INTERNATIONAL MONETARY FUND

THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

STAFF REPORT FOR THE 2018 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS[1]

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

Ethiopia: Risk Rating Summary

Ethiopia
Joint Bank-Fund Debt Sustainability Analysis

Risk of external debt distress	*High*
Overall risk of debt distress	*High*
Granularity in the risk rating	Public and publicly guaranteed debt remains sustainable
Application of judgment	No

In 2017/18, the authorities' strict policies to contain public imports and SOE borrowing continued driving down the current account deficit by 1.7 percentage points of GDP to 6.4 percent of GDP. Export volumes continued rising reflecting the pay-off of investments in trade-enhancing infrastructure built in recent years, while service export revenue experienced substantial growth. However, Ethiopia's export base remains small at 8.7 percent of GDP; and debt service continues to increase as Non-Concessional Borrowing (NCB) contracted in recent years matures. As a result, the two export-related indicators of the Debt Sustainability Analysis (DSA)—the present value of public and publicly guaranteed (PPG) external debt-to-exports and external debt service-to-exports—remain in breach of their respective thresholds in the baseline, as in the 2017 DSA. In addition, the debt service-to-revenue indicator shows a breach of the threshold in 2019/20-2020/21 in the stress test scenario. The application of the new Debt Sustainability Framework for Low-Income Countries resulted in a further tightening of the thresholds of the debt service indicators, leading to a significant and protracted breach, reinforcing the signal from the 2017 DSA. Overall, Ethiopia continues to be at high risk of external debt distress, and consequently is at high risk of debt distress overall.

[1] This debt sustainability analysis was conducted using the Joint Bank-Fund Debt Sustainability Framework for Low-Income Countries (LIC-DSF) that was approved in 2017. Please see ¶10 for a description of the composite index-based capacity assessment and the resultant assessment thresholds.

DEBT COVERAGE[2]

Text Table 1. Ethiopia: Coverage of Public and Publicly Guaranteed Debt and Parameters for Contingent Liability Shocks for the Tailored Stress Test

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

Coverage of Public Sector Debt	
1 Central government	X
2 State and local government	X
3 Other elements in the general government	X
4 o/w: Social security fund	X
5 o/w: Extra budgetary funds (EBFs)	X
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

Contingent Liabilities not Covered (Combined CL Shock)	Default	User defined
Elements of the general government (1 to 5) not captured in table above	0.0	0.0
SoE's debt (guaranteed and not guaranteed by the government) 1/	2.0	4.0
PPP	0.0	0.0
Financial market (the default value of 5 percent of GDP is the minimum value)	5.0	5.0
Total (2+3+4+5) (in percent of GDP)	7.0	9.0

1/ If government-guaranteed debt is already captured under the public debt definition and risks associated with SoE's debt not guaranteed by the government is assessed to be negligible, the default shock of 2% of GDP may be reduce to 0%.

Source: Ethiopian authorities.

1. **Statistical coverage of debt datain Ethiopia is comprehensive (Text Table 1).** The Ministry of Finance and Economic Cooperation (MOFEC) publishes data, on a quarterly basis, on domestic and external debt of the central government and the non-financial public sector, including debt of state-owned enterprises (SOEs) both guaranteed and not guaranteed by the government. Data provided include debt outstanding by type of creditor, disbursements, debt service payments during the fiscal year, currency composition, and details on new debt contracts during the fiscal year. In addition, staffs have included debt from two foreign official bilateral lenders in the form of deposits with the National Bank of Ethiopia (NBE), amounting to US$2 billion in total. Ethiopia recently passed a law governing public-private partnerships (PPPs) and set up a PPP Unit in the MOFEC to administer future agreements. At this stage, some 13 possible projects have been reviewed but no substantial PPPs have been concluded. While the data coverage of potential contingent liabilities is comprehensive, staffs have used a 4-percent shock for contingent liabilities arising from SOEs, larger than the standard 2-percent shock, to cover for other

[2] PPG debt covered by the DSA includes foreign deposits of the National Bank of Ethiopia, the debt of the federal government, regional governments, and all state-owned enterprises that borrow externally, except Ethiopian Airlines (EAL). EAL meets the criteria for exclusion set out in the 2017 Staff Guidance Note on the Debt Sustainability Framework for low-income countries (Appendix III) because it is run on commercial terms, has a sizeable profit margin (as reflected in audited accounts published annually), enjoys managerial independence, and borrows without government guarantee. Nevertheless, statistical data published by the authorities includes the debt of EAL. The debt of Ethiopian Telecom (ETC), which also borrows without a government guarantee, does not meet these criteria and is therefore included in the DSA. The authorities continue to request the exclusion of ETC, which could have a material impact on the results of the DSA. An important requirement in this context is the availability of independent annual financial audits and publicly available comprehensive annual reports.

potential liabilities. These include potential losses arising from the operations of the Development Bank of Ethiopia, which is not a deposit-taking institution but a public financial company that supports long-term private sector projects.

BACKGROUND AND RECENT DEVELOPMENTS

2. Ethiopia reached the completion point under the Heavily Indebted Poor Countries (HIPC) Initiative in 2004 and benefited from debt relief under the Multilateral Debt Relief Initiative (MDRI) in 2006.[3] Since then, public and publicly guaranteed (PPG) external debt reached a low of 18 percent of GDP in mid-2012, before rising steadily again to 33½ percent of GDP[4] by 2017/18[5], while total (including domestic) public debt stood at 61½ percent. In FY13-FY15[6], IDA set non-concessional borrowing (NCB) ceilings for Ethiopia in cooperation with the authorities at US$ 1billion. In response to a shift in the risk of debt distress rating from "low" to "moderate," the NCB ceiling was reduced to US$750 million for FY16 and further down to US$400 million for FY17. The US$400 million NCB ceiling was maintained for FY18 when the risk of debt distress rating was increased to "high". Following consecutive breaches of NCB ceilings for FY17 and FY18, IDA decided that the IDA's country allocation to Ethiopia for FY19 will be on a 50-percent grant and 50-percent credit basis. The NCB ceiling for FY19 has been set at zero.

3. The current change in political leadership is prompting an update of the authorities' development strategy. Following the election of Abiy Ahmed as Prime Minister in March 2018, the authorities have announced policies aimed at strengthening the role of the private sector in driving growth. The underlying policy goals are broadly in line with the government's Second Growth and Transformation Plan (GTP II)—which envisaged the continuation of an important role for the public sector but with greater private participation in the economy through measures to encourage private investment, including foreign direct investment (FDI) and public-private partnerships (PPPs). Since the political transition, the authorities have indicated they intend to move more rapidly and have since announced their intention to partially privatize key SOEs.

4. Ethiopia was assessed to be at high risk of external debt distress in the 2017 DSA due to a deterioration in export-related indicators; the authorities have undertaken policies to mitigate these risks. Export concentration (agricultural commodities, air passenger transportation) and low total export revenue from goods and services (about 8.7 percent of GDP) renders Ethiopia especially vulnerable to export shocks. While total public sector external debt is not comparatively high, it represents a high proportion of exports (351 percent in 2017/18). In response to heightened risks, which were flagged in the 2015 and 2016 DSAs, the authorities reined in public sector borrowing, particularly by state-owned

[3] Debt relief negotiations with a number of bilateral creditors (Bulgaria, Libya, Russia, and FR Yugoslavia) and commercial creditors from Italy, the former Czechoslovakia, India, and FR Yugoslavia are ongoing. The total principal in arrears to these creditors amounted to US$355 million as of June 30, 2018. Standard HPIC terms were assumed for this amount in the DSA.

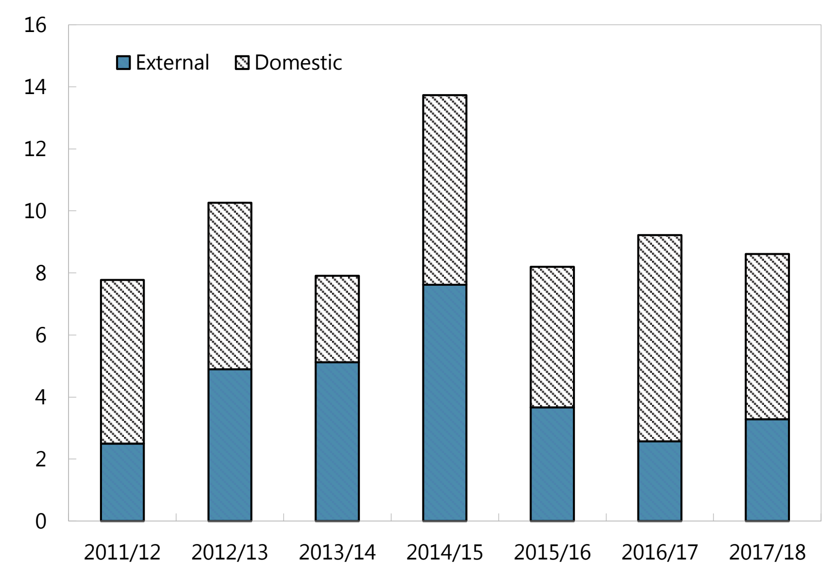
[4] Including debt outstanding to the Fund.

[5] The DSA is based on the Ethiopian fiscal year, which runs from July–June.

