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VIETNAM

STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITYANALYSIS

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Based on the external LIC DSA, Vietnam remains at low risk of debt distress. All external debt sustainability indicators are projected to remain well below their applicable thresholds in the baseline scenario and under stress tests.[1] The outlook for public sector debt, however, calls for continued fiscal consolidation. In addition, potential contingent liabilities arising from the financial sector and state-owned enterprises (SOEs), whose size is unknown, pose further risks to public debt sustainability.[2]

[1] Vietnam's policies and institutions, as measured by the World Bank's Country Policy and Institutional Assessment, averaged 3.81 over the past three years, placing it as a "strong performer." The relevant indicative thresholds for this category are: 50 percent for the present value (PV) of the debt-to-GDP ratio, 200 percent for the PV of the debt-to-exports ratio, 300 percent for the PV of the debt-to-revenue ratio, 25 percent for the debt service-to-exports ratio, and 22 percent for the debt service-to-revenue ratio. These thresholds are applicable to public and publicly guaranteed (PPG) external debt.

[2] This DSA was prepared jointly by Bank and Fund staff, in consultation with the Asian Development Bank (AsDB). The debt data underlying this exercise were provided by the Vietnamese authorities and donor partners. Data beyond end-2010 are staff estimates and projections.

INTRODUCTION

1. **Vietnam's external debt position has historically been low, but has risen somewhat since 2008.** Vietnam's total external (including private sector) debt is estimated to have risen to about 43¾ percent of GDP at end-2010, about 11½ percentage points higher than in 2008. Most of Vietnam's PPG external debt is concessional with long maturities and a fairly diversified currency composition (see text table). Meanwhile, large foreign direct investment (FDI) inflows have provided significant non-debt-creating financing. GDP growth has recovered somewhat since 2008, but remains below pre-crisis rates. Despite a significant narrowing of the current account deficit, international reserves remain low on account of large, albeit declining, domestic shift from Vietnamese dong into U.S. dollars and gold.[3]

2. **Domestic public debt has historically been manageable, but risks have increased in recent years.** Public sector debt in this analysis refers to debt of the general government and debt guaranteed by the central government. Debts of SOEs not guaranteed by the government are excluded from public sector debt due to lack of data (except that of Vietnam Development Bank, whose nonsecuritized domestic debts are included in public sector debt). Vietnam's domestic public debt has remained at around 17–18 percent of GDP during 2006–08, but increased to about 21½ percent of GDP in 2010 on account of the 2009 fiscal stimulus. Domestic financing needs have traditionally been met comfortably through borrowing at low or negative real interest rates from captive banks and quasi-government entities.

Public and Publicly Guaranteed External Debt by Main Creditor
As at end-2010
(In percent of GDP)

Creditors	Debt Holdings
Multilaterals	
The IMF	0.1
The World Bank	7.8
The Asian Development Bank	4.3
Other	2.1
Bilaterals	
Japan International Cooperation Agency	8.7
Other	4.4
Commercial	5.3
Total	32.7

Sources: Vietnam authorities; and IMF staff estimates.

COMPARISON AND ASSUMPTIONS

3. **Vietnam is assessed to be at a low risk of debt distress, similar to the assessment in the last DSA.** PPG external debt and the PV of PPG external debt in 2010 are slightly higher than projected in the last DSA. In 2010, PPG domestic debt (21½ percent of GDP) is about 1 percentage point higher than, and the PV of public debt is about ½ percentage point higher than projected in the last DSA. This largely reflects newly available information on additional government-guaranteed domestic debt. The noninterest current account deficit, FDI, and aid flows in 2011 were mostly better than projected in the last DSA. However, commercial banks' acquisition of large net foreign assets and large private capital outflows are reflected in the residual beyond the identified financing gap. The main baseline assumptions underlying the DSA are summarized in Box 1.

[3] As reflected in negative net foreign assets of commercial banks and in negative errors and omissions estimated at 4 percent of GDP in 2010, largely reflecting foreign currency and gold hoarding by residents outside the financial system as a hedge against inflation and depreciation.

EXTERNAL DSA[4]

A. Baseline

4. Vietnam's PPG external debt position remains manageable. The PV of the PPG external debt stock at end-2010 was about 28 percent of GDP and is estimated to have declined to 26½ percent of GDP in 2011—much lower than the threshold of 50 percent of GDP. Other PPG external debt and debt service indicators also remain well below the applicable debt thresholds.

5. Under the baseline scenario, the PV of PPG external debt to GDP is projected to decline over the longer term.[5] In addition, the PV of PPG external debt in percent of exports and revenues is expected to decline steadily between 2011–30, while the debt service-to-exports ratio is projected to remain relatively flat, and the debt service-to-revenue ratio to increase somewhat, reflecting a shift toward more commercial borrowing. With remittances included in the denominator of debt indicator calculations, the above results still hold broadly.

6. Contingent liabilities arising from the SOE sector pose some risk to this assessment. The assessment of risk of debt distress does not include private external debt. The debt servicing difficulties of the Vinashin conglomerate suggest risks of possible isolated cases of nongovernment external debt default, and some part of this external debt may need to be assumed by the government. Nonetheless, even in such a scenario, the external debt outlook will likely remain manageable given the relatively small size of private external debt and the low PPG external debt.

B. Alternative Scenarios and Stress Tests

7. Stress tests indicate that the PV of PPG external debt is most sensitive to an export shock. However, under none of the standard stress tests would the PV of PPG external debt to GDP breach the threshold.[6] Other PPG external debt indicators are also most sensitive to a slowdown in exports, yet they remain well below the applicable thresholds even under the most extreme stress tests. Results are similar when remittances are included in the denominator of debt indicator calculations.

[4] This analysis focuses on PPG external debt, which accounts for more than 75 percent of total external debt. Non-SOE private external debt is largely associated with foreign-invested projects, and hence is more self-sustainable. Non-government guaranteed external debt of SOEs is included in private external debt.

[5] Unidentified debt-creating flows are recorded as "residual" in the DSA summary tables, which also captures the impact of exchange rate movements.

[6] The modified debt burden thresholds are 10 percent lower than the applicable debt sustainability framework thresholds.

