed floating exchange rate regime, or use instruments other than FX transactions to influence the exchange rate.⁵

Where capital controls are in place, the existence of the controls nearly always results in a parallel foreign exchange (FX) market, since some economic agents will be prepared to pay a price to evade the controls—which may range from just a few percentage points under “normal” conditions and if the financial account is not entirely closed, to a much larger spread if socio-economic conditions lead to demand for large movements of funds, and the financial account is fully closed. A parallel FX market may also exist for illegal transactions—e.g., money laundering, narcotics trades, human trafficking—even in the absence of capital controls.

The discussion in this note refers only to the existence of a parallel market where FX is purchased/sold for legitimate current account transactions. Where a parallel exchange rate exists for legitimate current account transactions, the same (parallel) market will likely be used for some capital account and other illegal transactions. This note recognizes that there will be an impact on the parallel rate of the inclusion of capital account and illegal transactions, but does not attempt to estimate it.

Case studies of countries that have, over the past 10 years, unified the exchange rate at a market-clearing level, suggest that moving to a market-clearing official rate is not in itself likely to lead to a sharp increase in inflation, since prices in the real economy tend to

⁴ The official rate should reflect the mid-market rate: buy-sell spreads inevitably mean that the actual rate of any given transaction will depend on whether there is a buy or a sell request, and on the size of the transaction. Rates will also vary through the trading day, so that an official rate may be indicative rather than representing the exact mid-point rate on which a particular transaction is based.

⁵ Hong Kong SAR China is a good example of a market-clearing nominal exchange rate peg supported by fiscal policy. The Linked Exchange Rate System (LERS) which allows the rate to fluctuate between HK\$7.75–7.85 to the US dollar, has been in place since October 1983 (see <https://www.hkma.gov.hk/eng/key-functions/money/linked-exchange-rate-system/>).

reflect the parallel market exchange rate already. There is also some evidence that eliminating the distortions can give a substantial boost to economic development, by removing uncertainty as to the availability of FX and strengthening competitiveness. Moreover, if it is true that, in some cases, the benefits of transacting at the official (over-valued) exchange rate accrue to a relatively small number of those with privileged access, moving to a unified exchange rate should mean that those benefits are much more widely spread, thus reducing inequality to some extent.

This paper looks at the question: what happens when the central bank “recognizes reality” and moves to a unified, market-clearing exchange rate. Section II discusses why parallel FX markets emerge, and section III follows with the economic distortions to which substantial and persistent spreads give rise. Section IV examines the motivations of central banks and ministries of finance in addressing the issue, and section V summarizes a number of short case studies. Section VI considers the timing of a move to a market-clearing rate; section VII touches on the importance of good communication of such a move, and section VIII outlines issues concerning the post-unification exchange rate policy. Section IX concludes.

II. WHY DOES A PARALLEL MARKET RATE EMERGE?

Many central banks operate a managed exchange rate policy: this is in most cases a peg against a single currency (normally the USD or EUR), or against a basket of currencies, and typically with a narrow trading range (e.g., +/-30 basis points); or a stabilized real effective exchange rate. Maintaining a single exchange rate market—so that the official exchange rate is relevant to the real economy, and legitimate current account transactions can be undertaken easily at or near the official rate—means the central bank needs to ensure that demand and supply for FX against the domestic currency are balanced over time.⁶ **If the central bank has ample FX reserves, and FX inflows at least equal outflows,** managing such an exchange rate policy may be relatively straightforward (though it will have consequences for other policy actions and the economy that may be more challenging).⁷ The central bank in this case is the **price maker.**

In other cases, the central bank’s official rate will simply be a reflection of the (flexible) market-clearing rate, and the central bank is a **price taker.** Official FX reserves can of course act as a short-term buffer if the FX market is thin (**demand and supply will clearly not be in balance from day to day**). A number of central banks operate an **FX intervention** (FXI) policy that aims to lean against excessive short-term price volatility.

From time to time, a central bank may find that it is no longer able to maintain a managed exchange rate for current transactions—where the central bank is the price maker—because it

⁶ This is similar conceptually to central bank implementation of a policy rate: liquidity management needs to be sufficient to ensure that short-term market rates are in line with the policy rate, if policy is to be effective.

⁷ Provided the central bank can meet demand at the exchange rate it chooses, then it can offer a standing facility to sell (or buy) FX at that price.

can no longer ensure that supply of FX is sufficient to meet demand at that price. This tends to happen when the authorities are reluctant to allow the exchange rate to adjust fully in response to excessive fiscal stimulus—perhaps “supported” by monetary financing—that leads to high inflation and balance of payments weakness. It may also reflect shocks to the economy, for instance where a commodity-exporting country suffers from a substantial and persistent decline in the global price of that commodity. In a number of countries, the COVID-19 crisis has led to balance of payments weakness, associated with a fall in remittances, or a sharp decline in tourism revenues, in addition to commodity price shocks.

But sometimes central banks maintain an [overvalued] official exchange rate at which supply does not meet demand and instead attempt to restrict demand administratively. They may do so by prioritizing certain transactions; rationing FX; allowing queues to develop; or setting ceilings for, or even prohibiting, certain current payments.⁸ In some cases, the central bank determines two or more “official” rates. A range of preferential exchange rates may be used for different sectors or items e.g., one rate for fuel imports, a second for basic foodstuffs and so on. A multiplicity of official exchange rates is likely to give rise to a multiple currency practice (MCP) under Article VIII of the IMF’s Articles of Agreement.

The approach of using of one or more official rates may be supported by a belief that a strong currency will mean higher growth and lower inflation, while ignoring the underlying problems—such as excessive fiscal stimulus and/or monetary financing—that cause exchange rate weakness and inflation. It may also be promoted by those who can profit from privileged access to FX at the official exchange rate (rent seeking behavior). Some may initially have hoped that an exogenous shock causing exchange rate weakness will quickly be reversed, thus avoiding the need for policy changes, but fail to adjust when the situation is prolonged.

In such cases, a parallel market for current transactions will develop as many economic agents will, if possible, move transactions to the parallel market, whether to obtain a better price if selling FX, or because they cannot obtain FX at the official price.^{9,10} The wider the spread between the official and parallel rates, the greater will be the incentive to channel FX to the parallel market. At the extreme, the “parallel” market may be the only reliable source of FX for the majority of participants in the economy. The central bank is then acting as if it were a price maker, but without the “fire-power” (FX that is available and it is willing to use)

⁸ Measures such as the prioritization of access to FX, imposing hard ceilings on current transactions or unduly burdensome requirements for access to FX may give rise to exchange restrictions subject to Fund jurisdiction under Article VIII Section 2.

⁹ “Although official data on the volume of transactions in parallel currency markets are usually not available on a systematic basis, formal and informal evidence suggests that the major sources of foreign exchange supply are smuggling, over-invoicing of imports and under-invoicing of exports, workers’ remittances from abroad, and tourism. The relative importance of various sources in total supply is, however, generally unknown.” IMF 1991.

¹⁰ Maintaining a rate at which demand exceeds supply, and so generating a parallel market rate, is likely to give rise to an exchange restriction and multiple currency practices according to the Fund’s Articles of Agreement.

to implement its chosen price effectively.¹¹ Arguably, the parallel market represents economic agents' solution to a problem created by the central bank. Price levels in the economy are likely to reflect the parallel market rate, either because that is the rate most people and companies have to use, or because those with access to the official rate can benefit by taking excess profits, or expect the possibility of a significant depreciation in the near future and set prices accordingly. The figures in the South Sudan and Sudan case studies (below) illustrate this: the consumer price index and the parallel exchange rate move in tandem (causality is likely bi-directional).

The parallel market represents a market-clearing rate but may not be “the” market-clearing rate for current account transactions. Since the parallel market will be used not only for some current account transactions, but also for illegal transactions e.g., evasion of capital controls, or criminal activities, it may be weaker than a market-clearing rate solely for legitimate current account transactions.¹²

III. A LARGE SPREAD BETWEEN OFFICIAL AND PARALLEL MARKET RATES CREATES DISTORTIONS

When an official exchange rate diverges persistently and substantially from a market-clearing rate, this reflects underlying macroeconomic policies and imbalances. Maintaining de jure an exchange rate policy that de facto is neither sustained nor sustainable tends to lead to a range of distortions in the economy, and to lower GDP growth.¹³

An official rate that is markedly stronger than a market-clearing rate means by definition that demand will always exceed supply.¹⁴ If a central bank cannot manage the exchange rate—that is to say, the actual rate that impacts the economy, rather than an official rate at which a limited amount of FX is sold to “priority sectors” or those with privileged access—then the alternative may be a disorderly market: an official rate but with a backlog of demand, delays

¹¹ This is also conceptually similar to a central bank announcing a monetary policy rate, but failing to implement it, so that market interest rates are not in line with the announced policy.

¹² In a few cases, the parallel market is very small, and the spread to the official rate likewise is small (e.g., less than 10 percent). The authorities should aim to understand the reason such small markets exist, even if there is no clear macroeconomic significance.

¹³ IMF (2018) notes that parallel market FX rates were associated with, amongst others, increased uncertainty of doing business; reduced incentives for domestic production; and higher inflation; while IMF (2019) notes “MCPs tend to introduce unintended inefficiency in resource allocation and are less transparent than direct taxes or subsidies provided through the budget. MCPs can also invite rent-seeking behavior from interest groups pressing for favorable treatment.”

¹⁴ In the vast majority of cases, the central bank tries to limit depreciation. In some instances, a central bank has intervened to lean against exchange rate *appreciation*: the market will clear, to the extent the central bank acts as marginal demand for any excess supply of FX. Over time, this may distort domestic monetary policy as the central bank's balance sheet will grow and domestic interest rates be forced down.

in access, and a parallel market rate over which the central bank has no control.¹⁵ This is problematic for economic agents—particularly for large amounts needed by businesses—who have to obtain FX from banks, for instance, because of the need for an audit trail, and therefore cannot reliably access FX, whether from the official or the parallel market, when needed. Moreover, an overvalued exchange rate always generates excess demand (sometimes referred to as an “overhang” of demand); but this cannot be cleared as long as the exchange rate remains overvalued.¹⁶ It is not obvious that the real economy benefits from maintaining the ‘convenient fiction’ of the official rate.

The distortions that are apparent from discussions in IMF member countries include:

- Banks may struggle to find good projects for lending, in significant part because of the uncertain availability of FX. Most businesses are likely to need some imported inputs, and since they cannot reliably obtain FX when needed, it is always uncertain whether the business will be able to operate effectively and profitably.¹⁷ Some companies with a viable business may have to cease operating, or reduce operating capacity, because they cannot maintain machinery, if spare parts need to be imported.
- Similarly, potential new business ventures may be reluctant to start up, given the uncertainties of being able to obtain FX for necessary imports, even if the bulk of their inputs is domestically sourced.
- FDI will also be discouraged, if non-residents are concerned that constraints in accessing FX needed for operational inputs may make a venture unviable, or if they expect a substantial depreciation in the near future will make the FDI much cheaper, so that they postpone decisions and investments, or possibly choose an alternative location. In some cases, they get specific exemption from the FX regime, and can retain and use freely the FX they earn abroad.
- Statistics and corporate accounts will be distorted: in addition to under- and over-invoicing by exporters and importers, banks that have to book transactions at the official, non-market rate may add other fees and costs to cover the real exchange rate used,

¹⁵ Some central banks are reluctant to accept a more flexible exchange rate, because of a concern it might lead to a dysfunctional market. But for much of the real economy, the exchange rate market is already dysfunctional. Moving to a unified market clearing rate addresses rather than causes dysfunction.

¹⁶ It is possible temporarily to clear a back-log of demand if the central bank sells a large amount of FX; but it will re-emerge. If there is a backlog stock, but current flows are in balance, the central bank could try to manage the backlog over time—for instance, allowed blocked FDI remittances to be released in a phased manner—to avoid unnecessary exchange rate volatility, or could encourage the market to manage itself gradually (in practice, most participants will realize that if everyone tries to buy FX immediately, the rate will overshoot, so that waiting a little longer will likely result in a better price).

¹⁷ Large corporates, and foreign companies, typically need auditable documentation for FX transactions, and so may not be able to meet their needs via the parallel market. For SMEs and individuals, this may be less of a concern.

complicating corporate accounts. Corporates may post lower than actual profits (reflecting under-and over-invoicing), thus reducing government tax revenues.

- Where remittances from/to individuals abroad represent a significant share of FX inflows, an overvalued official exchange rate will tend to motivate some people to use informal channels for remittances—whether the use of cash, or other channels such as hawalla—and this can lead to a widening of the spread between the official and parallel markets.
- More generally, AML/CFT controls may be hard or impossible to impose on the parallel market, which also lacks an audit trail.
- The interbank FX market will be thin or non-existent: banks have a strong incentive to hoard FX to service their own customers, and economic agents have an incentive to keep FX out of the market (for instance by under-and over-invoicing exports and imports).
- Rent-seeking and dishonest practices are in effect encouraged. Large and persistent parallel premiums create numerous microeconomic distortions. Some economic agents will respond to the incentives by seeking to profit from privileged access to FX at the official rate, or mis-state accounts to offset the impact of mis-aligned official rates on business activities.
- There may be spill-over to the property market, where investors postpone entry into the market in part because they are waiting for the expected further real depreciation of the domestic currency. One consequence of the further downwards pressure on the property market is that the valuation of collateral held by banks is reduced, making banks reluctant or unable to extend further credit.
- In general, the uncertain availability of FX may be more of an impediment to business development than the price of FX, or the level of interest rates. The notionally cheap official exchange rate is of little value if supply at that price is substantially insufficient to meet needs.

While the macroeconomic distortions and problems are evident, and the macroeconomic gains from moving to a market-clearing exchange rate potentially significant, the macroeconomic benefits are harder to identify—though clearly those with privileged access to FX at the official rate will obtain some advantage.

IV. CENTRAL BANKS AND MINISTRIES OF FINANCE

The authorities may not want to move to a unified exchange rate. They may believe that a strong (in practice, this means stable) official rate, or multiple rates, can be an effective way to achieve (multiple) goals. Multiple official exchange rates may be seen as a way of providing differential subsidies to critical or vulnerable sectors of the economy, effectively taxing exporters (and other recipients of FX e.g., from remittances), though the impact of such a tax tends to reduce the tax base by damaging the economy's ability to export, and leads to significant evasion. Problems in assessing the real cost of such subsidies, difficulties in targeting them, and—importantly—susceptibility to corrupt practices, also suggest that

this is not an efficient approach.¹⁸ A stable exchange rate can indeed bring benefits, including stabilizing inflation expectations and supporting financial stability. But to deliver real benefits, the exchange rate needs to represent a price at which economic agents are willing and able to transact, both buying and selling. If FX is not readily available at this price—because supply of FX at the official rate is significantly lower than demand—the benefits may be fictitious, and the uncertainties may even deliver the opposite results to those desired.