[6] Financial years mentioned in this paragraph (prefixed by FY) refer to IDA NCB ceilings and correspond to financial years of the World Bank.

enterprises (Text Figure 1). Since then, a new Public Debt Management and Guarantee Issuance Directive has come into effect, which should further strengthen debt management and buttress the authorities' efforts to control the contracting of new debt. Public sector import restraint has substantially reduced the current account deficit—from 8.1 percent of GDP in 2016/17 to 6.4 percent in 2017/18—despite adverse terms-of-trade dynamics. Aiming to enhance competitiveness, the National Bank of Ethiopia (NBE) devalued the birr by 13.4 percent against the US dollar[7] in October 2017 and tightened the monetary stance to mitigate the exchange rate passthrough.

Text Figure 1. Ethiopia: Net Financing Flows to the Non-Financial Public Sector
(Percent of GDP)



Source: Ethiopian authorities, IMF staff estimates. Includes the debt of Ethiopian Airlines.

5. Ethiopia continues to enjoy robust growth. Real GDP increased by 7.7 percent in 2017/18 on the back of sustained growth in the agriculture sector, export-oriented manufacturing and services. Preliminary data shows a strong uptick in the growth in nominal exports of goods and services (to 13.2 percent) in 2017/18, driven mainly by service exports. Volumes of some traditional exports also grew, and new export lines—mainly manufactures—have started to pick up from a low base.

6. The external deficit was mainly financed by foreign direct investment (FDI) and net borrowing by the public sector. Net FDI was US$3.7 billion (4.5 percent of GDP), a decline from 2016/17, partly due to political uncertainty, while net disbursements to the public sector rose to US$2.3 billion (3.8 percent of GDP). The authorities transferred the majority ownership of the National Tobacco Company to a foreign investor in 2017/18. New public external loans committed in 2017/18 (including loans not guaranteed by the government) amounted to US$3.5 billion. Around

[7] Based on the conventional birr-per-US dollar basis. The authorities' announcement of a 15-percent devaluation is on a US dollar-per-birr basis.

two-thirds were concessional loans from multilateral development agencies and institutions. Of the US$883 million in new loan commitments from commercial banks, around half was from Uni Credit for the Koysha Hydroelectric Project, while the remainder was used for the purchase of planes by Ethiopian Airlines.

Text Table 2. Ethiopia: Public and Publicly-Guaranteed External Debt by Creditor

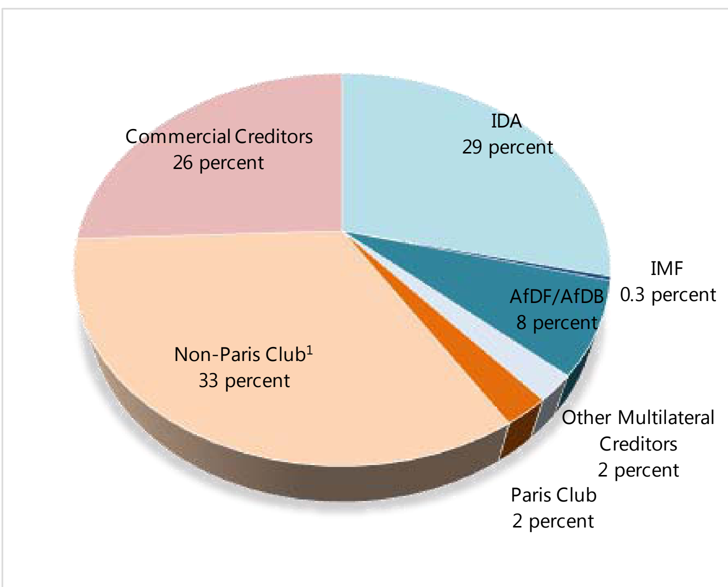
	As at end-June 2017			As at end-June 2018		
	USD, million	Percent of Total	Percent of GDP	USD, million	Percent of Total	Percent of GDP
Total[1]	**24,168**	**100.0**	**30.0**	**27,054**	**100.0**	**33.0**
Official Creditors[1]	**18,312**	**75.8**	**22.7**	**20,117**	**74.4**	**24.6**
Multilaterals	**9,105**	**37.7**	**11.3**	**10,490**	**38.8**	**12.8**
IDA	6,563	27.2	8.1	7,768	28.7	9.5
IMF	142	0.6	0.2	91	0.3	0.1
AfDF/AfDB	1,857	7.7	2.3	2,053	7.6	2.5
Other multilateral creditors	543	2.2	0.7	578	2.1	0.7
Bilaterals[1]	**9,208**	**38.1**	**11.4**	**9,627**	**35.6**	**11.8**
Paris Club	609	2.5	0.8	643	2.4	0.8
Non-Paris Club[1]	8,598	35.6	10.7	8,984	33.2	11.0
Private Creditors	**5,856**	**24.2**	**7.3**	**6,937**	**25.6**	**8.5**
Of which: Bond and Notes Holders	1,000	4.1	1.2	1,000	3.7	1.2

Sources: Ethiopian authorities and IMF staff calculations.

[1] Includes long-term external liabilities of the National Bank of Ethiopia.

Text Figure 2. Ethiopia: Composition of Public and Publicly-Guaranteed External Debt

(As at June 30, 2018)



[1] Includes external liabilities of the National Bank of Ethiopia.

Source: Ethiopian authorities, IMF staff calculations.

OUTLOOK AND KEY ASSUMPTIONS

7. The revised macroeconomic assumptions incorporate updated macroeconomic projections (Box 1 and Text Table 3), which show external vulnerabilities persisting in the near term. The projections are based on current and announced policies, and do not incorporate faster and more ambitious reforms under consideration by the authorities and supported by a series of budget support operations by the World Bank (2018-2020). The main fiscal assumptions assume a continuation of the government's record of prudent budget implementation. The near-term export outlook reflects the positive impact of earlier infrastructure investments including the Hawassa Industrial Park, the new railway line to Djibouti, and hydropower facilities and electricity transmission lines that have come online. The projection envisages the completion of ongoing upgrades to the power generation and transmission infrastructure (particularly to Kenya) and ramp-up of exports from existing and planned industrial parks. External vulnerabilities, arising from low reserve coverage, significant external imbalances and an overvaluation in the real exchange rate, are expected to decline only gradually.

8. Over the medium term, risks are broadly balanced. Downside risks include increases in the price of key imports, particularly oil; delays in the completion of export-supporting infrastructure; and external adverse shocks from lower-than-envisaged growth in global trade or in key trade and investment partners, or in investors sentiment. Ethiopia will also remain vulnerable to the vagaries of coffee prices. The main upside risks stem from implementation of a scaled-up program of reforms to crowd in private sector activity, including privatizations, PPPs, and opening new economic sectors to domestic investors and FDI. Other upside risks include a faster-than-projected ramp-up of exports—driven by industrial parks production; early completion of power transmission lines to export electricity to Kenya (now expected by mid-2019); and commercial exploitation of recently-discovered oil reserves in the Ogaden Valley.

9. The DSA assumes increased support from bilateral and multilateral development partners in the near term. The DSA includes a US$1 billion deposit with the NBE by the Abu Dhabi Fund for Development (ADFD), placed in early 2018/19 in an arrangement similar to the operation with another official bilateral donor described in the 2016 DSA. The ADFD has also agreed to invest a further US$2 billion in Ethiopia, which is assumed to be disbursed as foreign direct investment. Ethiopia is seeking the reprofiling of non-concessional debt to increase its concessionality. Pending conclusion of these negotiations, the revised terms are not included in DSA projections. However, if negotiations were completed successfully, this would improve the debt dynamics—although would not likely change the main results. The DSA also incorporates budget support operations by the World Bank over the coming three years amounting to US$2.2 billion, starting with a US$1.2 billion Development Policy Financing (DPF) in 2018/19. The DPF is envisaged to comprise of 50 percent grants, and the remainder on IDA terms. The NCB ceiling has been set at zero for 2018/19, and NCB disbursements from previously contracted loans will remain moderate until 2022/23 before prospectively picking up again at the end of the projection period. The grant element of new financing will remain high, reflecting Ethiopia's current level of development and extended need for concessional financial support over the longer term (Table 1).

Box 1. Key Macroeconomic and Debt Assumptions

Real GDP growth, at 7.7 percent in 2017/18, is expected to strengthen to 8.5 percent in 2018/19 before stabilizing at 7 over the medium term. Continuing investment in infrastructure, with an emphasis on private sector involvement, and improving productivity, as FDI and export-oriented industries expand, should ensure the growth momentum is maintained going forward. However only gradual alleviation of the forex shortages and continuing restraint on public investment underpins a moderate mark-down in medium-term growth projections. Growth in the very long term is expected to converge to 5-6 percent as Ethiopia becomes a middle-income country. CPI inflation, which is expected to be elevated in the near term, is projected to converge to the 8 percent target of the NBE by end-2019 and remain at that rate in the long run. The general government overall deficit is projected to decline to about 2.7 percent of GDP, with gradual progress in tax collection offsetting increased investment and social spending. In particular, revenue mobilization continues to lag expectations, led by shortfalls in tax collections. The projections therefore have been revised to take into account the reduced revenue ratio, which will only improve gradually as tax policy and administration reforms bear fruit.

The external current account deficit (including official transfers) is estimated at 6.4 percent of GDP in 2017/18. Gradual improvement of export performance, a moderate pick-up in capital goods imports, and steady inflows of remittances (although slowly declining as a ratio to GDP) will lead to a gradual reduction of the deficit over the longer term. Economic transformation is expected to ameliorate external imbalances, with more dynamic and diversified exports and a phase-down in public imports of capital goods.