Box 1. Key Macroeconomic Assumptions for Baseline Scenario (2012–31)

Real GDP growth is projected at about 6 percent for 2012, slowing down somewhat, from an average of about 7 percent over the past 10 years, and gradually increase to about 7½ percent by 2017—the level prior to the 2009 global economic crisis—supported by domestic and a recovery in external demand. Real GDP growth is expected to average about 7½ percent per year during 2017–25, and thereafter slow gradually as Vietnam's level of development and demography begin to converge to those of more advanced neighbors.

Inflation is projected to decline from an average of 18.7 percent in 2011 to 10¾ percent in 2012 as food prices stabilize and also due to base effects. It is projected to then gradually decline to 5 percent by 2017 as macroeconomic conditions stabilize, and remain at that level through 2031.

The current account deficit is estimated to have narrowed from 4 percent of GDP in 2010 to ½ percent of GDP in 2011 largely due to a rebound in exports and subdued import growth. In the longer term, as the main exports shift toward higher value-added products and imports of capital goods decline, the current account deficit should gradually narrow and finally be slightly above balance by 2028. As high growth continues in the longer term, remittances (whose growth tends to be in line with GDP growth in the United States, the largest source country of remittances to Vietnam) as a share of GDP will gradually decline.

The capital and financial account surplus is projected to rise from slightly above 4 percent of GDP in 2012 to about 5 percent in 2017 and thereafter decline gradually throughout the projection horizon. The non-debt-creating portion of FDI is projected to decrease from about 6 percent of GDP in 2011 to about 2 percent in 2031. As Vietnam is expected to graduate from IDA eligibility around 2020, concessional official development assistance is assumed to decline as Vietnam transitions to IDA Blend, which has shorter grace periods and maturities, and higher interest rates.

Reserve coverage is expected to remain low at about 1.6 months of prospective imports by end-2012, but is forecast to gradually recover to about 3.2 months by end-2017 and increase further to 5 months by end-2031.

Effective interest rates on foreign borrowing are expected to increase gradually from around 2½ percent in 2010 to 6½ percent by 2031, as the share of concessional loans in total debt declines.

Net borrowing by the government (including off-budget expenditure and excluding official development assistance onlending) is projected to decline from 3½ percent of GDP in 2012 to below 2 percent of GDP by 2015, and remain at about 2 percent of GDP in the long run. Revenues and grants decline gradually to 27¼ percent of GDP by 2014, and in the long run gradually decline to around 25–26 percent of GDP as the ratio of grants, trade revenue, and natural resource revenues to GDP declines and are only partially replace with other revenues, in line with the authorities' plans. Noninterest current expenditure, while increasing somewhat in real terms, would decline gradually as a percentage of GDP. The primary deficit declines from 2.1 percent of GDP in 2012 to an average of around 1–1½ percent of GDP in 2017–31.

Net domestic financing (NDF) is projected to become slightly negative given expected ODA disbursements in the coming years and revenue and expenditure projections. However, the financing mix is projected to shift toward domestic sources in the long run, and NDF to rise to about 1½ to 1¾ percent of GDP in the outer years.

Contingent liabilities or exceptional financing are not assumed in the baseline scenario.

PUBLIC DSA

A. Baseline

8. The PV of public sector debt at end-2010 is estimated at 49½ percent of GDP while the nominal debt-to-GDP ratio is estimated at 54¼ percent of GDP. The nominal debt-to-GDP ratio is estimated to have declined to 48½ percent of GDP at end-2011, and is projected to decline further to 43½ percent of GDP by 2016, and to well below 35 percent of GDP in the longer term. The debt service-to revenue ratio declines initially to 12 percent in 2016 before rising again to about 18 percent, as concessional financing is expected to decline, and maturities of and interest on commercial debt are shorter and higher, respectively.

9. These trends largely reflect fiscal consolidation in 2011 and over the medium term. Fiscal consolidation has already begun. Net incurrence of liabilities is estimated to have declined to 2.8 percent of GDP in 2011 from 8.3 and 7.1 percent of GDP in 2009 and 2010, respectively. In the baseline scenario, the non-oil primary deficit is projected to decline from about 5½ percent of GDP in 2011 to about 3 percent of GDP by 2017. Over time, net incurrence of liabilities is projected to decline to around 2¼ percent of GDP, in line with the authorities' plans for revenue reform to replace declining oil and trade revenues.

B. Alternative Scenarios and Stress Tests

10. The standard stress tests indicate the importance of fiscal consolidation over the medium term. A less ambitious adjustment than assumed in the baseline may not provide a sufficient hedge against a large exchange rate shock. Lower GDP growth would also jeopardize public debt reduction.

11. Contingent liabilities pose some risk to public debt sustainability. Raising the capital of state-owned commercial banks (SOCBs) to required minimum levels is estimated at around 2–3 percent of GDP, while adequate provisioning for nonperforming loans (NPLs), if International Financial Reporting Standards are applied, could amount to some 4½ percent of GDP.[7] In a stress event, a broad approximation suggests that NPL levels in the whole banking sector—arising from SOEs, private companies, and households—may rise by about 23½ percent of GDP, based on past experience in emerging market banking crises (though not all NPLs would necessarily be reflected in public debt since the size of recapitalization would likely be smaller). Should such a scenario materialize, public sector debt could rise commensurately either in one step or distributed over a relatively short time period. A shock of this magnitude would drive up the debt-to-GDP ratio to about 78½ percent of GDP which would, under an unchanged fiscal stance, decline only to about 48½ percent of GDP by 2031. However, the large presence of SOCBs, the explicit guarantee of deposits extended in 2011, and the action already being undertaken by the SBV to address problems in a number of small weak banks, reduce the likelihood of a panic-driven crisis and hence the crystallization of contingent liabilities. Thus, this calculation should be taken as a mechanical illustration of the possible maximum, which by no means indicates any likelihood of such an outcome.

[7] Estimates for contingent liabilities are updated based on those from last year's DSA.

DEBT DISTRESS CLASSIFICATION AND CONCLUSIONS

12. In the staffs' view, Vietnam remains at a low risk of external debt distress based on external debt burden indicators. The projected PPG external debt ratios and projected path remain well below applicable thresholds. Under the sensitivity analysis, all external debt indicators remain well below the applicable thresholds.

