INTERNATIONAL MONETARY FUND

THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS

August 30, 2016

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Ethiopia's risk of external debt distress remains moderate, although external vulnerabilities have increased. Exports underperformed relative to projections, owing to a weak external environment; and the supply shock from the drought required scaled-up food imports. Despite strong remittances and curtailed public sector imports of investment goods, the current account deficit remains high. Reflecting higher indebtedness and low exports, indicators based on debt-to-exports ratios have deteriorated and (as in the 2015 DSA) breach one standard threshold in the baseline. Key considerations in maintaining the moderate rating are: (i) the envisaged investment-based expansion in re-payment capacity financed by the external borrowing; and (ii) special factors that mitigate the risk of debt/currency distress episodes including capital controls, the large share of debt with official creditors with a significant concessional component, virtual absence of tradeable debt instruments, and limited integration in global markets. The main risks are a potential continuation of export underperformance and failure to rein in project-related imports and refrain from associated new non-concessional borrowing. Should these risks materialize, debt sustainability prospects would deteriorate materially. The projected baseline path of total public sector debt-to-GDP (external plus domestic debt) does not result in additional risks beyond those discussed for the external debt above.

BACKGROUND AND RECENT DEVELOPMENTS

1. **Ethiopia's large-scale public investments in infrastructure over recent years have been largely financed by borrowing, raising public debt.** 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.[1] Public and publicly guaranteed (PPG) external debt[2] fell in the years that followed, reaching a low of 18 percent of GDP in mid-2012. By end-2015/16[3] it is estimated at 30.2 percent of GDP and total (including domestic) public debt is estimated at 54.2 percent of GDP.

2. **The Debt Sustainability Analysis (DSA) prepared in 2015 raised Ethiopia's risk of external debt distress from "low" to "moderate"**. In the baseline scenario, only the present value of debt-to-exports (PVDE) temporarily breached the 150 percent threshold.[4] Ethiopia was considered a special case of “moderate” risk, for which the use of judgment was warranted. The growth-enhancing nature of the borrowing plans, was deemed crucial in making sustainable the relatively low debt-to-GDP ratio of Ethiopia. The probability approach and the inclusion of remittances confirmed these findings.

3. **In 2015/16, growth slowed down and the current account deficit remained high.** Growth in 2015/16 is estimated at 6.5 percent, a slowdown relative to previous years, owing to a major drought and a sharply weaker external environment. Export revenue stagnated as pronounced falls in merchandise export prices (by 11 percent) were only partially offset by an expansion in volumes, despite significant redirection of exports towards alternative destination markets and development of new export lines. Savings from lower fuel import prices were more than compensated by large drought-related food imports and other imports. On the other hand, remittances surged to US$6¼ billion (9 percent of GDP), exceeding exports of goods and services. Overall, the current account deficit is estimated to have experienced a small improvement in relation to GDP—from

[1] While Ethiopia has received debt relief from most of its creditors, it has not been able to reach agreement with a few bilateral creditors (Bulgaria, Libya, and FR Yugoslavia) and commercial creditors from Italy, the former Czechoslovakia, India, and FR Yugoslavia. These outstanding loans (US$382.9 million) accounted for 2 percent of the debt stock in 2014/15. HIPC terms are assumed for these loans. While negotiations with Russia on outstanding loans (US$161.6 million) have not been completed, the debt service on these loans is assumed to be given HIPC comparable treatment.

[2] PPG debt includes the foreign debt of the National Bank of Ethiopia (NBE), the debt of the federal government, regional governments, major state-owned enterprises except Ethiopian Airlines (EAL). EAL meets the criteria for exclusion set out in the 2013 Staff Guidance Note on the Debt Sustainability Framework (DSF) for low-income countries (LICS) (Annex 3) 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.

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

[4] Based on its 2015 Country Policy and Institutional Assessment (CPIA) score (3.4), Ethiopia is classified as a medium performer. The thresholds for the debt burden for medium performers are 150, 40, and 250 percent for the PV of debt to exports, GDP, and revenue, respectively; a 10 percent band is applied to the thresholds to determine if the country is a borderline case; and debt service thresholds are 20 and 30 percent of exports and revenue, respectively. In the scenarios that include workers’ remittances, the corresponding threshold for the PV of debt to exports and remittances is 120 percent, and is 16 percent for debt service to exports and remittances; the PV of debt to GDP and remittances is 36 percent.

12 percent in 2014/15 to 10.7 percent in 2015/16—while remaining, essentially, unchanged in U.S. dollars.

4. **External financing was provided mainly by foreign direct investments (FDI), project-related lending, and the central bank.** FDI inflows continued strong gains, reaching over US$3 billion (4.6 percent of GDP). In addition to previously envisaged project financing disbursements, the NBE received from an official bilateral creditor a US$1 billion deposit, which had not been anticipated in the 2015 DSA.[5] Its proceeds were used to finance drought relief and other imports and to reinforce foreign exchange reserves.

5. **Ethiopia's non-concessional commitment ceiling under IDA's non-concessional borrowing policy, set at US$0.75 billion for 2015/16, was substantively met.** In June 2016, IDA reviewed Ethiopia's non-concessional borrowing performance for 2015/16. The review concluded that the limit of US$0.75 billion, which was defined in the previous year, had been substantively met with new Non-concessional borrowing (NCB) contracting amounting to US$0.775 billion in 2015/16.

OUTLOOK AND KEY ASSUMPTIONS

6. **Macroeconomic assumptions reflect the 2015/16 adverse supply shock and the lower starting base in exports (Box 1).** After the 2015/16 slowdown, real GDP growth is projected to recover to 7.5 percent by 2016/17 and the medium term, converging subsequently towards 6 percent in the longer term. Compared to the 2015 DSA, the time profile of the level of exports has shifted downwards, reflecting the lower 2015/16 estimate. The medium-term outlook for export performance will face downside risks if structural reforms lag and competitiveness gains disappoint.

7. **During the 2016 Article IV Consultation discussions, the authorities expressed their commitment to refrain from new NCB for the time being inasmuch as this borrowing might deteriorate debt sustainability—the DSA borrowing assumptions reflect this policy.** The DSA includes NCB disbursements of about US$1.5 billion in 2016/17 from existing commitments, but no additional NCB commitments. WB staff is seeking to set a NCB ceiling consistent with these projections—unless exports were to perform better than currently envisaged. Also, IDA decided to continue to provide assistance to Ethiopia on credit terms only in 2016/17, a measure implemented in 2013/14 as a response to Ethiopia's breaches of the NCB ceiling at that time. The continuation of this measure is meant to maintain an incentive to restrain non-concessional borrowing commitments during 2016/17.

[5] The US$1 billion deposit has an annual interest rate of 3 percent, a two-year grace period and long-term maturity (equal annual installments after the grace period). This central bank liability has been included in the stock of public sector debt considered in this DSA, as required by current guidelines ("Staff Guidance Note on the Application of the Joint Bank-Fund DSF for LICs," SM/13/292, section K). It does not fall, however, under the IDA NCB ceiling since IDA considers that as a central bank-to-central bank transaction it does not carry the risk of IDA cross-subsidizing NCB from other donors, a main rationale behind the NCB ceiling.

8. **Projections on new indebtedness are also based on the following assumptions:**

- Non-concessional loan (NCL) disbursements will average about US$1.1 billion per year in the next five years, and around US$830 million per year over the entire projection period (FY2016/17 – FY2035/36).

