INTERNATIONAL MONETARY FUND

ISLAMIC REPUBLIC OF AFGHANISTAN

REQUEST FOR A THREE YEAR ARRANGEMENT UNDER THE EXTENDED CREDIT FACILITY—DEBT SUSTAINABILITY ANALYSIS

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Afghanistan continues to be at a high risk of debt distress. Although public debt remains modest, Afghanistan's debt sustainability will critically hinge on continued donor grant inflows (38 percent of GDP in 2015, including both on and off-budget grants) under substantial fiscal and external deficits and downside risks in the economic outlook.

Given continued donor support in the form of grants, Afghanistan's debt outlook, under the baseline scenario, is benign. However, a change in the structure of donor financing with a gradual shift to loan financing (a customized illustrative scenario) would quickly lead to an unsustainable debt burden.

Moreover, the outlook is subject to significant downside risks. In addition to aid shortfalls, risks include the fragile security situation, political uncertainty, domestic revenue shortfalls, migrant outflows, and exchange rate depreciation. Accordingly, the authorities should continue their efforts to mobilize revenue and press ahead with their reform efforts, while donors should continue to provide financing in the form of grants.

[1] This DSA was prepared by IMF staff with input from the World Bank, using the standard debt sustainability framework for low-income countries (LIC-DSA); see "Staff Guidance Note on the Application of the Joint Bank-Fund Debt Sustainability Framework for Low-Income Countries" http://www.imf.org/external/np/pp/eng/2013/110513.pdf. The LIC-DSA compares the evolution over the projection period of debt-burden indicators against policy-dependent indicative thresholds, using the three-year average of the World Bank's Country Policy and Institutional Assessment (CPIA). With an average 2012-14 CPIA of 2.7, Afghanistan is classified as having "weak performance" under the LIC-DSF.

MACROECONOMIC OUTLOOK

1. **The DSA's baseline macroeconomic scenario assumes long-run improvements of security and political stability with continued reform and a gradual decline in aid dependence.** Compared with the November 2015 DSA, perspectives for growth have weakened over the near term. This reflects a deterioration in security conditions, the continued impact of the troop withdrawal, a slower recovery in economic confidence, and delays in budget execution and in implementation of mining projects (discussed below). In the medium and long term, the baseline scenario assumes political stability with regular election cycles and continued economic reform with governments delivering on Afghanistan's development goals and priorities that improve the business environment and governance to support private-sector-led inclusive growth. The scenario also assumes a more conservative (compared with the previous DSA) profile of donor aid disbursement. It is assumed to be sustained near current levels in this decade (averaging about $7 billion, or 35 percent of GDP, annually), and to be gradually declining afterwards, from about 30 percent of GDP in 2020 to 7 percent of GDP by 2035, with an increasing share being disbursed through the budget and provided to the civilian sector.[2]

Box 1. Macroeconomic Assumptions Comparison Table

	DSA November 2015		DSA July 2016		Current vs. Previous	
	2015–19	2020–34	2015–19	2020–34	2015–19	2020–34
Real growth (%)	4.0	4.9	3.1	5.0	-0.9	0.1
Inflation (GDP, deflator, %)	3.3	5.0	5.3	5.1	2.0	0.1
Nominal GDP (Billions of Afghanis)	1399	3980	1446	4467	46	487
Revenue and grants (% GDP)	31.3	32.2	27.6	28.2	-3.7	-4.0
Grants (% GDP)	20.1	15.2	16.9	12.8	-3.2	-2.4
Primary expenditure (% GDP)	31.3	33.0	27.8	28.8	-3.5	-4.3
Primary balance (% GDP)	0.1	-0.8	-0.1	-0.6	-0.2	0.2
Exports of G&S (% GDP)	14.9	23.9	11.7	16.9	-3.2	-7.0
Imports of G&S (% GDP)	56.0	43.5	47.7	39.2	-8.3	-4.3
Noninterest current account balance (%GDP)	-0.2	0.2	1.4	-4.3	1.6	-4.5

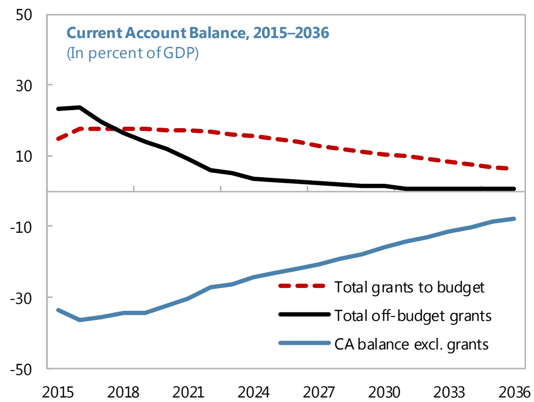
Sources: Afghan authorities; and IMF staff estimates and projections.

