

Lao People's Democratic Republic

An Illustrative Fiscal Strategy Consistent
with the Seventh National Socio-Economic
Development Plan



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with the Seventh National Socio-Economic
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Preface

This paper sets out an illustrative multi-annual fiscal strategy for the Government of the Lao People's Democratic Republic (Lao PDR). A fiscal strategy is a financially feasible fiscal program to attain national development, poverty reduction, and public service objectives, while maintaining financial soundness. The strategy the paper describes is illustrative because its assumptions have not been discussed with, much less adopted by, government policy makers. The purpose of the paper is to suggest that the government consider formulating a strategy of this type, and to characterize the kinds of assumptions and projection techniques that it could use. In this sense, the strategy set out here is simply a large numerical example.

The paper's overall recommendation is that the government could improve its ability to meet its national development goals and enhance the quality of its financial management by developing and maintaining the kind of multi-annual fiscal strategy this paper describes. By preparing new versions of the strategy along with each year's annual budget, government analysts can help ensure that the expenditure program will address longer-term national objectives while remaining financially feasible. By disseminating each year's multi-annual fiscal strategy, the government should be able to strengthen stakeholders' confidence that the government can and will carry out its programmed policy and expenditure.

It cannot be overemphasized that the paper's specific projection assumptions do not necessarily reflect government views. The reader should not infer that this strategy recommends any specific quantitative assumptions for use in its policy formulation. The assumptions of the quantitative exercise reflect the anticipated state of the world as it seemed at the time the paper was drafted, in the first half of 2011. Eighteen months later, the basic outlook for the world and the Lao PDR economy remains unchanged: it is likely to continue to grow at a relatively high rate on the basis of its resource exports, including electricity and mining. The exchange rate is likely to remain relatively appreciated, and inflation can be expected to remain moderate.

The fiscal strategy methodology this paper recommends takes account of the Seventh National Socio-Economic Development Plan (NSED7), which runs from October 2010 through September 2015. A large share of the methodological issues this paper discusses concern ways to ensure the full consistency of the overall fiscal strategy with the NSED7.

This paper is a product of an ADB project, Strengthening Public Financial Management, under Technical Assistance (TA) 7077-LAO. The project, which lasted from February 2008 to May 2011, including extension, comprised a series of activities aiming to improve the efficiency, effectiveness, and human capacity of the government's financial management.

It encompassed a large amount of specialized technical assistance as well as the initial development of a medium-term expenditure framework.

Preparation of this paper coincided with preparation by the World Bank of a paper, Public Finance Development Strategy in Support of the Seventh National Development Plan, with recommendations for a longer-term fiscal strategy, including fiscal reform. The present report focuses particularly on the methodology of the government's fiscal strategy—how the government should formulate, maintain, and apply its strategy, given its substantive development objectives. We hope readers will consider these two reports complementary.

Abbreviations

DSA	debt sustainability analysis
FDI	foreign direct investment
GFCF	gross fixed capital formation
HIPC	highly indebted poorest countries
ICOR	incremental capital–output ratio
Lao PDR	Lao People’s Democratic Republic
LIBOR	London Interbank Offered Rate
NIP	national investment program
NSEDP7	Seventh National Socio-Economic Development Plan
ODA	official development assistance
TA	technical assistance
VAT	value-added tax

Executive Summary

This report describes an illustrative multi-annual fiscal strategy for the Government of the Lao People's Democratic Republic (Lao PDR) covering fiscal years FY2011–FY2020, corresponding to the present Seventh National Socio-Economic Development Plan (NSED7), FY2011–FY2015 and a putative Eighth National Socio-Economic Development Plans (NSED8), FY2016–FY2020.¹

The fiscal projections constituting the strategy are intended to be illustrative. The specific assumptions used to generate the fiscal projections and the detailed structure of the fiscal accounts projections are the writer's and not necessarily what the government, or any other person or institution, would choose. The report aims to promote dialogue to support the government's efforts to develop not only its fiscal strategy but also its fiscal strategy framework.

There is at least one additional reason this fiscal strategy must be considered no more than illustrative. At this writing, a substantial proportion of the Lao PDR's financial activities fall outside the government's fiscal accounts. Activities not incorporated in the fiscal accounts include a large number of off-budget projects carried out in the past decade by provincial and municipal administrations. These generated substantial internal debt stocks. The total amount of these activities and of the consequent debt stocks can only be guessed. Since 2009, activities of this kind have been phased out, but the banking system continues to hold large debt stocks from earlier years. This reality should not affect the methodological soundness of the recommended approach, but the projected internal debt stocks are limited to the treasury's issue of bills and bonds. The results must accordingly be understood to show a smaller overall public sector internal debt than the economy's financial system can be expected to carry.

