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REPUBLIC OF MADAGASCAR

SELECTED ISSUES

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SELECTED ISSUES

June 16, 2017

Approved By
African Department

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GOVERNANCE AND CORRUPTION[1]

Madagascar's governance indicators weakened significantly during the transition period 2009-13. Governance indicators that generally were on par with middle-income countries in Sub-Saharan Africa (SSA) ten years ago have regressed and converged to the average of fragile SSA countries. It is likely that this deterioration in governance is currently reducing Madagascar's economic growth by about ½ percent a year (or possibly more) and the tax revenue-to-GDP ratio by 3 percent or more. More generally, corruption is associated with less macroeconomic and political stability, potentially creating a vicious circle. After the return of constitutional order in 2014, the government has started to address corruption, mainly through the introduction of new laws so far. More emphasis is needed on effective implementation and raising sufficient resources to fight corruption. This paper summarizes the current situation, surveys the economic costs of corruption, and provides a few ideas on how to advance anti-corruption reforms.[2]

A. The Current Situation

1. **The five-year transitional period following the military coup in 2009 was characterized by generalized institutional decay, increasing corruption, and the expansion of illegal trafficking.** Governance indicators that were on par with middle-income SSA countries ten years ago deteriorated and approached the average of fragile SSA countries (Figure 2). In terms of governance as measured by the Ibrahim index and Transparency International, no SSA country has regressed more than Madagascar over the last ten years. Among low-income countries (LICs), governance has on average improved slightly over the last ten years, while Madagascar has fallen back on all aspects of governance—control of corruption, governance effectiveness, political stability, regulatory quality, rule of law, and voice and accountability.

2. **Why this deterioration in governance?** An interaction of several factors created fertile ground for growing corruption:

- *Political culture:* Madagascar's political system has been challenged by corruption for a long time. The political parties are often used to distribute favors and less as a tool for political participation and the provision of public goods (Box 1). Large-scale development projects have in the past been "white elephants in the service of grand corruption."[3]
- *Lack of legitimacy:* The international community never recognized the interim government and the President, members of Parliament, and mayors were not elected and held accountable for their decisions.

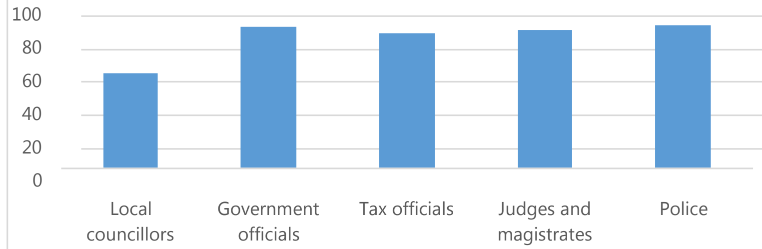
[1] Prepared by Lars Engstrom, Yara Esquivel Soto, and Patrick Imam.

[2] For a summary of the economic and social costs of corruption see IMF (2016a).

[3] International Crisis Group (2010).

Figure 1. Madagascar: Proportion of Citizens that Believe some Civil Servants are Corrupt, 2013

(Percent of respondents)



Source: Afrobarometer (2014).

- *Large informal economy:* Madagascar has a large informal economy with high usage of cash and limited financial deepening, which makes it more difficult to track and control corrupt transactions.

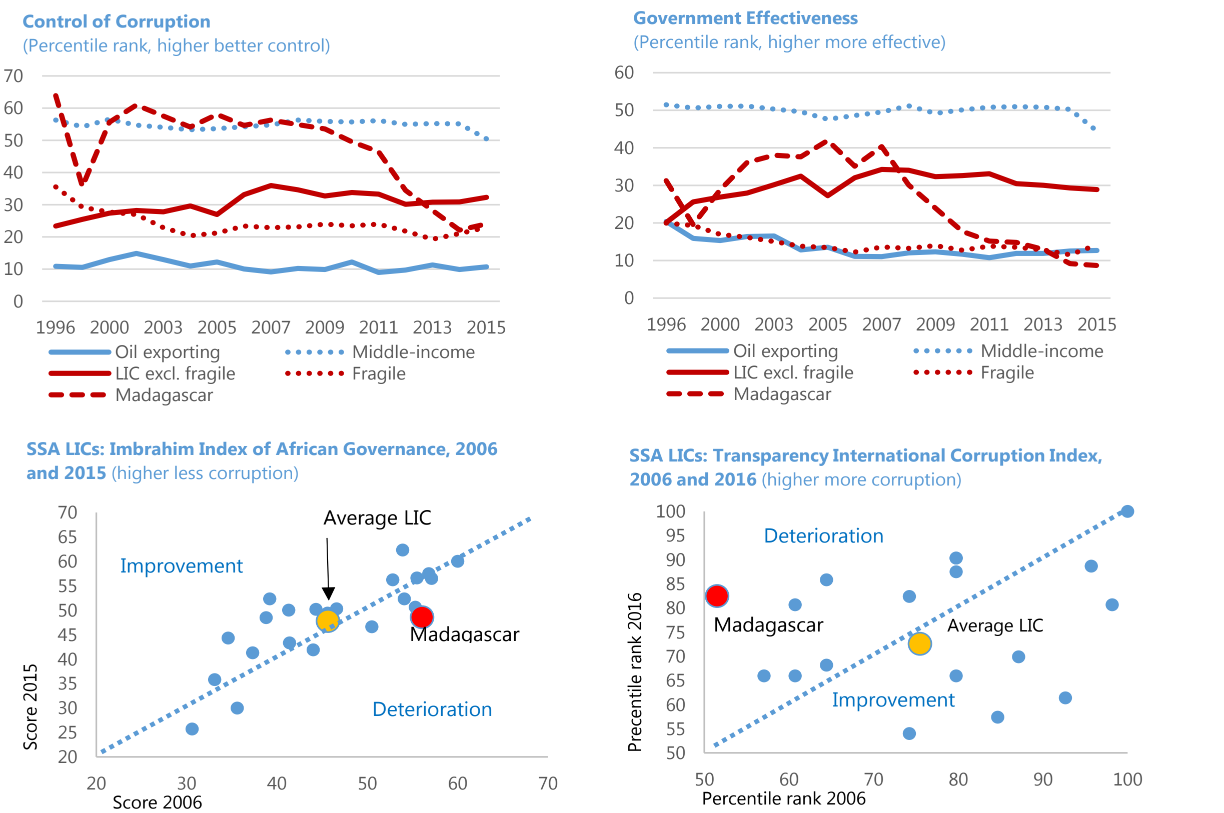
- *Lack of judicial independence:* The independence of the anti-corruption bodies is undermined by their control by the executive.[4] Political interference in the affairs of the judiciary is common and the executive exerts pressure on judges including by reassigning magistrates to different locations.

- *Weak and underfunded institutions:* Starting from a situation with limited fiscal resources, following the 2009 military coup Madagascar became subject to international sanctions and the amount of available resources declined further. Aid was reduced from about 35 percent of government finances in 2008 to about 15 percent in 2012 and public spending contracted. Civil servants and the population more generally started looking for other means of subsistence and corruption became more generalized across society. At the same time, (largely) donor-financed anti-corruption agencies were squeezed of funding.

3. **Weaknesses in governance manifest themselves economically in various forms, with the weak institutional environment enabling corruption to thrive.** Rose wood and precious stone traffic, smuggling of rare and protected species, corruption among customs and tax officials, the rigging of public procurement markets, drug smuggling, and kidnapping are some of the symptoms of generalized corruption. Because of the weakening of institutions, activities such as money laundering through real estate purchases and trafficking in precious stones, to cite just some examples, are spreading and cannot easily be punished by the legal system. At the same time, lack of information (e.g. inadequate property registry), imperfect tax and bank records, and limited international cooperation are obstructing the use of domestic and foreign information to tackle financial crime. Since 2004, only four cases of suspected money laundering have been tried and this resulted in two convictions.

[4] Transparency International (2014).

Figure 2. Sub-Saharan Africa (SSA): Governance Indicators



Sources: World Bank, Governance Indicators; Ibrahim Index of African Governance; and Transparency International.

B. Costs of Corruption

4. Most of the theoretical literature, as well as case studies and micro evidence, suggest that corruption severely impedes economic performance (see for example Svensson, 2005). Corruption reduces social welfare through several channels, including by diverting resources for private gain; weakening institutions, reducing government legitimacy, and increasing the risk of conflict; eroding the business climate and lowering the quantity and quality of investment; and by increasing fiscal instability. By its very nature, corruption is not done in the open, so it is inherently difficult to quantify these costs.

Lower economic growth and macroeconomic instability

5. Establishing the link between corruption and economic growth requires careful analysis. A simple up-front plot of real economic growth and control of corruption for all SSA countries over 2000-15 does not provide evidence of any link. There are many reasons for the lack of correlation and one reason is countries with abundant natural resources that have grown despite corruption. Equatorial Guinea is a good example. Because of oil exploration, Equatorial Guinea was able to combine an average real growth of close to 17 percent a year with the weakest corruption scoring of all SSA countries. To identify the effect of corruption on growth it is, therefore, necessary to separate corruption from other variables like endowments of natural resources that also have an impact on economic growth. Already by reducing the sample of SSA countries to the sub-sample of LICs—countries that are more comparable—it is possible to perceive a somewhat stronger positive link between the control of corruption and growth (Figure 3).

Box 1. Taxonomy of Corruption

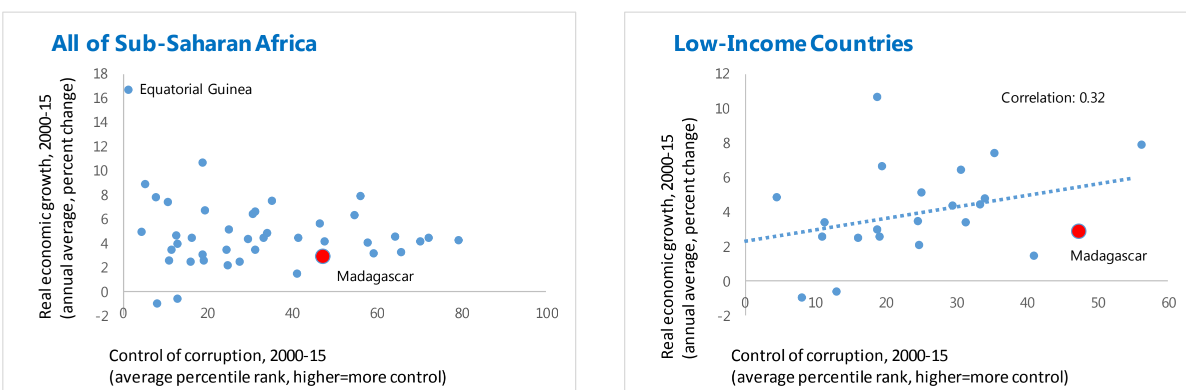
Corruption, defined as the abuse of public office for private gains, is often divided into three main categories in Madagascar:

-*Petty corruption:* People perceive petty corruption to be a frequent feature in interactions with the administration, the police, the gendarmerie, and the judicial system. A large majority of the population believes that some civil servants are corrupt. This form of corruption has always been present in the Malagasy context.

-*Grand (political) corruption:* The political system is based on patron-client relations and informal networks. Political parties serve as a tool to maintain influential individuals in power using favors. Some politicians in turn misallocate public resources or create red tape to ensure that resources are transferred to specific individuals. This is reflected in weak rankings by the 2016-17 Global Competitiveness Index: transparency of government policymaking (second to the last, with rank 137 out of 138); efficiency of legal framework in challenging regulations (rank 128); and judicial independence (rank 126).

-*Trafficking:* Madagascar's weak central government and long and inadequately monitored coastline makes it vulnerable to all sorts of trafficking. The weakening of the rule of law has created a fertile ground for illegal logging and trafficking in rare woods as well as smuggling in illegal mining, gemstones, and protected flora and fauna, such as turtles. There are also reports of men, women, and children who are subjected to trafficking and forced labor (US Department of State, 2016).

Figure 3. Sub-Saharan Africa: Real Economic Growth and Corruption



Sources: World Economic Outlook (October 2016); and World Governance Indicators.

6. **Many empirical studies based on advanced statistical analyses have concluded that corruption is associated with weaker economic growth.**[5] This result is confirmed by several meta-analyses—studies summarizing and analyzing the results of many separate studies.[6] An influential meta-analysis by Ugur and Dasgupta (2011) estimates that a one-unit increase in the index of perceived corruption is associated with a reduction in per capita GDP growth by 0.9 percent a year on average based on 434 separate estimates that include all types of countries and 0.6 percent a year on average based on 34 separate estimates that include LICs only (Table 1). While the correlation between corruption and lower growth is strong, the causality itself is less clear-cut, and probably goes in both directions. That is, less corruption is positive for growth and at the same time, countries with higher growth can take measures to reduce corruption.

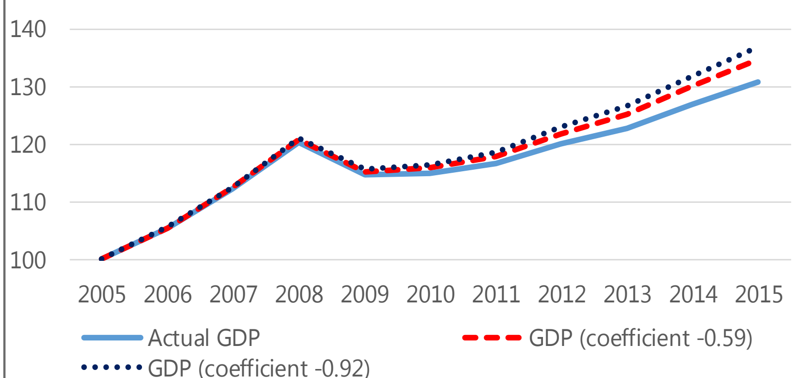
Table 1. Madagascar: Effect of a One-Unit Increase in the Index of Perceived Corruption

	LICs	All countries
Per capita GDP growth	-0.59	-0.92

Source: Ugur and Dasgupta (2011).