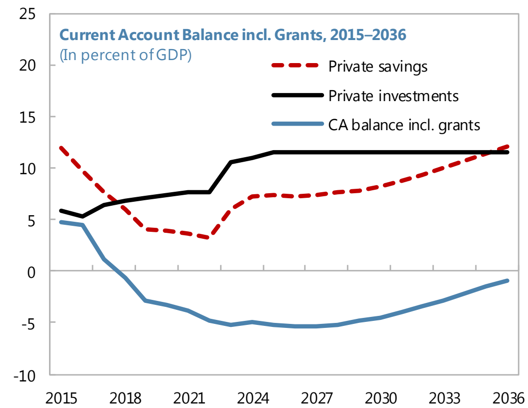
2. **Growth is assumed to recover gradually as political stability takes hold and structural reforms are implemented.** Given the highly uncertain environment, staff relies on scenarios rather than projections to quantify the outlook. The macroeconomic framework builds on a scenario presented in the May 2016 Staff Report[3] and assumes implementation of a comprehensive structural reform package. These reforms gradually raise private demand and public investment financed by higher domestic revenues over

[2] The assumptions on exports and imports of goods and services are substantially revised down from the previous DSA, partly reflecting the downward revision of the assumption on grants (with a particularly large impact on imports).

[3] Staff Report for the Second Review under the Staff-Monitored Program.

the medium term. Afterwards growth somewhat declines but is driven by the private sector helped by the strengthened business climate, the impact of continued reforms aimed at macroeconomic and financial stability, and developments across the economy, including mining[4] and large-scale electricity and gas transit projects (the Central Asia-South Asia Electricity Transmission and Trade Project, CASA-1000, and the Turkmenistan-Afghanistan-Pakistan-India natural gas pipeline, TAPI). Accordingly, the external current account deficit is expected to narrow gradually over the projection period.





Sources: Afghan authorities; and IMF staff calculations.

3. **On the fiscal side, the baseline scenario assumes gradual progress towards long-term fiscal sustainability, although the financing gap net of domestic financing remains above 7 percent of GDP over the projection horizon.**

- On the **revenue side**, continuous reforms in revenue and customs administrations, the CASA and TAPI transit fees,[5] and introduction of a VAT[6] in 2022 are assumed to bring the revenue ratio to 12 percent of GDP by 2020 and close to 17 percent of GDP over the projected horizon, in line with World Bank estimates.[7]

- **Development spending,** including the off-budget component, is projected to be about 10 percent of GDP over the transformation decade (2015–2024), with on-budget spending increasing by 2 percent of GDP to 9 percent of GDP, to address Afghanistan's large social and infrastructure needs. Beyond 2024, development spending on budget would wind down gradually and stabilize at about 6 percent of GDP.

[4] Big mining projects are not explicitly incorporated into the medium-term scenario, given that several contracts are being renegotiated and uncertainties stemming from low commodity prices.

[5] Transit fees are assumed at a magnitude of $40 million annually starting in 2020 for the CASA and $250 million annually starting in 2022 for the TAPI.

[6] The VAT is assumed to yield additional 2 percent of GDP over the current business receipt tax.

[7] In Afghanistan Development Update, April 2016, the World Bank estimates that simply by improving enforcement and compliance Afghanistan could collect revenues of up to 14 percent of GDP, and improved tax policy, e.g., introduction of a 10 percent VAT, could raise the revenue intake up to 17 percent of GDP.

- **Operating expenditures** are projected to increase as a share of GDP over the transformation decade, as operation and maintenance costs of existing and newly created capital rise,[8] and the size and compensation of civil service gradually grow after 2020, especially in the health and education sectors. Security spending on- and off-budget remain substantial but decline from about 20 percent of GDP in 2020 to 10 percent of GDP in 2030 and 7.5 percent of GDP by 2035, with the size of security forces gradually declining after the transformation decade as security conditions improve.[9] Thus, operating expenditures peak at around 23 percent of GDP by 2024 and decline to below 20 percent of GDP over the projection horizon as security outlays shrink.

- Given these revenue and expenditure trends, **the total budget balance excluding grants** remains above 17 percent of GDP in the next decade and gradually declines to 8 percent of GDP over the projected horizon.

- With limited scope for domestic financing through a sukuk, projected to be introduced towards the end of this decade for market development and liquidity management purposes, Afghanistan's **financing gap net of domestic financing** remains over 15 percent of GDP until 2024, then declines to 7 percent of GDP by 2035.

- While the **operating budget deficit excluding grants** is projected to fall gradually from more than 9 percent of GDP to less than 3 percent of GDP over the projection horizon, fiscal sustainability, defined as domestic revenues fully covering the operating spending, would not be reached before 2040.

DEBT SUSTAINABILITY ANALYSIS

4. **Afghanistan's public debt remains modest.** Afghanistan passed the HIPC completion point and received debt relief in 2006. External public and publicly guaranteed debt, mostly to multilateral creditors, amounted to $1.2 billion, or 7.0 percent of GDP, in 2015.[10] [11] It is equivalent to 4.0 percent of GDP in

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[8] It is assumed that the operations and maintenance costs of civilian infrastructure projects that were previously funded and managed by donors off budget are by 2024 gradually transferred on budget and financed domestically.

[9] It is assumed that the off-budget donor-funded security spending is gradually moved on budget by 2031, with an increasing share financed domestically in line with the increase in domestic revenue.

[10] This debt stock is after delivery of the already-pledged debt relief commitments. Afghanistan is still following up with one Paris Club creditor on its debt relief commitments, as well as with several non-Paris Club creditors on debt relief on comparable terms. In terms of debt structure and composition, most of the external debt is owed to multilateral institutions, mainly regional and international financial institutions.