Exports of goods and services in dollar terms are estimated to have grown by 13.2 percent in 2017/18 driven by a strong performance of service exports. Coffee export revenue declined due to adverse price dynamics. The improvement in volumes and rising manufacture exports from new industrial parks are expected to be supported by continued public investment in energy and transport infrastructure and private investment (including FDI). In addition, services exports should be sustained by growth in air transport on the back of sustained investment and route expansion by EAL over the medium term. As a result, exports of goods and services are envisaged to rise to 13.5 percent of GDP by 2038/39.

Imports of goods and services remained flat in 2017/18 after declining by 4.8 percent in 2016/17. Over the longer term, imports should expand at an annual average rate of 6.3 percent while their share to GDP will decline from 23.5 percent in 2017/18 to 19.4 percent by 2038/39.

Net FDI inflows, while remaining high, declined to US$3.7 billion (4.5 percent of GDP) in 2017/18. Net FDI inflows are projected to recover to US$5.6 billion by 2022/23. This reflects improved competitiveness and ongoing policies to attract foreign investment. Private transfers increased by 10.7 percent in 2017/18, as inflows from individuals, mainly remittances, grew sharply by 15.7 percent. Transfers from non-governmental organizations continued to decline following the improvement in drought conditions. Projections assume remittances will amount to about 2.1 percent of GDP by 2038/39.

Text Table 3. Ethiopia: Key Macroeconomic and Debt Assumptions—Comparison with the Previous Debt Sustainability Analysis

Fiscal year ending June	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2026/27	2036/37	2037/38	2038/39
	Actual	Projections								
Grant Element of New External Borrowing										
2018DSA		51.5	44.6	45.9	48.8	47.6	49.6	33.0	32.3	32.3
2017DSA		46.3	48.6	50.3	50.2	49.7	59.4	31.6	31.4	n.a.
New Non-Concessional Debt Disbursements (billions of U.S. dollars)										
2018DSA		0.000	0.637	0.550	0.184	0.434	0.300	1.250	1.250	1.250
2017DSA		0.654	0.452	0.388	0.292	0.303	0.000	1.250	1.250	n.a.
Real GDP Growth (annual percent change)										
2018DSA	7.7	8.5	7.6	7.1	7.0	7.0	6.2	5.4	4.8	4.5
2017DSA	9.0	8.5	8.3	8.1	8.0	8.0	6.2	5.0	5.0	n.a.
Current Account Balance (percent of GDP)										
2018DSA	-6.4	-6.2	-5.8	-5.2	-4.2	-3.8	-3.6	-2.9	-2.6	-2.4
2017DSA	-7.7	-7.5	-6.8	-6.1	-5.5	-5.6	-5.0	-3.3	-3.0	n.a.
Exports of goods and services (percent of GDP)										
2018DSA	8.6	8.6	8.9	9.2	9.7	10.2	10.8	12.6	13.0	13.5
2017DSA	8.3	9.1	9.5	9.9	10.3	10.6	11.6	13.3	13.5	n.a.
Exports of goods and services (annual percent change)										
2018DSA	13.2	12.7	12.6	12.6	13.6	14.3	8.2	9.5	9.3	9.8
2017DSA	12.9	13.4	13.9	14.2	14.2	12.1	8.6	8.9	8.7	n.a.
Fiscal balance (percent of GDP)										
2018DSA	-3.7	-3.1	-3.0	-2.9	-2.8	-2.7	-2.2	-1.9	-1.9	-1.9
2017DSA	-2.5	-2.5	-2.3	-2.2	-2.1	-2.7	-2.3	-1.9	-1.9	n.a.
International reserves (Billions of U.S. dollars)										
2018DSA	2.8	3.4	3.9	4.7	5.9	7.5	9.7	17.6	18.4	19.8
2017DSA	3.7	4.4	5.0	5.7	6.3	6.8	9.8	22.0	23.4	n.a.
General government revenue (percent of GDP)										
2018DSA	12.8	13.0	13.1	13.3	13.5	13.9	17.7	22.2	22.3	22.9
2017DSA	14.7	15.1	15.5	15.8	16.3	17.0	17.8	19.9	20.1	n.a.

Sources: Ethiopian authorities; IMF and World Bank staff estimates and projections.

10. **Ethiopia's debt carrying capacity is assessed as "medium".** The Composite Index (CI) for Ethiopia, which measures the debt carry capacity in the current LIC-DSF, stands at 2.72, within the 2.69 to 3.05 range for medium capacity countries. Underlying inputs for the calculation of the CI were sourced from the IMF's October 2018 WEO, and an update of the Country Policy and Institutional Assessment to 2017 levels. With this assessment, the DSA uses the following thresholds to assess risk of external debt distress:

- Present value of PPG external debt-to-GDP: 40 percent
- Present value of PPG external debt-to-exports: 180 percent
- External debt service-to-exports: 15 percent
- External debt service-to-revenue: 18 percent

Ethiopia qualifies for the market financing risk module by virtue of the US$1 billion Eurobond, which matures in 2024.

EXTERNAL DEBT SUSTAINABILITY ANALYSIS

A. Baseline Scenario

11. The baseline shows the stock of external public and publicly guaranteed debt remaining relatively stable through 2019/20, then declining gradually thereafter (Table 1). The present value (PV) of debt-to GDP (PVDY) remains well below its threshold[8] throughout the projection period (Figure 1), while a second stock indicator——the PV of debt-to-exports (PVDE)——exhibits large and persistent breaches of its threshold. The threshold breach observed for the PVDE is greatest in 2018/19 (56 percentage points above the threshold) and will not fall below the threshold until 2021/22 (3 years), similar to the results in the last DSA.

12. The profiles of two debt service indicators reflects the maturity profile of NCB. As in the 2017 DSA, debt service-to-exports (DSE) shows a breach, which is now significantly larger and more persistent than in the 2017 assessment. The ratio exceeds its threshold in 2018/19 and peaks in 2019/20 (22 percent, a 7-percentage point breach above the 15-percent threshold) before declining to below the threshold in 2023/24. The indicator then breaches the threshold again in 2025/26 (2.5 percentage points). The deterioration in the DSE indicator reflects the lowering of the threshold used in assessing debt sustainability (previously: 20 percent) based on updated estimates of debt distress probabilities, and the accumulation of new liabilities amounting to US$1 billion by the NBE from a bilateral donor that increase amortization payments from 2020/21.

B. Stress Tests and Additional Analysis

13. The standard stress tests confirm that the key risks are related to the two indicators flagged in the baseline (Figure 1 and Table 3). The PVDY remains below the baseline under all stress test scenarios throughout the projection period. For both the PVDE and DSE ratios, the most significant shock is that to exports: a one-standard deviation shock to export growth[9] leads to a 7-year breach for the PVDE indicator, and an 8-year breach for the DSE indicator. The debt service-to-revenue indicator is most significantly affected by a one-time 30 percent nominal depreciation of the currency. Under this scenario, the indicator exceeds the 18-percent threshold in 2019/20-2020/21.

[8] The new LIC-DSF, similar to the previous one, assesses the risk of debt distress by observing the evolution of selected indicators against predetermined thresholds that are set according to countries' debt carrying capacities. The indicators are identical to those in the previous LIC-DSF, with the exception of the PV of debt-to-government revenues (PVDR), which is no longer used. This was dropped as it was found to add no new information in the process of determining the risk of debt distress. See IMF Policy Paper on Review of the Debt Sustainability Framework for Low Income Countries: Proposed Reforms, October 2017.

[9] This is computed relative to the projections or historical data, whichever is lower.

14. A shock to the terms of market financing worsens indicators related to debt service (Figure 5). Ethiopia's only marketable debt is the Eurobond, which matures in 2024. Under the baseline, both the near-term gross financing need and market perception of risk (the spread between the yield of the debt and the EMBI) remain below the thresholds that signal heightened risk. A shock to the financing terms would substantially worsen the debt service indicators, particularly the debt service-to-export ratio.

PUBLIC DEBT SUSTAINABILITY ANALYSIS

15. External debt accounts for about 56 percent of total public and publicly guaranteed (PPG) debt (Text Table 4). As at end-June 2018, total PPG debt amounted to 61.8 percent of GDP,[10] an increase of 4 percentage points compared to June 2017, largely due to an increase in the domestic currency value of external debt outstanding. This mainly reflected the devaluation of the birr in October 2017. Domestic debt made up 44 percent of total debt, with domestic debt of the central government accounting for 21.4 percent of this, and the remainder corresponding to SOEs. The bulk of the domestic debt of the central government is owed to banks, primarily the NBE, largely reflecting advances to finance the budget. The remainder mainly comprises Treasury bills held by commercial banks. Domestic borrowing by the SOEs, whether through loans or bond issuance, was entirely from domestic banks.