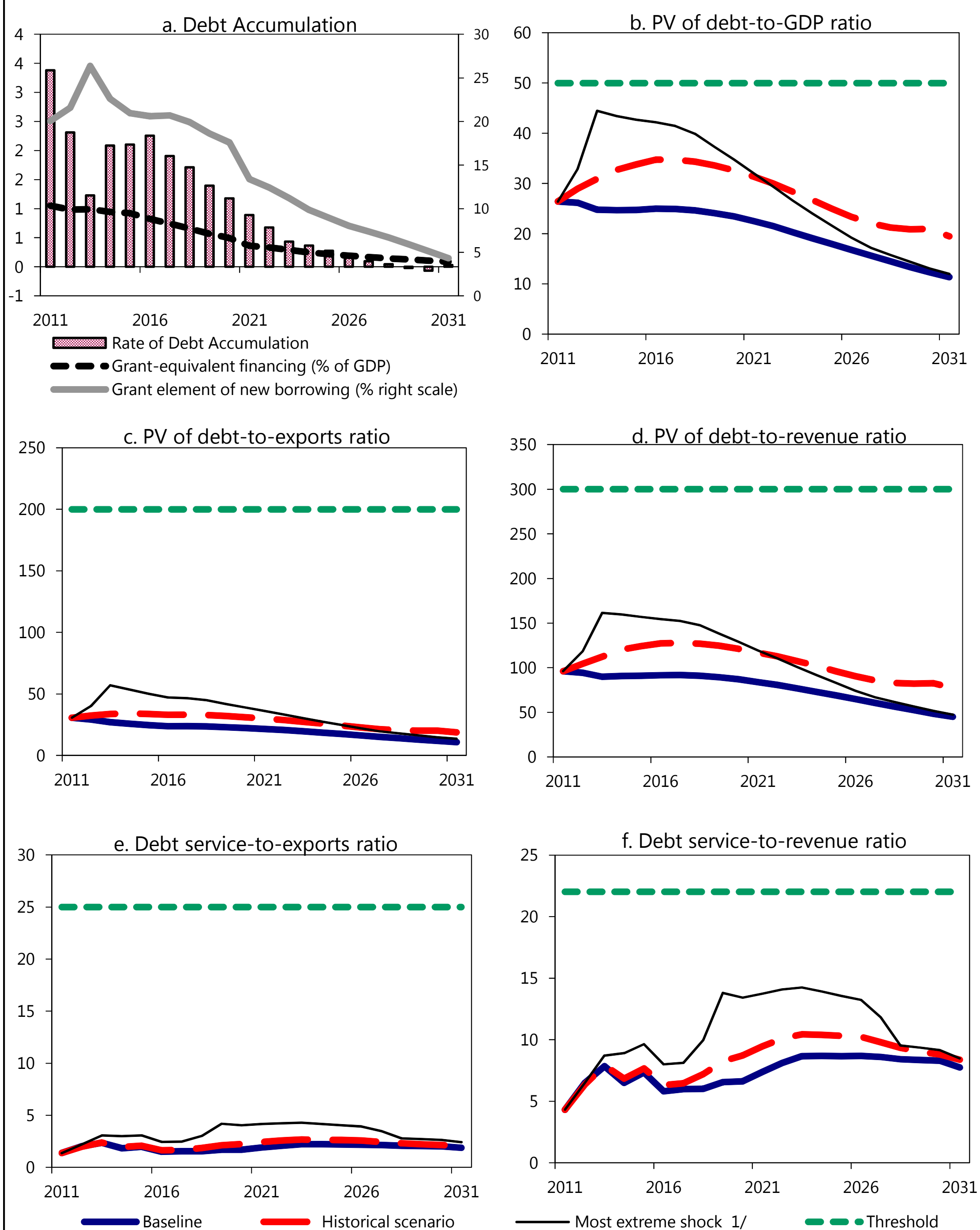
13. The public DSA suggests that Vietnam's overall public sector debt dynamics are not at immediate risk. However, continued fiscal consolidation with the aim of reducing the public debt-to-GDP ratio and building up cushions is necessary. Under the baseline scenario, public debt would gradually decline to more comfortable levels. However, potential contingent liabilities arising from the financial sector and SOEs pose sizable risks to public debt sustainability.

14. Risks that stem from the possible impact of contingent liabilities on public finances need to be considered carefully. The staffs' estimates of contingent liabilities are based on limited information on the financial state of SOCBs and SOEs, and on general experience with financial sector crises in other countries in the past, which may have little bearing on Vietnam's specific circumstances. Therefore, they are necessarily general and should be considered as indicative only. In this regard, the SBV and Ministry of Finance should strengthen their capacity to assess and monitor contingent liabilities arising from both the financial and SOE sectors.

15. The above debt sustainability results depend critically on the underlying assumptions. The key assumptions include: (i) a fiscal adjustment that reduces net incurrence of liabilities to around 2½ percent of GDP in order to reduce public sector debt to below 45 percent of GDP by 2016 and below 40 percent of GDP in the longer run; (ii) continued export growth and dynamism of the Vietnamese economy more generally; (iii) continued access to non-debt-creating external financing, especially private remittances and FDI; and (iv) continued albeit declining access to concessional financing by multilateral and bilateral sources in the medium term.

16. The authorities broadly agree with the staffs on the external debt sustainability analysis. They agree that the public debt-to-GDP ratio should decline over the medium and long term. They also share the staffs' concern on risks arising from contingent liabilities of SOEs and the banking sector, though they indicated that budgetary resources would not be used to restructure SOE debt. This policy, in their view, also limited the need to create fiscal cushions in anticipation of such contingencies, though they broadly agreed with the need to reduce public debt over the medium term.

