INTERNATIONAL MONETARY FUND AND
INTERNATIONAL DEVELOPMENT ASSOCIATION

VIETNAM

Joint IMF/World Bank Debt Sustainability Analysis 2008[1]

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the International Development Association

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This document presents the joint IMF-World Bank debt sustainability analysis (DSA) for Vietnam using the Debt Sustainability Framework for Low-Income Countries (LIC).[2] Vietnam remains at low risk of debt distress despite the recent deterioration in its economic conditions and the global downturn.[3] All external debt sustainability indicators are projected to remain well below the applicable debt thresholds, reflecting Vietnam's mostly concessional and long-term structure of external debt, as well as its dynamic export sector. The outlook of public sector debt (including domestic debt) is less favorable, underscoring the need for fiscal consolidation to preserve debt sustainability in the medium term.

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[1] This DSA was prepared jointly by the IMF and World Bank. The staffs also consulted with the Asian Development Bank. The debt data underlying this exercise were provided by the Vietnamese authorities and donor partners. Data for end-2008 and beyond are staff estimates.

[2] See "Debt Sustainability in Low-Income Countries: Proposal for an Operational Framework and Policy Implications" (www.imf.org/external/np/pdr/sustain/2004/020304.htm and IDA/SECM2004/0035, 2/3/04) and "Debt Sustainability in Low-Income Countries: Further Considerations on an Operational Framework, Policy Implications" (www.imf.org/external/np/pdr/sustain/2004/091004.htm and IDA/SECM2004/0629, 9/10/04) and "Applying the Debt Sustainability Framework for Low-Income Countries Post Debt Relief" (www.imf.org/external/np/pp/eng/2006/110606.pdf and IDA/SecM2006–0564, 8/11/06).

[3] The low-income country debt sustainability framework (LIC DSF) recognizes that better policies and institutions allow countries to manage higher levels of debt, and thus the threshold levels are policy dependent. Vietnam's policies and institutions, as measured by the World Bank's Country Policy and Institutional Assessment (CPIA), averaged 3.8 percent 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 debt-to-GDP ratio, 200 percent for the PV of debt-to-exports ratio, 300 percent for the PV of debt-to-revenue ratio, 25 percent for the debt service-to-exports ratio, and 35 percent for the debt service-to-revenue ratio. These thresholds are applicable to public- and publicly-guaranteed external debt.

I. Background and Baseline Assumptions

1. **Vietnam's external debt position has historically been robust.** Most of its debt is concessional, carrying a low average, fixed interest rate, and long maturity with no bunching of repayments. With support from a variety of multilateral and bilateral creditors,[4] it also has a fairly diversified currency composition. Vietnam has access to strong private remittances, which help to finance its trade deficit, and large foreign direct investment (FDI) inflows which provide significant non-debt-creating financing. The stock market has also received strong inflows until recently. Moreover, the government has been prudent in external borrowing, with total external public debt estimated at 25 percent of GDP (30 percent including the private sector) in 2008.

2. **The domestic public debt position also remains manageable.** Total domestic public debt (including Vietnam Development Bank) is estimated at only 19.7 percent of GDP at end-2008. The average implied interest rate as of end-2008 was about 6 percent, although this is expected to rise in nominal terms because of higher inflation. The bulk of amortization will fall due within one to three years.

3. **The assessment of Vietnam's debt situation has not changed significantly since the last DSA despite the recent deterioration in economic conditions.** External borrowing has been limited, as the larger current account deficit has been largely financed by higher FDI inflows and some short-term borrowing by banks. Domestic financing of the government deficit is estimated to have risen by about 2 percentage points of GDP to 3½ percent of GDP in 2008. However, government borrowing could be much less if the bulk of the deficit were financed by drawing down the government's sizeable deposits.

4. **The main baseline assumptions underlying the DSA are summarized in Box 1.** A critical assumption is that Vietnam will continue to pursue sound macroeconomic and financial policies and structural reforms to support growth and continue further poverty reduction. Based on these assumptions, the non-interest current account deficit is projected to decline from about 9½ percent of GDP in 2008 to about 4 percent in 2013 and remain broadly unchanged thereafter.

II. External Debt Sustainability Analysis[5]

5. **Public- and publicly-guaranteed (PPG) external debt is likely to remain manageable, with all external debt ratios projected to be well within the indicative thresholds.** Although the current account deficit has increased markedly since the last DSA, non-debt-creating financing has also risen considerably. Higher GDP in dollar terms also

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[4] Information on Vietnam's creditors can be found in the Ministry of Finance's External Debt Bulletin at www.mof.gov.vn.

[5] This analysis focuses on PPG external debt, which accounts for about 80 percent of total external debt.

contributes to the lower ratios. Exports were strong, aided by the global commodity price boom (although the boom has since reversed, with the new lower commodity price projections incorporated into the baseline). Finally, the ratio of short-term external debt (measured on the basis of remaining maturity) is under 10 percent of gross foreign exchange reserves, indicating resilience in the face of sudden capital withdrawals.