7. **It is plausible that the deterioration in governance during the last ten years is currently reducing Madagascar's economic growth by about ½ percent or more a year.** Madagascar's corruption score, according to the World Governance Indicators, declined 0.9 units between 2005 and 2015. Based on the LIC estimates of Ugur and Dasgupta, this would be associated with an estimated reduction in GDP growth of about 0.5 percent a year with a coefficient of -0.59 and about 0.8 percent a year with a coefficient of -0.92. In other words, if Madagascar could reduce corruption back to the 2005 level (prior to the transition period), annual growth would, ceteris paribus, be 0.5-0.8 percentage point higher, a significant amount when considering the compounding effect (Figure 4).

Figure 4. Madagascar: Real GDP, Actual and with Governance as a Middle-Income Country (Index: 2005 = 100)



Source: IMF staff projections based on estimates by Ugur and Dasgupta (2011).

8. **Corruption is also likely to trigger macroeconomic instability.** Money from corruption makes macroeconomic management more difficult. Activities related to corruption are often missing

[5] No study, to the authors' knowledge, has looked at the direct cost of corruption on Madagascar.

[6] Ugur and Dasgupta (2011); Campos, Dimova, and Saleh (2010); and Ugur (2014).

from official statistics, which create misleading information to policymakers (Quirck, 1996). For example, so-called hot-money can lead to large financial inflows or outflows that accompany money laundering activities, impacting the exchange rate (Hampton, 1996). The mirror-studies conducted by Chalendard (2016) illustrate that large-scale miss invoicing of imports and exports to transfer funds overseas may make it difficult to interpret exchange rate movements and, as a result, take appropriate policy actions.

Fiscal performance

9. Corruption weakens the state's capacity to raise revenue as well as its other core functions. The culture of compliance is weakened and tax evasion increases. While other fragile SSA countries have improved their tax and customs collections to about 15 percent of GDP, collections in Madagascar declined from 12 percent of GDP in 2008 to about 10 percent of GDP during the crisis and they are currently about 11 percent of GDP. Taxes related to profits are low and the efficiency of VAT collections is one of the lowest among SADC members. Notwithstanding the high standard VAT rate (20 percent), VAT revenue corresponded to only 5.4 percent of GDP in 2012. The level of development is not sufficient by itself to explain the low revenue collections in Madagascar. Other countries with a comparable GDP per capita have significantly higher tax revenue collections (Figure 5).

10. Low tax collections are the result of non-compliance and tax exemptions. The loss of tax revenue from corruption and other non-compliance is likely to be significant. The domestic tax administration is performing far below international best practice based on the 2015 TADAT (Tax Administration Diagnostic Assessment Tool) assessment. The main tax exemption is provided to about 600 so-called free-zone companies that are exonerated from payment of profit tax during their first five years and later pay a reduced profit tax of 10 percent. An indication of the size of this benefit is that the free-zone companies generated 9 percent of the turnover covered by the large taxpayer unit in 2013 but their corresponding share of tax collections was 2 percent.

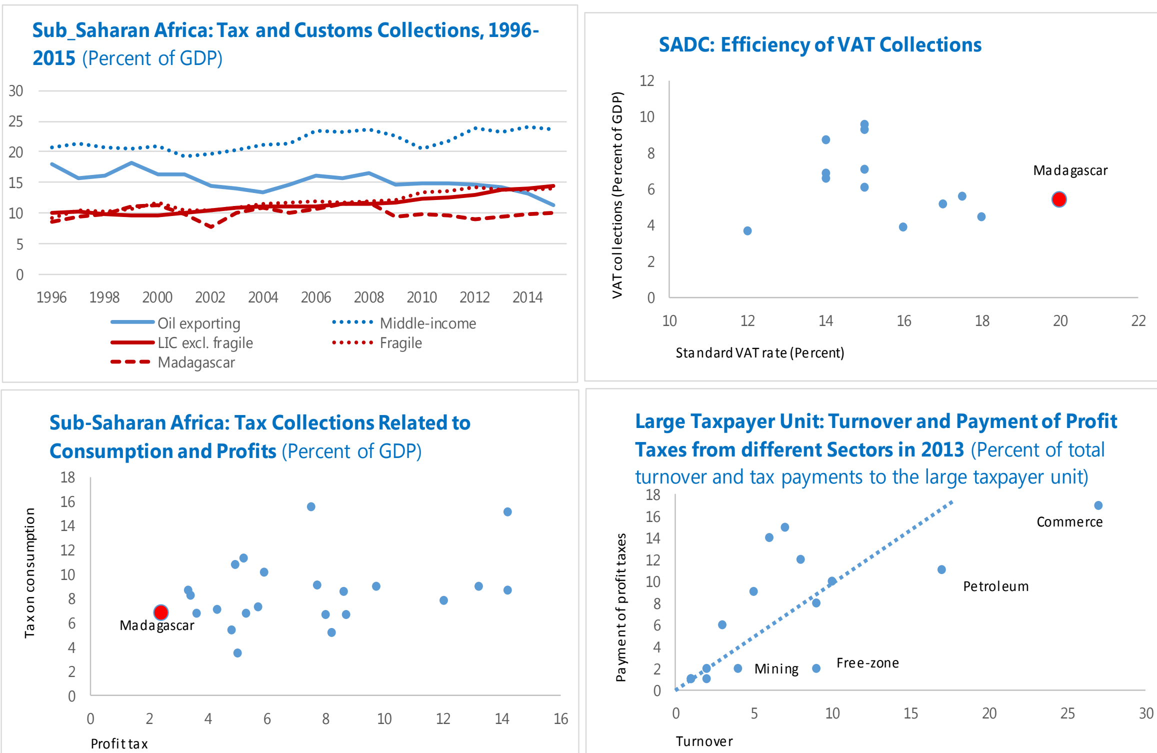
11. The potential to increase tax collections is significant. Studies of tax performance and tax effort suggest that Madagascar could potentially increase its tax ratio up to 17 percent of GDP (from currently about 11 percent) (IMF, 2015). A large part of this performance gap is likely to be corruption related. Fund staff estimates indicate that a one-point improvement in the control of corruptions index for a given country is associated with a tax revenue increase by 4 percent of GDP (IMF, 2016b). An improvement in Madagascar's current index value to the value of an average middle-income country (that is, a return to the governance position about 10 years ago) would then be associated with an expected tax revenue increase by just over 3 percent of GDP or about half of the performance gap.

Weak institutions, eroded legitimacy, and conflict

12. Corruption has a negative impact on citizens' confidence in public institutions. When high levels of corruption are present, institutions tend to become rent-seeking instruments in the hands of political leaders and a small economic elite, reducing competition. For example, the Diagnostic Trade Integration Study that was prepared by the World Bank in 2015 identified the need for genuine competition in product and service markets as a key recommendation for Madagascar. Anecdotal stories talk about collusion between politicians, business people, and some customs agents permitting the clearance of imported shipments by larger, well-connected businesses with less arduous customs controls. Such favors generate competitive advantages for well-connected businesses and likely reduces competition in domestic markets. The result is higher profits for "insiders", higher prices on key commodities in the domestic market, and significant leakages and revenue losses for the government.

13. A state that is perceived to be corrupt is more likely to be seen as illegitimate over time and as a result, to weaken political stability. Governments that favor their supporters and exploit others risk bringing to the fore grievances by disadvantaged, weaker groups and may encourage citizens to use violence (IMF, 2016a). While Madagascar economic system has gradually changed from a centrally-planned economy to a market economy starting in the 1990s, the political culture has remained relatively constant with a state that many perceive to be authoritarian and favoring a small group of people. It is thought-provoking that several events prior to Madagascar's 2009 crisis reinforced the perception that the state was not impartial (International Crisis Group, 2010).

Figure 5. Madagascar: Tax Revenue



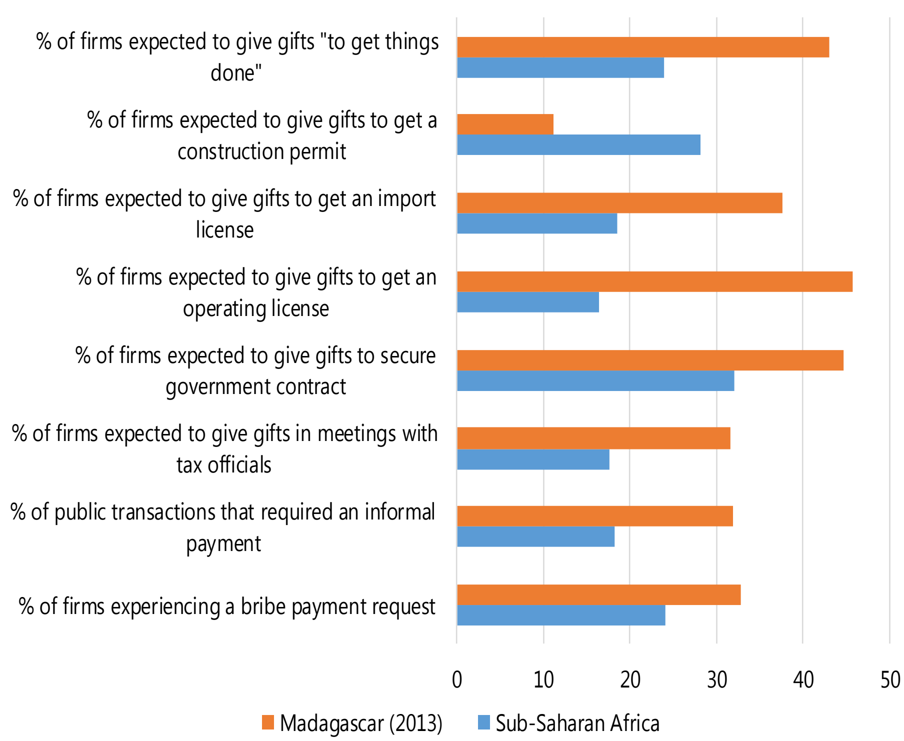
Sources: World Economic Outlook (October 2016); and Rota-Graziosi (2015).

Business climate and investment

14. **Corruption reduces private-sector investment because it acts as a tax on capital and raises the hurdle rate of return.** Payments of bribes, delays, distortions etc. increase the cost of investment. Entrepreneurs opening new businesses need permits and licenses, putting them at the mercy of corrupt public officials. Corruption also creates an uneven playing field and stifle genuine competition with the result that more human capital will be allocated to rent seeking instead of productive activities that promote business development.

15. **Corruption is a challenge for the private sector in Madagascar.** The private sector is concerned by the lack of fair competition in many sectors because of the presence of business groups with close ties to politicians. The 2016 Doing Business Survey ranked Madagascar 164 (out of 189 countries) on ease of doing business and several indicators of corruption are well above the SSA average (Figure 6). Market restrictions that require permits and licenses facilitate rent seeking. For exporters, many products require documentation linked to regulatory controls and this process can require a significant amount of time, costs, and possibly bribes. Exporting firms that use imported inputs suffer twice, because of demanding import and export procedures. Companies that could otherwise participate in international value chains by specializing on specific parts or tasks become less competitive (Figure 7).[7]

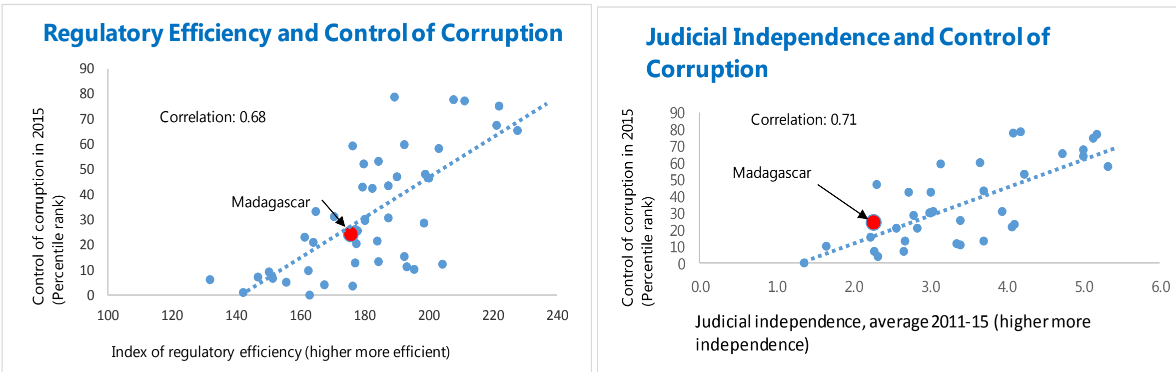
Figure 6. Madagascar: Indicators of Corruption that Affect the Business Climate



Source: World Bank Enterprise Survey.

[7] At the same time, weak property rights are also often a source of corruption in Madagascar, given the weak enforcement mechanism by the court system.

Figure 7. Sub-Saharan Africa: Indicators of Corruption, Regulatory quality, and Judicial Independence



Sources: Heritage Foundation, Index of Economic Freedom 2016; World Economic Forum; Global Competitiveness Index; and World Governance Indicators.

16. Challenges from corruption and the lack of competition are exacerbated by doubts about the impartiality of the judicial system. People in the private sector believe that the justice system is biased and laws are enforced unfairly. Compared with other SSA countries, Madagascar is ranked as having one of the least independent judicial systems according to the World Economic Forum Global Competitiveness Index. Existing laws give the President of Madagascar extensive power over the judiciary. The Supreme Council of the Judiciary (*Conseil Supérieur de la Magistrature, CSM*) manages the career of the judges, with the President as the chairman and the Minister of Justice as the vice chairman. The Constitutional High Court (*Haute Cour Constitutionnelle, HCC*) also has limited independence from the executive power. HCC has nine members, of which the President directly nominates three, including the HCC President, and the CSM nominates another three members. Against this background, judges can be extremely cautious and often anxious to avoid contradicting powerful decision makers. The judiciary is also vulnerable to manipulation because of a lack of financial and human resources (International Crisis Group, 2010). A variety of cases has illustrated the widespread impunity for officeholders who break the law, especially with regard to the trafficking of natural resources (Bertelsmann Stiftung, 2016).

17. Studies analyzing the growth impact of corruption probably underestimate the extent to which corruption and distortions reduce productive private sector investment (Quirk, 1996). Money-laundering diverts resources to less productive investment and thereby reduces growth. For example, receipts from rose-wood traffic are often used for "sterile" investment like real estate and as a result, real estate prices increase, causing general overpayment for real estate and crowding out of more productive investments. Another corruption effect is the transformation of productive companies into sterile investments because they are operated solely for money laundering. Corruption is also likely to increase imports. To help launder money, corruption money is occasionally used to import goods that are then dumped on the domestic market with a negative impact on the private sector.