The Fiscal Policy Department of the Ministry of Finance provided the basic historical fiscal data used in this exercise. Additional data sources included the Gazette of the Ministry of Finance, the International Financial Statistics of the International Monetary Fund, and the Global Development Finance publication of the World Bank.

The bulk of the Lao PDR's capital formation, including capital formation under the government budget, takes place under the national investment program, the NSED7. As such, the NSED7 constitutes a large proportion of the fiscal strategy. The fiscal strategy must therefore be consistent, indeed integrated, with the NSED7. Among other things, the assumed real gross domestic product (GDP) growth rates over the period of

¹ The Lao PDR fiscal year T runs from 1 October T-1 through 30 September T.

the fiscal strategy, which help determine the fiscal strategy's revenue flows, would be based on the capital formation under the NSEDP7.

A multi-annual fiscal strategy may be defined as a set of consistent multi-annual projections of government revenue, expenditure, and financing accounts, based on common assumptions about macroeconomic performance (including real GDP growth, inflation, and exchange rate) and the state of the world economy (including export prices and world interest rates). It shows how government expenditure would address specified national development and poverty-reduction objectives while holding expenditure within a limited, feasible envelope of taxation and net external and internal borrowing.

A government should develop and update a fiscal strategy for at least two broad reasons. First, preparing a fiscal strategy will help analysts and policy makers determine whether the government's present policy stance is financially feasible, under assumed external and internal economic circumstances. If it is not, the analytical structure of the fiscal strategy should enable policy makers to propose and evaluate adjustments that would ensure financial feasibility.

Second, once completed and disseminated, since a fiscal strategy would *show* how policy makers intend to attain the nation's development and poverty-reduction goals while maintaining sound finances, it should help persuade the government's various stakeholders that they can act and commit themselves confidently on the basis of government policies.

To formulate the fiscal strategy, the fiscal accounts are projected through a consistency methodology carried out in an Excel workbook (called LaFS.xls). In summary, the analysts carry out multi-annual projections of revenues, expenditures, and financing flows based on assumptions for (i) the evolution of international economic variables and programming assumptions for the evolution of the macroeconomy, (ii) national development and poverty-reduction goals, (iii) revenue policies, and (iv) flow of net external and internal borrowings. The expenditure projections incorporate expenditure programmed under the NSEDP7; the revenue projections incorporate external grants programmed under the NSEDP7; and the financing projections incorporate external loans programmed under the NSEDP7.

For each projection year, the revenue, expenditure, and financing projections are made consistent—i.e., made to add up according to the fiscal accounts identity—by calculating the necessary “gap-filling,” unprogrammed internal borrowing (or addition to the government's deposit accounts if the financing gap is negative). These unprogrammed flows must be included in the projection because the fiscal accounts must satisfy the fiscal identity. In addition, however, the sizes of the required year-by-year gap-filling flows are key indicators of the overall fiscal strategy projection's financial feasibility: If large internal borrowing flows were required to close the projected fiscal accounts, the analysts would judge the revenue, expenditure, and (programmed) financing projections unfeasible. They should then adjust the projection assumptions accordingly. In particular, gap-filling internal-borrowing flows that bring about significant increases in the ratio of the economy's net internal debt stock to GDP should be considered unfeasible.

Programming assumptions for the fiscal strategy are set out in the following categories: (i) context variables, including international economic conditions, evolution of the price level and exchange rate, sector growth rates, and the evolution of exports and

imports; (ii) structure of expenditure and financing flows under the NSEDP7; (iii) revenue performance; (iv) evolution of non-interest current expenditure; and (v) evolution of non-NSEDP7 external and internal financing flows. (Chapter 4 focuses on the formulation of the projection exercise.)