Policy-Based External Debt Burden Thresholds for Vietnam

	Thresholds	Vietnam's Ratios 2007	Vietnam's Ratios 2008–28 1/
PV of debt in percent of:			
GDP	50	17	16
Exports	200	22	19
Revenues	300	63	64
Debt service in percent of:			
Exports	25	4	4
Revenues	35	8	7

Sources: Vietnamese authorities; and IMF staff estimates.
1/ Average for the period, under the baseline scenario.

Box 1: Key Macroeconomic Assumptions for Baseline Scenario (2009–28)

Real GDP growth will average 6½ percent per year during 2009–13 (below the 10-year historical average of 7.2 percent), and thereafter will decline gradually, as Vietnam's level of development and demography begins to converge to those of more advanced neighbors. Gross domestic investment is expected to decline from 41½ percent of GDP in 2008 to about 35 percent in 2028, while domestic savings remaining at the current level of about 31 percent of GDP.

Inflation will decline from 23 percent on average in 2008 to 6 percent by end-2009 mainly due to lower commodity prices, and will remain at that level through 2013. Thereafter, a further decline is assumed reflecting productivity gains.

Average interest rates on foreign borrowing will gradually rise from around 3 percent during 2008 to above 4 percent by 2028, as the share of concessional loans in total debt gradually declines.

Net capital inflows will fall from about 10 percent to GDP in 2008 to 8 percent in 2013 and stabilize thereafter. The non-debt-creating part of FDI will decline from about 7 percent of GDP in 2008 to under 4 percent in 2028. Concessional official development assistance is assumed to increase slightly from $1.7 billion in 2008 to $2.2 billion in 2018 before falling to $1.1 billion by 2028. Commercial borrowing will remain broadly constant (with some fluctuations) at around 1½ percent of GDP.

The primary fiscal deficit (including off-budget expenditures and net lending) will rise to 6½ percent of GDP in 2009 and gradually decline to 3 percentage points of GDP in 2013 and further to 2 percent of GDP on average during 2014–28. Expenditures will fall by about 2 percentage points of GDP to 30 percent of GDP between 2009–13, with a rise in current expenditure more than offset by a decline in capital and off-budget expenditure and net lending. Revenue will also increase by about 1 percentage point of GDP to 25 percent of GDP between 2009–13. Beyond 2013, expenditures will remain broadly constant in percent of GDP, while revenue will rise further to 27 percent of GDP by 2028 as the government finds alternative revenue sources, assumed to more than offset a decline in oil revenue.

Government financing (excluding the possible impact from a government stimulus plan, which is not incorporated in the baseline) will increase by about 3½ percentage points of GDP in 2009, mostly through domestic financing. During 2009–13, government financing will decline by 3 percentage points of GDP, mainly through lower domestic financing. The mix of financing will remain broadly stable thereafter.

Contingent liabilities or exceptional financing items are not assumed.

6. **Under the baseline scenario, the present value (PV) of PPG external debt is projected to initially rise in relation to GDP, exports, and government revenue, followed by a decline over the longer term.** In terms of averages over the whole projection period, these ratios are projected to remain broadly constant relative to the base period. With Vietnam being a very dynamic and open economy, the PV of external debt as a share of exports is low and projected to decline from 22½ percent in 2007 to 13½ percent in 2028. The debt service ratio (to exports and to revenue) is also expected to decline after an initial increase.

7. **Stress tests indicate that the PV of PPG external debt is most sensitive to exchange rate depreciation and to a loss of access to non-debt-creating flows.** A 30 percent one-time depreciation of the dong would increase the PV of external debt in relation to GDP by 8 percentage points relative to the baseline, and a loss of access to non-debt-creating flows by 3 percentage points by 2013. A loss of access to concessional loans would have a similar negative impact albeit over a longer time horizon (5–10 years).

III. PUBLIC DEBT SUSTAINABILITY ANALYSIS

8. **Public debt management is likely to become more challenging, with its ratio to GDP now projected to be higher than in the last DSA due to a significant deterioration in the overall fiscal balance.** The PV of public debt in relation to GDP is projected to rise from 37 percent in 2008 to 46 percent in 2013, and thereafter gradually decline to 43 percent by 2028. This ratio could be higher depending upon the size of fiscal stimulus which is being worked out. The debt service-to-revenue ratio is expected to increase from 6 percent in 2008 to 11½ percent in 2013 due to lower oil revenue, before starting to gradually decline.

9. **Stress tests indicate that the PV of public debt to GDP ratio is most sensitive to an increase in debt-creating flows followed by an exchange rate depreciation.** Both a one-time 30 percent nominal depreciation of the dong and an increase in debt-creating flows by 10 percentage points of GDP would increase the PV of public debt (relative to the baseline) by 7–8 percentage points by 2013. However, even the most extreme negative shock would not destabilize (cause to rise indefinitely) the PV ratios over the longer term.[6]

10. **The stress tests underscore the need for prudent fiscal policy.** The debt service-to-revenue ratio would triple or more (relative to its initial level) under the higher debt-creating flows scenario and under the depreciation scenario. Under a permanently lower GDP growth it would double by 2013.