18. While corruption is clearly negative for private-sector investment, the effect on public investment is more complex. On one hand, corruption shrinks tax collections and reduces funds available for fiscal spending and investment. On the other hand, corrupt officials have an incentive to increase public spending in favor of large projects with the potential for large private gains for the policy maker himself (for example, large defense contracts) regardless of the quality of investment. There is empirical data supporting a generally positive correlation between public expenditure and corruption (Baliamoune-Lutz and Ndikumana, 2008). That said, corruption reduces the quality and efficiency of public investment. Moreover, in a highly resource-constrained environment like Madagascar, corruption is more likely to cost more in foregone resources for investment than is gained in incentives.

Slower financial sector development

19. People involved in corruption need to disguise the origin of their illegal money to avoid detection and the risk of prosecution when they spend it. Corruption is, therefore, closely linked to money laundering, which usually involves a series of multiple transactions aiming to disguise the source of illegal financial assets so that these assets can be used without compromising the person using them. Such transactions typically include: (i) placing unlawful proceeds into financial institutions through deposits, wire transfers, or other means; (ii) separating the proceeds of corruption from their origin through a series of complex financial transactions; and (iii) finally, using an apparently legitimate transaction to disguise the illicit proceeds.

20. Corruption is likely to distort and delay the growth of the financial system through several channels:

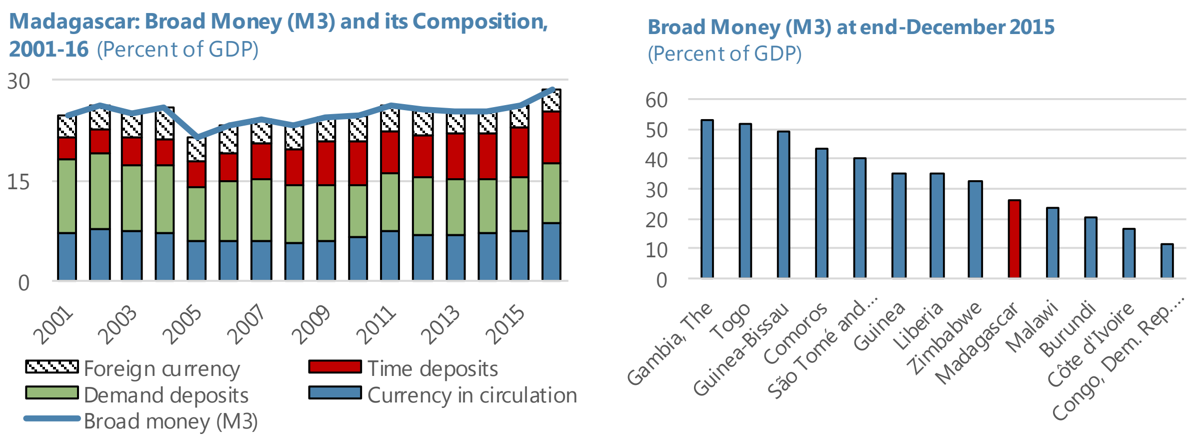
- *Corruption favors the use of cash instead of the banking system.* To avoid paying taxes, the informal sector prefers to use cash, reducing deposit availability. This deprives the formal banking sector of financing, hurting the development of the financial system.
- *Some banks or financial firms become engaged in money laundering.* People involved in corruption use banks in Madagascar and abroad to convert illegal financial proceeds into legal laundered funds. However, such interactions with corrupt people increase the likelihood that the bank itself or its other customers will be defrauded or that criminal elements take outright control of the bank, particularly when institutions are small and regulators are weak. Thus, many firms and households become suspicious towards the banks and the formal financial system (IMF, 2001).
- *A reputation for corruption makes foreign banks reluctant to do business with less well-established companies.* Because of constraints imposed by the parent company and to preserve their reputation, the foreign-owned banks prefer to lend to well-established companies with certified accounts, which impedes lending to the broader economy and reduces the access to financing for smaller companies. As a result, legitimate investment is discouraged with damages to the financial system and trade.

21. Madagascar's financial system is shallow also when compared with other fragile African countries. Financial deepening is lagging with broad money (M3) having remained roughly stable as a share of GDP for over ten years[8]. The net effect is likely to be slower economic growth (Figure 8).[9]

Human capital

22. One of the strongest correlations in the literature is that countries with higher levels of corruption have lower levels of human development (Rose-Ackerman and Truex, 2012). Highly-corrupt countries tend to underinvest in human capital, especially spending less on education. Incentives to study are also lower, as employment within the government administration is more likely to be based on connections or payments, rather than on years of education. Inequality is also raised as a result, as those who have the money to buy places within the administrations perpetuate their positions within society.

Figure 8. Madagascar and Fragile SSA Countries: Broad Money (M3)



Sources: Malagasy authorities; and IMF staff estimates.

23. Higher public spending on health and education is less likely to lead to better outcomes (i.e., an improvement in human capital) in countries with poor governance. Corruption reduces the efficiency of public spending, and thus, higher spending on health and education will have limited positive effects in countries that are rated as very corrupt or having a very ineffective bureaucracy (Rajkumar and Swaroop, 2008). For example, a mid-1990s public expenditure tracking survey in Uganda established that schools received only around 20 percent of central government spending on the school program. Most grants were captured by local government officials and politicians in charge of disbursing the grants (Reinikka and Svensson, 2004).

[8] Broad money increased as a percent of GDP in 2016 mainly because of high prices on exported vanilla. Un-banked small-scale vanilla producers received large cash payments that triggered an increase in currency in circulation.

[9] It is now accepted that the development of the financial system leads to economic growth (e.g. Levine, 2005).

Environmental degradation

24. Deforestation and illegal logging is a major environmental challenge in Madagascar, hurting future generations by depleting its natural capital. Recent calculations of deforestation indicate that the total forest area is decreasing by over ½ percent a year. The selective logging of expensive tropical hardwoods like rosewood and ebony introduces invasive species, increases the risk of forest fires due to localized drying, impairs habitats, and reduces genetic diversity and biodiversity. The ecological balance is sometimes disturbed to such an extent that the forest dies off completely. The negative effects of illegal logging are reinforced by population growth that is increasing the demand for agricultural land for both subsistence farming and cash crops, and thus the deforestation continues.

25. Corruption makes it possible for the illegal logging to continue. It occurs at all stages of the trade chain. Timber operators bribe officials to get export permits. Enforcement officials may at times be bribed to turn a blind eye to trucks or canoes carrying illegal logs. When regulatory violations are found, judicial corruption often prevents prosecution (USAID, 2016). There are also claims in media of grand (political) corruption to influence the fight against the rosewood traffic, with some politicians in senior positions having been accused of close connections with rosewood traders. Thus, the natural capital of Madagascar is being depleted, with benefits accruing to a small elite (Box 2).

Box 2. Rosewood Traffic

Over the last 20 years, illegal logging of precious wood—rosewood, palissander, and ebony—has been a recurrent issue, severely threatening Madagascar's ecosystem and unique biodiversity. In addition to destroying world heritage sites and plundering natural resources (endemic rare species), illegal logging deprives Madagascar of taxable revenues and thereby development opportunities (Randriamalala and Liu, 2010).

The rosewood trafficking is a criminal offence in Madagascar, and the extraction from "sensitive zones, including protected areas and their peripheral zones" is prohibited since 2000. However, legal loopholes, "exceptional" export permits, and weak law enforcement have facilitated the establishment of a well-organized network of illicit trade. The 2009 political crisis exacerbated the problems and illicit exports tripled in 2009 alone. Illegal logging also has harmful secondary effects. Habitat is disturbed, illegal mining starts, local people turn in desperation to the forests for resources, and poaching of endangered species escalates. The law against the traffic of precious woods adopted in 2015 has strengthened the repression against the trafficking in rosewood and ebony.

The international community has become engaged to stop the illegal traffic through the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and an action plan of protective measures, has been adopted. Noting limited progress, CITES' standing committee in 2016 recommended that all parties suspend commercial trade of rosewood from Madagascar until the authorities have demonstrated increased enforcement actions. In particular, reports on seizures, prosecutions, and sanctions are expected.

C. Strategies to Reduce Corruption

26. Reducing corruption will be challenging if there is doubt about the political commitment to fight corruption. Strong support from the country leadership—the President, the political parties, and the military (topics beyond the scope of this paper)—is essential in the combat against corruption (Pande, 2007). In several countries that have been successful in reducing corruption (e.g. Georgia, Philippines), the determination of the leadership to combat corruption was crucial.

27. The current government has taken steps against corruption. While the "National Strategy against Corruption, 2004-2014" established the basis for the current anti-corruption framework, the impact was limited due to the 2009-13 crisis and weaknesses in the institutional framework. The government elected in 2014 has elaborated a new "National Strategy to Fight Corruption, 2015-2025" with the vision to put in place an effective rule of law by strengthening state capacities, sanctioning corruption, and reducing risks and opportunities for corruption. The strategy includes: (i) strengthening anti-corruption legislation; (ii) increasing the independence and resources of the public anti-corruption agencies; (iii) developing an information system to track all legal anti-corruption cases; (iv) improving the integrity of the judicial system; and (v) making the Council of Budget and Financial Discipline (CDBF) fully operational.

28. Corruption is a multi-dimensional problem, requiring reforms in several areas simultaneously. An effective strategy requires a prioritized and sequenced approach. Corruption is a symptom of a poorly functioning government, and addressing it requires change on many different levels. Legislative reform is key, but must be accompanied by strong and independent institutions, capacity building, transparency, an empowered civil society, and increasing economic governance while fighting corruption would improve the chances of seeing lasting and sustainable program results in terms of socio-economic performance.

29. Mindful of limited resources, the anti-corruption strategy should be both meaningful and realistic. Legislative reforms are only credible if enforced by effective institutions, which requires a transformation of behaviors and values[10]. This takes time and expectations should be managed. From an enforcement perspective, such a strategy could initially focus on actions facilitating investigations and recovery of proceeds of corruption laundered by Malagasy officials abroad, while encouraging domestic capacity building in the medium term.

Short Term Measures to enhance the rule of law

30. It is key to ensure the adequate criminalization of acts of corruption, in line with international instruments. The new anti-corruption law introduces new provisions to the penal code and amends existing ones to bring Madagascar's legal framework closer in line with the United Nations Convention against Corruption (UNCAC). Most acts of corruption are now criminalized, with only certain elements such as the passive bribery of foreign officials and obstruction of justice in the context of investigation of corruption remaining unaddressed. Malagasy authorities are currently

[10] IMF (2016a).

working on much needed legislative reforms. A draft law on asset recovery is currently being finalized, and should allow authorities to seize, freeze, confiscate and manage proceeds of crime, while protecting the rights of bona fide third parties. Additionally, a draft law on extradition and mutual legal assistance in criminal matters is also being finalized. This will allow Madagascar to provide and receive assistance from other countries in corruption investigations.

31. **AML measures targeted at supporting anti-corruption efforts are instrumental to fighting corruption.** Proceeds of corruption are usually laundered to avoid detection or confiscation, and an effective AML framework can contribute to both prosecuting and deterring corruption. Under international standards, AML frameworks should require heightened scrutiny of financial transactions conducted by "politically exposed persons," adequate transparency of company ownership, and credible specialized institutions such as financial intelligence units. By implementing an effective AML/CFT framework, countries can better safeguard the integrity of the public sector, protect the private sector from being abused, increase transparency of the financial system, facilitate the detection, increase the investigation and the prosecution of corruption and money laundering, and the recovery of stolen assets.[11]

32. **Madagascar's AML framework still needs to be significantly strengthened.** Madagascar has drafted an AML/CFT law which would allow authorities to, among other things, (i) investigate and prosecute the laundering of proceeds of corruption; (ii) require financial and non-financial institutions and professionals to carry out customer due diligence (CDD) and report suspicious activity; (iii) required enhanced CDD of politically exposed persons (PEPs), including domestic and foreign, as well as PEPs of international organizations; (iv) require transparency on beneficial ownership (Box 3). It is imperative that Madagascar prioritizes the adoption of appropriate AML legislation in line with the revised Financial Action Task Force (FATF) standards.

33. **The publication of comprehensive asset disclosures of senior officials is crucial to support anti-corruption efforts.** Together with adequate criminalization of illicit enrichment and of money laundering, this would facilitate the prosecution of acts of corruption. The publication of comprehensive asset declarations on a public website would also support the efforts of financial institutions in Madagascar and abroad to identify politically exposed persons, compare the assets declared and the assets in their books, and report information to their respective financial intelligence units in case of unexplained discrepancy. For the system to be effective it is also necessary to have dissuasive sanctions in place in case of absence of declaration or false declaration.

34. **Madagascar's asset disclosure framework is ineffective and requires reform.** The new anti-corruption law includes a broader range of public officials, including their wives and under aged children, with some exemptions, and allows BIANCO to verify asset declarations forms. However, the current system is of limited assistance to anti-corruption efforts as there is no requirement to disclose assets beneficially owned and to publish the declarations, and there are no dissuasive sanctions for absence of declaration or false declaration.

[11] FATF (2012).

Medium term measures to enhance the rule of law

35. Building robust and independent anti-corruption institutions is a critical medium term objective to ensure the sustainability of the anti-corruption reforms. While there has been some progress in updating the legal framework, implementation remains a challenge. There is much need to increase capacity to ensure the effectiveness of the framework. Judicial independence has been elusive in Madagascar. The justice system itself has been perceived as corrupt by the population (IMF, 2016c). Court decisions have been so inconsistent and ill-founded that many stakeholders have become distrustful of the justice system. Also, more actions are needed to reduce corruption in state-owned enterprises (SOEs, for example JIRAMA), partly because of the perception of state capture by these public institutions.

Box 3. New Anti-Corruption Legislation

Several new anti-corruption laws have been adopted in recent years:

The law against the traffic of precious woods in 2015: strengthens the repression against the trafficking in rosewood and ebony and provides for the creation of a special tribunal to try traffickers and their accomplices.