[11] Afghanistan owes a small amount (US$ 10 million) of pre-HIPC Initiative arrears to a non-Paris Club creditor, which continue to be deemed away under the revised arrears policy for official creditors, as the underlying Paris Club agreement was adequately representative and the authorities have made best efforts to resolve the arrears. See "Reforming the Fund's Policy on Non-Toleration of Arrears to Official Creditors" (https://www.imf.org/external/np/pp/eng/2015/101515.pdf)

present value (PV) terms, about 38 percent of exports, and 40 percent of government revenues (Table 1a). Under the baseline scenario-in which Afghanistan's financing gap, net of domestic financing, is entirely met by grants-the present value of public external debt would be about 3 percent of GDP by the end of the projected period, while total public debt would be 15 percent (Table 2a), both below the indicative debt-burden thresholds applicable to a country like Afghanistan. [12]

5. **Assuming continued donor support in the form of grants, Afghanistan's debt outlook is benign.** In addition to the existing debt stock, a limited amount of highly concessional borrowing from multilateral institutions, which is explicitly linked to big infrastructure projects with potentially high rates of economic and social returns, is planned for 2016. In the subsequent years, limited amounts of similar borrowing are assumed under the baseline scenario.

6. **The standard DSA shocks do not result in very dramatic outcomes.** There is a near-breach of the debt threshold (the present value of external debt to exports ratio), which suggests a vulnerability to distress in the balance of payments (exports). Other debt burden indicators do not respond significantly to the standard DSA shocks. However, it should be noted that the high past GDP growth rates incorporated in the standard shocks reflect a catch-up from a low post-conflict base as well as spending by international troops, while aid flows have been exceptionally large and front-loaded to finance post-conflict rehabilitation and reconstruction.

7. **Potential risks to grant financing put Afghanistan at a high risk of external debt distress.** A customized illustrative scenario assumes a change in the structure of the donor financing with a shift to loan financing and from 2019 on, 15 percent of grants, assumed under the baseline, are replaced by concessional loans.[13] It is further assumed that the nominal GDP levels remain similar to those of the baseline, the level of public services envisaged in the baseline scenario is preserved, and no additional revenue is mobilized. Under such a scenario, two debt burden indicator thresholds (the present value of external debt to GDP and that to exports) are significantly breached.

[12] Under the DSA framework, the external debt thresholds for countries with similar economic performance and income level as Afghanistan are: for the PV of debt—30 percent of GDP, 100 percent of exports, and 200 percent of revenues; for debt service, 15 percent of exports and 18 percent of revenues.

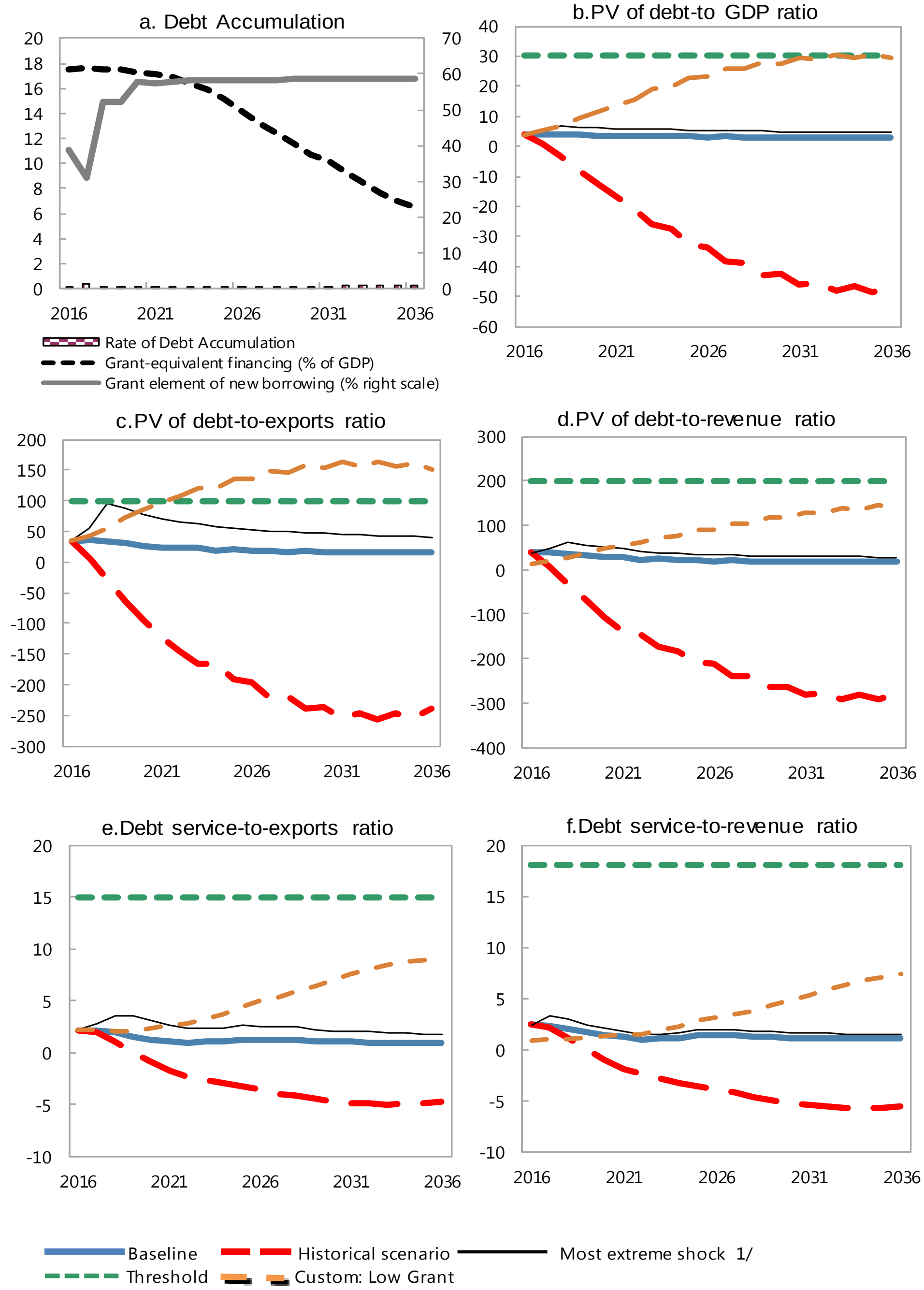
[13] The DSA published in November 2015 assumed a reduction in grants of 50 percent relative to the baseline.

