REPUBLIC OF MADAGASCAR

March 16, 2021

REQUEST FOR A 40-MONTH ARRANGEMENT UNDER THE EXTENDED CREDIT FACILITY—DEBT SUSTAINABILITY ANALYSIS

Approved By
Vivek Arora and Geremia Palomba (IMF) and Marcello Estevão (IDA)

Prepared by the staffs of the International Monetary Fund (IMF) and the International Development Association (IDA)[1]

Madagascar Joint Bank-Fund Debt Sustainability Analysis	
Risk of external debt distress	*Moderate*
Overall risk of debt distress	*Moderate*
Granularity in the risk rating	*Some space to absorb shocks*
Application of judgment	*No*

Despite the large impact of the pandemic, Madagascar, classified as having a medium debt carrying capacity, is assessed at moderate risk of external debt distress with some space to absorb shocks and moderate risk of overall debt distress, in line with the August 2020 assessment. While the baseline does not breach any external public and publicly guaranteed (PPG) debt thresholds, under an export shock, the present value of debt-to-exports and debt service ratios breach the thresholds towards the latter half of the horizon, assuming the continued mobilization of concessional financing (including grants) in the short term. Overall (external plus domestic) risk of debt distress remains moderate due to the external PPG debt rating; the previous DSA also had a moderate overall risk of debt distress. Total public debt is below the benchmark under the baseline, but a growth shock drives the present value of debt to GDP towards the benchmark at the end of the period, despite not breaching it. Liquidity pressures may materialize as the debt-service-to-revenue ratio could near or exceed 70 percent in the near term under both the baseline and shocks. The government has some space to scale-up investment, assuming ongoing efforts to improve domestic resource mobilization, continued reliance on concessional external financing, and progress in developing domestic bond markets. The current assessment also reflects the participation in the Debt Service Suspension Initiative (DSSI), supported by the G-20 and Paris Club, and the IMF's Catastrophe Containment and Relief Trust (CCRT).

Updates with respect to COVID-19's economic impact (both domestically and externally) and policy response are rapidly evolving and risks remain tilted to the downside, including the heightened risk of the materialization of contingent liabilities, which could lead to a faster than expected deterioration in external and public debt indicators. However, the distance to risk thresholds under current baseline projections suggests some space to absorb additional shocks.

[1] Prepared by the IMF and the World Bank. This DSA follows the Guidance Note of the Join Bank-Fund Debt Sustainability Framework for Low Income Countries, February 2018.

PUBLIC DEBT COVERAGE

1. **The DSA includes public and publicly guaranteed external and domestic debt.** In line with coverage under the August 2020 DSA, public and publicly guaranteed (PPG) debt reflects external and domestic debt, including: all external liabilities held by the central bank; all borrowing from the IMF; non-guaranteed domestic debts owed by state-owned enterprises (SOEs) in cases where the government has at least 50 percent of the shares (e.g., JIRAMA and Air Madagascar);[2] and direct guarantees provided by the central government (Text Table 1). Borrowing by local governments requires the authorization from the Ministry of Finance and no request of such authorization has been submitted to date. The measure of debt is on a gross basis and the currency criterion is used to distinguish between domestic and external debt.[3] The authorities publish debt data on a quarterly basis on domestic and external debt. Reporting of debt statistics on public enterprises needs to be strengthened further.

Text Table 1. Madagascar: Public Debt Coverage Under the Baseline Scenario

	Subsectors of the public sector	Sub-sectors covered
1	Central government	X
2	State and local government	X
3	Other elements in the general government	
4	o/w: Social security fund	
5	o/w: Extra budgetary funds (EBFs)	
6	Guarantees (to other entities in the public and private sector, including to SOEs)	X
7	Central bank (borrowed on behalf of the government)	X
8	Non-guaranteed SOE debt	X

Text Table 2. Madagascar: Coverage of the Contingent Liabilities' Stress Test

1	**The country's coverage of public debt**	The central, state, and local governments, central bank, government-guaranteed debt, non-guaranteed SOE debt			
		Default		**Used for the analysis**	**Reasons for deviations from the default settings**
2	Other elements of the general government not captured in 1.	0	percent of GDP	0.0	
3	SoE's debt (guaranteed and not guaranteed by the government) 1/	2	percent of GDP	3.4	Captures potential additional contingent liabilities, including a potential external liability of US$ 53 million associated with Air Madagascar as well as liabilities associated with the postal savings scheme and the Madagascar Savings Fund.
4	PPP	35	percent of PPP stock	0.0	Exposures through PPPs are set to zero as PPPs comprise less than 3 percent of GDP.
5	Financial market (the default value of 5 percent of GDP is the minimum value)	5	percent of GDP	5.0	
	Total (2+3+4+5) (in percent of GDP)			8.4	

1/ The default shock of 2% of GDP will be triggered for countries whose government-guaranteed debt is not fully captured under the country's public debt definition (1.). If it is already included in the government debt (1.) and risks associated with SoE's debt not guaranteed by the government is assessed to be negligible, a country team may reduce this to 0%.

2. **Notwithstanding the comprehensive coverage, a contingent liability shock of 8.4 percent of GDP is simulated to account for potential liabilities.** This reflects the default setting for PPPs and financial markets but includes a larger contingent liability setting (Text Table 2).

[2] Although legislation allows it, public enterprises do not hold direct external non-guaranteed debt.

[3] Locally issued debt denominated in local currency held by non-residents and/or locally issued debt denominated in foreign currency held by residents is likely insignificant. Owing to limitations in available data, the results would likely be the same if selecting the residency criterion.

- As mentioned above, estimated domestic debt for SOEs in which the government has a majority stake is incorporated in the baseline (i.e., JIRAMA's debts of 2.1 percent of GDP and of 2.3 percent for other SOEs).[4] However, government recognition of some SOE short-term liabilities could also materialize (e.g., if large exchange rate fluctuations require that government offer assistance in paying external suppliers). In addition, Air Madagascar has accumulated debt to external suppliers of US$29 million due to COVID-19 related pressures, and there is ongoing litigation with amounts in dispute of EUR 20 million. Therefore, to be conservative, the default amount of 2 percent of GDP (which captures risks associated with JIRAMA and other SOEs) was adjusted upwards to reflect Air Madagascar's potential liabilities (US$53 million or 0.4 percent of GDP). Other potential contingencies include future recapitalization of the postal savings scheme and the Madagascar Savings Fund (*Caisse d'Epargne de Madagascar, CEM*), which would likely amount to less than 1 percent of GDP (an additional 1 percent of GDP is added to the shock, bringing the total to 3.4 percent of GDP).

- Exposures to PPPs are set to zero since estimates of the PPP-related capital stock fall below 3 percent of GDP; the threshold for the PPP shock to be included. Capital stock related to Ravinala Airport is estimated to be 1.8 percent of GDP. The authorities plan to develop more PPPs in future, especially in the area of hydroelectric power, and the potential vulnerabilities associated with such PPPs could increase rapidly.

- The default value of 5 percent is programmed for financial markets. Most banks are financially solid with deposits exceeding loans and majority foreign shareholders. Dollarization of deposits and credits is not pronounced, and banks' foreign assets generally exceed their foreign liabilities.

3. **Madagascar is benefitting from recent debt service relief initiatives, which are covered in the DSA.** The current assessment reflects the authorities' participation in the Debt Service Suspension Initiative (DSSI), supported by the G-20 and Paris Club[5] (amounting to almost SDR 9 million or less than 0.1 percent of GDP). The current assessment also reflects debt relief from the IMF under the Catastrophe Containment window of the IMF's Catastrophe Containment and Relief Trust (CCRT) through April 2022 (subject to the availability of CCRT resources for the next 18 months and amounting to SDR 22 million or 0.2 percent of GDP).

BACKGROUND

A. Recent Debt Developments

4. **The 2020 PPG debt ratio is projected to reach 44 percent, rising by 6 percent of GDP relative to 2019.** The increase owed to a large increase in the primary deficit and a decline in nominal GDP growth due to the COVID-19 pandemic. (Text Table 3). Domestic and external public debt have increased by 0.4 and 5.4 percent of GDP, respectively. External sources continue to account for almost three-quarters of PPG debt,

[4] While JIRAMA is working with the World Bank on the implementation of its recovery plan, to be conservative, we do not account for the potential benefits of this plan on the domestic debt forecast. In particular, we assume that JIRAMA's debts remain at the same ratio to GDP through the entire forecast horizon (2.1 percent of GDP). This implies that successful implementation of the plan is an upside risk for the baseline, while non-implementation of the plan could result in still-high arrears and larger projected operational subsidy transfers

[5] The authorities have requested an extension of the DSSI up to June 2021 with bilateral creditors.

with almost 60 percent of external debt owed to multilateral sources including the World Bank, African Development Bank, and IMF.