Central banks and ministries of finance may be reluctant to make a “necessary” exchange rate move because of concerns about the transition process and its impact. They may know what they want to achieve—a functioning and sustainable FX market that serves the needs of the economy—but do not make the move because of a lack of clarity about the path to that goal. They may be concerned the transition will be so bumpy/volatile that social or political considerations will derail the move before it can deliver the hoped-for benefits.¹⁹

Governments will be uncertain about the net impact on the budget: this will depend on the government’s need for FX (including for debt service); whether imported goods (typically, fuel and some foodstuffs) are and will remain government-subsidized; the extent to which taxable profits are hidden because of the distortionary official rate; and likely benefits to the tax base from a stronger future economy. There may be short-term net costs that change to net benefits in the medium term.

Even if the authorities are convinced of the benefits of moving to a unified, market-clearing exchange rate, short-term, frictional costs of adjustment need to be considered. If the parallel rate is long-standing, economic agents may already have made full adjustment. But the authorities need to consider whether banks and other financial intermediaries are adversely exposed to a large change in the official exchange rate, whether directly or because some customers have borrowed in FX and are not well hedged. Additionally, the impact on the government’s budget, and on any official FX-denominated debt, will need to be taken into account (though both should benefit from longer-term improvements to the economy when distortions are removed).²⁰ Consideration should also be given to the impact on vulnerable sectors in the population. In practice, the most vulnerable in society often gain little or no benefit from an overvalued exchange rate and government subsidies. This needs to be explored on a case by case basis, and an appropriate safety-net to protect the most vulnerable—assuming that they have in practice benefited from the overvalued official exchange rate—should also be factored in.

¹⁸ Morris (1995) contains an interesting discussion of the factors that will impact the budget deficit, relating both to the structure of government revenues, and any changes in subsidies.

¹⁹ If some connected parties have privileged access to FX at the official exchange rate, they may oppose a change since this will reduce the rents available to them. Likewise, if exchange rate unification is associated with other developments (removing subsidies, exogenous shock to the economy, inflation caused by continuing monetary finance), the problems may be blamed unfairly on the unification in an attempt to reverse the policy.

²⁰ Pinto (1988) suggests that if the existence of an official exchange rate is an effective tax source for the authorities (this might be the case if the government buys FX from the market at the official rate), then unifying the rate would mean a loss of the tax revenue, and in a worst case might be substituted by monetary financing.

In the transition to a a market-clearing exchange rate, management of the adjustment process is important. It will be smoother, and the transitional uncertainty minimized, to the extent that fiscal and monetary policies are clearly supportive, and the move is well communicated both to the financial markets, and to the population in general.

But the exchange rate will not stabilize—either in nominal or real terms—unless the underlying causes of the (parallel market) exchange rate weakness are addressed. As suggested by the quote below (from a study on Sudan), exchange rate policy must be viewed within the broader context. Devaluation by itself cannot be a complete solution to wider problems; but an artificially strong official exchange rate does not solve problems either.

“A devaluation policy by itself will not reduce the premium in the long run unless preceded or accompanied by a serious fiscal adjustment. Furthermore, when a large fiscal deficit persists and credibility is low, aggressive devaluation and trade liberalization policies aimed at exchange rate unification and integration of the black market will run the risk of leading to speculation of further devaluations, large scale currency substitution, and a rising premium.”²¹

V. COUNTRY EXPERIENCE

The existence, for legitimate current account transactions, of a parallel market exchange rate that is substantially and persistently weaker than the official exchange rate, is very different to a pegged or tightly-managed exchange rate that is currently market-clearing, but may need to be adjusted. In the former, the real economy has often already made the move and is expecting that the central bank will, at some point, catch up. The price level in the economy will already reflect the parallel market rate. In the latter case, the market may not be expecting a move at all, and so is less likely to be prepared: more price level adjustment (inflation) should therefore be expected. The case studies here cover the former case only.

In the case studies included here, a good time-series for the parallel market rate is available for a few countries, and so is included in the figures. In most, only ad hoc indications are available and are not therefore included in the figures. The focus on the past 10 years means that there are more African countries represented than other regions: as noted in IMF (2018), the geographical focus of the incidence of parallel FX rates “shifted from Latin America, where [they] were prevalent in the 1980s and 1990s due to balance of payments (BOP) difficulties, to other regions, most notably to countries in Africa with BOP difficulties typically resulting from fiscal expansion at the end of the 1990s. Recently, parallel market premia emerged in several commodity-exporting countries that experience terms-of-trade shocks.”

The case studies annexed below aim to address three main questions:

²¹ “Macroeconomic management and the black market for foreign exchange in Sudan”, Ibrahim Elbadawi, World Bank Working Papers WPS859, February 1992.

- Is the parallel market a good indicator of the equilibrium exchange rate? Will the exchange rate fall to the level of the parallel market, or only move part-way e.g., if the parallel rate reflects a premium to evade capital controls?²²
- If the exchange rate depreciates sharply, will it quickly find a new level, or might it carry on weakening well beyond an estimated “equilibrium” rate? If the exchange rate overshoots initially, how quickly will it revert to an equilibrium level?
- What will happen to inflation? Will interest rate levers have any effect in stabilizing expectations, and how far might nominal (and real) rates have to rise?²³

The figures compare two different factors:

- (i) *The nominal exchange rate against the USD and the price level.* This shows two series for the price index: one (CPI1) that sets the CPI equal to the nominal exchange rate at the start of the period, and a second (CPI2) that sets the index equal to the nominal exchange rate after a significant adjustment. If the price level rises faster than the nominal exchange rate, the implication is that the real effective exchange rate is appreciating.²⁴
 - a. CPI1 provides an indication of whether the exchange rate has, over the period as a whole, moved in line with the CPI and, effectively, the inflation differential with the USA.
 - b. CPI2 is included, for those cases where there has been a step change in the exchange rate level, to provide ease of comparison with the exchange rate path after the adjustment.
- (ii) *The rate of inflation and the short-term domestic interest rate.* This provides an initial indication of whether interest rates have on the whole been positive in real terms; and whether monetary policy was tightened when/if the exchange rate adjusted. The measure of short-term interest rates should ideally capture the effective policy rate. Since in some cases the posted policy rate is not implemented in a way that impacts markets, where possible, both the policy rate and short-term interbank rates are shown.

²² The Banco Nacional de Angola has argued that a parallel market rate of 10–20 percent would likely persist because of demand to evade capital controls.

²³ “Large swings in the exchange rate, and especially large depreciations, can destabilize prices, and can do so in non-linear and even discontinuous ways...However, the ultimate effect of exchange rate changes on the broader price level depends crucially on the characteristics of the domestic inflation process, and specifically on the propagation of the initial impact through—second-round—effects.” Carstens, 2019.

²⁴ The REER should in principle be estimated using the appropriately weighted basket of currencies, and where an REER series is available e.g., Egypt, this has been included. Inflation in the US has been positive (by a cumulative 18 percent from January 2010 to December 2019): the CPI series has therefore been adjusted to show the average differential with the US.

In the table below, summarizing lessons from the country cases, there is inevitably an element of judgement and approximation.

While in some cases an exchange rate adjustment is rapid and easily identifiable e.g., Myanmar in March, 2012; in others the start and end dates are less clear. In many cases the adjustment has been made in a short period (from overnight up to a few months), but in others is protracted and takes years. Protracted adjustments may involve a policy change: the central bank may try to control a depreciating exchange rate for a period while allowing a parallel market to develop, and then move to a more market-based approach. A few suggest a long-term policy of stabilizing the REER, but in the shorter-term policy alternates between periods of broadly stable nominal exchange rates, interspersed with sharp adjustments (Ghana, Malawi, Myanmar post 2012, Tajikistan), while others appear to make an insufficient initial exchange rate adjustment, followed by a larger and more sustainable change to the exchange rate around a year later (Azerbaijan, Kazakhstan, Uzbekistan).

The inflation rate shown takes the month of the initial adjustment as the start date, and then the highest rate of inflation in the following 12 months. In some cases, the monetary policy response²⁵ was protracted and tended to lag inflation developments (described as “partial”, e.g., Azerbaijan and Egypt), while in others it was quick and sharp e.g., Kazakhstan in 2015. Pakistan did not have a significant parallel market but did lose substantial FX reserves in the lead-up to the depreciation to a sustainable, market-clearing level.

There is significant variation in the pass-through from the depreciation to inflation, but where the official exchange rate was largely irrelevant (Myanmar in 2012, most obviously), or monetary policy tightening with positive real interest rates was clear, the pass-through appears to be relatively muted. However, even when an economy is already functioning with a free-floating exchange rate (the parallel market is certainly not managed by the central bank), a change in the official rate may impact expectations of future currency weakness—and so feed through to the parallel market rate—unless monetary and fiscal policy are clearly supportive of future exchange rate stability, and well communicated. The pass-through varies for a number of reasons, but in all cases is lower than e.g., the average pass-through ratio of 0.4 found by a World Bank paper in cases where the depreciation was over 20 percent.²⁶

The degree of fiscal stimulus, and of monetary financing are clearly relevant. These are harder to quantify in a time-series for all of the countries involved; we have taken into account, where possible, the level and changes in central bank net credit to the government, and the size of and changes in the budget deficit as a percent of GDP. In most cases we know whether the fiscal context was supportive, and/or changed during or after the exchange rate adjustment process.

²⁵ Normally, the de jure policy rate but in some cases a money market rate if this is clearly more representative of actual monetary policy.

²⁶ A World Bank (2019) paper suggests non-linearities, with larger depreciations leading to higher pass-through ratios, and in general a higher pass-through in emerging market economies than in AEs.

There are a number of countries where there is currently (December 2020) a parallel market exchange rate that is some 25 percent or more weaker than the official rate. These include: Algeria, Argentina, Burundi, Ethiopia, Lebanon, Nigeria, Sudan, South Sudan, and Venezuela. They are not included in the table below, because the official exchange rate has not yet been moved to a market-clearing level and so there are no “results” to record.

Table 1. Summary of country case studies where exchange rate has been unified²⁷

Country	ER adjustment		Inflation		Pass-through	Interest rate			Fiscal
	Date (A)	Size, percent (B)	Prior to unification (C)	Peak (D)	(E) = (D-C)/B	Prior to unification(F)	Peak (G)	Pre-emptive (H)	(I)
Angola	Jan-Dec 15	50.2	7.4	17.3	19.7	9.00	12.00	No	
	Oct 19-Sep 20	68.0	16.3	23.8	11.0	14.5	30.00	Yes	Yes
Azerbaijan	Feb-Oct 15	24.5	0.2	3.50	13.5	3.50	3.00	No	
	Dec 15-Mar 17	62.4	3.6	14.5	17.5	3.00	15.0	Partial	Broadly
Egypt	Oct 15-Apr 17	103	14.1	32.9	18.3	11.75	18.75	Partial	Broadly
Ghana	Jan-Sep 14	51.5	13.5	17.9	8.5	16.00	21.00	Yes	Yes
	Feb 15-Feb 16	21.0	16.4	19.2	13.3	21.0	26.00	Partial	Yes
	Jun 18-Aug 19	18.1	9.9	9.4	-2.8	17.00	16.00	No	Yes
Kazakhstan	Jan-Mar 14	17.6	4.6	7.75	17.9	5.50	5.50	No	OK
	Jul 15-Jan 16	95.8	4.0	17.4	14.0	5.50	17.0	Yes	Yes
Malawi	Jul 11-Mar 13	156	7.4	34.6	17.4	4.0	21.2	No	Yes
	Jun 15-Feb 16	71	21.2	24.9	5.2	11.6	11.6	No	No
Myanmar	Mar 12-Apr 12	14500	-1.1	7.1	0.1	10.0	10.0	No	No
Pakistan	Nov 17-Dec18	31.6	4.0	6.2	7.0	5.75	10.0	Partial	No
	Mar-Jun 19	15.6	9.4	12.3	18.6	10.25	13.25	Yes	Broadly
Uzbekistan	Aug-Sep 17	86	15.8	20.1	5.0	9.0	14.0	Yes	OK

A number of countries over the past 10 years or so have undergone significant adjustments in the official exchange rate. The evidence from case studies included here (mostly cases where there was a clear parallel market rate, and outlined in more detail in the annexed country case studies) suggests that:

- (i) When the official exchange rate is allowed to move to a market-clearing level, it does not go into freefall—except perhaps if the market-clearing (parallel market) rate was already in freefall and macro policies are not adjusted appropriately (Argentina, Zimbabwe, and Lebanon provide recent examples of rapidly-moving parallel market rates).

²⁷ Table 1 provides a simple summary of the case studies. The date of the exchange rate move—and thus, broadly, of exchange rate unification, is shown in column A, and the size of the move in column B; the “peak” inflation rate (D) is the highest rate of inflation seen in the 12 months following unification, and similarly the policy rate peak (G) is the highest following unification. Columns H and I offer an initial judgment as to whether there was a policy rate increase in order to pre-empt rising inflation, and whether there was significant fiscal adjustment at the time. Later studies could explore in more detail the specific policy context and the extent to which it was supportive.

- If the factors that have caused pressure on the exchange rate persist, then the exchange rate should be expected to carry on weakening. An extreme case is Zimbabwe through 2019, where failure to allow the official rate to move to a market-clearing level, and continued monetary financing in the first half of the year, resulted in a continued depreciation of the market-clearing exchange rate.²⁸
- (ii) The parallel market rate is likely to be a reasonable indication of the market-clearing rate at a given point in time, particularly if the parallel FX market is well-established and the price well known. But it is important to remember that the parallel market rate is representative of a number of factors: insufficient supply at the official rate; the use of the parallel market to evade capital controls; illegal transactions; uncertainty about the authorities' future policy actions. Not all of these will feed into a unified market-clearing rate for current account transactions, especially if needed changes to fiscal and monetary policies are credibly undertaken. Moreover, it is not a predictor of where the market-clearing rate for current transactions will move in the future: that depends on the broader macro-context.
- (iii) The context is crucial: tightening monetary policy at the time of the adjustment is important in helping the market to stabilize; and supportive fiscal policy is essential to stabilization.
- A new policy for exchange rate intervention (including that there will not be any, if that is the case) will need to be announced, together with a coherent framework for domestic currency monetary policy operations.²⁹ The risk of a persistent exchange-rate overshoot will be mitigated if the central bank announces a monetary policy tightening, which the market will expect to bite once the exchange rate nears a market-clearing level.
 - Monetary policy tightening might not have an immediate impact on reserve money management e.g., if the market starts with a substantial excess of reserve money balances held at the central bank but should nevertheless be important in guiding market expectations. Raising policy rates might not change market responsiveness to monetary operations when the exchange rate is moving, or is expected to move, rapidly. In such situations, the market will be concerned about the opportunity cost of selling FX and holding the domestic currency: the domestic inflation rate at this point is secondary. But it can give a clear signal to the market that the central bank would operate a tight monetary policy stance. It would build expectations that, once the exchange rate had adjusted to (broadly) market-clearing levels, monetary policy would bite; and a policy rate above the expected future rate of inflation should then

²⁸ At the Davos meetings in January 2020, Zimbabwean Finance Minister Mthuli Ncube said inflation was beginning to stabilize, even with consumer prices increasing more than 500 percent on an annual basis. Year-on-year inflation remains high, “but that’s expected, that happens when you liberalize a currency”. Arguably, high inflation was a result of monetary financing and fiscal stimulus, not of “currency liberalization”; and the RBZ overnight lending rate of 35 percent annualized, and medium-term lending rates of 15–18 percent, appear insufficient to achieve the RBZ’s stated “key focus on price and exchange rate stability”.