The law on declaration of assets in 2016: (i) harmonizes the provisions on the declaration of assets; (ii) expands the definition of corruption offences; (iii) strengthens the protection of investigators, experts, judges, witnesses, and whistleblowers; and (iv) facilitates the use of asset declarations in support of the public prosecution during trials.

The law on anti-corruption centers in 2016: (i) ensures the operational independence of each anti-corruption center and (ii) establishes an independent committee at each center that is responsible for staff recruitment and management, supervision, monitoring, and evaluation of the center activities.

The law on asset recovery, planned to be adopted in 2017 would: (i) establish a procedure for recovering assets acquired through corruption and activities related to money laundering, financing of terrorism, and organized international crime; (ii) harmonize procedures of seizure, freezing, and confiscation of assets; (iii) facilitate the seizure of assets during an ongoing investigation; (iv) regulate the management of recovered assets; and (v) establish a procedure for monitoring and control of property that has been seized, frozen, and confiscated to ensure transparent management.

36. The existing institutional framework is weak, particularly the judiciary. Political interference in the affairs of the judiciary is common and the executive exerts pressure on judges including by reassigning magistrates to different locations. The Global Competitiveness Report for 2016-2017 ranks Madagascar 126 out of 138 countries in judicial independence[12]. In May 2015, the Union of Malagasy Judges voiced concerns about arbitrary placements and transfers of judges without justifications based on official criteria. All appeals are reported to have been systematically rejected by the Supreme Council of Magistrates (CSM), the entity charged with the appointment, transfer and dismissal of judges and which is chaired by the President of the Republic. The political

[12] World Economic Forum (2017).

influence on the judicial branch also influenced the Court of Accounts. which did not receive the fiscal resources required for it to be effective for several years. Even though the court is mandated to audit all public accounts, the accounts of public companies such as JIRAMA, Air Madagascar, Omert, or Somapar were not audited due to the lack of sufficient budget for the court to function, as well as its dependence on the executive. In fact, decisions of the Court of Accounts are to be transmitted to the Minister of Finance who in turn notifies the concerned persons or institutions. Thus, legally such reports are not required to be published, and most often are not or are only published with a significant delay.

37. Steps are being taken to achieve judicial independence. In 2016, the government created a specialized anti-corruption jurisdiction, called the *Pôle Anti-Corruption* (PAC). Other measures include: (i) launching a case assignment system to eliminate the concept of "ownership" of a case by a judge before the case is ready to go to trial; (ii) guaranteeing that justice is served within a reasonable time frame and reduce the significant backlog of cases in the court system; and (iii) publishing, including providing on-line internet access to, all court decisions to increase transparency and reduce the inconsistencies between decisions.

38. Strong institutions would benefit from a clear framework for interagency coordination. Madagascar has a multitude of control organs and anti-corruption agencies (Box 4). Many observers view this complex system as an obstacle in the fight against corruption. Coordination problems occur due to: (i) overlaps (e.g. conflicts about the responsibility for a given case leading to delays); (ii) the risk of creating procedural errors and thus, certain dossiers are abandoned; and (iii) insufficient exchange of information and waste of limited budget resources (e.g. each entity has its own office and staff), and ultimately a lack of transparency. Some entities, like BIANCO, are attached to the Presidency, which leads to a perceived lack of independence. International experience of anti-corruption agencies is that they have not been very successful in most countries: law enforcement is costly, and requires an honest bureaucracy and judicial system (Voigt et al., 2008).

39. Potential actions to improve the current institutional structure include:

- Institutional leadership. It is imperative that an institution take the effective lead in the coordination of the anti-corruption work. By law, it is the *Comité pour la Sauvegarde de l'Intégrité* (CSI) that should assume this role.

- More trials of corruption cases. The justice system, CPEAC, has not explored all potential corruption cases related to rose wood traffickers or JIRAMA investigated by BIANCO and no final judgment (so far) of the 152 cases transferred from SAMIFIN.

- Improve the quality of recruitment. The entry exams for the ENMG (Ecole Nationale de la Magistrature), the military academy, national police, gendarmerie, IGE, customs official, ENAF (*Ecole Nationale de l'Administration Financière*) and INFA (*Institut National de Formation Administrative*), which are currently overseen by BIANCO, may benefit from being strengthened. The perception exists that many of the candidates passed their exams through corrupting officials.

- The anti-corruption agencies must also be provided with sufficient financial resources and be free from political interference. Many of these entities were originally financed by donors. Concerns remain about BIANCO's attachment to the Presidency. The government's aim is to allocate 0.3 percent of GDP the general government budget (about $30 million) to the fight against corruption (SNLCC, 2015). Total 2017 budget allocations to the anti-corruption centers, BIANCO, SAMIFIN, and CSI amounted to about $2.5 million compared with requests of about $6.5 million.

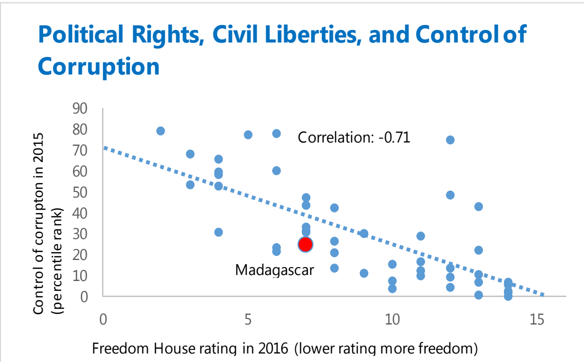
Box 4. Control Organs and Anti-Corruption Agencies

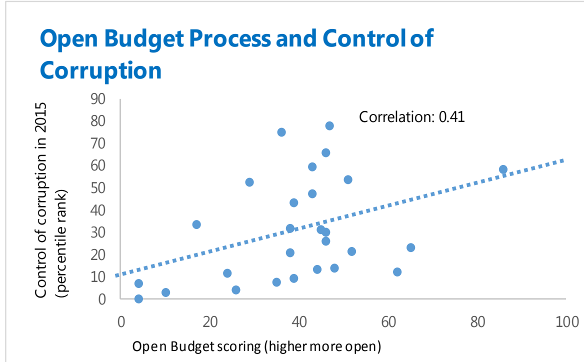
- Comité de Sauvegarde de l´Intégrité (CSI): The Committee for the Safeguarding of Integrity founded in 2002 with a responsibility for controlling the system of integrity within the administration and within the judicial system and the police.
- Bureau Indépendant Anti-Corruption (BIANCO): The anti-corruption office founded in 2004 with the objective of preventing corruption and raising awareness. While BIANCO is independent and autonomous in theory, the office is attached to the Presidency and financed over the general budget. BIANCO undertakes investigations and transfers suspicious cases to the judicial authorities.
- Service des Renseignements Financiers (SAMIFIN): The financial intelligence unit founded in 2008. SAMIFIN analyzes financial transactions and transfers suspicious cases to the judicial authorities.
- Chaine Pénale Economique Anti-Corruption (CPEAC): Prosecutes offenders based on investigations made by BIANCO and SAMIFIN.
- Conseil de Discipline Budgétaire et Financière (CDBF): The Council for Budgetary and Financial Discipline, attached to the Prime Minister's Office, examines the work of civil servants and can imposes sanctions.
- Cour des Comptes: The Court of Auditors is responsible for controlling government accounts, supervising the implementation of budgets, and monitoring public entities.
- Conseil d'Etat: Appeals court for administrative matters including tax matters.
- Commission Nationale des Marchés (CNM): Regulator of public procurement.
- Financial courts and administrative courts.
- Direction Générale du Contrôle Financier (DGCF): Directorate General of Financial Control at the Ministry of Finance and Budget. All fiscal expenditure requires prior approval by the DGCF.
- Brigade des Investigations Financières et de l´Audit: Auditors attached to the Treasury with the right to prosecute in case of embezzlement of public funds and related offenses.
- Inspection Générale de l´Etat (IGE): The General Inspectorate of the State supports administrative reforms by undertaking administrative and financial controls of the central government, SOEs, companies with public participation, companies receiving financial assistance from the state, the army, and the judicial system.
- Direction Générale de l´Audit Interne: Directorate General for Internal Audit, under the supervision of the Ministry of Finance and Budget, participates in the fight against corruption by controlling the quality of public services and the use of public resources.

Transparency and accountability

40. Transparency is a critical element to prevent corruption and promote good governance. Access to information relating to government decisions and financial transactions protects results and empowers civil society to maintain an effective oversight of government functions. Several studies show a positive correlation between corruption and lack of public budget transparency.[13] Transparency imposes discipline on government policy. Among SSA countries, the ranking of control of corruption increases with freedom, as rated by Freedom House, and the openness of the budget process (Figure 9). Best practices include data dissemination, publication of statistics, open government and access to information, and enacting an asset disclosure system.

Figure 9. Sub-Saharan Africa (SSA): Transparency and Control of Corruption





Sources: Freedom House 2016 report; Open Budget Survey; and World Governance Indicators.

41. **While fiscal reporting has improved, fiscal data could be more transparent.** Budget documents are not sufficiently comprehensive. Analyses covering budget execution, financial assets, and the impact of new revenue and expenditure measures are inadequate. Reports on (significant) off-budget spending undertaken by state-owned enterprises (SOEs) like the public utility JIRAMA and projects financed by external borrowing and grants are incomplete. Annual reports summarizing the budget execution of local and regional authorities do not exist. The central government does not provide a consolidated assessment of contingent fiscal risks from off-budget execution by SOEs, local authorities, and public-private partnerships (PPPs). Intra-year reports on budget execution are insufficient and the Parliament did not receive audited reports on budget execution for several years. A system for tracking the public expenditure chain could also shed light on where the money gets lost.

42. **The government would also be well advised to provide more information and data on multinationals and SOEs active in extractive industries.** The extractive industries—industrial and artisanal mining and logging—need adequate monitoring and rule-based operations to ensure that the economic benefits are shared equitably and not captured by insiders. Equitable sharing requires that the government captures an adequate share of the profits through an appropriate fiscal regime and uses the additional revenues to improve the supply of public goods and services. Information

[13] IMF (2016a).

and data on free-zone companies would also be valuable for an informed discussion about the benefits and costs of the preferential tax regime.

Expenditure control and budget management

43. Madagascar has a strong legal framework for public procurement, but the implementation is weak[14]. The Public Procurement Code requires that all procurements follow open and competitive bidding, and further defines specific exceptions for single sourcing. In practice, numerous public contracts have been awarded without competitive bidding and the public has limited access to the results and documents associated with procurement. Moreover, while it is stipulated that companies violating the procurement regulations are prohibited from participating in future bids, the procurement authority (*Autorité de Régulation des Marchés Publics, ARMP*) lacks financial means to fulfill its oversight role and does not keep a public registry of companies forbidden from bidding.

44. The government has taken actions to strengthen controls of public spending. The Prime Minister issued a "note d'instruction" to all public institutions and ministries in 2016 reiterating that all procurement contracts above a minimum threshold will be awarded competitively through open bidding. External audits and Parliamentary control have been reinforced by submission of long overdue audit reports covering 2012-14 to the Parliament. The government has also estimated the amount of domestic payment arrears and is committed to clear existing arrears over the medium term.

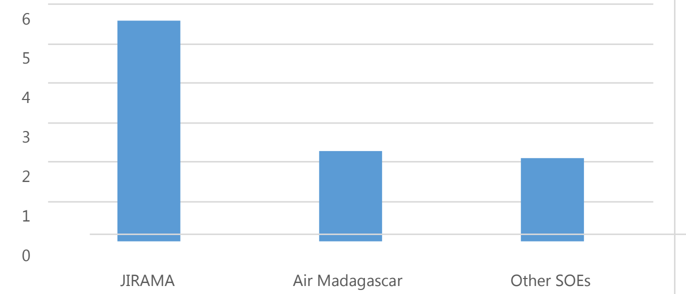
45. However, many remaining weaknesses remain. New payment arrears are difficult to avoid because budget execution and cash management are too weak to adjust for changes in available resources during the year. The quality of intra-year budget execution reports needs to improve. Controls to certify that allocated resources reach intended front-line service delivery units, like primary schools and primary health centers, are inadequate. The rules applicable to expenditure executed under exceptional procedures are not fully observed although the amounts involved are small. Payroll data are not systematically cross-checked against information in the register of government employees. The legal framework governing the provision of guarantees is incomplete.

46. More work is required to make the Malagasy budget a reliable instrument for planning. The difference between budgeted spending and the actual outcome has been significant in recent years and ministerial spending ceilings fixed in the budget are, therefore, an unreliable predictor of actual spending. The discussion of debt sustainability (to be part of the budget per best practice) is insufficient, sector strategies covering spending by line ministries such as education, transport, justice, water, and health are incomplete, and the analysis of effects on future current spending from planned investment is deficient.

[14] Global Integrity (2016).

47. Strengthening the monitoring and supervision of SOEs is a priority. While the value of off-budget operations undertaken by the SOEs is significant, most SOEs have not respected the requirement to submit their annual financial statements for control to their supervisory line ministry and the Ministry of Finance and Budget (MFB). The fiscal risks are considerable. Government transfers to cover losses in public enterprises corresponded to about 10 percent of total fiscal expenditure in 2016. The government has provided large transfers to support the struggling public utility JIRAMA and Air Madagascar. JIRAMA is mismanaged as evidenced by declining operational efficiency, theft of fuel, high non-technical losses, and increased use of expensive diesel-based thermal generation. The financially weak company has underinvested in network maintenance and upgrades, which in turn has increased technical losses and further aggravated its financial difficulties. To identify risks and contingent liabilities, the MFB would be well advised to analyze the financial data of all SOEs and complete a comprehensive annual report.

Figure 10. Madagascar: Fiscal Transfers to SOEs in 2016 (Percent of total fiscal expenditure)



Source: Malagasy authorities.