Text Table 3. Madagascar: Breakdown of Total PPG Debt (2015-20)

Creditor	2015	2016	2017	2018	2019	2020
			Amount (US$m)			
Domestic debt, *of which:*	**1,689**	**1,682**	**1,827**	**1,793**	**1,621**	**1,585**
Securities inc. BTA, BTF, BTS[1]	370	526	719	758	772	790
Debt to the Central Bank	386	337	297	304	239	208
Arrears	346	210	146	71	42	22
Other inc. SOE debt	587	610	665	660	568	565
External debt, *of which:*	**2,816**	**2,845**	**3,262**	**3,548**	**3,851**	**4,384**
Multilateral	2,006	2,052	2,276	2,368	2,511	2,596
Paris Club	146	137	165	189	257	266
Non-Paris Club	356	324	290	308	332	357
Commercial & Guaranteed	25	23	83	204	192	182
External debt of the Central Bank	282	310	449	479	558	984
Total PPG debt	**4,505**	**4,528**	**5,089**	**5,341**	**5,472**	**5,969**
			Percent of GDP			
Domestic debt, *of which:*	**16.3**	**15.0**	**14.4**	**13.4**	**11.2**	**11.6**
Securities inc. BTA, BTF, BTS	3.6	4.7	5.7	5.6	5.3	5.8
Debt to the Central Bank	3.7	3.0	2.3	2.3	1.7	1.5
Arrears	3.3	1.9	1.2	0.5	0.3	0.2
Other inc. SOE debt	5.7	5.4	5.2	4.9	3.9	4.1
External debt, *of which:*	**27.1**	**25.3**	**25.7**	**26.4**	**26.6**	**32.0**
Multilateral	19.3	18.3	17.9	17.6	17.3	18.9
Paris Club	1.4	1.2	1.3	1.4	1.8	1.9
Non-Paris Club	3.4	2.9	2.3	2.3	2.3	2.6
Commercial & Guaranteed	0.2	0.2	0.7	1.5	1.3	1.3
External debt of the Central Bank	2.7	2.8	3.5	3.6	3.9	7.2
Total PPG debt	**43.4**	**40.3**	**40.0**	**39.8**	**37.8**	**43.6**
			Percent of total			
Domestic debt, *of which:*	**37.5**	**37.2**	**35.9**	**33.6**	**29.6**	**26.6**
Securities inc. BTA, BTF, BTS	8.2	11.6	14.1	14.2	14.1	13.2
Debt to the Central Bank	8.6	7.4	5.8	5.7	4.4	3.5
Arrears	7.7	4.6	2.9	1.3	0.8	0.4
Other inc. SOE debt	13.0	13.5	13.1	12.4	10.4	9.5
External debt, *of which:*	**62.5**	**62.8**	**64.1**	**66.4**	**70.4**	**73.4**
Multilateral	44.5	45.3	44.7	44.3	45.9	43.5
Paris Club	3.3	3.0	3.2	3.5	4.7	4.5
Non-Paris Club	7.9	7.1	5.7	5.8	6.1	6.0
Commercial & Guaranteed	0.5	0.5	1.6	3.8	3.5	3.0
External debt of the Central Bank	6.3	6.8	8.8	9.0	10.2	16.5
Total PPG debt	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Sources: Malagasy authorities; and staff estimates.

[1]BTA are Treasury bills with less than one year maturity; BTF and BTS are Treasury bonds with maturity ranging from 1 to 3 years.

B. Macroeconomic Assumptions

5. The COVID-19 pandemic has taken a large toll on Madagascar's economic prospects in the near and medium term, causing scarring. The forecasted GDP contraction of about 4 percent in 2020 implies a revision of more than 9 percentage points compared to the 2019-Article IV projection (see Table 5).[6] Staff expects a partial recovery in 2021 (+3.2 percent). Output will surpass its 2019 level only in 2022 and remain well below pre-shock forecasted levels through the medium term. Staff expects a gradual decline in fiscal imbalances and an increase in public debt. Based on a gradual tax revenue recovery and an

[6] IMF Country Report No. 20/60, March 2020.

increase in capital spending, the primary deficit would remain large in 2021, gradually improving over the medium term. As a result, and considering the external financing of scaling-up investment plans, the public debt could reach 49 percent of GDP in 2025, higher than the 46 percent of GDP forecasted in the 2019 Article IV but broadly in line with the August 2020 DSA (with higher anticipated grant financing over the medium term).

- Growth is expected to peak over the medium-term at 5.4 percent in 2023, with some deceleration thereafter. In 2030, it is expected to hit 5.0 percent. Growth will be supported by a scale-up of public investment (e.g., transportation and energy infrastructure, health, and education) and good prospects for private investment (e.g., hydroelectric projects, canal construction, and tourism).
- Government investment rates over the medium-term were slightly revised upward (Figure 4), while private investment is expected to fall relative to the August 2020 DSA.[7]
- Inflation expectations are lower than earlier estimates for 2020 but broadly in line with prior estimates over the medium and long term.
- The non-interest current account deficit has been revised up over the short-term reflecting effects of the COVID-19 pandemic on tourism and external demand (with downward pressure on vanilla prices and metals volumes). Over the medium term, vanilla prices are expected to remain lower than pre-COVID-19 peaks, contributing to a decline in the current account balance relative to prior forecasts together with an expected rise in capital spending that will boost construction-related imports (e.g., equipment and primary materials).
- Lower primary deficits by 2025 are projected, reaching 2.6 percent of GDP, reflecting ongoing gains in revenue mobilization and PFM reforms. These reforms include: continued updates to the taxpayers' database; strengthening compliance in customs administration; broader use of electronic tax payments and the digitalization of related procedures; clearance of tax arrears (0.3 percent of GDP in additional revenues); and implementing a public procurement tax (0.4 percent of GDP in additional revenues).

Text Table 4. Madagascar: Baseline Macroeconomic Assumptions for DSA

	2020			2025			2030		
(In percent of GDP, unless otherwise indicated)	Article IV	Aug 2020	Current	Article IV	Aug 2020	Current	Article IV	Aug 2020	Current
Real GDP growth (percent)	5.2	-1.0	-4.2	5.5	5.5	5.0	5.2	5.2	5.0
Inflation, GDP Deflator (percent)	7.2	4.6	4.2	5.4	5.4	5.5	5.1	5.2	5.2
Non-interest CA deficit	0.9	3.1	6.1	1.6	2.6	3.2	1.8	3.3	3.6
Primary deficit	1.9	4.3	3.5	2.8	3.4	2.6	2.9	2.8	2.9

Sources: Malagasy authorities, World Bank and IMF.

6. **Financing assumptions broadly reflect the authorities' 2021-23 Medium Term Debt Strategy.** The main 2023 targets of the debt strategy include: the share of external public debt as a share of total public debt should not exceed a maximum of 86 percent (it is estimated at around 73 percent in 2020); the average maturity of locally-issued debt should increase above 10 months (estimates put it around 11 months for 2020); the share of new external debt within a year should be less than 25 percent of

[7] Our forecasted estimates of investment are far more conservative than those envisaged by the Plan Emergence Madagascar (PEM) reflecting partly current constraints on implementation capacity.

the stock of external debt (it is estimated to be around 14 percent in 2020); and the share of new domestic debt within a year should be less than 75 percent of the stock of domestic debt (it is estimated at almost 49 percent in 2020). The financing assumptions of this sustainability analysis deviate from the medium-term debt strategy on domestic financing due to the more conservative approach taken with respect to external financing assumptions (see ¶7); the DSA also accounts for significant amounts of SOE debt (see ¶1).[8] To reflect recent increased use of medium-term locally-issued debt instruments and eventual introduction of longer-term instruments, the local financing share of medium-term bonds has been revised upwards to 25 percent from 2020-2025, with continued growth thereafter, and longer-term bonds (e.g., between 4-7 years) are assumed to reach a share of 3 percent in 2026-30, which rises to 9 percent by 2036-40. Finally, central bank financing is completely phased out by 2030 and commercial borrowing is expected to slowly scale back up from 2030 onwards as Madagascar's fundamentals strengthen.

7. Only external budget support based on firm assurances from donors has been included in the baseline, resulting in a large role for domestic financing. The baseline also assumes a conservative path for externally financed investment projects. Together, the conservative assumptions on external financing and a program framework with no financing gaps mean that domestic financing closes the gap, with higher associated borrowing costs than external financing. In recent DSAs (e.g., the August 2020 DSA), residual financing gaps in the near term were filled by a mix of externally financing, largely on concessional terms. While Fund support is expected to catalyze additional financing, the baseline is relatively conservative and only reflects budget support with strong assurances from donors given ongoing uncertainties and shortfalls in recent budget support relative to initial expectations. As a result, the increased reliance on domestic financing results in higher financing costs relative to the August 2020 DSA (e.g., the debt service to revenues ratio increased to 78 percent in 2025 relative to 56 percent the prior DSA). To mitigate this liquidity pressure (see ¶19), the authorities will continue to develop the domestic debt market and will prioritize securing external financing on concessional terms (including grants), which would keep debt servicing costs at manageable levels and is in line with their debt strategy.

8. Realism tools suggest our assumptions are in line with reasonable bounds. Across a range of realism checks (Figure 4) that include the projected 3-year adjustment for the primary balance and public investment plans, underlying assumptions appear to not raise any flags. Projected growth in 2021 is below the range of potential growth paths under various fiscal multipliers; however, as for all countries, the magnitude and multifaceted effects of the COVID-19 pandemic are not well-captured by that aspect of the analysis.

9. The outlook remains subject to both domestic and external risks. Conjunctural risks include prolonged impacts of the COVID-19 outbreak, further disrupting trade and global value chains and delaying recovery in tourism; rising costs associated with heightened protectionism, which could reduce exports and potential growth; social unrest, disrupting economic activity and harming confidence; and exposure to natural disasters, which result in a loss in physical and human capital. Madagascar is also vulnerable to the possibility of larger than anticipated transfers to SOEs that reduce priority spending; stalls or reversals in the anti-corruption and governance reform agenda; and weak investment implementation

[8] For example, under this conservative baseline the share of new domestic debt disbursements as a percent of the stock of domestic debt exceeds the 75 percent level between 2023-27; in all other years over the horizon, it falls below the 75 percent level.

capacity that weighs downs growth. Presidential elections in 2023 may also affect the outlook. Upside risks include a faster global recovery from the pandemic and the materialization of large-scale projects in the energy or extractive sectors, both of which would support higher growth.

C. Drivers of Debt Dynamics

10. Over the medium term, scaling up of foreign-financed public investment drives an increase in debt compared with the 5-year historical average (Figure 3). Relative to the period between 2014 to 2019, external and total public debt to GDP ratios are expected to rise faster (by an additional 8 and 11 percentage points, respectively) over the medium term, reflecting pandemic-related borrowing, a gradual increase in borrowing costs, and higher capital investments accompanied by increasing deficits. Growth and trends in prices and the exchange rate help offset such factors. A residual that includes unrepatriated mining receipts and reserve accumulation is smaller than in the past.[9]

11. Government capital spending is revised slightly upward, but average 5-year real growth is nonetheless expected to fall relative to prior forecasts due to scarring from the pandemic and a fall in private investment ratios (Figure 4). The authorities are beginning to scale up infrastructure spending, with government investment rising slightly faster than previously assumed. Given Madagascar's large infrastructure needs, the conservative assumed baseline fiscal multiplier—flagged in the Realism Tools (Figure 4)—suggests a significant upside risk to growth and public investment efficiency and institutional strength are improving over time (e.g., Madagascar's Country Policy and Institutional Assessment (CPIA) score has increased from 3.1 in 2015 to 3.3 in 2019). However, private investment is estimated to have dropped precipitously in 2020. It is forecasted to rise thereafter but remain below prior estimates of the ratio over the medium term. Therefore, the projected contribution of public investment to real GDP growth over the next 5 years is expected to be slightly higher than suggested by the previous DSA.