- The maturity on all new external loans will average 29 years, and 13–16 years for new non-concessional loans.

- The interest rate on all new external loans will average 1.9 percent, and 3–5 percent on new non-concessional loans.

Box 1. Ethiopia: Macroeconomic Assumptions for the Baseline Scenario

Real GDP growth is projected at 6.5 percent in 2015/16, 7.5 percent in 2016/17, and at 6 percent over the longer term. CPI Inflation is projected at 8 percent in the long run. The government primary deficit is projected to remain at about 2¼ percent of GDP, with gradual progress in tax collection offsetting increased investment and social spending.

The external current account deficit (before official transfers) is estimated at 12.7 percent of GDP in 2015/16. Improved export performance, a slowdown in capital goods imports, and steady remittances (although slowly declining as a ratio to GDP) will lead to a gradual improvement 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 the imports of capital goods.

Exports of goods and services are expected to decline by 1.7 percent in 2015/16, with gains in export volumes not enough to compensate lower commodity prices. In future years, a recovery in traditional exports and development of new exports could raise average growth to 13.2 percent over the next three years, and sustain growth in the long run. Investments in hydro-power, industrial parks, export processing zones, and public policies targeting emerging manufactures, food processing, and FDI technology transfers are expected to support export growth and diversification. Imports of goods and services are estimated to have increased by 5.7 percent in 2015/16, and are projected to increase by 5.1 percent in 2016/17 from a high level, due in part to emergency food imports. A slowdown is expected in the longer term but demand for imported capital goods will remain strong during the remaining four years of the GTP II implementation period. In the long run, imports are expected to grow in line with domestic output.

Remittances have recently performed strongly, at an estimated 9 percent of GDP in 2015/16, up 28 percent in dollar terms from the previous year. Projections assume remittances will represent about 3.8 percent of GDP by 2035/36.

FDI is projected to increase from 4.6 percent of GDP in 2015/16 to 6 percent in the medium term, reflecting improved competitiveness and policies to attract foreign investment.

The exchange rate is expected to remain determined by the NBE’s crawl-like arrangement, with the real effective exchange rate remaining constant over time.

EXTERNAL DEBT SUSTAINABILITY ANALYSIS

A. Baseline scenario

9. **The 2016 DSA projects external debt to peak as a share of GDP in 2016/17 (Figure 1).** The present value (PV) of PPG external debt increases to 21.9 percent of GDP in 2015/16, and will marginally increase in 2016/17, to start declining gradually to single digits in the long-run. These ratios are within the thresholds.

10. **Under the baseline scenario, the ratio of the PVDE breaches the indicative threshold (Table 3 and Figure 1)**. The PVDE ratio is estimated at 255.7 percent in 2015/16. The ratio is projected to remain above the threshold until 2023/24, when export growth and the declining borrowing ratio bring the indicator to the 150 percent threshold. No other indicator breaches its threshold under the baseline scenario, as in the 2015 DSA (Table 1).

B. Alternative scenarios

11. **Under the alternative scenarios with extreme shocks the ratios based on exports (PV debt-to exports, and debt service-to-exports) exceed the thresholds under an export shock.** In the presence of this shock, the breach of the indicative threshold for the PV debt-to-exports ratio would last three more years than in the baseline. Under the same shock to exports, the debt service-to-exports ratio would breach the threshold in two different periods: in the short term, as exports are still low and Ethiopia has to repay the term-deposit taken by the NBE, and in 2025, when the outstanding US$1 billion Eurobond matures.

12. **Results from the probability approach indicate a similar, although milder, risk than the standard approach.**[6] As in the standard approach, the PV debt-to-exports ratio indicator breaches the threshold in the baseline and in the extreme shock alternative scenario—although for a shorter period (three years). The debt service-to-exports indicator does not breach the threshold under the baseline or the most extreme shock scenarios—unlike under the standard approach, where it is breached under the most extreme shock scenario (Figure 2).

13. **The inclusion of remittances also reduces somewhat the severity of threshold breaches.**[7] In Ethiopia, rising remittances already play an important role in bolstering external stability. In 2015/16 they are estimated at 9 percent of GDP, representing 105 percent of exports (goods and services). When remittances are included in the DSA, the breach of the augmented indicator (namely the ratio of the PV of debt to exports of goods and services *plus* remittances) breaches the threshold for 6 years in the baseline and for 10 years in the extreme shock scenario (Figure 3). The debt service-to-exports (plus remittances) ratio reaches the threshold in 2025, following a terms-of-trade shock (the most extreme one), again prompted by the Eurobond redemption.

[6] The probability approach is being reported for additional background information. It is not required from a strictly technical standpoint. The breach of threshold for PV debt-to-exports ratio exceeds the margins established by the guidelines for a borderline case (±5 percent of threshold).

[7] The effect of the inclusion of remittances is reported for additional background information. Its reporting is not required from a strictly technical standpoint since the average remittances of the last three years do not exceed 10 percent of GDP as indicated in the guidelines (although in 2015/16, at 9 percent of GDP, they come very close to the threshold). Remittances exceed the threshold indicated in the guidelines of 20 percent of exports.

Table 1. Ethiopia: Comparison of PPG External Debt Baseline Scenario, 2016–36

Fiscal year ending July 7	Threshold	2016	2017	2018	2019	2020	2021	2026	2036
				(Percent, unless otherwise indicated)					
				PV of Debt to Exports Ratio					
2016DSA	150.0	255.6	250.9	243.9	226.0	207.5	190.4	123.7	51.6
2015DSA	150.0	212.3	220.4	213.9	192.0	174.5	158.2	88.1	...
				PV of Debt to GDP Ratio					
2016DSA	40.0	21.9	22.4	22.3	21.3	20.1	19.0	13.4	7.6
2015DSA	40.0	21.7	23.8	24.5	23.2	21.8	20.6	13.4	...
				PV of Debt to Revenue Ratio					
2016DSA	250.0	127.0	129.3	126.7	117.6	107.2	99.2	67.0	32.9
2015DSA	250.0	134.8	144.4	146.0	136.9	128.1	123.7	81.4	...
				Debt Service to Exports Ratio					
2016DSA	20.0	16.6	17.3	17.3	19.3	18.8	17.7	11.7	4.6
2015DSA	20.0	13.0	13.4	13.0	12.6	12.8	12.1	11.9	...
Memorandum items:									
				Grant Element of New External Borrowing					
2016DSA		20.7	31.9	36.9	45.0	41.6	38.1	42.3	52.7
2015DSA		18.4	19.1	28.0	40.1	40.0	39.5	38.6	...
				New Commercial Loan Disbursements (billions of U.S. dollars)					
2016DSA		4.825	2.612	1.745	1.303	0.828	0.772	0.856	0.200
2015DSA		3.104	2.916	1.502	0.589	0.654	0.716	0.720	...
				Real GDP Growth (annual percent change)					
2016DSA		6.5	7.5	7.5	7.5	7.4	7.3	6.3	6.0
2015DSA		8.1	7.6	7.5	7.5	7.5	7.3	6.5	...
				Current Account Balance to GDP Ratio					
2016DSA		-12.0	-10.7	-9.3	-8.9	-8.2	-8.1	-6.0	-3.7
2015DSA		-9.9	-9.1	-8.1	-7.3	-6.6	-5.8	-4.0	...