Strengthen revenue collections through risk-based analysis

48. The tax and customs administrations can fight corruption more effectively by refocusing their limited staff resources on real challenges and compliance risks. It is essential to identify key areas with revenue potential and measures to recover missing payments of tax and duties. In tax administration, priority should be given to: (i) establishing systems to identify all taxpayers and determine their tax liabilities; (ii) making the best use of modern technologies, including mobile phones, to ease payment of taxes; (iii) making compliance as easy as possible through adequate taxpayer services; (iv) estimating the potential tax base (and thus the amount of tax evasion); and (v) establishing an adequate penalty structure to deter tax evasion. Coordinating the data bases used by different bodies—tax administration, customs, pension providers—will be crucial in the effort to identify taxpayers. There is a need to make a complete annual reconciliation between on one hand, taxes paid, recovery of tax arrears, and new tax arrears, and on the other, inflows to the consolidated revenue fund. Cross-debts between the state and private-sector companies is a specific issue that also needs to be resolved because companies withhold tax payments to offset unpaid bills for goods and services delivered.

49. In customs, the priority is to move from strictly transaction-based controls to more use of post-clearance audits (PCAs). The transaction-based controls are applied to each individual shipment at the time of border crossing and include physical examination, verification of value, origin, certificates, licenses etc. Customs administrations focused on transaction-based controls like Madagascar often inspect a significant share of imported goods and thus, long delays at the border occur frequently and there is often room for corrupt practices to grow and flourish. The customs in

Toamasina inspected about half of all containers that passed through the port in 2014. In comparison, PCAs use a more comprehensive and holistic evaluation for the calculation of duties and taxes to be paid. Goods are released upon arrival and clearance is completed and duties paid later after the PCA, which typically takes the form of periodic and cyclic audits, usually at the premises of the importer. Customs staff review imports over a given period and check all relevant commercial records, including bank statements and contracts, to verify the information given at the time of border crossing.

50. The civil servants' participation in the fight against corruption could be enhanced. For example, no law requires civil servants to report cases of alleged corruption. No specific law exists for the protection of whistleblowers within the civil service.[15] In practice, civil servants are also not entirely free from political influence. There are anecdotal stories of civil servants having been transferred to less influential positions as a reprimand.[16]

51. Limiting the discretion of civil servants can help reduce corruption. However, such measures must be implemented after careful considerations. Rules aimed to reduce discretion often produce costs and may reduce efficiency. For instance, the quality of procurement controls would suffer if the procurement officers only checked if the formal specifications had been fulfilled and disregarded all other information. When contractors detect loopholes, however, more details will be requested in the tender documents, increasing the burden on bidders and reducing competition (Lambsdorff, 2008).

52. The government is taking measures to strengthen the integrity of the civil service. Recruitment is becoming more transparent and BIANCO has uncovered some corrupt practices. The Law 2004-030 concerning the fight against corruption and the Decree 2003-1158 concerning the code of conduct of civil servants establish formal rules to prevent conflict of interest and nepotism (Global Integrity, 2016). Within the law, there are also restrictions of up to three years for civil servants entering the private sector after leaving the government. Madagascar is one of only four countries to have such provisions.

D. Summary

53. The five-year transitional period following the military coup in 2009 was characterized by generalized institutional decay, increasing corruption, and the expansion of illegal trafficking. Governance indicators that were on par with middle-income SSA countries ten years ago have deteriorated and approached the average of fragile SSA countries.

54. It is plausible that the deterioration in governance is currently reducing Madagascar's economic growth by about ½ percent or more a year. Corruption reduces growth and social welfare through several channels, including by weakening institutions and reducing government legitimacy, eroding the business climate and lowering the quantity and quality of investment, and by

[15] Although the Law 2004-030 and the Penal Code of 2005 provide protection for whistle-blowers in general.

[16] The removal of the Director General of the Treasury in March 2015 was considered a retaliation for his active engagement in promoting transparency.

increasing fiscal instability. The deterioration in governance has also eroded tax collections by an estimated 3 percent of GDP. Studies of tax performance suggest that Madagascar could potentially increase its tax ratio as high as 17 percent of GDP (from currently about 11 percent). The deterioration in governance could possibly explain about half of this performance gap.

55. Strong support from the country leadership is essential in the combat against corruption. Reducing corruption will be challenging if there is doubt about the political commitment to fight corruption. Corruption is a symptom of a poorly functioning government, addressing it requires change on many different levels. An effective strategy involves a prioritized and sequenced approach. Most of the reforms undertaken so far have been focused on strengthening the anti-corruption legislation. While legislative reform is the key first step, it must be accompanied by:

- Strong and independent institutions. These are necessary to ensure a fair and effective execution of the anti-corruption laws. Judiciary independence in Madagascar is undermined by influence from the executive.

- Capacity building. Court decisions have been so inconsistent and ill-founded that many stakeholders have become distrustful of the justice system.

- Transparency. Access to information relating to government decisions and financial transactions protects results and empowers civil society to maintain an effective oversight of government functions.

- Enhanced expenditure control and budget management. More work is required to: (i) make the Malagasy budget a reliable instrument for planning; (ii) improve control and supervision of public spending, including stricter implementation of the legal framework for procurement; (iii) refocus the tax and customs administrations on real challenges and compliance risks; and (iv) strengthen the monitoring and supervision of SOEs.

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MACROECONOMIC IMPLICATIONS OF SCALING UP PUBLIC INVESTMENT IN MADAGASCAR[1]

This paper assesses the macroeconomic issues related to the substantial scaling up of public investment planned by the Malagasy authorities between 2017 and 2020. It examines the expected implications for absorptive capacity, growth, debt sustainability, and the external sector (including the exchange rate). The paper concludes that a carefully managed scaling up can boost growth and incomes, although the risks to debt sustainability and macroeconomic stability are significant and merit careful monitoring.

A. Introduction: The Case for Scaling Up

1. **Infrastructure is recognized as a key precondition and determinant of increased productivity and sustained economic growth, although it is difficult to quantify**[2] This conclusion has been shown to have particular relevance for low-income countries where, under the right conditions, the payoff to additional infrastructure appears to be greater. In the short term, provided the economy is not at full employment, public infrastructure investment boosts aggregate demand, crowds in private investment, and leads to an expansion of output. More importantly, over the longer term, the improved stock of infrastructure would be expected to generate supply effects to boost output over a long time horizon. However, the magnitude of these impacts will depend crucially on the efficiency of investment, a determining factor that highlights the importance of improved project selection, procurement, and implementation. Additionally, the evidence seems to suggest that such payoffs can be seriously negated if competition and institutions are so weak as to allow excessive corruption and rent seeking.

2. **The political and institutional structure of Madagascar has so far not been conducive to long-term economic development.** Promising beginnings in the 1960s—when institutions and per capita income levels were high relative to the rest of Sub-Saharan Africa (SSA)—were cut short by successive periods of political uncertainty and institutional decline. From the 1970s to 1995, a period that included a socialist experiment, annual growth averaged less than ½ percent, leading to serious declines in per capita income levels as the rate of population increase remained high at just under 3 percent per annum. Following a political crisis in 2002—where GDP fell by over 12 percent—a reformist period up to 2008 produced strong growth and significant poverty reduction.[3] However, this recovery was cut short by the 2009-13 period of political uncertainty where annual growth again averaged only ½ percent, and governance and international competitiveness indicators underwent an additional decline.

[1] The main author of the paper is Anja Baum, with inputs from Lars Engstrom, Johannes Eugster, and Geoffrey Oestreicher.

[2] Infrastructure in this paper is defined to include ICT, irrigation, power, transport, and water and sanitation.

[3] Madagascar prepared its first Poverty Reduction Strategy (PRS) supportive of achieving the Millennium Development Goals, which guided social and economic policies and donor assistance through 2006. The second PRS was launched in November 2006, for a planned period 2007-11.

3. Infrastructure development has been one of the main casualties of this economic history, leaving Madagascar with a significant shortfall in productive capital. The magnitude of the shortfall was quantified in 2010 by the Africa Infrastructure Country Diagnostic (AICD), a large study overseen by an international steering committee and implemented by the World Bank covering ultimately 40 countries in SSA. The AICD identified annual infrastructure spending needs for SSA—for new investment and maintenance of the existing stock—of US$93 billion over the period 2006-15, equivalent to about 15 percent of regional GDP. However, the estimate for Madagascar, given its existing deficiencies, was significantly higher at about 40 percent of GDP, or about US$2-3 billion per annum.

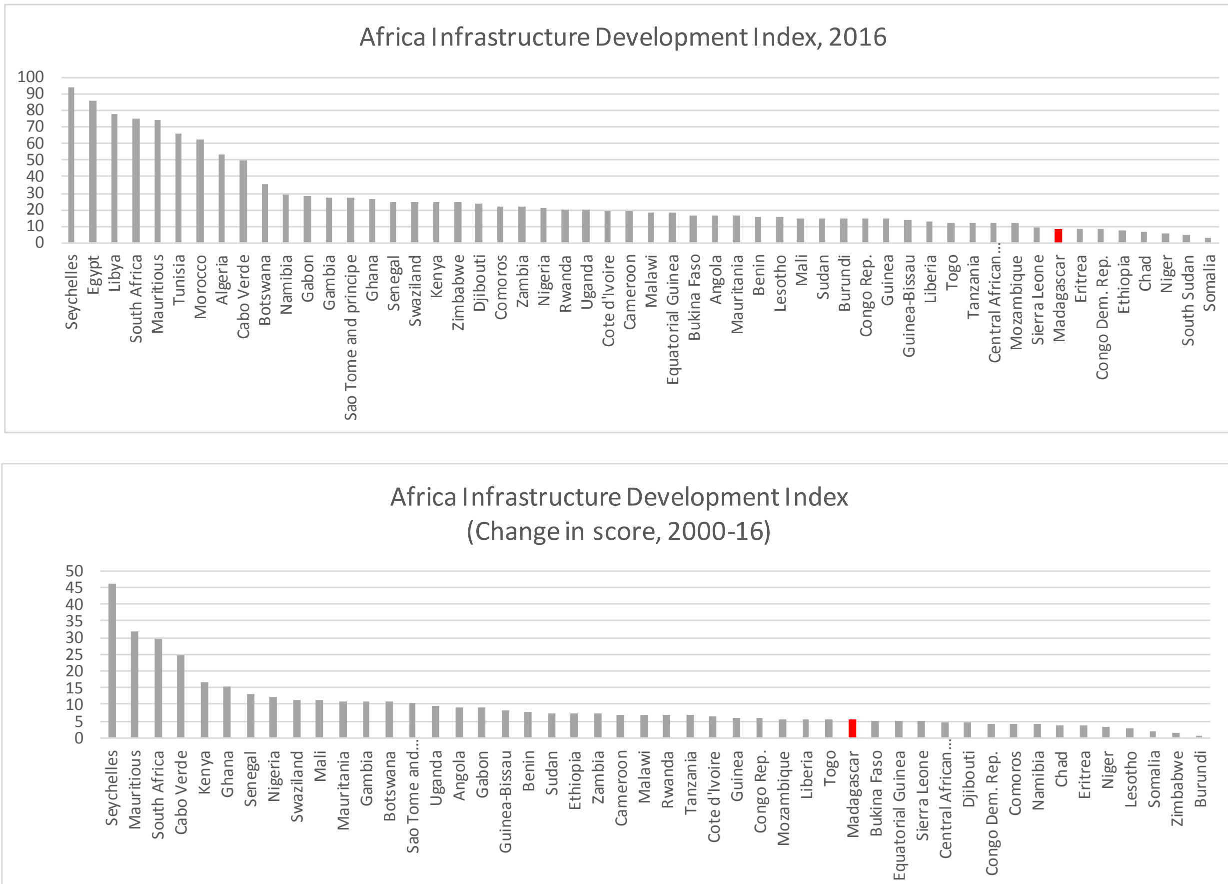
4. The infrastructure shortfall is also large relative to other countries. With the exception of the 2003-08 period, infrastructure provision and maintenance failed to appreciably close the existing gap with regional peers, particularly in the transportation and energy sectors. Of 138 countries surveyed for the World Economic Forum's Global Competitiveness Index (GCI) in 2016, Madagascar ranked 133rd overall. **It placed last in road infrastructure, and very close to the bottom with respect to mobile phone penetration and quality of electricity supply.** Although businesses' opinion of railroad and port facilities were somewhat better, scores were nonetheless low in all infrastructure subsectors. Madagascar scored lower for infrastructure than in any of the other 11 indicators making up its composite GCI.

5. A similar story emerges from the annual rankings provided by the African Development Bank (AfDB) in its African Infrastructure Development Index (AIDI). The AIDI—an annual monitoring exercise that grew out of the original AICD—ranked Madagascar's infrastructure as 43rd out of 50 Sub-Saharan African countries in its 2016 study, ahead only of Eritrea, Democratic Republic of Congo, Ethiopia, Chad, Niger South Sudan and Somalia. It is noteworthy that comparison with the rankings from 16 years ago show little relative improvement, as in 2000 Madagascar was placed 45th of 49 countries (Figure 1).

6. The need to scale up investment has also been strongly endorsed by the international community. The IMF Executive Board stressed the role of infrastructure development when approving the 40-month Extended Credit Facility Arrangement for Madagascar in July 2016,[4] and at Madagascar's donor conference in December 2016, the authorities announced pledges of a total of US$6.4 billion (63 percent of GDP) from development partners, and a further US$3.5 billion in planned private sector investments. The funding will allow a significant scaling up of infrastructure expenditure although the pace will depend on absorptive capacity. Financing the bulk of funding externally, especially from multilateral sources like the AfDB and World Bank, will help provide analytical and procedural support for the efficiency of investment management, while debt sustainability concerns will be carefully evaluated and periodically updated in consultations with the IMF and World Bank.

[4] Press Release No. 16/270 of July 28, 2016. http://www.imf.org/en/News/Articles/2016/07/28/19/38/PR16370-Madagascar-IMF-Executive-Board-Approves-US-304-7-million

Figure 1. Madagascar: Performance Under the Africa Infrastructure Development Index, 2000-16



Sources: African Development Bank, Africa Infrastructure Development Index, various editions.

7. The paper is organized as follows. Following this introduction, the scaling up plans are outlined in Section II. An analysis of absorptive capacity is provided in Section III, and the macroeconomic impact, debt sustainability issues, an analysis based on the Debt-Investment-Growth model by and effects on the exchange rate are discussed in Section IV. Section V provides a list of economic and sectoral variables the authorities should follow closely during the course of the scaling up, and Section VI concludes.