D. Country Classification and Determination of Stress Test Scenarios

12. Madagascar's debt carrying capacity continues to be classified as medium, although its composite indicator score has dropped. Based on a calculation of a composite indicator reflecting factors such as the CPIA index, real growth rates, reserve coverage, remittances, and world growth, Madagascar continues to be rated as having medium debt-carrying capacity (Text Table 5). The 10 year-average values are based on an average over 2015-24, where latest macroeconomic data and projections are based on the October 2020 *World Economic Outlook* and 2019 CPIA. Relative to the August 2020 CI score, the world growth average dropped while the import coverage of reserves has increased; on net, there was a 0.1 point decline in the CI score, bringing it to 2.73 and closer to the lower threshold for medium carrying capacity at 2.69.[10] Text Figure 1 highlights the differences in composite indicator cut-off values and the corresponding external debt burden thresholds and public debt benchmarks at different debt-carrying capacities.

[9] The five-year projected impact of the residuals in the decomposition of the external debt dynamics reflects mostly changes in private sector debt.

[10] Madagascar was classified as having weak debt-carrying capacity in June 2018.

Text Table 5. Madagascar: Calculation of Debt-Carrying Capacity

Components	10-year average values (A)	Coefficients (B)	Current: CI Score components (A*B) = (C)	Current: Contribution of components	August 2020: CI Score components	August 2020: Contribution of components
CPIA 1/	3.228	0.385	1.25	46%	1.25	44%
Real growth rate (in percent)	3.562	2.719	0.10	4%	0.12	4%
Import coverage of reserves (in percent)	35.811	4.052	1.45	53%	1.40	50%
Import coverage of reserves^2 (in percent)	12.824	-3.990	-0.51	-19%	-0.47	-17%
Remittances (in percent)	2.261	2.022	0.05	2%	0.05	2%
World economic growth (in percent)	2.928	13.520	0.40	15%	0.47	17%
CI Score 2/			**2.73**	100%	**2.82**	100%
Debt Carrying Capacity			**Medium**		**Medium**	

1/ The 10-year average scores for the current period are based on an average over 2015-2024.

2/ Composite Indicator Score Threshold for medium capacity is 2.69.

Text Figure 1. Composite Indicator Cut-off Values and Respective Debt Burden Thresholds & Benchmarks

Cut-off values			
Weak	CI <	2.69	
Medium	2.69	≤ CI ≤	3.05
Strong	CI >	3.05	

EXTERNAL debt burden thresholds	Weak	Medium	Strong
PV of debt in % of			
Exports	140	180	240
GDP	30	40	55
Debt service in % of			
Exports	10	15	21
Revenue	14	18	23
TOTAL public debt benchmark			
PV of total public debt in percent of GDP	35	55	70

13. Stress tests generally follow standardized settings, with one exception—growth shock—and include shocks for natural disasters and commodity export prices. The contingent liability stress test is based on the quantification of potential contingent liabilities discussed above (including SOE-related concerns that extend beyond the baseline SOE debt coverage as detailed above), and the standardized stress tests apply the default settings. However, the growth test warranted adjustment. Given the high uncertainty and with risks tilted heavily towards the downside, the growth shock simulates a two standard deviation shock instead of one, in line with the August 2020 DSA.[11] Madagascar also remains exposed and vulnerable to natural disaster shocks, like cyclones, and hence qualifies for the natural disaster shock.[12]

[11] The magnitude of the shock to growth for the public debt stress tests in the second and third years of the projection is smaller than in the prior DSA (2.3 vs. 5 previously in the first year) as the projection horizon has shifted from 2019 to 2020 and the 10 year historical standard deviation (SD) is now smaller (i.e., 2009 outturns that reflected most of the impact of the Global Financial Crisis are no longer included in the 10 year horizon). Also, the shock is now based on the historical average minus two standard deviations; previously, it was based on the baseline projection minus two standard deviations.

[12] We apply the default settings for this one-off shock in the template, namely a 10 percentage-point rise in the debt-to-GDP ratio alongside a fall in real GDP growth (1.5 percent) and exports (3.5 percent), in 2021.

Since commodities (e.g., vanilla, nickel, cobalt) comprise about half of goods and services exports, we also include a commodity shock stress test. The standardized settings of this stress test are customized to better reflect Madagascar's country-specific circumstances. In particular, we assume an illustrative fall in prices equivalent to 10 percent of commodity exports, with no mitigating effect on imports, alongside declines in real GDP growth of 0.5 percent and in fiscal revenue of 0.25 percent of GDP. The shock occurs in 2021 and unwinds gradually by 2030. Residual financing for external debt stress tests is assumed to be from external sources with rates 25 percent above current concessional rates and with lower average maturities (75 per cent of current average maturity periods). For overall public debt stress tests, limited recourse to domestic sources in the short run prompts us to assume 65 percent of additional financing would come from external sources and that the remaining domestic financing would be more expensive than under the baseline (with domestic rate nearly 20 percent above baseline).[13]

DEBT SUSTAINABILITY RESULTS

A. External Debt Sustainability

14. Under the baseline, rising external PPG debt remains well below thresholds (Table 1, Figure 1). External PPG debt is projected to rise from 32 percent of GDP in 2020 to 43 percent of GDP in 2030 before reaching 48 percent of GDP in 2040. Debt-creating flows include sizable current account deficits over the medium term (owing to declines in the trade balance and falling inflows from official transfers) and weaker endogenous debt dynamics (higher interest rates).[14] In present value terms, external PPG debt is projected to rise from 19 percent of GDP in 2020 to 29 percent of GDP in 2030 and 35 percent in 2040. The long-term rise in PV terms is the result of our assumption that borrowing will become less concessional over the long term, as well as sizeable gross financing needs. Together with expiring grace periods for some loans (including prior IMF financing), this explains why debt service indicators rise substantially off their low base. For example, the projected debt service to exports ratio rises from 4 percent of exports in 2020 to 7 percent of exports in 2030. Nonetheless, all indicators remain well below the applicable thresholds for Madagascar (Figure 1).

15. The exports shock scenario breaches external medium-carrying capacity thresholds applied for Madagascar within the forecast horizon (Table 3; Figure 1). Under the exports shock, the applicable thresholds for Madagascar's medium debt-carrying capacity are breached for the PV of debt-to-exports, debt service-to-exports and debt service-to-revenue, the latter of which rises above the 18 percent threshold to 21 percent in 2027 and remains elevated thereafter.[15] Under the same shock, the PV of

[13] We view this as reasonable given the current underdevelopment of Madagascar's domestic bond market and its re-engagement with international donors and investors. The authorities have also communicated that there is significant international appetite for lending to Madagascar.

[14] The residual includes reserve accumulation, unrepatriated mining receipts, and potentially other misclassified BOP entries.

[15] While the standard settings are applied, the export shock is more severe than under the prior DSA as the projection period has shifted and the selected default shock calculation has changed. On average, simulated export growth was -1 percent between 2020-22 for the August 2020 DSA; now it is -14 percent between 2020-22 on average. Also, recall that the shock to nominal export growth is set to the historical average minus one SD or the baseline minus one SD, whichever is lower. In prior DSA, it was baseline minus one SD; in the current it is based on historical value minus one SD.

external debt to GDP rises to 35 percent of GDP in 2022, below the indicated threshold of 40.[16] It is noteworthy that external PPG debt indicators remain resilient to all the other shocks with the exception of the combined shock.

16. The granularity assessment suggests that Madagascar has some space to absorb shocks. Under tests to qualify the moderate risk of external debt distress, all indicators fall below the limited space thresholds, suggesting that Madagascar has some space to absorb shocks (Figure 5). Still, the PV of debt-to-GDP and the debt service-to-revenue ratios do rise towards the limited space thresholds at the end of the forecast horizon in 2030.

17. Despite a large upward revision in estimates of external private sector debt based on a recent survey, the debts are not assessed to pose a significant threat to external sustainability (Table 1). In 2020 INSTAT completed a survey on the external private sector, including on its external debt obligations. The last survey was conducted in 2013 and covered a smaller sample of firms and only included debts reported by companies' headquarters offices, which did not offer a complete view of the debt obligations of their Malagasy operations. The latest results uncovered large deviations relative to prior forecasts. Prior IMF forecasts estimated there was SDR 2 billion in external private debt at end-2018; the new data suggests it reached SDR 4 billion. This implies that external private debt as a percent of GDP increased to 41 percent from 21 percent in the prior DSA for 2020. However, the risks associated with these higher levels of external private debt appear contained. Around 80 percent of the debt is associated with the mining sector; the sector's income is in foreign currency; the majority of its debt is medium-to-long term; and a sizeable portion of its debt is with its affiliated headquarters or global group. Moreover, much of mining companies' loans do not bear large interest payments and many of the debt instruments are not required to be fully reimbursed to parent companies until liquidation. Private external debt is projected to rapidly decline as the loans related to major mining projects are repaid, with the stock of external private debt falling by almost 40 percent by 2030. Still, such debts will be closely monitored going forward for potential risks and, in line with recent DSAs, we have conservatively assumed more borrowing would be needed to sustain mining exports towards the end of the DSA horizon, contributing to private debt equivalent to about 6 percent of GDP in 2040.

B. Total Public Debt Sustainability

18. Under the baseline, total public debt levels are projected to remain well below the benchmark (Table 2). Total public debt (both external and domestic) is projected to rise from 44 percent of GDP in 2020 to 54 percent of GDP in 2030, before reaching 59 percent by 2040. In the August 2020 DSA, total public debt was also projected at 54 percent of GDP in 2030; however, the total public debt ratio is projected to be 4 percentage points higher by 2039 relative to the prior DSA. In PV terms, total public debt/GDP is expected to rise from 31 percent in 2020 to 40 percent in 2030 and 46 percent in 2040, below the benchmark of 55 percent for medium-capacity countries. Projected primary deficits are higher than previously assumed in the near term, but lower within the medium term horizon; for example, 2021 and 2025 primary deficits are now expected to reach 4.9 and 2.6 percent, respectively, whereas they were expected to reach 4.0 percent and 3.4 percent in the August 2020 DSA. Ongoing revenue mobilization and PFM reforms are expected to continue; this is reflected by the far more gradual increase in the PV of debt

[16] The PV of debt-to-GDP would breach the threshold of 30 for countries with weak debt-carrying capacity.

to revenue and grants compared to the PV of debt to GDP since the share of tax revenue in GDP is projected to rise in the medium to long term.