²⁹ If economic agents lack information in times of transition about the authorities’ reasons for undertaking certain actions, or their future policy intentions—regarding both exchange rate and domestic monetary policy—the market is likely to “assume the worst” and act cautiously.

impact the behavior of economic agents. If tighter policies are announced before or during (rather than after) the adjustment phase, then expectations should adjust faster and become (re-)anchored—allowing interest rates to normalize more quickly at sustainable levels.

- Continuing fiscal stimulus will tend to weaken balance of payments; monetary financing (and government payment arrears) will lead to higher inflation and so put pressure on the exchange rate. Supportive policies by the government are needed if the central bank is to be able to deliver a measure of exchange rate stability.
- (iv) The price level in the economy prior to the exchange rate adjustment tends to reflect the parallel market exchange rate, so that the inflation pass-through from an adjustment to the official exchange rate tends to be muted.³⁰ But the monetary and fiscal policy stances are clearly crucial to future inflation developments.
- (v) If banks and their customers are caught by surprise, they may face losses. But the existence of the parallel market rate in itself indicates that the market is expecting a depreciation. Thus in practice, banks tend to benefit from the depreciation, and economic agents—expecting some measure of exchange rate depreciation—have normally positioned themselves accordingly. State-owned banks may have been pressured, for ‘policy’ reasons, to take a short FX position, and so could be more vulnerable.
- (vi) Faced with continuing exchange rate pressures, some authorities accuse economic agents of acting as speculators, and attempt to force them to operate with an over-valued exchange rate.³¹

VI. WHEN AND WHERE TO JUMP

If moving to a unified, market-clearing rate is “recognizing reality”, then why not simply do it immediately? Indeed, the authorities may be “pushed” before they are ready; and if the (parallel) market has already made the move, policies and instruments need to catch up. The ideal time to move on the exchange rate never comes; a worse time always does.³² Waiting until FX reserves, and policy credibility, are exhausted makes it much harder to manage the transition.

³⁰ “The role of the parallel market is typically out of proportion to the share of goods traded in the parallel market for two reasons. First, the marginal source of FX for imports is the parallel market... Second movements in the parallel rate can feed into the prices of non-traded goods through their effect on wealth and aggregate spending.” Kiguel and O’Connell (1995).

³¹ Under the Fund’s rules, moral suasion by the authorities may constitute an “official action” giving rise to exchange restrictions and/or multiple currency practices under Article VIII, Section 2(a) and 3 of the IMF’s Articles of Agreement.

³² Some central banks have suggested that adjustment should only be undertaken once a back-log of FX demand has been met (to prevent excessive downwards pressure on the exchange rate), or when FX flows are broadly balanced and/or the spread relatively small. In practice, the backlog can never be eliminated; and when the pressure is off, governments and central banks avoid difficult policy moves. [Morocco may be a rare, positive exception in terms of making a move towards exchange rate flexibility without immediate pressure to do so.]

Nevertheless, in discussions with central banks, and as noted above, the potential benefits to future market price formation from communication of a clear and coherent policy package points to taking some time to prepare. Supportive fiscal policies are an important factor. (The government does need to consider whether its debt servicing costs increase substantially.³³ Trade tax revenues are likely to increase with a move to a market clearing rate; this may more than offset the loss of the effective tax on exporters who have to surrender FX at the official rate.³⁴ Consideration should also be given to fiscal subsidies for imported goods including fuel.) If the move to exchange rate unification can be announced as part of a wider, supportive policy package—placing the exchange rate move in the context of a broader macro-stabilization framework—the additional information will support price formation, and so tend to reduce volatility after the move.

A rapid exchange rate unification is likely to be much less costly to the economy than a gradual approach (“death by a thousand cuts”). A gradual approach delays normalization of the foreign exchange markets: economic agents that can choose to retain FX, or have some scope to make early purchases, will typically hoard FX to the extent possible, unless the expected pace of depreciation is more than offset by high domestic interest rates. It will thus tend to mean the central bank has to sell more of its FX reserves (and at a cheaper price) than would otherwise have been the case; require a higher level of interest rates for longer (or extended financial repression) if inflation is to be kept under control and economic agents motivated to hold the domestic currency; and the distortions imposed on the economy by the overvalued rate would last longer, while benefits of the move may only start to accrue towards the end of the transition. Indeed, the gradual approach may never reach a new equilibrium.

That said, the authorities may prefer a more gradual approach that allows them to develop alternative monetary anchors. A gradual approach will place a greater burden on the central bank’s communications policy, as it will need to give some guidance to the market without provoking a destabilizing response (speculative purchase of FX, hoarding of goods etc.). Communication of the change in exchange rate policy is difficult (especially if the transition is protracted), but crucial in helping to stabilize expectations. Failure to communicate means more uncertainty, and almost certainly more volatility and a larger overshoot. The move cannot be done unobserved: the exchange rate is very visible, and well known.

It will not be possible to predict precisely how the economy will respond to exchange rate unification at a market-clearing rate. Some factors to which attention should be given include: Has the parallel market exchange rate been stable, or was it depreciating

³³ Some commodity exporting countries are “macro-hedged”: FX debt is matched by FX income from commodity sales. However, large commodity price falls are associated with exchange rate pressures: this macro-hedge may cover exchange rate risk, but not the loss of income.

³⁴ Pinto (2016) suggests “for Ghana, the premium was an implicit tax on cocoa farmers”, so that the Ghanaian government “would be losing implicit tax revenues” requiring a fiscal adjustment; while “In Nigeria, the government was selling oil dollars to those lucky enough to receive import licenses at the official rate...a massive subsidy and instantaneous source of profit to import license recipients...[but] a ruinous tax on the once-flourishing Nigerian agricultural sector,” so that moving to a market-clearing rate would reduce an implicit subsidy and thus strengthen the fiscal position.

continually—and if so, what was driving the depreciation—since the same factors will impact any unified rate. Is the market deep enough to cope with shocks, or is it better characterized as thin and volatile? Did the parallel market rate respond to the central bank's use of interest-rate based levers?

VII. COMMUNICATION

Market communication is important. There are a number of important questions that economic agents ask, and where the answers (or lack of them) inform the process of market-price formation, and the willingness of economic agents to sell FX into the market. The more clarity that the authorities can provide, the quicker the exchange rate will settle into a new equilibrium (though this will rarely be nominal stability against another currency), and the smaller the exchange rate overshoot is likely to be.³⁵ Guidance as to the authorities' intentions—notably, on providing FX to the market (e.g., via daily or weekly FX auctions), and on domestic monetary policy—should cover the medium-term (more than 12 months). If the central bank provides guidance only for the next month, the market will assume that the situation will be less favorable/more uncertain thereafter. Short-term demand for FX will increase as a result—keeping downwards pressure on the exchange rate and perpetuating the imbalance between supply of and demand for FX in the market. Some of the issues where the market will benefit from clarification/confirmation include:

- What is the exchange rate policy going forward? The approach of economic agents may be characterised as: “We don't believe a completely free-floating regime is in place, so we just have to guess what the new policy is if you don't tell us.”
- What sort of intervention policy should be expected in future? If the central bank plans to switch from being a net provider of FX to being a net purchaser, it should indicate this to the market.³⁶
- Use of (im)moral suasion to guide the exchange rate post-adjustment will motivate market participants to keep FX out of the market. It is important to avoid any suggestions that the central bank may revert to managing the rate directly e.g., by calling the banks and telling them what rate to post if it doesn't like the outcome?³⁷

³⁵ Exchange rates always overshoot in this sort of adjustment, in part because no-one precisely knows *ex ante* what the new (temporary) equilibrium rate should be, and transitional uncertainty tends to depress the exchange rate.

³⁶ Many central banks run down FX reserves trying to protect an overvalued exchange rate, and subsequently need to re-build reserves. The re-building does not need to happen immediately and in large volume; but it will be helpful to market price formation if the central bank indicates its broad intentions.

³⁷ As an example of this: When the Central Bank of Iraq introduced an FX auction in early October 2003, the banks were told they could bid freely for FX; but at the first auction only one bank made a bid, for a very small amount (US\$20,000), and at an off-market price. When asked about this later, the commercial banks said that they had doubted the central bank would actually operate as it had announced, and agreed amongst themselves that one bank would put in a single bid, to test the central bank's approach. When the bid was honored, they decided to trust the system, and thereafter participation was active and volumes rose quickly.

The central bank's actions in the days and weeks following a regime change will be crucial.

- How will the central bank implement interest rate policy, and what is its policy reaction function?

Clear communication on these points, taking into account the different needs and financial sophistication of various economic agents, is important in facilitating efficient price formation and building credibility in the new exchange rate framework.

The market will also be influenced by expectations regarding: (i) whether the government will be able to resist occasional monetary financing if things get difficult, or to run arrears on payments due to domestic suppliers; and (ii) if monetary policy has to push short-term rates higher, in order to stabilize expectations after a nominal depreciation of the official exchange rate, will the government pay the market rate to cover its deficit financing needs, or will it engage in financial repression? The authorities behavior over time will be important in forming market expectations, and supporting (or not) exchange rate stabilization.

VIII. EXCHANGE RATE POLICY POST-UNIFICATION

As noted earlier, this paper does not discuss in detail the options for the exchange rate going forwards. This will inevitably be country-specific, ranging from a possible re-peg at a new level, to a free float simply because there is no alternative (indeed, in many of the cases included here, the exchange rate is de facto free-floating for much of the population, even if the official rate is stabilized). Where there is some scope for managing the exchange rate, the broad options include re-pegging and a managed float.

A new peg at a different level

It may be possible to undertake a one-off devaluation, re-pegging at a rate that is sustainably market-clearing—moving from a possibly fictitious peg (where the parallel market was the “real” rate for much of the economy) to a real one. Judging the appropriate new level for the exchange rate is hard if (i) the needed adjustment is large as the margin for error is greater;³⁸ (ii) the causes of the official-parallel spread are not effectively tackled (the “appropriate” exchange rate may be a rapidly-moving target); or (iii) the inflation pass-through from the adjustment is not well estimated or controlled.

A step devaluation to a new exchange rate level (whether pursuing nominal or real stability) will require that the fiscal position and balance of payments be sustainable at that level, and the recognition that the adjustment involves a degree of overshoot (since an undershoot would not deliver sustainability, and it is impossible to know precisely what the right level is). Importantly, the authorities would also need to communicate credibly that future policies

³⁸ For a required depreciation of 8–12 percent, a devaluation of 10 percent should not be problematic; but if the required adjustment is around 60 percent, the margin for error, and consequences of moving to a “wrong” rate, are greater.

would maintain sustainability of the exchange rate, in order to avoid pressures from capital flight.

A managed float

Some countries appear to have allowed a few months of managed exchange rate flexibility, following a large depreciation, in order to “fine-tune” the rate setting before re-fixing e.g., Azerbaijan in 2016. Some that try re-pegging find themselves forced to make a further adjustment within a relatively short period, whether because the underlying pressures on the exchange rate have not been addressed, or because the economy is hit by another shock (e.g., the oil price shock in 2014 that hit a number of commodity exporters was followed in 2020 by a second, COVID-19 related, oil price shock).

A number opt for a managed float rather than a hard peg, following the adjustment. If a more flexible exchange rate is to be adopted, then longer-term stability suggests the need for: developing a deeper and more liquid foreign exchange market; intervention strategies for a flexible exchange rate regime; establishing an alternative credible monetary anchor; instruments available for management of exchange rate risk; and appropriate regulation and supervision. In practice, it may be impossible to develop all these before making the move; and it is impossible to develop any of them fully.³⁹ Recognizing this, some e.g., Agenor (“Orderly exits from adjustable pegs and exchange rate bands”, 2004) argue for an ability to adopt an alternative anchor *in a timely manner*; capacity to implement monetary policy independently; and maintenance of transparency during the transition. Others have noted that pressure on fixed exchange rate regimes is nearly always a consequence of unsustainable fiscal policies (e.g., Rebelo and Vegh, “When is it optimal to abandon a fixed exchange rate?”, 2008), and thus that it is not just monetary policy that needs to be implemented well, but that broader macroeconomic policies are crucial (e.g., Stan Fischer, Mundell-Flemming lecture 2008).

IX. CONCLUSIONS

A decision to “recognize reality” by abandoning an official exchange rate at which demand cannot be satisfied is not determined by, nor does it determine, the future exchange rate regime. Rather, it reflects a recognition that a unified, market-clearing rate will reduce distortions and better serve the real economy. In some cases, it appears that the policy decision was to move to a more depreciated, but still managed, exchange rate at which supply and demand were expected to be in balance (thus avoiding a sustained drain on reserves and/or a significant parallel market spread), but without necessarily changing the general approach to exchange rate policy. In a few cases, there appears to be a policy change, after a one-off depreciation, from stabilized nominal exchange rate to a stabilized real effective exchange rate.

The factors that led in the past to the emergence of the parallel rate will rarely disappear overnight, and to the extent that they continue, a unified market-clearing exchange rate may

³⁹ A deep and liquid FX market will not develop if the central bank requires transactions to be undertaken at a fixed and off-market rate, and hedging instruments are very hard to price in the face of significant price distortions. Monetary anchors and operational instruments will need to take account of changes to market behavior once distortions are removed, and these changes cannot be fully predicted.