CONCLUSIONS

8. **Afghanistan's debt sustainability critically hinges on continued donor grant inflows.** Afghanistan's public debt remains modest. Given continued donor support in the form of grants, Afghanistan's debt outlook, under the baseline scenario, is benign. However, a change in the structure of donor financing with a shift to loan financing (a customized illustrative scenario) would quickly lead to an unsustainable debt burden. Moreover, the outlook is subject to significant downside risks in addition to aid shortfalls, including the fragile security situation, political uncertainty, domestic revenue shortfalls, migrant outflows, and exchange rate depreciation. Given these risks and large underlying fiscal and external current account deficits, Afghanistan remains at a high risk of debt distress.

9. **The authorities broadly agreed with the conclusions of the DSA.** They emphasized that continued donor financing is critical to ensure debt sustainability, while delivering on their commitments to donor community and keeping the debt level low. They recognized substantial risks going forward, including potential donor fatigue, and underscored the importance of prudent fiscal policy. The authorities also noted Afghanistan's large upfront expenditure needs, particularly big infrastructure projects with potentially high rates of economic and social returns, which could support regional integration and growth, and were open to exploring options to mobilize other types of financing in addition to existing donor grants. They also acknowledged staff's advice that contracting concessional loans would require careful project selection and independent appraisal of expected returns to maintain debt sustainability, given the limited debt service capacity, and for transparent recording of its financial impact. They shared staff's view that domestic security markets should be developed and that sukuks (domestic borrowing) should be used as a liquidity management instrument and to build up the treasury's cash balance, rather than to finance projects or recurrent fiscal deficits. They underscored that further aligning donor support with Afghan priorities and channeling more funds through the budget could potentially result in expenditure savings and improved efficiency.

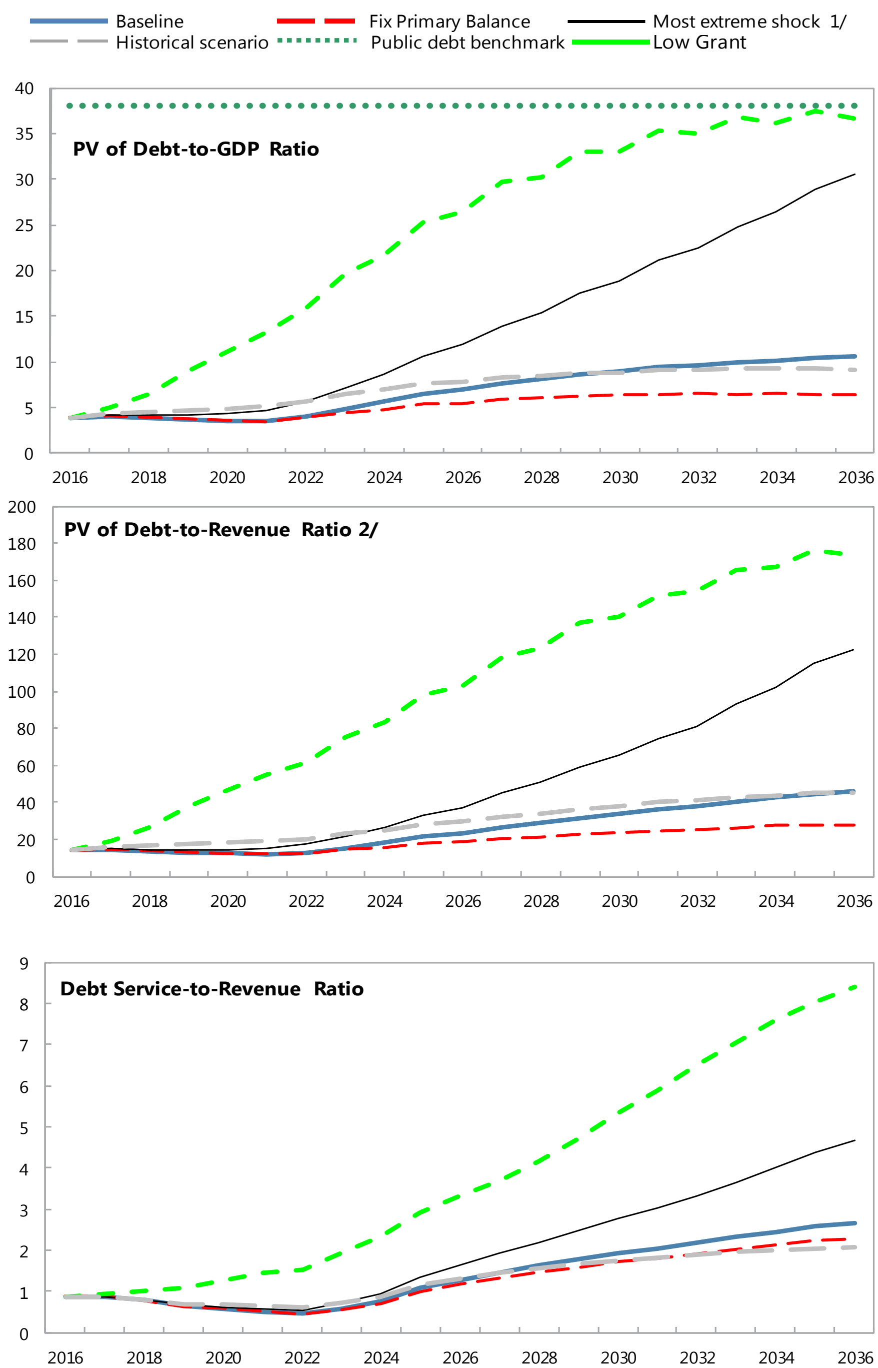
Figure 1. Islamic Republic of Afghanistan: Indicators of Public and Publicly Guaranteeed External Debt Under Alternative Scenarios, 2016–36[1/]