Text Table 4. Ethiopia: Composition of Public and Publicly-Guaranteed Debt

	As at end-June 2017			As at end-June 2018		
	Billions of birr	Percent of total	Percent of GDP	Billions of birr	Percent of total	Percent of GDP
Total [1]	**1160.4**	**100.0**	**57.7**	**1404.7**	**100.0**	**61.8**
External [1]	**658.9**	**56.8**	**30.0**	**789.2**	**56.2**	**33.0**
Domestic	**501.5**	**43.2**	**27.8**	**615.5**	**43.8**	**28.8**
Central government	238.5	20.6	13.2	300.6	21.4	14.1
Banks	*178.4*	*15.4*	*9.9*	*219.6*	*15.6*	*10.3*
NBE	*135.6*	*11.7*	*7.5*	*160.1*	*11.4*	*7.5*
Other banks	*42.8*	*3.7*	*2.4*	*59.5*	*4.2*	*2.8*
Non-banks	*60.1*	*5.2*	*3.3*	*81.0*	*5.8*	*3.8*
SOEs	263.0	22.7	14.6	314.9	22.4	14.7

Source: Ethiopian authorities, IMF staff calculations.
[1] Includes external liabilties of the National Bank of Ethiopia.

16. Overall public debt does not flag additional risks to those stemming from the external debt (Figure 2). The present value of total public debt stays well below the threshold of 55 percent of GDP in the baseline and under all scenarios considered throughout the projection period. This baseline assumes a gradual increase in domestic interest rates, achieving positive real interest rates by 2030/31, and a gradual shift away from external financing towards domestic financing as domestic financial markets develop. This development assumes a gradual phasing out of monetary financing of the government by the NBE. The

[10] Including external deposits of the NBE.

debt service burden is expected to reach 4.4 percent of GDP in 2028/29 as the lower annual amortization arising from a gradual shift to domestic debt of longer maturities offsets the increase in domestic interest rates due to a shift to market-determined interest rates and greater use of debt of longer maturities.[11] Looking at the stress-tests to public debt, the combined contingent liabilities shock results in the largest impact on all the ratios.

C. Decomposing Debt Developments and Realism of Projections

17. The debt and macroeconomic projections underpinning this 2018 DSA are not significantly different from the previous 2017 vintage (Figure 3). The accumulation of debt in Ethiopia over the last 5 years has been primarily driven by the investment activity of SOEs. Going forward, the DSA assumes that the authorities will continue their policy of strictly limiting external borrowing, especially NCB, and as such debt accumulation will be lower than in the last 5 years for which data is available. The projected rate of debt accumulation is significantly below the median observed for other low-income countries (LICs), but the authorities' disciplined implementation of policies since 2015/16 accords with the projected path. The current account deficit was the main factor behind the worsened external debt dynamics in the most recent 5-year period—which was partly offset by favorable contributions from growth. Looking forward, GDP gains and a narrowing current account deficit should underpin improvement in external debt. Higher domestic interest rates will likely weigh on future domestic (and hence overall) debt dynamics.

18. The macroeconomic projections are consistent with historical patterns and those observed in other LICs (Figure 4). In particular, the amount of fiscal adjustment assumed is close to the median observed for LICs historically and would bring Ethiopia's fiscal deficit close to its historical average. The key component of the policy adjustment falls on the larger public sector, mainly the SOEs, which has been ongoing since 2016/17. This also accounts for the markdown in public investment projections in the near term relative to earlier DSAs, while over the medium term, private investment, including FDI, is expected to play an increasingly larger role in driving growth. While plausible, the macroeconomic and debt assumptions underscore the ambitious scope of the adjustment policies. Slippages could therefore further affect debt sustainability.

ASSESSMENT

19. The external DSA confirms that Ethiopia remains at high risk of debt distress. While export revenue and volumes in 2017/18 strengthened, declining commodity prices caused overall export performance to fall below expectations, keeping the two indicators related to exports above their

[11] The debt service burden in 2018/19 shown in Figure 2 reflects a methodological change in the new LIC-DSF wherein the entire stock of short-term domestic debt—mainly Treasury bills—that comes due during the year is being treated as amortization of debt. In the previous framework, short-term domestic debt maturing was excluded from debt service payments as it was expected these obligations would be rolled over. Staffs do not consider this methodological change as signaling additional risks: the authorities have been able to roll over this debt readily in the past and owing to the structure of Ethiopia's financial system and the lack of alternative instruments, staffs expects this to extend in the near term. In terms of magnitude, maturing domestic short-term debt accounts for 74.4 percent of the total public debt service coming due in 2018/19.

respective thresholds in the baseline. The main vulnerabilities remain those that arise from Ethiopia's narrow export base—concentrated in primary commodities and air transportation—and volatility of export prices. While the export mix has diversified in recent years and manufactured exports are growing at double-digit rates, the levels of most new export lines remain still low. Thus, while external debt is not comparatively high as a percent of GDP (33 percent), it represents a high proportion of exports.

20. **While liquidity risks are elevated, the public debt remains sustainable.** The level of debt is moderate—61.8 and 33.3 percent of GDP respectively for total and external debt (Tables 3 and 4). The debt level and debt service profiles stabilize and decline in the medium term both under the baseline and alternative scenarios. This stabilization and decline is achieved with a projected fiscal adjustment that is within the three lower quartiles of the cross-country historical distribution (Figure 4)—indicating the fiscal adjustment assumption in the baseline is realistic. In addition, the authorities could undertake stronger consolidation if extreme circumstances required it, since budget control is strong as evidenced by a track record of budget expenditure under-execution when required to meet budgetary targets. The debt structure also reduces rollover risks and hence argues for its sustainability: About 74 percent of external debt is owed to official multilateral and bilateral creditors (Text Figure 2) and a large proportion of it is concessional. A US$ 1 billion Eurobond (with remaining maturity of six years) is the only outstanding external marketable security.

21. **Domestic debt dynamics do not pose additional risks; but highlight the need to mobilize domestic savings and expand financial intermediation.** The projected path and composition of public debt is predicated on gradually shifting the public financing burden increasingly towards domestic markets. This assumes the development of deeper and more efficient domestic debt markets, with higher remuneration of savers and interest rates increasingly determined supply and demand. In turn, increasingly market-driven public financing costs will require efforts to generate savings in the broader public sector.

22. **Adverse shocks to exports would lead to a worsening of debt sustainability prospects.** The projected export growth is based on identified projects with positive spillovers and is starting to materialize. However, the large share of commodity exports, subject to volatile prices, and low NBE reserves remain sources of vulnerability. Should reforms stall, particularly regarding promotion of FDI and private sector development, fiscal and SOE savings, and financial markets development, the associated worsening of the external balance of payments could prompt debt stress episodes and adversely affect growth.

23. **The authorities have implemented policies to address these risks, broadly in line with staffs' advice, but these policies need to be stepped up.** NCB by SOEs is being reined in. As a result, imports and the current account deficit have declined. The exchange rate was devalued by 13.4 percent in October 2017, and the NBE also adopted a tight monetary policy stance, though credit growth and inflation remain high. The real overvaluation of the birr is estimated to have declined to a range of 12-18 percent from about 20 percent one year prior. However, gaining competitiveness and rebuilding reserves will necessitate a more flexible exchange rate policy and a continuation of measures to further restrict the fiscal and monetary policy stances. The acquisition of non-concessional liabilities by the NBE in recent years to alleviate balance-of-payments financing stress is not sustainable, as debt servicing obligations are posing increasing and substantial risks. Policies to reduce external vulnerabilities should retain their medium-term focus on competitiveness and export diversification. But, in the short term, there is a need to step up efforts

at mobilizing domestic savings, curbing debt- and import-intensive public projects, and seeking instead private sector-based funding sources for the provision of public goods and external financing such as concessions to private investors, PPPs (with adequate fiscal safeguards), and privatization proceeds. The fiscal governance framework could be further improved by strengthening transparency and oversight of SOEs, improved communication on the budget preparation and monitoring process, and over extra-budgetary funds maintained by the government.[12]

Authorities' Views

24. The authorities agreed that the external position remains vulnerable but consider the conditions for a sustained export take-off are now in place, which would reduce risks and improve the debt sustainability outlook. In addition, the normalization of the political environment should see an increase in FDI and remittance flows from the diaspora, further reducing risks. Medium-term prospects are strong as implementation of announced reforms should sustain growth and narrow external imbalances. Thus, they continue to view the DSA as overstating risks, and considered there was a strong case for the use of judgment to override the mechanical signal. The authorities argued for the exclusion of the debts of Ethiopian Telecom from the DSA, citing the company's profitability and strong balance sheet position as the basis. Staffs noted the lack of audited financial statements since 2014/15, which the authorities are currently working to rectify, and look forward to examining more recent information in future missions.

[12] The Federal Republic of Ethiopia: Staff Report for the 2017 Article IV Consultation (IMF Country Report 18/18).