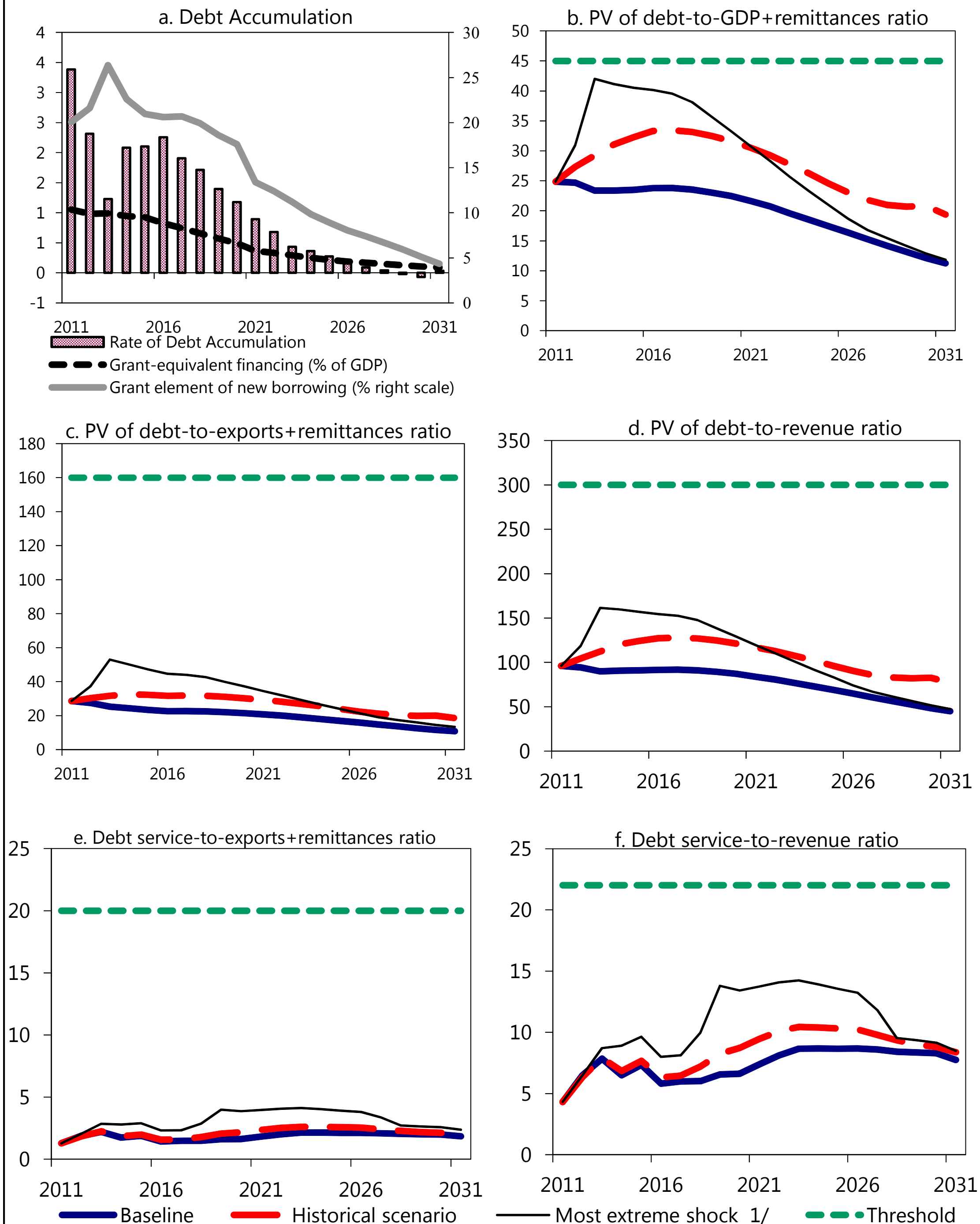
Figure 1. Vietnam: Indicators of Public and Publicly Guaranteed External Debt Under Alternatives Scenarios, 2011–31[1]



Sources: Vietnamese authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2021. In figure b. it corresponds to a Exports shock; in c. to a Exports shock; in d. to a Exports shock; in e. to a Exports shock and in figure f. to a Exports shock.

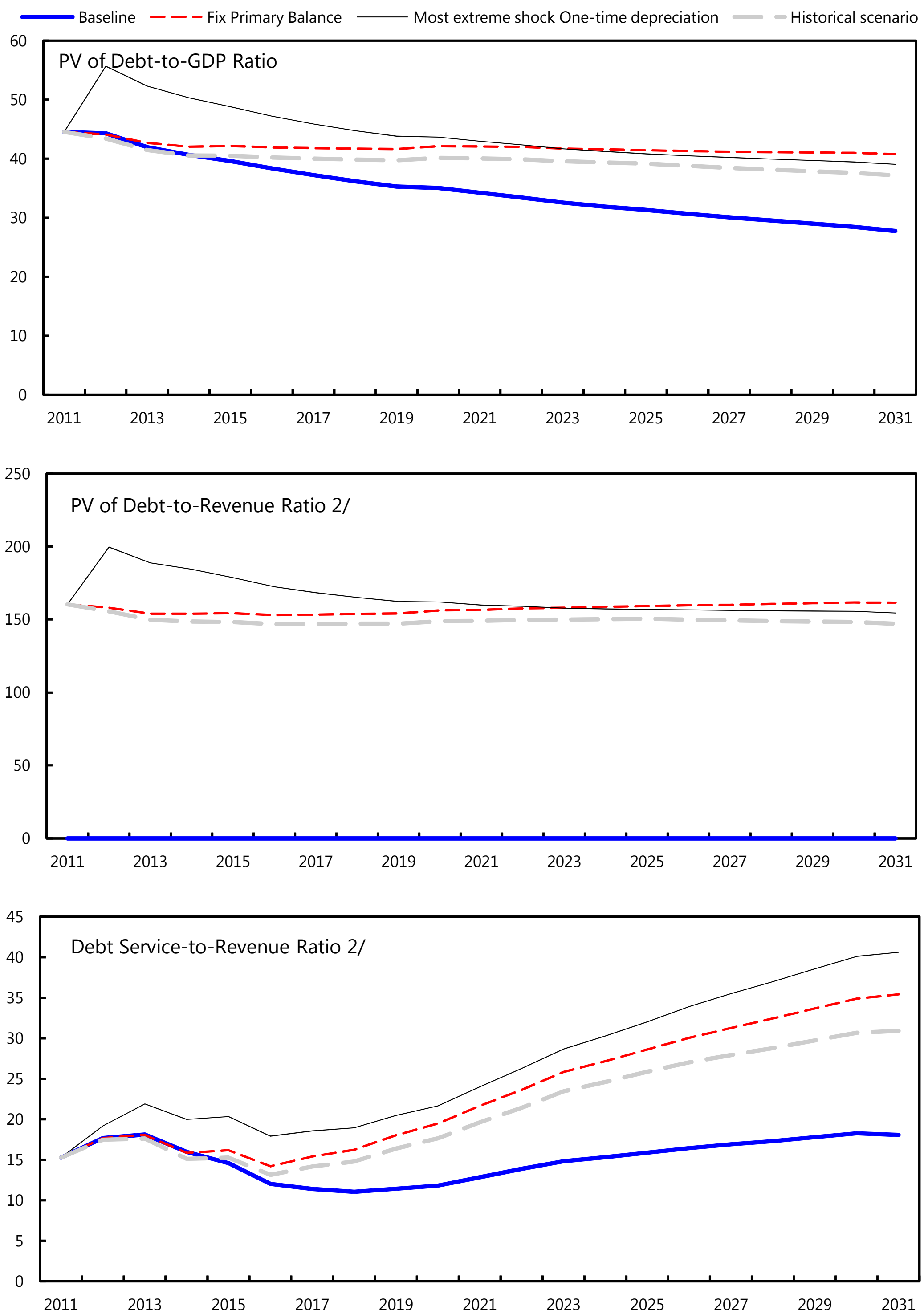
Figure 2. Vietnam: Indicators of Public and Publicly Guaranteed External Debt Under Alternatives Scenarios with Remittances, 2011–31[1]



