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February 21, 2018

Approved By
African Department

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TOWARDS A NEW MONETARY POLICY REGIME IN MOZAMBIQUE[1]

This chapter documents the main features of the current monetary policy regime in Mozambique, describe ongoing structural policy changes announced by the central bank, and analyze the main challenges facing the central bank in the process to modernize its monetary policy framework. Recognizing the signaling value of interest rates to anchor inflation expectations and help influence market interest rates, the paper usefully focuses on the needed reforms to enable the central bank to successfully replace monetary aggregates by interest rate as the main instrument of monetary policy. Deepening the understanding of the obstacles on the way to a smooth monetary transmission, further building the central bank inflation forecasting capacity, strengthening the coordination between fiscal and monetary policies, enhancing central bank communications and modernizing the legal framework to ensure central bank operational autonomy are essential to the success of the new monetary regime. Importantly, the presence of a committed and strong technical team and a reform-oriented management should greatly facilitate the implementation of these vital central bank reforms.

A. Context and Background

1. **Many central banks in low-income countries (LICs) in Sub-Saharan Africa are modernizing their monetary policy regimes.** The role of monetary policy in LICs has been a controversial topic. Mishra et al. (2012), for example, argue that the weak institutional framework prevalent in LICs drastically reduces the role of securities' markets rendering traditional monetary transmission mechanisms using market interest rates and market-determined asset prices weak and unreliable. However, Berg et al. (2013) based on event studies applied to four Sub-Saharan economies (Kenya, Rwanda, Tanzania and Uganda) found that the transmission mechanism is effective with large policy-induced changes in the short-term interest rates strongly transmitting to market interest rates, exchange rates, output and inflation. The transmission occurred even though, like in other LICs, the four countries have relatively small, concentrated and bank-dependent financial systems. The authors observed that monetary transmission was stronger in Kenya and Uganda. In the first case, the authorities explicitly signaled the monetary policy stance with a short-term interest rate and described their intentions in terms of an inflation objective. In the case of Uganda, the inflation targeting *lite* regime seemed simpler and more transparent. The initial success with modernizing monetary policy frameworks in some central banks in Sub-Saharan economies has attracted the attention of other central banks in the region, including that of Mozambique.

2. **Up until April 2017, Mozambique's monetary policy framework was exclusively targeting monetary aggregates.** The main *de jure* objective of the Bank of Mozambique (BM) was to preserve the value of the national currency, with reserve and broad money serving, respectively, as the operating and the intermediate targets. Under this regime, the money multiplier and velocity were assumed to be stable and predictable, while exchange rates were freely determined, with BM intervening only to smooth excessive exchange rate volatility (Bank of Mozambique, 2017). Two interest rates were used to aid reserve money targeting and help communicate the monetary policy stance– the standing lending facility (FPC) and the deposit (FPD) interest rates. These defined an

[1] By Ari Aisen and Félix F. Simione.

interest rate corridor within which interbank market rates usually fluctuated. Open market operations through T-bills and repo issuances, combined with an interest rates' corridor, were primarily aimed at containing reserve money below a given targeted ceiling.

3. In most cases the monetary-based framework was not aligned with the standard seven principles of monetary policy outlined in the 2015 IMF Board paper on evolving monetary policy frameworks in LICs.

- **Principle I: *Clear mandate and operational independence of the Central Bank*.** The BM mandate entailed some ambiguity. As stated in the BM Law 01/92, the BM main objective was the "preservation of the value of the national currency". The BM interpreted this mandate as aiming to promote price stability, apparently on grounds that stable inflation is conducive to stable currency. However, the same objective opened room for alternative interpretations, including that the BM was seeking to target the level or variation of the exchange rate, which would contradict with Mozambique's *de jure* "floating" exchange rate regime. Also, the stated objective left it open whether it meant the value of the currency against other currencies, or a basket of goods and services. Regarding operational independence, it is debatable whether the BM enjoyed it. On the positive side, a robust balance-sheet position over the past several years allowed the BM to bear the monetary policy-related costs and thus secure its autonomy to sterilize excess liquidity. However, the provision in the 01/92 Law permitting the BM to extend direct financing to the Government constrained the BM in insulating itself from government operations. As it became clear in late 2016 and early 2017, this provision forced the BM to monetize the government deficit by a significant amount, partially offsetting its efforts to contain inflationary pressures.

- **Principle II: *Price stability as the primary or overriding objective of monetary policy*.** As noted previously, it was not clear from the 01/92 Law that price stability was the dominant objective of monetary policy. There was ambiguity in this regard.

- **Principle III: *Central Bank has a medium-term inflation objective*.** The BM did not have an explicit and publicly known numerical inflation objective for the medium-term, although it sometimes published, but not always explicitly, near-term inflation forecasts. While the Government announced its 5-6 percent medium-term inflation objective in the Five-Year Plan document, it was not clear whether the BM committed to this objective firmly, perhaps because the objective was mostly set by the Government. There are gains to setting the objective through joint consultations between the Government and the central bank (IMF, 2015).

- **Principle IV: *Policy actions take into account implications for macroeconomic activity and financial stability*.** The Monetary Policy Committee (MPC) reports placed extensive surveillance on macroeconomic indicators, implicitly suggesting that monetary policy decisions did not ignore potential macroeconomic consequences. Also, the BM appeared to appropriately monitor potential financial stability consequences from monetary policy actions, whenever it was justifiable. Financial stability issues were brought into consideration in all MPC reports (including in some post-MPC press conferences) issued since December 2016 through mid-2017 when the BM had to intervene in two collapsing banks. However, this sometimes came at the cost of deviating the public's attention from monetary policy decisions and their impact on inflation, which constitutes the core business of modern central banks.

- **Principe V: *The Central Bank has a clear and effective operational framework.*** The BM operational framework was clear in the sense that the policy stance was explicitly set and announced in terms of a specific numerical level of the operating target of monetary policy-reserve money ceiling. However, the framework was not effective for two possible reasons. First, the announcement of reserve money ceilings did not facilitate the communication of the policy stance. The relationship between reserve money and inflation was not well understood by the public and the media. As a result, media coverage of MPC reports tended to highlight the decisions related to changes in BM interest rates rather than to the announced reserve money targets, hinting that the former might have been better suited to signal the monetary policy stance. Second, anecdotal evidence suggests that liquidity exchange in the interbank money market did not respond strongly to the monetary policy stance. That is, banks did usually not place surplus liquidity with, or obtain short-term funding from, each other or the central bank at rates that were reasonably stable and predictable.

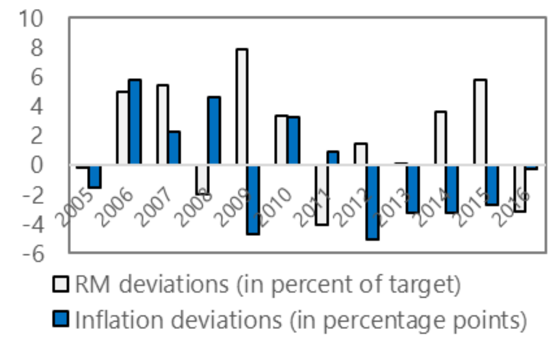
- **Principle VI: *The Central Bank has a transparent forward-looking strategy.*** Some forward-looking analysis was provided in MPC reports, but it was generally incomplete. On a positive side, policy decisions rightly placed a greater focus on expected, rather than actual, inflationary pressures. However, explicit numerical inflation forecasts were never released in MPC reports except for a few months following October 2016. The reports also lacked a detailed discussion on how the identified risks to the outlook linked to the inflation forecast (more on this later), and what contingency plans were available in the event of materialization of those risks.

- **Principle VII: *Central Bank communication is transparent and timely.*** The MPC reports were issued timely and with regularity[2], and the MPC meetings were immediately followed by a press conference which helped consolidate monetary policy communications. However, the contents of both the MPC reports and the press conference were not always understood transparently. On the one hand, this reflected possibly excessive economic jargons entailed in BM communications. On the other, it may have reflected the existing relatively low levels of economic and financial literacy in large segments of Mozambican society.

[2] The MPC reports used to be issued every month prior to August 2016. Since October 2016, MPC meetings are held every two months.

4. The reserve money targeting framework performed weakly vis-à-vis IMF program targets and inflation outcomes. For example, during the 2005-2016 period, reserve money and inflation deviations from their targets and projections, respectively, did not evolve as expected in about 60 percent of the cases. This is particularly striking in 2009, 2012 and 2014-2015 when inflation was benign despite the overshoot in reserve money ceilings. Similar counterintuitive events were observed in 2008 and 2011 when reserve money was contained below the ceiling, but inflation overshot (Figure 1).

Figure 1. Mozambique: Deviations of Actual Reserve Money and Average Inflation from Target/Projection



Source: Mozambican authorities and IMF staff calculations.

5. Weak and unstable correlation between monetary aggregates and inflation may have hampered the role of reserve money in anchoring inflation expectations. For example, the contemporaneous correlation coefficient between broad money growth and inflation (month-on-month and year-on-year) is literally zero for the sample 2000M1-2017M6 (Figure 2). Also, the correlation is volatile when looking at different subsamples and, counterintuitively, becomes negative at times (Figure 3), suggesting that the money-inflation relationship was very unstable.[3] This is partly explained by recurrent exogenous shocks in Mozambique, although these would be a challenge under any monetary policy regime. Likewise, important to note in the same period, the velocity of money remained unstable and declining (Figure 4), challenging the constant velocity assumption implicit in money-based monetary policy frameworks. This meant that reserve money could not be easily forecast, mostly because around half of the reserve money stock comprised currency in circulation, which is extremely sensitive to exogenous shocks.

Figure 2. Mozambique: Correlation Between Broad Money Growth and Inflation (2000M1-2017M6)

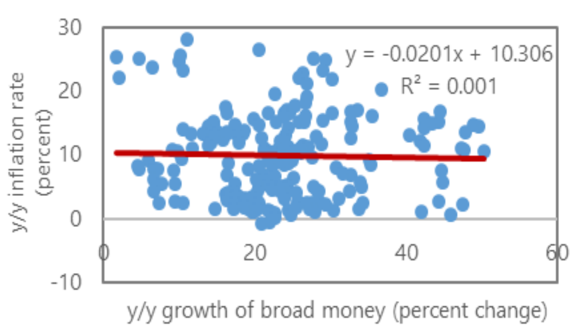
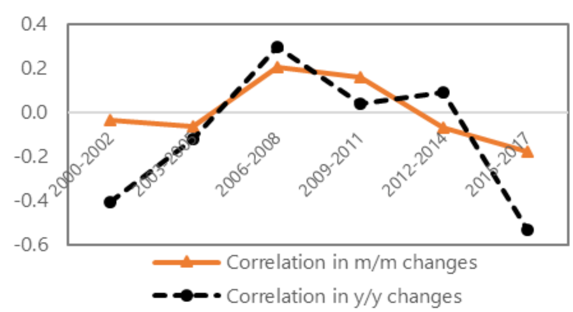


Figure 3. Mozambique: Correlation Coefficient Between Broad Money Growth and Inflation



Sources: Mozambican authorities; and IMF staff calculations.

[3] These findings are qualitatively similar when reserve money is considered instead of broad money, although correlations look slightly better in this case. In alternative computations (not shown in the paper) where we have corrected both broad money and reserve money growth for exchange rate valuation effects (as both monetary aggregates have a foreign currency component), the findings remain broadly unchanged qualitatively.

6. The BM is transiting to a new monetary policy regime, in part driven by the challenges discussed above. The need for a stronger monetary policy signal became obvious in 2016 when inflation escalated and became more entrenched, turning the BM's FPC interest rate negative in real terms (Figure 5). In this context, the BM aggressively hiked the FPC by 600 basis points in October 2016. By doing so, the MPC sent an important signal that it was willing to give greater attention to interest rates vis-à-vis reserve money, in a clear break with the previous tradition. This remarkable step would pave the way towards the foundation of a new monetary policy regime initiated in April 2017 (Box 1).

Figure 4. Mozambique: Velocity of Money
(nominal GDP-to-money ratio)

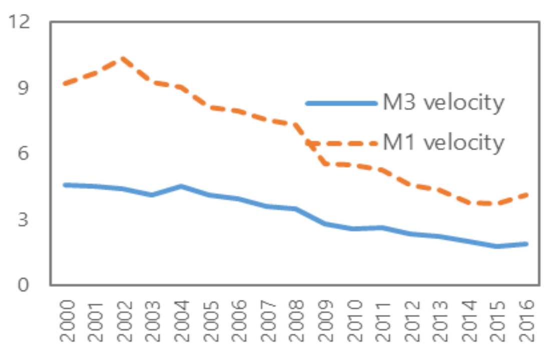
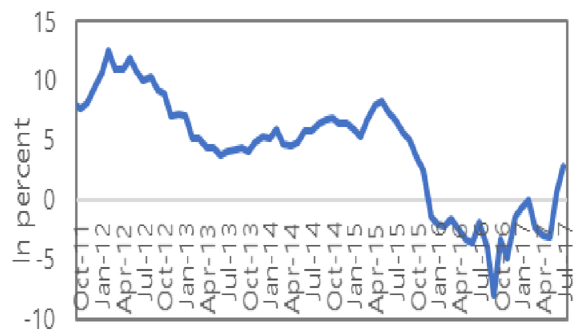


Figure 5. Mozambique: Real FPC Rate
(October 2011-July 2017)



Sources: Mozambican authorities; and IMF staff calculations.

Box 1. Transiting to a New Monetary Policy Regime

The BM is gradually transiting to a new monetary policy regime. In April 2017, it introduced, for the first time, the Reference Monetary Policy Interest Rate (known as MIMO). The MIMO is an overnight interest rate at which the BM intervenes in the interbank market. The interventions are conducted through overnight reverse repos at the MIMO rate with full allotment, thereby aligning overnight secured money market rates closely with the MIMO. It was also expected that the MIMO would help strengthen the interest rate formation mechanism and transparency in the market (Bank of Mozambique, 2017b). While the MIMO is expected to signal the monetary policy stance, the BM continues to monitor monetary aggregates for informational purposes. The introduction of the MIMO rate implicitly recognized the difficulties entailed in communicating the monetary policy stance through reserve money ceilings, but it also somewhat encouraged the public interpretation that the BM will seek to maintain the MIMO rate positive in real terms. In this context, understanding the bi-monthly MPC decisions regarding the level of the MIMO rate and the resulting impact on future inflation appears to have gained greater public attention in Mozambique.

Box 1. Transiting to a New Monetary Policy Regime (concluded)

Important changes have also been introduced in the foreign exchange and credit markets, which should support the new monetary policy regime. A Reference Exchange Rate was introduced in May 2017 which replaced the multiple exchange rates that were in effect in the market. The new reference rate is based on transactions between commercial banks and their customers, and it is published three times a day in the BM website. In June 2017, the BM introduced, in consultation with commercial banks, the Standardized Prime Interest Rate (Indexante Unico) for banks' lending. Although banks can add a risk spread over this prime rate, it makes banks' final interest rates on loans directly linked to monetary policy decisions. This is because the prime rate is strictly defined as the arithmetic average between the BM's FPC rate and the reverse repo rate plus 600 basis points which have been agreed to represent banks' funding risk. While some argue that the 600 basis points spread may be too high, the Reference Exchange Rate and the Standardized Prime Rate, which are published in the BM website, were important measures to strengthen transparency in the process of exchange rates' and interest rates' formation.

The current regime is *de facto* a precursor of an inflation targeting regime. BM's recent monetary policy decisions have become more forward-looking, interest-rate based and model-based. Specifically, inflation has emerged more clearly as the final objective of monetary policy and its forecasts are model-based. The medium-term inflation objective remains 5-6 percent as set by the Government. The MIMO is the operational target signaling the monetary policy stance to achieve the inflation objective. This can be confirmed by a greater emphasis given to inflation expectations in recent MPC reports. Overall, MPC decisions build strongly on the Forecasting and Policy Analysis System (FPAS) like in other modern inflation-targeting central banks. Monetary aggregates such as reserve money and broad money remain in the BM radar, but as information variables only.

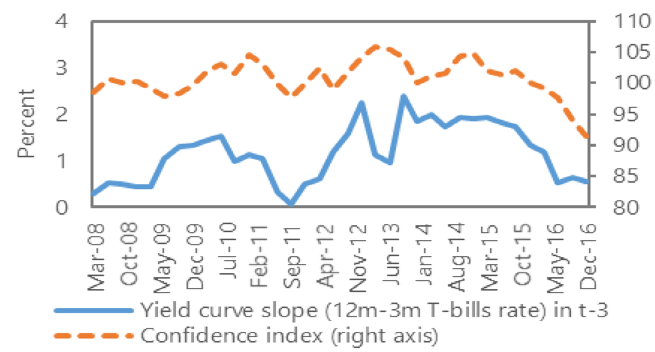
B. The Way Forward

7. The embryonic monetary regime will often face challenges that will likely test the policy resolve and credibility of the BM. Building credibility is critical to enable the central bank to effectively signal the monetary policy stance and help anchor inflation expectations. Building capacity to improve inflation forecasting, correctly identifying the monetary policy transmission mechanisms, fostering the development of the interbank market, improving communications, striving for a close coordination with the fiscal authorities, and strengthening the BM legal framework are all essential in the process of building credibility. We discuss each of these challenges next.

- **Strengthening forward-looking capacity.** The new regime's increased focus on inflation as the key monetary policy objective will require enhanced capacity to properly gauge inflation expectations. Further training to develop BM's staff forecasting techniques within the context of the FPAS is of paramount importance. Furthermore, the central bank should also develop effective surveys to measure inflation expectations directly, like it is done in most inflation-targeting central banks. At the same time, available interbank market data could be explored to derive complementary proxy indicators of the expected inflation path. Preliminary evidence suggests that the spread between 1-year and 3-month interest rates (i.e., slope of the yield curve) on T-bills could help predict the economic sentiment one quarter ahead. For example, there is a notable relationship between one quarter-lagged slope of the yield curve and the economic confidence indicators compiled by INE (Figures 6 and 7). The slope of the yield curve, which can be computed every month, could therefore be a useful variable from which one can gauge the path of aggregate demand and inflation expectations.

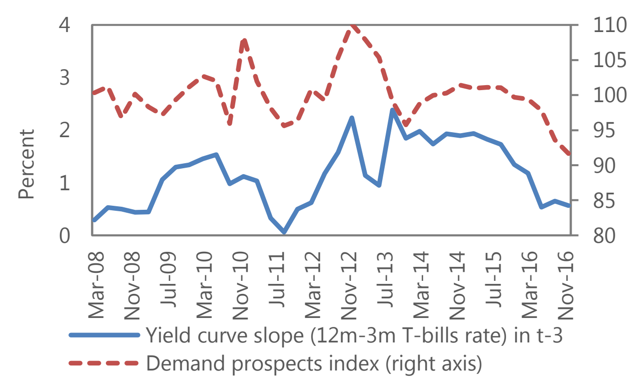
- **Identifying the monetary policy transmission mechanisms.** Clear understanding of the channels through which monetary policy shocks impact inflation (i.e., monetary policy transmission channels) remains key. Among the four standard channels: exchange rate, bank lending, interest rate, and asset price channels, the exchange rate channel is probably the most relevant in Mozambique, similarly to other low-income countries. As shown in Figure 8, changes in broad money correlate well with changes in the MT/USD exchange rate, and there is also a substantial correlation between exchange rate movements and inflation.[4] We do not observe a similar transmission strength as for the banks' lending and interest rate channels.[5] While broad money growth correlates well with credit growth (i.e., the first stage of the transmission is strong), the correlation between banks' credit and inflation is weak and does not carry the expected sign. Finally, broad money growth is weakly negatively correlated with the real interbank lending rate, although there is strong pass-through from the latter to commercial banks' retail lending rates. The arguably weaker transmission of both credit and interest rate channels in affecting inflation could also reflect the existence of a large informal/unbanked economy and a shallow financial market. Moreover, a relatively high degree of dollarization in Mozambique (near 30 percent of banking system deposits are dollarized) could limit the reach of monetary policy to only the domestic-currency denominated

Figure 6. Mozambique: Confidence Index and Yield Curve Slope



Sources: Mozambican authorities; and IMF staff calculations.

Figure 7. Mozambique: Demand Prospects Index and Yield Curve Slope



Sources: Mozambican authorities; and IMF staff calculations.

[4] The correlation between changes in the exchange rate and inflation becomes very strong when exchange rate movements are lagged by three to six months (chart not shown in Figure 8).

[5] This finding holds even when considering correlations with three to six months lag.

assets in the financial sector.[6] All these factors in principle would also render ineffective the asset price channel. For all these reasons, the exchange rate channel is arguably the most relevant for the conduct of monetary policy in Mozambique. Most of these findings are broadly in line with Mishra and Montiel (2013) in their analysis of monetary policy transmission mechanisms in LICs.

- **Dealing with weak transmission**. Overall, monetary policy transmission channels are likely to remain weak in the early stages, but should strengthen as Mozambique's financial market structure sophisticates, de-dollarize, and becomes more competitive. As classically argued in Hannan and Berger (1991), weak competition can reduce banks' incentives to react promptly to monetary policy changes, resulting in sluggish interest rate pass-through. An empirical assessment by IMF (2016) finds that, in Mozambique, lower concentration in banks' credits could strengthen the transmission from the central bank reference interest rate to market rates. There is also the need to assess whether the transmission mechanism is asymmetric. Some anecdotal evidence suggests that commercial banks react asymmetrically to changes in monetary policy reference rates, with interest rate increases being more aggressive than cuts. It should be noted that a weak monetary policy transmission does not imply, as sometimes argued, that monetary policy is not effective to control inflation. The implication is rather that policy actions must be more aggressive to have a meaningful impact.

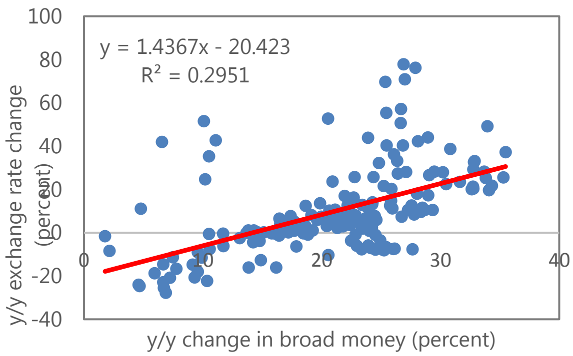
- **Promoting a more active interbank market.** The interbank market is an essential link in the monetary policy transmission process. However, in Mozambique it remains shallow with banks trading mostly with the central bank and rarely trading actively with each other. This suggests that factors other than market liquidity conditions, including potential lack of trust among some financial institutions, may also be playing a role in driving banks' incentives to trade among themselves. The BM can help through strong supervision and enforcement of prudential requirements combined with an active transparency policy that includes the publication of banks' individual financial soundness indicators in the BM website. Ultimately, addressing all barriers towards an active interbank trading will be essential to ensure that the new monetary policy regime is effective.

- **Improving communications. "**The best a central bank can do is arguably to teach the markets its way of thinking (Blinder, 2004, p. 25)". Transiting to a new interest rate-based regime will require that monetary policy decisions are solely grounded on inflation considerations, and that this is well understood by markets and the public. While MPC reports mostly highlight inflation as the main reason underlying policy decisions, the exchange rate is sometimes also emphasized as a reason (Figure 9). It is understandable that the BM is concerned with excessive exchange rate volatility, however, policy decisions should not be interpreted as seeking to target the exchange rate. Moreover, in some cases prior to 2017, policy decisions put greater emphasis

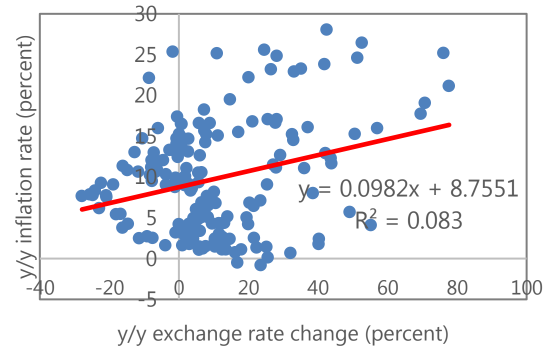
[6] In theory, high financial dollarization can strengthen the exchange rate channel as monetary policy pushes deposit rates on local currency deposits up or down and thereby changes the rate spread between local and foreign currency deposits and domestic depositors react to changes in those spreads (similarly on the borrowing side) through arbitrage. However, in Mozambique, the demand for Dollar-denominated deposits seems to be driven mostly by precautionary reasons rather than arbitrage.

Figure 8. Mozambique: Channels of Monetary Policy Transmission (1- exchange rate; 2- credit; 3- interest rate), January 2002–June 2017[1]

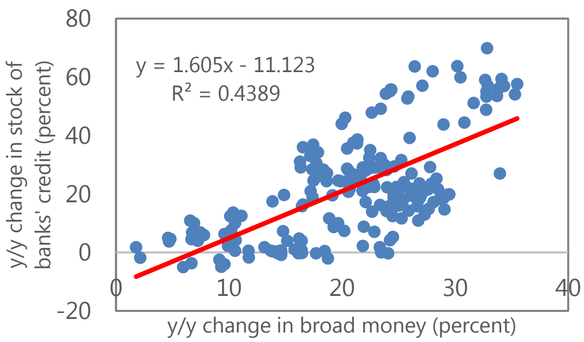
1. *Changes in broad money correlate well with changes in the MT/USD exchange rate…*



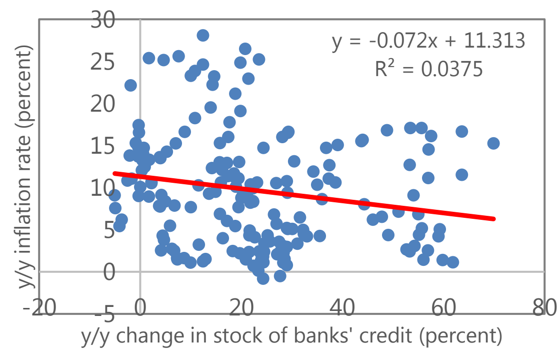
…while there is substantial pass-through from exchange rate to inflation.