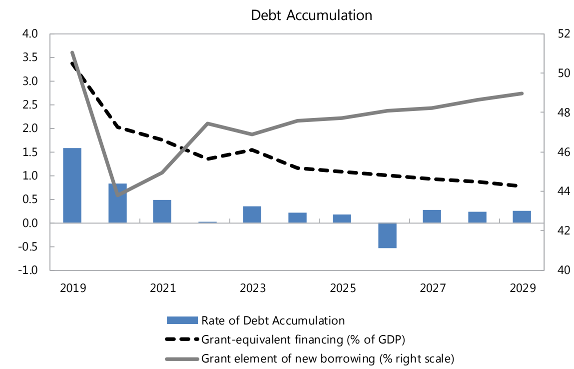
Table 1. Ethiopia: External Debt Sustainability Framework, Baseline Scenario, 2017/18–2038/39

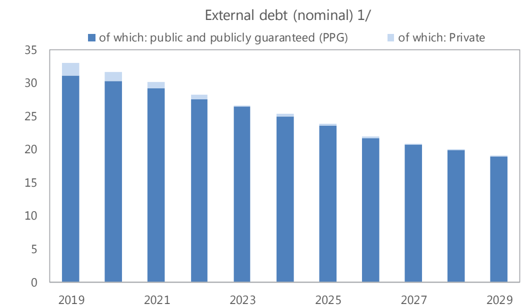
(In percent of GDP, unless otherwise indicated)

(In percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 9/	
	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections
External debt (nominal) 1/	**34.1**	**33.0**	**31.6**	**30.2**	**28.2**	**26.5**	**25.3**	**19.0**	**11.9**	**25.5**	**25.5**
of which: public and publicly guaranteed (PPG)	**31.6**	**31.1**	**30.3**	**29.2**	**27.5**	**26.4**	**25.0**	**18.9**	**11.8**	**23.4**	**25.5**
Change in external debt	3.2	-1.0	-1.4	-1.4	-2.0	-1.6	-1.2	-0.9	-0.6		
Identified net debt-creating flows	**1.4**	**-1.0**	**-1.4**	**-1.5**	**-2.3**	**-2.4**	**-2.3**	**-1.0**	**-0.5**	**0.3**	**-1.8**
Non-interest current account deficit	**5.7**	**5.7**	**5.2**	**4.7**	**3.8**	**3.4**	**3.3**	**3.4**	**2.2**	**5.8**	**3.9**
Deficit in balance of goods and services	-32.1	-32.4	-31.9	-32.0	-31.9	-32.0	-32.0	-31.4	-32.9	**-39.9**	**-31.9**
Exports	8.6	8.6	8.9	9.2	9.7	10.2	10.5	11.0	13.5		
Imports	-23.5	-23.7	-23.0	-22.8	-22.3	-21.8	-21.5	-20.3	-19.4		
Net current transfers (negative = inflow)	-8.9	-9.6	-8.9	-9.0	-8.8	-8.2	-7.7	-5.8	-3.7	**-11.5**	**-7.9**
of which: official	-1.5	-2.4	-1.6	-1.6	-1.5	-1.5	-1.4	-1.3	-1.1		
Other current account flows (negative = net inflow)	46.7	47.7	46.1	45.6	44.5	43.6	42.9	40.6	38.8	**57.1**	**43.7**
Net FDI (negative = inflow)	**-4.5**	**-4.6**	**-4.9**	**-4.7**	**-4.5**	**-4.4**	**-4.2**	**-3.4**	**-2.3**	**-3.5**	**-4.3**
Endogenous debt dynamics 2/	**0.2**	**-2.1**	**-1.7**	**-1.5**	**-1.5**	**-1.4**	**-1.4**	**-1.0**	**-0.4**		
Contribution from nominal interest rate	0.7	0.5	0.6	0.5	0.5	0.4	0.4	0.2	0.1		
Contribution from real GDP growth	-2.3	-2.6	-2.3	-2.1	-2.0	-1.8	-1.7	-1.1	-0.5		
Contribution from price and exchange rate changes	1.8	...	...	...	...	...	...	...	...		
Residual 3/	**1.9**	**-0.1**	**-0.1**	**0.1**	**0.3**	**0.8**	**1.1**	**0.1**	**-0.2**	**1.8**	**0.3**
of which: exceptional financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Sustainability indicators											
PV of PPG external debt-to-GDP ratio	**21.4**	**20.4**	**19.4**	**18.3**	**16.9**	**15.9**	**14.9**	**10.6**	**7.5**		
PV of PPG external debt-to-exports ratio	**247.9**	**236.2**	**218.2**	**198.6**	**174.9**	**156.3**	**142.2**	**96.3**	**55.7**		
PPG debt service-to-exports ratio	**24.4**	**16.5**	**22.0**	**21.0**	**18.7**	**16.9**	**13.4**	**7.5**	**4.6**		
PPG debt service-to-revenue ratio	**16.4**	**11.0**	**14.9**	**14.6**	**13.4**	**12.4**	**9.2**	**4.3**	**2.7**		
Gross external financing need (Million of U.S. dollars)	2945.6	2632.8	2573.3	2354.1	1469.1	1098.3	764.9	1681.5	2107.3		
Key macroeconomic assumptions											
Real GDP growth (in percent)	7.7	8.5	7.6	7.1	7.0	7.0	7.0	6.2	4.5	**9.8**	**7.4**
GDP deflator in US dollar terms (change in percent)	-5.6	3.6	1.6	1.5	1.1	1.4	1.4	1.1	1.1	**2.3**	**1.8**
Effective interest rate (percent) 4/	2.3	1.6	1.9	1.8	1.7	1.5	1.5	1.0	1.1	**2.1**	**1.7**
Growth of exports of G&S (US dollar terms, in percent)	13.2	12.7	12.6	12.6	13.6	14.3	11.4	8.6	9.8	**9.2**	**12.9**
Growth of imports of G&S (US dollar terms, in percent)	0.2	13.6	5.9	7.5	6.0	6.4	6.9	6.4	6.1	**9.4**	**7.7**
Grant element of new public sector borrowing (in percent)	...	51.0	43.8	44.9	47.4	46.9	47.6	49.0	31.4	**...**	**46.9**
Government revenues (excluding grants, in percent of GDP)	12.8	13.0	13.1	13.3	13.5	13.9	15.2	19.3	22.9	**13.8**	**13.7**
Aid flows (in Million of US dollars) 5/	689.5	4555.2	2896.0	2772.7	2322.9	3011.6	2341.5	2364.0	1607.6		
Grant-equivalent financing (in percent of GDP) 6/	...	3.4	2.0	1.8	1.3	1.5	1.2	0.8	0.4	**...**	**1.9**
Grant-equivalent financing (in percent of external financing) 6/	...	64.1	53.3	54.2	58.1	54.7	57.3	57.8	52.0	**...**	**57.0**
Nominal GDP (Million of US dollars)	81,927	92,124	100,714	109,460	118,471	128,570	139,549	202,541	386,159		
Nominal dollar GDP growth	1.6	12.4	9.3	8.7	8.2	8.5	8.5	7.4	5.6	**12.2**	**9.3**
Memorandum items:											
PV of external debt 7/	23.8	22.3	20.7	19.3	17.6	16.0	15.2	10.7	7.6		
In percent of exports	276.1	258.2	232.6	209.1	182.2	157.4	145.6	97.2	56.1		
Total external debt service-to-exports ratio 8/	28.3	19.8	24.8	23.4	20.8	18.5	14.4	7.5	4.6		
PV of PPG external debt (in Million of US dollars)	17502.0	18795.7	19552.6	20039.0	20043.9	20467.5	20739.9	21553.7	29057.9		
(PVt-PVt-1)/GDPt-1 (in percent)		1.6	0.8	0.5	0.0	0.4	0.2	0.3	0.1		
Non-interest current account deficit that stabilizes debt ratio	2.5	6.7	6.7	6.1	5.7	5.0	4.5	4.3	2.9		

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/ Includes MLT private sector debt.
9/ Historical averages are generally derived over the past 10 years, subject to data availability. Projections averages is the first year of projection and the next 10 years.

Table 2. Ethiopia: Public Sector Debt Sustainability Framework, Baseline Scenario, 2017/18–2038/39