B. Scaling Up Plans

8. Under current plans, Madagascar will experience an increase in investment that could mobilize unprecedented resources and lay the basis for future development and poverty reduction. Financing equivalent to 35% of GDP has already been identified over the 2017-2022 horizon and will be directed to mostly infrastructure, energy, rural development, health and education. Despite strong mobilization of external financing, the scaling up will require substantial domestic resources in the form of co-financing in the short, and loan-repayment in the longer-term.

Financing Plans

9. Conditional on continued strong relations with development partners, total donor support is expected to peak at roughly 8% of GDP in 2019, before gradually declining. A scaling up of comparable size (in terms of GDP) was launched between 2004 and 2008 in pursuit of the Millennium Development Goals, when it was predominantly grant financed, but it came to a sudden halt at the onset of the political crisis in 2009. Since the collapse of external support, it has been rising only slowly, reaching its height of 3.8 percent of GDP in 2016. With an average of more than double this amount in annual external project support over 2017-22, overall public investment is expected to reach 10.5 percent of GDP by 2019.

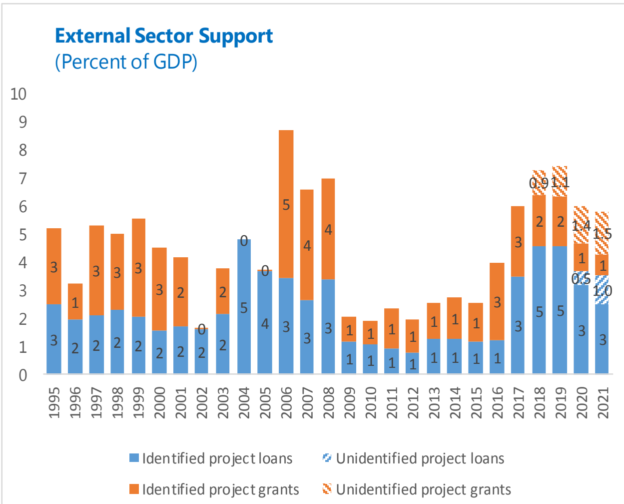
10. A substantial share of the expected external finanacing has already been identified. The expected loan disbursements are based predominantly on contracts that have either already been signed or are expected to be signed with already identified partners.[5] Many loan-financed projects have a multi-year duration, which creates relatively concrete disbursement expectations. While the amount of grants already identified declines more quickly, levels similar to 2017 are expected in the medium term.

11. Financing will come predominantly in the form of loans from multilateral institutions, although grants make up a third. Of the already identified financing, two thirds are expected to come in form of loans and one third as grants.[6] The overwhelming majority of loans are fully concessional, with the few exceptions being semi-concessional (with a grant element between 20 and 32 percent). While this situation allows for a lower repayment burden, it necessitates a strong interaction between the external partners and the Malagasy state in order to ensure a well-coordinated investment strategy on the sectoral and regional level. Roughly two thirds of all foreign support will come from multilateral institutions, predominantly the International Development Association of the World Bank (IDA), the European Union and the African Development Bank. The remainder is financed through official bilateral partners, mostly Japan, France (both Paris-Club) and China (Non-Paris Club).

[5] "Expectation of signature" is a situation where signature is imminent, negotiations are ongoing or a project is at a pre-feasibility or evaluation stage.

[6] The eventual proportion of grant financing is expected to be slightly higher, as commitments have only been over a shorter horizon.

Figure 2. Madagascar: External Sector Support (Percent of GDP)



Sources: Malagasy authorities, and IMF staff estimates.

Table 1. Madagascar: Sources of Identified Financing, 2016-22 (Share of total)

	Project Grants	Project Loans	Total
Multilateral:	**78%**	**69%**	**72%**
IDA	7%	36%	27%
EU	53%	13%	25%
BAD / FAD	1%	11%	8%
Other Multilateral	18%	8%	11%
Official Bilaterals	**22%**	**31%**	**28%**
PC	20%	14%	16%
NPC	1%	17%	12%
Share of Total	30%	70%	100%

Sources: Malagasy authorities, and IMF staff estimates.

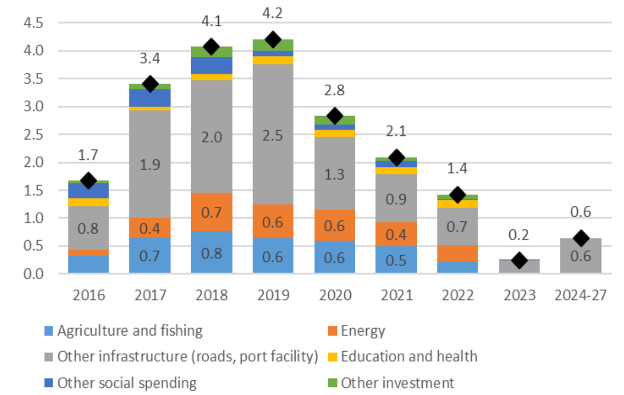
12. External sources of financing will be complemented by gradually rising domestic investment spending. Co-financing needs and taxes paid on foreign-financed investment can be substantial, and are estimated to double over the coming years. Given limited own-resources and limits on the overall balance, autonomous public domestic investment spending will remain very small and is expected to catch up with externally financed investment only past 2025. Altogether, domestic investment will rise from 1.5 percent in 2016 to 3.1 percent by 2019.

13. Infrastructure development is at the heart of the investment program, with roughly half of the already identified loans linked to infrastructure. The Japanese-financed extension of the country's main port is thereby responsible for more than 15 percent of the total expected borrowing. Other important sectors of loan-financed investment are agriculture and fishing, as well as energy, with investment allocation between 25 and 40 percent over the next 6 years. Grants are expected to be more equally distributed between sectors, with both infrastructure and education/health receiving roughly a third of funds.

Figure 3. Madagascar: Identified External Financing

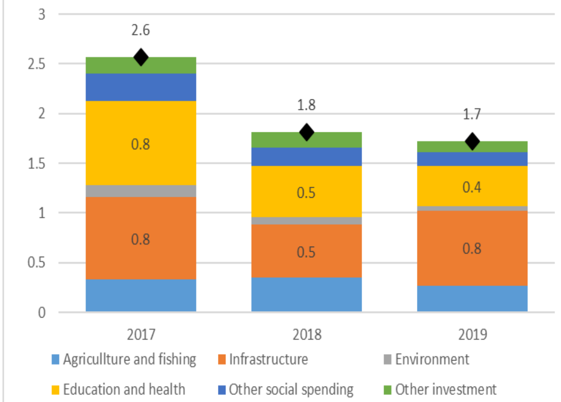
Identified loan financing predicts an important, but temporary, scaling up over the forecast horizon.

Projected Loan Disbursements
(Percent of GDP)



Though higher than loans in the short run, fewer commitments on project grants have been made for the outer years.

Projected Grant Disbursements
(Percent of GDP)

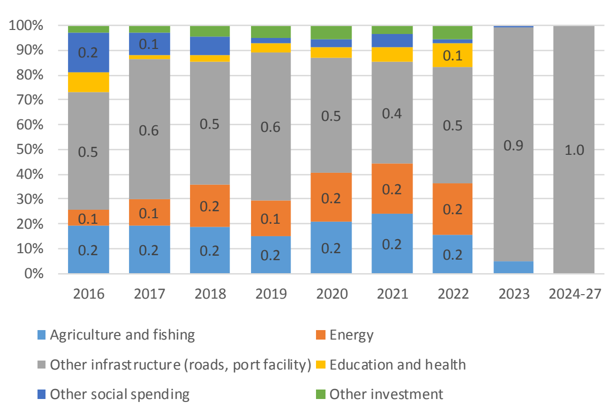


Sources: Malagasy authorities, and IMF staff estimates.

Figure 4. Madagascar: Sectoral Composition of External Financing

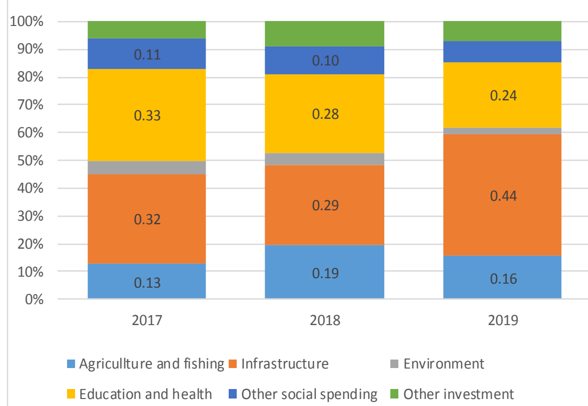
Loan-financed investment is directed predominantly to infrastructure.

Sectoral Breakdown of Projected Loan Disbursements
(Percent of total loan disbursements)



Grants are more equally distributed across sectors.

Sectoral Breakdown of Grant Disbursements
(Percent of total grant disbursements)



Sources: Malagasy authorities, and IMF staff estimates.

Comparisons to Scaling Up Investment in Other Countries

14. Madagascar's scaling up plans are similar to (or more modest than) episodes in other low income countries. Some of these episodes have led to noticeable development achievements. Average public investment levels exceeded 10 percent of GDP during 2011-2015 in 12 LIDCs – representing a sizeable scaling up from levels before the global finanicial crisis, such as in Congo (Alter et al., 2015) and Ethiopia (IMF 2016, Box 1). In some cases, scaling up infrastructure investment was a key component of national development strategies, such as in Ethiopia (Box 1), Lao PDR and Sierra Leone. Lao PDR focused on agricultural development and poverty reduction, as well as on attracting foreign direct investments since the end-1990s. During the 2006-10 development plan, infrastructure was built on a massive scale, contributing to persistently high domestic and foreign investment that led to a shift from agriculture to the development of the natural resources, industry and service sectors in more recent years, with sustained high growth rates. In other countries, public scaling up helped to temporarily offset slower export growth (Bangladesh and Nicaragua).

Box 1. Public Investment Scaling Up in Ethiopia

Between 2010 and 2016, the stock of infrastructure in Ethiopia has increased significantly, following the government's national development agenda. Since 2010 public investment has been guided by five-year Growth and Transformation Plans, increasing from 14 percent of GDP in FY2008/09 to 18 percent in FY2015/16, which is among the highest levels in the world. Private investment also rose. Power generating capacity more than doubled since 2009, the number of Telecom users quadrupled, and the stock of asphalt roads rose by 30 percent.

Financing for capital spending came from a number of sources. Similar to Madagascar, tax revenue in Ethiopia is low even by LIDC standards, but a major compression in current expenditure since the 2000s freed up space for public investment. Debt cancellation under HIPC in the mid-2000 reduced debt service dramatically and made room for external borrowing, which averaged 5.7 percent of GDP per year from 2009-2015. In addition, the government relies on cheap forced lending by private domestic banks, while SOEs, which carry out a large share of infrastructure investment, have easy access to credit from state-owned banks.

While the scaling up has benefited the economy noticeably, concerns about debt sustainability are emerging, and stability in electricity provision is increasingly compromised. Real GDP increased 10 percent per year on average between 2009 and 2015 as a result of the scaling up. However, the ratio of public debt stood at 54 percent in 2015 and is expected to raise further. Consequently, the 2015 debt sustainability analysis raised the risk of debt distress from low to medium. In addition, the growth of power transmission and distribution networks was not commensurate with that of generation, and the quality of the old lines has deteriorated. As a result, the number of electric outages doubled between 2011 and 2015, as did the reliance of manufacturing firms on own electricity generators (World Bank Enterprise Survey data)[1].

[1] See http:/www.enterprisesurveys.org/data/exploreeconomies/2015/Ethiopia#infrastructure.

15. However, large investment scaling up episodes do not necessarily translate into growth (Warner 2014). One reason for that is limited absorptive capacity, as the selection and the implementation of multiple investment projects require a large set of technical and managerial resources that take time to be developed. Another is recurring political volatility, especially in fragile states (e.g., Burundi and Haiti), leading to limited success of post-conflict reconstruction efforts. Finally, in some countries, the lasting effects on growth and debt sustainability of seeminlgy successful scaling up projects are yet to be evaluated, such as in the case of Ethiopia (Box 1).

16. Overall, infrastructure has improved notably in most LIDCs over the past 15 years, although fragile states (including Madagascar) are lagging behind. Electricity generation per capita has increased by 57 percent on average, jumping over 300 percent in a few countries, such as Bhutan and Vietnam. Even with such growth rates, electricity supply remains considerably lower than in emerging markets and is less reliable (World Bank 2010), as the scale of financing needed to tackle electricity and infrastrucutre gaps is too large for the public sector to cover alone. Private sector participation, especially in energy generation and in form of private pubic partnershipts (PPPs), has therefore become increasingly relevant (AfDB et al., 2015). In addition, even with scaled up infrastructure investment, improvements in transport infrastructure have been relatively minor, even though transportation is typically the largest item in LIDC capital budgets.

C. Absorptive Capacity: Investment Capacity

17. Ambitious programs for scaling up public investment require a careful assessment of the benefits against the costs, including the country's ability to efficiently implement investment, to monitor and manage debt sustainability, and to maintain macroeconomic stability. One basic question is whether a country can implement a planned scaling up, effectively 'absorb' much higher levels of aid, and efficiently use them for the purpose of achieving the discussed development goals. Success of the outlined investment scaling up hinges on a variety of factors examined in this section, including absorptive capacity in the form of public investment management, the business climate, and private sector involvement. Debt sustainability, macroeconomic stability, and sectoral capacity are discussed in the following sections.

Public Investment Capacity

18. Improvements in public investment management—the ability to select, plan, execute and evaluate projects—will be crucial. Countries with stronger public investment management institutions have more predictable, credible, efficient, and productive public investment, with less corruption and rent-seeking. In LIDCs, on average, about 30 percent of the potential value of public investment is lost to inefficiencies in the investment process, and closing this efficiency gap could substantially increase the economic dividends from public investment.[7] Madagascar's investment efficiency is, on average, below that of the average LIDC, as identified in the recent Public Investment Management Assessment (PIMA). The PIMA shows that Madagascar has significant deficits, and should strengthen the institutions and procedures related to the funding, management,

[7] A recent IMF Board Paper (2015) finds that increasing public investment efficiency could double the impact of that investment on growth.

and monitoring of project implementation, with an emphasis on project planning, economic analysis, feasibility studies, bidding, contracting, and oversight (see Box 2 for details on the PIMA report).