[6] In addition to the favorable structure of external debt, this reflects the fact that the bulk of domestic debt is also long term.

IV. Conclusion

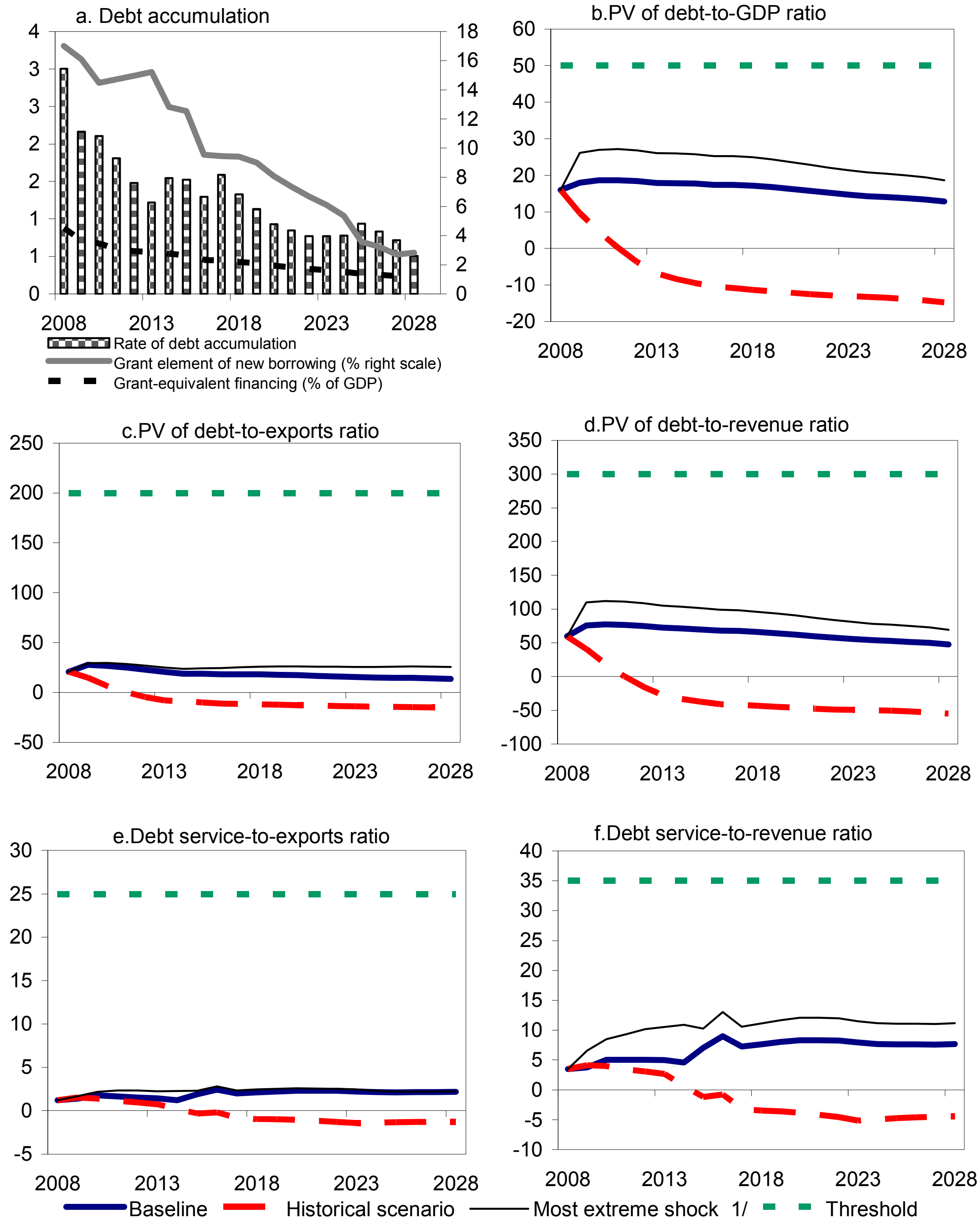
11. **Vietnam remains at low risk of external debt distress.** Compared with the last DSA, the projected PPG external debt ratios and projected paths are more favorable, and remain well below indicative thresholds even under the most extreme of the standard shocks normally considered.

12. **Total public debt, however, is expected to be adversely affected by the ongoing global downturn.** Public debt will also be affected by the government stimulus plan to mitigate the economic slowdown. Provided that the package is prudently financed, and that the government increases the revenue base to more than offset the expected loss of oil revenue in the long run, the burden of public debt could be manageable.

13. **However, the results are critically dependent on the assumptions underlying the projections.** The most important of these include: (i) sound monetary and fiscal policies and boosting non-oil revenue as oil production declines in the long run; (ii) healthy export growth and continued dynamism of the Vietnamese economy more generally; (iii) continued access to non-debt-creating external financing, especially private remittances and FDI; and (iv) continued access to concessional financing by multilateral and bilateral sources.