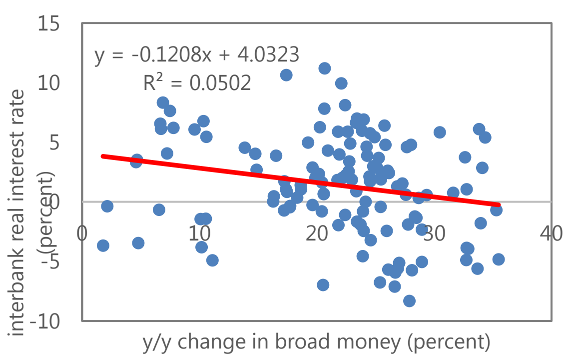
2. *Changes in broad money correlate well with changes in banks' credit…*



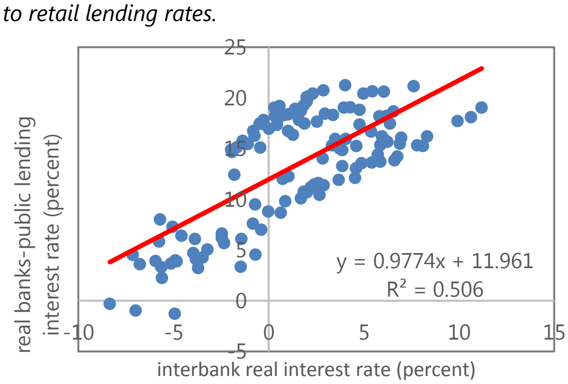
…but changes in banks' credit are weakly correlated with inflation.



3. *Changes in broad money correlate weakly with the interbank real lending interest rate…*



…although there is a strong pass-through from interbank to retail lending rates.

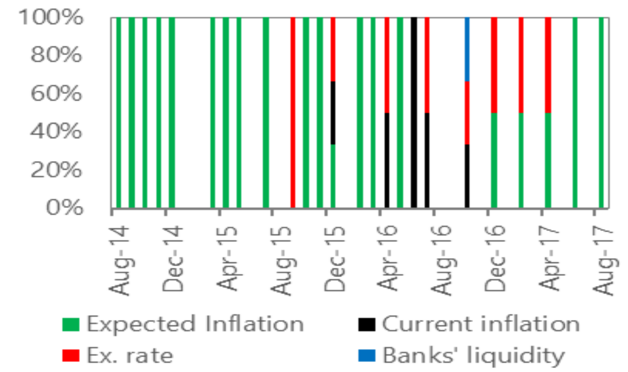


Sources: Mozambique authorities; and IMF Staff calculations.

[1] December 2006-June 2017 for the last two charts.

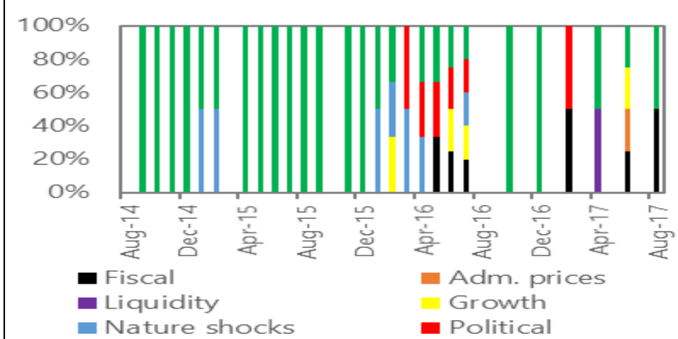
on current, rather than on expected, inflation, which does not help in establishing forward-looking communication. Since December 2016, policy decisions have become solely grounded on expected inflation, which is a positive development. The MPC report had also been publishing explicit medium-term inflation forecasts since October 2016, but this practice has unfortunately been discontinued since June 2017 for unknown reasons. Furthermore, the MPC reports adequately identify risks and uncertainties, with external risks (global prices volatility, world growth, etc.) prevailing the most (Figure 10). However, there is often not a sufficient discussion on how these risks and uncertainties explicitly affect the inflation outlook. Finally, there is the need to separate from the MPC reports any analysis of non-monetary policy issues. Except for August 2017, all MPC reports since December 2016 bring financial stability issues into the analysis, which could interfere with readers' attention to monetary policy decisions.

Figure 9. Mozambique: Main Reason for MPC Decisions



Sources: Mozambican authorities; and IMF staff calculations.

Figure 10. Mozambique: Risks Identified in the MPC Report



Sources: Mozambican authorities; and IMF staff calculations.

- **Exchange rate targeting versus inflation targeting.** As mentioned in the previous section, the new monetary regime strongly emphasizes the importance of communicating correctly the BM's nominal anchor to the wide public to avoid unintended misperceptions that could hurt BM's hard-won credibility. Hence, the public should unequivocally understand that the BM will change interest rates only in reaction to the future inflation path. The inflationary impact of exchange-rate variations should obviously be factored in the interest rate decision but should not be targeted at a specific level or rate of change.[7] Hence, the BM should continue to pursue a free-floating exchange rate regime so that the exchange rate can remain a relevant shock-absorber. Foreign exchange interventions should be pursued solely to reduce excessive exchange rate volatility and to build an adequate stock of international reserves to cover the country's imports. To adequately manage public perceptions about its commitment to target inflation (and not the exchange rate), the BM could pre-announce the total and daily volumes and periods during which it plans to buy foreign exchange for reserve accumulation.

- **Monetary and Fiscal Policy coordination.** Any monetary regime is highly dependent on fiscal discipline and, its absence, could create risks to the credibility of the new monetary regime. Hence, it is of utmost importance to ensure a sound coordination of policies between the BM and the Ministry of Finance. Although there are frequent coordinating meetings between the technical teams of both institutions, focus should be given to four core elements:

    1) The Ministry of Finance needs to frequently update the BM on changes to the fiscal policy stance during the budget formulation and execution cycles. This should help the BM to more accurately forecast inflation by appropriately factoring in its medium-term model the effects of the fiscal impulse on aggregate demand. It will also help both institutions to plan the calendar of issuances of Treasury Bonds with the Stock Market and Treasury Bills at the BM that should ideally be transparently published at the BM website ahead of time and remain unchanged to increase its credibility and reduce financing costs.

    2) The Treasury should inform the BM on a weekly basis about its liquidity needs. This would help the BM anticipate any needed change in the volumes of T-bills to be issued vis-à-vis the planned issuances in the calendar and controlling the impact of fiscal policy on the overall market liquidity. This would require the use of other instruments (repos and reverse repos) to sterilize the shortage and excess liquidity to ensure the interbank rate stays closely aligned to the MIMO rate.

    3) A strong policy coordination should help ensure that Treasury's use of liquidity at the overdraft facility at the BM should be restricted to only exceptional circumstances. Both institutions should agree on access with annual amounts tied to expected annual Treasury's revenue and strict repayment terms (interest rate and time of repayment) to encourage prudent fiscal management and avoid unduly increasing market liquidity. It must be agreed that any impact of fiscal operations on liquidity should be quickly sterilized. These changes can be enshrined in the BM's Organic Law to avoid the recurrence of the recent large use of the BM's overdraft facility by the BM.

[7] Ostry et al. (2012) argue that, given the undoubtable importance of the exchange rate for inflation and growth outcomes in LICs, exchange rate intervention should be part of the standard monetary policy toolkit in LICs, with interest rates focused mainly on the inflation target and exchange rate intervention focused on the exchange rate target, while recognizing the interactions between these two targets. Despite the potential merits of this framework in some countries, having two targets and two instruments might not be the best strategy in terms of communication for an embryonic regime like Mozambique's. Furthermore, targeting the exchange rate would potentially strengthen the hands of lobbying groups that do not welcome exchange rate movements that could be required for reaching inflation objectives. In such circumstances, the central bank would face a huge dilemma, and could risk not handling communications properly to reach both objectives (low and stable inflation, and exchange rate stability).

4) Institutional coordination requires that the Ministry of Finance supports the BM in paying for the monetary policy-related costs. The BM should have ample access to marketable instruments and flexibility to use them as needed in its sterilization operations free from cost considerations. The final impact of these operations on BM's income statement may potentially imply that the BM will not be able to pay dividends to the Treasury. Moreover, both institutions should help ensure that the BM's capital represents a sufficient buffer (as a share of BM's liabilities) to sustain BM's credibility and room for maneuver. Conversely, the BM should be efficiently managed and its management committed to reign on the non-monetary policy costs. External and internal audit functions should be strengthened by the appointment of independent Board members to ensure solid oversight of Management operations.

- **Reforming the BM Law.** Addressing all the challenges discussed above will require modernizing the legal framework which should at least provide the BM a clear mandate, operational autonomy, and adequate external oversight. As noted earlier, BM's mandate is unclear. As recommended by previous IMF technical assistance missions, the BM should have a clear primary objective to achieve and maintain price stability. The BM mandate is also imprecise as it mixes together objectives and functions. As well as maintaining the value of the metical, the other statutory purposes of BM include conducting monetary policy in a correct manner; to guide the credit policy to promote economic growth and economic and social development; to manage the external reserves to maintain an adequate volume of resources for foreign trade; and to control the banking activity. However, conducting monetary and credit policy, managing foreign reserves, and supervising banks are central bank functions, not objectives. Treating these functions as objectives could cause interpretative difficulties in case of conflicts between different policy targets. Finally, the provision in the law allowing the BM to lend to the Government above the statutory limit should be abolished as it may lead to monetary financing of fiscal deficits. One of the shortcomings of this provision is that the loans may be granted free of interest. If misused, this permission has the potential to undermine the central bank's quest for monetary stability and autonomy (IMF, 2016b).

8. Overtime, the new monetary regime can help the BM overcome some of the constrains highlighted above. The new regime can improve policy signaling and, through constantly enhancing communication and transparency, help deepen capital markets (including the interbank market), induce bank competition, enhance monetary-fiscal policy coordination, and even help build momentum for modernizing the legal framework supporting BM's operational autonomy. All these improvements can surely gradually contribute to a sounder and more efficient monetary policy transmission mechanism.

C. Conclusions

9. The BM's transition towards a new interest rate-based and inflation-anchored monetary policy regime is welcome, but it should be attentive to several considerations. They include the need to improve the forward-looking technical capacity through training, particularly in inflation forecasting using macroeconomic models within the context of the FPAS. In addition, some data available at BM could allow its staff to develop tentative market-based yield curves from which inflation expectations could be gauged, which could be complemented by developing a direct survey of economic agents on their inflation expectations. Consideration should also be given to the monetary policy-inflation transmission mechanisms. The exchange rate channel appears to be the most relevant transmission channel of monetary policy in Mozambique. However, the BM should neither take this as a reason to target a level or rate of change for the exchange rate, nor to justify exchange rate interventions to control inflation. The effectiveness of the new regime will also require a well-functioning interbank market, which could be achieved by identifying and minimizing the barriers that prevent banks to trade actively among each other.

10. Reforms in all these areas should build on an enhanced communication of monetary policy and a reformed BM Law. Regarding communications, the MPC report should place exclusive focus on the expected inflation, and not on the exchange rate or other variables, as the main reason driving its decisions. It should seek to explain, rather than list, how the materialization of the various risks identified in the report would impact on the inflation forecast. More importantly, the report should disclose explicitly the inflation forecasts, a practice which was discontinued since June 2017. In addition, there is the need to exclude from the MPC reports any analysis of non-monetary policy issues (e.g. financial stability issues, as it was the case with most reports in the first half of 2017) as this could interfere with readers' attention to monetary policy decisions. An effort to tighten the coordination between fiscal and monetary policies is essential for the success of the new monetary regime and require mutual understanding on the needs of the BM to excel in its objective to keep inflation low and stable. Regarding the BM Organic Law, it should be reformed to give the BM a clear primary objective to achieve and maintain price stability. It should also distinguish better between central bank objectives and functions as this could otherwise cause interpretative difficulties in case of conflicts between different policy targets. Finally, the provision in the law allowing the BM to lend to the government above the statutory limit should be abolished as it may lead to monetary financing of fiscal deficits, ultimately undermining the central bank's quest for monetary stability and autonomy. Positively, the strong and committed technical teams and management at the BM are an asset that should help implement the needed reforms supportive of the new regime.

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THE GOVERNANCE CHALLENGE IN MOZAMBIQUE[1]

This chapter focuses on governance and corruption weaknesses in Mozambique. The chapter is based on a broad range of sources. While the assessment relies on a number of quantitative inputs based on internal Fund work and third party indicators (TPIs), it also relies on qualitative assessments made by Fund staff as well as other institutions, especially the World Bank.[2] The overall governance scores and perceptions of corruption measures for Mozambique have been deteriorating since 2010, and the scores have been decreasing at a faster rate over 2012-16. Based on the foregoing, and the recent disclosure of the hidden loans, governance and corruption weaknesses are judged to be significant and pose risks to the country's macroeconomic stability. The chapter summarizes the current situation, looks at potential economic costs of corruption, and offers recommendations on how to advance anti-corruption reforms.

A. Background

1. An increasing body of literature, including case studies and survey data, shows that weak governance and corruption severely hampers economic performance. Economic performance is impacted through several channels, especially in the domains of fiscal, market regulation, financial sector oversight, and the rule of law. This undermines the society's trust in government, puts at risk the quality of public institutions, and give rise to rent seeking behavior, eroding the general rule of law, and slowing overall economic development.

2. For Mozambique, governance and corruption indicators have been progressively deteriorating. Over the past ten years, the Worldwide Governance Indicators (WGI) deteriorated on all six dimensions (Figure 1).[3] While Mozambique still fares better than Sub Saharan Africa's (SSA) averages on two indicators, (voice & accountability and regulatory quality), it continues to fall behind neighboring countries in government effectiveness, control of corruption, and rule of law (Figure 2). The gap between its percentile ranking for control of corruption (21) and SSA average (31) stands out and marks a rapid drop since 2010 (41 percentile rank) (WGI 2016). This is in line with findings from other governance and perception of corruption indices, including the Corruption Perception index (CPI), the Ibrahim index of African Governance (IIAG), and the survey of business leaders by the World Economic Forum.

3. Several factors underlie this progressive deterioration in governance and corruption in Mozambique. These include: (i) a large informal economy with limited financial inclusion, which allows for a high share of cash transactions, and makes it difficult to track and control illicit transactions; (ii) a large, complex and obscure structure of beneficial ownership of state owned enterprises; (iii) a patronage political culture that often relies on the provision of benefits and public goods in exchange of political support; and (iv) weak and underfunded oversight and regulatory institutions.

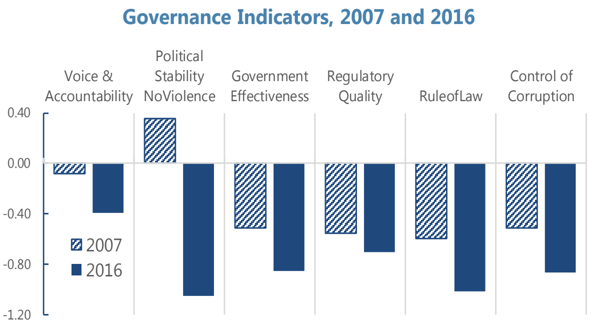
[1] Prepared by Yara Esquivel Soto, Naly Carvalho, Moataz El Said, and Harold Zavarce.

[2] The qualitative assessments include Article IV staff reports, country strategy and monitoring reports of the World Bank.

[3] The six dimensions are voice & accountability, political stability and no violence, government effectiveness, regulatory quality, rule of law, and control of corruption.

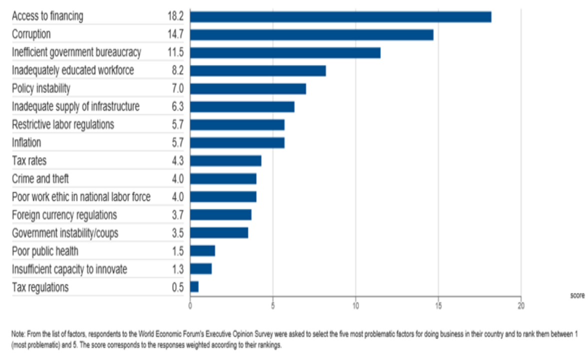
Figure 1. Mozambique: Selected Governance Indices

Governance Indicators, 2007 and 2016



Source: *World Governance Indicators.*
Reflects the evolution of governance performance indicators. It ranges from -2.5 (weak) to 2.5 (strong).

Ranking of Factors Impacting Doing Business

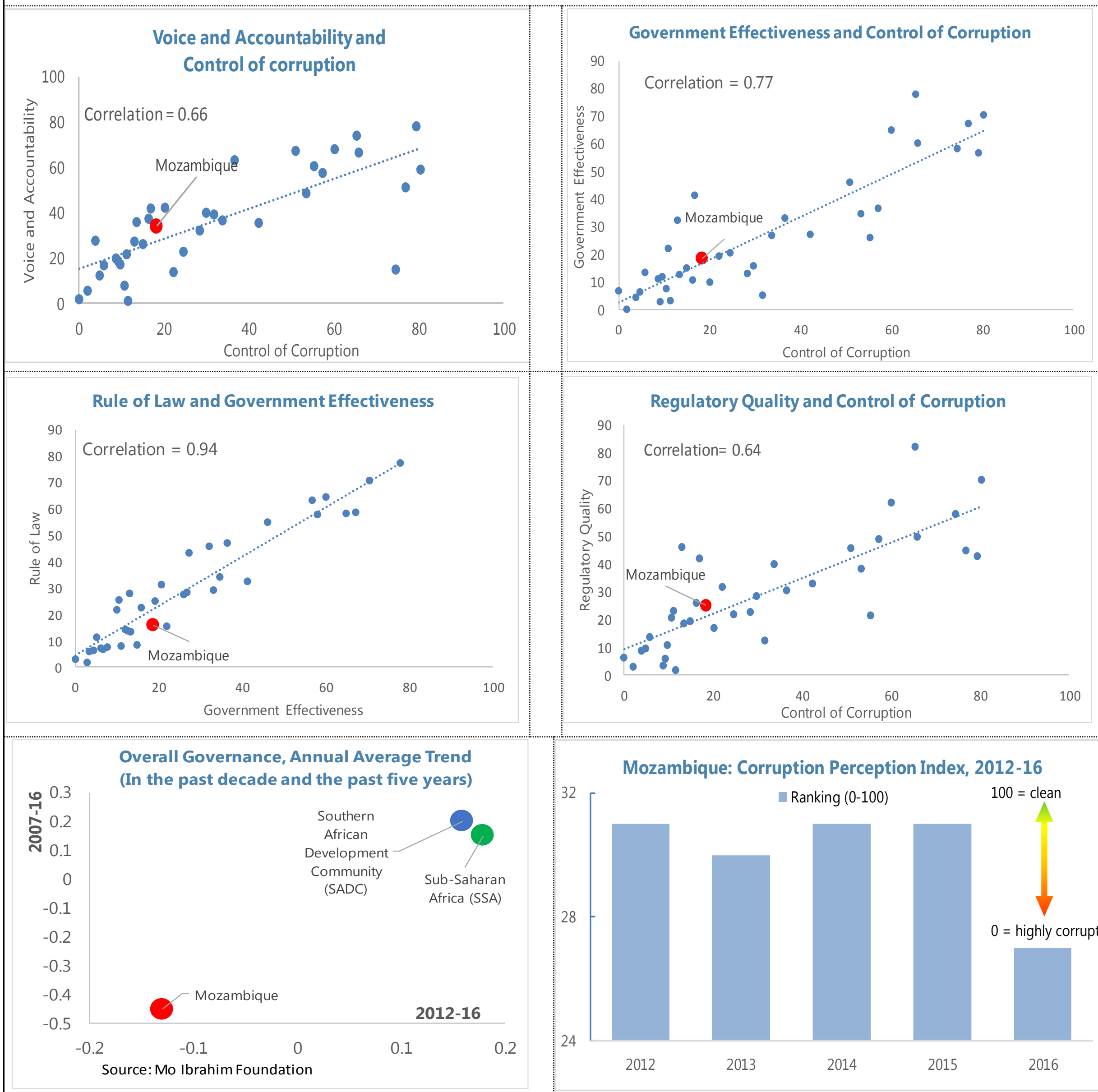


Source: World Economic Forum, 2017

Ibrahim Index of African Governance

SUB-CATEGORY	INDICATOR	2016 Score	Change since 2007
NATIONAL SECURITY	Domestic Armed Conflict	50.0	-50.0
RIGHTS	Human Rights Violations	31.3	-43.7
ACCOUNTABILITY	Corruption in Government & Public Officials	20.0	-40.0
HEALTH	Basic Health Services	51.3	-31.4
PUBLIC MANAGEMENT	Fiscal Policy	45.2	-31.0
ACCOUNTABILITY	Access to Information	25.0	-29.2
PERSONAL SAFETY	Safety of the Person	40.8	-29.0
EDUCATION	Education Provision	48.2	-28.9
INFRASTRUCTURE	Water & Sanitation Services	38.3	-25.2
RULE OF LAW	Judicial Process	41.7	-25.0
ACCOUNTABILITY	Corruption & Bureaucracy	19.0	-23.9
NATIONAL SECURITY	Government Involvement in Armed Conflict	77.8	-22.2
PARTICIPATION	Legitimacy of Political Process	55.6	-22.2
PERSONAL SAFETY	Crime	49.6	-20.7
NATIONAL SECURITY	Violence by Non-state Actors	79.1	-19.6
WELFARE	Poverty Reduction Priorities	53.8	-18.6
RULE OF LAW	Transfers of Power	33.3	-16.7
BUSINESS ENVIRONMENT	Investment Climate	38.9	-16.7
PERSONAL SAFETY	Social Unrest	71.5	-16.0
RIGHTS	Civil Liberties	50.0	-14.6
ACCOUNTABILITY	Online Public Services	27.5	-13.1
RURAL SECTOR	Rural Development Resources	62.5	-12.5
BUSINESS ENVIRONMENT	Soundness of Banks	40.4	-12.3
ACCOUNTABILITY	Corruption Investigation	22.2	-10.1
WELFARE	Poverty	43.0	-9.7
PARTICIPATION	Free & Fair Elections	53.6	-8.9
RURAL SECTOR	Agricultural Policy Costs	43.4	-8.9
ACCOUNTABILITY	Accountability of Public Officials	38.1	-7.1
ACCOUNTABILITY	Diversion of Public Funds	18.8	-5.9
ACCOUNTABILITY	Public Sector Accountability & Transparency	40.9	-4.8
GENDER	Women's Labour Force Participation	91.5	-4.8
PARTICIPATION	Civil Society Participation	55.9	-4.7
PUBLIC MANAGEMENT	Public Administration	59.9	-4.7
INFRASTRUCTURE	Electricity Infrastructure	36.3	-4.3
PARTICIPATION	Political Participation	68.4	-4.2
WELFARE	Narrowing Income Gaps	65.8	-3.7
RURAL SECTOR	Rural Business Climate	60.5	-2.2
BUSINESS ENVIRONMENT	Competition	35.5	-1.8
BUSINESS ENVIRONMENT	Employment Creation	53.9	-1.6
WELFARE	Social Protection & Labour	49.7	-1.1
NATIONAL SECURITY	Internally Displaced People	99.5	-0.5

Figure 2. Mozambique and SSA: Indicators of Corruption, Governance, Regulatory Quality and Judicial System



Sources: *Worldwide Governance Indicators*, Mo Ibrahim Foundation, and Corruption Perception Index.

4. The government recognizes the magnitude of the problem, but a coherent strategic plan remains to be enforced. Supporting anti-corruption efforts was at the forefront of president Nyusi 2014 presidential campaign and was emphasized in his inauguration speech, promising zero tolerance with government corruption. However, progress has been slow with momentum building up only recently. A new anti-corruption plan was adopted in November 2016 after the disclosure of hidden loans.[4] This was also followed by other corruption cases making it to the news headlines

[4] This hidden debt included borrowing by two state-owned enterprises, Proindicus and MAM, disclosed in April 2016, for about \$1.1 billion, and of several smaller bilateral loans (\$0.3 billion)—a total of \$1.4 billion or around 11 percent of the 2015 GDP. Borrowing (\$0.85 billion) from a third state-owned company, Ematum, was discovered

(Box 1). While Mozambique has an updated anti-corruption framework, it faces the challenge of effective implementation and enforcement.

B. Cost of Corruption

5. **Weak governance and corruption is costly for Mozambique.** A study by the Centro de Intergridade Publica (CIP) and Chr. Michelsen Institute (CMI) estimated the cost of corruption to Mozambique in the period from 2002 to 2014 at around $4.8 to $4.9 billion (more than 30 percent of 2014 GDP). On annual basis, this amounts to around $500 million per year, a figure higher than the state budget annual allocations to social spending on health and education. While it is difficult to quantify the costs of corruption, the impact on the economy can be traced though several channels:

Lower economic growth and macroeconomic instability

6. **A study by Ugur and Dasgupta (2011) finds strong links between the perception of corruption and lower per capita GDP growth.** They estimate that on average a one-unit increase in the corruption perception index (CPI) is associated with a reduction in per capita GDP growth by 0.59 percent for the case of low income countries. Mozambique's ranking in the CPI index dropped from 31 in 2015 to 27 in 2016. This translates to an average reduction of 1.8 percent in per capita GDP. In other words, if Mozambique could effectively implement a robust corruption plan and bring the perception of corruption back to the 2015 level, annual per capita growth, everything else equal, would have been 1.8 percentage points higher.

7. **Corruption threatens macroeconomic stability through fiscal channels.** *Corruption affects tax collection efficiency.* Tax compliance and tax evasion becomes a problem as society losses trust in government institutions, resulting in weaker capacity for the government to raise revenue and leading to prolonged development issues. In Mozambique, for example, customs procedures are identified as an area of pronounced corruption (CIP and CMI, 2016). *Corruption can also lower spending efficiency*, through higher costs, reducing the quality of public goods and services, distorting the allocation of public funds away from sectors that need them the most. In addition, public procurement and inadequate payment system controls are other venues affecting spending efficiency. In Mozambique, procurement in the telecom, construction and public works sectors are areas where corruption is pervasive (CIP and CMI, 2016).