19. A strategy accompanied by an interim 6-month action plan to address these weaknesses is currently being developed, and progress has been achieved on several levels since the PIMA report. Institutional frameworks for PPPs have been developed, and the government has recently established the Organization for the Coordination and Monitoring of Investments and their Financing (OCSIF). The OCSIF will try to improve coordination between donors and the government, make recommendations to address problems, and harmonize processes. Progress has also been achieved with respect to selecting and prioritizing investment projects, notably with the assistance of World Bank TA. Finally, multi-year budget planning that includes multi-year investments is being supported by IMF TA. If capacity continues to improve now, it can be in place at a time when domestically managed domestic investment will be significantly increased (following 2018).

Business Environment

20. Experience and theory indicate that a healthy business environment is necessary for public investment to catalyze private investment, which is crucial to the economic success of scaling up. Despite recent improvement, the business environment in Madagascar is still not strong. Madagascar is ranked 128 out of 138 countries in the 2016 World Economic Forum's *Global Competitiveness Index* (GCI), and 164 out of 189 in the World Bank's *Doing Business Indicator* (DBI). One of the main constraints is infrastructure, specifically electricity infrastructure, which is ranked 133 out of 138 countries (GCI). Most road traffic is concentrated along one relatively well maintained road between Antsirabe, Antananarivo and Toamasina, where almost all of the international trade is processed. The GCI also identifies limited access to financing, high levels of corruption, weak property rights, and weak institutions in general, including the legal system. However, Madagascar also offers some positive qualities for investors, such as the total tax rate and days to open a business (rank 73 and 77, respectively), and labor market efficiency (rank 56), with strong female labor market participation (rank 11).

21. The government's reform objectives are consistent with the findings that weak infrastructure and the business environment are the main obstacles to growth. The government's main priority investment projects presented during the December 2016 donor conference indicate the commitment to energy and transportation infrastructure, which were considered the main bottlenecks to growth. In addition, the authorities have stepped up their fight against corruption, especially in the customs and tax departments.

Box 2. Public Investment Management Assessment (August 2016) – Issues and Recommendations

Identified shortcomings and recommendations of public investment management:

- Multi-year programming: The ministries' capital expenditure is not yet subject to multiannual programming and the projected total cost of each major investment project not yet included in the budget documents.
- Project evaluation: The cost-benefit analysis of projects and related risks at the government level is embryonic, if not non-existent.
- Transparency in enforcement: Abusive use of derogatory public procurement procedures and weak audits of large investment projects negatively affect the performance of investment projects.
- Management of implementation: Project management systems, especially for large investment projects are not yet in place.
- Information and coordination: Information, especially consolidated, on the contribution of extra-budgetary public entities to investment, grant-financed investment and PPP-related transactions is scarce, and coordination between international investment partners and the central government remains weak.

Thus, in order to effectively absorb the large increase in aid and private investment, capacity building efforts and reforms in public investment management should be accelerated. The authorities have started to define an institutional framework for public investment management that integrates the planning and budgeting cycle and formalizes the roles and responsibilities of public investment actors, spearheaded by the central strategy and coordination unit under the Presidency (OCSIF). The authorities should furthermore improve 'fiscal follow-through', that is, the handling of multiyear investment programs in relation to year-by-year donor support, and the budgeting of multiyear contracts within the annual budget. National and sectoral planning should be refined by updating the NDP's Implementation Plan (PMO) according to the resources actually mobilized at the donors' conference. Project evaluation and selection needs to be improved, including through standardization of data and analysis, and multiannual investment programming based on the development of commitment authorizations and payment appropriations should be put in place. Supervision of the implementation of investment through the development needs to be urgently strengthened, including via financial review of projects and an increased compliance of public procurement with the Public Procurement Code. Finally, coordination with donors could be improved by strengthening the role of the Permanent Technical Secretariat for Aid Coordination.

Public Private Partnerships (PPPs)

22. **With limited expertise and resources, a large part of infrastructure investments is expected to be channeled through the private sector, most notably through PPPs.** With a value equivalent to 4.6 percent of GDP in 2013, the magnitude and number of PPPs has been low in Madagascar. However, it is expected to pick up fast starting in 2017 (following the adoption of the PPP law in 2016 and its application decrees in 2017). For countries with infrastructure gaps and financing constraints, PPPs offer the opportunity of risk sharing between the public and the private sector. At the same time, they often pose fiscal risks due to included explicit and implicit guarantees. For example, the guarantee of the government to bear some downside risks associated with the projects that usually take the form of state guarantees to incentivize private sector participation is a common explicit guarantee. Implicit guarantees arise when the private contractor fails to fulfill a contract that the government has to pursue due to a "public goods" nature of the project. The expected fiscal cost of these guarantees can be modest if contracts are well-designed, but costs could be considerable if there are unanticipated shocks (see also IMF 2007 and 2017).

23. **While a steady growth of well managed PPPs would be a welcome development, it also heightens the importance of developing strong domestic capacity in negotiating and monitoring implementation of PPP contracts.** Madagascar should consistently monitor the accumulation of explicit contingent liabilities, such as guarantees and PPPs, and disclose this information in budget documents. In addition, overall limits may be useful to contain related fiscal risks. Establishing ceilings on both the stocks and flows of PPPs can help contain fiscal costs and risks, as a complement to institutional frameworks, and provide incentives for the prioritization of investment projects. The necessary institutions are currently being developed, and implementation and oversight capacities will be followed closely by Madagascar's international partners.

D. Macroeconomic Implications

24. **Notwithstanding the growth benefits of scaling up investment, it can pose risks to macroeconomic stability and sustainability in certain circumstances.** Despite the possibility for borrowing on concessional terms, a program of investment scaling up could pose a threat to fiscal sustainability. Therefore, we first conduct a debt sustainability analysis under the baseline assumptions to assess the impact on public debt. Next we take these debt dynamics as given and analyze the impact of the scaling-up-debt-dynamics on variables such as GDP growth and the exchange rate by means of the Debt-Investment-Growth model developed by Buffie et al. (2012). Third, we discuss the possibility of exchange rate appreciation (Dutch disease), which would help debt sustainability but could crowd out the export sector, and possible central bank responses in more detail. Finally we add a discussion on sectoral capacity constraints.

Debt Sustainability Analysis (DSA)

25. **Under baseline assumptions outlined in Section II, public debt is expected to remain sustainable, supported by generous borrowing conditions.** The exact debt dynamics will depend on the precise implementation and how the scaling up affect the rest of the economy. The IMF-WB

debt sustainability analysis, in combination with the macro-economic framework, is used to simulate debt dynamics over the next 20 years.

26. The underlying macroeconomic framework assumes a moderate acceleration in real GDP growth and inflation and some improvements in fiscal ratios:

- **The real economy is expected to improve moderately.** The acceleration of GDP growth follows the increased investment in the short-run and an improved infrastructure and business climate in the longer term. Real GDP growth is projected to increase from 4.2 percent in 2016 to about 5½ percent in 2020, before returning to 5 percent in the long run. Inflation is expected to increase to above 7 percent in 2017 and 2018, but converges to 5 percent in the medium term.

- **The fiscal ratios are improving over the long run.** While both the primary fiscal deficits and gross financing needs as a share of GDP are expected to increase in the next few years, they are expected to be on a downward trend starting 2020. This improvement relies on a gradual increase in the tax revenue ratio and slowly declining investment as a share of GDP.

27. Based on these assumptions, public debt is projected to increase slightly, but remains below 45 percent of GDP. Public debt stood at about 39 percent of GDP at end-2016, of which two thirds were foreign currency denominated. The accelerated borrowing will result in a debt accumulation of 1 percent of GDP a year in the short term, which will slow after 2020. Debt is projected to peak at 43 percent of GDP in 2022, before gradually declining to roughly 36 percent in 2037. The later decline is predicated on among other things, a moderate reduction in investment spending as proportion of GDP, i.e., a scaling down after a several years of scaling up.

28. Generous borrowing conditions are expected to reduce the present value (PV) of this debt by roughly one third compared to its nominal value. Based on current commitments by international donors, the average nominal interest rate on forex debt will remain below 1½ percent, which contributes to a grant element of new financing above 40 percent for roughly another decade. When future debt service payments are discounted by 5 percent a year (standard assumption in the DSA), the present value of public debt is roughly one third below its nominal value.

29. Shocks of various types could substantially change these debt dynamics. Risks include underperforming revenue generation, a depreciating exchange rate, and less persistent donor grant support. Weaker than expected revenue performance would accelerate debt accumulation, and a faster-than-expected depreciation of the Ariary, albeit unlikely given higher donor inflows, would increase the real value of the existing debt stock. The materialization of contingent liabilities due to continued losses or recapitalization needs of SOEs would have a similar effect, as would calling guarantees on PPPs (a problem that manifested itself in Portugal). In addition, while the outlook on external grant support is positive, a lack of reform progress – noticeably for public investment management and the government's social agenda – could lead to losses in the medium term.

The Debt-Investment-Growth Model

30. The debt sustainability analysis outlined above relies on underlying macroeconomic assumptions, but how realistic are these assumptions on growth, the exchange rate and absorptive capacity? Static debt sustainability analyses typically fail to account for the investment-growth nexus in a rigorous manner, which could lead to under- or overestimating the effects of investment on growth and the effects on debt sustainability. At the same time, the projected impact of public investment depends on its efficiency in producing infrastructure; inefficiencies in public investment spending common in low income countries could mean that a dollar of public investment will produce less than a dollar's worth of infrastructure. When the pace of investment scaling up (rather than the level) is above a certain threshold, countries will not have the capacity – in terms of macroeconomic flexibility, institutions and management – to reap the full benefit of additional public investment. For example, a sharp exchange rate appreciation could weigh on the export sector and therefore GDP growth.

31. In light of these questions, staff tested the realism of the assumptions underlying the impact of Madagascar's scaling up by applying the Debt-Investment-Growth (DIG) model, developed by Buffie et al. (2012). The public investment, growth, and debt sustainability nexus is modelled by means of a quantitative macroeconomic equilibrium framework with LIDC-specific components.[8] The model emphasizes the fiscal reaction of governments to rising public debt stemming from borrowing for public investment financing, with options to recreate a realistic path of tax revenue mobilization. It also allows for an analysis of different financing options and impediments to public investment scaling up, such as absorptive capacity constraints, and it assumes that only a portion of each dollar spent in public investment is transformed into capital, owing to investment inefficiency.

32. The baseline scenario for applying this model to Madagascar assumes a predetermined path of public infrastructure investment, grants, and concessional financing equivalent to levels under the DSA. Public investment, grants and concessional financing are pre-determined at amounts presented in Section II.A, with infrastructure investment peaking at 10 percent. Additional financing will be needed to cover the financing gap, which is covered predominantly by public external commercial debt. Two alternative financing options, faster tax mobilization and financing predominantly via public domestic debt are not discussed here given the unlikely feasibility of both.

33. Other parameters are specified to follow either LIDC averages or are Madagascar specific (see Buffie et al., 2012 for comparison). The initial return on infrastructure investment stands at 30 percent, declining to 20 percent over the forecast horizon. Efficiency of public infrastructure investment is set to 50 percent, which is set at 10 percent below the LIDC average due to the various issues identified in the PIMA report outlined above. IMF staff considers that the large role in scaling up for multilateral institutions with extensive project design and implementation standards will help

[8] This model has been applied in various country cases, and was used in Chapter 3 of the IMF's October 2014 *World Economic Outlook* (IMF 2014) to simulate the macroeconomic impact of public investment in developing countries more broadly. An extended version has recently been developed in Ghazanchyan et al. (2016).

support investment efficiency. The real interest rates on public domestic and external commercial debt are set at 4 and 5 percent, respectively. The risk-free foreign real interest stands at 1 percent.

34. Figure 5 (last page) presents the baseline results, several of which are presented as a deviation from the model steady state (SS), with the following macro-economic developments, compared to the current IMF staff macroeconomic framework:

- **Domestic public, commercial, and total debt closely follow the numbers projected in the macroeconomic framework**. The tax ratio reaches 12 percent by 2019 and continues to increase to 15 percent over the medium term. The fiscal deficit increases by 2.5 percent of GDP, but the worsening is for a limited time as investment spending falls after the scaling up and fiscal revenue rises, while current expenditures are projected to remain rather constant over time.

- **Real GDP per capita growth accelerates from a steady state of 2.2 percent in 2016 to 4 percent in 2020, and stabilizes around 3 percent in the long-run**. With population growth of 2.8 percent per year, the model predicts a real GDP growth rate of 6.8 percent in 2020, and almost 6 percent in the long-run, which is above the current framework projections. In the model, these numbers are driven by public investment, but also by private activity. Private consumption is expected to increase as of 2020, overcoming a temporary reduction due to higher taxes. Private investment grows strongly, following public investment with a short lag, and is expected to permanently increase by up to 6 percent in the long-run.

- **The exchange rate appreciates in the medium term by 8 percent, and reverts to pre-investment scaling up levels only by 2025**. The model predicts a stronger and more prolonged appreciation than under the IMF macroeconomic framework, which could lead to a crowding out of the export sector in Madagascar, and should therefore be monitored. The next section outlines options for central bank responses.

35. We test for three alternative scenarios – a lower efficiency of public infrastructure investment, lower initial return on infrastructure investment, and a combination of both (results of the latter are shown in Figure 5, alternative scenario). While changing little in the fiscal account and exchange rate related variables, lower public investment returns and efficiency increase the ratio of total public debt by 1-2 percent of GDP in the medium to long run. In addition, the combination of lower investment efficiency and returns leads to permanent drop in private consumption, and it generates less than half of the private investment growth that is projected under the baseline. Consequently, GDP per capita growth rates underperform by up to 0.8 percent per year in the medium run, and continue to be noticeably lower compared to the baseline thereafter.

36. In summary, while the DIG model confirms a medium risk to debt sustainability with a potentially large growth dividend, especially the private sector is vulnerable to low public investment efficiency and quality, and the exchange rate developments should be carefully monitored.