14. **A risk that deserves special attention is the possible impact of potential government contingent liabilities.** Such liabilities could arise from the need to recapitalize some banks or to deal with problems in state-owned enterprises. The size of the fiscal stimulus and its financing is also important.

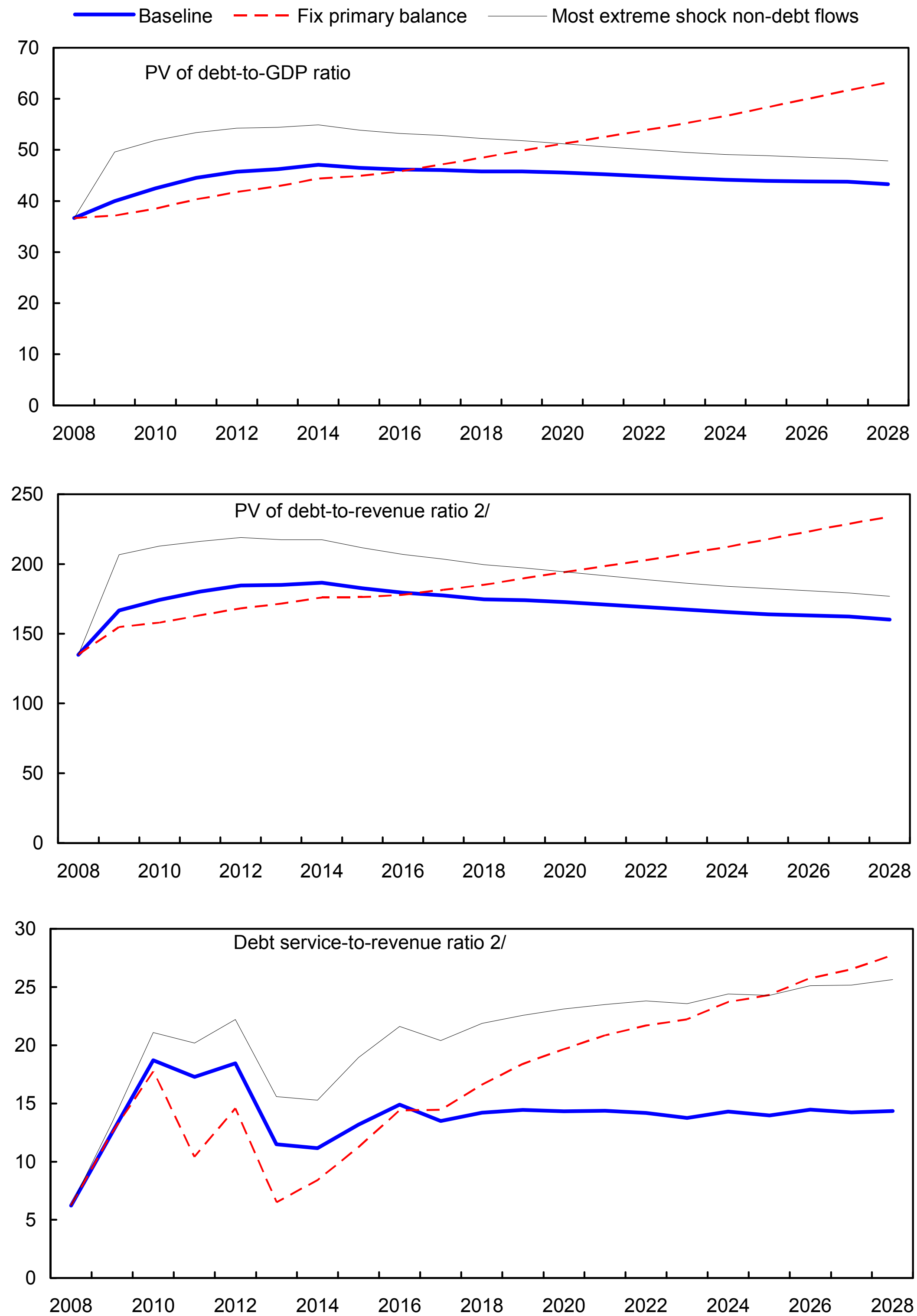
Figure 1. Vietnam: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2008–28 1/



Source: IMF staff projections and simulations.

1/ The most extreme stress test is the test that yields the highest ratio in 2018. In Figure b. it corresponds to a one-time depreciation shock; in Figure c. to a terms shock; in Figure d. to a one-time depreciation shock; in Figure e. to a non-debt flows shock; and in Figure f. to a one-time depreciation shock.

Figure 2. Vietnam: Indicators of Public Debt under Alternative Scenarios, 2008–28 1/



Sources: Vietnamese authorities; and IMF staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2018.
2/ Revenues are defined inclusive of grants.