Sources: Afghan authorities; and IMF staff estimates and projections.

1/ The most extreme stress test (under the standardized stress tests) is the test that yields the highest ratio on or before 2025 among the six bound tests in Table 1b.

Figure 2. Islamic Republic of Afghanistan: Indicators of Public Debt Under Alternative Scenarios, 2016–36[1/]



Sources: Afghan authorities; and IMF staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2025.
2/ Revenues are defined inclusive of grants.

Table 1a. Islamic Republic of Afghanistan: External Debt Sustainability Framework, Baseline Scenario, 2013–36[1/]

(In percent of GDP, unless otherwise indicated)

	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/	**6.9**	**6.5**	**7.0**			**6.9**	**7.0**	**6.7**	**6.3**	**5.9**	**5.6**		**5.2**	**5.8**	
of which: public and publicly guaranteed (PPG)	6.9	6.5	7.0			6.9	7.0	6.7	6.3	5.9	5.6		5.2	5.8	
Change in external debt	0.1	-0.5	0.5			0.0	0.1	-0.3	-0.4	-0.3	-0.4		-0.3	-0.2	
Identified net debt-creating flows	-9.2	0.0	-5.3			-4.9	-2.4	-0.1	2.1	2.5	3.1		4.1	-0.4	
Non-interest current account deficit	**-8.7**	**0.7**	**-4.7**	**-8.7**	**10.6**	**-4.5**	**-1.1**	**0.6**	**2.8**	**3.3**	**3.9**		**5.3**	**0.8**	4.0
Deficit in balance of goods and services	35.9	35.9	34.3			37.7	37.1	35.6	35.6	33.6	31.6		23.7	10.1	
Exports	19.9	15.9	10.7			11.4	11.6	12.0	12.5	13.3	13.9		17.2	19.6	
Imports	55.8	51.7	45.0			49.2	48.7	47.6	48.1	46.9	45.5		40.8	29.7	
Net current transfers (negative = inflow)	-43.1	-34.3	-38.1	-49.7	13.1	-41.0	-36.9	-33.8	-31.6	-29.2	-26.7		-17.5	-8.7	-14.6
of which: official	-43.8	-34.9	-38.2			-41.1	-36.9	-33.7	-31.4	-28.9	-26.3		-16.6	-6.7	
Other current account flows (negative = net inflow)	-1.5	-0.9	-0.9			-1.2	-1.2	-1.2	-1.2	-1.1	-1.0		-0.9	-0.6	
Net FDI (negative = inflow)	**-0.5**	**-0.6**	**-0.9**	**-1.3**	**0.8**	**-0.3**	**-1.1**	**-0.5**	**-0.5**	**-0.5**	**-0.5**		**-1.0**	**-1.0**	-1.0
Endogenous debt dynamics 2/	**0.1**	**0.0**	**0.2**			**-0.1**	**-0.2**	**-0.2**	**-0.3**	**-0.3**	**-0.3**		**-0.2**	**-0.2**	
Contribution from nominal interest rate	0.0	0.0	0.0			0.0	0.0	0.1	0.0	0.0	0.0		0.1	0.1	
Contribution from real GDP growth	-0.3	-0.1	-0.1			-0.1	-0.2	-0.3	-0.3	-0.3	-0.3		-0.2	-0.3	
Contribution from price and exchange rate changes	0.3	0.0	0.3			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**9.3**	**-0.5**	**5.8**			**4.9**	**2.5**	**-0.2**	**-2.5**	**-2.9**	**-3.5**		**-4.4**	**0.2**	
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/	...	...	3.8			3.9	4.1	3.9	3.7	3.6	3.4		3.1	3.0	
In percent of exports	...	...	35.7			34.0	35.0	32.6	29.6	26.8	24.3		17.8	15.1	
PV of PPG external debt	**...**	**...**	**3.8**			**3.9**	**4.1**	**3.9**	**3.7**	**3.6**	**3.4**		**3.1**	**3.0**	
In percent of exports	**...**	**...**	**35.7**			**34.0**	**35.0**	**32.6**	**29.6**	**26.8**	**24.3**		**17.8**	**15.1**	
In percent of government revenues	**...**	**...**	**37.7**			**37.6**	**38.0**	**35.4**	**32.3**	**29.7**	**27.3**		**19.3**	**17.7**	
Debt service-to-exports ratio (in percent)	**0.7**	**2.4**	**2.1**			**2.1**	**2.1**	**1.9**	**1.5**	**1.3**	**1.1**		**1.2**	**0.9**	
PPG debt service-to-exports ratio (in percent)	**0.7**	**2.4**	**2.1**			**2.1**	**2.1**	**1.9**	**1.5**	**1.3**	**1.1**		**1.2**	**0.9**	
PPG debt service-to-revenue ratio (in percent)	**1.5**	**4.5**	**2.2**			**2.4**	**2.3**	**2.0**	**1.6**	**1.4**	**1.2**		**1.3**	**1.0**	
Total gross financing need (Billions of U.S. dollars)	-1.8	0.1	-1.1			-0.8	-0.4	0.1	0.6	0.7	0.9		1.6	0.0	
Non-interest current account deficit that stabilizes debt ratio	-8.9	1.1	-5.2			-4.5	-1.2	0.9	3.2	3.6	4.3		5.6	1.0	
Key macroeconomic assumptions															
Real GDP growth (in percent)	3.9	1.3	0.8	7.8	6.3	2.0	3.4	4.3	5.2	5.6	6.0	4.4	4.8	4.8	4.9
GDP deflator in US dollar terms (change in percent)	-4.4	-0.4	-4.0	4.6	8.1	-8.4	1.5	2.4	2.8	2.8	2.8	0.6	1.6	1.9	1.7
Effective interest rate (percent) 5/	0.4	0.4	0.5	0.2	0.1	0.5	0.6	0.8	0.8	0.8	0.9	0.7	1.0	1.1	1.0
Growth of exports of G&S (US dollar terms, in percent)	7.3	-19.6	-34.6	10.0	26.6	-0.5	6.7	10.1	13.2	15.0	13.8	9.7	8.1	8.8	9.1
Growth of imports of G&S (US dollar terms, in percent)	-10.1	-6.4	-15.9	11.0	16.9	2.1	3.9	4.5	9.3	6.0	5.6	5.2	4.0	4.6	3.6
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	38.7	31.0	52.3	52.3	57.8	57.5	48.3	58.3	58.6	58.4
Government revenues (excluding grants, in percent of GDP)	9.8	8.6	10.2			10.3	10.7	11.0	11.5	12.0	12.3		15.9	16.8	16.0
Aid flows (in Billions of US dollars) 7/	3.0	3.2	2.9			3.2	3.4	3.6	3.9	4.2	4.5		5.1	4.5	
of which: Grants	2.9	3.1	2.9			3.2	3.4	3.6	3.9	4.1	4.5		5.0	4.3	
of which: Concessional loans	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.1	0.2	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			17.6	17.6	17.5	17.5	17.2	17.2		14.2	6.6	11.7
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			99.1	97.5	99.3	99.2	99.4	99.3		98.6	96.7	98.1
Memorandum items:															
Nominal GDP (Billions of US dollars)	20.2	20.4	19.7			18.4	19.3	20.6	22.3	24.2	26.4		35.8	69.1	
Nominal dollar GDP growth	-0.6	0.9	-3.3			-6.6	4.9	6.8	8.2	8.6	9.0	5.2	6.4	6.8	6.6
PV of PPG external debt (in Billions of US dollars)			0.7			0.7	0.8	0.8	0.8	0.8	0.9		1.1	2.1	
(PVt-PVt-1)/GDPt-1 (in percent)						0.1	0.4	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Gross workers' remittances (Billions of US dollars)	0.4	0.1	0.2			0.2	0.2	0.3	0.3	0.3	0.3		0.3	0.4	
PV of PPG external debt (in percent of GDP + remittances)	...	...	3.8			3.8	4.0	3.9	3.7	3.5	3.3		3.0	2.9	
PV of PPG external debt (in percent of exports + remittances)	...	...	32.2			30.5	31.5	29.6	27.1	24.7	22.6		16.9	14.7	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	1.9			1.9	1.9	1.7	1.4	1.2	1.0		1.1	0.8	

Sources: Afghan 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; errors and omissions; 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 1b. Islamic Republic of Afghanistan: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016–36

(In percent)