19. The rise in the PPG debt service to revenue and grants ratio, especially in the near term, could introduce liquidity risks. The debt service to revenue ratio is forecasted to reach 78 percent by 2025 and reflects the repayment of prior IMF loans and quite conservative financing assumptions in the baseline framework that place a high reliance on domestic financing (see ¶7) during the program horizon. Although no explicit benchmark exists for this ratio, the projections point to potential debt service and liquidity difficulties within the medium term. The authorities should prioritize securing ongoing external concessional financing, as done in recent years and in line with their medium-term debt strategy, as well as continuing to accelerate domestic debt market development to bring down borrowing costs. If strong donor support continues, liquidity risks can be mitigated.

20. Total public debt is vulnerable to a growth shock but does not breach its benchmark within the stress test horizon (Figure 2; Table 4). The most severe test is a simulated growth shock. Under this shock, the PV of debt to GDP approaches 55 percent of GDP by 2030 and is on a persistent upward trajectory, although it does not breach the benchmark for medium capacity countries like Madagascar. Moreover, such a shock would also result a PV of debt-to-revenue of over 380 in 2030 and could raise the debt service-to-revenue ratio above 90 percent by 2025. A commodity price shock produces qualitatively similar results.

RISK RATING AND VULNERABILITIES

21. Madagascar is classified as being at moderate risk of external debt distress. Under the baseline, no thresholds are breached. However, an export shock leads to breaches in the PV of debt-to-exports and debt service ratio thresholds. A granularity assessment suggests that Madagascar has some space to absorb shocks.

22. The overall assessment is that Madagascar is at moderate risk of overall debt distress. The overall PPG debt stress test that applies to growth shows that the PV of debt-to-GDP approaches the applicable benchmark in the final years of the stress test horizon and is on a persistent upward trajectory. Moreover, liquidity pressures could arise if more concessional external financing is not secured or if domestic debt market development is delayed under both the baseline and under a commodity or growth shock, as the debt-service to revenue ratio could near or exceed 70 percent within the medium term. Together with potentially high debt service burdens, the breach of the external PPG debt thresholds classifies Madagascar's overall risk of debt distress as moderate. Both the overall and external debt distress risk assessments are in line with the authorities' most recent September 2020 debt sustainability analysis.

23. Conditional on the mobilization of continued concessional external financing, this assessment is supportive of Madagascar's current plans to scale up its borrowing. A steeper-than-expected increase in borrowing in line with a rapid execution of the government's ambitious medium-term borrowing plan would carry significant risks, especially in the absence of securing additional external concessional financing. Also, poorly selected public investments and less favorable financing terms could affect debt vulnerability. The state of SOE liabilities could also influence future assessments. Less grant financing and a switch to a less concessional mix of borrowing would raise the debt burden, especially when measured in PV terms, as well as debt service risks. The domestic debt market should continue to be developed in order to lower borrowing costs. Finally, external private debts could increase in less ringfenced sectors (e.g., banking) that would increase the vulnerabilities associated with such debts. As mentioned in the August 2020 DSA, in addition to debt sustainability, other crucial considerations for the pace of borrowing include the economy's vulnerability to terms-of-trade shocks, natural disasters, general absorptive capacity, public financial management, and public investment management.

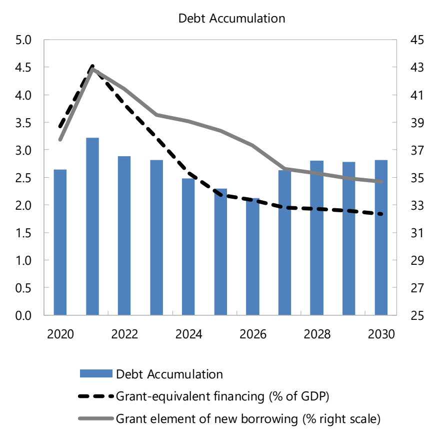
24. Structural reforms and improvements in debt coverage statistics remain paramount, especially in light of the recent decline in the CI score. Efforts to enhance external statistics could improve private debt coverage. Also, Madagascar's ability to preserve and build its debt-carrying capacity rely on it strengthening the capacity and quality of its institutions.

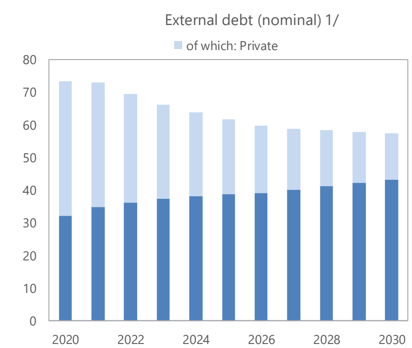
Table 1. Madagascar: External Debt Sustainability Framework, Baseline Scenario, 2017-2040

(In percent of GDP; unless otherwise indicated)

	Actual			Projections								Average 8/	
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2040	Historical	Projections
External debt (nominal) 1/	50.2	69.4	65.4	73.3	73.0	69.4	66.1	63.9	61.7	57.4	54.3	45.0	63.5
of which: public and publicly guaranteed (PPG)	25.7	26.4	26.6	32.0	34.7	36.1	37.3	38.1	38.6	43.2	47.9	24.6	38.4
Change in external debt	-0.8	19.2	-3.9	7.8	-0.3	-3.6	-3.3	-2.3	-2.2	-0.3	-1.0		
Identified net debt-creating flows	-7.4	-7.1	-2.9	7.7	0.5	-1.4	-1.9	-2.2	-2.2	-1.2	-0.6	-2.2	-0.7
Non-interest current account deficit	0.0	-1.2	1.7	6.1	4.5	3.9	3.8	3.4	3.2	3.6	3.6	2.9	3.8
Deficit in balance of goods and services	3.3	3.4	4.6	9.1	8.8	6.9	6.9	6.6	6.6	6.7	6.9	6.0	7.0
Exports	30.9	31.2	27.8	18.3	23.1	26.3	27.6	28.0	28.6	26.8	24.3		
Imports	34.2	34.6	32.4	27.4	31.8	33.2	34.5	34.6	35.2	33.6	31.3		
Net current transfers (negative = inflow)	-5.6	-6.9	-5.5	-5.5	-5.3	-5.1	-5.1	-5.0	-5.1	-4.6	-4.2	-5.5	-5.0
of which: official	-2.5	-2.6	-3.0	-3.1	-2.3	-1.8	-1.3	-0.9	-0.6	-0.1	0.0		
Other current account flows (negative = net inflow)	2.3	2.3	2.6	2.5	1.1	2.1	2.0	1.8	1.7	1.5	0.9	2.5	1.7
Net FDI (negative = inflow)	-2.7	-3.6	-2.6	-1.8	-2.2	-2.4	-2.8	-2.9	-3.0	-3.1	-3.2	-4.0	-2.8
Endogenous debt dynamics 2/	-4.8	-2.4	-2.1	3.4	-1.8	-2.9	-2.9	-2.6	-2.4	-1.7	-1.0		
Contribution from nominal interest rate	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.6	0.6	1.0	1.4		
Contribution from real GDP growth	-1.8	-1.5	-2.9	2.9	-2.2	-3.4	-3.4	-3.2	-3.0	-2.7	-2.4		
Contribution from price and exchange rate changes	-3.3	-1.4	0.3	...	...	...	...	...	...	...	...		
Residual 3/	6.6	26.3	-1.0	0.1	-0.8	-2.1	-1.4	-0.1	0.0	0.9	-0.4	5.9	0.0
of which: exceptional financing	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0		
Sustainability indicators													
PV of PPG external debt-to-GDP ratio	...	...	15.6	19.2	21.0	22.0	23.0	23.7	24.4	28.6	34.5		
PV of PPG external debt-to-exports ratio	...	...	56.1	104.4	91.1	83.7	83.3	84.8	85.3	106.8	141.9		
PPG debt service-to-exports ratio	5.6	2.9	2.8	4.4	3.9	4.2	4.9	4.9	4.9	7.3	10.6		
PPG debt service-to-revenue ratio	16.7	8.9	7.3	8.9	8.7	9.8	11.0	10.8	10.6	14.1	17.4		
Gross external financing need (Million of U.S. dollars)	12.5	-488.0	699.5	1253.2	787.7	1168.5	1182.2	842.0	817.1	1149.6	2171.7		
Key macroeconomic assumptions													
Real GDP growth (in percent)	3.9	3.2	4.4	-4.2	3.2	5.0	5.4	5.2	5.0	5.0	4.6	3.0	4.1
GDP deflator in US dollar terms (change in percent)	7.0	2.8	-0.5	-0.5	3.2	3.1	2.7	1.9	1.7	1.6	1.7	1.4	1.8
Effective interest rate (percent) 4/	0.8	1.1	0.7	0.7	0.6	0.7	0.8	1.0	1.1	1.8	2.7	1.0	1.1
Growth of exports of G&S (US dollar terms, in percent)	21.6	7.0	-7.2	-37.2	33.9	23.7	13.3	8.7	9.1	5.1	5.6	8.0	7.1
Growth of imports of G&S (US dollar terms, in percent)	26.2	7.1	-2.5	-19.4	23.7	13.0	12.3	7.5	8.7	5.9	6.6	2.5	6.7
Grant element of new public sector borrowing (in percent)	...	...	...	37.7	42.9	41.4	39.5	39.1	38.4	34.7	31.4	...	37.9
Government revenues (excluding grants, in percent of GDP)	10.3	10.4	10.5	9.2	10.3	11.4	12.2	12.8	13.3	14.0	14.8	9.3	12.6
Aid flows (in Million of US dollars) 5/	588.5	615.5	733.4	436.7	853.1	889.3	903.7	846.2	831.4	1078.7	1412.8		
Grant-equivalent financing (in percent of GDP) 6/	...	...	...	3.4	4.5	3.8	3.2	2.6	2.2	1.8	1.3	...	2.7
Grant-equivalent financing (in percent of external financing) 6/	...	...	...	55.4	60.0	57.7	52.4	49.7	47.0	35.7	31.4	...	46.8
Nominal GDP (Million of US dollars)	13,176	13,974	14,519	13,837	14,746	15,972	17,283	18,524	19,776	27,295	51,511		
Nominal dollar GDP growth	11.2	6.1	3.9	-4.7	6.6	8.3	8.2	7.2	6.8	6.7	6.4	4.4	6.0
Memorandum items:													
PV of external debt 7/	...	...	54.5	60.4	59.3	55.4	51.8	49.5	47.5	42.8	40.9		
In percent of exports	...	...	195.6	329.4	257.1	210.2	187.7	176.9	165.9	159.5	168.1		
Total external debt service-to-exports ratio	9.0	4.1	20.3	25.9	13.2	22.2	21.1	14.6	13.8	13.8	15.6		
PV of PPG external debt (in Million of US dollars)			2267.8	2650.8	3095.4	3521.0	3970.2	4398.7	4824.2	7816.0	17784.3		
(PVt-PVt-1)/GDPt-1 (in percent)				2.6	3.2	2.9	2.8	2.5	2.3	2.8	2.1		
Non-interest current account deficit that stabilizes debt ratio	0.9	-20.4	5.7	-1.7	4.8	7.5	7.1	5.6	5.3	3.9	4.6		

Definition of external/domestic debt	**Currency-based**
Is there a material difference between the two criteria?	**No**





Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as [r - g - ρ(1+g)]/(1+g+ρ+gρ) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and ρ = growth rate of GDP deflator in U.S. dollar terms.