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

C. Assessment

14. **The external debt sustainability tests confirm that exports are key to ensure external sustainability.** The dollar value of exports (goods and services) has almost tripled in the last decade. But despite this rapid growth, export revenue remains low relative to the indebtedness necessary to finance the level of imports required by the authorities' far-reaching investment plans. Correspondingly, expanding presence in existing export markets and rapid diversification into new products and markets constitutes the linchpin in the authorities' development strategy.

15. **Several factors mitigate external debt sustainability risks, and argue for retaining the current "moderate" rating.** The DSA methodology calls for the use of judgment in interpreting the

mechanical test results. The following considerations mitigate the breach of the export-related thresholds:

- The high level of debt relative to exports is directly associated to sizable initial investments aimed at boosting export competitiveness and domestic supply, which are expected to generate high returns. The main sectors benefiting from the debt-financed investment include energy supply, merchandise transportation, and other priority infrastructure with large expected impact on output. These investments have large up-front costs, but produce sizable and lasting improvements in export competitiveness and hence in Ethiopia's capacity to repay its debt. In the short term (when the PV of debt-to-exports ratio indicator breaches the threshold because of the lagged export response) projected debt service is deemed manageable.

Table 2. Ethiopia: External Public Sector Debt

(Outstanding at end-March, 2016)

	USD, million	Percent of Total
Total	21,647	100.0
Official Creditors	14,912	68.9
Multilaterals	7,088	32.7
IDA	5,002	23.1
IMF	222	1.0
AfDF	1,397	6.5
Other	468	2.2
Bilaterals	7,824	36.1
Paris Club	393	1.8
Non-Paris Club[1]	7,431	34.3
Private Creditors	6,735	31.1
Commercial Banks	2,557	11.8
Suppliers	3,178	14.7
Bond and Notes Holders	1,000	4.6

Sources: Ethiopian authorities and IMF staff calculations.

[1] Includes US$1 billion deposit in the NBE.

- The probability of debt distress or "sudden stop" episodes is moderated by specific factors: About 70 percent of Ethiopia's external debt is with official creditors, with a significant concessional component (Table 2). The rest is largely trade and other credit linked to external commercial operations of internationally active public corporations (e.g., Ethiopian Airlines, Ethio Telecom). Strict capital controls and administrative controls on current account operations are in place; the Birr is not traded internationally; and there is virtually no portfolio investment or market-tradeable debt—the only exception being the 2015 US$1 billion Eurobond, which has 9 years remaining maturity and thus does not pose a refinancing risk at this time. While staff advises a phased liberalization of external operations, this would in any case be implemented gradually, posing little immediate risks.

16. **The outlook, however, presents potentially severe risks if exports disappoint relative to projections, and if non-concessional borrowing were to exceed DSA assumptions—which would materially worsen debt sustainability prospects.** While the test breached in this DSA was already breached in the 2015 DSA, the extent of the breached has increased. This is mainly the result of a weakening of the external environment (which is expected to stabilize in 2016/17) and of high imports largely due to drought-related external food purchases. This kept the current account deficit wide and raised debt. The assessment above is posited on significant export growth as identified projects with high export potential come on line (electrical railway link to Djibouti, electricity generation capacity, and Hawassa and other industrial parks, among other); prioritization of investment projects with high import content; and strict adherence to the authorities' borrowing plans described above. Should these projections fail to materialize, debt sustainability prospects and DSA indicators could significantly worsen.

17. **The authorities argued for the maintenance of a moderate rating and expressed their intention to refrain from any additional borrowing that could deteriorate debt sustainability.** From their standpoint, Ethiopia's debt sustainability was firmly supported by the use of the borrowed funds exclusively for investment projects with expected high growth returns—rather than for current spending—and by their careful monitoring of public sector indebtedness, among other things to forestall any other uses. The authorities stated their commitment to refrain from pursuing any additional loans that could deteriorate the sustainability of external debt, including some new commercial (non-concessional) loans that had previously been under consideration. Also, the authorities argued that the US$1 billion deposit in the NBE should not be considered debt for the purposes of the DSA—as it was unrelated to fiscal operations—and that the debt of Ethio Telecom should likewise be excluded from the DSA. Staff explained that under current joint IMF/WB guidelines, central bank external liabilities must be included in the DSA public debt,[8] as they represent a claim on the country's external resources not substantially different from government debt for DSA purposes. Regarding the debt of Ethio Telecom, staff stands ready to consider its exclusion if conditions stated in the DSA guidelines are met. However, an essential component for this consideration would be the availability of current financial accounts (only accounts through 2012 are available at this time), audited by commercial financial auditors—since the state audit's focus is mainly on compliance with the law and not on the company's underlying financial situation. The availability of such current audited financial accounts would also be a necessary condition for Ethio Telecom to be able to borrow commercially on the strength of its own balance sheet and profitability, and not on explicit or implicit government guarantees.

D. Public Debt Sustainability Analysis

18. **In the baseline, the projected path of total public sector debt-to-GDP does not result in additional risks beyond those discussed in the external debt sustainability section (Table 5, Figure 4).** As in the 2015 DSA, total public debt remains within the standard thresholds, while declining gradually in the medium and long term. This is the result of output growth and the eventual tapering of large public investment projects after the five-year GTP II. In addition to

[8] "Staff Guidance Note on the Application of the Joint Bank-Fund Debt Sustainability Framework for Low-Income Countries," SM/13/292, section K.

external debt, discussed above, domestic public debt reached 24 percent of GDP in 2015/16 (from 22.4 percent in 2014/15). About 45 percent of it corresponds to the central government, mostly to the NBE reflecting direct advances to finance the budget (60.5 percent of central government debt), and treasury bills (33.6 percent). State-own enterprises (SOEs) hold 55 percent of total domestic debt which is all issued in the form of bonds and loans provided by the state-owned Commercial Bank of Ethiopia. Financial soundness and stability indicators do not point to domestic debt servicing difficulties by SOEs.