	Projections							
	2016	2017	2018	2019	2020	2021	2026	2036
PV of debt-to GDP ratio								
Baseline	4	4	4	4	4	3	3	3
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	4	1	-4	-8	-13	-17	-34	-47
A2. New public sector loans on less favorable terms in 2016-2036 2	4	4	4	4	4	4	4	5
Customized 1: Lower Grants	4	5	7	9	11	14	23	30
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	4	4	4	4	4	3	3	3
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	4	5	7	6	6	6	5	5
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	4	4	4	4	4	4	3	3
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	4	4	3	3	3	3	3	3
B5. Combination of B1-B4 using one-half standard deviation shocks	4	2	-1	-1	-1	-1	0	0
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	4	6	5	5	5	5	4	4
PV of debt-to-exports ratio								
Baseline	34	35	33	30	27	24	18	15
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	34	6	-29	-65	-96	-122	-197	-239
A2. New public sector loans on less favorable terms in 2016-2036 2	34	36	34	31	29	27	24	26
Customized 1: Lower Grants	34	43	56	72	86	97	135	151
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	34	34	32	29	26	24	18	15
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	34	55	95	87	78	71	52	40
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	34	34	32	29	26	24	18	15
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	34	38	26	24	21	20	15	13
B5. Combination of B1-B4 using one-half standard deviation shocks	34	19	-8	-7	-7	-6	-3	2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	34	34	32	29	26	24	18	15
PV of debt-to-revenue ratio								
Baseline	38	38	35	32	30	27	19	18
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	38	6	-32	-71	-106	-137	-213	-279
A2. New public sector loans on less favorable terms in 2016-2036 2	38	39	36	34	32	30	26	31
Customized 1: Lower Grants	14	19	27	38	48	56	90	140
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	38	38	36	33	30	28	20	19
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	38	47	61	56	51	47	33	28
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	38	39	39	35	32	30	22	20
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	38	41	28	26	24	22	16	16
B5. Combination of B1-B4 using one-half standard deviation shocks	38	19	-7	-6	-6	-5	-2	2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	38	53	49	45	41	38	28	25

Table 1b. Islamic Republic of Afghanistan: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016–36 (concluded)

(In percent)

Debt service-to-exports ratio								
Baseline	2	2	2	1	1	1	1	1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	2	2	1	0	-1	-2	-4	-5
A2. New public sector loans on less favorable terms in 2016-2036 2	2	2	2	2	1	1	1	1
Customized 1: Lower Grants	2	2	2	2	2	3	5	9
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	2	2	2	1	1	1	1	1
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	2	3	4	3	3	3	3	2
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	2	2	2	1	1	1	1	1
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	2	2	2	1	1	1	1	1
B5. Combination of B1-B4 using one-half standard deviation shocks	2	2	2	1	1	0	1	1
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	2	2	2	1	1	1	1	1
Debt service-to-revenue ratio								
Baseline	2	2	2	2	1	1	1	1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	2	2	1	0	-1	-2	-4	-6
A2. New public sector loans on less favorable terms in 2016-2036 2	2	2	2	2	2	1	1	2
Customized 1: Lower Grants	1	1	1	1	1	1	3	7
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	2	2	2	2	1	1	1	1
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	2	2	2	2	2	2	2	1
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	2	2	2	2	2	1	1	1
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	2	2	2	1	1	1	1	1