Table 1a. Vietnam: External Debt Sustainability Framework, Baseline Scenario, 2005–28 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 2/	Standard Deviation 2/	Projections									
	2005	2006	2007			2008	2009	2010	2011	2012	2013	2008–13 Average	2018	2028	2014–28 Average
External debt (nominal) 1/	**32.5**	**31.4**	**33.3**			**29.8**	**31.9**	**31.7**	**31.2**	**30.7**	**30.4**		**26.8**	**22.5**	
Of which: Public- and publicly-guaranteed (PPG)	26.9	25.8	26.8			24.7	26.0	25.7	24.8	23.7	22.6		21.6	14.9	
Change in external debt	-4.6	-1.1	1.9			-3.5	2.2	-0.2	-0.5	-0.5	-0.3		-0.7	-0.2	
Identified net debt-creating flows	-6.5	-6.6	-1.9			1.8	3.3	1.7	0.7	-0.2	-0.9		-1.2	-0.7	
Non-interest current account deficit	**0.1**	**-0.7**	**8.8**	**0.2**	**4.6**	**9.4**	**7.0**	**5.9**	**5.5**	**4.8**	**4.0**		**3.1**	**3.2**	3.1
Deficit in balance of goods and services	5.2	4.6	15.8			16.2	9.9	8.7	8.6	8.0	7.3		6.9	6.9	
Exports	69.2	73.7	76.7			77.0	64.8	69.2	74.7	80.6	87.2		94.5	94.5	
Imports	74.4	78.3	92.6			93.2	74.6	77.9	83.3	88.6	94.6		101.4	101.4	
Net current transfers (negative = inflow)	-6.4	-6.6	-9.0	-5.7	1.6	-8.2	-4.5	-4.5	-4.5	-4.7	-4.8		-5.0	-5.0	-5.0
Of which: Official	-0.4	-0.4	-0.4			-0.4	-0.3	-0.3	-0.3	-0.3	-0.3		-0.3	-0.3	
Other current account flows (negative = net inflow)	1.3	1.3	2.1			1.3	1.7	1.7	1.3	1.4	1.4		1.2	1.2	
Net FDI (negative = inflow)	**-2.3**	**-2.6**	**-7.3**	**-3.7**	**1.7**	**-6.9**	**-3.4**	**-3.5**	**-3.6**	**-3.7**	**-3.7**		**-3.7**	**-3.7**	-3.7
Endogenous debt dynamics 3/	**-4.3**	**-3.3**	**-3.5**			**-0.7**	**-0.3**	**-0.8**	**-1.2**	**-1.2**	**-1.2**		**-0.6**	**-0.2**	
Contribution from nominal interest rate	1.0	1.0	1.0			0.9	1.1	0.9	0.9	0.9	0.9		1.2	1.1	
Contribution from real GDP growth	-2.7	-2.3	-2.3			-1.6	-1.4	-1.7	-2.0	-2.1	-2.1		-1.8	-1.3	
Contribution from price and exchange rate changes	-2.6	-1.9	-2.2			…	…	…	…	…	…		…	…	
Residual (3-4) 4/	**1.8**	**5.5**	**3.8**			**-5.3**	**-1.1**	**-1.9**	**-1.1**	**-0.4**	**0.6**		**0.4**	**0.5**	
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/	...	...	23.5			22.5	24.6	25.2	25.6	25.9	26.2		22.4	20.4	
In percent of exports	...	...	30.6			29.2	37.9	36.4	34.3	32.1	30.0		23.7	21.6	
PV of PPG external debt	**...**	**...**	**17.2**			**16.0**	**18.0**	**18.6**	**18.7**	**18.4**	**17.9**		**17.1**	**12.8**	
In percent of exports	**...**	**...**	**22.4**			**20.7**	**27.8**	**26.8**	**25.0**	**22.9**	**20.6**		**18.2**	**13.6**	
In percent of government revenues	**...**	**...**	**63.0**			**59.5**	**75.7**	**77.0**	**76.3**	**74.8**	**72.3**		**65.9**	**47.8**	
Debt service-to-exports ratio (in percent)	**4.5**	**4.2**	**3.8**			**3.4**	**4.5**	**5.0**	**4.8**	**4.4**	**4.1**		**4.1**	**4.4**	
PPG debt service-to-exports ratio (in percent)	**1.7**	**1.6**	**1.3**			**1.2**	**1.4**	**1.8**	**1.7**	**1.5**	**1.4**		**2.1**	**2.2**	
PPG debt service-to-revenue ratio (in percent)	**4.4**	**4.3**	**3.7**			**3.5**	**3.7**	**5.1**	**5.0**	**5.0**	**5.0**		**7.7**	**7.7**	
Total gross financing need (in billions of U.S. dollars)	0.6	0.0	3.4			4.9	6.2	6.2	6.3	6.2	5.9		7.8	20.4	
Non-interest current account deficit that stabilizes debt ratio	4.7	0.4	7.0			12.9	4.8	6.1	5.9	5.3	4.3		3.9	3.4	
Key macroeconomic assumptions															
Real GDP growth (in percent)	8.4	8.2	8.5	7.2	1.2	6.2	4.8	5.8	7.0	7.4	7.4	6.4	7.0	6.0	6.7
GDP deflator in U.S. dollar terms (change in percent)	7.4	6.4	7.6	2.5	4.8	19.0	-3.9	2.2	1.9	2.0	1.9	3.9	2.0	2.0	2.0
Effective interest rate (in percent) 6/	3.0	3.6	3.7	3.1	0.6	3.4	3.7	3.1	3.1	3.0	3.1	3.2	4.6	5.2	4.7
Growth of exports of G&S (in U.S. dollar terms, in percent)	20.7	22.7	21.5	16.9	8.8	26.8	-15.2	15.6	17.6	18.2	18.5	13.6	9.1	8.0	9.4
Growth of imports of G&S (in U.S. dollar terms, in percent)	15.3	21.2	38.0	17.7	12.9	27.3	-19.3	12.9	16.6	16.5	16.9	11.8	9.1	8.0	9.3
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	17.0	16.1	14.5	14.7	15.0	15.2	15.4	9.4	2.8	7.2
Government revenues (excluding grants, in percent of GDP)	26.8	27.9	27.2			26.8	23.8	24.1	24.5	24.6	24.8		26.0	26.9	26.2
Aid flows (in billions of U.S. dollars) 7/	1.7	1.8	1.8			2.0	1.6	1.8	1.8	2.0	2.0		2.2	1.2	
Of which: Grants	0.2	0.5	0.3			0.3	0.2	0.2	0.2	0.2	0.2		0.4	0.8	
Of which: Concessional loans	1.7	1.6	1.7			1.7	1.7	1.8	1.9	1.9	2.0		2.2	1.1	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			0.9	0.7	0.7	0.6	0.6	0.6		0.4	0.2	0.4
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			25.0	22.6	21.0	20.0	20.5	21.0		15.1	11.3	13.7
Memorandum items:															
Nominal GDP (in billions of U.S. dollars)	52.9	60.9	71.1			89.9	90.6	98.0	106.8	117.0	128.1		199.2	450.6	
Nominal dollar GDP growth	16.5	15.1	16.7			26.4	0.8	8.2	9.0	9.5	9.5	**10.6**	9.1	8.0	8.7
PV of PPG external debt (in billions of U.S. dollars)			12.2			14.3	16.3	18.2	20.0	21.5	23.0		34.2	57.9	
(PVt-PVt-1)/GDPt-1 (in percent)						3.0	2.2	2.1	1.8	1.5	1.2	2.0	1.3	0.5	1.0