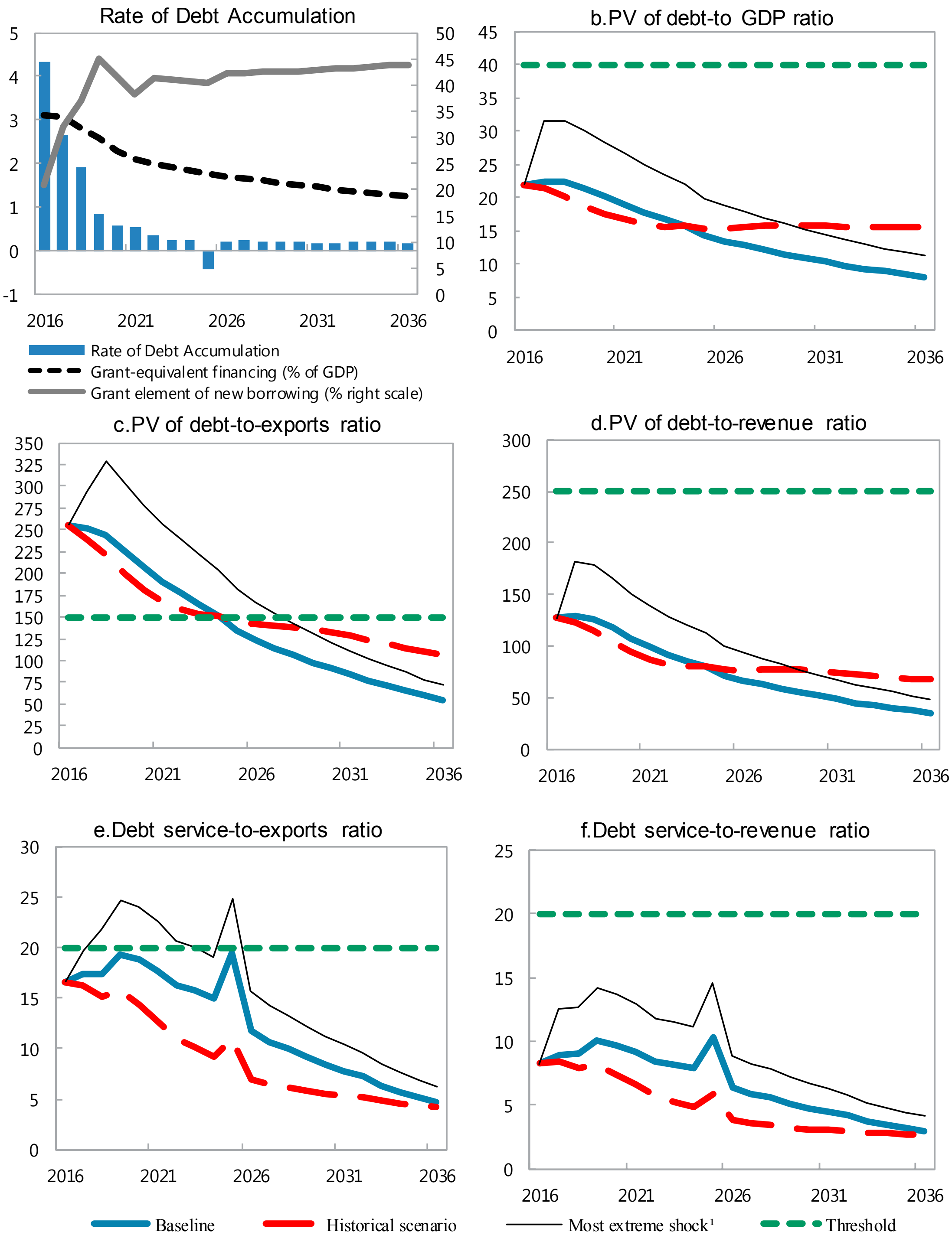
19. **The PV of debt-to-GDP ratio remains below the threshold in the baseline.** However, as in the 2015 DSA, there is a three-year threshold breach under the extreme shock (a one-time depreciation) scenario. This is due to the relatively high initial external debt, as discussed above. Nevertheless, the assumed shock of a large sudden depreciation (a "currency crisis") is unlikely, as discussed above. Also, the historical scenario shows that an indefinite continuation of the past and present public investment drive—which is not currently envisaged by staff or the authorities—would be unsustainable.

20. **Over the medium and long term, however, gradual reversal of the favorable interest rate-growth differential would require public sector measures to accommodate higher financial costs.** As in most developing countries, the interest rate-growth differential in Ethiopia is negative, reflecting high growth but also distorted interest rates (particularly on domestic liabilities and external concessional borrowing). In Ethiopia, tightly controlled financial markets contribute to these distortions. Financial development and increasing private sector participation will likely result in an upward drift in real interest rates over time. While this process would enhance growth and opportunities to mobilize additional resources, it would also require deliberate public finance policies to create the necessary space for higher financial costs to the budget and broader public sector.

E. Conclusion

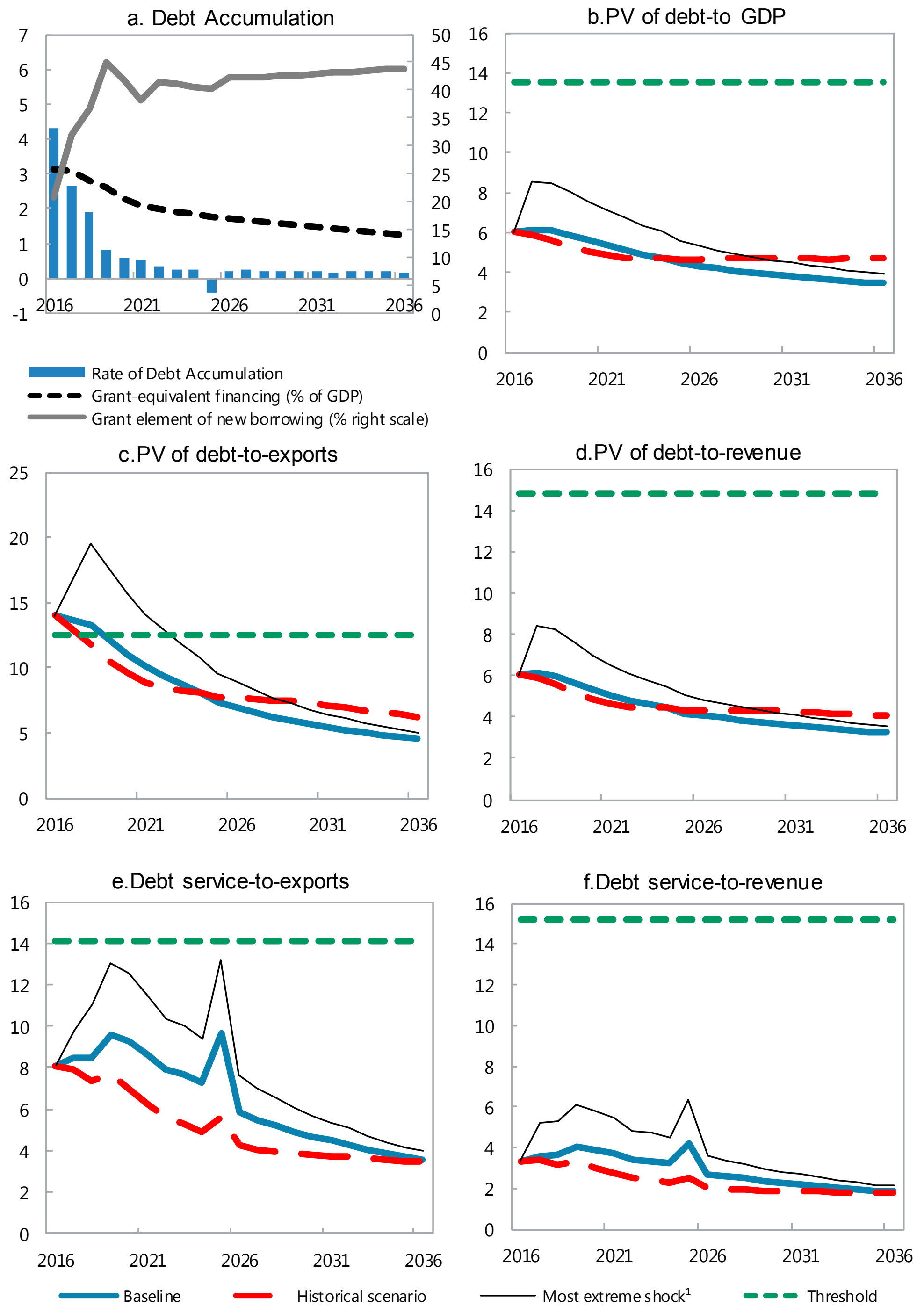
21. **Despite some deterioration in external debt sustainability indicators, Ethiopia's risk of external debt distress remains "moderate."** The current pace in acquisition of external liabilities and export levels, if maintained over time, would result in an unsustainable external position. This risk, however, is mitigated by its temporary nature and by the envisaged expansion in productive and exporting capacity as a result of ongoing infrastructure investment with high expected returns—partly financed by the increased indebtedness. The structure of external debt (mainly official credit, often concessional), existing administrative controls on imports and capital controls additionally reduce the risk of severe external stress episodes. The main risks are a potential continuation of export underperformance and failure to rein in project-related imports and refrain from associated new non-concessional borrowing. Should these risks materialize, debt sustainability prospects would deteriorate materially. In the event of tighter external financing conditions, the authorities would need to resort to further import compression—which although less disruptive than an episode of external debt distress, could entail severe negative growth effects.