Fiscal risks and SOEs performance

8. **The public sector is large, complex and vulnerable to corruption and mismanagement.** Formally, it consists of 13 public enterprises (SOEs) and 109 companies in which the state is the majority shareholder. In addition, the state has a stake in at least 116 private companies through joint ventures or subsidiary arrangements. Most corporations have a weak financial position, and lacks systematic reporting to the treasury. For some of these corporations the structure of ownership is not clear. This increases the risk of conflict of interest and corruption.

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at an early stage in 2014. The three companies Ematum, Proindicus and MAM, aim respectively at fishing tuna, providing maritime protection, and building shipyards. The three companies were created shortly before the borrowing took place and were all headed by the same CEO, who at that time was a senior officer of the security services.

9. The rapid expansion of public investment through public corporations has increased fiscal risks.[5] Expecting an increase in revenues from natural resources, during 2009-2014, the Mozambican government scaled up public investment to support development. [6] During this period, public investment increased significantly, reaching 18 percent of GDP in 2014 (compared to 10.5 percent of GDP in 2008). While public investment was scaled down in 2015-16, it remains high compared with peer countries (Figure 3). Borrowing has been the main source of financing for public corporations and, with weak governance, is a significant source of fiscal risk.[7] Public investment projects are increasingly financed by foreign loans contracted on non-concessional terms, and loans from the banking system. On-lending and guarantees have been issued, including to poor performing entities.[8] In addition, the current oversight arrangement is fragmented with significant gaps.[9] While the pace of accumulation of liabilities has rapidly increased, implementation of due diligence mechanisms have lagged behind. The public corporation debt is not systematically monitored and consolidated or publicly available.

10. Weak governance, transparency and accountability in the sector increases vulnerability to corruption, fiscal and macrofinancial risks. The volume of guarantees has grown in recent years, and spiked with the disclosure of sizable external loans contracted by SOEs in 2014 and 2016. The loans disclosed in 2016 have increased the country's risks of debt distress from medium to high (see DSA) and constrained government access to external financing, including from development partners. The combination of sudden stop of budget support and higher debt service added to the external and fiscal risks.

11. Urgent oversight reforms are warranted to reduce risks of mismanagement in SOEs. By end-2017, the authorities approved a decree on issuance of debt and public guarantees, and submitted to parliament a new SOE law.[10] Steadfast implementation is warranted including controls applicable to public corporation borrowing as well as to issuance of government guarantees. Operationalization of a single oversight unit is needed to manage the complexities of an underperforming SOE sector. Public corporation borrowing and issuance of guarantees

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[5] See the World Bank (2016, pp.15-24) for an analysis the implications of scaling up investments in Mozambique and associated fiscal risks.

[6] The investments focused on agriculture and irrigation, ports and railways, airports, roads and bridges, energy, fishing, human capital development, water supply and youth housing.

[7] Biva et all (2016) shows historical evidence that ranks SOEs contingent liabilities among the major source of fiscal risks government face. In fact, the average cost of state-owned enterprise (SOE) contingent liability crises was about 3 percent of GDP with a maximum exposure reaching a total of 15.1 percent of GDP.

[8] Most loans with government guarantees are denominated in foreign currency.

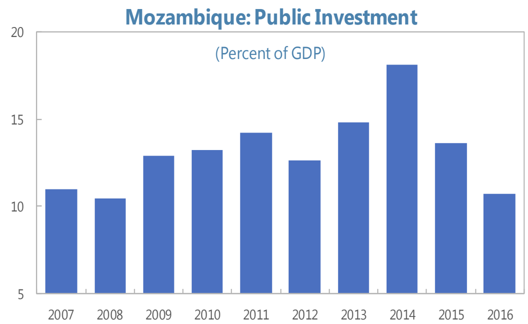
[9] A unit in the National Treasury Directorate exerts oversight of the 13 public enterprises to a limited extent. The State-owned Equity Holding Management Institute (IGEPE) is focused on representing the interests of the state in its capacity as shareholder and does not have mandate to manage fiscal risks. There is no entity empowered with oversight responsibility for managing fiscal risks of the 215 companies in which the state has shareholdings.

[10] The new SOE law is an important opportunity. The law applies to all entities owned or controlled by the state, including subsidiaries and indirect shareholdings. Also, the law put mechanisms for fiscal risk management, specifically: (i) establish the state's role in overseeing all public corporations through a dedicated unit reporting to the Minister of Economy and Finance; (ii) set adequate controls to govern borrowing and guarantees; (iii) provision for improved transparency and reporting; (iv) require developing financial and operational performance targets. Finally, clarification of procurement practices for different entities is required, with sufficient emphasis on promoting value for money and efficiency.

should be guided by financial performance under the new strengthened legal and regulatory framework. Finally, firming procurement practices for different entities is required, with sufficient emphasis on transparency, competitiveness, and promoting value for money and efficiency.

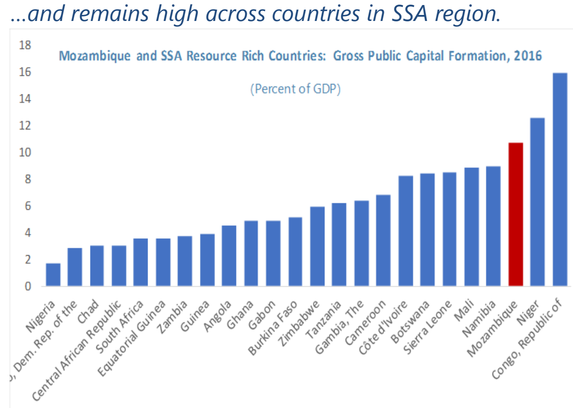
Figure 3. Mozambique: Public Investment, 2007-2016

Public investment scaled up rapidly until 2014…



Source: Mozambican authorities, and IMF staff estimates.

…and remains high across countries in SSA region.



Financial sector integrity

12. Corruption constrains financial sector development through the following channels:

- **Preference for cash balances relative to deposits.** The prevalence of cash transactions facilitates the concealment of illegal proceeds. Such proceeds reduce funds available for financial intermediation and delay financial sector development.

- **Money laundering in the financial system.** In weak regulatory environments, criminal elements may take control of small financial institutions. Transactions with corrupt clients may increase operational risks for banks and other clients. These risks compromise the client base trust in financial corporations and their reputation. In addition, it may increase concentration of deposits in large and reputable financial institutions with strong control systems in place. In addition, an increased perception of respondent banks inability to manage money laundering risks, can compromise correspondent banking relationships.

- **Reduced access to finance for companies**. Financial institutions operating in corrupt environments end-up increasing the cost of financial intermediation, leading to: (i) reducing credit to the economy, (ii) causing portfolio loan concentration and (iii) discouraging legitimate investment. In Mozambique, lending rates are structurally high, constraining access to credit for SMEs and households, and potential pricing risks of money laundering.[11]

[11] Simeone and Xiao (2016, pp. 9-11) points to high market concentration in the banking system as other cause of high borrowing cost.

13. Over the last decade, Mozambique experienced a rapid growth of the banking sector. The banking sector expansion was driven by potential growth in a resource-rich economy.[12] It experienced an increase in domestic source of funding, creating opportunities for financial intermediation and deepening. Mozambique ranks well in financial sector development in relation with comparable countries in SSA (Figure 4). The number of banks increased from 12 to 18 between 2005 and 2017. Also, bank branches increased from 214 to 659 in 2017, largely in urban areas (about 71 percent).[13]

14. Mozambique faces structural characteristics that challenge financial sector development and integrity. These challenges interact with corruption and money laundering risks. The Mozambican banking sector is highly concentrated with the top 4 largest banks being foreign owned and holding almost 85 percent of loans and deposits in 2016. Many banks are small in size. The deposit base is narrow and concentrated in a few large clients.[14] In mid-2017, there were 5.4 million bank accounts held by a maximum of 36 percent of the adult population. The use of cash transactions is important in demographic segments characterized by informality, poverty, and limited access to financial services and products.

15. Mozambique faces important anti-money laundering vulnerabilities. Mozambique was last assessed against the FATF 2004 standard by the Eastern and Southern Africa Anti-Money Laundering Group (ESAMLAAG) on September 2011. In its mutual evaluation report, Mozambique was not found compliant with any of the 40+9 FATF recommendations, and largely compliant with only one.[15] As a consequence, it was placed – and remains – under enhanced follow-up. Some of the main concerns include: (i) inadequate AML/CFT supervision of financial institutions;[16] (ii) lack of effective supervision of Designated Non-Financial Businesses and Professions (DNFBPs); and (iii) lack of enforceable requirements for financial institutions to identify PEPs.[17]

16. An effective implementation of the AML/CFT framework could support Mozambique's anti-corruption efforts. Proceeds of corruption must be laundered to be enjoyed. Therefore, an effective AML framework can contribute to the prevention, detection and confiscation of ill-gotten gains. Under the Financial Action Task Force (FATF) standard, a country's AML framework must require (i) enhanced scrutiny of transactions conducted by politically exposed persons (PEPs); (ii) transparency of the ultimate beneficial owner of corporate vehicles; and (iii) effective and operational agencies specialized in AML, such as financial intelligence units.

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[12] Investment in the mining sector and LNG facilities have become an important driver of medium-term growth on the back of coal mining expansion and infrastructure investments. (DSA, 2017 Article IV consultation).

[13] Only 32 percent of the adult population live in urban areas.

[14] Simeone and Xiao (2016, pp. 9-11) explains that such concentration of deposits has grown since 2005 stabilizing at 15 percent of total deposits in 2014 (peaking 20 percent in 2010). Large clients comprised 14 public companies, 2 large pension funds and not more than 10 large non-bank financial institutions.

[15] ESAAMLG. "Mutual Evaluation of Mozambique," September 2011. http://www.fatf-gafi.org/documents/documents/mutualevaluationofmozambique.html.

[16] Onsite visits are not carried out on a regular basis, partly due to a lack of understanding of the AML/CFT risks, and partly due to an enormous lack of resources

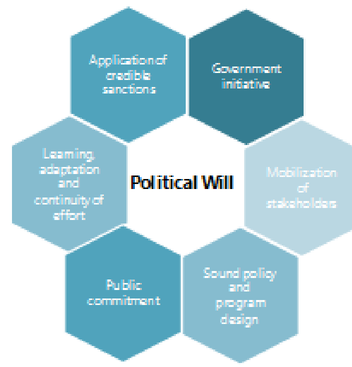
[17] Regulation 16(1)(g) to the AML Law establishes a threshold to require senior management approval, as opposed to generally requiring approval to enter into a business relationship, which compromises the institutions exposure to ML.

These measures, among others, can protect the integrity of the public sector, prevent the abuse of the private sector, and increase the transparency of the financial system.

C. Strategies to Mitigate Corruption

17. Experience has shown that political will is crucial to reduce corruption. Political will, defined as "the extent of committed support among key decision makers for a policy solution to a problem, and making the solution of such problem sustainable over time",[18]is fundamental for a country's anti-corruption strategy to be long lasting and effective. Political will is quite complex, and composed of four key elements: a) ownership of the initiative; b) comprehension of the underlying issues; c) the application of credible sanctions or accountability; and d) resource dedication.

Options to Strengthen Components of Political Will



Source: IMF staff layout based on Brinkerhoff (2010).

18. Mozambique's leadership is committed to curb corruption. This commitment has been evidenced by the country's latest Strategic Reform and Development Action Plan (ERDAP) for the years 2016 to 2019,[19] which places an emphasis on preventing and fighting corruption, making it one of the Government's strategic objectives for the five-year period[20]. The ERDAP seeks to create public integrity systems in which each government agency must identify its own corruption risks to recognize preventive strategies. Emphasis is given to public financial management. This has also been echoed by the President of Mozambique in his latest State of the Nation Address to Parliamentarians, where he reiterated his Government's willingness to support the Attorney General in implementing the recommendations from the audit report on the hidden loans (Box 2).

19. Anti-corruption efforts have been translated into prosecutions of several recent scandals. The Central Public Ethics Commission (GCCC) and the Public Prosecutors Office (PGR) have successfully investigated and prosecuted several high-profile corruption cases, including bribery and misappropriation (Box 1). In 2017 alone, the GCCC received 14 reports from the public. To an extent, cases with an international component have been pursued because of overseas prosecutions, which points to the need of the PGR to develop capacities to detect corruption at an international scale to broaden its reach.

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[18] Ankamah and Khoda (2017, p.2-3) proposed a framework to assess political will.

[19] See "Plano Estrategico Do Sector Da Administracao Estatal e Funcao Publica – PESAEFP – 2016-2019," http://www.cedimo.gov.mz/index.php/noticias/147-governo-aprova-plano-para-eficiencia-da-administracao-publica

[20] "Governo Aprova Plano Para Eficiência Da Administração Pública." Centro Natcional de Documentacao e Informacao de Mozambique. December 2, 2016. http://www.cedimo.gov.mz/index.php/noticias/147-governo-aprova-plano-para-eficiencia-da-administracao-publica.

Box 1. Recent Corruption Cases

LAM/Embraer Case. On Dec. 6th, 2017, the GCCC announced it had charged the former Mozambican Minister of Transportation, the former chairman of LAM, and the middleman who set up a company to launder the payments, with money laundering and illicit participation in business. According to press reports based on Brazilian Court documents, the former LAM chairman allegedly insisted on a bribe to secure the purchase of Embraer aircraft.

Agricultural Development Fund (FDA) Case. On 21 December 2017, the former chairperson of the FDA, along with 24 other people, were sentenced to prison (sentences ranged from 12 months to 18 years) for embezzling 170 million meticais ($2.8 million). They were accused of embezzling public funds through the creation of fake agricultural projects and granting money to finance them.

National Social Security Institute (INSS) case. Senior officials in the INSS and the company CR Aviation were charged with embezzlement and abuse of office. In 2014, INSS and CR Aviation signed a memorandum of understanding to use INSS funds to purchase four aircraft for CR Aviation at 84 million meticais ($3 million).

20. **Progress has been slow on more complex multi-jurisdictional cases.** While domestic cases have been dealt with quickly and somewhat efficiently, the initiation of more complex cases, involving multiple jurisdictions, has been slower, and dependent on overseas prosecutions. The level of complexity in layering was added using obscure corporate vehicles, international money flows, and the use of multiple jurisdictions (Box 2). Together with the legal constraint of having to bring charges forward 6 months after a case has been initiated (3 months if there are defendants placed under pretrial detention)[21], have created delays in the initiation and prosecution of significant corruption cases.

21. **While Mozambique has an updated anti-corruption framework in place, it is lacking in implementation and enforcement.** In 2012 Mozambique underwent an intense legal reform with a broad legislative anti-corruption package approved by the National Assembly. Such package consisted of a revised and consolidated Criminal Code, a revised Criminal Procedures Code, a Witness Protection Law, a Code of Ethics of Public Officials – approved as a Public Probity Law – and several small legislative reforms to specific laws, such as the Public Prosecutors Organic Law. Several relevant laws followed, such as the Access to Public Information Law, and the Political Party Funding Law (Box 3). Notwithstanding these efforts, a combination of lack of resource dedication and sustenance, and poor prioritization have resulted in an ineffective implementation of the legal framework hindering perception of political will.

22. **Mozambique has in place a broad institutional architecture.** Within the 2012 package, Mozambique created several new institutions to support anti-corruption efforts, such as the GCCC or the Reception and Verification Committee (RVC) (Box 4). The Central Anti-Corruption Office was also strengthened and placed under the supervision of the PGR. As noted in the last United Nations Convention Against Corruption (UNCAC) review, there is an interinstitutional task force, formed by law enforcement agencies. Several MOUs are in place to allow bilateral cooperation. For example, the Financial Intelligence Unit (GiFIM), has signed MOUs for the exchange of information with the Revenue Authority, the Bank of Mozambique, and the Criminal Investigations Revenue

[21] See article 390 of the Criminal Procedures Code.

Service. The Criminal Investigations Police (PIC) signed an MOU with customs in February 2008. According to the last mutual evaluation report, the Ministry of Finance, Ministry of Justice and the Ministry of Interior meet on a quarterly basis.

Box 2. Delayed Multi-Jurisdictional Cases

Lava Jato case. According to press reports, the Odebrecht case may have had implications also in Mozambique, with Odebrecht having reportedly paid roughly $900 thousand between 2011 and 2014, in relation to the construction of the Nacala airport. Part of the bribes were supposedly utilized to speed a loan application with the BNDES (Banco Nacional de Desenvolvimento Economico e Social). No investigation has been opened in Mozambique.

Hidden debt case. This involved borrowing by two state-owned enterprises, Proindicus and MAM, and disclosed in April 2016, for about $1.1 billion, and of several smaller bilateral loans ($0.3 billion)—a total of $1.4 billion or around 11 percent of the 2015 GDP. Borrowing ($0.85 billion) from a third state-owned company, Ematum, was discovered at an early stage in 2014. The three companies Ematum, Proindicus and MAM, aim respectively at fishing tuna, providing maritime protection, and building shipyards. The three companies were created shortly before the borrowing took place and were all headed by the same CEO, who at that time was a senior officer of the security services. A criminal investigation is ongoing in Mozambique, but the judicial proceedings have been delayed due to the complexity of the mutual legal assistance process, which requires assistance from the US, the UK and the UAE.

23. Ensuring adequate criminalization of acts of corruption, in line with international instruments is key. Criminalization of all UNCAC offences is significant as it facilitates international mutual legal assistance, eliminating potential hurdles over dual criminality. Mozambique has taken strides to criminalize all offences covered under the UNCAC, however, there is still important work to be done. During the first round of reviews, it was found that several deficiencies remain to fully criminalize all UNCAC offences. Examples of important deficiencies include the offences of bribery and misappropriation. While active and passive bribery are both defined through the new Criminal Code, benefits for third parties and the concept of offering are not explicitly covered. Similarly, transnational bribery is not covered. Third party beneficiaries are also excluded from the offence of misappropriation, and misappropriation in the private sector has not yet been criminalized.[22]

24. A comprehensive and effective asset recovery regime is fundamental to curb corruption and white-collar criminality. Freezing, seizing and confiscation provisions in Mozambique do not fully comply with the UNCAC and the FATF standards. While the Criminal Code includes provisions for seizing and confiscating proceeds of crime, it does not include instrumentalities intended to be used in committing offences. While the AML law contains provisions for seizing, freezing and confiscating proceeds, instrumentalities, and mixed property, this is AML specific. Additionally, the Criminal Procedures Code allows for the confiscation of assets deposited in financial institutions, but other assets or instrumentalities are excluded.[23]

[22] UNCAC Implementation Review Group. "Mozambique Executive Summary." United Nations, February 18, 2016. https://www.unodc.org/unodc/en/treaties/CAC/IRG-session7.html.

[23] UNCAC Implementation Review Group. "Mozambique Executive Summary." United Nations, February 18, 2016. https://www.unodc.org/unodc/en/treaties/CAC/IRG-session7.html.

Box 3. Legal Framework

Anti-Corruption Law. It was issued in 2004 with the objective to introduce white collar crimes and economic crimes. It fell short in the sense that while it criminalized bribery (both passive and active), it did not include such crimes as misappropriation, traffic in influence, and illicit enrichment. It also introduced a loose asset disclosures system, which did not meet international best practices.

Criminal Code. Mozambique introduced a new criminal code in 2014 which addressed gaps in the criminalization of corruption, including by widening the passive and active bribery offences and by including the offences of misappropriation, trading in influence, and illicit enrichment.

Public Probity Law. This law, which was introduced with the anti-corruption package, provides a definition for public official, albeit not entirely consistent with the United Nations Convention Against Corruption (UNCAC) definition and leaves out members of the judiciary. It also introduces a comprehensive asset disclosures system, including by providing an asset disclosure form in the annex, subject to verification. Sanctions for not declaring or falsely declaring are not sufficiently stringent, and the regime is not subject to publication. The law regulates conflicts of interest, and establishes a cooling off period. This law created the Central Public Ethics Commission (GCCC) to investigate and recommend sanctions for violations to public ethics and incurring in conflict of interest. Finally, it reintroduced illicit enrichment.

Anti-Money Laundering Law. A new anti-money laundering law was introduced in 2013 with the aim to comply with the revised standards issued by the Financial Action Task Force (FATF). This law introduced important reforms, but is still pending the promulgation of regulations that will allow its full implementation, such as the supervision of designated non-financial businesses and professions.

Law on Protection of Victims and Witnesses. As part of the 2012 package, this law contains measures for the protection of witnesses and whistleblowers, such as relocation, which should allow them to testify without compromising their safety. It has been delayed due to complications in the mutual legal assistance process.

Box 4. Institutional Architecture

Central Anti-Corruption Office. Established in 2005 via decree, this entity is responsible for the prevention and criminalization of corruption. Under the 2012 anti-corruption package, through the Law on the Office of Public Prosecutions, it was placed under the supervision of the Public Prosecutors Office (PGR), and mandated to investigate and prosecute corruption.

Central Public Ethics Commission (GCCC). Created by the Law on Public Probity, the central commission coordinates the work carried out by local public ethics commissions. It is mandated to establish norms, procedures and mechanisms, to avoid or prevent potential conflicts of interest. It is made up of nine members, elected for a 3-year term with the possibility of reelection for one additional term. There are also 77 sectorial commissions spread around the country, which report to the GCCC.

Reception and Verification Committee (RVC). Art. 63 of the Law on Public Probity established the responsibility of the PGR to evaluate, verify and investigate issues arising from asset disclosures of public officials. A committee was established within the PGR to coordinate from Maputo, and to receive, verify and investigate asset disclosures from Maputo. There are in total 12 provincial committees (including the committee in Maputo), with 5 members each. There is a representative from the PGR in each of the provincial committees.

Financial Intelligence Unit (GiFIM). The GiFIM was created in 2008 to collect, centralize, analyze and disseminate information to law enforcement agencies on potential cases of money laundering. It is staffed with 18 people, 8 of which are operational.

25. **Mozambique has an asset disclosure system.** This regime was included in the Public Probity Law, as part of the 2012 anti-corruption legislative package. The law requires public officials[24] to disclose assets and interests legally owned – and those of their spouse, underaged children and legal dependents – to enhance transparency and prevent conflicts of interest. These disclosures are subject to verification by the 12 RVCs. The forms are accessible to law enforcement agencies and in fact, according to the PGR, corruption investigations have already been initiated because of the verification of asset disclosures.

26. **To enhance its effectiveness, Mozambique should consider reassessing the implementation of their asset disclosures regime and further reforming the legal framework to bring in line with international best practices.** For an asset disclosure regime to be truly effective, it should be publishable online, and subject to dissuasive sanctions for non-compliance or false declarations, and should comprise assets owned overseas. Verifications should be done methodically and accompanied by a comprehensive investigation into the declarant's lifestyle to detect non-declared assets. In Mozambique, the gravest sanction foreseen by the Public Probity Law is of two years imprisonment for the offence of illegally accessing the asset disclosures (art. 70 Law on Probity) and for prevarication (art. 74 Law on Probity). In Maputo alone, there are approximately 1,500 declarants. In 2017 only 869 disclosures were received. The RVC has yet to pursue those officials who have not declared their assets, and yet attempts to verify all forms received through the year. The verification process itself has shortcomings, as it consists on comparing the assets and interests declared with those declared the previous year, looking for discrepancies or suspicious increases in patrimony.

27. **It is necessary to increase transparency in the ultimate beneficial owner of legal persons.** Beneficial ownership of corporate vehicles continues to be obscure in Mozambique. It is required that the names of shareholders owning 20 percent or more shares of a company must be included in the articles of incorporation of a legal person. There is a registry of legal entities which is already digitalized, however, it collects exclusively information on the legal ownership of companies and is not accessible online. Bearer shares are still in use in Mozambique. Furthermore, powers of attorney are not registered. Beneficial ownership information of corporate vehicles is not required or held by financial institutions and DNFBPs. While fit and proper measures to prevent criminals and their associates from controlling financial institutions are in place, they do not cover the ultimate beneficial owner of corporate vehicles, making these measures difficult to enforce.

28. **In this context, continue to strengthen access to finance could potentially support AML/CFT and anti-corruption efforts.** Access to finance in Mozambique was at 14.2 percent in 2016.[25] Mozambique has a highly informal economy. This, combined with absent supervision over DNFBPs may facilitate the concealment of proceeds of crime. An increase in the access to finance together with adequate AML/CFT supervision of DNFBPs could reduce the opportunities for financial crimes. Financial inclusion has improved since 2005 but more needs to be done. Authorities are executing a detailed financial inclusion strategy based on three pillars that include

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[24] As per article 58 it includes elected or nominated officials, PGR magistrates, Central and Local Administration managers, Managing Counsil of the Bank of Mozambique, Directors of the Tax Authority, managers of public assets of the armed forces and the police, managers of public institutions and SOEs, and members of provincial assemblies.

[25] Bank of Mozambique Financial Inclusion Index.

access and use of financial services, strengthening of financial infrastructure, and better consumer protection and financial literacy (SIP chapter 3).

29. International Mutual Legal Assistance (MLA) is key in the investigation and prosecution of corruption, as it allows evidence sharing and eventually the repatriation of proceeds of corruption. Through international treaties ratified by Mozambique, such as the UNCAC, it is possible to provide or receive international mutual legal assistance. For this purpose, the PGR is the designated central authority. However, Mozambique lacks a detailed MLA process. For this reason, the PGR has prepared a draft MLA law which will be presented to the Council of Ministers for approval. The GiFIM has signed many MOUs with the Financial Intelligence Units of countries in the area[26], joined the Asset Recovery Interagency Network for Southern Africa (ARINSA), and recently initiated the process of applying to the Egmont Group, sponsored by the FIC-South Africa. While the GiFIM is not yet part of the Egmont Group, it has signed MOUs with South Africa, Angola, Malawi, Botswana, Swaziland, Zimbabwe, Kenya, Cape Verde, Brazil, and the Isle of Man.