(In percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 5/	
	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections
Public sector debt 1/	58.5	54.0	51.5	49.2	47.2	45.2	43.0	30.9	12.5	46.1	43.8
of which: external debt	31.6	31.1	30.3	29.2	27.5	26.4	25.0	18.9	11.8	23.4	25.5
Change in public sector debt	5.6	-4.6	-2.5	-2.2	-2.0	-2.1	-2.1	-2.5	-0.7		
Identified debt-creating flows	0.1	-4.7	-2.6	-2.5	-2.2	-2.2	-2.2	-2.5	-1.4	-4.0	-2.6
Primary deficit	3.2	2.5	2.4	2.2	2.0	1.8	1.6	-0.5	-0.8	1.7	1.4
Revenue and grants	13.7	14.4	13.7	13.8	14.0	14.3	15.5	19.5	23.1	15.6	15.6
of which: grants	0.8	1.4	0.6	0.5	0.5	0.4	0.4	0.2	0.2		
Primary (noninterest) expenditure	16.9	17.0	16.2	16.0	16.0	16.1	17.1	19.0	22.3	17.3	17.0
Automatic debt dynamics	-2.7	-7.2	-5.0	-4.7	-4.2	-4.0	-3.8	-2.0	-0.6		
Contribution from interest rate/growth differential	-5.0	-6.7	-5.0	-4.8	-4.4	-4.2	-4.0	-2.1	-0.7		
of which: contribution from average real interest rate	-1.2	-2.1	-1.2	-1.4	-1.2	-1.1	-1.0	-0.2	-0.2		
of which: contribution from real GDP growth	-3.8	-4.6	-3.8	-3.4	-3.2	-3.1	-3.0	-2.0	-0.6		
Contribution from real exchange rate depreciation	2.3	-0.5	0.1	0.1	0.2	0.1	0.1	...	...		
Other identified debt-creating flows	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0
Privatization receipts (negative)	-0.5	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		
Debt relief (HIPC and other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Other debt creating or reducing flow (please specify)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Residual	5.6	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.7	6.0	0.1
Sustainability indicators											
PV of public debt-to-GDP ratio	49.2	44.2	41.4	39.2	37.4	35.4	33.6	23.1	8.5		
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		
PV of public debt-to-revenue and grants ratio	360.5	306.3	301.5	283.2	268.1	247.4	216.4	118.3	36.8		
PV of public debt-to-revenue ratio	384.1	339.4	316.2	294.9	277.4	254.9	221.7	119.7	37.2		
Debt service-to-revenue and grants ratio 2/	26.2	72.8	73.1	68.4	61.3	55.2	46.0	22.5	3.1		
Debt service-to-revenue ratio 2/	27.9	80.7	76.7	71.3	63.5	56.9	47.2	22.7	3.2		
Gross financing need 3/	6.8	13.0	12.5	11.7	10.6	9.7	8.7	3.9	-0.1		
Key macroeconomic and fiscal assumptions											
Real GDP growth (in percent)	7.7	8.5	7.6	7.1	7.0	7.0	7.0	6.2	4.5	9.8	7.0
Average nominal interest rate on public debt (in percent)	2.7	1.7	2.1	2.1	2.1	2.3	2.5	3.9	1.2	3.0	2.6
Average nominal interest rate on forex debt (in percent)	2.5	1.7	2.0	1.9	1.7	1.6	1.5	1.0	1.1	2.2	1.5
Average real interest rate (in percent)	-2.5	-3.9	-2.5	-2.9	-2.5	-2.4	-2.3	-0.6	-1.4	-4.0	-2.2
Average real interest rate on foreign-currency debt (in percent)	-1.2	-1.8	-1.8	-2.0	-1.9	-1.9	-2.0	-2.0	-2.0	-1.6	-1.9
Average real interest rate on domestic debt (in percent)	-6.7	-8.3	-6.0	-5.8	-5.1	-4.8	-4.4	-0.2	-5.1	-7.9	-4.2
Real exchange rate depreciation (in percent, + indicates depreciation)	8.8	-1.7	...	...	...	...	...	...	...	0.4	...
Inflation rate (GDP deflator, in percent)	9.9	10.9	8.7	8.6	8.2	8.5	8.5	8.2	8.2	13.2	8.7
Growth of real primary spending (deflated by GDP deflator, in percent)	2.0	9.2	2.5	6.2	6.8	7.9	13.6	7.1	8.6	2.7	8.3
Grant element of new external borrowing (in percent)	...	51.0	43.8	44.9	47.4	46.9	47.6	49.0	31.4	...	47.4
Primary deficit that stabilizes the debt-to-GDP ratio 4/	-2.4	7.1	4.9	4.4	4.0	3.9	3.7	2.0	-0.1	0.2	3.9

Sources: Country authorities; and staff estimates and projections.

1/ The entire public sector, including SOEs. Definition of external debt is Currency-based.

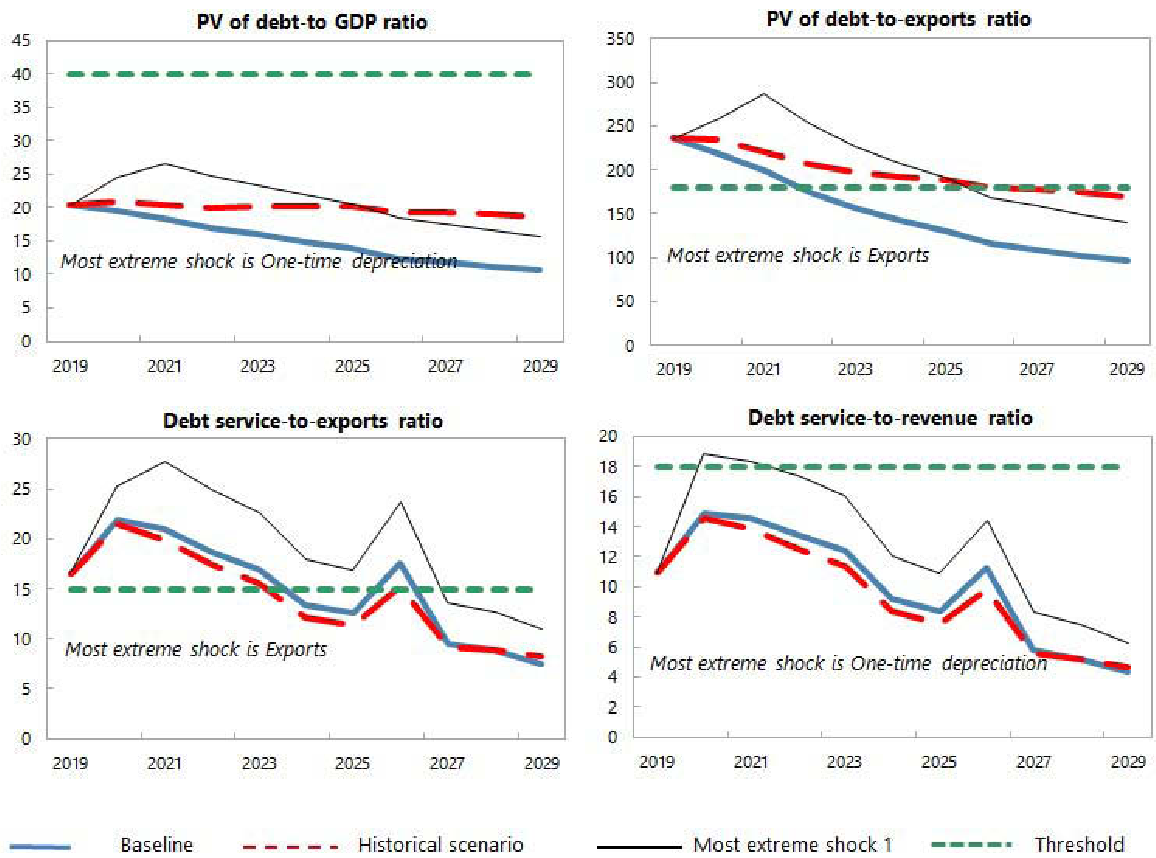
2/ Debt service is defined as the sum of interest and amortization of medium and long-term, and short-term debt.

3/ 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.

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

5/ Historical averages are generally derived over the past 10 years, subject to data availability. Projections averages is the first year of projection and the next 10 years.

Figure 1. Ethiopia: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2019–29[1/]



Customization of Default Settings		
	Size	Interactions
Tailored Tests		
Combined CLs	Yes	
Natural Disasters	n.a.	n.a.
Commodity Prices [2/]	n.a.	n.a.
Market Financing	No	No

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

Borrowing Assumptions for Stress Tests*		
	Default	User defined
Shares of marginal debt		
External PPG MLT debt	100%	100%
Terms of marginal debt		
Avg. nominal interest rate on new borrowing in USD	1.1%	1.1%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	33	33
Avg. grace period (minimum 1)	5	5

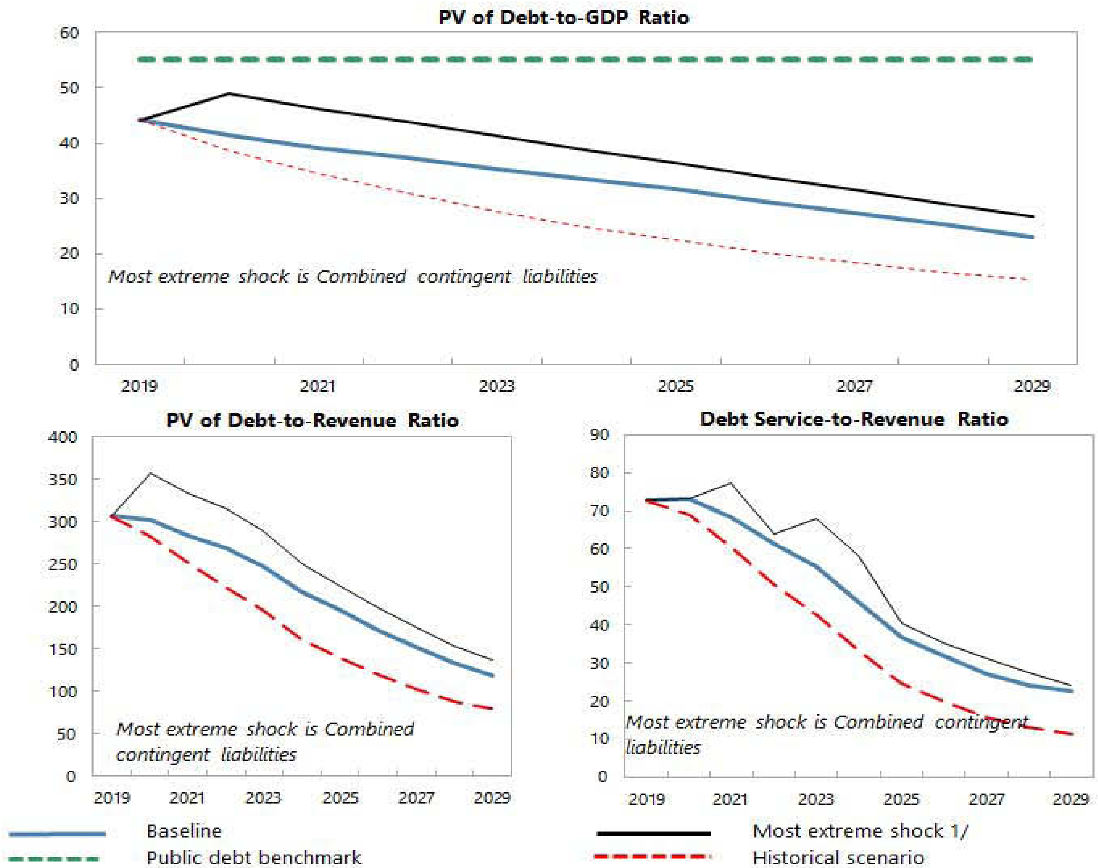
* Note: All the additional financing needs generated by the shocks under the stress tests are assumed to be covered by PPG external MLT debt in the external DSA. Default terms of marginal debt are based on baseline 10-year projections.