Source: IMF staff simulations.

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 - r(1+g)]/(1+g+r+gr) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and r = 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 1b. Vietnam: Sensitivity Analysis for Key Indicators of Public- and Publicly-Guaranteed External Debt, 2008–28
(In percent)

	Projections							
	2008	2009	2010	2011	2012	2013	**2018**	2028
PV of debt-to-GDP ratio								
Baseline	16	18	19	19	18	18	**17**	13
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008–28 1/	16	10	5	0	-4	-7	**-11**	-15
A2. New public sector loans on less favorable terms in 2008–28 2/	16	19	20	21	22	22	**24**	24
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009–10	16	18	18	18	18	18	**17**	13
B2. Export value growth at historical average minus one standard deviation in 2009–10 3/	16	0	-13	-11	-10	-10	**2**	11
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2009–10	16	18	19	19	19	18	**18**	13
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009–10 4/	16	20	22	22	22	21	**19**	13
B5. Combination of B1–B4 using one-half standard deviation shocks	16	-4	-22	-21	-19	-18	**-3**	10
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	16	26	27	27	27	26	**25**	19
PV of debt-to-exports ratio								
Baseline	21	28	27	25	23	21	**18**	14
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008–28 1/	21	15	7	0	-5	-8	**-12**	-16
A2. New public sector loans on less favorable terms in 2008–28 2/	21	29	29	28	27	25	**26**	26
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009–10	21	28	27	25	23	21	**18**	14
B2. Export value growth at historical average minus one standard deviation in 2009–10 3/	21	0	-15	-13	-11	-9	**2**	10
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2009–10	21	28	27	25	23	21	**18**	14
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009–10 4/	21	31	32	30	27	24	**20**	14
B5. Combination of B1–B4 using one-half standard deviation shocks	21	-4	-26	-22	-19	-17	**-2**	8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	21	28	27	25	23	21	**18**	14
PV of debt-to-revenue ratio								
Baseline	59	76	77	76	75	72	**66**	48
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008–28 1/	59	41	19	0	-15	-28	**-43**	-55
A2. New public sector loans on less favorable terms in 2008–28 2/	59	80	84	87	88	88	**94**	90
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009–10	59	75	76	75	74	71	**65**	47
B2. Export value growth at historical average minus one standard deviation in 2009–10 3/	59	-1	-52	-47	-42	-39	**9**	40
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2009–10	59	75	79	79	77	74	**68**	49
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009–10 4/	59	84	93	91	89	86	**73**	49
B5. Combination of B1–B4 using one-half standard deviation shocks	59	-15	-92	-84	-79	-74	**-10**	36
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	59	110	112	111	109	105	**96**	69