Sources: Vietnamese authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2021. In figure b. it corresponds to a Exports shock; in c. to a Exports shock; in d. to a Exports shock; in e. to a Exports shock and in figure f. to a Exports shock.

Figure 3. Vietnam: Indicators of Public Debt Under Alternative Scenarios, 2011–31



Sources: Vietnamese authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2021.
2/ Revenues are defined inclusive of grants.

Table 1a. Vietnam: Public Sector Debt Sustainability Framework, Baseline Scenario, 2008–31

(In percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2008	2009	2010	Average 1/	Standard Deviation 1/	2011	2012	2013	2014	2015	2016	2011–16 Average	2021	2031	2017–31 Average
Public sector debt 2/	42.9	51.2	54.2			48.5	48.4	46.6	45.5	44.6	43.4		38.5	30.2	
Of which: Foreign-currency denominated	25.7	31.7	32.9			30.4	30.2	29.5	29.5	29.7	30.0		26.9	13.9	
Change in public sector debt	-1.7	8.3	3.0			-5.7	-0.1	-1.8	-1.2	-0.9	-1.2		-1.1	-0.8	
Identified debt-creating flows	-7.8	4.0	-1.6			-7.3	-1.7	-2.6	-2.0	-2.3	-2.1		-1.7	-0.9	
Primary deficit	-0.6	5.8	3.8	1.4	2.2	1.6	1.8	0.7	0.9	0.4	0.5	1.0	0.6	0.8	0.8
Revenue and grants	28.9	27.3	27.8			27.8	27.9	27.7	27.3	27.3	27.4		26.9	25.3	
of which: grants	0.6	0.5	0.3			0.3	0.2	0.1	0.1	0.1	0.1		0.1	0.0	
Primary (noninterest) expenditure	28.3	33.1	31.6			29.4	29.7	28.4	28.2	27.8	27.9		27.5	26.1	
Automatic debt dynamics	-7.2	-1.8	-5.4			-8.9	-3.6	-3.2	-3.0	-2.7	-2.6		-2.3	-1.7	
Contribution from interest rate/growth differential	-5.0	-1.9	-4.0			-6.2	-2.8	-2.2	-2.6	-2.8	-2.9		-2.6	-1.8	
Of which: Contribution from average real interest rate	-2.4	0.2	-0.8			-3.2	-0.1	0.7	0.4	0.3	0.3		0.2	0.3	
Of which: Contribution from real GDP growth	-2.6	-2.2	-3.3			-3.0	-2.8	-2.9	-3.0	-3.1	-3.1		-2.8	-2.0	
Contribution from real exchange rate depreciation	-2.2	0.2	-1.4			-2.7	-0.7	-1.0	-0.3	0.0	0.2		...	...	
Other identified debt-creating flows	0.0	0.0	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	0.0	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	6.1	4.2	4.7			1.6	1.6	0.8	0.9	1.4	0.9		0.6	0.0	
Other Sustainability Indicators															
PV of public sector debt	...	...	49.4			44.5	44.3	42.0	40.7	39.6	38.4		34.2	27.8	
Of which: Foreign-currency denominated	...	...	28.1			26.5	26.2	24.8	24.7	24.8	25.0		22.5	11.4	
Of which: External	...	...	27.9			26.4	26.2	24.8	24.7	24.8	25.0		22.5	11.4	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 3/	4.0	11.3	8.7			6.1	6.8	6.3	5.9	5.0	4.3		4.5	6.1	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	177.2			160.4	159.0	151.4	148.9	145.0	140.0		127.3	109.8	
PV of public sector debt-to-revenue ratio (in percent)	...	...	178.8			162.1	159.9	152.2	149.6	145.7	140.6		127.6	109.9	
Of which: External 4/	...	...	101.1			96.1	94.4	89.9	90.9	91.0	91.6		84.0	45.1	
Debt service-to-revenue and grants ratio (in percent) 5/	13.6	16.2	16.0			15.3	17.7	18.1	16.0	14.6	12.0		12.8	18.1	
Debt service-to-revenue ratio (in percent) 5/	13.9	16.5	16.1			15.4	17.8	18.2	16.0	14.6	12.1		12.9	18.1	
Primary deficit that stabilizes the debt-to-GDP ratio	1.1	-2.5	0.7			7.3	1.9	2.4	2.1	1.3	1.7		1.7	1.6	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	6.3	5.3	6.8	7.3	1.0	5.9	6.0	6.3	6.9	7.3	7.5	6.7	7.5	7.0	7.3
Average nominal interest rate on forex debt (in percent)	2.2	2.4	2.5	2.3	0.2	0.3	2.2	4.0	2.3	2.2	2.3	2.2	2.4	3.3	2.7
Average real interest rate on domestic debt (in percent)	-14.2	-0.6	-6.3	-3.4	5.2	-13.0	-2.4	-1.9	-0.2	0.1	0.1	-2.9	-0.2	0.2	-0.1
Real exchange rate depreciation (in percent, + indicates depreciation)	-8.6	0.7	-4.6	-2.7	3.6	-8.8	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	22.1	6.0	11.9	8.4	5.5	20.9	8.9	7.2	4.9	4.1	3.6	8.3	3.6	4.1	3.8
Growth of real primary spending (deflated by GDP deflator, in percent)	0.0	0.2	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1
Grant element of new external borrowing (in percent)	...	...	...	...	...	20.1	21.6	26.4	22.6	21.0	20.6	22.0	13.4	4.3	...