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 2029. Stress tests with one-off breaches is also presented.

[2/] The magnitude of shocks are based on the commodity prices outlook prepared by the IMF Research department.

Figure 2. Ethiopia: Indicators of Public Debt Under Alternative Scenarios, 2019–29[1/]



Borrowing Assumptions for Stress Tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	34%	34%
Domestic medium and long-term	54%	54%
Domestic short-term	12%	12%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	1.1%	1.1%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	33	33
Avg. grace period (minimum 1)	5	5
Domestic MLT debt		
Avg. real interest rate on new borrowing	-3.0%	-3.0%
Avg. maturity (incl. grace period)	4	4
Avg. grace period (minimum 1)	2	2
Domestic short-term debt		
Avg. real interest rate	-6%	-6.0%

* 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 2029. Stress tests with one-off breaches is also presented.

Table 3. Ethiopia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2019–29

(In percent)

	Projections										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PV of debt-to GDP ratio											
Baseline	**20.4**	**19.4**	**18.3**	**16.9**	**15.9**	**14.9**	**13.9**	**12.4**	**11.8**	**11.2**	**10.6**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	20.4	20.8	20.4	19.9	20.1	20.1	20.1	19.4	19.3	19.0	18.7
B. Bound Tests											
B1. Real GDP growth	20.4	19.8	19.0	17.6	16.5	15.4	14.4	12.9	12.2	11.6	11.0
B2. Primary balance	21.3	20.8	19.8	18.4	17.3	16.2	15.2	13.6	13.0	12.3	11.7
B3. Exports	20.4	20.1	20.1	18.7	17.6	16.5	15.4	13.9	13.1	12.4	11.8
B4. Other flows 2/	20.4	21.9	23.0	21.5	20.3	19.1	17.9	16.2	15.3	14.4	13.6
B5. One-time 30 percent nominal depreciation	20.4	24.5	26.6	24.7	23.3	21.8	20.5	18.5	17.5	16.5	15.6
B6. Combination of B1-B5	20.4	22.4	23.6	22.0	20.8	19.5	18.4	16.6	15.6	14.7	13.9
C. Tailored Tests											
C1. Combined contingent liabilities	21.3	22.2	21.2	19.8	19.0	18.1	17.1	15.5	14.9	14.3	13.7
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	20.4	21.8	20.7	19.2	18.0	16.7	15.5	13.7	13.0	12.3	11.8
PV of debt-to-exports ratio											
Baseline	**236.2**	**218.2**	**198.6**	**174.9**	**156.3**	**142.2**	**131.0**	**115.1**	**108.7**	**102.2**	**96.3**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	236.2	234.3	220.8	206.1	197.0	192.5	189.3	180.0	177.9	173.9	168.8
B. Bound Tests											
B1. Real GDP growth	236.2	218.2	198.6	174.9	156.3	142.2	131.0	115.1	108.7	102.2	96.3
B2. Primary balance	246.7	233.9	215.1	189.9	170.0	155.3	143.6	126.7	119.8	112.7	106.2
B3. Exports	236.2	258.0	286.3	253.0	226.5	206.6	190.8	168.8	158.9	148.8	139.8
B4. Other flows 2/	236.2	246.1	250.0	222.1	199.2	182.3	169.1	150.5	141.0	131.5	122.9
B5. One-time 30 percent nominal depreciation	236.2	218.2	228.7	202.5	181.4	165.7	153.3	136.4	128.2	119.8	112.3
B6. Combination of B1-B5	236.2	263.7	245.5	256.9	230.4	210.8	195.4	173.8	163.0	152.1	142.3
C. Tailored Tests											
C1. Combined contingent liabilities	246.7	249.8	230.2	204.2	186.2	173.4	161.3	144.4	138.0	131.0	124.2
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	236.2	219.6	201.1	177.7	158.7	143.5	130.6	113.8	107.4	101.1	95.5

Table 3. Ethiopia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2019–29 (concluded)

(In percent)

	Projections										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Debt service-to-exports ratio											
Baseline	**16.5**	**22.0**	**21.0**	**18.7**	**16.9**	**13.4**	**12.6**	**17.5**	**9.5**	**8.9**	**7.5**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	16.5	21.4	20.0	17.4	15.5	12.2	11.3	15.3	9.1	8.9	8.2
B. Bound Tests											
B1. Real GDP growth	16.5	22.0	21.0	18.7	16.9	13.4	12.6	17.5	9.5	8.9	7.5
B2. Primary balance	16.5	22.0	21.1	19.0	17.2	13.6	12.8	17.8	9.8	9.2	7.9
B3. Exports	16.5	25.2	27.7	25.0	22.6	17.9	16.8	23.6	13.6	12.7	10.9
B4. Other flows 2/	16.5	22.0	21.5	19.6	17.7	14.1	13.2	19.1	11.8	11.0	9.5
B5. One-time 30 percent nominal depreciation	16.5	22.0	21.0	19.2	17.4	13.8	12.9	17.9	10.8	10.1	8.7
B6. Combination of B1-B5	16.5	23.9	25.3	23.0	20.9	16.6	15.5	22.3	13.7	12.8	11.1
C. Tailored Tests											
C1. Combined contingent liabilities	16.5	22.0	21.3	19.1	17.3	13.7	13.0	17.9	9.8	9.2	7.9
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	16.5	22.0	21.2	19.1	17.4	15.7	16.2	19.5	9.5	8.2	7.0
Debt service-to-revenue ratio											
Baseline	**11.0**	**14.9**	**14.6**	**13.4**	**12.4**	**9.2**	**8.4**	**11.2**	**5.8**	**5.2**	**4.3**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	11.0	14.5	13.9	12.5	11.4	8.4	7.5	9.8	5.6	5.2	4.7
B. Bound Tests											
B1. Real GDP growth	11.0	15.2	15.1	13.9	12.9	9.6	8.7	11.7	6.0	5.4	4.5
B2. Primary balance	11.0	14.9	14.7	13.6	12.7	9.4	8.5	11.4	6.0	5.4	4.5
B3. Exports	11.0	14.9	14.7	13.7	12.7	9.4	8.5	11.6	6.3	5.7	4.8
B4. Other flows 2/	11.0	14.9	14.9	14.0	13.0	9.7	8.8	12.2	7.2	6.4	5.5
B5. One-time 30 percent nominal depreciation	11.0	18.8	18.3	17.4	16.1	12.0	10.9	14.5	8.4	7.5	6.3
B6. Combination of B1-B5	11.0	15.4	15.5	14.6	13.6	10.1	9.2	12.7	7.4	6.6	5.6
C. Tailored Tests											
C1. Combined contingent liabilities	11.0	14.9	14.8	13.7	12.7	9.5	8.6	11.5	6.0	5.4	4.5
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	11.0	14.9	14.7	13.7	12.8	10.9	10.8	12.5	5.8	4.8	4.0

Sources: Country authorities; and staff estimates and projections.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.

2/ Includes official and private transfers and FDI.

Table 4. Ethiopia: Sensitivity Analysis for Key Indicators of Public Debt, 2019–29

(In percent)