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.

4/ Current-year interest payments divided by previous period debt stock.

5/ Defined as grants, concessional loans, and debt relief.

6/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new debt).

7/ Assumes that PV of private sector debt is equivalent to its face value.

8/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

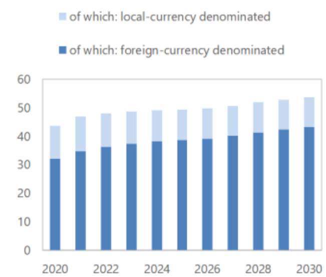
Table 2. Madagascar: Public Sector Debt Sustainability Framework, Baseline Scenario, 2017-2040

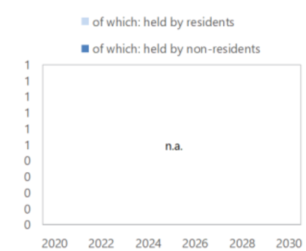
(In percent of GDP; unless otherwise indicated)

	Actual			Projections								Average 6/	
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2040	Historical	Projections
Public sector debt 1/	40.1	39.8	37.8	43.6	46.9	47.8	48.6	49.1	49.3	53.7	59.0	36.9	49.4
of which: external debt	25.7	26.4	26.6	32.0	34.7	36.1	37.3	38.1	38.6	43.2	47.9	24.6	38.4
Change in public sector debt	-0.1	-0.4	-2.0	5.8	3.3	0.9	0.8	0.5	0.3	1.0	-0.3		
Identified debt-creating flows	-2.6	-2.3	-2.9	5.9	3.3	1.8	1.4	1.2	0.9	0.9	-0.3	-0.8	1.7
Primary deficit	1.4	0.6	0.7	3.5	4.9	4.2	3.6	3.1	2.6	2.9	1.8	1.3	3.2
Revenue and grants	12.8	12.8	13.5	10.9	12.5	13.2	13.5	13.7	13.9	14.1	14.9	11.3	13.5
of which: grants	2.5	2.4	3.0	1.8	2.3	1.8	1.3	0.9	0.6	0.1	0.0		
Primary (noninterest) expenditure	14.2	13.4	14.2	14.4	17.4	17.4	17.1	16.7	16.5	16.9	16.6	12.5	16.7
Automatic debt dynamics	-4.0	-2.8	-3.2	2.2	-2.0	-2.8	-2.6	-2.3	-2.1	-2.4	-2.4		
Contribution from interest rate/growth differential	-2.2	-2.7	-3.0	1.4	-1.3	-2.3	-2.5	-2.3	-2.2	-2.6	-2.6		
of which: contribution from average real interest rate	-0.7	-1.5	-1.3	-0.3	0.1	-0.1	-0.1	0.1	0.1	-0.1	0.0		
of which: contribution from real GDP growth	-1.5	-1.2	-1.7	1.7	-1.4	-2.2	-2.4	-2.4	-2.3	-2.5	-2.6		
Contribution from real exchange rate depreciation	-1.7	-0.1	-0.2	...	...	...	...	...	...	...	...		
Other identified debt-creating flows	0.0	0.0	-0.4	0.2	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.0	0.4
Privatization receipts (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recognition of contingent liabilities (e.g., bank recapitalization)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Debt relief (HIPC and other)	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0		
Other debt creating or reducing flow	0.0	0.0	-0.4	0.2	0.5	0.4	0.5	0.4	0.4	0.4	0.4		
Residual	2.4	1.9	0.9	0.7	-0.7	-1.3	-0.8	-0.7	-0.5	0.2	0.2	1.1	-0.1
Sustainability indicators													
PV of public debt-to-GDP ratio 2/	...	...	26.9	30.9	33.4	34.1	34.7	35.2	35.5	39.6	46.2		
PV of public debt-to-revenue and grants ratio	...	...	198.3	283.3	266.5	257.6	256.5	257.4	255.3	281.5	310.9		
Debt service-to-revenue and grants ratio 3/	7.0	6.4	37.5	45.9	51.5	66.0	73.5	76.8	78.0	63.2	59.6		
Gross financing need 4/	2.3	1.4	5.4	7.4	12.6	13.3	14.0	14.0	13.9	12.2	11.0		
Key macroeconomic and fiscal assumptions													
Real GDP growth (in percent)	3.9	3.2	4.4	-4.2	3.2	5.0	5.4	5.2	5.0	5.0	4.6	3.0	4.1
Average nominal interest rate on external debt (in percent)	0.9	1.1	1.0	0.8	0.7	0.8	0.8	0.9	0.9	1.3	1.6	0.8	1.0
Average real interest rate on domestic debt (in percent)	-4.7	-9.1	-7.4	-0.5	0.2	1.4	2.5	4.0	4.6	2.5	2.2	-7.1	2.8
Real exchange rate depreciation (in percent, + indicates depreciation)	-7.1	-0.5	-0.8	...	...	...	...	...	...	...	...	0.6	...
Inflation rate (GDP deflator, in percent)	5.0	10.0	8.0	4.2	5.4	5.7	6.0	5.7	5.5	5.2	5.0	7.7	5.4
Growth of real primary spending (deflated by GDP deflator, in percent)	15.6	-3.1	11.2	-3.0	24.9	4.6	4.0	2.7	3.6	5.5	3.3	5.1	5.8
Primary deficit that stabilizes the debt-to-GDP ratio 5/	1.6	0.9	2.7	-2.3	1.6	3.2	2.9	2.6	2.3	1.9	2.0	1.7	1.8
PV of contingent liabilities (not included in public sector debt)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Definition of external/domestic debt	**Currency-based**
Is there a material difference between the two criteria?	**No**

Public sector debt 1/





Sources: Country authorities; and staff estimates and projections.

1/ Coverage of debt: The central, state, and local governments, central bank, government-guaranteed debt, non-guaranteed SOE debt . Definition of external debt is Currency-based.

2/ The underlying PV of external debt-to-GDP ratio under the public DSA differs from the external DSA with the size of differences depending on exchange rates projections.

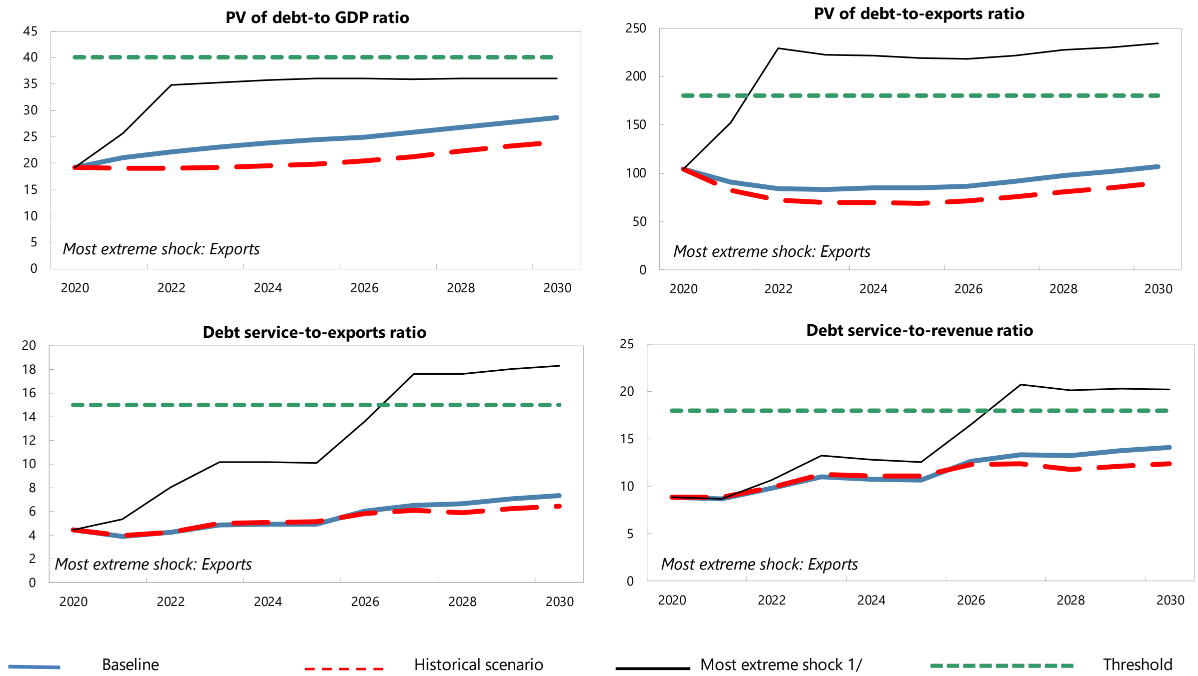
3/ Debt service is defined as the sum of interest and amortization of medium and long-term, and short-term debt.

4/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period and other debt creating/reducing flows.

5/ Defined as a primary deficit minus a change in the public debt-to-GDP ratio ((-): a primary surplus), which would stabilize the debt ratio only in the year in question.