Table 1b.Vietnam: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2008–28 (concluded)

(In percent)

	Projections							
	2008	2009	2010	2011	2012	2013	**2018**	2028
Debt service-to-exports ratio								
Baseline	1	1	2	2	2	1	**2**	2
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008–28 1/	1	2	1	1	1	1	**-1**	-1
A2. New public sector loans on less favorable terms in 2008–28 2/	1	2	2	2	2	1	**1**	1
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009–10	1	2	2	2	2	2	**2**	2
B2. Export value growth at historical average minus one standard deviation in 2009–10 3/	1	1	1	0	0	0	**-1**	1
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2009–10	1	2	2	2	2	2	**2**	2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009–10 4/	1	2	2	2	2	2	**2**	2
B5. Combination of B1–B4 using one-half standard deviation shocks	1	1	0	0	0	0	**-1**	1
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	1	2	2	2	2	2	**2**	2
Debt service-to-revenue ratio								
Baseline	3	4	5	5	5	5	**8**	8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008–28 1/	3	4	4	3	3	3	**-3**	-4
A2. New public sector loans on less favorable terms in 2008–28 2/	3	5	5	5	5	5	**5**	5
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009–10	3	4	6	6	7	7	**8**	8
B2. Export value growth at historical average minus one standard deviation in 2009–10 3/	3	5	2	0	1	2	**-2**	6
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2009–10	3	4	6	7	7	7	**8**	8
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009–10 4/	3	5	6	7	8	8	**9**	8
B5. Combination of B1–B4 using one-half standard deviation shocks	3	4	2	-2	-1	0	**-5**	5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	3	7	9	9	10	11	**11**	11
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	-1	-1	-1	-1	-1	-1	**-1**	-1

Source: IMF staff projections and simulations.

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. Vietnam: Public Sector Debt Sustainability Framework, Baseline Scenario, 2005–28 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Average 2/	Standard Deviation 2/	Estimate	Projections								
	2005	2006	2007			2008	2009	2010	2011	2012	2013	2008–13 Average	2018	2028	2014–28 Average
Public sector debt 1/	44.5	44.1	46.3			44.4	47.5	49.2	50.3	50.7	50.5		50.2	45.4	
Of which: Foreign-currency denominated	26.9	25.8	26.8			24.7	26.0	25.7	24.8	23.7	22.6		21.6	14.9	
Change in public sector debt	-1.0	-0.4	2.3			-1.9	3.1	1.6	1.1	0.4	-0.1		-0.6	-0.5	
Identified debt-creating flows	-2.0	-4.8	-1.3			-3.9	5.4	2.0	0.7	0.2	-0.3		-0.4	-0.4	
Primary deficit	3.7	0.3	4.3	3.1	1.7	3.6	6.6	4.9	4.1	3.6	3.1	4.3	1.9	1.1	1.8
Revenue and grants	27.2	28.7	27.6			27.2	24.0	24.4	24.7	24.8	25.0		26.2	27.0	
Of which: Grants	0.5	0.8	0.4			0.3	0.2	0.2	0.2	0.2	0.2		0.2	0.2	
Primary (noninterest) expenditure	30.9	29.0	32.0			30.8	30.6	29.2	28.8	28.4	28.1		28.1	28.2	
Automatic debt dynamics	-5.7	-5.1	-5.7			-7.5	-1.2	-2.9	-3.4	-3.4	-3.4		-2.3	-1.5	
Contribution from interest rate/growth differential	-4.7	-4.4	-4.4			-5.4	-1.5	-2.5	-3.0	-3.3	-3.4		-2.3	-1.6	
Of which: Contribution from average real interest rate	-1.2	-1.0	-0.9			-2.7	0.6	0.2	0.2	0.1	0.1		1.0	1.0	
Of which: Contribution from real GDP growth	-3.5	-3.4	-3.4			-2.7	-2.0	-2.6	-3.2	-3.5	-3.5		-3.3	-2.6	
Contribution from real exchange rate depreciation	-1.0	-0.7	-1.3			-2.1	0.3	-0.4	-0.3	-0.1	0.0		...	...	
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	1.0	4.4	3.6			1.9	-2.3	-0.4	0.4	0.2	0.2		-0.2	0.0	
Other Sustainability Indicators															
PV of public sector debt	...	...	36.6			36.7	40.0	42.5	44.5	45.7	46.3		45.8	43.3	
Of which: Foreign-currency denominated	...	...	17.1			17.0	18.4	19.0	19.1	18.8	18.3		17.1	12.8	
Of which: External	...	...	17.1			17.0	18.4	19.0	19.1	18.8	18.3		17.1	12.8	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 3/	3.3	5.2	1.8			5.9	5.0	9.4	9.2	8.2	8.0		5.7	5.0	
PV of public sector debt-to-revenue and grants ratio (in percent)	…	…	132.5			135.0	166.7	174.3	180.4	184.5	185.0		174.7	160.1	
PV of public sector debt-to-revenue ratio (in percent)	…	…	134.3			136.7	168.5	176.1	181.7	185.8	186.3		175.9	161.2	
Of which: External 4/	…	…	62.7			63.2	77.6	78.8	77.8	76.3	73.7		65.9	47.8	
Debt service-to-revenue and grants ratio (in percent) 5/	5.4	5.3	5.4			6.2	12.5	18.7	17.3	18.5	11.5		14.2	14.3	
Debt service-to-revenue ratio (in percent) 5/	5.5	5.5	5.5			6.3	12.6	18.9	17.4	18.6	11.6		14.3	14.4	
Primary deficit that stabilizes the debt-to-GDP ratio	4.7	0.7	2.1			5.6	3.5	3.2	3.0	3.2	3.3		2.5	1.6	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	8.4	8.2	8.5	7.2	1.2	6.2	4.8	5.8	7.0	7.4	7.4	6.4	7.0	6.0	6.7
Average nominal interest rate on forex debt (in percent)	1.9	2.1	2.2	2.3	0.4	2.3	2.1	2.0	1.9	1.9	1.8	2.0	3.1	3.9	3.2
Real exchange rate depreciation (in percent, + indicates depreciation)	-3.8	-2.8	-5.5	-1.5	3.4	-8.2	...	...	...	...	...	...	...	...	...
GDP deflator (in percent)	8.2	7.3	8.2	6.2	2.4	21.7	4.8	7.3	6.5	6.1	6.0	8.7	2.9	2.9	3.1
Growth of real primary spending (deflated by GDP deflator, in percent)	0.2	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1
Grant element of new external borrowing (in percent)	...	...	...	…	…	17.0	16.1	14.5	14.7	15.0	15.2	15.4	9.4	2.8	...