30. Overall, while Mozambique has created agencies to support anti-corruption efforts, it has not provided them with sufficient authority or adequate resources to be effective. The GCCC was only recently been given an office. There are 9 commissioners, three from each one of the three powers. They work on an ad hoc basis around their regular work schedules, with little support staff of their own. Furthermore, the GCCC's decisions are not binding, which means that sanctions against public officials who may have violated the Code of Public Ethics are discretionary. For this reason, the GCCC has presented a draft law to the Legislative Assembly to improve its autonomy, authority, and resources. Likewise, the members of the RVC are staff from the PGR and work on the verification of asset disclosures on an ad hoc basis. They are only five prosecutors and specialists from the PGR who are also charged with receiving and verifying asset disclosure forms. They are not given additional resources or time to carry out this task. The AML/CFT banking supervisor was created only in mid-2017 as a separate entity within the Central Bank. It is responsible for the AML/CFT supervision and for the payments area. It is staffed by only three people who are tasked with off-site, on-site and payments. Mozambique could benefit greatly from providing adequate resources to these agencies to be able to carry out their mandates and to separate the AML/CFT supervision, from the oversight of the payment system.

D. Summary

31. The overall governance scores and perceptions of corruption measures for Mozambique have deteriorated since 2010. Considering the above, governance and corruption weaknesses are judged to be significant and pose risks to the country's macroeconomic stability and potentially hamper the country's development.

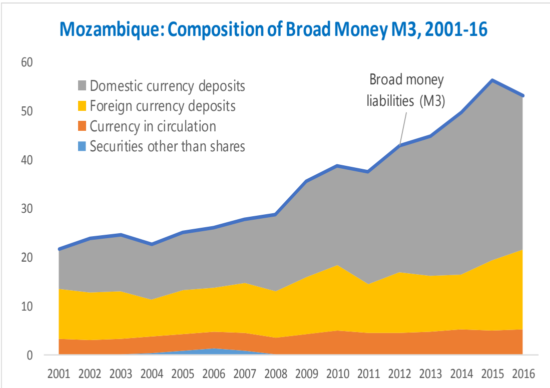
32. Corruption is multi-dimensional and requires simultaneous reforms. Some legislative reforms are still needed, but it must be accompanied with building strong and independent institutions. For this, it is essential to build capacity, increase transparency, and empower civil society.

[26] The Republic of Angola, Cape Verde, Federal Republic of Ethiopia, Kingdom of Lesotho, Republic of Malawi, Republic of Namibia, Federal Republic of Brazil, South Africa, Swaziland, Uganda, Zambia, and Zimbabwe.

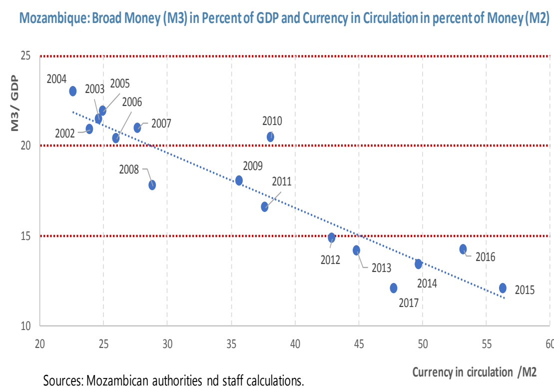
33. Mozambique should support anti-corruption efforts by strengthening the legal and institutional framework, but more importantly by improving effective enforcement. Authorities are encouraged to enhance good governance policies by prioritizing legislative reforms to bring the legal framework in full compliance with international standards. Priority should be given to the mutual legal assistance law, asset recovery, criminalization of acts of corruption in line with the UNCAC, strengthening of the asset declaration framework, and the implementation of the AML law provisions. Reforms to the Public Ethics Law that will strengthen institutions created to prevent conflict of interest (e.g. The GCCC) or that require online publication of asset disclosures should also be prioritized. However, these reforms are meaningless if they are not accompanied by effective implementation that requires resource dedication and sustenance.

Figure 4. Mozambique: Banking Sector Development and Corruption Risks

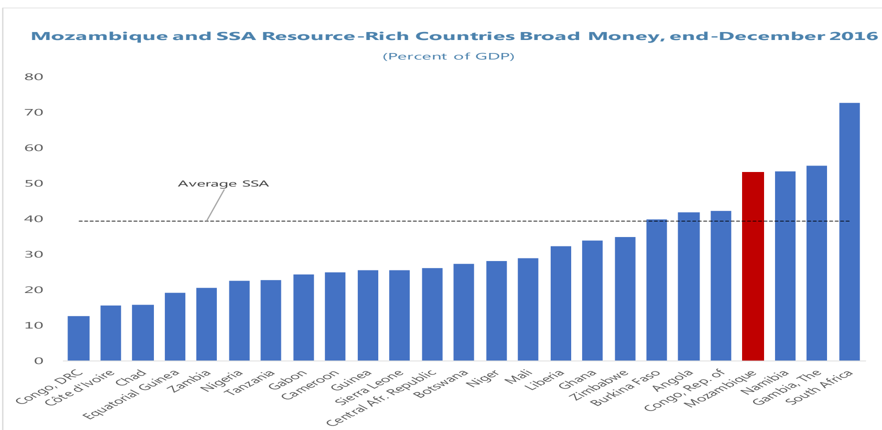
Over the last decade, the banking sector services have expanded rapidly …



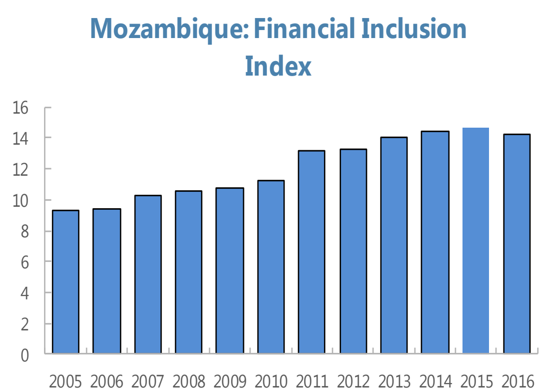
and the importance of cash holding has diminished with respect to deposit.



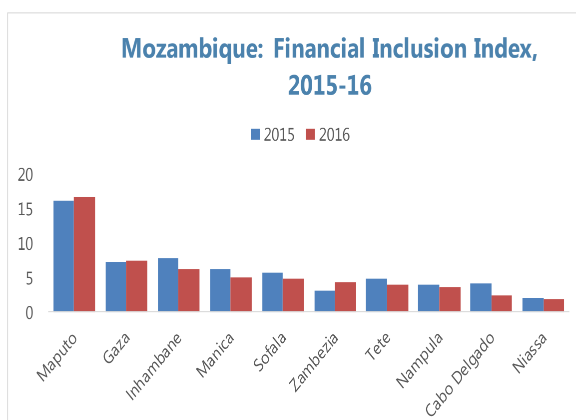
The country ranks well among comparators but challenges remain.



Progress in financial inclusion has taken place but not as fast in key sectors…



… especially in rural areas where informality, poverty and use of cash is prevalent.



Sources: Mozambican authorities; and IMF staff estimates.

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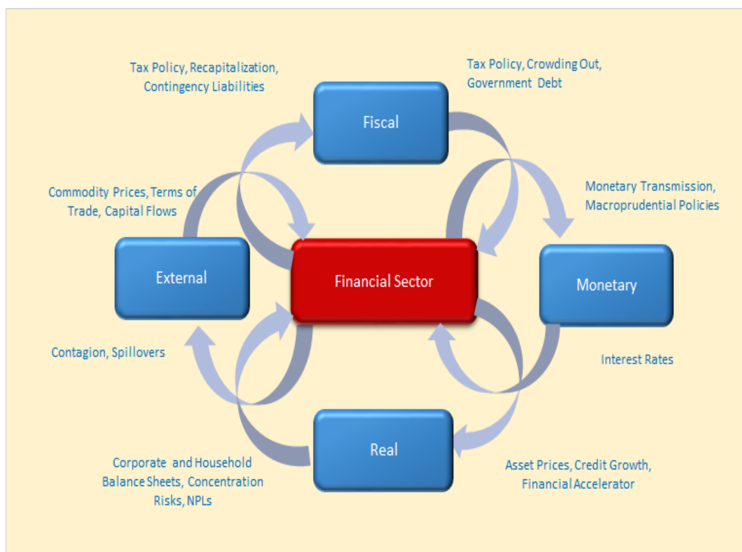
MACROFINANCIAL LINKAGES AND BANK VULNERABILITIES[1]

A. Introduction

1. **Macrofinancial analysis evaluates vulnerabilities in the financial sector and its linkages to other sectors of the economy.** Weak macroeconomic fundamentals typically affect the financial sector, and there may be repercussions from a weak financial sector onto the real economy, especially if hit by a shock. Understanding of macrofinancial linkages permits a forward-looking analysis of the entire economy, with the potential to shape adjustment policies ahead of distress. Ideally, an integrated macrofinancial analysis employs a two-way assessment of macrofinancial risk and macroeconomic stability, with both macro-to-financial and financial-to-macro feedback loops. It is also of interest how the financial sector may magnify or dampen shocks to the economy (IMF, 2017a).

2. **More specifically, macrofinancial linkages and thus channels of risk transmission exist between the major economic sectors and the financial sector.** Figure 1 illustrates the main transmission channels from the external, fiscal, monetary and real sector onto the financial sector and back, and what type of contagion may be expected.

Figure 1. Mozambique: Macrofinancial Linkages



Source: IMF Policy Paper, *Approaches to Macrofinancial Surveillance in Article IV Reports*, March 2017.

3. **In the case of Mozambique, there are strong macrofinancial linkages between the government on the one hand and state-owned enterprises (SOEs), banks, and external creditors on the other.** The following investigation analyzes the vulnerabilities arising from indebtedness of the sovereign versus external and domestic entities, and how the banking system could be affected by the propagation of potential shocks through the economic system, particularly through debt of private enterprises and SOEs to banks. A stress test exercise attempts to quantify the impact of a worsening of private sector performance on loan quality and, hence, bank capitalization. In addition, a debt viability check for the SOE sector calculates the debt overhang of major SOEs that, in the

[1] By Mario Mansilla, Torsten Wezel, and Harold Zavarce.

absence of corporate restructuring, could lead to a restructuring of bank debt or debt service and likewise affect bank capital. The analysis suggests the possibility of feedback effects onto the real sector from the banking system reacting to deteriorating asset quality and shrinking capital buffers.

B. Macrofinancial Linkages in Mozambique

4. During 2009-2014, the Mozambican government scaled up public investment, responding to developmental needs in anticipation of natural resource revenues. The exploitation of significant gas reserves is expected to start in 2023. Public investment was carried out through the public investment budget, non-financial public corporations[2] and public-private partnerships (PPPs) involving those corporations. Investment projects under the budget were increasingly financed through domestic and external borrowing, increasing central government liabilities. In addition, those projects carried out by non-financial public corporations are a source of contingent liabilities given government guarantees in some cases. Moreover, several large infrastructure projects involving SOEs are financed increasingly by bilateral loans contracted on non-concessional terms. During this period, increasing government and SOEs liabilities built significant macrofinancial risks.

5. During 2015-2016, a sequence of combined shocks led to macroeconomic deterioration. The economic growth was adversely affected by lower commodity prices and adverse weather conditions together with the disclosure of large SOEs liabilities in April 2016 and subsequent freeze of donor support. These shocks slowed growth to 3.8 percent in 2016 (compared to 6.3 percent in 2015). A sizable fiscal slippage in late 2015 together with an overly loose monetary policy resulted in substantial exchange rate depreciation despite sales of foreign exchange by the central bank in 2016. Inflation rose to double digits, peaking at 26.3 percent in October 2016.

6. Increased strain in government accounts and high borrowing costs have affected state-owned enterprises (SOEs). In some cases, government investment in SOEs (e.g. telecom firm) has dwindled, contributing to a loss in market share. There has also been an accumulation of arrears to many SOEs, and the government has delayed injecting new capital, leading to higher SOEs leverage. At the same time, SOEs have accumulated tax arrears to the government. Some SOEs have also run up arrears to other SOEs and to the private sector (in individual cases even to their own private-sector subsidiaries).

7. The government disclosed sizable external loans contracted by SOEs in 2014 and 2016,[3] part of which are held by banks. These loans were contracted by three companies from international creditors and backed by government guarantees. The Mozambican Tuna Company (EMATUM) contracted a loan of $850 million for fishing tuna activities and maritime security. Proindicus borrowed $622 million for purchase of maritime surveillance vessels and equipment,

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[2] Non-financial Public Corporations (NFPC) include 14 public corporations fully owned by the government and, in addition, private companies in which the government is a shareholder. Indirect and direct state shareholdings are not fully disclosed. A NFPC is considered an State-Owned Enterprise (SOE) if the government holds a share of 50 percent or more.

[3] World Bank (2016a, pp. 20-21) and World Bank (2016b, pp. 18-22).

while Mozambique Asset Management (MAM) contracted a loan of $535 million for the purchase of floating docks to maintain vessels. The first loan disclosed was EMATUM in 2014 while Proindicus and MAM followed in 2016[4]. Four local banks held participatory notes on Proindicus and EMATUM loans. The exposure to the loans has been fully provisioned.[5] The EMATUM loan was swapped in April 2016 into an Eurobond maturing in 2023.

8. Public debt is in distress, and restructuring discussions have not progressed. In October 2016, the government announced to creditors its inability to service the disclosed external loans and its resolve to initiate restructuring discussions. The stock of public sector debt-to-GDP reached 128.3 percent at end-2016, of which 103.7 percent of GDP is external. Several payments on external borrowing were missed.[6] If talks fail, external budget financing will remain tight, restricting fiscal space.

9. Balance sheet analysis of the economy reveals strong linkages that the public sector has with banks, the private sector and the rest of the world.[7] The balance sheet matrix for 2017Q3 estimates intersectoral assets and liabilities (Table 1). To build the matrix, we use sectoral balances sheets for the central bank and other depositary corporation, international investment position statistics, and partial information on the stock of government securities. The matrix, presented in terms of net asset or creditor position, shows that the public sector is a major player with important linkages to other sectors through two channels: bank exposure to government securities (with a net position of 10.7 percent of GDP) and government and SOEs access to external financing (with the rest of the world holding assets close to 95 percent of GDP). The second link is a source of liability dollarization.[8]

10. Data gaps constrained the scope of the analysis. A partial balance sheet matrix was derived from IMF's Standardized Reports Forms (SRF). The empty cells reflect lack of data. To conduct a comprehensive economy-wide balance sheet analysis, key data to be compiled are: government (GFS) balance sheet data covering general government (central government, state, and local government) and nonfinancial public corporations, as well as coverage of private non-financial corporations and households.

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[4] The 2016 disclosure triggered a sovereign debt downgrade from B^- to CC by S&P.

[5] The maturity of Proindicus and MAM loans are March 2021 and May 2019, respectively.

[6] By end-2017 sovereign external arrears have been incurred including the Mozam Eurobond coupon, debt service of Proindicus and MAM, and two loans of the state-owned airports company, Aeroportos de Moçambique (AdM), for which a state guarantee has been called.

[7] Balance Sheet Analysis (BSA) compiles all the main balance sheets in an economy using aggregate data by sector into a balance sheet matrix that shows asset and liability positions between key sectors. In Figure 2, the balance sheet matrix has as columns the creditor sector (i.e. the holder of the liability) and in the rows debtor sector. Each cell contains a net claim position (asset minus liability). The matrix serves as a starting point to diagnose risks and potential transmission channels of shocks, and sets the stage for deeper analysis (IMF 2015a).

[8] In Mozambique, the increase in foreign currency borrowing by public non-financial corporates poses a substantial currency mismatch risk, if indeed unhedged. Also, public guaranteed borrowing is a source fiscal risk.

11. Significant domestic government arrears have accumulated. The stock of arrears reached about 3.7 percent of GDP at end 2016.[9] A breakdown by sector and the data for 2017 were not available. In 2018, the government plans to undertake an audit of arears including amounts incurred in 2017 and a sectoral breakdown.

Table 1. Mozambique: Balance Sheet Matrix, Net Position, 2017Q3[1]

(Percent of GDP)

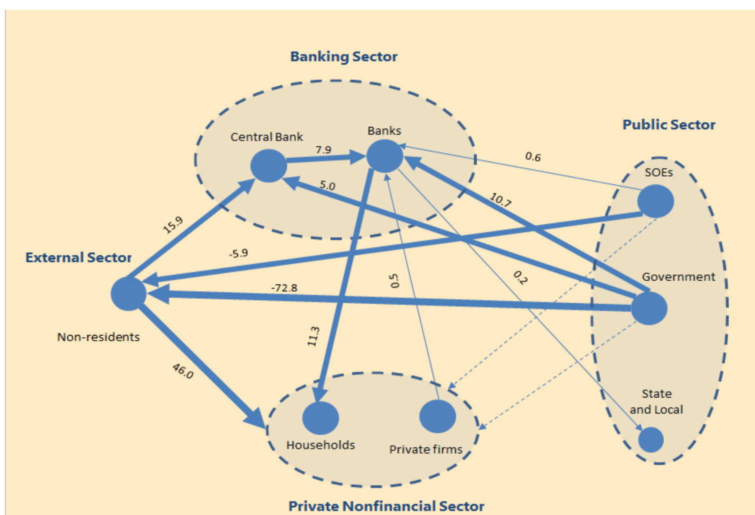
	Central bank	Central government	State and local government	Public nonfinancial corporations	Other depository corporations	Other financial corporations	Private sector [1]: Corporations	Private sector [1]: Households	External
Central bank		5.0	0.2	0.0	7.9	0.0	0.0	-0.2	-15.9
Central government	-5.0		...	...	10.7	...	...	...	72.8
State and local government	-0.2	...		...	0.1	...	...	...	...
Public nonfinancial corporations	0.0	...	...		-0.6	...	...	...	-5.9
Other depository corporations	-7.9	-10.7	-0.1	0.6		2.1	-0.5	11.3	-3.8
Other financial corporations	0.0	...	...	...	-2.1		...	...	...
Corporations	0.0	...	...	...	0.5	...		...	-46.0
Households	0.2	...	...	...	-11.3	...	...		
External	15.9	-72.8	0.0	-5.9	3.8	...	46.0		

Sources: Mozambique authorities; and IMF staff calculations.

[1] IIP does not discriminate between corporations and households that held a net asset position of 46 percent of GDP against the rest of the world.

12. Mozambique is facing specific risks that may have a high impact on the economy. Relevant downside risks include: [10] (i) a prolonged uncertainty related to the hidden debt issue and lack of progress in restructuring SOE debt, (ii) increasing fiscal risks, including non-performing SOEs and government expenditure arrears; and (iii) deterioration in asset quality of banks and liquidity shortfalls due to protracted low growth and high real interest rates. If these risks materialize, macrofinancial linkages—especially involving sectors with lopsided net debtor positions—may play out adversely, propagating shocks through the balance sheet of the economy (Figure 2) and

Figure 2. Mozambique: Network Map of Sectoral Linkages, Net Position, 2017Q3[1]



Sources: Mozambique authorities; and IMF staff calculations.

[1] Arrow goes from debtor to creditor.
The thickness of the arrow represents the size of the net liability.

[9] This information is preliminary and includes arrears incurred during 2014-16.

[10] Risks correspond to the identified sources in the Risk Assessment Matrix (Staff Report for the Article IV 2017).

ultimately affecting the banking system. More specifically, materialization of risks (i) and/or (ii) would restrict the fiscal space further and make the restructuring and recapitalization of major SOEs as well as arrears clearance with suppliers less feasible. If the macro shock reflected by risk (iii) occurred, both the government and the private sector would suffer, leading to even higher loan defaults in the banking sector.[11]

C. Banking Sector Developments and Assessment of Vulnerabilities

13. Despite a period of severe instability in 2016 and sluggish growth, the banking system remains steady, holding significant capital and liquidity buffers, but vulnerabilities persist. Banks remain liquid, with stable deposits, and are well capitalized and profitable on average (Figure 3), but there is heterogeneity across institutions, and a few small banks have weaker capital positions. In addition, nonperforming loans (NPLs) have doubled to 11.4 percent between end-2016 and September 2017. Several factors underlie this deterioration: (i) more focused credit risk inspections by the BM, which led to stricter loan classification, in part of exposures with state-owned enterprises (SOEs); (ii) slower economic growth; (iii) high real interest rates; and (iv) substantial government and SOE arrears with suppliers. Loan loss provisioning, however, remains comfortable at 79 percent of NPLs (58 percent in specific provisions, down from 78 percent at end-2016, 11 percent in generic provisions, and 10 percent prudential provisions[12]). New regulations to increase the capital adequacy ratio (CAR, from 8 to 12 percent, over a period of three years) and establish minimum liquidity requirements were put in place in 2017.

14. The monetary and fiscal policy mix fueled fast credit growth in 2014-16 (Figure 4). The Credit-to-GDP ratio was above its trend by more than the lower threshold of 2 percent between June 2014 and September 2016.[13] The credit-to-GDP ratio peaked at 40.2 percent (from a 25.4 percent bottom in September 2012). Credit to the economy grew annually by more than 10 percent from May 2013 until December 2015 both in nominal and in real terms.

15. In response to high inflation and exchange rate depreciation, the central bank significantly tightened the monetary policy stance in October 2016. The BM increased its lending rate by 600 basis points to 23.25 percent in October 2016 (Figure 5). This measure increased demand for domestic deposits and helped stabilize the exchange rate by rebalancing the foreign exchange market.[14] In late 2016, the tightening and the resolution of two banks marked the end of the cycle of fast credit growth. Credit to the economy started to decline in real terms, and in July 2017 it began to contract nominally year-on-year. In September 2016 Moza Banco, the fourth

[11] Risk may propagate through a recurrence of banking stress, public and private corporates liquidity issues, and household weak household demand.

[12] This corresponds to the so-called prudential filter: voluntary provision above IFRS requirements.

[13] One-sided Hodrick-Prescott filter with a smoothing factor of 400,000 appropriate for monthly data. A credit-to-GDP ratio exceeding ten percentage points or more above trend (upper threshold) issues the strongest signal of an impending crisis in terms of the noise-to-signal ratio (Drehmann and others, 2010). The lower threshold of 2 percent above the trend signals excessive credit growth or overheating (IMF 2014).

[14] The Metical nominally has appreciated by almost 24 percent against the USD since October 2016.

largest bank with 6 percent of assets, was put under official administration and shortly thereafter Nosso Banco, holding less than 1 percent of assets, was liquidated after failing to comply with capital requirements.

16. Since mid-2017, inflation has dropped rapidly and policy adjustment lagged, leading to high real interest rates. Broad stability has returned in the foreign exchange market and an expansion in agricultural output accompanied the monetary tightening, leading to a single-digit inflation rate (7 percent year on year in December).[15] In response to rapid disinflation but in absence of fiscal consolidation, BM cautiously cut the policy rate by 225 basis points to 19.5 percent during the last three monetary policy committee meetings.[16] These elements have led to very high real interest rates and a slow growth environment, causing a contraction domestic currency credit (by 12 percent y-o-y at end 2017) and growth of foreign currency credit (by 6 percent, Figure 6). Overall, the construction, manufacturing, commerce and consumer sector has experienced sharp credit contractions. Since deposits in domestic currency have continued growing, the resulting gap between credit to the private sector and monetary aggregates (Figure 6) has opened financing space for the governments' significant funding needs to be met, albeit at a higher cost. Private banks reported that SME access to finance has been affected by the contraction in credit in an environment of high interest rates and structural constraints in the banking sector.[17]

17. Notwithstanding the weakness in SME credit, financial inclusion indicators have improved over the years, and the authorities are executing a detailed inclusion strategy. The authorities' financial inclusion index showed a steady improvement during 2005-2015, before falling slightly in 2016 for statistical reasons (additional districts with poor financial access now included). The government posits that financial inclusion is, however, still low in non-urban areas. One crucial step toward higher inclusion was the approval of a regime for access spelling out the rules for banks to expand activities through banking agents, expected to help bring services to underbanked rural areas. In addition, the government has elaborated a national financial inclusion strategy for the period of 2016 to 2022 (Republic of Mozambique, 2015). The strategy rests one three pillars—access and use of financial services, strengthening of financial infrastructure, and better consumer protection and financial literacy. It features specific interim and final targets,[18] with a monitoring and evaluation mechanism in place.

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[15] The weight of imported products in the consumer basket and food are important. Annualized food inflation peaked at 42 percent in November 2016 against lows of 5.5 percent in December 2017.

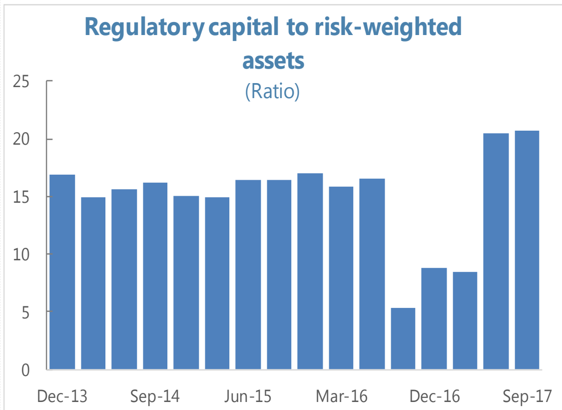
[16] In April 2017, in April 2017, the BM changed its operational target to a short-term interest rate (MIMO) as part of a longer-term transition to inflation targeting. The MIMO rate was set initially at 21.75 percent and the lending rate cut to 22.75 percent. See Selected Issues paper on transitioning the monetary policy regime.

[17] Simeone and Xiao (2016, pp. 9-11) argue that despite Mozambique's rapid banking sector expansion experienced in 2005-2014, interest rates on bank loans remained prohibitively high for SMEs, partly related to high market concentration. In addition, Osano and Languitone (2016) show that access to finance is also constrained by collateral requirements, structure of the financial sector (market concentration) and lack of awareness of funding opportunities among banks and entrepreneurs.