6/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

Figure 1. Madagascar: Indicators of Public and Publicly Guaranteed External Debt Under Alternatives Scenarios, 2020-2030



Customization of Default Settings		
	Size	Interactions
Standardized Tests	Yes	
Tailored Stress		
Combined CL	Yes	
Natural disaster	No	No
Commodity price	Yes	Yes
Market financing	n.a.	n.a.

Note: "Yes" indicates any change to the size or interactions of the default settings for the stress tests. "n.a." indicates that the stress test does not apply.

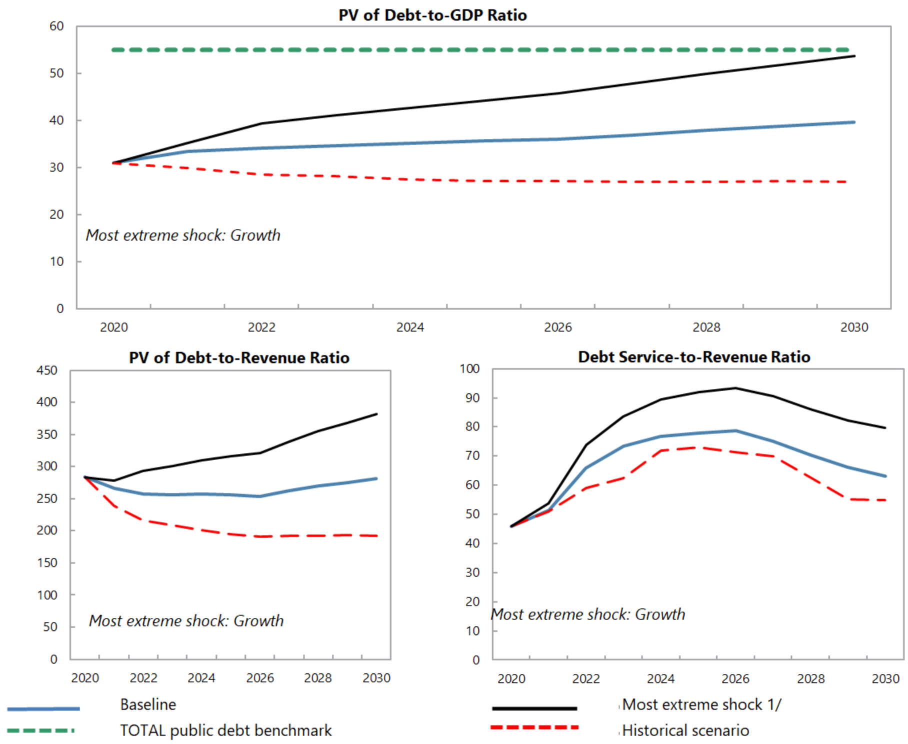
Borrowing assumptions on additional financing needs resulting from the stress tests*		
	Default	User defined
Shares of marginal debt		
External PPG MLT debt	100%	
Terms of marginal debt		
Avg. nominal interest rate on new borrowing in USD	1.3%	1.6%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	26	20
Avg. grace period	4	4

* Note: All the additional financing needs generated by the shocks under the stress tests are assumed to be covered by PPG external MLT debt in the external DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2030. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

Figure 2. Madagascar: Indicators of Public Debt Under Alternative Scenarios, 2020-2030



Borrowing assumptions on additional financing needs resulting from the stress tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	37%	65%
Domestic medium and long-term	17%	15%
Domestic short-term	46%	20%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	1.3%	1.6%
Avg. maturity (incl. grace period)	26	20
Avg. grace period	4	4
Domestic MLT debt		
Avg. real interest rate on new borrowing	4.8%	4.8%
Avg. maturity (incl. grace period)	2	2
Avg. grace period	1	1
Domestic short-term debt		
Avg. real interest rate	3.0%	3.5%

* Note: The public DSA allows for domestic financing to cover the additional financing needs generated by the shocks under the stress tests in the public DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2030. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

Table 3. Madagascar: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2020-2030

(In percent)

	Projections 1/										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PV of debt-to GDP ratio											
Baseline	19	21	22	23	24	24	25	26	27	28	29
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	19	19	19	19	19	20	20	21	22	23	24
B. Bound Tests											
B1. Real GDP growth	19	22	25	26	26	27	28	29	30	31	32
B2. Primary balance	19	22	23	24	25	26	26	27	28	29	30
B3. Exports	19	26	35	35	36	36	36	36	36	36	36
B4. Other flows 3/	19	23	25	26	27	27	28	28	29	30	30
B5. Depreciation	19	26	25	26	27	28	29	30	32	33	34
B6. Combination of B1-B5	19	27	30	30	31	32	32	32	33	34	34
C. Tailored Tests											
C1. Combined contingent liabilities	19	25	27	28	29	30	30	31	32	33	34
C2. Natural disaster	19	26	28	30	31	32	32	33	34	35	36
C3. Commodity price	19	22	23	24	25	25	26	27	28	28	29
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	40	40	40	40	40	40	40	40	40	40	40
PV of debt-to-exports ratio											
Baseline	104	91	84	83	85	85	87	91	97	102	107
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	104	82	72	70	70	69	71	75	81	85	90
B. Bound Tests											
B1. Real GDP growth	104	91	84	83	85	85	87	91	97	102	107
B2. Primary balance	104	94	88	87	89	89	91	95	101	106	110
B3. Exports	104	152	**230**	**222**	**222**	**219**	**218**	**222**	**227**	**230**	**234**
B4. Other flows 3/	104	98	95	94	95	95	96	100	105	109	113
B5. Depreciation	104	91	75	75	77	78	80	85	91	96	102
B6. Combination of B1-B5	104	146	102	158	159	159	159	164	172	178	**184**
C. Tailored Tests											
C1. Combined contingent liabilities	104	109	102	102	104	104	105	110	116	120	125
C2. Natural disaster	104	115	108	109	111	112	113	119	125	131	136
C3. Commodity price	104	95	89	88	90	90	91	95	101	105	109
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	180	180	180	180	180	180	180	180	180	180	180
Debt service-to-exports ratio											
Baseline	4	4	4	5	5	5	6	7	7	7	7
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	4	4	4	5	5	5	6	6	6	6	6
B. Bound Tests											
B1. Real GDP growth	4	4	4	5	5	5	6	7	7	7	7
B2. Primary balance	4	4	4	5	5	5	6	7	7	7	8
B3. Exports	4	5	8	10	10	10	14	18	18	18	18
B4. Other flows 3/	4	4	4	5	5	5	7	7	7	8	8
B5. Depreciation	4	4	4	5	5	5	6	6	6	6	7
B6. Combination of B1-B5	4	5	7	8	8	8	12	12	13	13	13
C. Tailored Tests											
C1. Combined contingent liabilities	4	4	5	5	5	5	6	7	7	7	8
C2. Natural disaster	4	4	5	5	6	6	7	7	7	8	8
C3. Commodity price	4	4	4	5	5	5	6	7	7	7	8
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	15	15	15	15	15	15	15	15	15	15	15
Debt service-to-revenue ratio											
Baseline	9	9	10	11	11	11	13	13	13	14	14
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	9	9	10	11	11	11	12	12	12	12	12
B. Bound Tests											
B1. Real GDP growth	9	9	11	12	12	12	14	15	15	15	16
B2. Primary balance	9	9	10	11	11	11	13	14	14	14	15
B3. Exports	9	9	11	13	13	13	17	**21**	**20**	**20**	**20**
B4. Other flows 3/	9	9	10	12	11	11	14	15	15	15	16
B5. Depreciation	9	11	12	13	13	13	16	15	15	16	16
B6. Combination of B1-B5	9	9	12	13	13	12	17	18	17	18	18
C. Tailored Tests											
C1. Combined contingent liabilities	9	9	11	12	12	11	13	14	14	14	15
C2. Natural disaster	9	9	11	12	12	12	14	14	14	15	15
C3. Commodity price	9	9	10	12	11	11	13	14	14	14	15
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	18	18	18	18	18	18	18	18	18	18	18

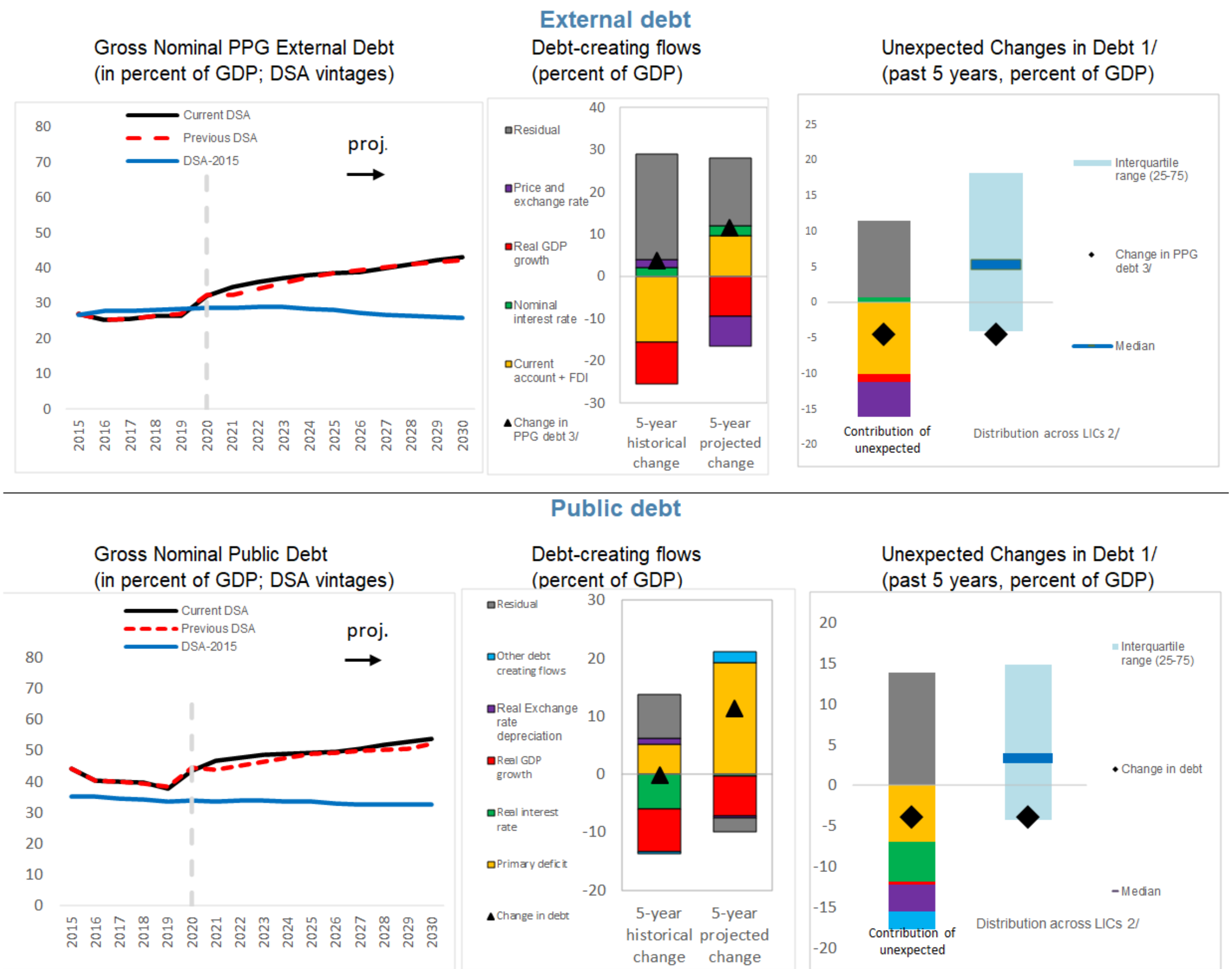
Sources: Country authorities; and staff estimates and projections.
1/ A bold value indicates a breach of the threshold.
2/ Variables include real GDP growth, GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.
3/ Includes official and private transfers and FDI.