B5. Combination of B1-B4 using one-half standard deviation shocks	2	2	2	1	1	0	1	1
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	2	3	3	2	2	2	2	1
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	60	60	60	60	60	60	60	60

Sources: Afghan authorities; and IMF 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 2a. Islamic Republic of Afghanistan: Public Sector Debt Sustainability Framework Baseline Scenario, 2013–36

(In percent of GDP unless 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/	6.9	6.5	7.0			6.9	7.0	6.7	6.3	5.9	5.7		9.1	13.4	
of which: foreign-currency denominated	6.9	6.5	7.0			6.9	7.0	6.7	6.3	5.9	5.6		5.2	5.8	
Change in public sector debt	0.1	-0.5	0.5			0.0	0.1	-0.3	-0.4	-0.3	-0.2		0.3	0.1	
Identified debt-creating flows	0.7	1.4	2.3			-0.2	-0.3	-0.7	-0.8	-0.6	-0.5		0.1	0.1	
Primary deficit	0.6	1.7	1.4	1.1	1.5	-0.2	0.0	-0.3	-0.3	-0.2	-0.1	-0.2	0.8	0.8	0.7
Revenue and grants	24.3	24.0	25.0			27.8	28.1	28.5	28.8	29.1	29.3		29.8	23.0	
of which: grants	14.6	15.4	14.9			17.5	17.4	17.4	17.3	17.1	17.0		13.9	6.2	
Primary (noninterest) expenditure	25.0	25.7	26.4			27.6	28.1	28.1	28.5	28.9	29.3		30.5	23.8	
Automatic debt dynamics	0.1	-0.1	0.9			-0.1	-0.3	-0.4	-0.5	-0.4	-0.5		-0.7	-0.7	
Contribution from interest rate/growth differential	-0.3	-0.2	0.0			-0.2	-0.3	-0.4	-0.4	-0.4	-0.4		-0.4	-0.5	
of which: contribution from average real interest rate	-0.1	-0.1	0.0			-0.1	-0.1	-0.1	-0.1	-0.1	-0.1		0.0	0.1	
of which: contribution from real GDP growth	-0.3	-0.1	0.0			-0.1	-0.2	-0.3	-0.3	-0.3	-0.3		-0.4	-0.6	
Contribution from real exchange rate depreciation	0.4	0.1	0.9			0.2	0.0	0.0	-0.1	0.0	-0.1		...	...	
Other identified debt-creating flows	0.0	-0.2	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of 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	-0.2	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	-0.5	-1.8	-1.8			0.2	0.4	0.4	0.4	0.2	0.3		0.3	0.0	
Other Sustainability Indicators															
PV of public sector debt	...	...	3.8			3.9	4.1	3.9	3.7	3.6	3.5		6.9	10.5	
of which: foreign-currency denominated	...	...	3.8			3.9	4.1	3.9	3.7	3.6	3.4		3.1	3.0	
of which: external	...	...	3.8			3.9	4.1	3.9	3.7	3.6	3.4		3.1	3.0	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	0.7	2.1	1.6			0.1	0.2	-0.1	-0.1	0.0	0.1		1.1	1.4	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	15.3			14.0	14.5	13.7	12.9	12.2	11.9		23.3	45.8	
PV of public sector debt-to-revenue ratio (in percent)	...	...	37.7			37.6	38.0	35.4	32.3	29.7	28.3		43.8	62.9	
of which: external 3/	...	...	37.7			37.6	38.0	35.4	32.3	29.7	27.3		19.3	17.7	
Debt service-to-revenue and grants ratio (in percent) 4/	0.6	1.6	0.9			0.9	0.9	0.8	0.6	0.6	0.5		1.3	2.7	
Debt service-to-revenue ratio (in percent) 4/	1.5	4.5	2.2			2.4	2.3	2.0	1.6	1.4	1.2		2.4	3.7	
Primary deficit that stabilizes the debt-to-GDP ratio	0.5	2.2	0.9			-0.1	-0.1	0.0	0.1	0.2	0.2		0.4	0.7	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	3.9	1.3	0.8	7.8	6.3	2.0	3.4	4.3	5.2	5.6	6.0	4.4	4.8	4.8	4.9
Average nominal interest rate on forex debt (in percent)	0.4	0.4	0.5	0.2	0.1	0.5	0.6	0.8	0.8	0.8	0.9	0.7	1.0	1.1	1.0
Average real interest rate on domestic debt (in percent)	...	...	...	...	...	...	...	...		...	...	...	0.9	2.6	1.2
Real exchange rate depreciation (in percent, + indicates depreciation	6.0	0.9	14.7	-1.1	7.6	2.5	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	4.0	3.3	2.3	6.7	5.3	4.5	6.0	7.0	7.0	6.9	6.9	6.4	5.0	4.0	4.7
Growth of real primary spending (deflated by GDP deflator, in percer	3.7	4.3	3.5	1.3	1.8	6.7	5.3	4.3	6.6	7.2	7.4	6.2	2.6	3.2	3.5
Grant element of new external borrowing (in percent)	...	...	...	...	...	38.7	31.0	52.3	52.3	57.8	57.5	48.3	58.3	58.6	...