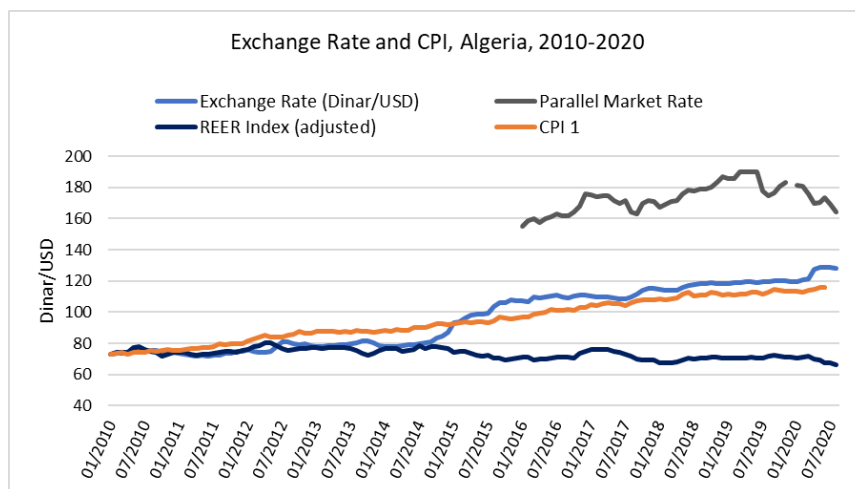
continue to depreciate in future. But the rate of depreciation should be expected to slow as the authorities tackle the root causes; and if the initial overshoot is large, the nominal rate may even appreciate for a period as the market recognizes the overshoot.

Discussions with country authorities and country teams, and the evidence of the case studies presented in this paper, suggest that abandoning an official exchange rate which is significantly out of line with the FX transactions occurring in the real economy need not, in itself, lead to a jump in inflation or in expectations of future depreciation of the exchange rate. This is particularly the case where the spread between the official and parallel market exchange rates is wide (e.g., more than 50 percent). Indeed, if communicated clearly and credibly and—importantly—as part of a policy package, exchange rate unification at a market-clearing level may strengthen confidence in the future management of the exchange rate and so reduce depreciation expectations. It can also reduce uncertainties and facilitate legitimate transactions in the real economy, supporting economic growth.

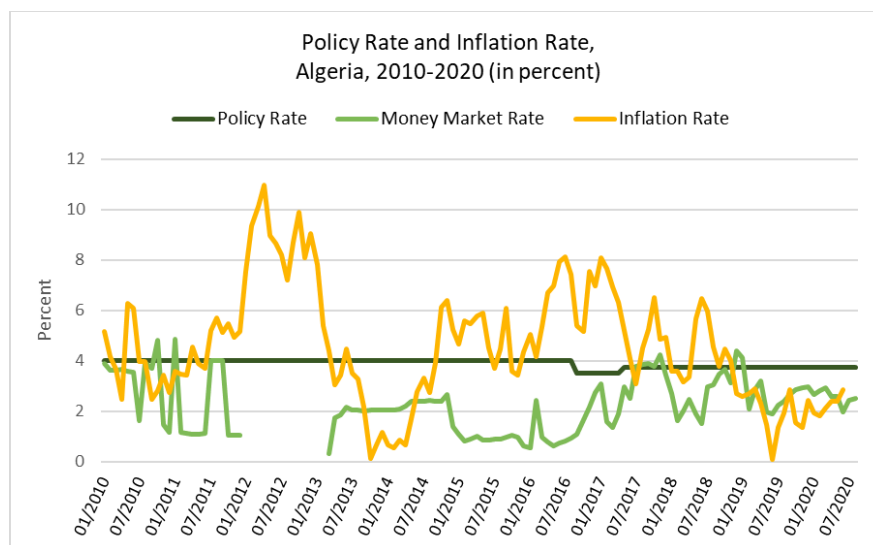
The “bottom line” is that where an official exchange rate has become irrelevant to most economic actors—because they only have (reliable) access to FX at the parallel market rate—then abandoning the official rate should not be expected to cause macroeconomic disruption. There will of course be losses to those who had privileged access to FX at the official rate; but, importantly, significant net benefits to the broader economy (including the most vulnerable in society) from a unified and market-clearing rate that can be traded easily.

Annex: Case Studies¹

ALGERIA



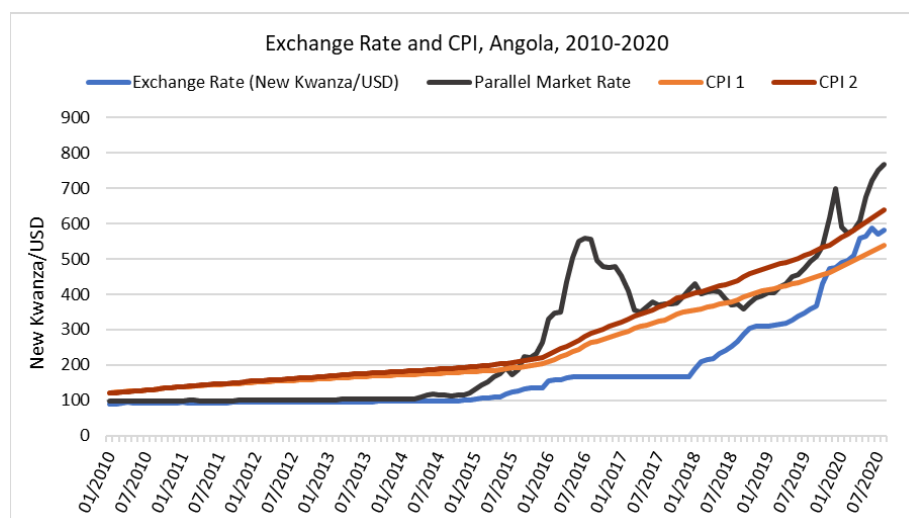
Source of parallel market rate: www.forexalgerie.com, available from 2016 to 2020



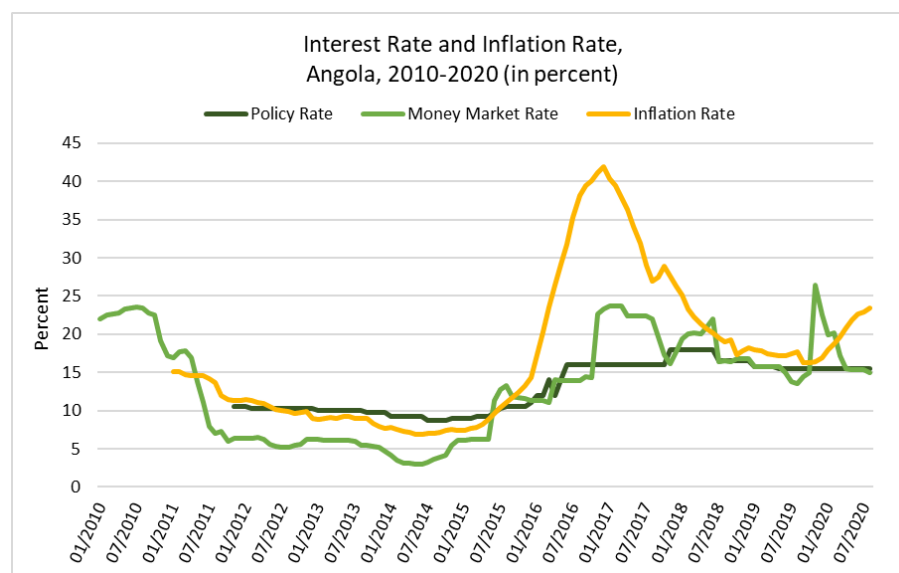
Source: IFS

Algeria has a long-standing stabilized REER policy. In 2014–15 there was an adjustment to reflect a fall in global oil prices; but no substantial adjustment has been made in response to the COVID-19 related oil price fall. But FX reserves have fallen substantially over the past two years; and the spread to the parallel market exchange rate—which exists in part to evade capital controls—has widened to around 60 percent.

¹ In the Annex figures, CPI1 sets the CPI equal to the nominal exchange rate at the start of the period; CPI2 sets the index equal to the nominal exchange rate after a significant adjustment.

ANGOLA

Source of parallel market rate: IMF AFR country team

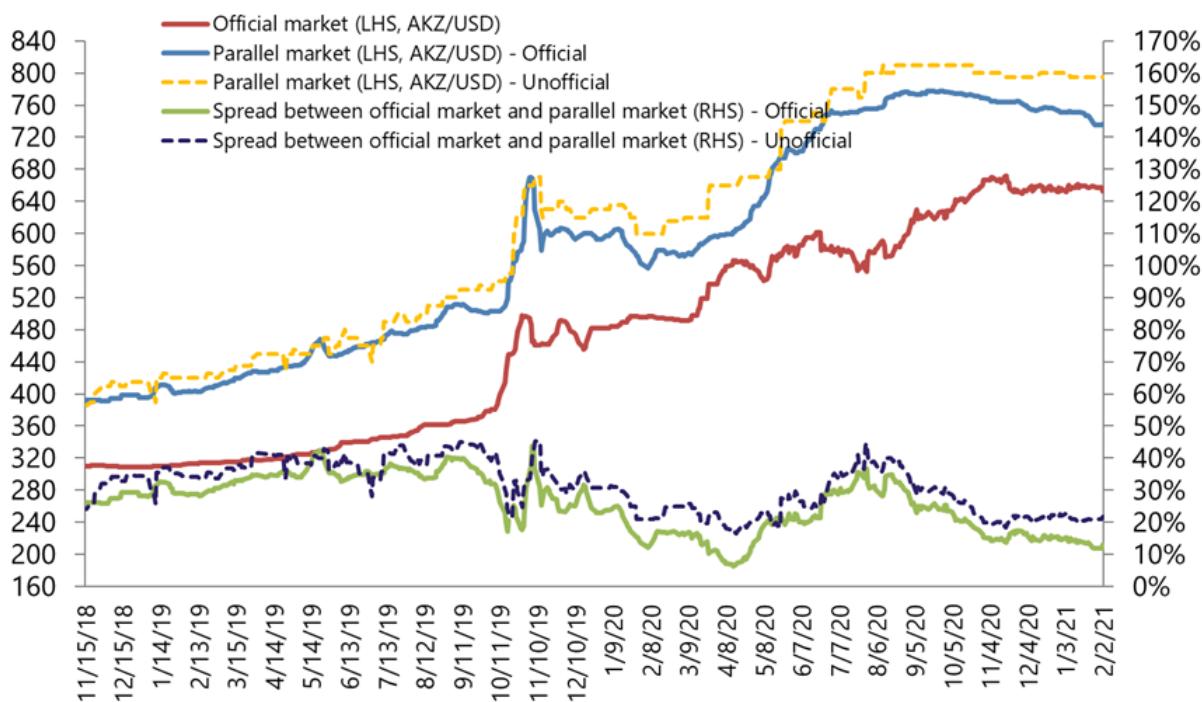


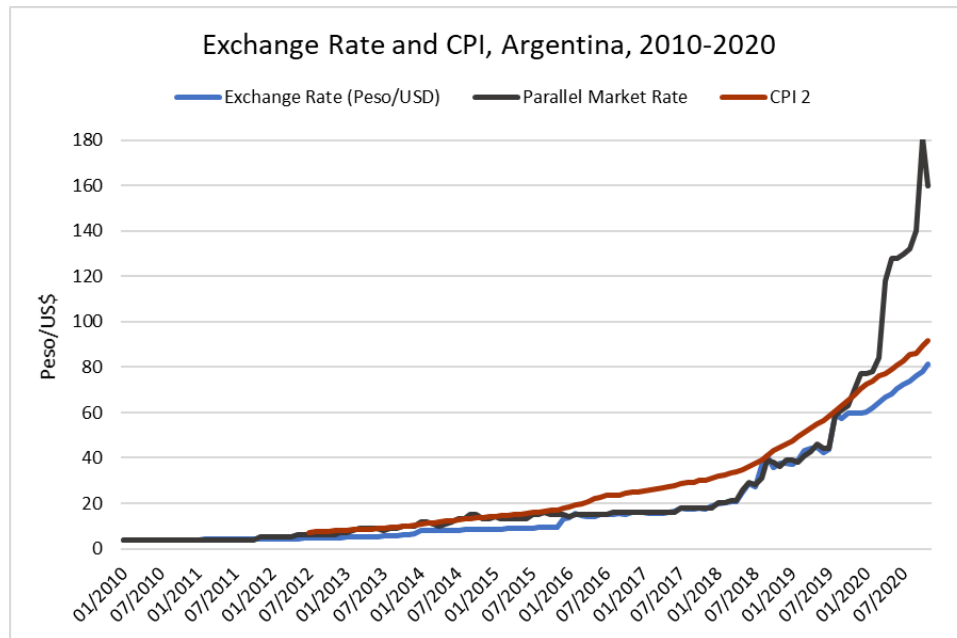
Source: IFS

Angola: the official exchange rate from 2010 allowed a substantial REER appreciation, with periodic partial catchups in 2015 and 2018: these offset the REER appreciation over the previous few years but did not necessarily achieve an equilibrium exchange rate. The central bank was not able to meet market demand for FX, so that a parallel market rate traded, at times 150 percent above the official rate—in line with the overvaluation implied by CPI lines in the first chart. The very substantial adjustment to the official rate seen in 2018–2019 feeds through only very partially to inflation—despite some monetary financing and policy interest rates below the level of inflation—as the market was already pricing in the parallel market rate. For Angola, the short-term interbank rate is shown as well as the policy rate, since the central bank (BNA) at times tightens monetary policy effectively by raising its short-term lending rate, without adjusting the formal policy rate.

In October 2019, the BNA removed constraints from its FX auction, allowing the market to set the rate. The nominal rate depreciated by some 30 percent during the month of October, with some subsequent bounce-back soon after. A significant tightening of monetary policy was crucial: although the posted policy rate of 15.5 percent did not change, short-term BNA OMO lending rates rose above 30 percent, and all interbank yields up to 12 months soon rose well above inflation levels. Reportedly, the bulk of FX trading has moved back to the formal market, and the parallel market is now largely for small cash transactions and those evading capital controls. The annualized inflation rate rose over the following twelve months by some 7 percentage points compared with September, to 24 percent, though in part this reflects a price-level shift as a result of VAT changes. A further exchange rate adjustment in March 2020—following the crisis-related shock to oil prices—was accommodated by the market relatively easily.