Table 4. Madagascar: Sensitivity Analysis for Key Indicators of Public Debt, 2020-2030
(In percent)

	Projections 1/										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PV of Debt-to-GDP Ratio											
Baseline	31	33	34	35	35	36	36	37	38	39	40
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	31	30	28	28	27	27	27	27	27	27	27
B. Bound Tests											
B1. Real GDP growth	31	35	39	41	43	44	46	48	50	52	54
B2. Primary balance	31	34	35	36	36	37	37	38	39	40	41
B3. Exports	31	38	47	47	47	47	47	47	47	47	47
B4. Other flows 3/	31	35	37	38	38	38	39	39	40	41	41
B5. Depreciation	31	37	36	35	34	34	33	33	33	33	33
B6. Combination of B1-B5	31	32	34	34	35	35	35	36	37	38	39
C. Tailored Tests											
C1. Combined contingent liabilities	31	40	40	41	41	41	41	42	43	44	45
C2. Natural disaster	31	42	42	43	43	43	44	45	46	46	47
C3. Commodity price	31	34	37	39	42	44	45	47	50	51	53
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
TOTAL public debt benchmark	55	55	55	55	55	55	55	55	55	55	55
PV of Debt-to-Revenue Ratio											
Baseline	283	267	258	256	257	256	254	263	270	275	281
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	283	239	216	208	201	194	191	192	192	193	192
B. Bound Tests											
B1. Real GDP growth	283	278	293	301	310	316	321	339	355	368	382
B2. Primary balance	283	272	268	266	266	264	262	270	278	283	289
B3. Exports	283	303	353	347	345	339	332	334	335	333	333
B4. Other flows 3/	283	279	281	279	279	276	273	280	286	289	294
B5. Depreciation	283	295	272	259	251	242	233	234	234	233	234
B6. Combination of B1-B5	283	258	260	255	255	252	250	259	267	272	278
C. Tailored Tests											
C1. Combined contingent liabilities	283	321	305	300	299	295	292	300	307	311	317
C2. Natural disaster	283	335	320	315	314	311	308	318	325	331	337
C3. Commodity price	283	279	284	297	309	316	323	338	353	366	380
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Debt Service-to-Revenue Ratio											
Baseline	46	51	66	74	77	78	79	75	70	66	63
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	46	51	59	62	72	73	71	70	63	55	55
B. Bound Tests											
B1. Real GDP growth	46	54	74	83	89	92	93	91	86	82	80
B2. Primary balance	46	52	68	75	78	79	80	76	71	67	64
B3. Exports	46	51	67	75	79	80	82	82	77	72	69
B4. Other flows 3/	46	51	66	74	77	78	80	77	72	68	65
B5. Depreciation	46	50	66	71	74	76	77	73	69	65	62
B6. Combination of B1-B5	46	50	67	74	77	77	78	75	70	66	63
C. Tailored Tests											
C1. Combined contingent liabilities	46	52	80	85	82	81	81	77	72	67	64
C2. Natural disaster	46	53	84	88	84	84	83	79	74	69	66
C3. Commodity price	46	53	70	80	87	90	91	87	83	80	78
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Sources: Country authorities; and staff estimates and projections.
1/ A bold value indicates a breach of the benchmark.
2/ Variables include real GDP growth, GDP deflator and primary deficit in percent of GDP.
3/ Includes official and private transfers and FDI.

Figure 3. Madagascar: Drivers of Debt Dynamics – Baseline Scenario



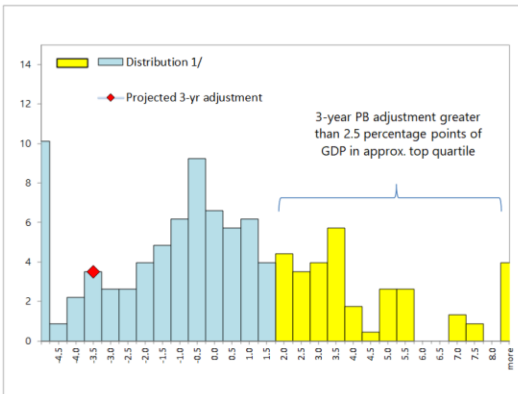
1/ Difference between anticipated and actual contributions on debt ratios.

2/ Distribution across LICs for which LIC DSAs were produced.

3/ Given the relatively low private external debt for average low-income countries, a ppt change in PPG external debt should be largely explained by the drivers of the external debt dynamics equation.

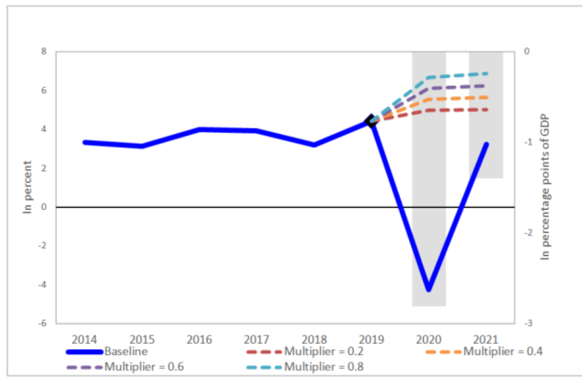
Figure 4. Madagascar: Realism Tools

3-Year Adjustment in Primary Balance
(Percentage points of GDP)



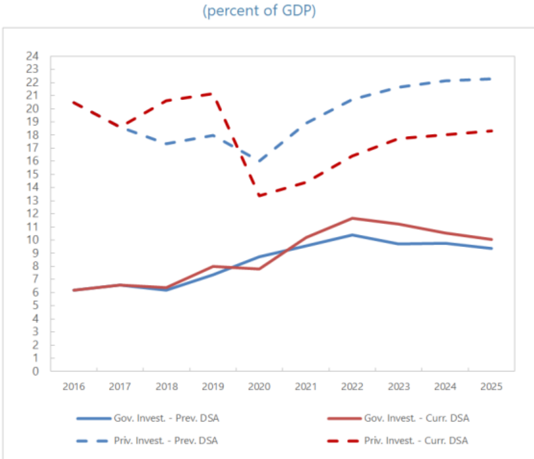
1/ Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

Fiscal Adjustment and Possible Growth Paths 1/



1/ Bars refer to annual projected fiscal adjustment (right-hand side scale) and lines show possible real GDP growth paths under different fiscal multipliers (left-hand side scale).

Public and Private Investment Rates, Real
(percent of GDP)



Contribution to Real GDP growth
(percent, 5-year average)

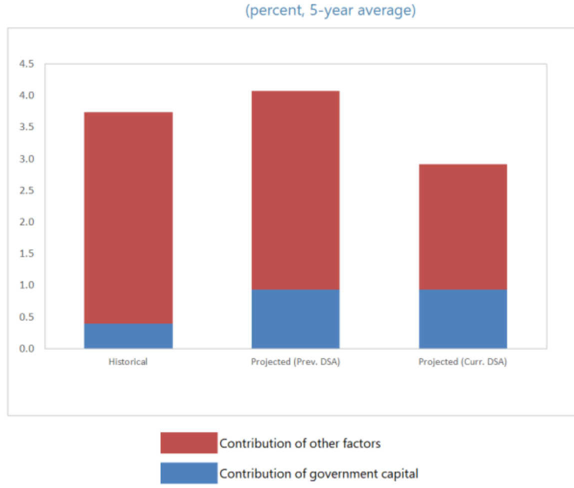
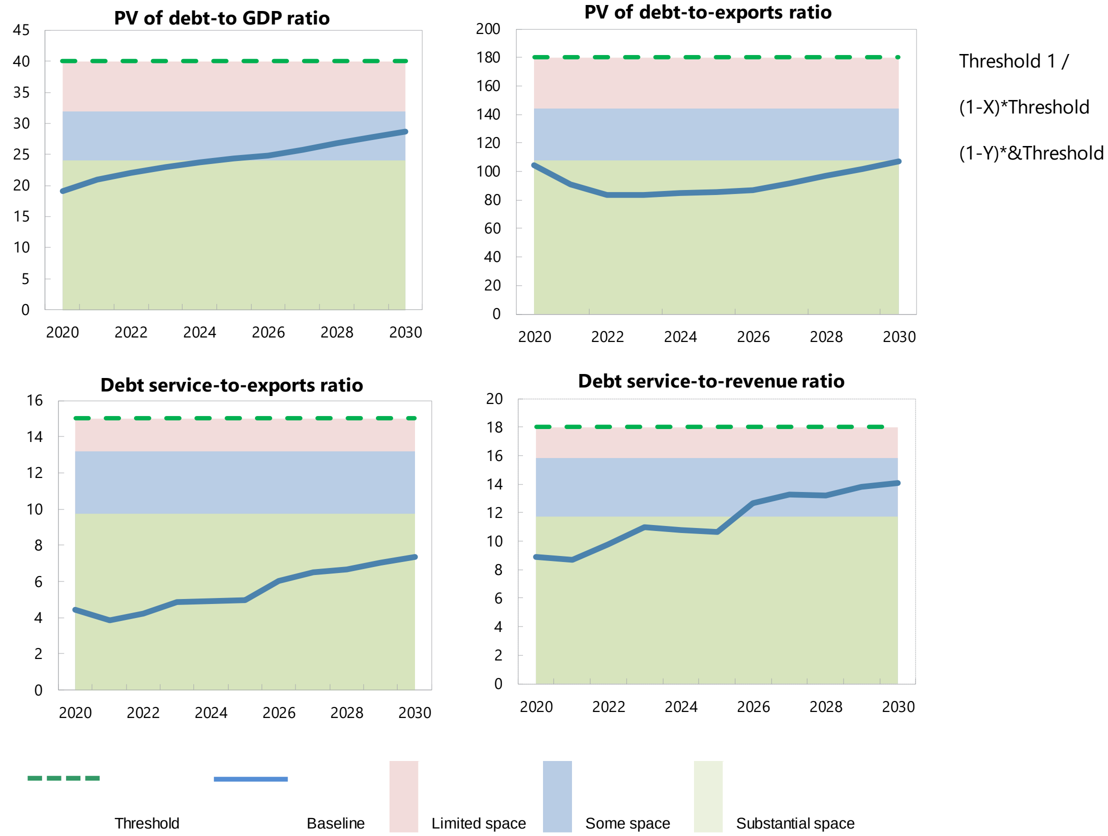