Sources: Afghan authorities; and IMF staff estimates and projections.

1/ Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or gross debt is used.

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 2b. Islamic Republic of Afghanistan: Sensitivity Analysis for Key Indicators of Public Debt, 2016–36

	Projections							
	2016	2017	2018	2019	2020	2021	2026	2036
PV of Debt-to-GDP Ratio								
Baseline	4	4	4	4	4	3	7	11
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	4	4	5	5	5	5	8	9
A2. Primary balance is unchanged from 2016	4	4	4	4	4	3	5	6
A3. Permanently lower GDP growth 1/	4	4	4	4	4	5	12	31
A4. Alternative Scenario : Low Grant	4	5	7	9	11	13	26	37
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-20	4	4	4	4	4	5	9	15
B2. Primary balance is at historical average minus one standard deviations in 2017-201	4	5	6	6	5	5	8	12
B3. Combination of B1-B2 using one half standard deviation shocks	4	5	5	5	5	5	7	10
B4. One-time 30 percent real depreciation in 2017	4	6	5	5	5	5	7	10
B5. 10 percent of GDP increase in other debt-creating flows in 2017	4	8	8	7	7	7	10	13
PV of Debt-to-Revenue Ratio 2/								
Baseline	14	14	14	13	12	12	23	46
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	14	16	17	17	18	19	29	45
A2. Primary balance is unchanged from 2016	14	14	14	13	12	12	18	28
A3. Permanently lower GDP growth 1/	14	15	14	14	14	15	37	123
A4. Alternative Scenario : Low Grant	14	19	26	38	47	55	103	173
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-20	14	15	15	15	15	15	31	65
B2. Primary balance is at historical average minus one standard deviations in 2017-201	14	18	21	20	19	18	28	51
B3. Combination of B1-B2 using one half standard deviation shocks	14	17	19	18	16	16	25	44
B4. One-time 30 percent real depreciation in 2017	14	20	19	18	17	16	25	44
B5. 10 percent of GDP increase in other debt-creating flows in 2017	14	28	27	25	24	23	33	55
Debt Service-to-Revenue Ratio 2/								
Baseline	1	1	1	1	1	1	1	3
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	1	1	1	1	1	1	1	2
A2. Primary balance is unchanged from 2016	1	1	1	1	1	1	1	2
A3. Permanently lower GDP growth 1/	1	1	1	1	1	1	2	5
A4. Alternative Scenario : Low Grant	1	1	1	1	1	1	3	8
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-20	1	1	1	1	1	1	1	3
B2. Primary balance is at historical average minus one standard deviations in 2017-201	1	1	1	1	1	1	1	3
B3. Combination of B1-B2 using one half standard deviation shocks	1	1	1	1	1	1	1	3
B4. One-time 30 percent real depreciation in 2017	1	1	1	1	1	1	2	3
B5. 10 percent of GDP increase in other debt-creating flows in 2017	1	1	1	1	1	1	1	3

Sources: Afghan authorities; and IMF 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.