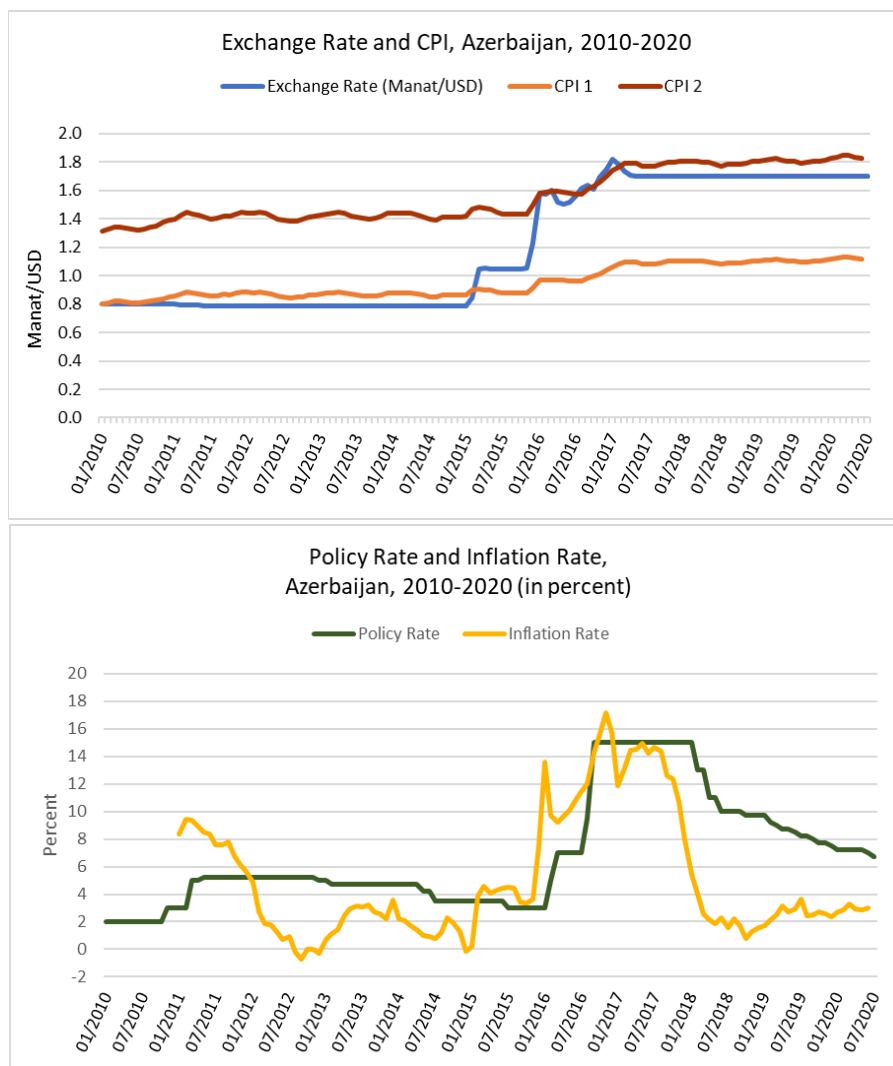
Daily Foreign Exchange Rates and Spreads



ARGENTINA

Source of parallel market rate: Bluedollar.net

Prolonged economic difficulties have led to a very sharp weakening of the Argentinian peso, particularly since 2018, and more recently to a large divergence between the parallel market rate (sometimes known as the “blue” rate) and the official rate. When the parallel market rate is very volatile and subject to very large shifts, it is not possible to know ex ante what a stable, market-clearing exchange rate would be, and the link between the parallel market rate and price levels will likely become disconnected; increased dollarization is probable in such circumstances.

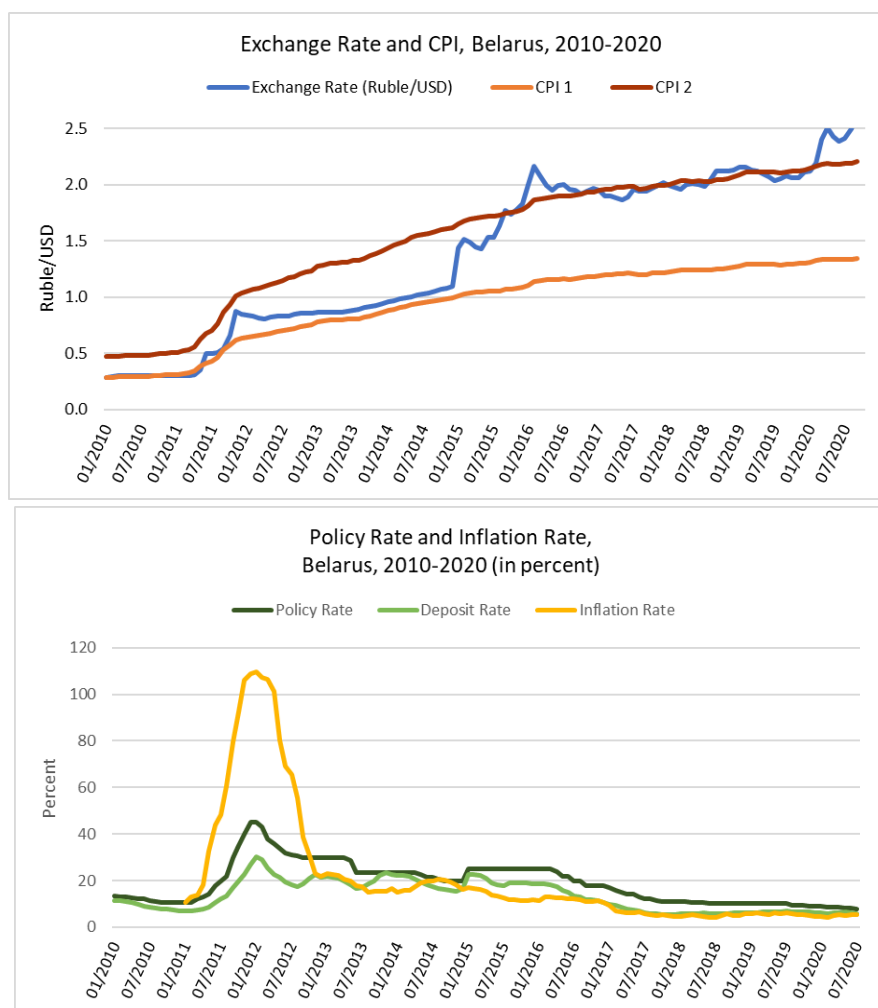
AZERBAIJAN

Source: IFS

Azerbaijan: substantial FX reserves have allowed the central bank credibly to adopt a pegged exchange rate regime after a period of adjustment. It is noticeable that the first step adjustment in early 2015 did not achieve a market clearing rate, only just reversing the REER appreciation of the previous five years, while the second adjustment (i) allowed a period of market price formation—after a large step devaluation in December 2015—before; and (ii) settling at the new pegged level that in view of the low inflation rate is keeping the REER broadly stable at a market-clearing level. (The brown line in the first chart re-sets the CPI equal to the exchange rate in December 2015, to facilitate comparison of the CPI and the exchange rate from that point.)

Inflation increased after both exchange rate adjustments—though in both cases by much less than the size of the nominal depreciation. After the first devaluation in February 2015,

inflation jumped by four percentage points that month; the official monetary policy rate was not changed (it was cut by 50bp a few months later). Two months after the second devaluation in December 2015, the central bank policy rate was increased from 3 to 7 percent, and six months later, the rate was raised further, to 15 percent. The sharp increase in short-term interest rates accompanying the second adjustment—eventually taking policy rates above the level of inflation—was supportive of stabilization, and the fiscal position moved from a small deficit to a small surplus. These policy responses have helped inflation to return to the pre-adjustment level. Inflation fluctuated upwards during this period, but the 10 percentage point increase was much smaller than the manat depreciation. Despite the very substantial nominal depreciation, inflation quickly fell back to single digits (by December 2017). Two months later, the central bank started to gradually cut policy rates.

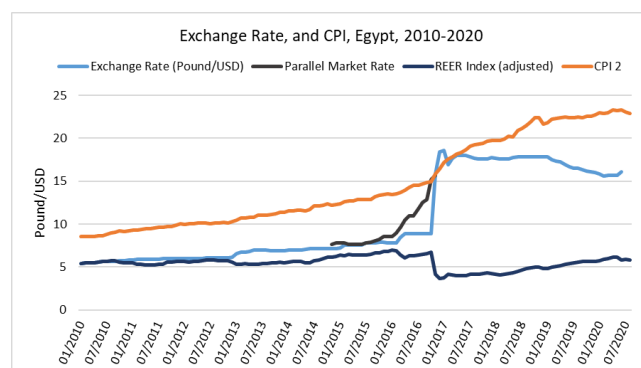
BELARUS

Source: IFS

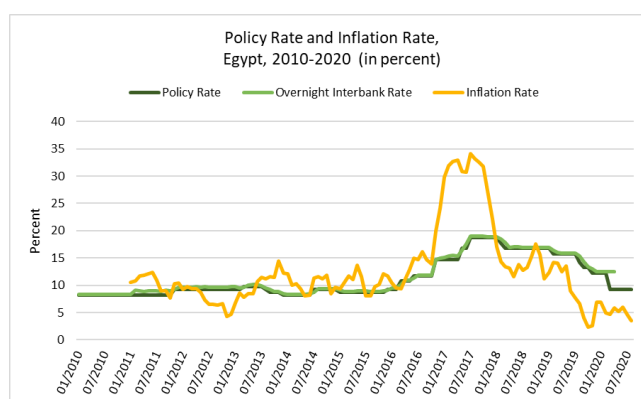
In 2011, Belarus attempted to maintain its currency peg with CFM, despite loose macroeconomic policies, leading to a parallel market that traded at a rapidly increasing premium from the official exchange rate. Eventually, the peg was abandoned, resulting in a devaluation by 65 percent as the official rate was realigned with the parallel rate.² After the second round of adjustment through 2015–16, the REER has been fluctuating around the market-clearing level with a low inflation rate. (The gray line in the first chart re-sets the CPI equal to the exchange rate in January 2017.)

Inflation shot up during the first period of adjustment in 2011 by approximately 100 percentage points. To curb the soaring inflation, the central bank policy rate was raised from 10 percent in early 2011 to 45 percent (still well below inflation) in January 2012. The policy rate gradually came down as inflation dropped overtime. With a parallel market in place (unfortunately, we do not have a good time series for this), the impact on prices of the second adjustment was muted, as prices had already risen in line with the parallel market rate.

² 2015 Article IV Press Release; Staff Report; and Statement by the ED
imf.org/external/pubs/ft/scr/2015/cr15136.pdf

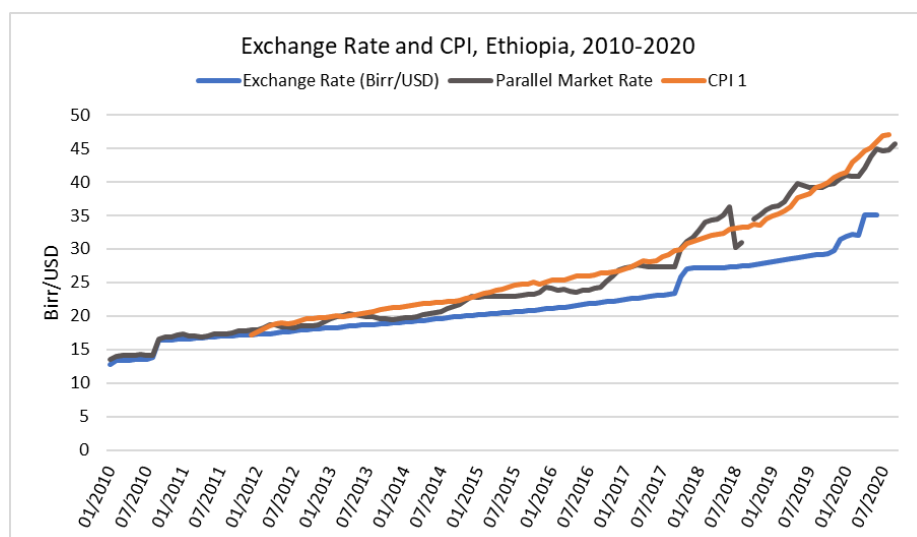
EGYPT

Source of parallel market rate: IMF MCD country team. Data available from 2014 to 2016

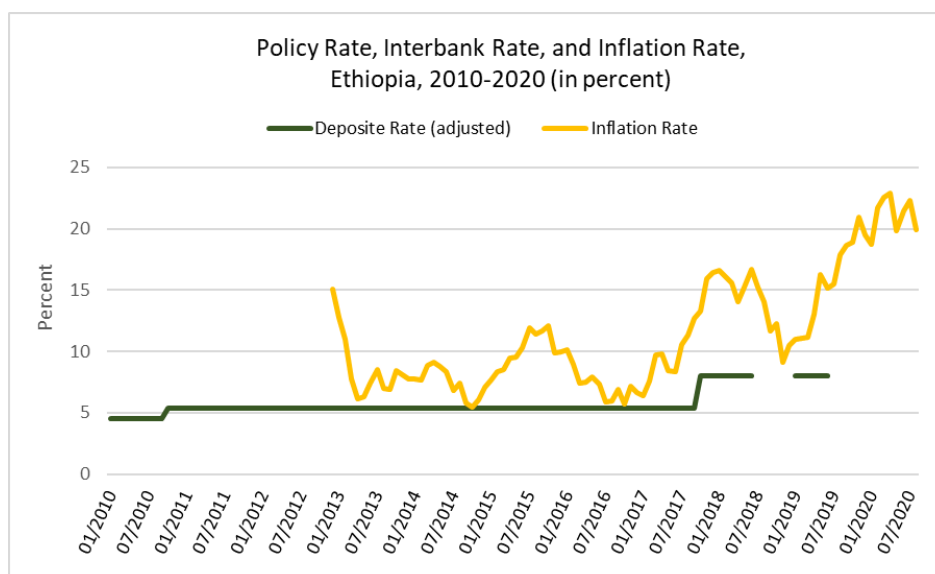


Source: IFS, CEIC, Haver Analytics

Egypt: following the political turmoil in early 2011, the official exchange rate against the USD was broadly stabilized by the central bank, but capital outflows by non-resident investors depleted FX reserves, and demand for FX could not be met at this price. A parallel market developed. Continuous monetary financing coupled with weak current account revenues (as many tourists stayed away) put continuing pressure on the exchange rate, resulting in a widening gap between the parallel market and the official rate. By late 2016, the official rate was EGP8.8 to the USD, while the parallel market rate was in the region of EGP15. In November 2016, the official rate was allowed to converge to the market rate. As expected, the new market-clearing rate moved beyond the parallel rate (a normal overshoot). The Central Bank of Egypt tightened monetary policy pre-emptively, by increasing its policy rate by 300bp and at the same time sterilizing part of the liquidity surplus that had built up due to a prior accommodative monetary stance. In this period of time, inflation doubled to around 30 percent. In response, monetary policy was further tightened in several steps, and rates were then kept high, while fiscal policy was gradually tightened, and inflation dropped back to single digits. The backlog of FX demand—which had been estimated at several billion dollars—was met by market supply within a few months, and the central bank has been able to re-build FX reserves substantially, hitting \$45 billion in October 2019. Economic growth has responded well, now that FX is freely available; increased tourist visits (prior to COVID) and short-term carry-trade capital inflows also boosted FX flows, leading to an appreciation of the nominal exchange rate and even more so of the REER.