Figure 1. Ethiopia: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2016–36[1]



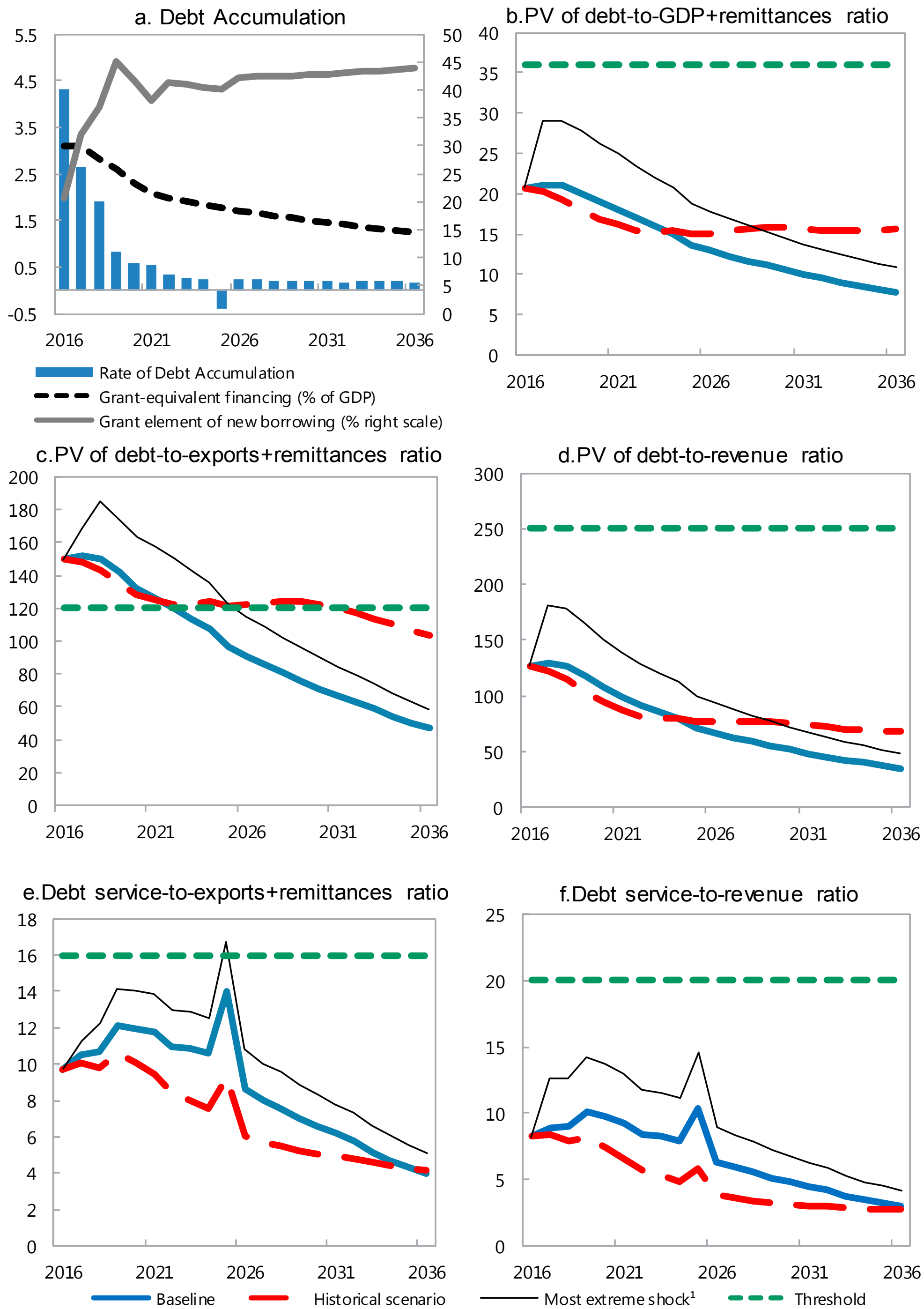
Sources: Ethiopian authorities and staff estimates and projections.
[1] The most extreme stress test is the test that yields the highest ratio on or before 2025. In figure b. it corresponds to a One-time depreciation shock; in c. to an Exports shock; in d. to a One-time depreciation shock; in e. to an Exports shock and in figure f. to a One-time depreciation shock.

Figure 2. Ethiopia: Probability of Debt Distress of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2016–36[1]



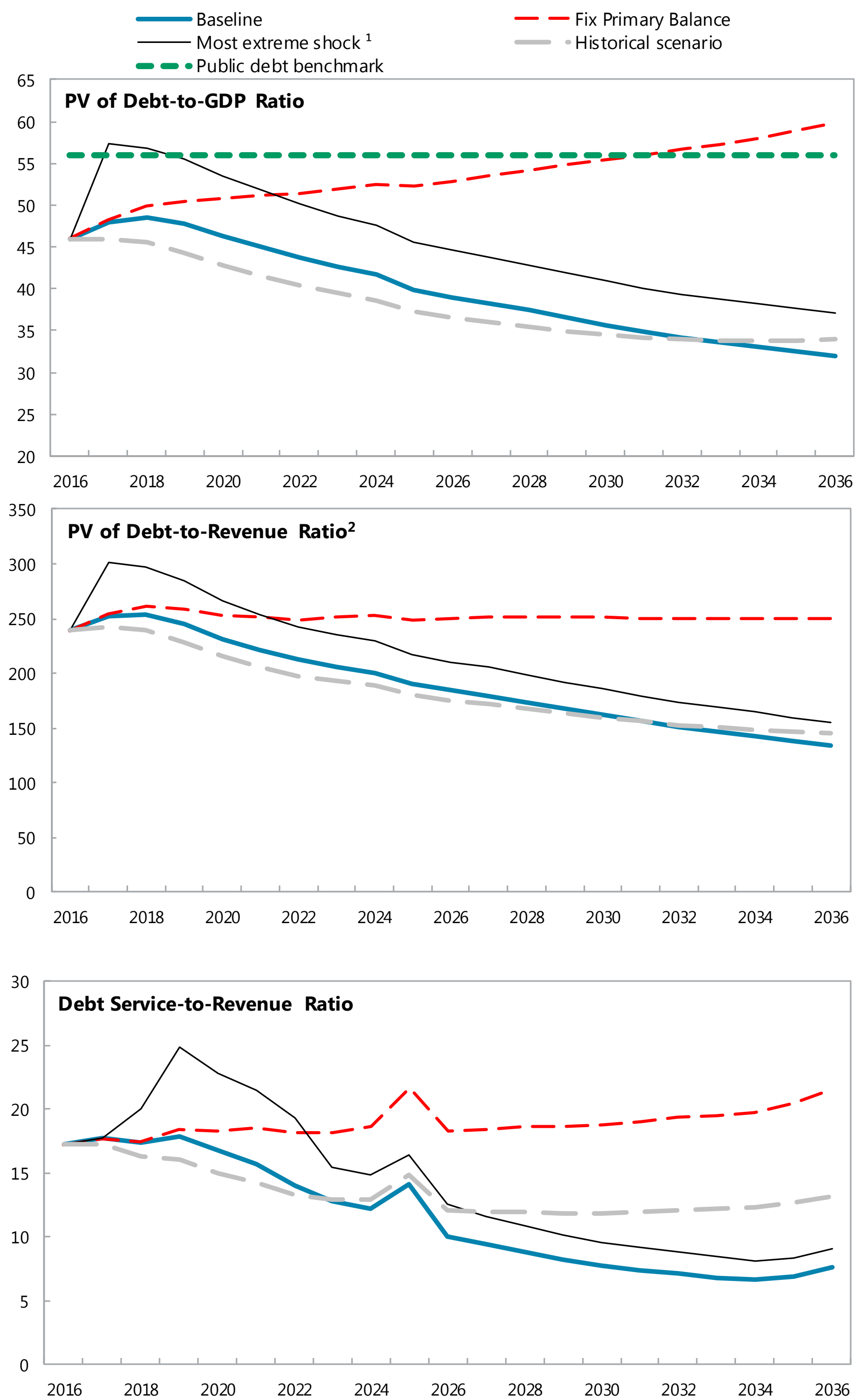
Sources: Ethiopian authorities; and staff estimates and projections.
[1] The most extreme stress test is the test that yields the highest ratio on or before 2025. In figure b. it corresponds to a One-time depreciation shock; in c. to an Exports shock; in d. to a One-time depreciation shock; in e. to an Exports shock and in figure f. to a One-time depreciation shock.