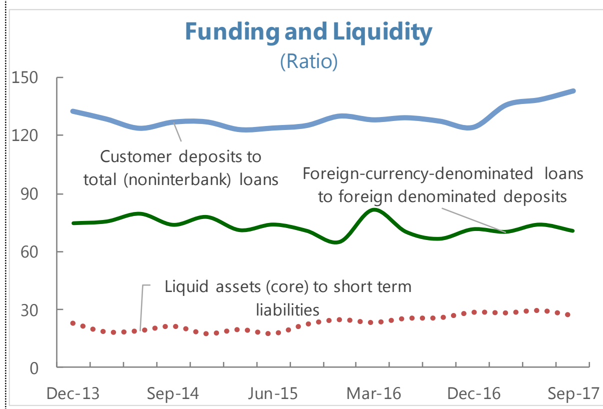
[18] The main targets are: (i) 60 percent of the adult population with physical or electronic access to financial services; (ii) 100 percent of the districts with at least one formal access point; and (iii) 75 percent of the population with one access point within five kilometers. A 2018 interim target postulating that 40 percent of the adult population have access to electronic money has already been met.

Figure 3. Mozambique: Banking Financial Indicators

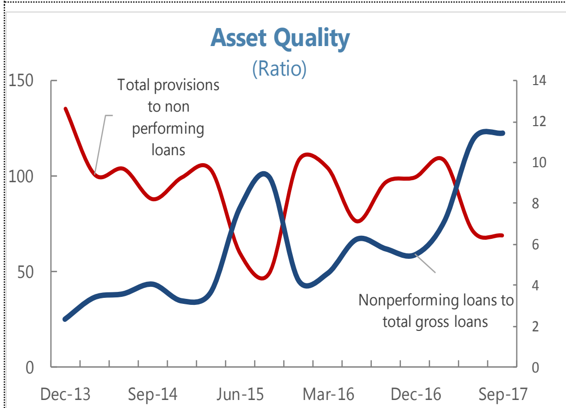
Mozambique's banking system remains well capitalized....



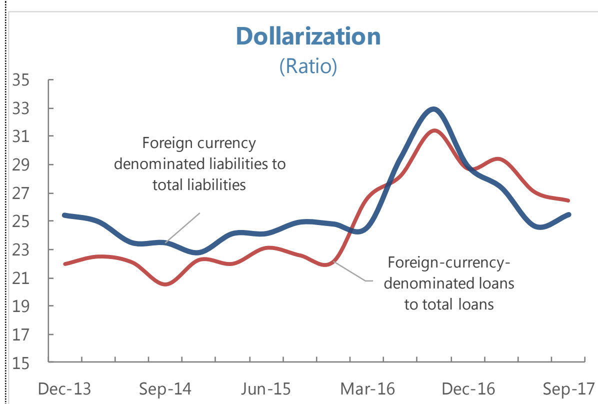
...and with considerable liquidity buffers...



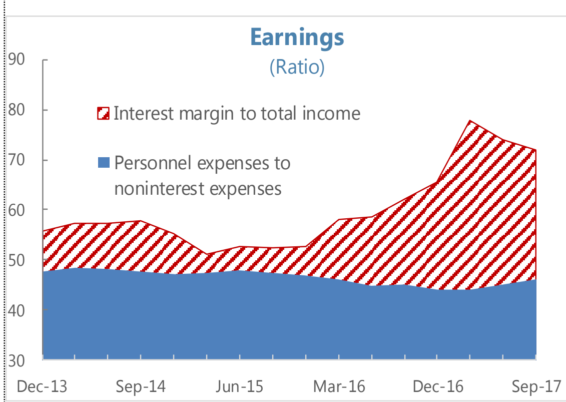
...while NPLs have increased, provisioning coverage is significant.



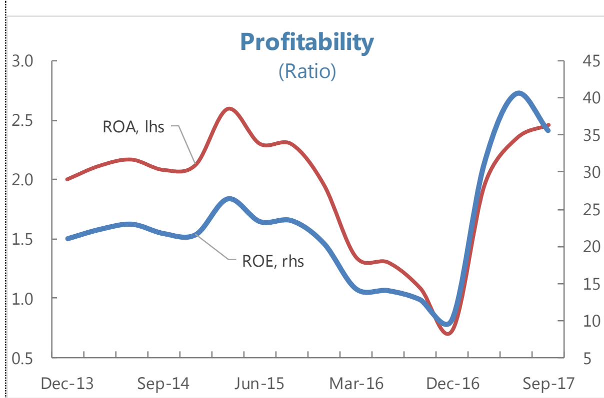
Dollarization declined since 2016 but is still important.



Intermediation margins have recovered ...



...leading to higher profitability.



Sources: Bank of Mozambique; and IMF staff calculations.

Figure 4. Mozambique: Credit-to-GDP Gap
(Percentage points of GDP)

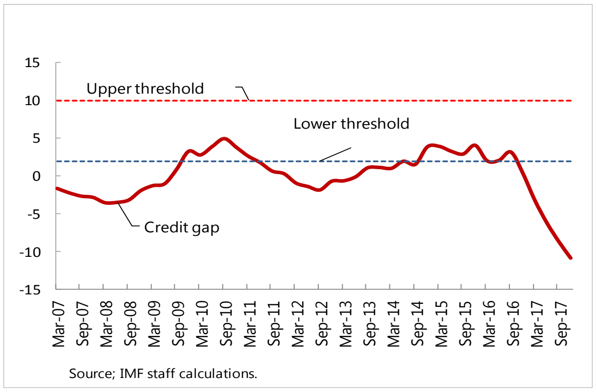
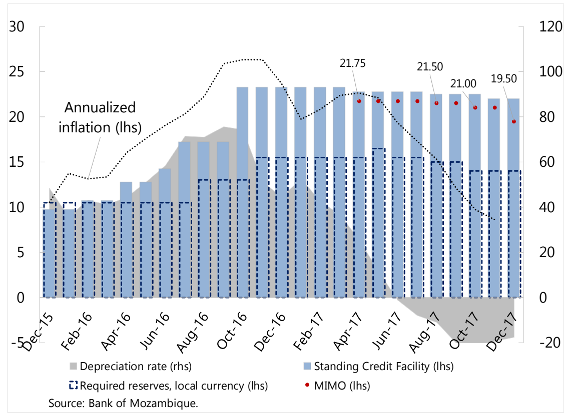
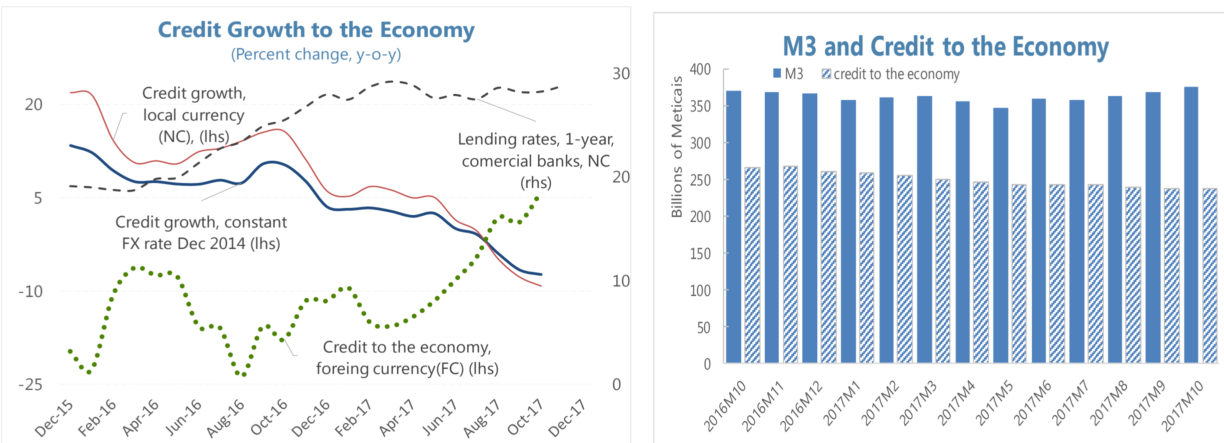


Figure 5. Mozambique: Policy Rates, Inflation and Currency Depreciation
(Percent)



Sources: Bank of Mozambique; and IMF staff calculations

Figure 6. Mozambique: Credit and Aggregate Developments



Source: Bank of Mozambique.

18. Key vulnerabilities relate to sovereign-financial linkages and the macroeconomic context. Banks are heavily exposed the public sector. The exposure takes different forms: T-bills, T-bonds, direct financing of SOEs, participation in the financing of public projects, among others. As in many other jurisdictions, direct exposures to the central government carry a zero-weight risk on capital, making them attractive but reinforcing risk concentration. Lending to SOEs receives a risk treatment akin to corporate lending, unless it is backed by government guarantees, in which case it also enjoys sovereign classification. Given the high and rising level of public sector exposures (estimated at 25 percent by end September 2017) and the high real interest rates, credit to the private sector has been crowded out, especially in 2017 when a nominal contraction of 12 percent year-on-year was observed. In addition, some institutions are close to their sovereign risk concentration limits, impeding at times their participation in the weekly T-bill market auctions.[19]

19. Banks liquidity tends to flow to the BM due to the high real returns and low risk. Banks are placing their extra balances in domestic currency at the central bank in the form of excess reserves, or via reverse repos in the overnight market. Such liquidity allocation partly helps cover public sector financing needs. At the same time, it constrains credit normalization, which in the medium term will also be affected negatively by the higher capital requirements.

20. Dollarization remains considerable at 22 percent of assets and 28 percent of liabilities. While the FX market is generally less active and volatile than in 2014-15, dollarization ratios have declined somewhat partly due to the accounting effect of the Metical revaluation last year. The new law for the foreign exchange in force since end-2017 introduced, among other features, more flexibility in the management of exports proceeds by eliminating mandatory minimum surrender rules. The added flexibility will improve FX management of exporting companies.[20] The BM will also reduce its purchase of FX surpluses in the system,[21] and the related sterilization costs. However, by potentially leaving higher FX balances in the real sector, dollarization of domestic transactions may crop up as well as higher intermediation in dollars, especially given the relatively low interest rate in foreign currency and current subdued demand for imports. Macroprudential measures against excessive dollarization are in place, including very high ex-ante provisioning for dollar loans to non-exporting borrowers. However, authorities must remain vigilant and higher reserve requirements on deposits in foreign currency, and minimum dollar liquidity requirements may be warranted.

21. Macroprudential tools aimed at mitigating credit risk have not been used in Mozambique thus far. The incipient mortgage market and the near-term horizon of lending in general have made the introduction of instruments like debt-to-income or loan-to-value limits less pressing. However, the BM could start monitoring those ratios and be ready to establish good practices for the local market, especially for smaller segments of commercial borrowers. Improving macroprudential surveillance, including through upcoming reporting on financial stability,[22] would benefit from such more detailed indicators.

Assessment of bank vulnerabilities

22. Considering the sovereign-bank nexus as well as, high credit costs, and dollarization, credit risk and subsequent portfolio deterioration will likely prevail in the system. To gauge possible impacts of NPL growth on provisioning and capital requirements, the mission elaborated a sensitivity analysis using detailed bank by bank data provided by BM.

[19] T-bill auctions are conducted every Wednesday mainly for monetary purposes; recently some auctions were deserted. Some institutions have binding constraints (set internally or with their parent banks) for increasing their exposure to sovereign risk, which have been further tightened by the downgrade of the country's risk rating.

[20] Eliminating unnecessary costs in the process, especially for exporters which products have higher import content

[21] Tight net open position regulations prompt banks to regularly sell the BM their surplus FX balances, which have increased given the low FX demand for imports.

[22] The BM has been reorganized internally to implement greater financial surveillance through specialized divisions.

23. The exercise focuses on the impact of higher provisioning from higher NPLs on solvency ratios. The analysis is based on September 2017 data and covers the 2018-19 period under three scenarios of portfolio deterioration (Table 2). The scenarios include (i) a baseline based on credit growth consistent with the macro-framework and moderate NPL growth, with a gradual increase in provision coverage levels over the next two years; (ii) a continued low credit growth setup with faster loan deterioration; and (iii) a credit recovery scenario with lower NPL growth which allows for full provision coverage. Key assumptions include: provision requirements at the closing of fiscal year 2017 to stay at the level of September 2017, credit growth is homogeneously distributed, and the structure of portfolios is not altered during the period so that risk-weighted assets grow in sync with aggregate credit. Also, while NPLs doubled during 2017, it is assumed the spike was related to a one-off correction and the rates of deterioration range from 5 to 20 percent in the different scenarios.

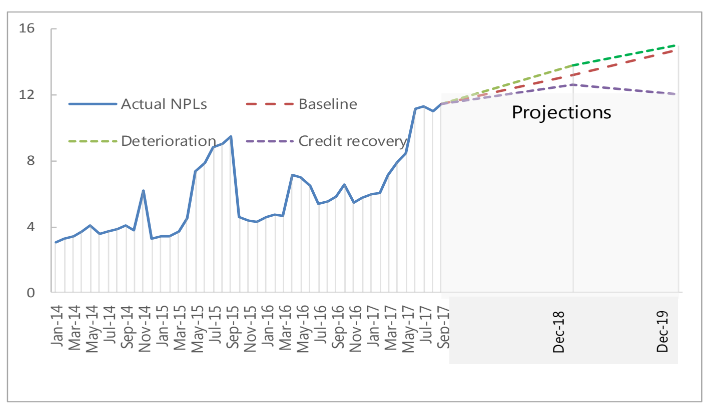
Table 2. Mozambique: Non-Performing Loans Sensitivity Analysis

	Baseline scenario			NPL deterioration scenario			Credit recovery scenario		
	Dec-17	Dec-18	Dec-19	Dec-17	Dec-18	Dec-19	Dec-17	Dec-18	Dec-19
Assumptions									
Credit growth	...	3.0	3.0	...	0.0	10.0	...	10.0	10.0
RWA growth	...	3.0	3.0	...	0.0	10.0	...	10.0	10.0
NPL growth	...	15.0	15.0	...	20.0	20.0	...	10.0	5.0
Provision coverage	59.0	80.0	100.0	59.0	80.0	80.0	59.0	100.0	100.0
Results									
System NPL	11.5	13.2	14.7	11.5	13.8	15.0	11.5	12.6	12.0
System CAR	14.2	13.4	10.4	14.2	13.4	11.9	14.2	10.8	10.7
No. of banks below minimum	2	3	6	2	3	6	2	6	6
Loan market share	0.6	1.6	5.1	0.6	1.6	5.1	0.6	5.1	5.1

Sources: Bank of Mozambique; and IMF staff estimates and projections.

24. All three scenarios result in non-negligible provisioning needs and additional capital requirements (Figure 7). Under the scenarios described, NPLs would increase over two years to the range of 12-15 percent, making provisioning adjustments necessary. Notwithstanding the relatively high but declining profitability, the charges for provisions lead to important capital requirements for some banks. Two small banks would require a capital infusion at the outset due to losses during 2017. No systemic bank would have severe stress, but in 2019 up to six banks with an aggregate market share of 5 percent in the loan market could require significant capital infusions. The system would remain solvent, though capital buffers would be eroded.

Figure 7. Mozambique: NPL Sensitivity Scenarios
(Percent)



Sources: Bank of Mozambique; and IMF staff calculations and projections.

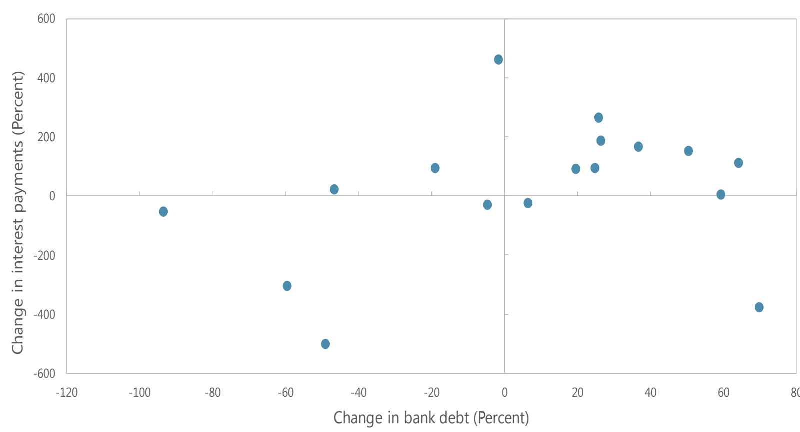
D. Excess Leverage of State-Owned Enterprises and Implications for Banks

25. In the following section, the debt sustainability of major SOEs and the resilience of banks to potential debt restructuring are assessed. Standard metrics of corporate debt sustainability analysis are employed to determine the debt overhang and excessive debt service burden of individual SOEs. The impact of the necessary adjustments following from this analysis—additional provisions on loan exposures and/or reduction of the interest bill— is then computed for each bank.

26. The financial situation of the largest SOEs has been deteriorating. As the latest available audited financial statements at end-2016 show, the ten largest non-financial SOEs that accounting for about 90 percent of sector assets, experienced rising pre-tax losses compared to 2015. This was due to rising net interest costs that almost doubled on the back of higher loan rates and rising liabilities. Indeed, the top-10 SOEs' bank debt grew by 47 percent in 2016, lifting the ratio of bank debt to total assets from 42 to 49 percent.

27. Essentially cash-strapped, SOEs increasingly turn to bank financing to defray operational costs, with the potential of bank debt ballooning further. Half of the 18 SOEs that reportedly carry bank debt[23] experienced both rising bank debt and net interest payments during 2016 (Figure 8). Many SOEs have a negative operational cash flow even after adding back non-cash expenses. In covering the cash shortfall, they need to turn to banks for loan funding or to suppliers for short-term trade credit. By safeguarding cash, some SOEs show cash flows that exceed their operational income.[24] SOEs' bank debt has increased substantially, with gross loans rising by 40 percent during 2016. Not all this debt is owed to local banks; in fact, a few SOEs are almost exclusively indebted with foreign lenders. The additional debt together with rising loan rates caused interest paid by SOEs to almost double in 2016.

Figure 8. Mozambique: SOEs Changes in Bank Debt and Interest Payments in 2016



Source: SOE's audited financial statements, 2015 and 2016.

28. A standard sustainability metric is used to determine the debt overhang of SOEs. The analysis applies the most common metric for corporate debt sustainability, the net debt-to-EBITDA

[23] Two supervisory entities, the Ministry of Finance and Economy (MEF) and the State-owned Equity Holdings Management Institute (IGEPE) each control nine bank-indebted SOEs. While for most SOEs the existence of bank debt was verified by BM data as at end-November 2017, the bank debt of a few IGEPE-controlled firms that is not reported in the data set provided by BM is based on a survey reportedly conducted in the first half of 2017.

[24] To what extent potential capital expenditure is limited by the financing constraint would have to be determined in each case. It also is not clear whether individual SOEs have run into lending limits notwithstanding the availability of state guarantees and comfort letters.

ratio. The ratio divides net debt, which is gross debt minus cash and cash equivalents, by earnings before interest, taxes, depreciation and amortization (EBITDA). Net debt is used because cash holdings could be used to pay down gross debt, while EBITDA serves as proxy for cash flow across industries by excluding cost drivers that depend on the structure of individual firms.[25] The net debt-to-EBITDA ratio shows how many years it would take a company to pay back its debt from operations. Analysts typically use a critical threshold of 5 times EBITDA for determining the debt overhang but thresholds vary across industries, with firms in some capital-intensive sectors (e.g. utility firms) able to sustain a higher ratio and thus higher debt levels.

29. Based on the sustainability metric most SOEs show a substantial debt overhang. In the empirical exercise, the net debt-to-EBITDA ratios were computed for 18 SOEs with bank debt at end-2016. Eleven SOEs (i.e. almost two-thirds) had ratios above the critical threshold of 5 or undefined ratios because of negative EBITDA.[26] The remaining seven firms had ratios of below 5 or debt that after subtracting cash went into negative territory (i.e. no relevant indebtedness). Ratios ranged from 0.1 to 75.5 for the nine SOEs for which they could be calculated.[27] The debt overhang—domestic and external debt combined—was then calculated as net debt minus 5 times EBITDA, amounting to MZN 30.7 billion for the overindebted SOEs, and the corresponding haircuts ranged from 47.7 to 99.9 percent of gross debt.

30. The calculated debt overhang would need to be addressed by either equity injections or debt restructuring. In principle, the SOEs' owners, primarily the government, should inject fresh capital into the firms with which the excess debt would be repaid. However, in many cases this has not happened because the government lacks the resources to provide an appropriate capital cushion and thus sustainable leverage. As it happens, SOEs need to accumulate more debt to carry on operations and investment. At some point, the debt burden becomes excessive, and the debt or debt service need to be restructured. According to market participants, in Mozambique banks and SOEs tend to agree a lengthening of maturities, at times with periods of interest-only payments, or in some cases a modification of the loan terms (e.g. lower rates). Adjusting the principal is considered a measure of last resort. Therefore, in practice restructuring benefits the debt service but not the debt level.

31. As the with the debt stock, metrics exist for assessing the sustainable debt service. A prominent measure for a firm's capacity to service its debt is the Interest Coverage Ratio (ICR) that relates a company's earnings before interest and taxes (EBIT) to its interest expense. The lower the ratio, the more a firm is burdened by the debt service, with a ratio of 1 implying that it is not generating sufficient operational revenue to pay interest without making adjustments. Typically, if

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[25] Interest payments are excluded because they depend on the financing structure of a firm (debt vs. equity financing); taxes vary across firms due to various idiosyncrasies, and depreciation and amortization costs depend on historical investments that firms have made and not necessarily on the current operating performance of the business. Still, EBITDA is not a perfect proxy for cash flow because actual cash flow depends critically on required capital expenditure to preserve the firm as a going concern; this expenditure may vary significantly across firms and industries, which is why analysis of free cash flow is conceptually superior. This said, for analyzing debt sustainability across the board, the net debt-to-EBITDA ratio has become analysts' preferred measure.

[26] In a few cases, cash flow was taken as the denominator if it was positive as opposed to a negative EBITDA.

[27] For SOEs with negative EBITDA the ratio was undefined but would clearly be above the critical threshold if those firms instead showed small positive earnings or cash flows.

the ratio falls below a critical threshold of 1.5 a firm is seen as potentially encountering payment difficulties (Chow, 2015). In the exercise, excess debt service (using 2016 data) is determined as: SOE Interest Expense — (EBIT/1.5). The impact of a reduction of the contractual interest rate to make debt service viable would be felt in banks' net interest income. If instead, the maturity is extended (and the interest rate not lowered), the bank's liquidity position is impacted by the delay in repayment of the loan principal. In the exercise, eight out of 18 SOEs show an ICR of below 1.5 or negative EBIT (i.e. ICR undefined), with the corresponding necessary haircuts to the interest bill ranging from 74 percent to 100 percent.

32. In the exercise, banks were assumed to build provisions for the calculated debt overhang, with direct impact on capital ratios. To estimate the impact a matrix of claims of each bank on each SOE is used. The individual loans to overindebted SOEs were provisioned one by one by multiplying the carrying amount by the calculated haircut. The provisions were then aggregated for each bank and subtracted from bank capital (see Box 1).[28] Provision data compiled by BM illustrate that most banks have not provided for loans to distressed SOEs (other than a general provision of 2 percent), and they are not required to do so thanks to government guarantees.[29] Still, for prudence and in line with the introduction of IFRS 9 as of January 2018 requiring forward-looking provisioning,[30] banks are here assumed to build a provision for the cumulative debt overhang that would need to be forgiven in a debt restructuring exercise for SOE debt to become sustainable again.

33. The results of the exercise illustrate that while the banking system could withstand the value adjustments, some banks' capital would drop to critical levels. The total additional provisions amounting to MZN 15.5 billion would lower banks' capital to MZN 44.8 billion. Set in relation to risk-weighted assets, this reduction corresponds to a drop in the system's capital adequacy ratio (CAR) from 21.3 percent to 15.8 percent. One larger bank's CAR would fall below the current minimum required (8 percent) and that of smaller bank below 11 percent. The largest drop in CAR experienced by any bank is 12 percentage points. The outcome of the sensitivity analysis clearly depends on the assumption of the critical threshold for EBITDA, but varying it to 7 times EBITDA (more lenient) or 3 times EBITDA (stricter) does not change the outcome materially (Table 3).

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[28] Risk weights on SOE exposures are ordinarily 100 percent (as with other corporate loans) and are unaffected by the increase in provisions. Therefore, only the numerator of the capital adequacy ratio needs to be recalculated.

[29] Six out of 13 banks with SOE exposures have provisioned exactly 2 percent of the exposure (i.e. the general provision) and another three banks even less than that. Two banks have a provisions coverage ratio of 5 percent, although one bank has sizable impaired loans that arguably could have been provisioned more already. The remaining two banks have a coverage ratio of 69 and 100 percent, with provisions actually exceeding the impaired loan amount.

[30] Under IFRS 9, expected credit losses have to be recognized to reflect the credit risk of financial assets. It is no longer necessary for a "trigger event" to have occurred before credit losses are recognized through provisions (or write-offs). Whenever credit quality is deemed to have deteriorated significantly and can no longer be deemed low risk, the loan would require a provision for the lifetime expected credit loss (Stage 2 of the three-stage classification system under IFRS 9); see Cohen and Edwards (2017). This treatment may conflict with provisioning regulation imposed by the central bank but the issue can be handled by adjusting regulatory capital for any difference between IFRS 9-based provisions and regulatory provisions.

Box 1. Debt Viability Check for SOEs and Impact on Banks

Step 1: Determine critical value of debt of each SOE based on the net debt-to-EBITDA ratio and using data from SOEs' 2016 audited financial statements.

Step 2: Calculate debt overhang (debt minus critical amount) and, hence, needed haircut on the debt level (1 — (sustainable debt/current debt)).