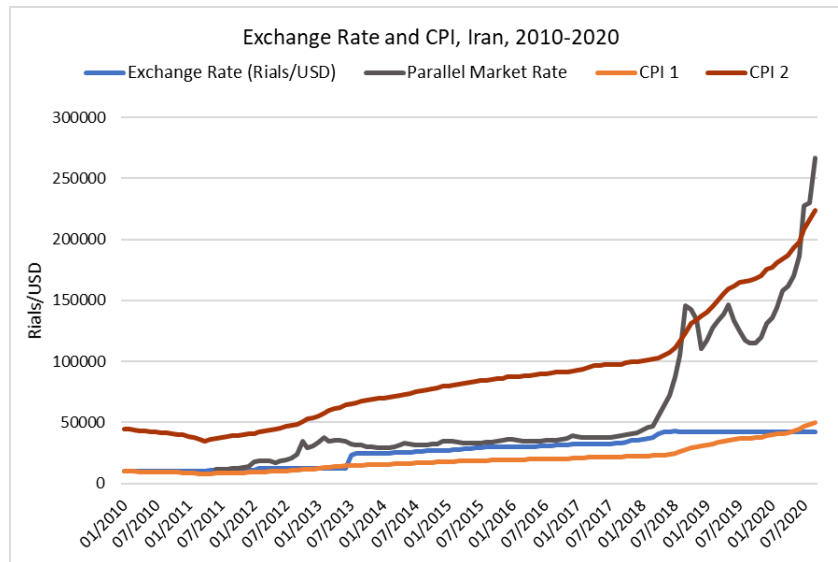
ETHIOPIA

Source of parallel market rate: IMF AFR country team



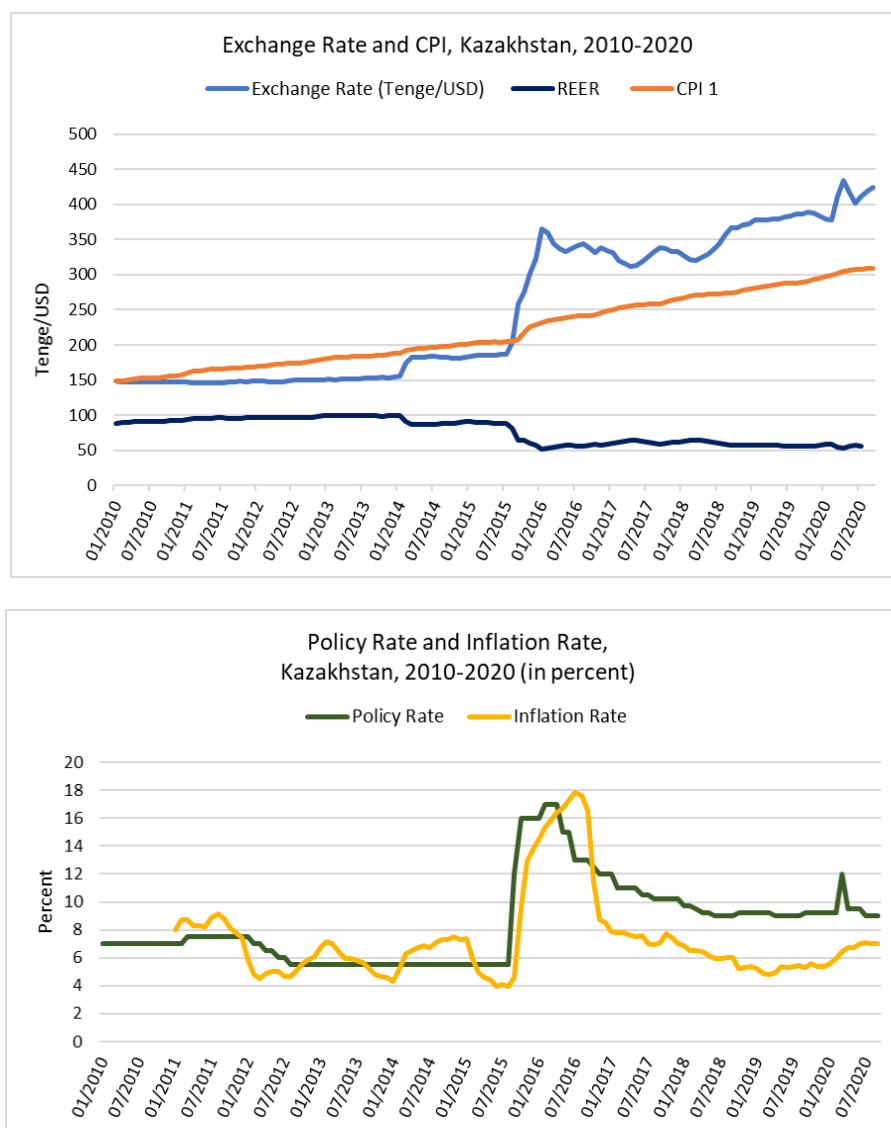
Source: IFS, Haver Analytics

Ethiopia has broadly pursued a policy of depreciating the nominal rate by 6 percent a year, as this is the targeted differential with competitor currencies; but as the actual inflation rate has been higher—at times substantially more—the REER has appreciated and the parallel market trades some 30–40 percent weaker (as with other countries, in part this reflects the price of evading capital controls). There are indications that the price level in the economy largely reflects the parallel market rate; the central bank has undertaken a medium-term plan of economic reform that includes reforms to the FX market.

IRAN

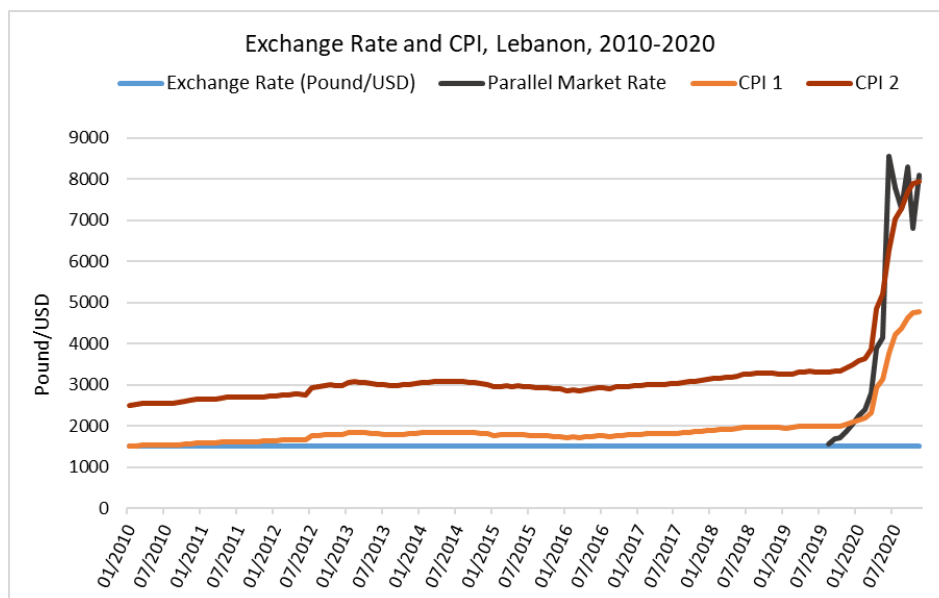
Source of parallel market rate: Bonbast.com

Iran has for some years operated a multiple exchange rate system and faced with a shortage of FX—reflecting both oil price developments and economic sanctions, as well as evasion of capital controls—many economic agents have resorted to the parallel market.

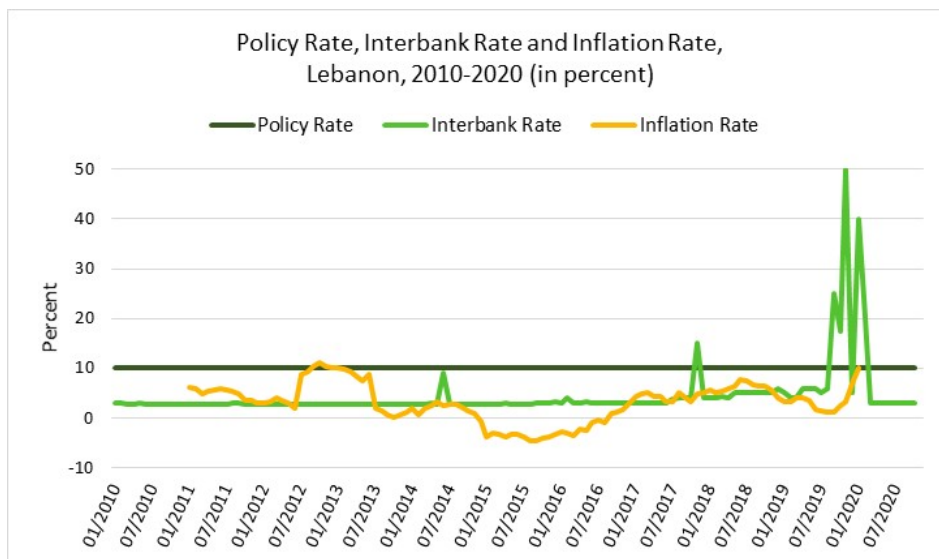
KAZAKHSTAN

Source: IFS, Haver Analytics

Kazakhstan: similar to Azerbaijan, data indicate one attempt to re-peg the exchange rate after a small nominal depreciation in early 2014 (that did not fully make up for the REER appreciation of the previous five years), followed by a fairly rapid and substantial depreciation before a new broad stabilization of the REER. Monetary policy rates were not adjusted after the first move, and net credit to government increased for some months. However, after the second devaluation in mid-2015, short-term interest rates were increased well above the level of inflation at the time—the policy rate was increased from 5.5 percent to 16 percent—and while there is a clear (though short-term) pick-up in inflation, it is relatively short-lived and small compared with the size of the nominal depreciation of the currency. Fiscal policy was broadly supportive to bringing down inflation in this period.

LEBANON

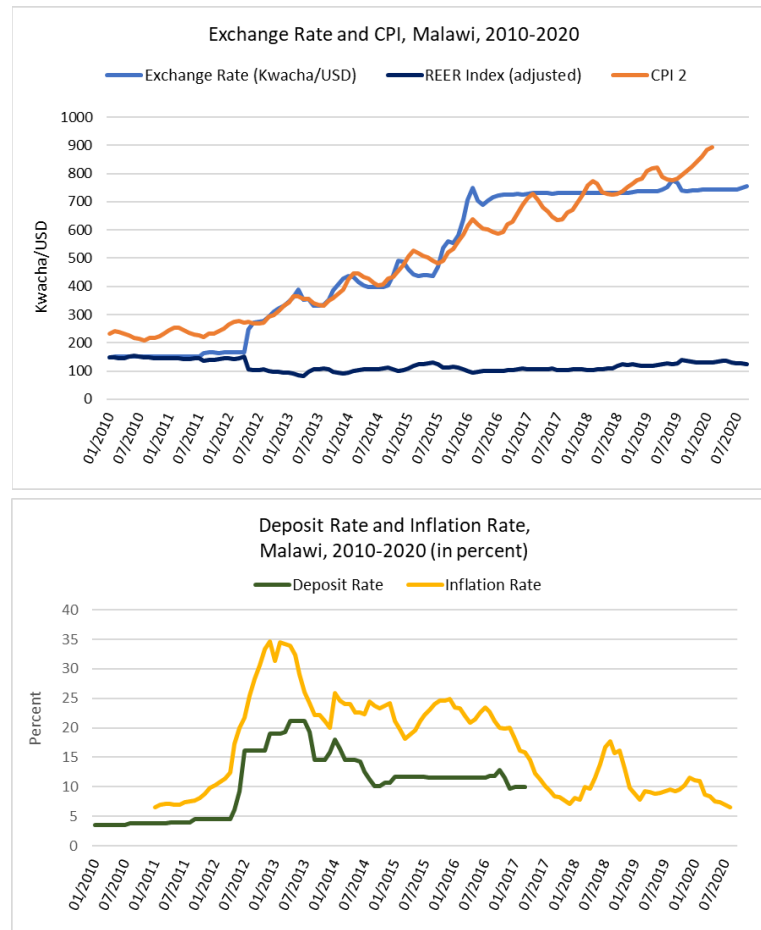
Source of parallel market rate: Lebaneselira.org



Source: IFS, Haver Analytics

The political and economic crisis in Lebanon from 2019 led to a sharp loss of confidence in the Lebanese pound, and the emergence of a parallel rate that depreciated rapidly from the official rate of 1,505 to the US dollar. Rapid inflation was associated with this.

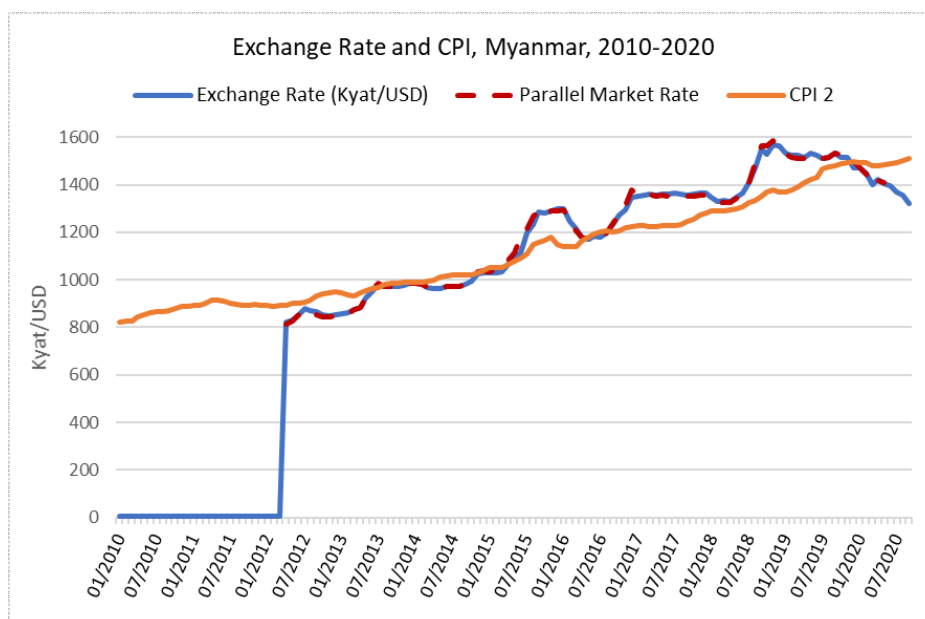
MALAWI



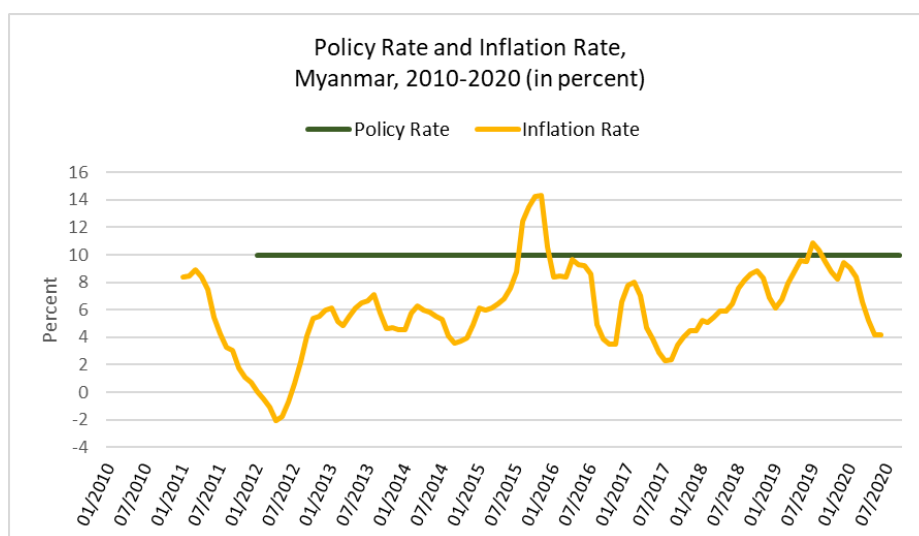
Source: IFS

Malawi: the price level exhibits a strong seasonal pattern—reflecting the crop cycle—and from 2012 to 2016 the exchange rate closely follows the CPI trend (with CPI2 set to equal the exchange rate in early 2012). Keeping the exchange rate in line with market-clearing levels tends to bring more FX into the official market, as it reduces incentives to smuggle: if the exchange rate is too strong, farmers have an incentive to sell tobacco across the border. Policy rates have at times been tightened strongly to lean against inflation when the nominal exchange rate has depreciated, most notably in 2012. Central bank net credit to government showed a declining trend from 2012 to 2016 but has since grown strongly – possibly one factor behind the increase in inflation from 2017-2018, despite the nominal exchange rate stability.