Figure 3. Ethiopia: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios (Including Remittances), 2016–36[1]



Sources: Ethiopian authorities and staff estimates and projections.
[1] The most extreme stress test is the test that yields the highest ratio on or before 2025. In figure b. it corresponds to a one-time depreciation shock; in c. to an exports shock; in d. to a one-time depreciation shock; in e. to an exports shock and in figure f. to a one-time depreciation shock.

Figure 4. Ethiopia: Indicators of Public and Publicly Guaranteed Debt (Domestic and External) Under Alternative Scenarios, 2015–36[1]



Sources: Ethiopian authorities; and staff estimates and projections.

[1] The most extreme stress test is the test that yields the highest ratio on or before 2025. It corresponds to a one-time depreciation shock.

[2] Revenues are defined inclusive of grants.

Table 3. Ethiopia: External Debt Sustainability Framework, Baseline Scenario, 2013–36[1]

	Actual			Historical 6/	Standard 6/	Projections									
				Average	Deviation							2016-2021			2022-2036
	2013	2014	2015			2016	2017	2018	2019	2020	2021	Average	2026	2036	Average
External debt (nominal) 1/	**24.1**	**25.8**	**31.6**			**34.5**	**35.0**	**35.3**	**34.7**	**33.8**	**32.7**		**25.5**	**13.9**	
of which: public and publicly guaranteed (PPG)	21.1	22.5	28.3			30.1	30.9	31.1	30.2	28.9	27.6		21.1	13.5	
Change in external debt	3.0	1.7	5.9			2.8	0.5	0.3	-0.6	-0.9	-1.1		-1.3	-0.7	
Identified net debt-creating flows	1.3	1.9	5.9			4.3	1.2	0.7	0.0	-0.2	-0.5		-1.1	-0.8	
Non-interest current account deficit	**5.7**	**7.7**	**11.6**	**5.9**	**3.0**	**10.1**	**8.6**	**8.2**	**7.5**	**7.4**	**7.1**		**5.2**	**3.4**	4.7
Deficit in balance of goods and services	16.4	17.6	21.9			21.3	19.4	18.9	18.4	18.3	18.2		13.3	7.2	
Exports	12.4	11.6	9.8			8.6	8.9	9.2	9.4	9.7	10.0		10.9	14.7	
Imports	28.8	29.2	31.7			29.9	28.3	28.0	27.8	28.0	28.2		24.2	21.9	
Net current transfers (negative = inflow)	-10.7	-9.9	-10.4	-12.8	2.0	-11.0	-10.7	-10.6	-10.8	-10.8	-11.0		-8.1	-4.7	-7.1
of which: official	-3.2	-2.6	-2.4			-1.9	-1.7	-1.4	-1.4	-1.3	-1.2		-1.1	-0.9	
Other current account flows (negative = net inflow)	0.0	0.0	0.0			-0.2	0.0	-0.1	-0.1	-0.1	-0.1		0.0	0.9	
Net FDI (negative = inflow)	**-2.6**	**-2.6**	**-3.6**	**-2.9**	**0.5**	**-4.6**	**-5.8**	**-5.8**	**-5.8**	**-5.9**	**-6.0**		**-5.2**	**-3.7**	-4.8
Endogenous debt dynamics 2/	**-1.7**	**-3.1**	**-2.1**			**-1.2**	**-1.6**	**-1.6**	**-1.7**	**-1.6**	**-1.6**		**-1.1**	**-0.5**	
Contribution from nominal interest rate	0.2	0.3	0.4			0.6	0.7	0.8	0.8	0.7	0.7		0.5	0.3	
Contribution from real GDP growth	-1.9	-2.1	-2.4			-1.8	-2.3	-2.4	-2.4	-2.4	-2.3		-1.6	-0.8	
Contribution from price and exchange rate changes	-0.1	-1.3	-0.2			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**1.7**	**-0.2**	**0.0**			**-1.5**	**-0.7**	**-0.4**	**-0.6**	**-0.7**	**-0.7**		**-0.1**	**0.1**	
of which: exceptional financing	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	23.6			26.3	26.5	26.5	25.8	25.0	24.0		17.9	8.4	
In percent of exports	...	...	240.2			306.5	297.0	289.0	274.1	257.9	240.9		164.2	57.0	
PV of PPG external debt	**...**	**...**	**20.2**			**21.9**	**22.4**	**22.3**	**21.3**	**20.1**	**19.0**		**13.4**	**8.1**	
In percent of exports	**...**	**...**	**206.1**			**255.6**	**250.9**	**243.9**	**226.0**	**207.5**	**190.4**		**123.7**	**54.8**	
In percent of government revenues	**...**	**...**	**129.1**			**127.0**	**129.3**	**126.7**	**117.6**	**107.2**	**99.2**		**67.0**	**35.0**	
Debt service-to-exports ratio (in percent)	**8.1**	**10.5**	**16.1**			**22.8**	**23.5**	**23.5**	**25.5**	**24.9**	**23.6**		**14.5**	**5.4**	
PPG debt service-to-exports ratio (in percent)	**6.5**	**7.0**	**10.2**			**16.6**	**17.3**	**17.3**	**19.3**	**18.8**	**17.7**		**11.7**	**4.7**	
PPG debt service-to-revenue ratio (in percent)	**5.5**	**5.7**	**6.4**			**8.2**	**8.9**	**9.0**	**10.1**	**9.7**	**9.2**		**6.3**	**3.0**	
Total gross financing need (Billions of U.S. dollars)	2.0	3.5	5.9			5.2	3.8	3.8	3.8	3.8	3.8		2.5	1.7	
Non-interest current account deficit that stabilizes debt ratio	2.7	6.0	5.7			7.3	8.1	7.9	8.1	8.2	8.3		6.5	4.0	
Key macroeconomic assumptions															
Real GDP growth (in percent)	9.9	10.3	10.2	10.6	0.9	6.5	7.5	7.5	7.5	7.4	7.3	7.3	6.3	6.0	6.3
GDP deflator in US dollar terms (change in percent)	0.5	5.6	0.7	6.8	12.4	5.5	3.4	1.6	1.2	1.4	1.4	2.4	1.1	1.2	1.2
Effective interest rate (percent) 5/	1.3	1.4	1.8	1.1	0.3	2.2	2.4	2.4	2.3	2.3	2.2	2.3	1.8	2.2	1.9
Growth of exports of G&S (US dollar terms, in percent)	-0.5	8.4	-5.9	13.0	11.0	-1.7	15.5	12.0	12.0	12.0	12.0	10.3	10.1	12.0	10.3
Growth of imports of G&S (US dollar terms, in percent)	0.7	17.7	20.9	16.7	12.1	5.7	5.1	8.3	8.0	9.5	9.5	7.7	5.4	6.0	5.7
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	20.7	31.9	36.9	45.0	41.6	38.1	35.7	42.3	43.9	42.4
Government revenues (excluding grants, in percent of GDP)	14.8	14.3	15.7			17.3	17.3	17.6	18.1	18.8	19.1		20.1	23.1	20.9
Aid flows (in Billions of US dollars) 7/	2.8	2.6	2.7			2.6	2.9	3.0	2.9	2.9	2.8		3.3	4.8	
of which: Grants	1.5	1.5	1.5			1.3	1.3	1.2	1.3	1.3	1.4		1.7	2.8	
of which: Concessional loans	1.2	1.2	1.2			1.3	1.6	1.8	1.6	1.6	1.4		1.6	1.9	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			3.1	3.1	2.8	2.6	2.3	2.1		1.7	1.2	1.6
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			41.0	50.9	54.5	63.8	62.0	60.5		66.9	72.5	68.2
Memorandum items:															
Nominal GDP (Billions of US dollars)	47.7	55.5	61.6			69.2	76.9	84.0	91.4	99.5	108.3		158.8	319.9	
Nominal dollar GDP growth	10.5	16.5	11.0			12.3	11.1	9.2	8.8	9.0	8.8	9.9	7.5	7.3	7.5
PV of PPG external debt (in Billions of US dollars)			12.2			14.8	16.7	18.1	18.8	19.4	19.9		20.7	24.9	
(PVt-PVt-1)/GDPt-1 (in percent)						4.3	2.7	1.9	0.8	0.6	0.5	1.8	0.2	0.2	0.2
Gross workers' remittances (Billions of US dollars)	2.5	3.0	3.8			4.2	4.5	4.8	5.1	5.5	5.4		6.2	8.1	
PV of PPG external debt (in percent of GDP + remittances)	...	...	19.1			20.7	21.2	21.1	20.2	19.1	18.1		12.9	7.9	
PV of PPG external debt (in percent of exports + remittances)	...	...	126.6			149.8	151.7	150.1	141.5	132.1	126.6		90.8	46.8	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	6.3			9.7	10.5	10.7	12.1	12.0	11.8		8.6	4.0	