Step 3: Multiply each bank's current loan exposure to an SOE (as of November 2017) by the respective haircut (%) and obtain required additional loan loss provision on the exposure.

Step 4: Sum up additional provisions for each bank.

Step 5: Reduce the total additional provisions by the amount of existing provisions and subtract resulting net additional provisions from each bank's capital.

Step 6: Recalculate capital adequacy ratios.

Table 3. Mozambique: Impact of Debt Restructuring Exercise on the Banking System

	Threshold EBITDA=5	Threshold EBITDA=7	Threshold EBITDA=3
Provisions required	MZN 15.5 billion	MZN 12 billion	MZN 18.9 billion
CAR end-Sept. 2017	21.3 percent	21.3 percent	21.3 percent
CAR adjusted	15.8 percent	17.0 percent	14.6 percent
No. banks CAR<8%	1	1	1
Largest drop in CAR	12.0 pp	9.8 pp	14.2 pp

Source: IMF Staff calculations.

34. **As mentioned, it is more likely that banks would accept a modification of the loan terms than outright debt forgiveness, yet this could still have a significant impact.** The haircuts to the interest bill of the eight SOEs with an Interest Coverage Ratio of below 1.5 (or negative EBIT) amount to MZN 17.1 billion. This reduction would be applied to both domestic and external debt. It is clear that net interest income of banks would be materially reduced by any such debt service restructuring and the currently comfortably high return on assets of 2.5 percent lowered materially.

E. Conclusions and Recommendations

35. **This paper has assessed the macrofinancial linkages playing a central role in the propagation of adverse shock between the fiscal/real sector and the banking sector.** High indebtedness of the government sector, including major SOEs, and tight financial conditions affecting the real sector have been creating macrofinancial vulnerabilities that, if unraveling abruptly in the face of external shocks, could lead rising loan delinquencies, eroding banks' capital buffers. The two sensitivity analyses quantify the impact of private sector loan defaults and necessary restructuring of excessive SOE debt onto the banking sector. The quantitative assessment suggest that while the banking system would be able to absorb the shocks, individual institutions would become undercapitalized, highlighting the need to take preventive action.

36. Were the contemplated macrofinancial risks to materialize, banking sector fragility could cause feedback effects onto the real economy and government. Negative feedback effects onto the real sector would result from banks' absorption of additional losses from exposures to ailing SOEs and private firms. As banks repair their balance sheets, adjusting to the riskier credit environment, they could restrict the supply of new credit supply or raise loan rates. As a result, the private sector could be deprived of credit for working capital on sustainable terms in the short term, which in turn would likely harm economic growth and in the process, affect tax revenue. The reduced fiscal space would, in turn, make arrears clearance and the overdue restructuring of major SOEs less viable, potentially triggering a vicious circle.

37. The following recommendations are aimed at dealing with the identified vulnerabilities:

- *Banks should provision adequately given the debt overhang of major SOEs and potential debt restructuring.* As the empirical analysis shows, more than half of the SOEs with bank debt are overindebted by standard metrics and require reduction of the debt level or at least of the debt service burden. While at present a mix of forbearance and light loan restructuring prevails, more strident measures may have to be taken to restore SOE's debt sustainability, notably corporate restructuring and financial restructuring (reduction of the loan rate and/or the principal). It is recommended that BM urge the banks to build adequate loan loss provisions for this eventuality following the expected credit loss approach now required by IFRS 9.

- *Supervisors should monitor closely the impact of the updated regulation concerning regulatory capital, minimum liquidity requirements and the FX market changes.* They should gauge the impact of the market liquidity stance on the stability of the sector and its capacity to support the rest of the economy. NPLs are likely to continue growing and banks need to protect their buffers. Supervisors should remain watchful of loan classification, collateral valuation, and provisioning. Preparedness for early remedial action is warranted. BM's intention to reform the banking law is a step in the right direction to allow implementation of better resolution tools together with the financial safety net.

- *Central Bank empowerment with an explicit mandate for macroprudential policy together with capacity building and adequate resources is warranted.* BM is encouraged to make efforts to deliver macroprudential policies by enhancing its capacities in macroprudential analysis, and produce a financial stability report to communicate on financial stability issues. Also, publication of financial stability indicators is recommended as is elaboration of the balance sheet matrices and compilation of real estate indicators including housing prices.[31]

- *Exposures of the financial system, SOEs loans, government securities and exposure of firms to SOEs should be closely monitored.* Also, it is recommended to monitor carefully the spillovers of arrears across economic sectors and implement an action plan to prevent and manage arrears

[31] Measuring housing wealth, mainly related to property values, will serve to assess balance sheet effect on household consumption and its feedbacks with mortgage financing.

within a fiscal consolidation strategy. Validating these arrears and gradually clearing them should be a priority after reaching agreement on clearance modalities with creditors.

- *Reinvigorate improvements in debt management.* The debt unit's capacity needs to be strengthened to exercise effective oversight over the entire public debt portfolio, including SOEs and loans that are part of cooperation agreements signed by other line ministries. Moreover, implementing a strong action plan to strengthen governance, improve transparency and ensure accountability in debt management is crucial.

- *Broadening statistical coverage to non-bank financial institutions and general government are essential to progress in diagnosing macro-financial linkages and risks.* Developing an integrated sectoral balance sheet information is fundamental for national surveillance. Statistical efforts needed are:[32] (i) increase coverage of monetary and financial statistics to other depositary corporations, (ii) complete the compilation of fiscal statistics under GFSM 2014[33] including reconciliation of government domestic securities by instrument and holder and producing the government balance sheet, and (iii) determine the stock of government expenditures arrears and distribution across sectors and the stock of SOEs arrears with private sector suppliers. Also, disaggregating assets and liabilities by maturity (e.g. short and long term) is needed.[34]

[32] These could be visualized in the non-available fields in Figure 2.

[33] The compilation was initiated in 2011. In June 2017, the central bank broadened the investor base for primary issuance of T-bills to include non-banks financial institutions. Producing the government balance sheet Table 6 of GFSM2014, including data on government security by holder and maturity, is needed. Technical assistance in this area is scheduled for 2018-2019.

[34] This information is key to diagnose an increase in the maturity mismatch between assets and liabilities that could lead to a liquidity spiral creating financial instability and a bank run.

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WAGE BILL DYNAMICS AND REFORM OPTIONS[1]

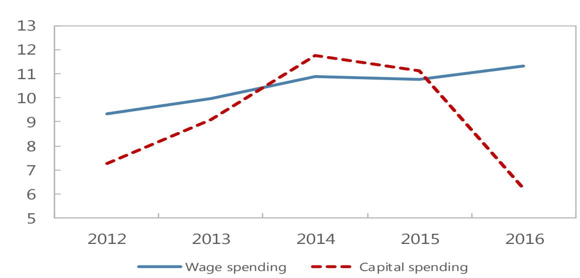
A. Introduction

1. **Mozambique's economy faces serious challenges.** The economy slowed down starting in 2015 due to several factors, including lower commodity prices, adverse weather conditions, and loose macroeconomic policies. The economic situation deteriorated further following the disclosure in 2016 of undisclosed borrowing by two public companies amounting to about 11 percent of GDP and the ensuing freeze in donor budget support. While the external sector is showing signs of stabilization, the fiscal stance remains excessively loose.

2. **Significant fiscal adjustment is required over the medium term to restore macroeconomic balance.** Prior to the crisis, strong revenue performance, especially sizeable capital gain taxes from the mining sector, provided amply fiscal space for spending, while the government tapped into non-concessional borrowing to scale up public investment in anticipation of future revenues from natural gas production. However, the lack of fiscal buffers implies that fiscal policy became unsustainable as the crisis hit, while the depreciation and the disclosure in April 2016 of previously hidden debt caused the stock of public debt to surge to a distressed level.

3. **Going forward, containing wage bill spending should be an important component of fiscal consolidation.** Mozambique's central government wage bill has experienced a rapid increase in recent years, rising from 8 percent of GDP in 2010 to 11.3 percent in 2016, which is significantly above the median across a sample of countries with similar level of development. The observed increase in wage bill spending could potentially reflect several factors, including ad-hoc wage and salary adjustments, rapid increases in hiring, and issues related to wage bill planning and budgeting, and payroll execution and control. Containing wage spending will be important not only for achieving fiscal targets, but also to avoid a continuation of the crowding out of priority social and infrastructure spending (Figure 1).

Figure 1. Mozambique: Central Government Wage and Capital Spending
(Percent of GDP)



Sources: Ministry of Economy and Finance; and IMF staff calculations.
Note: Capital expenditures excludes those financed by project grants.

4. **This study reviews compensation and employment policies and developments, and provides options for reform.** The appropriate mix of policy options depends on the objectives, priorities, and preferences of the government. Section II discusses recent trends in compensation and employment and places these considerations in an international context. Section III discusses

[1] By Chadi Abdallah.

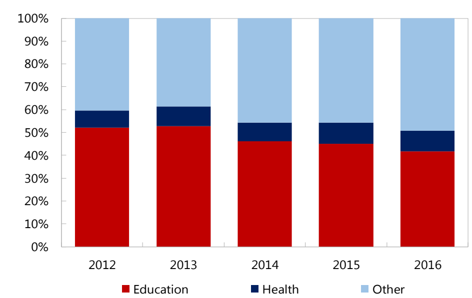
issues related to wage bill management and identifies challenges in implementing reforms. The last section provides options for reforming the wage bill.

B. Trends in Compensation and Employment

5. Wage bill spending by the central government reached 11.3 percent of GDP in 2016. The central government's wage bill is set by the legislature as part of the overall budget process and comprises wage bill spending by the budgetary central government, the provinces and districts, the autonomous agencies, and other public bodies that are fully or partially funded by the state's budget. The wage bill expenditure item recorded in the fiscal accounts excludes compensation paid to 3,755 doctors financed by the Common funds (0.15 percent of GDP in 2016), and social security contributions (0.5 percent. Central government employment is estimated at around 393.7 thousand employees in 2016 (1.4 percent of the total population; 3.4 percent of the working age population).[2] This figure covers all sectors except defense, police and security, on which information is not made available.[3] Overall, regular full-time employees represent around 80 percent of the total workforce in the central government.

6. Education and other (non-health) sectors absorb the largest shares of the wage bill (Figure 2). Education is the largest employer, with a share of 52.2 percent of total employment in 2016, absorbing around 40.4 percent of total wage spending. The health sector's share is rather small, at only 12.8 percent of total employment, and absorbs only 9.6 percent of total compensation. The other sectors (grouped together under one category), and for which a breakdown is not made available, constitutes the second largest group of employers in the government at 35.0 percent in 2016, but absorbs the largest share of total compensation (at around 50.0 percent).[4]

Figure 2. Mozambique: Central Government Wage Bill Spending by Sector
(Percent of total spending)



Sources: Ministry of Economy and Finance; and IMF staff calculations.

[2] The numbers of workers in other sectors (for which information were not available) is estimated to be around 45,000.

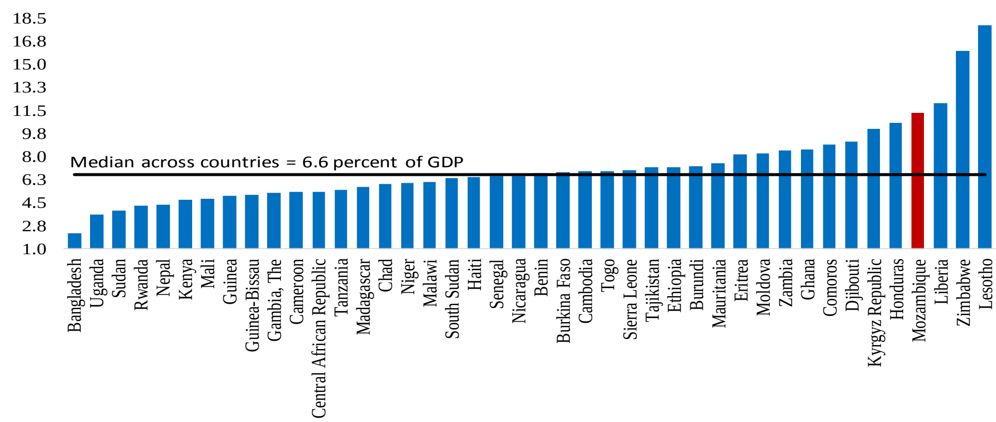
[3] The wage bill that is recorded in the fiscal accounts and is publicly available includes spending on wage and salaries of the defense, security and police workers. While the authorities provided information on total wage spending for these three sectors, they did not provide data on their employment levels.

[4] This category is referred to in the report as the "Other" sector.

7. The central government wage bill in Mozambique is very high compared to peers. At 11.3 percent of GDP in 2016, the wage bill exceeds the median for a group of 42 low-income and Developing countries (6.6 percent; Figure 3). It is the fourth highest after Zimbabwe, Lesotho, and Liberia. Moreover, it is very high as a share of primary expenditures (40.3 percent) and as a share of domestic revenues (47.11 percent). The former indicator suggests that the control of government spending dynamics can be a very challenging task, while the latter indicator points to sustainability issues of wage outlays in Mozambique.

Figure 3. Mozambique: Central Government Wage Bill, Low Income and Developing Countries, 2016

(Percent of GDP)



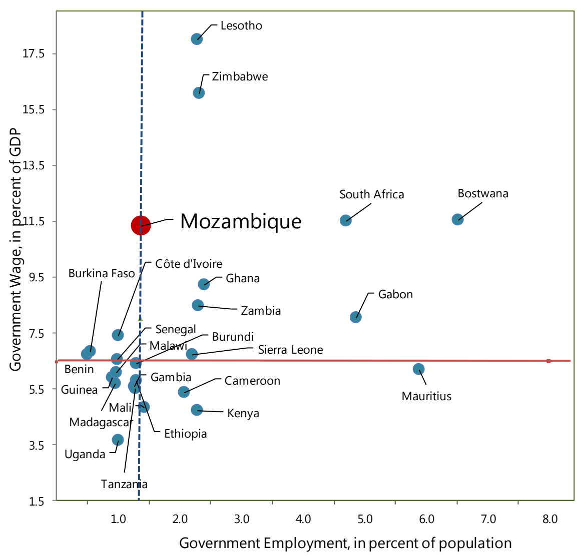
Sources: Ministry of Economy and Finance; and IMF staff calculations.

8. The high wage bill level compared to peers seems to reflect high average compensation, rather than high employment levels (Figure 4). The central government employment to population ratio in Mozambique is around the median ratio across peers (a sample of low income and developing countries). This suggests that high wage spending levels in Mozambique most likely reflect higher compensation levels.

9. Not only is the wage bill relatively high compared to peers, it has also been rising rapidly since 2010, reflecting **compensation dynamics in some sectors and employment dynamics in other sectors.** The wage bill increased from around 8 percent of GDP in 2010 to around 11.3 percent of GDP in 2016 (Figure 5), raising concerns about fiscal sustainability going forward. This is partly explained by in large differential wage dynamics across different sectors in the government since 2013. Government decisions to grant wage increases to different sectors have initially favored mostly doctors and medical staff who organized strikes in 2013 demanding higher wages. Teachers and police workers have also received preferential wage increases since 2013. Overall, the cumulative, inflation adjusted, granted wage increases over 2013-2015 amounted to around 32, 18, and 11 percent for doctors, teachers and police, and other civil servants, respectively. By 2016, the cumulative real wage increases that were granted by the government were still relatively high despite the large increase in inflation from 2.4 percent in 2015 to 19.2 in 2016. On the other hand, the rapid increase in wage spending seems to be also driven by an increase in employment outside the health and education sector, over time (Figure 6).[5]

Figure 4. Mozambique: Central Government Wage Bill and Employment

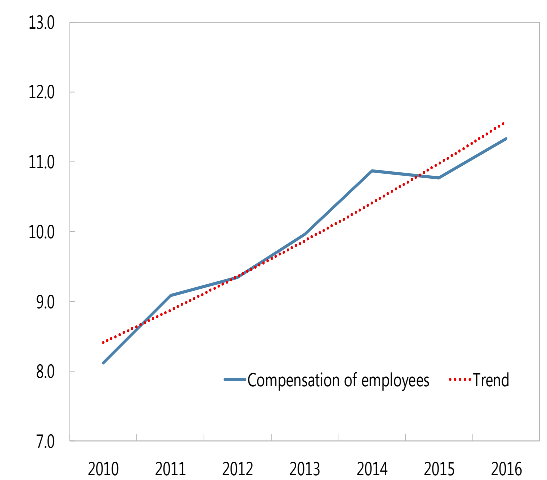
(Low income and developing countries, latest year)



Source: IMF staff calculations.

Figure 5. Mozambique: Central Government Wage Bill Spending, 2010-2016

(Percent of GDP)



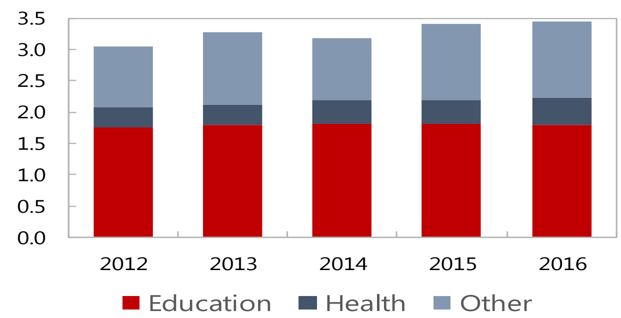
Sources: Ministry of Economy and Finance; and IMF staff calculations.

10. Increases in wage bill spending have been discretional, driven by both compensation and employment dynamics over time (Figure 7). We decompose the increase in the wage bill into the contributions of compensation and employment over time for the overall central government.[6] The analysis suggests that compensation has been the main driver behind the recent increase in wage bill spending, with about 67 percent (median over 2014-2016) of the growth being due to rising compensation. Such relative importance of compensation as a driver of wage bill growth has increased over time from about 43 percent (median over 2011-2013). Further decomposition of wage bill spending changes by sector over the period from 2014 to 2016 suggests that while compensation has also been the main driver behind the increase in wage bill spending in the health and "Other" sectors, employment dynamics have played a more prominent role in the education sector.

[5] And while these other sectors received relatively more modest wage increases, the rapid increase in employment that they experienced magnified the impact on the wage bill.

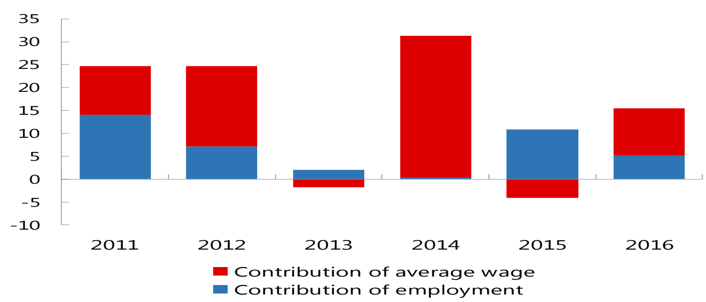
[6] For consistency, the decomposition analysis is performed using wage bill spending that excludes the compensation of defense, police and security personnel, since, as pointed earlier, the employment figures for these sectors are not readily available.

Figure 6. Mozambique: Central Government Employment, 2010-16
(Percent of working age population)



Sources: Ministry of Economy and Finance; and IMF staff calculations.

Figure 7. Mozambique: Contributions of Wages and Employment to the Wage Bill Growth, 2011-16
(Percent)



Sources: Ministry of Economy and Finance and IMF staff calculations.

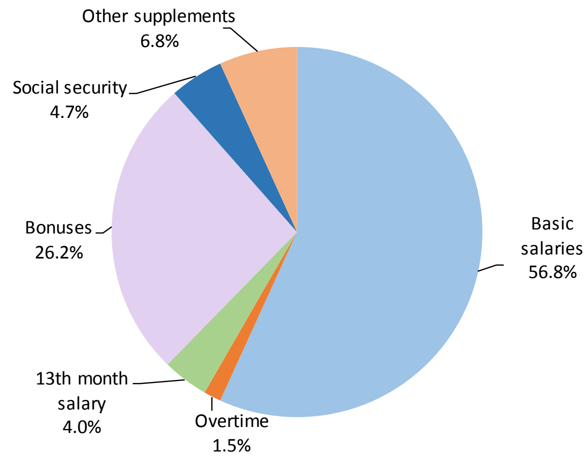
11. Allowances, bonuses, and other supplements account for a large share of total compensation (Figure 8). Allowances, bonuses and other supplements currently account for about 43 percent of the total wage bill. This is well above the level typically found in OECD countries, where the base wage component averages nearly 90 percent of the total wages of civil servants. Furthermore, the share of these salary supplements in the wage bill has been increasing over time, up from around 40 percent in 2012. Other supplements contain several categories of remuneration, including a "13th month" salary.[7]

12. The contribution of seniority-related increments to the wage drift in Mozambique is estimated to be about 1.3 percent per year. The wage drift refers to aspects of government employment policy—such as seniority-related increases in compensation, promotion policies, and the reclassification of employment positions of their salary grade—that often automatically drive public wage growth independently of wage policy and employment decisions. The contribution of seniority-related increments to wage drift in the Mozambique is estimated to be about 1.3 percent per year for civil servants who enter the workforce in their early 20s and retire at the statutory retirement ages (55 for women and 60 for men). While often unnoticed, the wage drift—which is not

[7] The 13th month salary is an entitlement for civil servants in Mozambique, and is mandated by the government. It is equal to the base salary of the current fiscal year, but is paid in the following fiscal year (typically in January).

directly linked to either performance or productivity—is inevitably compounding upward pressure on wage costs.

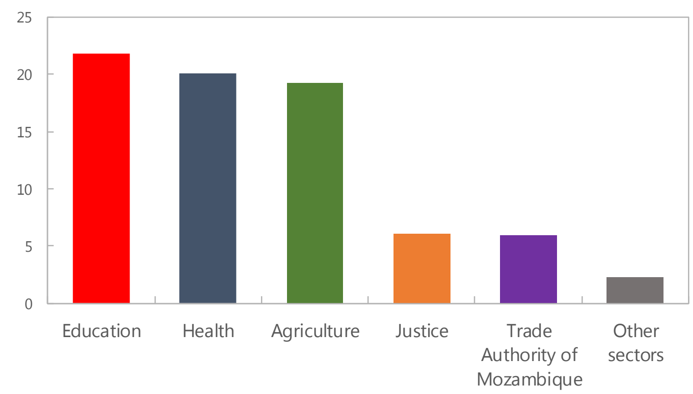
Figure 8. Mozambique: The Composition of Wage Bill Spending, 2016
(Percent)



Sources: Ministry Economy and Finance; and IMF staff calculations.

13. Recent slippages in the wage bill in 2016 are concerning and raise questions about compliance issues (Figure 9). Recent slippages of the wage bill in 2016 amounted to around 1.2 percent of GDP relative to the budgeted amount.[8] Data provided by the authorities suggest that the health sector only accounts for 14 percent of the slippage, while the bulk of the slippage occurred in the education sector (around 72 percent).[9] Poor forecasting and unrealistic budgeting seems to have played a major role. For instance, salary increases granted by the government in April 2016 were somehow not incorporated in the revised supplementary budget of August 2016. The deactivation or overriding of the controls embedded in the systems and legal procedures at the central or provincial and district levels may have also played a role. A buildup of wage arrears from previous years, other

Figure 9. Mozambique: Deviation of Wage Outlays Relative to the Budget, by Sector, 2016
(Percent)



Sources: Ministry of Economy and Finance; and IMF staff calculations.

[8] The authorities argue that substantial amount of hiring occurred in the health sector, which explains most of the slippage. Data provided by the authorities suggests that there were no additional hiring above planned budgeted amounts in the education sector.

[9] The category of all other sectors combined explains the remaining 14 percent of the slippage.

salary increases beyond those granted in April 2016, and a significant increase in the hiring of new staff in other sectors are additional possible factors. Without detailed data, it is not possible to uncover the factors behind the observed slippage and quantify their relative contribution.

14. In the absence of reforms, wage spending is expected to rise from 11.3 percent of GDP in 2016 to 12.0 by 2021. Wage bill projections—which include the impact of measures that have already been taken in 2017 as well as in the context of the 2018 budget—presume that: (i) basic salaries will rise at the rate of inflation plus one-half the rate of real GDP growth;[10] (ii) the "13th month" salary will be paid in full to all employees from 2018 onwards; (iii) the cost of allowances, overtime, bonuses, and other salary supplements (as a share of basic salaries) will remain unchanged over the projection horizon; (iv) the number of employees in the Education sector will grow in line with the population of persons under the age of 20; and (v) the number of employees in the Health sector and the "Other" sector category will rise in line with overall population growth.

C. Key Issues in Wage Bill Spending

Compensation

15. Public sector wages in Mozambique are set according to a formula that introduces a form of indexation, effectively reducing the flexibility of the government in addressing inefficiencies in wage levels and structures and in managing macroeconomic imbalances. Within this framework, the growth of public wages considers (i) the rate of inflation, (ii) half the rate of real GDP growth (as a proxy for productivity), and (iii) a factor "delta" that presumably reflects negotiations between the government and professional employee associations.[11] In practice, the factor "delta" is unpredictable and introduces a subjective and rather ad-hoc element to the wage setting mechanism. This leads to unpredictable dynamics in public wages over time. For instance, the existing wage rule has resulted in basic salaries rising substantially faster than inflation in previous years. In combination with the seniority-based wage increases, most public sector employees can receive significant real increases in the value of their basic wages every year, regardless of their productivity or performance.

16. While rule-based frameworks for wage setting may appear to offer a remedy against repeated and large public sector wage increases, they can have several disadvantages. These include (i) limiting the ability of the government to use fiscal policy for macroeconomic management;[12] and (ii) potentially locking into place undesirable public sector wage levels and wage structures. The latter reduces the capacity of the public sector to address inefficiencies by

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[10] This is consistent with the wage rule that is used by the government to adjust wages. Section III discusses the wage rule in more detail.