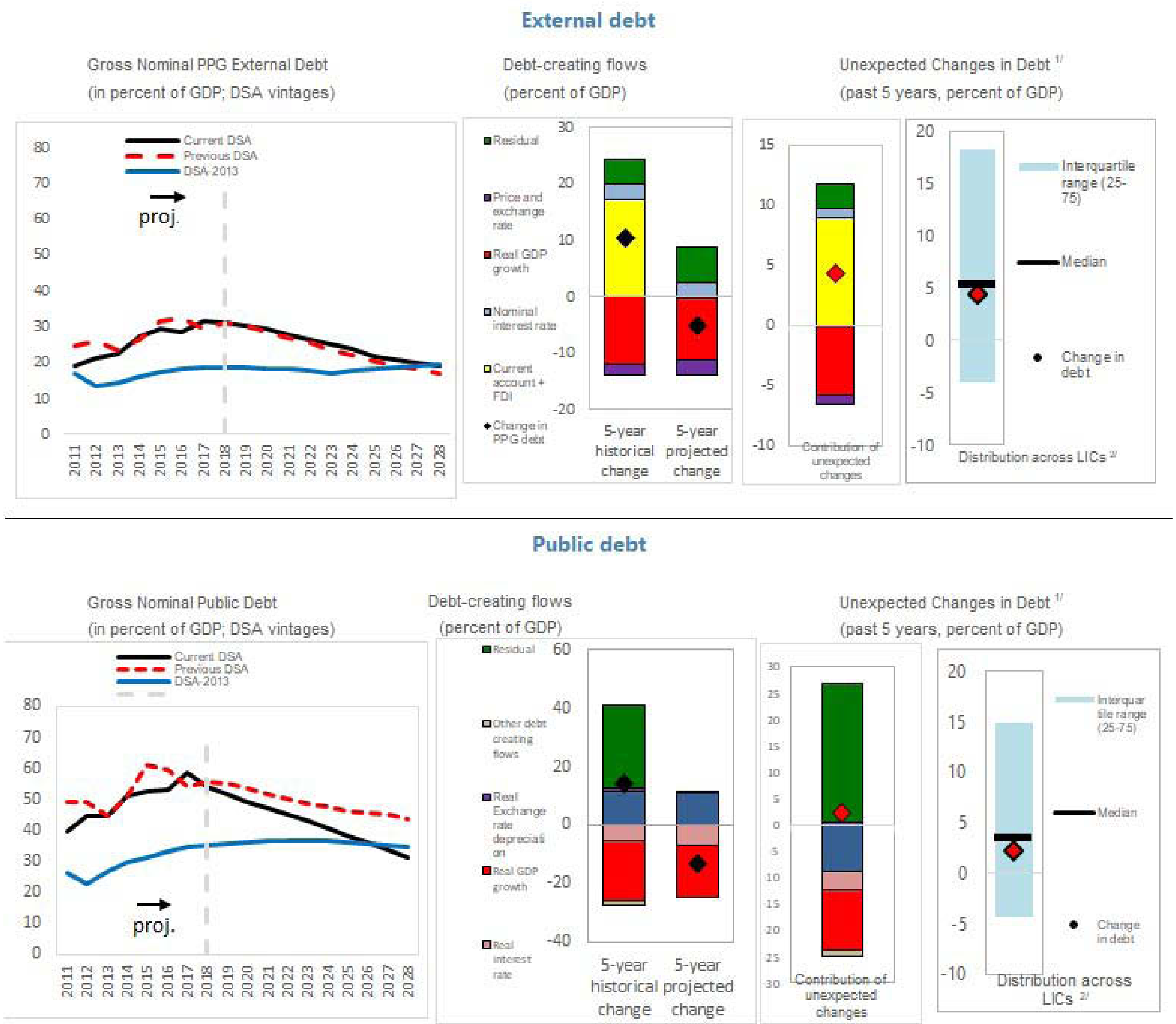
					Projections						
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PV of Debt-to-GDP Ratio											
Baseline	**44.2**	**41.4**	**39.2**	**37.4**	**35.4**	**33.6**	**31.6**	**29.5**	**27.4**	**25.3**	**23.1**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	44	39	35	31	28	25	22	20	18	17	15
B. Bound Tests											
B1. Real GDP growth	44	42	41	40	38	37	35	33	31	30	28
B2. Primary balance	44	42	41	39	37	35	33	31	29	27	24
B3. Exports	44	42	41	39	37	35	33	31	29	27	24
B4. Other flows 2/	44	44	44	42	40	38	36	33	31	29	26
B5. One-time 30 percent nominal depreciation	44	44	41	39	36	34	32	30	27	25	23
B6. Combination of B1-B5	44	40	39	37	35	33	31	29	27	25	23
C. Tailored Tests											
C1. Combined contingent liabilities	44	49	46	44	41	39	36	34	32	29	27
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	44	42	39	38	36	34	32	29	27	25	23
PV of Debt-to-Revenue Ratio											
Baseline	**306.3**	**301.5**	**283.2**	**268.1**	**247.4**	**216.4**	**194.7**	**172.7**	**152.6**	**133.0**	**118.3**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	306	282	251	224	194	161	139	119	102	88	79
B. Bound Tests											
B1. Real GDP growth	306	308	299	287	268	238	217	195	175	155	141
B2. Primary balance	306	309	297	282	260	227	204	181	160	140	124
B3. Exports	306	306	297	281	259	227	204	182	160	140	124
B4. Other flows 2/	306	320	319	302	279	245	221	196	173	151	134
B5. One-time 30 percent nominal depreciation	306	319	297	278	253	220	197	173	152	133	119
B6. Combination of B1-B5	306	295	282	266	245	213	190	169	150	131	118
C. Tailored Tests											
C1. Combined contingent liabilities	306	356	333	315	288	250	224	199	175	153	137
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	306	302	285	270	249	217	194	172	152	132	118
Debt Service-to-Revenue Ratio											
Baseline	**72.8**	**73.1**	**68.4**	**61.3**	**55.2**	**46.0**	**36.7**	**32.0**	**27.0**	**24.3**	**22.5**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	73	69	60	51	43	33	25	20	16	13	11
B. Bound Tests											
B1. Real GDP growth	73	74	71	64	58	49	40	35	30	28	26
B2. Primary balance	73	73	69	63	57	49	38	33	28	25	23
B3. Exports	73	73	69	62	55	46	37	32	27	25	23
B4. Other flows 2/	73	73	69	62	56	47	37	33	28	26	24
B5. One-time 30 percent nominal depreciation	73	70	68	61	55	45	36	33	26	24	22
B6. Combination of B1-B5	73	71	67	60	54	46	36	30	25	22	20
C. Tailored Tests											
C1. Combined contingent liabilities	73	73	77	64	68	58	40	35	31	27	24
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	73	73	69	62	56	48	39	33	27	24	22
Debt Service-to-GDP Ratio											
Baseline	**10.5**	**10.0**	**9.5**	**8.6**	**7.9**	**7.2**	**6.0**	**5.5**	**4.8**	**4.6**	**4.4**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	10	9	8	7	6	5	4	3	3	2	2
B. Bound Tests											
B1. Real GDP growth	10	10	10	9	8	8	7	6	5	5	5
B2. Primary balance	10	10	10	9	8	8	6	6	5	5	5
B3. Exports	10	10	9	9	8	7	6	6	5	5	4
B4. Other flows 2/	10	10	10	9	8	7	6	6	5	5	5
B5. One-time 30 percent nominal depreciation	10	10	9	8	8	7	6	6	5	4	4
B6. Combination of B1-B5	10	10	9	8	8	7	6	5	5	4	4
C. Tailored Tests											
C1. Combined contingent liabilities	10	10	11	9	10	9	7	6	6	5	5
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	10	10	9	9	8	7	6	6	5	5	4

Sources: Country authorities; and staff estimates and projections.

1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of the length of the projection period.

2/ Includes official and private transfers and FDI.

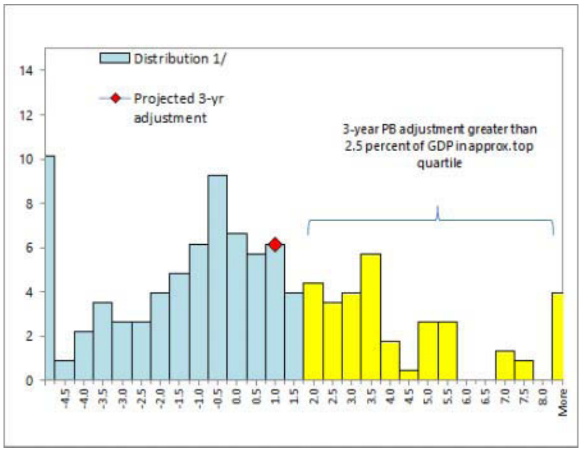
Figure 3. Ethiopia: Drivers of Debt Dynamics—Baseline Scenario



1/ Difference between anticipated and actual contributions on debt ratios.
2/ Distribution across LICs for which LIC DSAs were produced.

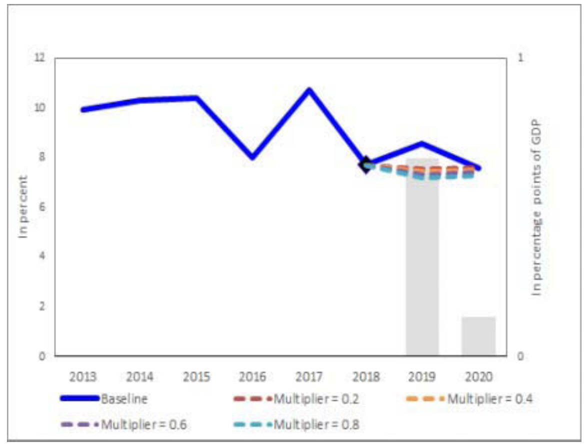
Figure 4. Ethiopia: Realism Tools

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



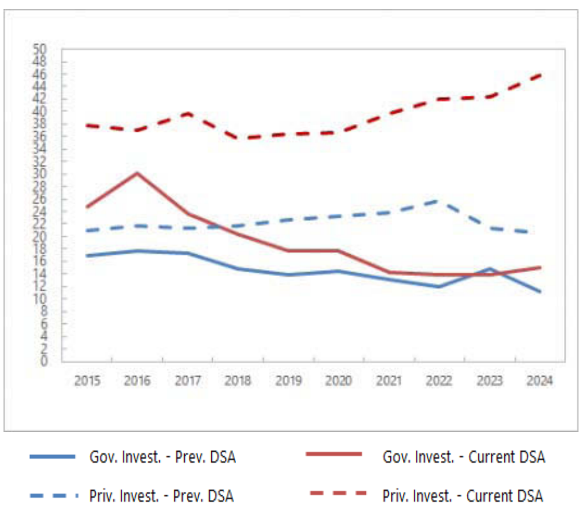
[1/] Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

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
(Percent of GDP)



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