Sources: Ethiopian authorities; and IMF 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/ Assumes that PV of private sector debt is equivalent to its face value.

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

6/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

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

8/ 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).

Table 4. Ethiopia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016–36

	Projections							
	2016	2017	2018	2019	2020	2021	**2026**	2036
PV of debt-to GDP ratio								
Baseline	22	22	22	21	20	19	**13**	8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	22	21	20	19	18	17	**15**	16
A2. New public sector loans on less favorable terms in 2016-2036 2	22	24	25	25	24	23	**20**	16
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	22	22	21	20	19	18	**13**	8
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	22	23	24	23	22	21	**15**	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	22	25	26	25	24	22	**16**	9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	22	25	27	25	24	23	**16**	9
B5. Combination of B1-B4 using one-half standard deviation shocks	22	24	26	24	23	22	**16**	9
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	22	32	31	30	28	27	**19**	11
PV of debt-to-exports ratio								
Baseline	256	251	244	226	207	190	**124**	55
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	256	239	221	199	182	168	**141**	106
A2. New public sector loans on less favorable terms in 2016-2036 2	256	266	272	262	249	235	**181**	107
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	256	251	244	226	207	190	**123**	54
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	256	293	328	304	279	256	**167**	71
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	256	251	244	226	207	190	**123**	54
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	256	275	290	268	247	227	**149**	61
B5. Combination of B1-B4 using one-half standard deviation shocks	256	291	317	293	269	248	**162**	68
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	256	251	244	226	207	190	**123**	54
PV of debt-to-revenue ratio								
Baseline	127	129	127	118	107	99	**67**	35
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	127	123	115	104	94	87	**76**	68
A2. New public sector loans on less favorable terms in 2016-2036 2	127	137	141	136	128	122	**98**	68
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	127	127	122	113	103	95	**64**	33
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	127	133	137	127	116	107	**73**	37
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	127	141	149	138	126	117	**78**	41
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	127	142	151	140	128	118	**81**	39
B5. Combination of B1-B4 using one-half standard deviation shocks	127	140	145	135	123	114	**78**	38
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	127	182	178	165	151	139	**94**	49

Table 4. Ethiopia: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2015–35 (concluded)

(percent)

				Debt service-to-exports ratio				
Baseline	17	17	17	19	19	18	**12**	5
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	17	16	15	16	14	13	**7**	4
A2. New public sector loans on less favorable terms in 2016-2036 2	17	17	16	18	18	16	**12**	7
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	17	17	17	19	19	18	**12**	5
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	17	20	22	25	24	22	**16**	6
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	17	17	17	19	19	18	**12**	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	17	17	18	20	20	19	**14**	5
B5. Combination of B1-B4 using one-half standard deviation shocks	17	19	20	23	22	21	**15**	6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	17	17	17	19	19	18	**12**	5
				Debt service-to-revenue ratio				
Baseline	8	9	9	10	10	9	**6**	3
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	8	8	8	8	7	7	**4**	3
A2. New public sector loans on less favorable terms in 2016-2036 2	8	9	9	9	9	8	**7**	5
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	8	9	9	10	9	9	**6**	3
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	8	9	9	10	10	9	**7**	3
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	8	10	11	12	11	11	**7**	4
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	8	9	9	11	10	10	**7**	3
B5. Combination of B1-B4 using one-half standard deviation shocks	8	9	9	10	10	10	**7**	3
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	8	13	13	14	14	13	**9**	4
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	36	36	36	36	36	36	**36**	36

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/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline., while grace and maturity periods are the same as in the baseline.
3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).
4/ Includes official and private transfers and FDI.
5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.
6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

Table 5. Ethiopia: Public Sector Debt Sustainability Framework, Baseline Scenario, 2013–36

(percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2013	2014	2015	Average 5/	Standard Deviation 5/	2016	2017	2018	2019	2020	2021	2016-21 Average	2026	2036	2022-36 Average
Public sector debt 1/	37.7	41.3	50.7			54.1	56.5	57.3	56.6	55.1	53.7		46.7	37.5	
of which: foreign-currency denominated	21.1	22.5	28.3			30.1	30.9	31.1	30.2	28.9	27.6		21.1	13.5	
Change in public sector debt	4.2	3.7	9.3			3.4	2.4	0.8	-0.6	-1.5	-1.5		-1.1	-0.7	
Identified debt-creating flows	3.0	2.3	3.3			0.4	0.2	-0.7	-1.0	-1.8	-1.7		-1.1	-0.7	
Primary deficit	5.9	7.3	7.1	4.3	2.3	5.6	5.3	4.2	3.9	3.3	3.2	4.3	2.9	2.1	2.7
Revenue and grants	18.0	16.9	18.1			19.2	19.0	19.1	19.5	20.0	20.4		21.2	23.9	
of which: grants	3.2	2.6	2.4			1.9	1.7	1.4	1.4	1.3	1.2		1.1	0.9	
Primary (noninterest) expenditure	23.9	24.2	25.2			24.9	24.3	23.3	23.4	23.3	23.6		24.0	26.1	
Automatic debt dynamics	-2.7	-5.0	-3.8			-5.2	-5.0	-5.0	-4.9	-5.0	-4.9		-4.0	-2.8	
Contribution from interest rate/growth differential	-3.2	-4.5	-3.9			-4.3	-4.9	-5.0	-5.1	-5.2	-5.0		-4.1	-2.9	
of which: contribution from average real interest rate	-0.2	-0.9	-0.1			-1.2	-1.1	-1.1	-1.1	-1.3	-1.3		-1.3	-0.8	
of which: contribution from real GDP growth	-3.0	-3.5	-3.8			-3.1	-3.8	-3.9	-4.0	-3.9	-3.7		-2.8	-2.2	
Contribution from real exchange rate depreciation	0.5	-0.5	0.2			-0.9	-0.1	0.1	0.2	0.1	0.1		...	...	
Other identified debt-creating flows	-0.1	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	-0.1	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	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			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, 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	
Residual, including asset changes	1.2	1.3	6.1			3.0	2.2	1.5	0.4	0.3	0.2		0.0	0.0	
Other Sustainability Indicators															
PV of public sector debt	...	...	42.6			45.9	48.0	48.4	47.8	46.3	45.1		39.0	32.0	
of which: foreign-currency denominated	...	...	20.2			21.9	22.4	22.3	21.3	20.1	19.0		13.4	8.1	
of which: external	...	...	20.2			21.9	22.4	22.3	21.3	20.1	19.0		13.4	8.1	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	8.0	9.3	9.6			8.9	8.6	7.5	7.4	6.6	6.4		5.0	3.9	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	235.0			239.1	252.3	254.1	244.9	231.1	220.9		184.4	133.8	
PV of public sector debt-to-revenue ratio (in percent)	...	...	271.7			265.9	276.9	274.8	263.8	247.1	235.3		194.4	138.9	
of which: external 3/	...	...	129.1			127.0	129.3	126.7	117.6	107.2	99.2		67.0	35.0	
Debt service-to-revenue and grants ratio (in percent) 4/	12.1	11.9	13.7			17.2	17.7	17.4	17.8	16.7	15.7		10.0	7.6	
Debt service-to-revenue ratio (in percent) 4/	14.7	14.1	15.8			19.1	19.4	18.8	19.1	17.9	16.7		10.6	7.9	
Primary deficit that stabilizes the debt-to-GDP ratio	1.7	3.7	-2.3			2.2	2.9	3.4	4.5	4.8	4.7		4.0	2.8	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	9.9	10.3	10.2	10.6	0.9	6.5	7.5	7.5	7.5	7.4	7.3	7.3	6.3	6.0	6.3
Average nominal interest rate on forex debt (in percent)	1.4	1.2	1.6	1.0	0.4	2.2	2.3	2.3	2.3	2.2	2.2	2.3	1.8	1.4	1.7
Average real interest rate on domestic debt (in percent)	0.9	-4.5	-0.7	-9.7	8.4	-6.1	-5.6	-5.2	-5.0	-5.5	-5.5	-5.5	-5.3	-3.0	-5.0
Real exchange rate depreciation (in percent, + indicates depreciation)	2.7	-2.9	0.8	-2.8	11.0	-3.4	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	5.5	10.9	5.8	15.9	10.4	10.7	9.6	8.7	8.2	8.5	8.5	9.0	8.2	8.3	8.2
Growth of real primary spending (deflated by GDP deflator, in percent)	22.7	11.9	14.6	5.0	8.3	5.1	5.1	3.1	8.1	6.9	8.6	6.1	6.9	6.5	7.0
Grant element of new external borrowing (in percent)	...	...	...	...	...	20.7	31.9	36.9	45.0	41.6	38.1	35.7	42.3	43.9	...

Sources: Ethiopian authorities and staff estimates and projections.

1/ Reffers to nonfinancial public sector gross debt.

2/ 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.

3/ Revenues excluding grants.

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

5/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

Table 6. Ethiopia: Sensitivity Analysis for Key Indicators of Public Debt, 2016–36
(percent)

	Projections							
	2016	2017	2018	2019	2020	2021	2026	2036
PV of Debt-to-GDP Ratio								
Baseline	46	48	48	48	46	45	39	32
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	46	46	45	44	43	42	37	34
A2. Primary balance is unchanged from 2016	46	48	50	51	51	51	53	60
A3. Permanently lower GDP growth 1/	46	48	49	48	47	46	41	38
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	46	47	46	45	43	41	33	23
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	46	49	51	51	49	47	41	33
B3. Combination of B1-B2 using one half standard deviation shocks	46	47	48	46	44	42	33	22
B4. One-time 30 percent real depreciation in 2017	46	57	57	55	53	52	45	37
B5. 10 percent of GDP increase in other debt-creating flows in 2017	46	56	56	55	53	51	43	35
PV of Debt-to-Revenue Ratio 2/								
Baseline	239	252	254	245	231	221	184	134
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	239	243	239	228	215	206	175	144
A2. Primary balance is unchanged from 2016	239	254	262	259	253	251	250	250
A3. Permanently lower GDP growth 1/	239	253	255	247	234	225	194	160
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	239	246	241	229	214	202	157	96
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	239	258	269	259	244	232	192	138
B3. Combination of B1-B2 using one half standard deviation shocks	239	248	250	237	220	207	158	92
B4. One-time 30 percent real depreciation in 2017	239	302	298	284	266	254	211	155
B5. 10 percent of GDP increase in other debt-creating flows in 2017	239	295	294	281	263	250	205	146
Debt Service-to-Revenue Ratio 2/								
Baseline	17	18	17	18	17	16	10	8
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	17	17	16	16	15	14	12	13
A2. Primary balance is unchanged from 2016	17	18	17	18	18	18	18	22
A3. Permanently lower GDP growth 1/	17	18	17	18	17	16	11	10
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	17	17	17	17	15	14	7	3
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	17	18	18	19	19	18	11	8
B3. Combination of B1-B2 using one half standard deviation shocks	17	17	17	18	17	15	7	3
B4. One-time 30 percent real depreciation in 2017	17	20	21	23	22	21	16	12
B5. 10 percent of GDP increase in other debt-creating flows in 2017	17	18	20	25	23	21	13	9

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/ Revenues are defined inclusive of grants.