Sources: Vietnamese authorities; and staff estimates and projections.

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

2/ The public sector includes only general government and government-guaranteed 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.

4/ Revenues excluding grants.

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

Table 1b. Vietnam: Sensitivity Analysis for Key Indicators of Public Debt 2011–31

	Projections							
	2011	2012	2013	2014	2015	2016	2021	2031
PV of Debt-to-GDP Ratio								
Baseline	45	44	42	41	40	38	34	28
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	45	43	41	41	40	40	40	37
A2. Primary balance is unchanged from 2011	45	44	43	42	42	42	42	41
A3. Permanently lower GDP growth 1/	45	44	42	41	41	40	38	39
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012–13	45	44	42	40	39	38	34	27
B2. Primary balance is at historical average minus one standard deviations in 2012–13	45	46	47	45	44	43	38	31
B3. Combination of B1–B2 using one half standard deviation shocks	45	45	44	42	41	39	34	25
B4. One-time 30 percent real depreciation in 2012	45	56	52	50	49	47	43	39
B5. 10 percent of GDP increase in other debt-creating flows in 2012	45	54	52	50	49	47	42	34
PV of Debt-to-Revenue Ratio 2/								
PV of Debt-to-Revenue Ratio 2/								
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	160	156	150	149	148	147	149	147
A2. Primary balance is unchanged from 2011	160	158	154	154	154	153	157	161
A3. Permanently lower GDP growth 1/	160	160	153	151	148	144	140	153
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012–13	160	158	151	148	144	139	126	107
B2. Primary balance is at historical average minus one standard deviations in 2012–13	160	165	168	165	161	155	141	121
B3. Combination of B1–B2 using one half standard deviation shocks	160	160	159	155	150	144	125	98
B4. One-time 30 percent real depreciation in 2012	160	200	189	184	179	172	160	155
B5. 10 percent of GDP increase in other debt-creating flows in 2012	160	195	187	184	179	173	157	134
Debt Service-to-Revenue Ratio 2/								
PV of Debt-to-Revenue Ratio 2/	15	18	18	16	15	12	13	18
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	15	17	18	15	15	13	20	31
A2. Primary balance is unchanged from 2011	15	18	18	16	16	14	22	35
A3. Permanently lower GDP growth 1/	15	18	18	16	15	13	16	31
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012–13	15	18	18	16	14	12	12	17
B2. Primary balance is at historical average minus one standard deviations in 2012–13	15	18	19	20	21	17	18	22
B3. Combination of B1–B2 using one half standard deviation shocks	15	18	18	17	18	14	13	15
B4. One-time 30 percent real depreciation in 2012	15	19	22	20	20	18	24	41
B5. 10 percent of GDP increase in other debt-creating flows in 2012	15	18	22	33	25	25	24	27

Sources: Vietnamese 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.