The REER devaluation in late 2015 has since been eroded; but the relatively stable nominal exchange rate since 2016 may have helped to bring down inflation expectations. This might suggest that, if the stable nominal exchange rate is to be maintained, monetary (and fiscal) policies may need to be tightened, in order to bring down inflation to the level of trading partners.

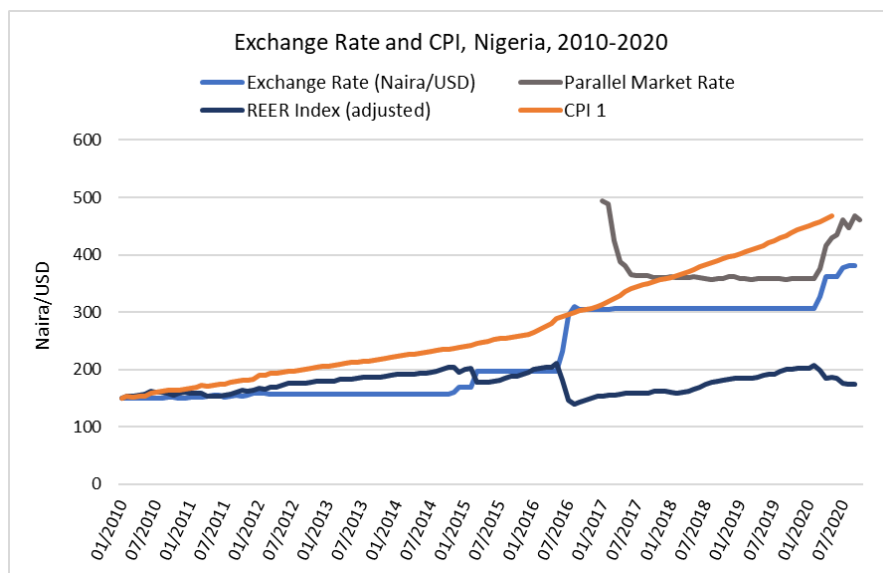
MYANMAR

Source of parallel market rate: IMF APD country team. Data available from 2012

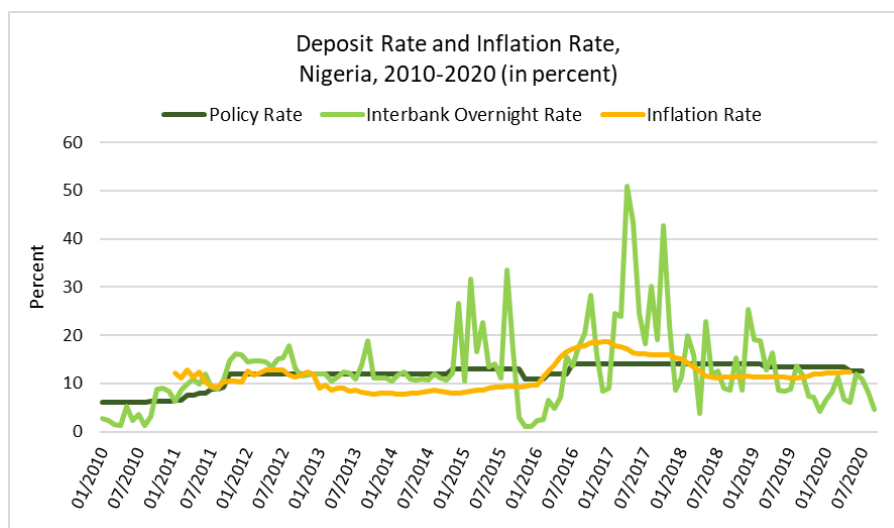


Source: IFS, Haver Analytics

Myanmar: the exchange rate adjustment in 2012—effectively unifying the FX market at the parallel market rate—was, on the face of it, massive. But most of the economy was already operating on the basis of the parallel market exchange rate, as only a few people/companies had privileged access to the official rate. The price level does not indicate any impact of the move, despite continuing monetary finance and the absence of an effective monetary policy.

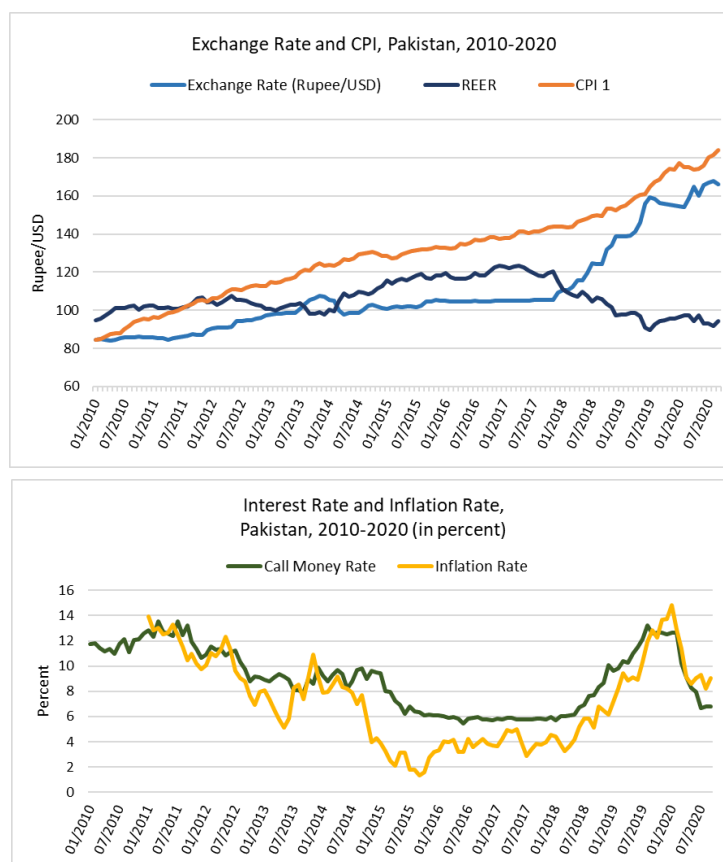
NIGERIA

Source of parallel market rate: Abokifx.com



Source: IFS, Haver Analytics

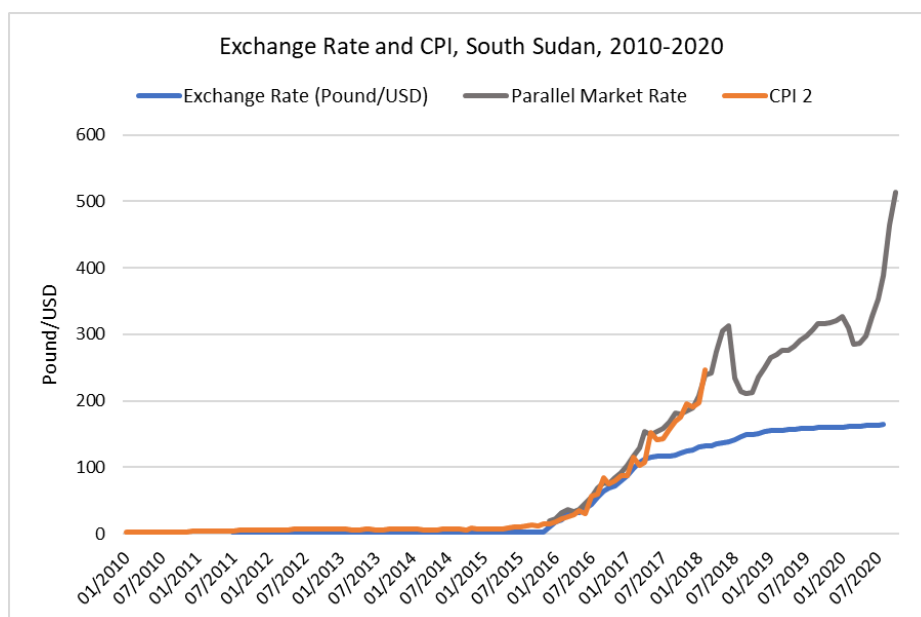
Nigeria has pursued a policy where long periods of nominal exchange rate stability vs. the USD have increasingly led to an exchange rate out of line with fundamentals (monetary financing included), interspersed with large devaluations. The 2014–15 oil price shock was not fully accommodated at first; and the COVID-19 related oil price shock has not yet resulted in sufficient exchange rate adjustment. The central bank continues to operate a multiple exchange rate regime with periodic adjustments, and the parallel market is significantly weaker than the official rates.

PAKISTAN

Source: IFS, Haver Analytics

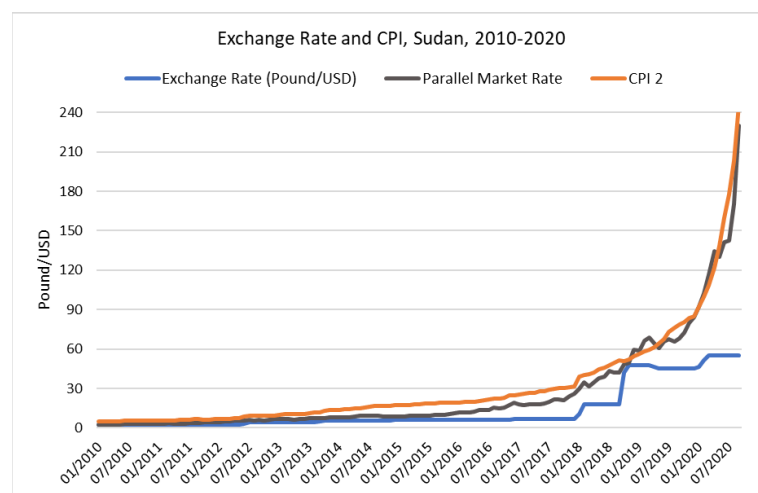
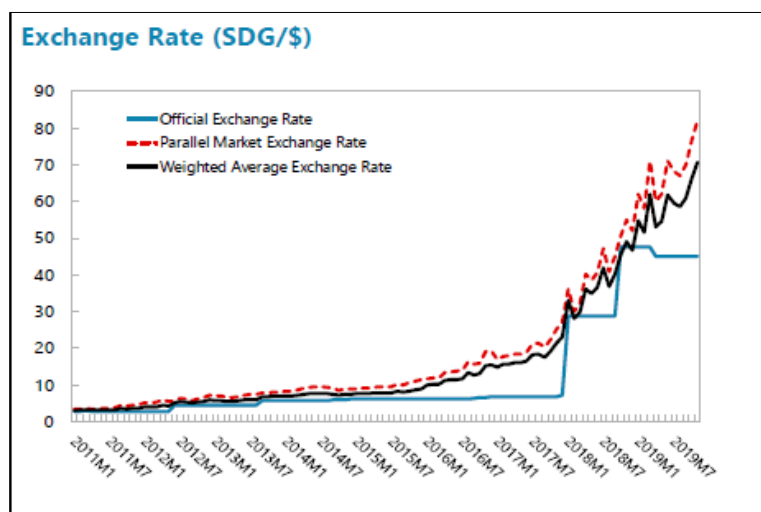
Pakistan illustrates a prolonged period of REER appreciation, as the official exchange rate was not allowed to weaken despite continued pressures on FX reserves. The substantial depreciation in 2018–2019 restored the **REER to the level 10 years previously**. The final adjustment in mid-2019, to a market-clearing rate, was supported by a pre-emptive tightening of the monetary policy rate by 350bp, and was accompanied by supportive fiscal actions, and a clear communications strategy by the central bank. The inflation pass-through has been very muted. The broad stabilization of the nominal rate since late 2019—possibly reflecting opportunistic purchases of FX by the SBP that have offset appreciation pressures as FX inflows have increased—has resulted in some REER appreciation.

In September 2019, shortly after the move to a market-based exchange rate, the SBP Governor noted: “In the past, the exchange rate used to be devalued and then remain unchanged at the same level. In May 2019, we decided to move to a market-based exchange rate system. This was challenging from the perspective of smooth operations of the markets as the players were not used to of it... We had to first educate the market... We also gave them the comfort that a market-based exchange rate does not mean that there is no intervention at all. We told them that the interventions will only be to smoothen out excessive volatility. And even when we do that, we are not going to take all the risk off the table. There is risk-sharing now, which is healthy for market development. What we want for the market is to plan for outflows and inflows.”