Context variables. Over the projection period, (i) world United States (US) dollar inflation is assumed to run at an annual rate of 2%; (ii) all export and import prices would grow at the same rate; (iii) world trade volume would grow at an annual rate of 5%;² (iv) London Interbank Offered Rate (LIBOR) would average 1% in FY2011, 2% in FY2012, and 3% in all remaining projection years; (v) the price level would rise at an annual rate of 5% over the entire projection period, which seems reasonable in view of the Lao PDR's recent price level history; and (vi) the exchange rate would remain stable indefinitely at an annual average rate of KN8,000 per \$1. With the assumed inflation differential rate of 3% (= 5% – 2%), this implies substantial real effective exchange-rate appreciation. The government has indicated that it anticipates that the annual growth rate of the agriculture sector—comprising agriculture, forestry, and fishing—will be only 3.5% over the NSEDP7 period, while that of the industry sector—comprising mining, manufacturing, electricity and water supply, and construction—will be 15%. If the real GDP growth rate is 8%, this implies that services would grow 6.8% in the aggregate. Because of the assumed real effective exchange-rate appreciation and enhanced capital formation under the NSEDP7, import volume growth is projected to exceed real GDP growth. Each import line would grow at an annual US dollar rate of 11.7%; volume growth of 9.5%, which is 1.5% higher than the real GDP growth rate; and US dollar price growth of 2%.

Expenditure and financing flows under the NSEDP7. Under the base scenario projection exercise, total expenditure under the NSEDP7 would amount to roughly \$15 billion in FY2011–FY2015, about 32% of GDP.³ The government assumes that the investment programs under the NSEDP7 would enable annual real GDP growth of about 8% based on an assumed incremental capital–output ratio (ICOR) of four. If real GDP grew at 8%, the investment program would average about 32% of GDP over the 5 years. It is important to note, however, that not all of the expenditure under the NSEDP7 would be gross fixed capital formation—i.e., some NSEDP7 expenditure would be nonrecurrent but not gross fixed capital formation. Moreover, some gross fixed capital formation would take place outside the NSEDP7 and outside the fiscal accounts. The projection exercise's base scenario assumes that only 65% (\$9.75 billion) of the NSEDP7 expenditure program (20.8% of GDP) would be gross fixed capital formation, while non-NSEDP7 gross fixed capital formation would amount to 11.2% of GDP. With an assumed population growth of 2.4%, the 8% annual growth would bring about an annual per capita real growth of about 5.5%. This would produce an increase in per capita real GDP amounting to just over 30% over the NSEDP7 period.

² The assumptions that the projected international inflation rates will be steady over time, and that *relative* prices of exports and imports will remain unchanged, are intended to simplify. This is helpful to ensure that, however the fiscal projections turn out, their basic explanation would *not* lie in the assumed behavior of the international prices. It may be useful to try out a different set of international price projections, such as those of the World Bank or the International Monetary Fund, to determine whether these would make a significant difference for the results.

³ The current expenditure projections discussed here were not constructed to be consistent with those of the initial version of the medium-term expenditure framework (MTEF) developed under this technical assistance.

Overall NSEDP7 expenditure would be financed by a combination of (i) foreign direct investment inflows (\$8.15 billion, 17.4% of GDP, or 54.3% of the total); (ii) non-fiscal internal financial resources (\$1.8 billion, 3.9% of GDP, or 12% of the total); (iii) official development assistance (ODA) in grants and loans (\$3.9 billion, 8.3% of GDP, or 26% of the total); and (iv) non-ODA fiscal resources (\$1.16 billion, 2.5% of GDP, or 7.7% of the total).

Revenue. Government revenue is collected by different departments of the Ministry of Finance, including the Tax Department, the Customs Department, the Public Enterprises Department, and the State Assets Department. Taxes collected by the Tax Department, including profit tax, internal value-added tax, and various internal excise taxes, are projected to grow at about the same rate as nominal GDP. Revenue flows collected by the Customs Department which include tariffs, import-based value-added tax, and import-based excises are projected to grow at the national currency equivalents of the import flows. All other things being the same, the real effective exchange-rate appreciation would tend to reduce import-based revenue flows in national currency, although this effect might be offset by the increased import volumes deriving from the same real effective exchange-rate appreciation. Under the exercise's projection assumptions, overall tax, nontax, and capital revenue would rise from 15% of GDP in FY2010 to 16.8% of GDP in FY2015.