[11] No labor unions currently exist for government employees in Mozambique. There are professional associations that engage in social dialogue with the government on behalf of civil servants, with respect to the wage adjustment mechanism.

[12] For instance, under inflation indexation, wage bill spending increases at a time when fiscal restraint may be needed to address macroeconomic imbalances. In that sense, it can contribute to inflationary pressures, and further jeopardize fiscal sustainability going forward.

automatically granting wage increases to a wide range of workers, regardless of any determination of whether their salaries are at an appropriate level.

17. Regression analysis on individual-level data from the Integrated Household and Labor Force Survey of 2015 suggests that some central government employees receive a wage premium over their private sector counterparts. After accounting for differences in socio-economic characteristics of workers, including age, gender, education, experience, and regional effects, the magnitude of the wage premium varies significantly by education level. The premium, in absolute terms, for lower-skilled employees with primary and secondary education is around 63 and 91 percent, respectively, relative to private sector counterparts with similar socio-economic characteristics. On the other hand, high-skilled government employees with university level education tend to have a wage discount, effectively earning significantly less than their private sector counterparts. This tends to reflect the observed gap between lower-skilled and high-skilled wage premiums exists across countries, which is especially pronounced in low income and developing economies. Nevertheless, wage premiums analyses do not take account the fact that government workers have access to numerous generous benefits (including generous public sector pension schemes, and in-kind and non-monetary benefits) and are provided with greater job security. Thus, the government does not always necessarily need to offer salaries that are exactly on par with the private sector to retain high-quality employees. For this reason, a modest wage discount for public sector workers is sometimes expected. Appendix I describes the empirical analysis for wage premiums.

18. The compensation structure is very complex and entails large fiscal costs. Micro data from the registry of public employees (e-CAF) and the payroll management database system (e-Folha),[13] suggests that there are at least 46 different salary supplements. These supplements comprise (i) 19 allowances; (ii) 4 types of bonuses; and (iii) 23 different other salary supplements (including compensation for overtime). Some of these supplements are well entrenched in the salary structure. For example, the profitability bonus, which is awarded to civil servants or state officials who are deemed to have a very good performance assessment, is equal to 100% of the corresponding base salary. Another example is the reintegration allowance, which consists of the inclusion of 75 percent of the base salary, for each year spent in a governing position.[14] For instance, in the case where a civil servant occupies a governing position (e.g., as Head of Administrative Post) for a period of four years, he or she is entitled to receiving a reintegration allowance of 300 percent (75 percent, cumulative over four years) upon returning to his or her original position.

Employment

19. There are issued related to compliance in the hiring process and the application of rules governing contracting employees. The procedures of appointment are subject to double-

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[13] The data from the e-CAF and e-Folha systems pertain to the June 2017 vintage.

[14] Law 7/98 establishes the rights and duties of governing positions (article 12(5)). Reintegration occurs when duties are terminated and the employee effectively returns to his/her previous position.

control by the Administrative Tribunal (AT)—first at the time of an employee's provisional appointment, and second at the permanent appointment.[15] The AT is responsible for ensuring compliance with established procedures, most importantly with regard to the authorization of appointments, which should reflect the need for the appointment, the presence of vacancies, and resource availability. Nevertheless, despite these procedures, there appear to be problems with procedural compliance. The AT has identified challenges − relating to the adoption of manual procedures for ensuring compliance with hiring – which have led to hiring of employees above the authorized figures.[16]

20. **Issues related to the identification of core functions within ministries merit examination, as they may be creating hiring pressure.** There are issues that may be related to the duplication of roles and responsibilities in some government ministries, departments, and agencies. For instance, in the education sector, a sizeable share of employees who are teachers by training are effectively working as public administrators. Effectively, there are teachers in the education sector who do not teach in classrooms. This raises serious concerns about the definition of functions, roles and responsibilities in the sector, particularly given that pressures on the hiring of teachers are mounting and are effectively driving an increase in overtime pay. Overtime pay is costly, and can be reduced by redefining the functions and responsibilities of teachers working as public administrators in the sector.

21. **The challenges discussed above also reflect potential weaknesses in PFM.** (i) The budgeting and forecasting framework does not always make use of all available information or rely on data with poor quality, resulting in underestimation in the budget. For instance, medical staff who are funded temporarily by donor organizations and whose wage costs are accounted for under investment spending, are not adequately incorporated in the wage bill forecasting and planning process in anticipation of their transfer to the budget. (ii) There is an inadequate degree of monitoring and oversight in budget execution following the decentralized control over hiring at levels beneath the central government; (iii) There are capacity limits in the information management (IT) system, which relies on many manual processes and is unable to create useable and timely reports for use in expenditure control. The Administrative Tribunal lacks an adequate IT system that is linked to personnel management and payroll systems at all levels of government (central, provinces and districts).

D. Options for Reform

22. **There is an urgent need to develop a comprehensive reform plan that can help ensure the sustainability of wage bill spending over the medium term.** The government has already undertaken measures to contain wage bill spending. For instance, the government took a decision in December 2016 to suspend the 13th salary owed from fiscal year 2016 for all managerial level

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[15] The awarding of positions is deemed provisional for the first two years, at the end of which employees are formally entered into the permanent civil service if the requirements specified by the General Statutes for Civil Servants have been met.

[16] This seems to reflect ongoing technical difficulties with existing IT systems, which have, at least, partly compounded compliance issues regarding the enforcement of procedural requirements.

positions in the government, and granted all other employees in the government only half of it.[17] On another front, the government took a decision in April 2017 to disproportionally increase the salaries of government employees. The salaries of low paid works (earning the minimum wage of around 3800 Meticais per month, as defined in the government sector) were increased by 21 percent. The nominal amount of that increase was then granted to all other employees in the government (which is small relative to their wage levels). Finally, in the context of the 2018 budget, the government proposed to reduce several allowances including the special bonus, the localization allowance, and the adaptation allowance.

23. While recent reform measures are encouraging, they are not by themselves sufficient and adequate to bend the trajectory of the wage bill going forward to a more sound and sustainable path. For instance, the measures taken in the context of the 2018 budget, unless reversed, will have a permanent impact on the wage bill going forward. However, the fiscal savings that they generate is at best modest (at around 0.5 percent of GDP in 2018). Going forward, it is essential to start devising a wage policy plan that encompasses structural measures that will help in putting the wage bill on a sustainable path, and unlock fiscal savings, some of which can be used to increase the much needed social and infrastructure spending.

24. Public wage spending is most efficient—and mostly likely to be sustainable—when it reflects sound compensation and hiring policies. To a limited degree and for the short-term, the growth of wage spending can be contained using crude measures that address wage levels or employment. Such measures, however, typically have limited fiscal reach. Nominal wage levels can always be fixed—or prevented from rising faster than the rate of inflation—but typically cannot be reduced. Measures to reduce public sector employment are, in practice, mostly limited to attrition-based policies—given the job protections enjoyed by most public employees—and, consequently, can provide only limited immediate fiscal relief. Over the medium-term, therefore, public wage spending is best managed by developing and implementing compensation and hiring policies that reduce the need for short-term containment measures.

25. International experience shows that crude short-term wage bill reform measures introduced in support of fiscal consolidation are often unsustainable. Short-term wage policies that greatly degrade the real (i.e., inflation-adjusted) value of employee wages often generate upward pressure for wage increases once consolidation targets have been met. Attrition-based hiring policies are difficult to target, which risks the loss of key personnel and the degradation of essential public services. Prolonged use of such short-term may lead to pressures that can eventually lead to a reversal of reforms. It can also undermine the attractiveness of government employment and inducing disruptive departures of skilled government employees.

26. The driving goal of any wage bill reform should be to introduce structural measures that can induce permanent savings in the wage bill. Structural reforms of the compensation structure can facilitate stronger wage bill control while ensuring wages are competitive, equitable

[17] The suspension of the 13th salary may potentially imply unpaid obligations to be paid in the future, especially since it was not the result of a change in the law.

and transparent. However, structural measures may require time and careful planning and implementation. In the meantime, while these measures are being designed and implemented, rationalizing the wage bill through short-run consolidation measures—consistent with the authority's immediate fiscal objectives— including restraints on wages and employment in non-priority sectors, may provide fiscal saving.

E. Reforms Related to Compensation

27. In the short-term, two policy levers are available for constraining the growth of compensation. First, the existing wage rule can be replaced with a flexible wage policy that enables basic salaries to be increased more slowly. Wages can be fixed at their current nominal values or allowed to rise at a rate less than the rate of inflation. Increasing basic salaries in such a manner would generate meaningful short-term fiscal relief but could generate upward wage pressure if the real value of wages is too greatly degraded. Second, some elements of compensation can be reduced or eliminated. For instance, there are a large number of benefits and supplements (around 40 percent of compensation) that, collectively, reduce the transparency and equity of public sector compensation, engender wide disparities across sectors, and aggravate the task of fiscal management. In addition, the provision of overtime pay can gradually be curtailed through improved workforce planning.

28. Over the medium-term, these short-term fiscal consolidation measures should be replaced by structural measures. The most important structural measures relating to compensation include steps to revise the wage grids for public sector employees and develop new laws and regulations that govern the other elements of compensation.

29. In the first phase, the government can enact structural pay reforms to align job-specific requirements with compensation and to restore parity—in a systematic way—between public and private sector remuneration for workers of comparable skill and experience. The objective of structural pay reform is to identify the proper level of remuneration—to include basic salaries and other elements of compensation—for each type of position within the public sector for workers with different qualifications and experience. In this regard, a structural pay reform should be the first step in a two-step process of compensation reform.

30. In the second phase, a systematic review of all elements of compensation can be undertaken. The objective is to simplify remuneration, by eliminating nonessential allowances and other supplements, and streamlining the remaining ones by incorporating them into the base pay. Increasing the share of basic salaries in total compensation improve transparency and fairness in pay. This will allocate the levels of remuneration developed during the first phase (i.e., the structural pay reform phase) across the various components of compensation. However, consolidating allowances into the base pay may be fiscally costly if it leads to higher future pension costs.

F. Reforms Related to Employment

31. In the short-term, the size of the public-sector workforce cannot be easily adjusted in direct proportion to a shrinking fiscal envelope. To some degree, attrition-based measures for cutting employment can be used in pursuit of fiscal consolidation, but their fiscal impact is constrained by the number of persons leaving public employment. Moreover, attrition-based measures are not without risk as they can result in the loss of critical skills—ultimately leading to their subsequent reversal—or in the deterioration in the quality of public services. For this reason, when designing such measures, it is crucial to use—to the extent possible—a targeted approach (e.g., by focusing on non-essential personnel and exempting critical sectors, such as education and healthcare). Other policy measures to reduce the size of the workforce—such as retrenchment and voluntary severance—entail similar risks and, because they take time to design and implement, are unlikely to generate meaningful fiscal relief in the short term.

32. Over the medium-term, attrition-based policies should be replaced by structural measures to "right-size" public employment. The most important structural measures for employment include the following:

33. Functional reviews of ministries, departments, and agencies to identify areas of overlap or duplication and to clarify and codify organizational goals and responsibilities. The objective of functional reviews is to look strategically at how the public sector is organized at the institutional level with the goal of eliminating duplicative governmental functions and cutting (or curtailing) nonessential public services.

34. Institution-level restructuring and process reengineering. The objective is to look surgically at individual ministries, departments, and agencies with the aim of (i) aligning their personnel resources with their responsibilities and spending priorities, and (ii) improving public sector efficiency by leveraging technology and streamlining processes and administrative systems. Ultimately, process reengineering should then be used as the basis for streamlining institutional staffing plans (i.e., the number of authorized positions for every category of employment) with the goal of "right-sizing" overall employment.

G. Reforms Related to Public Financial Management

35. The challenge of managing wage spending also extends beyond compensation and employment policy to issues pertaining to financial management. Managing wage spending requires that public financial management processes and procedures be sufficiently developed to enable effective wage bill budgeting, execution, and control. Of importance are the following:

- **PFM Reform Strategy:** develop a medium-term strategy for PFM reform, based on a strategic plan and an appropriate action plan, taking into consideration the advice already provided by development partners.

- **Forecasting and Budgeting:** expand the quantity and quality of data made available for fiscal analysis, budgeting, and the monitoring of public sector employment and compensation; prepare budgets based on staffing priorities and limit hiring to fit within budgetary resources; this is particularly important with respect to workers funded by donor organizations whose wage costs will eventually be transferred to the budget.

- **Budget Execution:** strengthen procedures governing payroll and address the problems of decentralized control over hiring at levels beneath the central government; develop an operational plan for strengthening oversight over budget execution.

- **Payroll Systems:** automate existing manual systems to improve accuracy and strengthen controls; update and verify employee-related service records on a more routine and timely basis; strengthen the regulations, guidelines, and responsibilities for the periodic reconciliation of payroll expenditures.

Appendix I. Estimating the Public-Private Wage Premium

This appendix presents the details of the analysis on the relative competitiveness of compensation levels for government workers in Mozambique, as presented in the report. Specifically, it discusses the empirical approach used in estimating the wage premium of government workers relative to private sector workers using micro-level data from the 2015 Integrated Household and Labor Force Survey.

Data from the labor force survey suggests that in 2015, the average wage was higher in the public sector by about 30 percent. Nevertheless, in Mozambique, the share of better educated workers is much higher in the public sector than in the private sector (Table AI.1). Given that compensation is highly associated with levels of education (and other socio-economic factors), it is important to consider them when assessing wage differentials across individuals working in the public and the private sectors. We turn next to a more careful empirical analysis that allows us to control for such factors when estimating the wage premium.

Table AI.1 Average Wage and Worker Characteristics, 2015

	Number of workers	Average monthly wage (in Meticais)	Educational attainment (share of total)				Average age	Female (percent)
			Primary	*Secondary*	*Tertiary*	*Professional*		
Public sector	*3059*	11189.3	0.075	0.464	0.352	0.109	38	0.375
Private sector	6685	8603.1	0.400	0.478	0.091	0.031	35	0.194

Sources: Household and Labor Force Survey for Mozambique (2015); and IMF staff calculations.

We use the following Mincer-type wage equation to estimate the public-private wage premium

$$y_i = \alpha + \delta x_i + \lambda^j (x_i^j . public_i) + \varepsilon_i \qquad (1)$$

where y is the logarithm of the monthly compensation, and x is a vector comprising variables that are found to be relevant for explaining wage differentials across individuals, including a set of binary variables indicating educational attainment, age and age squared (to proxy for experience), gender, and area of residence (to control for price effects). The binary variable $public$ takes the value of 1 if an individual works in the public sector. We control for potential heterogeneity in the effects, essentially allowing the wage differential estimate to differ across skill (or educational) levels. To do so, we include interaction terms between the public-sector binary variable and the educational binary variables, where x^j is a subset of x that comprises four binary variables indicating if an individual worker has tertiary, secondary, primary, or professional education.[1] The difference between

[1] The category of workers with professional education includes those with technical education and teacher training degrees.

the coefficients in λ and the coefficient on the corresponding category of education represents the percent difference of public sector workers' average wage compared to the average wage of private sector counterparts with similar socio-economic characteristics.

The wage equation is estimated using ordinary least squares regression techniques, using data from the 2015 Mozambique Integrated Household and Labor Force Survey. The focus of the analysis is limited to salaried private sector workers who report monthly earnings, and thus excludes self-employed workers. Furthermore, in an attempt to exclude workers in the informal private sector, we drop from the sample (i) workers earning below the minimum wage, (ii) domestic workers, farmers, and agriculture workers, and (iii) workers with no education. For hypothesis testing, we use standard errors that are robust to heteroscedasticity. The estimation results are shown in Table A2.2, and can be summarized as follows:[2]

- There is a wage premium, in absolute terms, for lower-skilled employees with primary education of around 91 percent (Table AI.2).
- There is a wage premium, in absolute terms, for lower-skilled employees with secondary education of around 63 percent (Table AI.2).
- On the other hand, high-skilled government employees with university level education tend to have, on average, a wage *discount* of around 100 percent (Table AI.2).
- Finally, government employees who hold a professional education (e.g., technical education and teacher training) earn a wage discount of around 11 percent relative to their private sector counterparts. However, the estimate is not significantly different from zero at the 5 percent level (Table AI.2).

Table AI.2 Estimate of the Public-Private Wage Gap

(By skill or educational level)

	Coefficient	t-statistic
Tertiary x Public	-0.337	-7.33
Professional x Public	-0.112	-1.76
Secondary x Public	0.147	7.14
Primary x Public	0.128	3.08
Tertiary education	0.672	9.73
Secondary education	-0.485	-8.46
Primary education	-0.783	-13.42
Age	0.062	15.85
Age squared	-0.001	-12.64
Male	0.180	10.89
Urban	0.042	1.79
Constant	7.574	78.76
N	9,744	
R-squared	0.3064	

Note: Regressions are estimated by OLS. The t-statistics are computed from White's consistent estimator of the covariance matrix allowing for heteroscedasticity.

[2] As a robustness check, the regression analysis has also been applied to male and female employees separately and the results remain consistent.

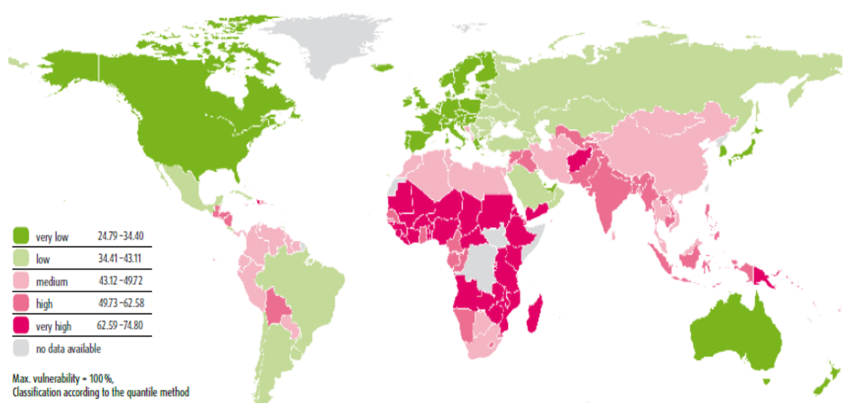
ENHANCING RESILIENCE TO CLIMATE CHANGE IN MOZAMBIQUE: RISKS AND POLICY OPTIONS[1]

While the long-term impact of climate change remains largely uncertain, it is expected that it has adverse effects on ecosystems, infrastructure, human health and welfare. Mozambique is one of the most vulnerable countries in the world and subject to a range of climate hazards: drought, floods and coastal storms, often with cascading effects. Moreover, there is significant disparity in the capacity of the various regions to cope with these disasters, with rural areas the worse off. Rising sea levels is expected to compound the overall vulnerability of urban areas by more inland flooding and infrastructure damage. Integrating climate change within the broader developmental agenda is critical to improve preparedness going forward. While these efforts will be costly, particularly in the context of limited fiscal space, evidence from other countries in the region suggest that small low-cost initiatives can be equally effective in enhancing preparedness.

A. Background and Context

1. Mozambique is one of the most vulnerable countries to natural disasters and climate risks (Figure 1). It is ranked 11th worldwide and 3rd in sub-Saharan Africa (World Risk Index, 2016). The country's geographic location and topography (particularly low-lying elevation) add to the risk. Additionally, weak socio-economic infrastructure, high poverty and heavy dependence on rain-fed agriculture magnify these risks, in a context of limited access to insurance. Limited preparedness and lack of adequate resources further inhibit the country's crisis adaptation and response capacity.

Figure 1. Mozambique: Vulnerability to Natural Disasters and Climate-induced Events



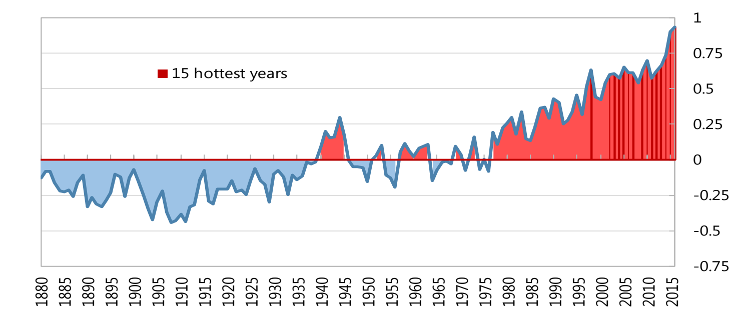
Source: World Risk Index 2016.

[1] Prepared by Mounir Bari, Leandro Medina, and Esther Palacio.

B. Implications of Climate Change

2. Climate change is already taking a toll on Mozambique. 14 of the 15 warmest years on record have occurred since year 2000 (Figure 2), resulting in a drastic change in the weather patterns of Mozambique: Annual temperature has increased by 0.6C degrees from 1960 to 2006 and is projected by increase by 1 to 2.8C degrees by the 2060s (McSweeney et al 2010); Average annual rainfall has decreased at a rate of 2.5mm per month between 1960 and 2006 (ibid.). Rainy seasons commence later, and dry spells last longer. Besides these patterns, Mozambique already started to feel the pinch of more extreme climate-related events, such as El Niño-driven drought in 2015/16.

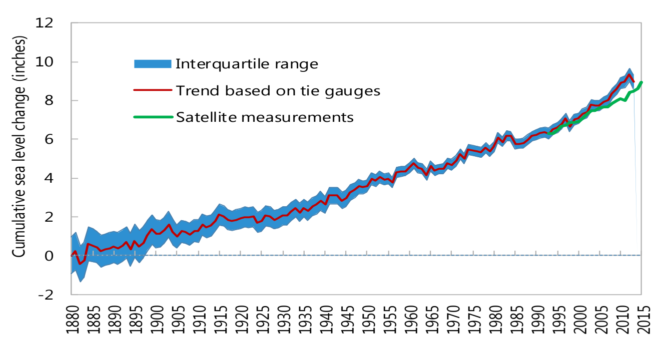
Figure 2. Mozambique: Global Surface Temperature, Deviation from 20th-century, (Average, °C)



Sources: National Center for Environmental Information; and IMF staff calculations.

3. Rising sea levels pose a significant threat to Mozambique's coastal ecosystems and livelihoods. On a global scale, sea levels have already risen by roughly 9 inches since 1880 (Figure 3), and are projected to increase[2] by another 12 to 35 inches by 2100 posing threat to low-lying countries. In Mozambique, over 13 million (60 percent of the population) lives in low-lying coastal[3] areas with weak, non-resilient infrastructure and relies on local natural resources for their livelihoods. Against this background, sea level rise and associated saltwater intrusion could affect the availability of aquaculture, the viability of the coastal mangrove systems, and contaminate already stressed water supplies. There are already noticeable coastal erosion problems, but further sea level rise[4] will increase the risk of flooding in the lowest lying areas, hence exacerbating the proliferation of unplanned settlements.

Figure 3. Mozambique: Global Average Absolute Sea Level Change



Sources: Commonwealth Scientific and Industrial Research Organization (CSIRO); and National Oceanic and Atmospheric Administration (NOAA).

Note: Satellite data are based solely on measured sea level, while the long-term tide gauge data include a small correction factor because the size and shape of the oceans are changing slowly over time.

[2] United Nations' IPCC Assessment Report 2014.

[3] Mozambique's coastline, stretching 2700 km, is ranked the third longest in Africa (Sustainable Development in Mozambique 2000).

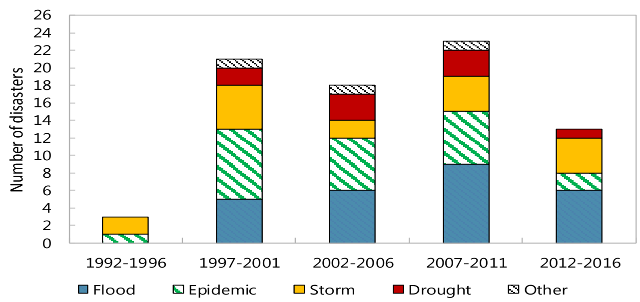
[4] Sea levels are projected to rise between 0.18 m and 0.59 m by the 2090s compared to 1980-1999 sea levels (USAID 2016).

Sea level rise also poses a threat to food security as it can lead to saline intrusion of agricultural lands along the coast.

C. Impact of Climate-Induced Disasters

4. Climate change, exacerbated by the recent El Nino, has increased the frequency and intensity of extreme weather events. Largely due to its geographical location, Mozambique is often impacted by droughts, storms, and tropical cyclones (Figure 4). Epidemics are also widespread. During the period 1992-2016, Mozambique was impacted by 78 natural disasters. These disasters affected over 17 million people and resulted in a cumulative economic damage of over 14 percent of GDP. The increased severity of these natural calamities challenges the country's capacity to cope with such events.

Figure 4. Mozambique: Natural Disasters by Number and Type, 1992-16

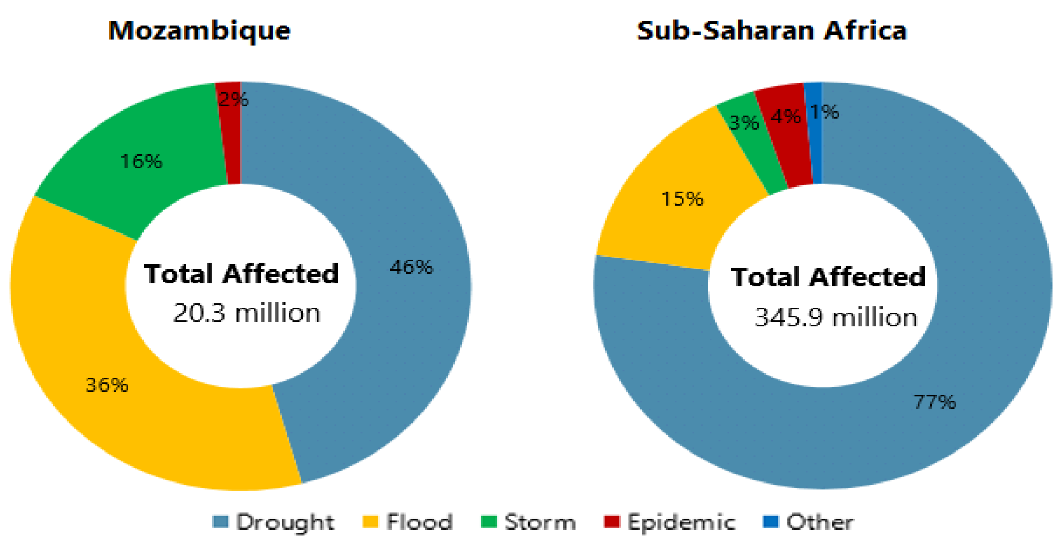


Sources: EMDAT database; and IMF Staff calculations.