Figure 5. Madagascar: Qualification of the Moderate Category, 2020-2030



Sources: Country authorities; and staff estimates and projections.

1/ For the PV debt/GDP and PV debt/exports thresholds, x is 20 percent and y is 40 percent. For debt service/Exports and debt service/revenue thresholds, x is 12 percent and y is 35 percent.

Statement by Mr. Andrianarivelo, Executive Director for Madagascar, Mr. Nguema-Affane, Senior Advisor to Executive Director, and Mrs. Raoilisoa Andrianometiana, Senior Advisor to the Executive Director March 29, 2021

Our Malagasy authorities are grateful to the Executive Board and management for their continued support in these trying times. They would like also to thank staff for the candid and productive dialogue during the technical meetings and program negotiation mission held virtually over the past months.

Madagascar had successfully completed the 2016-20 ECF-supported program and had planned to start discussions on a successor program when the COVID-19 pandemic hit, leading to the implementation of containment measures and an economic contraction. The Fund responded swiftly to Madagascar's request for emergency financing under the Rapid Credit Facility (RCF) to help meet the immediate health needs, protect the vulnerable population, and close the short-term fiscal and external gaps. The authorities followed through on their commitment to ensure transparency and accountability in the management of COVID-related expenditures, with notably the publication of related information, including the list of procurement contracts as well as the beneficiaries. They remain committed to implement the remaining transparency measures agreed at the time of the RCF.

Despite the RCF disbursements, fiscal and external financial needs remain significant. The larger-than-anticipated impact of the COVID-19 pandemic in Madagascar has created sizable fiscal and balance of payments needs, threatening the achievements made in fiscal consolidation, debt sustainability and structural reforms in recent years. The already acute poverty has worsened during the pandemic and progress toward the Sustainable Development Goals (SDGs) is stalled. This underscores the need for an effective social safety net with a sufficiently wide coverage to protect the most vulnerable during the current crisis and beyond.

The Malagasy authorities are requesting a 40-month Extended Credit Facility (ECF) arrangement to support the recovery from the pandemic, pursue reform implementation, and mobilize external financing. The program will seek to address the country's fragilities that hinder sustainable growth and equitable social outcomes. Additionally, it aims at increasing fiscal space to accommodate priority development and social spending, strengthening the monetary policy framework, sustaining financial stability, and advancing their structural reform agenda. Fund financing under the arrangement will help to cover a protracted balance of payment need. The frontloaded disbursements will support the immediate financing needs facing the country.

Recent Developments and Outlook

The COVID 19 pandemic has inflicted a heavy economic and social toll, exacerbating Madagascar's preexisting vulnerabilities. After several years of strong macroeconomic performance, real GDP growth has turned negative in 2020. All sectors, most acutely the tourism, transportation, mining, and textile sectors, have been impacted. The implementation of measures to cushion the effects of the pandemic have worsened the fiscal deficit, notably through lower tax revenue collection and additional pressure on expenditure. In addition, some current and capital expenditures were reprioritized to accommodate more essential spending. The current account deficit is estimated to have widened. Despite higher non-performing loans (NPLs), the banking sector remains robust, with the central bank supporting bank liquidity and using foreign currency net sales to limit the depreciation of the Ariary. International reserves have increased owing to external support from development partners.

The economic growth is expected to rebound in 2021 thanks to a projected expansion of agriculture, tourism, manufacturing, and mining sectors. Moreover, exports are anticipated to gradually improve as external demand recovers. Growth is projected to return to its pre pandemic level only in 2023, driven by higher private investment. Nonetheless, the authorities remain mindful of the downside risks stemming notably from the evolution of the pandemic, including its new waves and new variants, weak global demand, and climate-related shocks. Against this backdrop, potential contingency plans will be prepared and reflected in a revised budget law for 2021 if risks materialize.

Policies and Reforms for the Period Ahead

The Malagasy authorities recognize the significant economic and development challenges facing the country amid uncertainty about the pandemic and the world economic prospects. They are of the view that macroeconomic stability is a necessary but not a sufficient condition for sustained and inclusive growth. They will continue to focus on mitigating the impact of the pandemic in the near-term and are determined to pursue prudent macroeconomic policies over the medium-term in the context of the ECF-supported program. Structural reforms will focus on promoting good governance and accelerating the anti-corruption agenda. They are seeking Fund technical assistance to advance and implement reforms, mostly in revenue administration, public financial management, as well as monetary and financial policies.

Fiscal Policy and Reforms

The authorities will maintain the accommodative fiscal stance in the near-term to mitigate the pandemic and support the recovery. They will continue to allocate fiscal resources toward enhancing preparedness and detection, ameliorating healthcare, safeguarding businesses, and sustaining multi-sectorial mitigation measures. As the pandemic abates, the domestic primary balance is expected to turn positive in 2023, based on efforts to strengthen revenue mobilization and to improve public financial management. To preserve debt sustainability, the authorities will also pursue their prudent debt management and rely mostly on grants and concessional borrowing for financing.

More specifically, the authorities are committed to further strengthening domestic revenue mobilization and improving spending transparency and efficiency to increase fiscal space. Supported by a comprehensive strategy covering both revenue administration and tax policies, the objective is not only to recover the tax-to-GDP ratio to pre-crisis levels, but also to gradually and steadfastly increase the tax-to-GDP ratio over the medium-term. In parallel, the authorities will bolster the quality of public expenditure through better wage bill management, well prioritized investment projects, and limited transfers to SOEs. This will allow additional resources for social spending, as well as scaling up priority public investment. The transparency of government spending in general, and the Covid-related spending, in particular, will be reinforced.

Madagascar's risk to debt distress remains moderate for both external and overall public debt. The authorities are determined to pursue their efforts to contain fiscal risks and preserve debt sustainability. Madagascar is highly exposed to a wide range of adverse natural events. In this regard, they will continue to improve their disaster risk management strategy. On fuel pricing, the authorities will finalize a plan towards a fuel pricing mechanism to reduce potential liabilities to oil distributors. Moreover, they recognize the significant fiscal risks stemming from SOEs, notably JIRAMA and the airline company Air Madagascar. They are determined to pursue the implementation of the recovery plan for JIRAMA and will limit transfers to the society to what is allocated in the budget law. On Air Madagascar, they will refrain from putting any public funds in the company until its business plan is finalized.

Monetary, Exchange Rate and Financial Policies and Reforms

The central bank (BFM) is committed to its core mandate of price stability while continuing to allow the exchange rate to adjust flexibly, with interventions limited to containing excessive volatility. Monetary policy will continue to aim at maintaining single digit inflation through money market and foreign exchange operations. Plans are underway to launch an ambitious reform to enhance the effectiveness of monetary policy and strengthen financial sector stability. Supported by Fund TA, the reform aims at transitioning gradually from a framework relying on reserve money aggregates to interest rate targeting with a view to ensuring t price stability. The central bank is also adopting the IFRS for the 2020 accounts and is enhancing its autonomy and independence. BFM will comply with the recommendations of the 2021 update of safeguards assessment.

The banking and financial sectors remain broadly resilient and sufficiently capitalized. The BFM will continue its liquidity support of the banking sector and is committed to closely monitor financial stability indicators as non-performing loans are rising as a result of the crisis.

Governance and Fight against Corruption

Our authorities have developed a national anti-corruption strategy, designed a national policy for good governance, and adopted the AML/CFT law in line with FATF requirements. They have also finalized a draft anti-corruption law. Under the new program, the authorities will effectively enforce the new anti-corruption legal framework and remain dedicated to allocating sufficient human, financial and material resources to the institutions in charge of the fight against corruption for their full operationalization. They also intend to issue a decree on illicit asset recovery in the coming months.

Improving the business environment is a key pillar of the government's reform strategy. They have made progress in the issuance of work permits, the registration of new businesses, the digitalization of companies' tax payments and the establishment of a credit bureau. The authorities recognize that, despite progress in recent years, significant challenges remain in some areas such as access to water and electricity, transportation, and logistics costs. The authorities envision to address those challenges in the context of the Plan Emergence Madagascar (PEM).

Conclusion

Our Malagasy authorities have swiftly acted to respond to the Covid 19 pandemic with a package of economic and social measures and the support of Fund emergency assistance. Going forward, as structural vulnerabilities and downside risks remain, they are dedicated to pursue prudent policies and reforms to strengthen macroeconomic stability and lay the foundations for a robust and sustained economic recovery. The authorities look forward to Executive Directors' support to their request for an ECF arrangement to cover part of their financing needs and catalyze additional resources.