Table 2a. Vietnam: External Debt Sustainability Framework, Baseline Scenario, 2008–31 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical 2/ Average	Standard 2/ Deviation	Projections									
	2008	2009	2010			2011	2012	2013	2014	2015	2016	2011–16 Average	2021	2031	2017–31 Average
External debt (nominal) 1/	**32.4**	**41.6**	**43.8**			**41.1**	**41.2**	**40.4**	**40.5**	**40.9**	**41.5**		**37.2**	**23.3**	
o/w public and publicly guaranteed (PPG)	25.7	31.1	32.7			30.4	30.2	29.5	29.5	29.7	30.0		26.9	13.9	
Change in external debt	1.0	9.2	2.3			-2.8	0.1	-0.8	0.1	0.4	0.6		-1.4	-1.1	
Identified net debt-creating flows	-2.9	-1.2	-6.5			-7.2	-6.5	-6.2	-6.0	-5.4	-5.2		-4.8	-3.1	
Non-interest current account deficit	**11.3**	**5.6**	**3.2**	**3.3**	**4.5**	**0.2**	**-0.1**	**-0.7**	**-0.1**	**0.3**	**0.3**		**0.0**	**-0.4**	-0.3
Deficit in balance of goods and services	15.2	10.2	7.3			2.8	2.3	2.5	2.4	2.7	2.8		2.1	-1.8	
Exports	77.2	67.4	76.9			86.2	89.3	92.0	95.6	100.4	105.3		104.4	104.4	
Imports	92.4	77.6	84.2			89.0	91.7	94.4	98.0	103.1	108.1		106.5	102.7	
Net current transfers (negative = inflow)	-8.1	-6.9	-7.6	-6.6	1.5	-6.4	-6.2	-6.1	-5.8	-5.5	-5.1		-4.1	-1.3	-3.2
o/w official	-0.6	-0.5	-0.3			-0.2	-0.2	-0.2	-0.1	-0.1	-0.1		0.0	0.0	
Other current account flows (negative = net inflow)	4.2	2.3	3.5			3.7	3.7	2.9	3.2	3.0	2.7		1.9	2.8	
Net FDI (negative = inflow)	**-8.2**	**-6.8**	**-6.5**	**-4.4**	**2.5**	**-5.6**	**-5.0**	**-4.6**	**-4.3**	**-4.0**	**-3.7**		**-3.1**	**-2.0**	-2.8
Endogenous debt dynamics 3/	**-6.0**	**0.0**	**-3.2**			**-1.8**	**-1.3**	**-0.9**	**-1.6**	**-1.7**	**-1.8**		**-1.6**	**-0.7**	
Contribution from nominal interest rate	0.7	1.0	1.0			0.4	0.9	1.5	1.0	1.0	1.1		1.0	0.9	
Contribution from real GDP growth	-1.6	-1.7	-2.5			-2.2	-2.2	-2.4	-2.6	-2.7	-2.8		-2.7	-1.6	
Contribution from price and exchange rate changes	-5.1	0.7	-1.6			...	...	...	...	...	...		...	...	
Residual (3–4) 4/	**3.9**	**10.4**	**8.7**			**4.4**	**6.6**	**5.5**	**6.1**	**5.8**	**5.8**		**3.3**	**2.0**	
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 5/	...	...	39.0			37.1	37.1	35.7	35.7	35.9	36.4		32.9	20.9	
In percent of exports	...	...	50.7			43.1	41.5	38.8	37.3	35.8	34.6		31.5	20.0	
PV of PPG external debt	**...**	**...**	**27.9**			**26.4**	**26.2**	**24.8**	**24.7**	**24.8**	**25.0**		**22.5**	**11.4**	
In percent of exports	**...**	**...**	**36.3**			**30.7**	**29.3**	**26.9**	**25.8**	**24.7**	**23.7**		**21.6**	**10.9**	
In percent of government revenues	**...**	**...**	**101.1**			**96.1**	**94.4**	**89.9**	**90.9**	**91.0**	**91.6**		**84.0**	**45.1**	
Debt service-to-exports ratio (in percent)	**2.9**	**4.9**	**3.3**			**2.8**	**3.5**	**3.8**	**3.2**	**3.2**	**2.6**		**3.1**	**2.9**	
PPG debt service-to-exports ratio (in percent)	**1.6**	**2.1**	**2.0**			**1.4**	**2.0**	**2.4**	**1.8**	**2.0**	**1.5**		**1.9**	**1.9**	
PPG debt service-to-revenue ratio (in percent)	**4.3**	**5.2**	**5.5**			**4.3**	**6.5**	**7.9**	**6.5**	**7.3**	**5.8**		**7.4**	**7.7**	
Total gross financing need (inbillions of U.S. dollars)	5.0	4.1	4.5			2.1	3.5	4.1	5.3	7.3	7.5		12.1	24.3	
Non-interest current account deficit that stabilizes debt ratio	10.2	-3.6	1.0			2.9	-0.2	0.1	-0.2	-0.1	-0.3		1.4	0.7	
Key macroeconomic assumptions															
Real GDP growth (in percent)	6.3	5.3	6.8	7.3	1.0	5.9	6.0	6.3	6.9	7.3	7.5	6.7	7.5	7.0	7.3
GDP deflator in U.S. dollar terms (change in percent)	19.4	-2.0	4.1	5.3	6.2	11.9	4.3	3.1	1.9	1.0	0.6	3.8	0.6	1.1	0.7
Effective interest rate (percent) 6/	2.8	3.2	2.6	2.7	0.3	1.1	2.5	3.9	2.6	2.7	2.8	2.6	2.9	3.9	3.3
Growth of exports of G&S (U.S. dollar terms, in percent)	27.7	-10.0	26.9	17.2	12.4	32.8	14.7	12.8	13.2	13.9	13.4	16.8	7.6	8.5	8.0
Growth of imports of G&S (U.S. dollar terms, in percent)	26.7	-13.3	20.7	18.4	14.3	25.2	13.9	12.9	13.0	14.0	13.4	15.4	7.3	8.1	7.7
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	20.1	21.6	26.4	22.6	21.0	20.6	22.0	13.4	4.3	11.3
Government revenues (excluding grants, in percent of GDP)	28.3	26.8	27.6			27.5	27.7	27.6	27.2	27.2	27.3		26.8	25.2	26.2
Aid flows (in billions of U.S. dollars) 7/	3.8	7.4	5.5			1.3	1.3	1.3	1.3	1.2	1.1		0.2	0.1	
Of which: Grants	0.6	0.4	0.3			0.3	0.2	0.2	0.2	0.2	0.2		0.2	0.1	
Of which: Concessional loans	3.2	6.9	5.2			1.0	1.1	1.1	1.1	1.0	0.9		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			1.1	1.0	1.0	0.9	0.9	0.8		0.4	0.1	0.3
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			25.6	25.0	29.7	25.4	23.4	23.0		15.8	5.6	13.3
Memorandum items:															
Nominal GDP (in billions of U.S. dollars)	90.3	93.2	103.6			122.7	135.8	148.8	162.1	175.7	190.0		280.1	610.0	
Nominal dollar GDP growth	27.0	3.2	11.2			18.5	10.6	9.6	8.9	8.4	8.2	10.7	8.1	8.2	8.1
PV of PPG external debt (in billions of U.S. dollars)			28.3			31.8	34.7	36.3	39.4	42.9	46.8		62.2	68.5	
(PVt-PVt-1)/GDPt-1 (in percent)						3.4	2.3	1.2	2.1	2.1	2.3	2.2	0.9	0.0	0.6
Gross workers' remittances (in billions of U.S. dollars)	6.8	6.0	7.6			7.6	8.1	8.8	9.1	9.4	9.6		11.3	8.2	
PV of PPG external debt (in percent of GDP + remittances)	...	...	26.0			24.9	24.7	23.4	23.4	23.5	23.8		21.6	11.2	
PV of PPG external debt (in percent of exports + remittances)	...	...	33.1			28.6	27.5	25.3	24.4	23.4	22.7		20.8	10.8	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	1.8			1.3	1.9	2.2	1.7	1.9	1.4		1.8	1.8	

Sources: Vietnamese authorities; and staff estimates and projections.
1/ Includes both public and private sector external debt.
2/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.
3/ 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.
4/ 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.
5/ Assumes that PV of private sector debt is equivalent to its face value.
6/ Current-year interest payments divided by previous period debt stock.
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 2b. Vietnam: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2011–31

(In percent)

	Projections							
	2011	2012	2013	2014	2015	2016	**2021**	2031
PV of debt-to-GDP ratio								
Baseline	26	26	25	25	25	25	**23**	11
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011–31 1/	26	29	31	33	34	35	**31**	19
A2. New public sector loans on less favorable terms in 2011–31 2/	26	27	27	27	28	29	**29**	20
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012–13	26	25	24	24	24	25	**22**	11
B2. Export value growth at historical average minus one standard deviation in 2012–13 3/	26	33	44	43	43	42	**32**	12
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012–13	26	27	27	27	27	27	**24**	12
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–2013 4/	26	29	32	31	31	31	**26**	11
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	26	31	36	35	35	34	**28**	12
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	26	36	34	34	34	34	**31**	16
PV of debt-to-exports ratio								
Baseline	31	29	27	26	25	24	**22**	11
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011–31 1/	31	32	34	34	34	33	**30**	19
A2. New public sector loans on less favorable terms in 2011–31 2/	31	30	29	29	28	28	**28**	19
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012–13	31	29	27	25	24	23	**21**	11
B2. Export value growth at historical average minus one standard deviation in 2012–13 3/	31	40	57	54	50	47	**36**	14
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012–13	31	29	27	25	24	23	**21**	11
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	31	33	34	33	31	29	**25**	11
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	31	35	40	38	35	34	**27**	12
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	31	29	27	25	24	23	**21**	11
PV of debt-to-revenue ratio								
Baseline	96	94	90	91	91	92	**84**	45
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011–31 1/	96	104	112	120	124	127	**117**	77
A2. New public sector loans on less favorable terms in 2011–31 2/	96	96	97	101	104	107	**108**	79
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012–13	96	92	88	89	89	90	**82**	44
B2. Export value growth at historical average minus one standard deviation in 2012–13 3/	96	118	161	160	157	155	**119**	48
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012–13	96	97	97	98	98	99	**90**	48
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	96	106	115	115	114	113	**95**	45
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	96	111	129	129	127	126	**103**	47
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	96	129	124	125	126	126	**115**	62