SOUTH SUDAN

Source of parallel market rate: IMF AFR country team

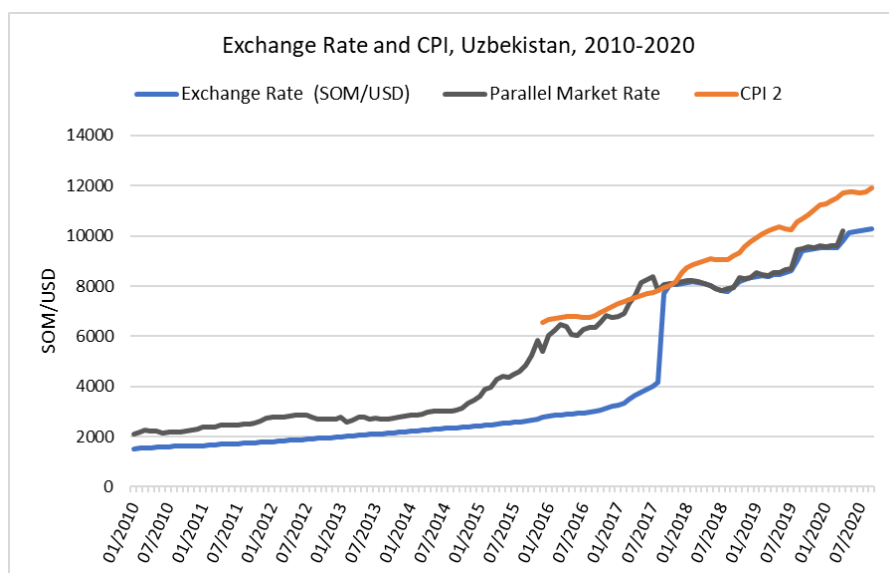
South Sudan: substantial monetary financing, on top of a loss of production and oil export revenue resulting from domestic insecurity, have led to high inflation, and depreciation of the nominal exchange rate. An increase in monetary financing in 2020 has compounded the impact of the COVID-19 health and economic crisis, and led to an acceleration in inflation, and depreciation of the parallel market exchange rate. The parallel market rate has depreciated significantly faster than the official rate, and drives inflation, suggesting that the official exchange rate does not provide any anchor for inflation or inflation expectations. On occasion, the parallel market rate appears to have been strongly influenced by domestic insecurity concerns. Other currencies are widely used, especially in border areas. Policy uncertainty and unclear communication by the monetary authorities have also contributed to the persistent deviation between the official and parallel market exchange rates.

SUDAN

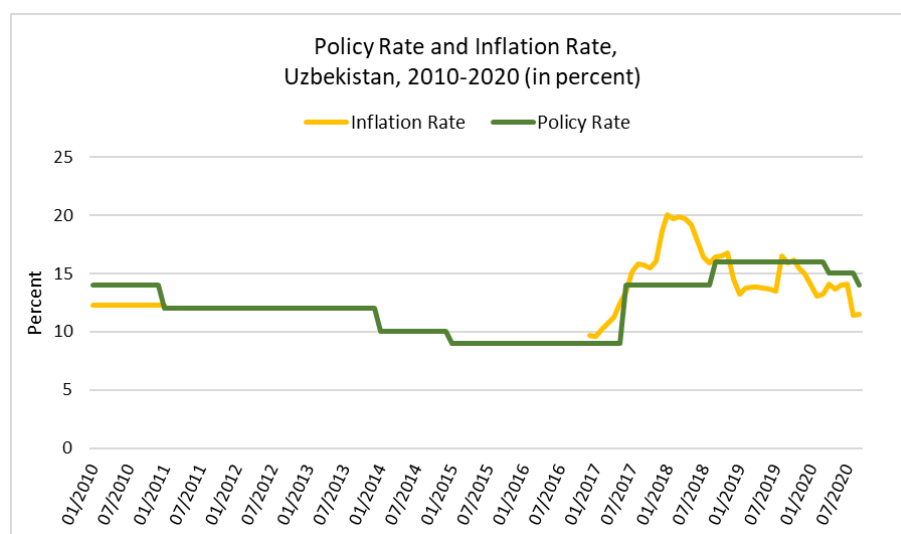
Source of parallel market rate: IMF MCD country team

When the official rate was moved to SDG 45 to the USD in April 2019, the budget continued to use SDG 18; the customs duty rate was fixed at SDG 15, and the fuel import exchange rate at SDG 6.7. This has since been simplified, to an official rate of SDG55, and banks allowed to trade at the parallel market rate in the region of SDG260. The customs rate has been maintained temporarily but is used for calculating import duties rather than for actual FX transactions. The multiplicity of official rates did not obviously achieve economic benefits for Sudan; the parallel market rate and the CPI line track each other very closely, but causality could be both directions.

Sudan has a long history of multiple exchange rates, dating back to 1972. For much of the period, substantial monetary financing has resulted in high inflation, and a consequent depreciation of the free/parallel market exchange rate. Occasional step depreciations of the official exchange rate have not been accompanied by fiscal reforms, so that the spread between the official rate and the parallel market rate quickly opens up again.

UZBEKISTAN

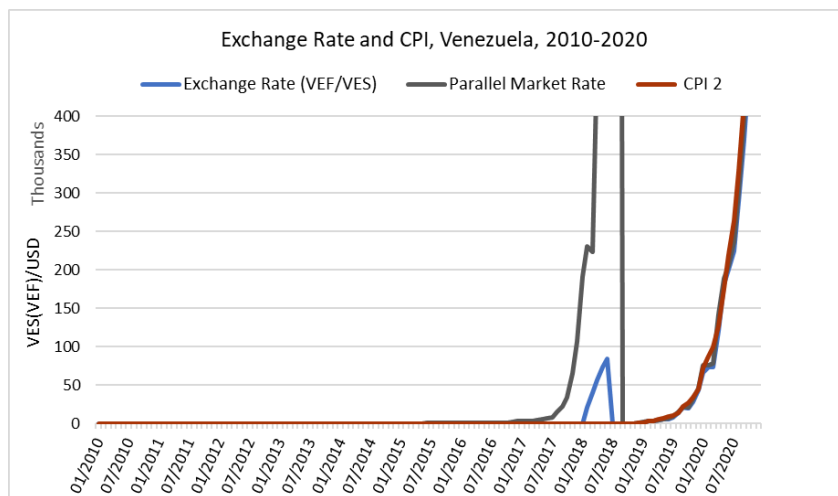
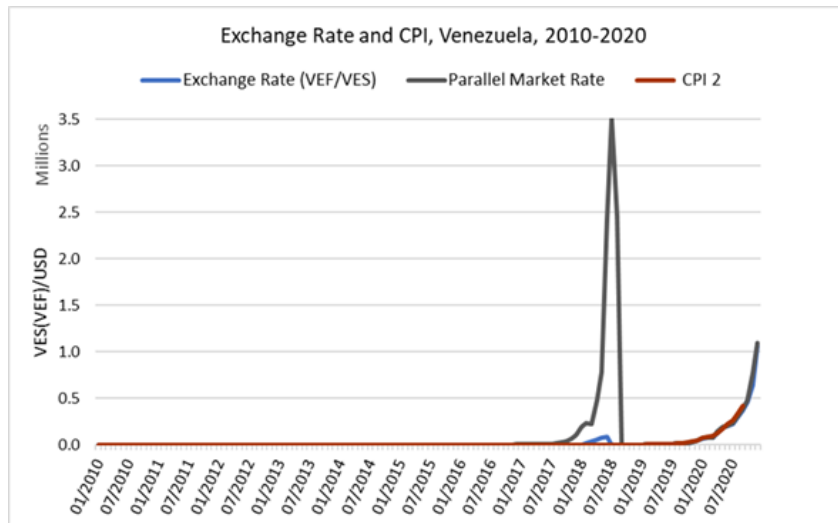
Source of parallel market rate: IMF MCD country team; Dollaruz.net



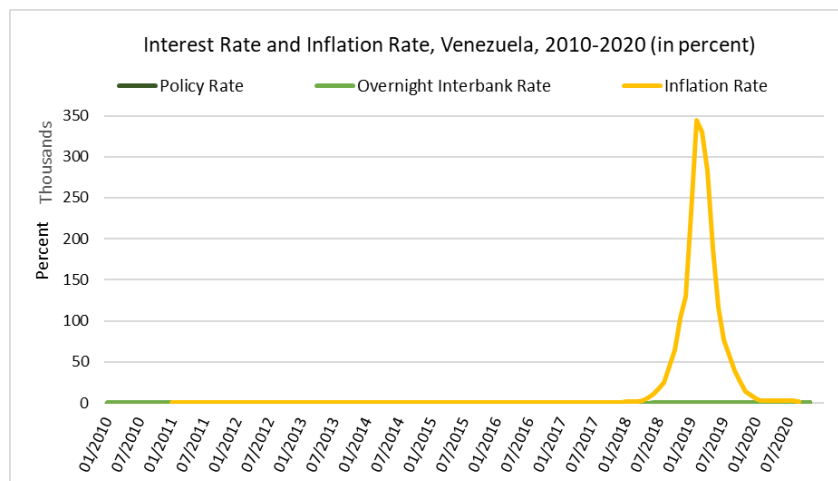
Source: Haver Analytics

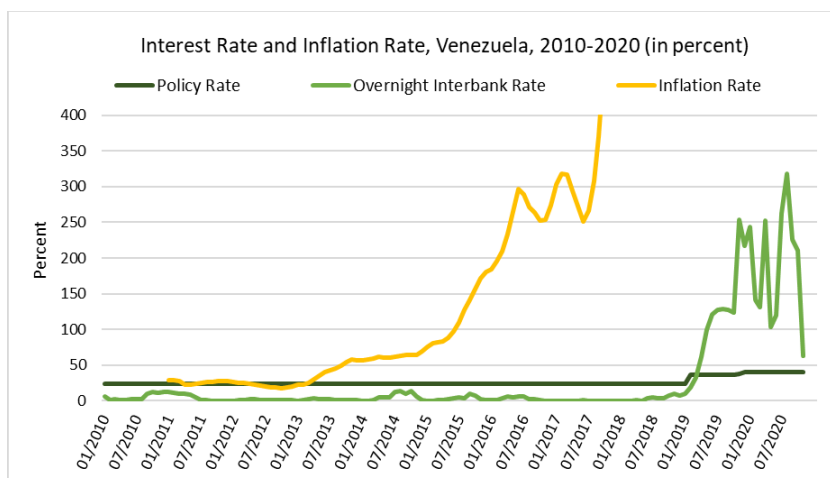
The very large depreciation of the Uzbek som in 2017, bringing the official rate into line with the parallel market, had no obvious impact on inflation: the parallel market rate was widely used, and prices reflected this. As in most other cases, policy rates were tightened—in this case, somewhat ahead of the exchange rate move—and have been kept above the level of inflation. The official and parallel market rates have subsequently moved in line with each other.

VENEZUELA



Source of parallel market rate: dolartoday.com

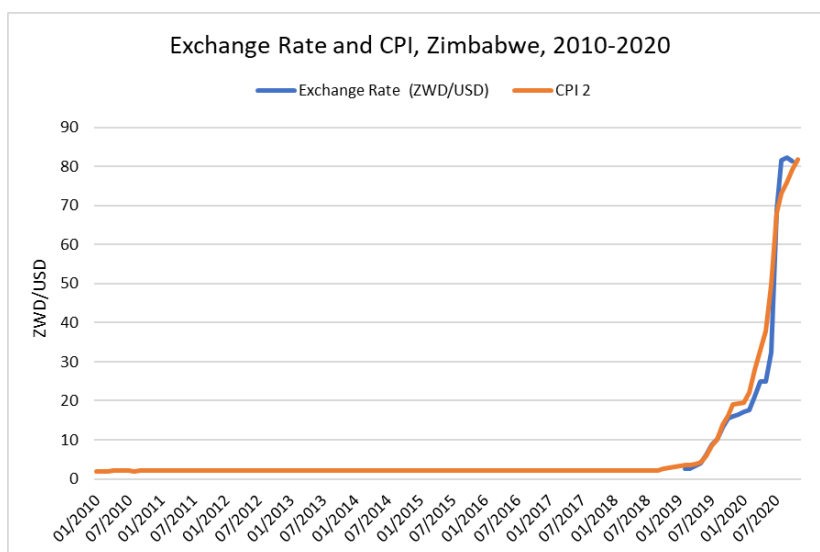




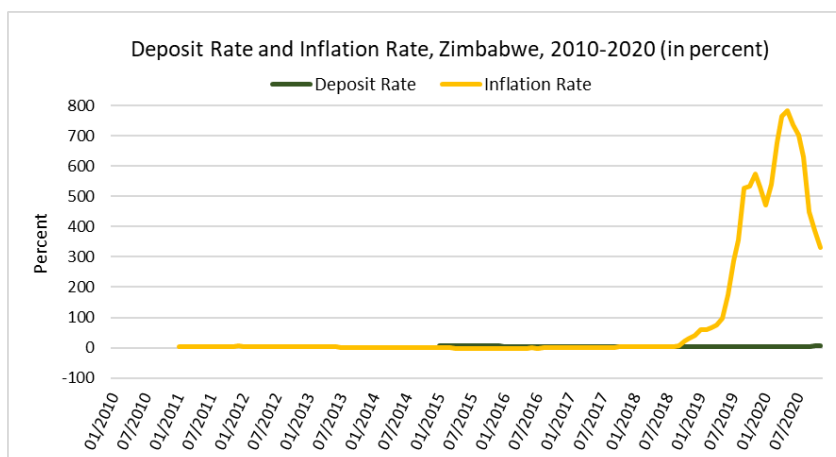
Source: IFS, Haver Analytics, CEIC

Long-term problems in Venezuela have resulted in very high levels of inflation and exchange rate depreciation. The price index (CPI2) and exchange rate track each other very closely. Two versions of the standard figures have been provided for Venezuela: hyperinflation and the concomitant exchange rate depreciation require inflation has to be shown in thousands of percent per annum; and capping the chart data at 400 percent inflation (the bottom figure) so that some historical data does not appear simply to be a flat line, means that recent data literally go off the chart.

Note: The bolívar soberano (VES) has been the official currency of Venezuela since August 2018, replacing the bolívar fuerte (VEF) at a rate of 1 Bs.S to 100,000 Bs.F.: hyperinflation was a primary reason.

ZIMBABWE

Source: IMF AFR country team



Source: IFS, Haver Analytics

Zimbabwe abandoned its currency in 2009, when prolonged monetary financing had resulted in hyperinflation. The currency was effectively re-introduced, initially described as “RTGS dollars” and notionally at par with the US dollar, from around 2014, and formally re-introduced in 2019. However, continued monetary financing quickly led to high inflation and consequently rapid depreciation in the parallel market, with the official exchange rate being devalued periodically, though normally not sufficiently to deliver a unified exchange rate. Even before formal re-introduction of the domestic currency, the growing use of RTGS dollars (and a small amount of “bond notes” —small denomination banknotes and coin) saw elevated inflation, as RTGS dollars could not reliably be converted into US dollars. Price levels were and remain driven by movements in the parallel exchange rate.

Interestingly, in periods when net new monetary financing is curtailed—this is evident to the market as the RBZ published its monthly balance sheet regularly—the exchange rate, and thus inflation, respond very rapidly.

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