Sources: Vietnamese authorities; and IMF staff estimates and projections.
1/ Central government plus selected wider public sector entities; debt measured on a gross basis.
2/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.
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 2b. Vietnam: Sensitivity Analysis for Key Indicators of Public Debt, 2008–28
(In percent)

		Projections						
	2008	2009	2010	2011	2012	2013	**2018**	2028
PV of debt-to-GDP ratio								
Baseline	37	40	42	45	46	46	**46**	43
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	37	36	36	38	39	40	**43**	52
A2. Primary balance is unchanged from 2008	37	37	39	40	42	43	**48**	63
A3. Permanently lower GDP growth 1/	37	40	43	45	47	48	**50**	56
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009–10	37	39	41	43	44	44	**43**	38
B2. Primary balance is at historical average minus one standard deviations in 2009–10	37	38	41	43	44	45	**44**	42
B3. Combination of B1-B2 using one half standard deviation shocks	37	37	38	40	41	41	**38**	33
B4. One-time 30 percent real depreciation in 2009	37	48	50	52	53	53	**51**	51
B5. 10 percent of GDP increase in other debt-creating flows in 2009	37	50	52	53	54	54	**52**	48
PV of debt-to-revenue ratio 2/								
Baseline	135	167	174	180	184	185	**175**	160
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	135	149	149	152	156	158	**165**	192
A2. Primary balance is unchanged from 2008	135	155	158	163	168	172	**185**	234
A3. Permanently lower GDP growth 1/	135	167	176	183	189	191	**190**	208
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009–10	135	164	170	175	178	177	**163**	141
B2. Primary balance is at historical average minus one standard deviations in 2009–10	135	159	166	173	177	178	**170**	157
B3. Combination of B1-B2 using one half standard deviation shocks	135	154	157	161	164	163	**147**	121
B4. One-time 30 percent real depreciation in 2009	135	199	205	210	214	213	**196**	187
B5. 10 percent of GDP increase in other debt-creating flows in 2009	135	207	213	216	219	217	**200**	177
Debt service-to-revenue ratio 2/								
Baseline	6	12	19	17	18	11	**14**	14
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	6	12	17	9	13	4	**13**	22
A2. Primary balance is unchanged from 2008	6	12	18	10	15	6	**17**	28
A3. Permanently lower GDP growth 1/	6	13	19	18	19	12	**17**	23
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009–10	6	12	18	16	17	10	**12**	11
B2. Primary balance is at historical average minus one standard deviations in 2009–10	6	12	18	13	17	9	**14**	14
B3. Combination of B1-B2 using one half standard deviation shocks	6	12	17	11	15	6	**10**	7
B4. One-time 30 percent real depreciation in 2009	6	13	21	20	22	16	**22**	26
B5. 10 percent of GDP increase in other debt-creating flows in 2009	6	12	22	39	22	24	**17**	18

Sources: Vietnamese authorities; and IMF staff estimates and projections.
1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the length of the projection period.
2/ Revenues are defined inclusive of grants.