Note: Other include earthquake, landslide, and wildfire.

5. Droughts, along with floods and storms, account for the bulk of population affected (Figure 5). Given their longer duration, droughts have gradually left almost half of the Mozambican population on the brink of famine. Floods affected 36 percent of population, over twice the regional impact. Storms affected almost 5 times more people in Mozambique than SSA.

Figure 5. Mozambique: Population Affected by Type of Natural Disaster

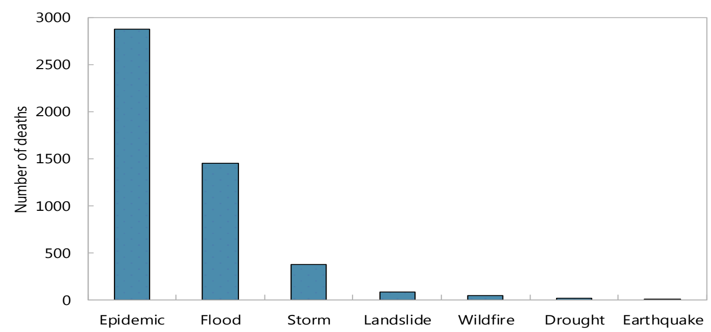


Sources: EMDAT database; and IMF staff calculations.

6. Epidemics are the deadliest natural disaster in Mozambique (Figure 6). Of the 4,862 disaster-related deaths between 1990-2016, epidemics claimed 2,881 lives (or roughly 60 percent). Increased extreme weather events, coupled with weak sanitation and limited access to clean water, contributed to this outcome.

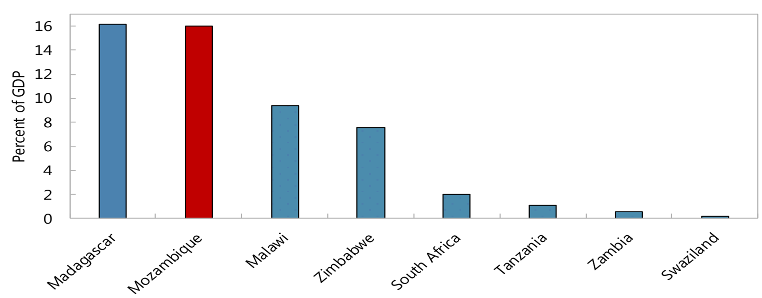
7. The economic cost of natural disasters in Mozambique is among the highest among neighbors (Figure 7). The relatively high vulnerability of Mozambique to hydro-meteorological disasters resulted in a cumulative economic loss of 16 percent of GDP over the period 1990-2016. Such magnitude is largely explained by the interplay between high disaster proneness and weak socio-economic infrastructure, making Mozambique particularly vulnerable.

Figure 6. Mozambique: Total Reported Deaths by Type of Natural Disaster



Source: EMDAT database.

Figure 7. Mozambique: Total Reported Economic Cost of Natural Disasters, 1990-2016



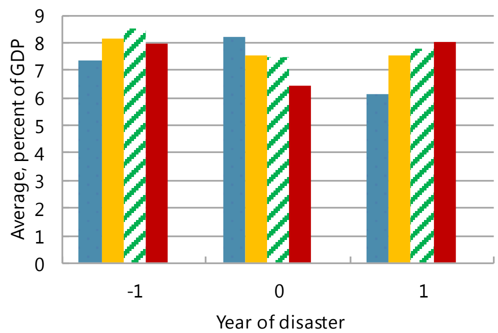
Sources: EMDAT database; WEO and IMF Staff calculations.

8. Event studies suggest that natural disasters are associated with a marked slowdown in growth, but triggers a limited countercyclical fiscal response (Figure 8). Whilst corroborating the growth decline, events analysis suggests a broadly muted impact on the fiscal balance. To this end, some effects may occur with lags (associated with revenue or reconstruction), be obscured by expenditure switching, or be offset by external budget support.

Figure 8. Mozambique: Event Analysis, Impact of Natural Disasters on Macroeconomic Indicators, 1990–2016

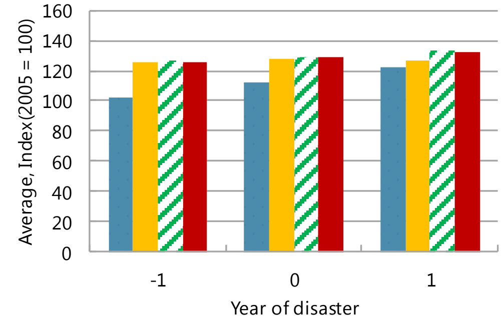
A marked slowdown of growth follows disasters…

Real GDP Growth



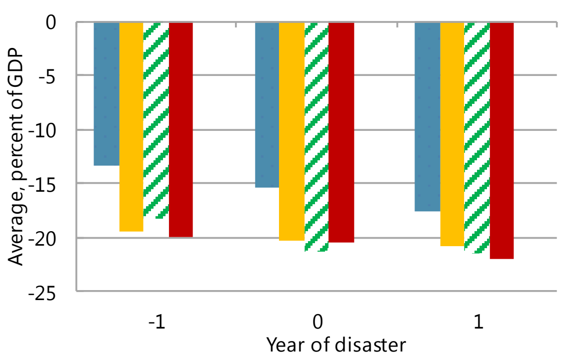
…while food vulnerability and prices rise.

Food Price Index



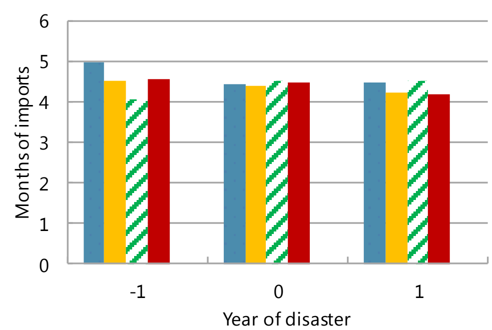
The trade balance deteriorates…

Trade Balance



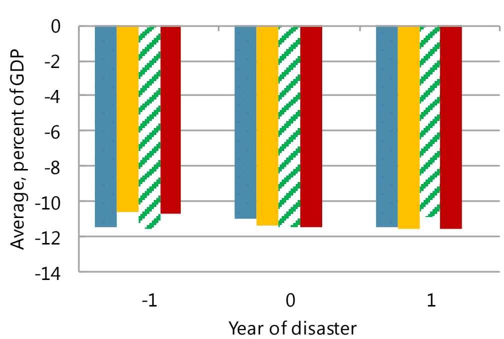
… and reserves drop.

International Reserves



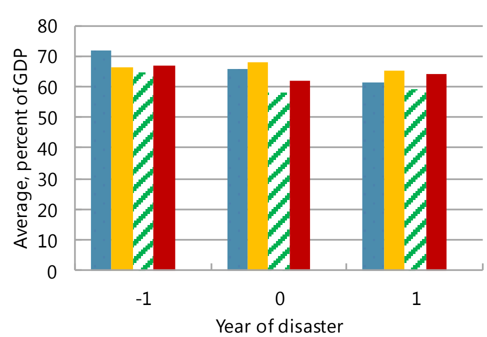
The impact on the fiscal balance is muted, possibly reflecting policy adjustments…

Fiscal Balance, Excluding Grants



…with debt largely unaffected.

Government Total Debt

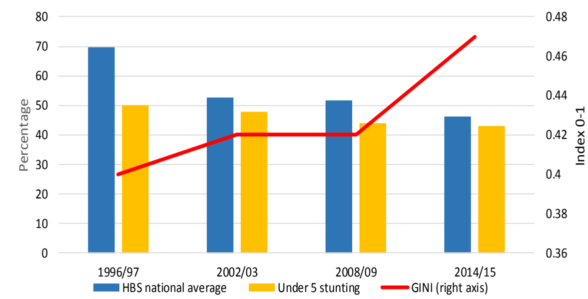


Sources: EM-DAT database; Mozambique authorities; and IMF Staff calculations.

D. Structural Factors Contributing to Mozambique's Vulnerability to Climate Change

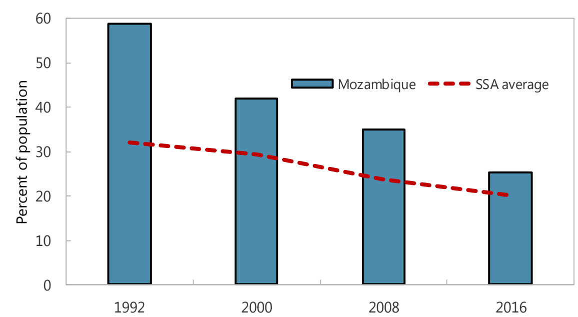
9. Climate change will further strain government's efforts to eradicate poverty. Mozambique is one of the poorest countries in the world, ranked 181st out of 188 in the UN's Human Development Index (UNDP 2015). Poverty has significantly declined in the last two decades, but inequalities have increased and poverty has even increased in remote rural areas. Forty-six percent of the population live below the poverty line (2014/15 Household Budget Survey), while 80 percent of the population cannot afford an adequate diet (WFP 2017) and prevalence of under 5 stunting is 43 percent (Figure 9). Undernourished population ratio in Mozambique is much higher than in the region (Figure 10). Most of food-insecure households are located in the arid and flood-prone areas of the South and Center. Climate change will increase the impact on the most vulnerable the hardest as they are the ones who settle in the most appalling areas, which also tend to suffer from weak housing standards. The lack of effective social nets also increases the vulnerability of households' hit by reduced subsistence production and wages. In addition, credit constraints and limited insurance reduce options to cope with disasters' impact. Climate change could thus further compound poverty and income inequality.

Figure 9. Mozambique: Poverty, Inequality and Child Malnutrition



Sources: 2014/15 Household Budget Survey; UNICEF; and IMF staff calculations.

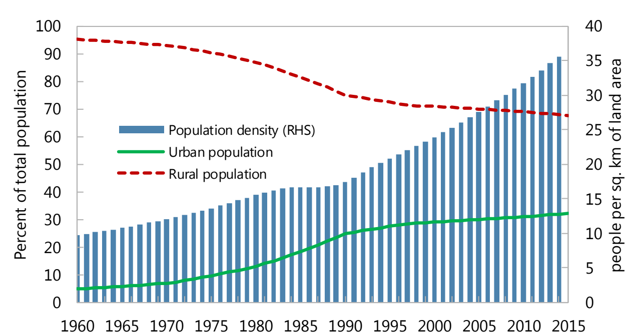
Figure 10. Mozambique: Proportion of Undernourished in Population



Sources: Global Hunger Index; and IMF staff calculations.

10. The rapidly increasing population, coupled with urbanization, exacerbate the impacts of climate change (Figure 11). Two out of three people live in coastal areas and are vulnerable to rapid-onset disasters such as cyclones, storms, and floods. In fact, the densely populated

Figure 11. Mozambique: Urban and Rural Populations

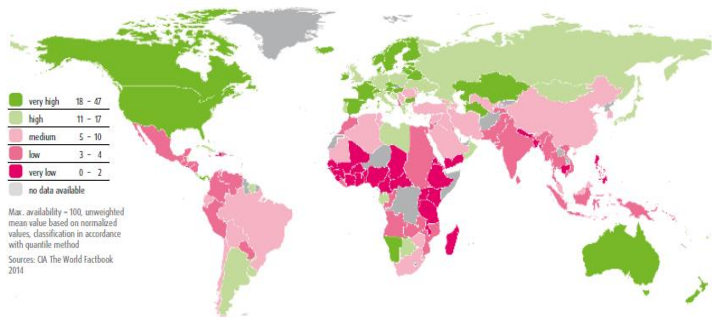


Source: World Bank Indicators.

coastal lowlands are repeatedly affected by severe erosion, saltwater intrusion, loss of vital infrastructure and the spread of diseases vector borne diseases such as malaria, cholera and influenza. These risks are worsened by poor planning and uncoordinated high-risk settlements, many of which are relics of the civil war. The projected increase in rural-urban migration, coupled with the embedded socio-economic and special vulnerability, add significant disaster risks to the urban areas.

11. Lack of appropriate infrastructure adds to Mozambique's vulnerability (Figure 12). Poor transport infrastructure limits its response capacity to extreme weather events. In this capacity, the current crumbling transport routes, unreliable electricity grids, and dilapidated buildings not only add to population's vulnerability, but also delay crucial aid for those affected by disasters.

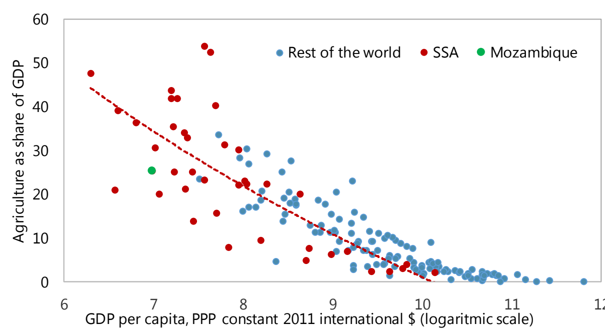
Figure 12. Mozambique: Availability and Development Level of Transport Infrastructure



Source: World Risk Index 2016.

12. A high share of agriculture in GDP also adds to climatic vulnerability (Figure 13). Studies have shown that for vulnerable countries reliant on rain-fed agriculture, yields could be reduced by 50 percent by 2020 (IPCC 2007). Agriculture accounts for 25% of the country's GDP and 70% of employment. Small-scale subsistence farmers largely dominate the agriculture sector while 95% of food production is rain-fed. The projected reduction in cultivable area will also reduce prospects for subsistence farming and increase food vulnerability. At the same time, due to lack of alternatives, the poor engage in environmentally harmful subsistence practices, including slash-and-burn agriculture and the use of wood fuel.

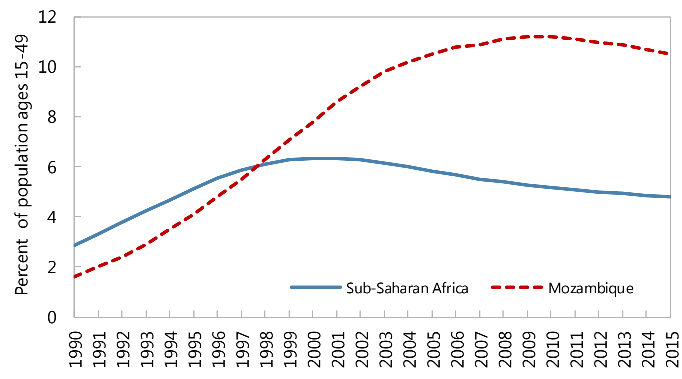
Figure 13. Mozambique: Share of Agriculture and GDP per-capita, 2015



Sources: World Development Indicators; and IMF staff calculations.

13. Climate change would also deteriorate health indicators. Notwithstanding an already stretched healthcare system, still dealing with the legacy of HIV/AIDS, climate change is expected to lead to an increase in epidemics. Since the beginning of the 21st century, Mozambique has recorded a significant proportion of its population affected by HIV/ AIDS, roughly twice the sub-Saharan Africa average (Figure 14). The predominant and threating level of malaria incidence in Mozambique further increases vulnerability to climate change, as a significant percent of the population becomes more exposed to water and vector borne diseases. Access to safe water is a major problem during and following floods and droughts, leading to outbreaks of water-borne disease, such as diarrhea and cholera.

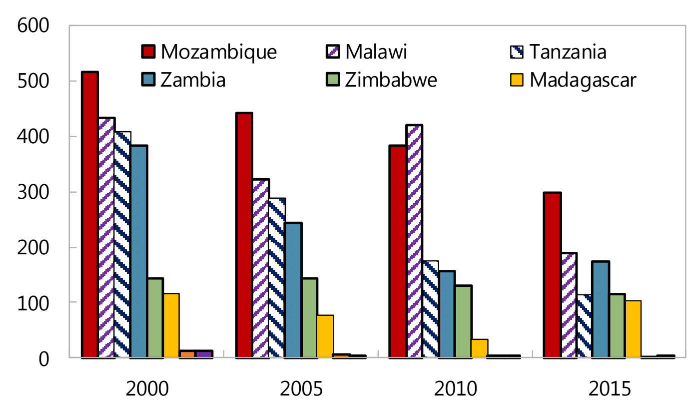
Figure 14. Mozambique: Prevalence of HIV, Total



Source: World Bank Indicators.

14. Spillover effects from neighboring countries also pose challenges (Figure 15). Mozambique is particularly vulnerable to change in water dynamics in neighboring countries, as it is situated downstream of nine major river systems that are already affected by climate variability. For example, in 2014 Mozambique was the country hardest hit by the floods resulting from the torrential rainfalls that emerged from southern eastern Africa. As a result, over 325.000 people were affected and 163 were killed. Weak infrastructure related to the drainage system and sanitation, magnify risks of flooding and the transmission of waterborne diseases. The sharing of river waters could also pose risks to electricity generation from hydro if there is increasing capture of water in countries upstream.

Figure 15. Mozambique: Incidence of Malaria
(Per 1,000 population at risk)



Source: World Bank Indicators.

E. Policy Response

15. Mozambique is committed to enhancing resilience to climate change and to strengthening capacity to respond to and mitigate natural disasters. Reducing vulnerabilities is one of the country's top priorities defined in the Five-Year Government Plan 2015-2019. The revised legal framework[5] strengthens the need for preventive measures and to integrating adaptation responses into development planning. Government long-term policy defined in the National Climate Change Strategy ENAMMC 2013-2025 and the recently approved Master Plan for Risk and Disaster Reduction for the period 2017-2030 provides a large set of measures to combat, adapt and mitigate climate change effects. To improve socio-economic infrastructure resilience, the government is preparing a Nacional Resilience Strategy, with detailed mapping of risk zones and building specification criteria.

16. However, public policies are hindered by weak historical data and poorly known country risk profile. A comprehensive database should be built and regularly updated to provide detailed data on natural disasters and their economic and social impacts. Partial data bases exist (EM-DAT, DesInventar) and other useful information is split in annual execution reports and post-disaster reconstruction plans. Better data collection and management systems combined with an improved methodology for valuing disaster economic impact would allow for a more accurate assessment of Mozambique's risk profile. Once enough data is available, fiscal risks from climate change and natural disasters should be periodically assessed by the recently created Fiscal Risk Unit and publicly reported in the Fiscal Risk Statement.

17. Mozambique policy response focus on results and better alignment with regional and international efforts to climate change. The recently approved Framework for Disaster Risk Reduction defines a set of outcome and result indicators to which all relevant sectors are requested to contribute to through their policy plans and programs. These indicators could help measuring Mozambique performance in implementing both national strategies and regional and international commitments. The country supports the implementation of the African Strategy for Disasters Risk Reduction, including follow-up on Sendai framework, and the preparation of a regional strategy for managing natural disasters. Mozambique also adhered to the Paris Protocol for Climate Change, and the Sustainable Development Objectives.

18. Mozambique's policy response also benefits from a dedicated institute to manage disasters and a robust inter-sector and decentralized system. The National Disaster Management Institute (INGC) has the mandate to reduce social and economic vulnerability to natural disasters and climate change induced events. This institute has 500 staff located at central, provincial and district levels and mobilizes over a thousand volunteers across the country. INGC Director chairs the Technical Council for Disaster Management which involves all director generals of relevant ministries, and reports to the Prime Minister and the Council of Ministers through the Coordinator Council. Given that the incidence of natural disasters seems to be rising, further capacity should be built at the INGC to better identify and manage disaster risk and to improve local response.

19. However, enough and timely financing remain a challenge to efficiently implement these policies. Annually Contingency Plans are supplied with insufficient budgetary resources and cover only emergency response operations. Donors usually finance four fifths of that plan, but financing for recovery and post-disaster reconstruction activities is mobilized ex-post, once disasters

[5] Natural Disasters Management Law 15/2014 and regulation.

materialized and reconstruction plans are elaborated.[6] This leads to financial uncertainty and substantial delays in reconstruction, exacerbating the impact on the affected population. Prevention and resilience are funded by sector budgets as part of their normal development agenda and activities.

20. Substantial and predictable financing for disaster management is needed. The recently created Disaster Management Fund could result in increased, more stable and better coordinated funding for disaster response, provided the government annually allocates the agreed 0.1 percent or more of the State Budget[7] and donors supplement it with additional contributions. The budget for 2018 does not yet include an allocation for this fund, but maintains the allocation for the Contingency Plan which is half the minimum allocation for the fund (0.053 percent of total budget expenditure). It is expected that this funds become the main vehicle to pull financing for preparedness, response, recovery and post-disaster reconstruction activities, and also risk insurance.

21. Mozambique has not yet a disaster risk financing strategy to set clear policy for adequate financial protection. Realistic and well-balanced financial protection instruments should be defined, prioritized and operationalized to improving financial preparedness in the medium and long term. Risk transfer instruments, such as sovereign risk insurance, and contingent credit options which can be easily drawn down in the event of a disaster should be considered. The World Bank could assist the Ministry of Economy and Finance and the National Institute for Managing Disasters to develop this strategy.

F. Conclusion and Policy Recommendations

22. Mozambique is highly vulnerable to the impacts of climate change and natural disasters. Low-lying geographic location, coupled with weak socio-economic infrastructure further exacerbate the impacts of these risks. Adapting to climate change is already incurring significant economic and social costs, an additional strain on limited resources in Mozambique. These costs are expected to increase significantly, warranting a more coordinated approach to estimating long-term needs, developing sector specific contingency plans, coordinating various financing arrangements, strengthening coordination among stakeholders, enforcing better tracking of expenditures, and strengthening resource mobilization.

23. In this context, restoring macroeconomic stability is a prerequisite towards enhancing resilience to climate-induced events. This include (i) implementation of a fiscal adjustment to restore fiscal sustainability while containing public debt; (ii) normalization of monetary policy and (iii) strengthening governance and transparency, including by addressing the institutional

[6] Mozambique is highly dependent on donor contributions and external financing. Main partners are the United Nations, the World Bank, the African Development Bank, USAID, DFID, Denmark, Ireland, Sweden, China, Japan, and India.

[7] Decree of creation of the Disaster Management Fund (2017).

weaknesses and corruption underlying the hidden loans, while advancing other structural reforms to generate growth and employment to reduce poverty and inequality.

24. Unless further actions are taken, climate change would significantly hinder economic development. To minimize the impact of climate change and natural disasters, the government needs to beef up risk-informed land use planning and develop sector-specific contingency plans. This entails developing a disaster risk financing and insurance strategy for the public sector as well as maximizing insurance penetration for the private sectors. In this capacity, strengthening insurance coverage, particularly of micro-finance, is essential to transferring risk associated with climate change. As insurance prices become inextricably linked with government policy on hazard mitigation, implementation and supervision of building codes, financial vulnerability reduces while prospects for investment and economic growth improve.

25. A policy mix focused on combining adaptation and mitigation strategies is thus needed. Such policies should not only be aligned with the country's national disaster risk reduction plan, but also with housing, transport and land-use with a long-term vision of a sustainable future. Experience suggests that the best way to address climate change impact on the poor is by integrating adaptation responses into development planning. To the extent adaptation and mitigation measures are inadequate, cost-effective insurance policies and innovative financial instruments need to be further explored.

26. Scaling up investment in infrastructure and capacity building is imperative to enhancing resilience to extreme weather events. Sufficient infrastructure, coupled with better risk assessment and early warning systems, can not only prevent the often-catastrophic consequences of natural hazards such as flooding or storms, but it can also play a crucial role in the distribution of humanitarian aid supplies in the event of a disaster. More generally, it is also important to integrate climate change in the public investment programs to mitigate the risk of stranded assets. For instance, heavy reliance on hydro power can disrupt the supply of electricity during droughts or due to changes in water supply arising from climate change. The fact that Mozambique is located downstream creates greater risks as regard the availability of water during droughts, particularly if the demand is higher upstream, but also increases risks arising from heavy rainfall and floods, including damages to infrastructure.

27. A more gender-responsive approach to agriculture is essential to enhance resilience to climate change and decrease the risk of maladaptation. In this capacity, a renewed focus should be given to women's representation in decision-making structures and to capacity building in agriculture as women predominate[8] in this sector. Equally important is appropriate planning of land-use and the implementation of programs for diversification of subsistence crops and access to improved technologies, including agro-processing, in response to climate change. This, however, should go hand in hand with raising women's awareness and training in best practices for climate change adaptation, such as the efficient processing of natural resources and the use of renewable energy.

[8] About 73 percent (Kwenda 2017).

28. Against its limited financing options and debt sustainability limits, Mozambique should create larger fiscal buffers for climate change adaptation and mitigation. There is a need to review the expenditure composition and focus more on addressing resilience to natural disasters, while protecting near-term priority social spending. Additional revenue should be mobilized to finance the infrastructure projects. Introducing a specific carbon tax could aid this effort. Innovative financial instruments should be further explored, including weather derivatives, debt swaps, and carbon markets. These instruments could allow the government to centralize and mainstream the climate financing needs related to both mitigation and adaptation.

29. Deepening the presence of private sector in the economy is pivotal to a sustainable climate change financing strategy. The implementation of the dedicated Contingency Fund recently created and better insurance coverage would increase financial buffers and mitigate damage costs associated with climate-induced disasters. Given its debt sustainability limits, Mozambique success in mobilizing required financing for mitigations and adaptation programs hinges upon seeking adaptation projects well-positioned for private investments. This entails addressing barriers to growth in key adaptation-related sectors requires establishing a value chain approach that links subsistence farmers and rural communities with other private sector entities and the broader market.

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