Table 2b. Vietnam: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2011–31 (concluded)

(In percent)

	Projections							
	2011	2012	2013	2014	2015	2016	**2021**	2031
Debt service-to-exports ratio								
Baseline	1	2	2	2	2	2	**2**	2
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011–31 1/	1	2	2	2	2	2	**2**	2
A2. New public sector loans on less favorable terms in 2011–31 2/	1	2	2	2	2	1	**2**	3
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012–13	1	2	2	2	2	2	**2**	2
B2. Export value growth at historical average minus one standard deviation in 2012–13 3/	1	2	3	3	3	2	**4**	2
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012–13	1	2	2	2	2	2	**2**	2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	1	2	2	2	2	2	**2**	2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	1	2	3	2	2	2	**3**	2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	1	2	2	2	2	2	**2**	2
Debt service-to-revenue ratio								
Baseline	4	6	8	6	7	6	**7**	8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011–31 1/	4	6	8	7	8	6	**9**	8
A2. New public sector loans on less favorable terms in 2011–31 2/	4	6	7	6	7	5	**8**	11
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012–13	4	6	8	6	7	6	**7**	8
B2. Export value growth at historical average minus one standard deviation in 2012–13 3/	4	6	9	9	10	8	**14**	8
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2012–13	4	7	9	7	8	6	**8**	8
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	4	6	8	7	8	7	**10**	8
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	4	7	9	8	9	7	**11**	8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	4	9	11	9	10	8	**10**	11
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	5	5	5	5	5	5	**5**	5

Sources: Vietnamese 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 2c. Vietnam: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, with Remittances 2011–31

(In percent)

	Projections							
	2011	2012	2013	2014	2015	2016	**2021**	2031
PV of debt-to-GDP+remittances ratio								
Baseline	25	25	23	23	23	24	**22**	11
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011–31 1/	25	27	29	31	32	33	**31**	19
A2. New public sector loans on less favorable terms in 2011–31 2/	25	25	25	26	27	28	**28**	20
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012–13	25	24	23	23	23	23	**21**	11
B2. Export value growth at historical average minus one standard deviation in 2012–13 3/	25	31	42	41	41	40	**31**	12
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2012–13	25	25	25	25	25	26	**23**	12
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	25	28	30	30	29	29	**25**	11
B5. Combination of B1–B4 using one-half standard deviation shocks	25	29	34	33	33	33	**27**	12
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	25	33	32	32	32	32	**29**	15
PV of debt-to-exports+remittances ratio								
Baseline	29	27	25	24	23	23	**21**	11
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011–31 1/	29	30	32	32	32	32	**29**	19
A2. New public sector loans on less favorable terms in 2011–31 2/	29	28	27	27	27	26	**27**	19
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012–13	29	27	25	24	23	22	**20**	11
B2. Export value growth at historical average minus one standard deviation in 2012–13 3/	29	37	53	50	47	45	**35**	13
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2012–13	29	27	25	24	23	22	**20**	11
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	29	31	33	31	29	28	**24**	11
B5. Combination of B1–B4 using one-half standard deviation shocks	29	33	37	35	34	32	**26**	11
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	29	27	25	24	23	22	**20**	11
PV of debt-to-revenue ratio								
Baseline	96	94	90	91	91	92	**84**	45
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011–31 1/	96	104	112	120	124	127	**117**	77
A2. New public sector loans on less favorable terms in 2011–31 2/	96	96	97	101	104	107	**108**	79
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012–13	96	92	88	89	89	90	**82**	44
B2. Export value growth at historical average minus one standard deviation in 2012–13 3/	96	118	161	160	157	155	**119**	48
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2012–13	96	97	97	98	98	99	**90**	48
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	96	106	115	115	114	113	**95**	45
B5. Combination of B1–B4 using one-half standard deviation shocks	96	111	129	129	127	126	**103**	47
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	96	129	124	125	126	126	**115**	62

Table 2c. Vietnam: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, with Remittances 2011–31 (concluded)

(In percent)

		Projections						
	2011	2012	2013	2014	2015	2016	**2021**	2031
Debt service-to-exports+remittances ratio								
Baseline	1	2	2	2	2	1	**2**	2
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011–31 1/	1	2	2	2	2	2	**2**	2
A2. New public sector loans on less favorable terms in 2011–31 2/	1	2	2	2	2	1	**2**	3
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012–13	1	2	2	2	2	1	**2**	2
B2. Export value growth at historical average minus one standard deviation in 2012–13 3/	1	2	3	3	3	2	**4**	2
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2012–13	1	2	2	2	2	1	**2**	2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	1	2	2	2	2	2	**2**	2
B5. Combination of B1–B4 using one-half standard deviation shocks	1	2	2	2	2	2	**3**	2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	1	2	2	2	2	1	**2**	2
Debt service-to-revenue ratio								
Baseline	4	6	8	6	7	6	**7**	8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011–31 1/	4	6	8	7	8	6	**9**	8
A2. New public sector loans on less favorable terms in 2011–31 2/	4	6	7	6	7	5	**8**	11
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012–13	4	6	8	6	7	6	**7**	8
B2. Export value growth at historical average minus one standard deviation in 2012–13 3/	4	6	9	9	10	8	**14**	8
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2012–13	4	7	9	7	8	6	**8**	8
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012–13 4/	4	6	8	7	8	7	**10**	8
B5. Combination of B1–B4 using one-half standard deviation shocks	4	7	9	8	9	7	**11**	8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	4	9	11	9	10	8	**10**	11
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	5	5	5	5	5	5	**5**	5

Sources: Vietnamese 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.