Box 3. Dutch Disease

Dutch Disease occurs when an influx of foreign funds increases demand in a country's nontraded goods sector. If the potential to increase supply is limited in the short-run, nontraded goods prices rise. Resources, including labor, then migrate to this sector as its increased output price allows the payment of higher returns. With factor mobility, higher costs then spread to the traded goods sector, but here prices are disciplined through competition with external suppliers, which prevents price rises equivalent to those in the nontraded sector from taking place. Faced with rising costs but stable output prices, the resulting real appreciation associated with the increase of nontraded relative to traded goods prices is equivalent to a loss of competitiveness in the export sector; this can in turn lead to a decline in its scope and volume. As the export industries tend to be more efficient—having developed facing international competition—Dutch Disease can have the effect of shifting resources away from the most productive areas of the economy towards less efficient ones, with a corresponding decline in growth potential. Export sectors competing with small margins in very competitive areas, such as Madagascar's garment and textile industry, could be particularly vulnerable.

Exchange Rate and the External Sector

37. As outlined above, the foreign exchange inflows from increased external borrowing to finance investment projects are large, and could trigger Dutch Disease. Dutch Disease is the term applied to a situation where large protracted foreign exchange inflows lead to a decline in international competitiveness by appreciating the real exchange rate. It is typically associated with natural resource booms, but the term is also applicable to periods of rapidly expanding aid-financed investment (Box 3).

38. Staff believe that the risk posed by the possibility of Dutch Disease, while meriting attention, would be manageable, a conclusion supported by both the DSA and the DIG model. The impact would be reduced to the extent that (i) the external borrowing is used for imports of project-related goods and therefore does not impact demand for nontraded goods; (ii) there is significant idle capacity in the economy; (iii) the real exchange rate is undervalued at the origin; or (iv) significant policy actions are carried out to restore the competitiveness lost to the real appreciation. In Madagascar, there is scope for such offsetting effects to have a remediating impact, but the magnitude will be influenced by policy choices.

- The import content of much of the investment spending—on energy, port facilities, etc.—is expected to be relatively high, which will reduce the potential appreciation pressure as foreign exchange flows are diverted to pay for imports. The relief from high import intensity could be influenced and increased to a certain extent by appropriate project selection, while the magnitude of the impact on domestic demand is susceptible to the chosen pace of implementation.

- There is significant under-employment in Madagascar, which could imply a relatively low price elasticity of demand for factors of production, particularly for unskilled labor. However, the relief afforded from this might be limited, as skilled labor and specialized capital equipment—which would be much in demand by the investment projects—is less abundant and could have their prices bid up quickly. Slowing the pace of investment in sectors that hit capacity – as evidenced in sharp price and wage increases – could time for capacity to adjust.

- Staff's assessment of the current real effective exchange rate (REER) indicates an undervaluation, implying that a real appreciation of limited magnitude could probably be tolerated by the private sector.

- Competitiveness lost to real appreciation could be recouped from a concerted effort to address the inefficiencies that remain in the Malagasy economy, including those outlined above (business climate, a legal system that provides less-than-optimal protection to investment, pervasive corruption, insufficient infrastructure), all of which increase the cost of doing business. A forceful reform effort would therefore increase competitiveness, lower the costs, and lower the possible impact of Dutch Disease.

39. Under some circumstances, some limited real appreciation of the exchange rate – relative to an absence of aid – may be both inevitable and an acceptable trade off. Unless the economy has significant unutilized capacity in affected sectors or experiences gains in productivity, some symptoms of Dutch Disease are likely. The scaling up is predicated on Madagascar both absorbing and spending the aid it receives (Box 4), and a real exchange rate appreciation of some magnitude—again relative to "no aid"—is likely as factors of production shift from the traded goods sector towards development areas that emphasize production of nontraded goods (such as highways, education, etc.). However, since staff judge the exchange rate to be undervalued currently, some real appreciation could be consistent with external stability. Periods of appreciation have been recorded in the past without a significant negative impact, such as in 2006-2008 following the construction of two large mining projects. Despite a substantial appreciation of the currency, exports of goods (notably clothing) grew briskly. The large inflows of FDI further allowed gross official reserves to increase to about 3.3 months of imports (net of large mining project imports), and the appreciation contributed to a reduction in inflation.[9]

40. Following from this, the case for policies to resist real appreciation with monetary policy becomes weaker the longer the inflow is expected to last. Where only a short-lived increase in inflows is anticipated—one that would be expected to only temporarily increase the value of the local currency—the case for central bank intervention can be justified. The decision process would involve balancing the benefits of the increased resources available from the outside world against the damage that short-term exchange rate volatility could do to vulnerable domestic export industries. The central bank could theoretically intervene and accumulate reserves indefinitely, or not supply reserves to the market if the central bank were the initial recipient of the inflow, which is equivalent to the spending without absorption scenario in Box 4. Development

[9] However, the appreciation had a temporarily negative impact on customs revenue in 2007.

projects would proceed under such a scenario, but only at the expense of potentially higher inflation or crowding out of private sector activity.

Box 4. Spending vs. Absorption of Aid Flows

Receipts of aid necessitate a choice between various combinations of spending and absorption. A simple example is the case of budget support, where foreign currency is supplied to government, which sells it to the central bank in exchange for a local currency deposit. The initial effect is for net foreign assets of the banking system to rise and net domestic assets to fall (due to a rise in government deposits), but with no impact on money supply or economic activity. Government must then decide how to utilize the aid, with the options being some combination of four choices:

- ***No spending and no absorption***: The reserves are held at the central bank with unchanged government spending. The economic impact of the aid is nil, but reserve levels rise.

- ***Aid is absorbed but not spent***: Foreign currency aid proceeds are supplied to the private market while government spending is contained. Money supply declines and the exchange rate appreciates leading to an increased current account deficit and a corresponding inward transfer of external resources. This is an appropriate policy choice for countries that need to reduce debt, but probably unsustainable as donors may be reluctant to continue financing in the absence of development.

- ***Aid is spent, but without absorption***: Government spending rises, but the central bank does not supply reserves to the market. The initial macroeconomic impact is that money supply rises, creating inflationary pressure which, with no additional foreign currency available, leads to an exchange rate depreciation. Alternatively, the increase in the money supply could be sterilized to prevent inflation, raising interest rates and crowding out the private sector, again with no increase in external resources.

- ***Aid is spent and absorbed***: Government spends the aid receipts while the central bank sells foreign currency to the market, effectively sterilizing the monetary impact of the additional spending while allowing an increase in the current account deficit. The aid results in an increased transfer of resources from the outside world. It also shifts production from the traded goods sector to government expenditure on mostly nontraded goods—for example to construction costs to produce highways, hospitals and schools.

41. Resisting a significant and prolonged real appreciation would likely be very costly and weaken the growth impact of aid. Staff would therefore advise to adjust the pace of implementation of investment projects rather than resist real appreciation for an extended period. The scaling up exercise in Madagascar is set to last a minimum of three years, although any possible appreciation pressures could be shorter-lived. Nonetheless, there could still be a role for market intervention in smoothing short-term deviations from the long-term trend of the exchange rate.

42. Timely policy responses can help deal with the potential impact of a large, destabilizing real exchange rate appreciation. Key actions could include the following:

- *Prioritize investment*. In the event that real appreciation is occurs quickly and of a magnitude high enough to cause significant damage to export industries, a slackening of the pace of the scaling up could be considered. A re-phasing would also be an appropriate option, with priority given to projects with higher returns and possibly higher import content—postponing projects with higher domestic content until later could give more time to build domestic capacity.

- *Aggressively pursue offsetting structural reforms.* Reforms to the business climate and legal framework, and improvements in governance and the rule of law would all improve competitiveness and serve to counteract real appreciation that occurred due to foreign currency inflows.

- *Quantify the expected impact of the scaled-up foreign financing.* Based on the estimated import content of all investment projects, forecast the likely effect on the REER, inflation, and exports.

Sectoral Absorptive Capacity

43. Sectoral factors have potential to complicate and exacerbate the expected impact on the exchange rate and inflation of the scaling up exercise. Absorptive capacities can vary significantly between sectors, and strains can develop when a disproportionate share of additional spending is concentrated in a narrow area. The actual impact would be expected to depend on the structural characteristics of a sector, and on the level of management capacity within the sector's governing line ministry.

44. Prices can increase rapidly and significantly when investment expenditure is concentrated in a narrow sector that has limited capacity to increase supply in the short term.

- **To the extent a given sector is dependent on specialized factors that are in finite supply, scaling up of activity within that sector can impact factor prices significantly and quickly, inflating costs and lowering the implicit rate of return on the investment.** Wage rates of workers with sector-specific skills are a common example, but increases can also occur in specialized non-labor inputs. Costs can rise quickly, affecting not only the affordability of new projects but, since factors are mobile, also potentially the cost of operating and maintaining the entire sector.

- **Higher costs would typically be first felt in the construction sector, but could spread.** For example, an expansion of school construction would first put upward pressure on wages in the building trade. However, contagion to other sectors where labor skills are close substitutes is also possible, as is the possibility that the demonstrative effect would increase wage demands in unrelated sectors, including the public sector. It is also possible that shortages of capital equipment, or the development of infrastructure bottlenecks in response to increased utilization, would raise sector costs, which could then spread to other areas of the economy. The World Bank has examined planned increases in investment spending by the Ministry of Public Works and concluded that there was a risk of price inflation. However, the extent that international construction companies can shift capacity across countries for large infrastructure projects would dampen any cost increases.

45. Managerial capacity and governance limitations within a specific sector can have serious impacts, leading to inefficiencies, higher costs, and reduced aid effectiveness in a scaled-up aid program. The capacity to implement projects and programs, allocate resources efficiently, and regulate sectoral activity can vary considerably between sectors. Some sectors would therefore be more vulnerable than others to strains resulting from the need to administer significantly higher budget envelops. In addition, line ministries' capacity to ensure value for money in procurement and execution and to identify and prevent corrupt practices—skills that are to some degree sector-specific—can become less effective when volumes increase without a proportional increase in skilled staff or resources. The large role of multilateral partners may mitigate these risks.

46. The considerable variation in capacity and conditions between sectors can therefore magnify the risk to aid effectiveness from a scaling up exercise and calls for remediation efforts.

- **Greater policy coordination between the Finance and line ministries is needed**. Monitoring systems to detect early signs of the precursors of Dutch Disease emerging in isolated sectors would be advisable, along with a willingness to adjust the speed of project implementation in a given sector should it be observed to be overheating. In this, sectoral labor costs would require particular attention, as wages would be among the first factor prices to adjust.

- **Communication between the Ministry of Finance and line ministries regarding administrative capacity constraints should be stepped up and deficiencies addressed**.

- **Increased transparency of sectoral fiscal operations, and enhanced public financial management generally would help to address sector-specific governance concerns.**

- **Sector-specific analyses should be improved.** Project both public and private investment and forecast the level of recurrent expenditure relative to investment expenditure in each sector.

47. In general, the authorities should stand ready to stretch out scaling up if capacity constraints become binding and threaten the efficiency of the investment and macroeconomic stability and sustainability. As discussed below, close monitoring of a set of variables will provide early warning signs. The authorities should develop contingency plans which favor projects with higher returns and synergies in the event capacity constraints preclude the full implementation of planned investments.

E. Monitoring Macroeconomic and Sectoral Performance

48. Based on the above discussion, the authorities should monitor key economic and sectoral indicators of potential problems. The investment coordination unit could assemble and follow these indicators, in close collaboration with the institutions directly responsible (e.g., BFM, IMFB, line ministries):

Debt sustainability

- Ratios of total, domestic, commercial external, and total public debt to GDP, revenue, exports/

- Recurrent expenditure relative to investment expenditure in each sector
- Total value of contingent liabilities from guarantees in PPP contracts

Sectoral capacity constraints

- Sectoral investment budgets of the line ministries, together with the corresponding employment figures for investment management
- Employment and wages in the public sector, private sector, affected sectors, such as construction, health, education, and work for international agencies (e.g., UN and World Bank wage surveys)
- Construction activity – headline numbers and cost ratios for:
    - Sales and prices for construction materials, such as concrete
    - Roads - kilometers of built, cost per kilometer
    - Number of building permits
    - Construction of schools and hospitals – number started, cost per square meter

Macroeconomic stability and Dutch Disease

- Ratio of imports for public investment to total public investment (with input from development partners)
- Nominal and real exchange rate trends
- Import and export numbers, per sector
- Inflation – CPI, components by affected sector, tradeable versus non-tradeable.
- Private sector investment, including in export sectors

49. In addition, a strategy for phasing down public investment, a sort of "exit strategy," should be developed. The authorities should determine the appropriate macroeconomic path to follow after the scaled up resource flows return to more normal levels, and develop fiscal scenarios for post-scaling up that takes into account resulting recurrent costs and provides for high priority follow up investments.

F. Conclusion

50. The current scaling up plans have the potential to boost economic development and break out of a cycle of slow growth and political instability. The re-engagement with the international community is expected to mobilize significant external financing for investment, primarily in the form of loans from multilateral institutions. The resulting resources and technical expertise hold out the promise of meeting the most pressing of Madagascar's large infrastructure and social development needs.

51. Improvements in public investment management will be central to effectively absorb the additional external financing. Madagascar is starting from a point where its investment efficiency is below the average among low-income developing countries. Investment management reforms should be focused on: (i) strengthening institutions; (ii) multi-year programming; (iii) strengthening project evaluation; (iv) transparent implementation, including strict application of public procurement procedures; (v) adopting project management systems; and (vi) effective coordination and sharing of information among the partners involved in the investment process.

52. Maintaining moderate risk of debt distress will require prudent debt management policies, careful macro-economic policy management, and a measured pace of scaling up (as planned). The continuation of grants and highly concessional financing, which depends on maintaining the confidence of the donor community, is an essential element. The debt service capacity should be supported by the reforms needed to achieve the expected improvements in budgetary execution, revenue generation and growth. Paradoxically, improvements in the business climate are also critical for the scaling up to meet its objectives, as catalyzing private investment is an essential ingredient in achieving scaling up's growth dividend.

53. In summary, scaling up combined with fiscal and business climate reforms has the potential to boost economic growth and reduce poverty, but is not without risks. To help manage these risks, key macroeconomic and sectoral variables should be continuously monitored. When constraints are encountered, prompt policy responses are needed, including if necessary stretching out investments.

Figure 5: DIG Model – Comparison Baseline and Alternative Scenarios

Sources: Malagasy authorities, and IMF staff estimates.

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