At the aggregate level, non-interest current expenditure is assumed to grow over the NSEDP7 years according to the following assumptions:

Table A Lao PDR: Assumptions for the Percentage Growth Rates of Government Current Non-Interest Expenditure, FY2010–FY2015

<i>Initial projection year:</i>	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Annual percentage growth rate						
Current non-interest expenditure	5.2	14.6	14.6	14.7	14.8	14.9
Staff remuneration, goods, and services (government consumption)	5.9	14.7	14.8	14.8	14.9	15.0
Wages and other staff remuneration	2.1	16.6	16.6	16.6	16.6	16.6
Wages and salaries	2.3	16.6	16.6	16.6	16.6	16.6
Payroll (number of persons on staff)		5.0	5.0	5.0	5.0	5.0
Nominal wage rate		11.0	11.0	11.0	11.0	11.0
"Promotion" effect		0.0	0.0	0.0	0.0	0.0
Compensation and allowances	1.4	16.6	16.6	16.6	16.6	16.6
Goods and services	16.1	10.3	10.3	10.3	10.3	10.3
Subsidies and transfers	32.6	16.6	16.4	16.4	16.4	16.5
Other current non-interest expenditure	-39.7	7.3	7.3	7.3	7.3	7.3
Subsidies and transfers	32.6	16.6	16.4	16.4	16.4	16.5
Other allowances	20.2	16.6	16.6	16.6	16.6	16.6
Intervention and subsidies	45.4	16.6	16.6	16.6	16.6	16.6
Contributions to international organizations	18.8	15.8	7.3	7.3	7.3	7.3
Other current non-interest expenditure	-39.7	7.3	7.3	7.3	7.3	7.3

FY = fiscal year, Lao PDR = Lao People's Democratic Republic.
Source: LaFS.xls workbook.

Non-NSEDP7 external and internal financing flows. For the NSEDP7 period, disbursements of external debt *outside* the NSEDP7 and external grants *outside* the NSEDP7 are assumed to be zero over the NSEDP7 period. External debt repayment flows for each external creditor would run at the same rate in US dollars as they did in their historical data period. External debt interest flows are projected based on weighted averages of the previous year's interest rate and the programmed interest rate on new disbursements (Section 2.10). In the NSEDP7 period, annual gross borrowing in the form of Treasury bills is projected to amount to 0.4% of GDP, while annual repayment is projected to amount to 0.1% of GDP. These figures are roughly in line with historical experience. Net borrowing from banks, net borrowing in bonds, and other net debt repayment are projected to amount to 0% of GDP. The interest rate on programmed internal debt is assumed to run at 5% per annum, equivalent to the projected inflation rate. The government's unitary deposit account at the (central) Bank of the Lao PDR is projected to grow each year at a rate equal to that of nominal GDP. Interest earned on the deposit balance is projected to average 1% per annum.⁴

The FY2009 base-year data and the various projection assumptions discussed in Chapter 4 lead to a set of fiscal projections for which unidentified financing would be non-positive, on the order of 1% of GDP. The overall projection should therefore be financially feasible. Chapter 5 describes the projection, which could form the basis of a fiscal strategy.

The projection assumptions described thus far generate a fiscal projection that would constitute a "base-scenario" fiscal strategy (Table B). The overall deficit according to the government *gross-borrowing-requirement* concept would average 2.5% of GDP over the NSEDP7 period. The overall deficit according to the *net-borrowing-requirement* concept would average 1.3% of GDP over the NSEDP7 period. (External and internal debt repayment would average about 1.3% of GDP over the same period.) The primary deficit, excluding all debt-service payments, would average 0.5% of GDP. Current non-interest expenditure would average 11.4% of GDP over the period, rising from about 11.0% of GDP in FY2010 to about 11.7% of GDP in FY2015. Government capital expenditure would average 10.8% of GDP over the period. Tax and nontax revenue, excluding external grants, would average 16.6% of GDP over the period, rising from about 15.0% of GDP in FY2010 to about 16.8% of GDP in FY2015.

The flow of external grants would be significantly higher over the NSEDP7 period, averaging 4.8% of GDP compared with an average of about 3.2% over FY2007–FY2010. Gross external loan disbursements would run higher over the NSEDP7 period, averaging 3.5% of GDP compared with about 3.2% over FY2007–FY2010. Government savings (tax and nontax revenue less current expenditure) would average about 2.8% of GDP over the NSEDP7 period, which would constitute a fairly significant financing source for NSEDP7 expenditure. External grants and gross loan disbursements would average 8.3% of GDP, while external debt service would average just 1.4% of GDP.

⁴ It is important to remember that identified and unidentified net borrowings are essentially interchangeable. If all other projection assumptions are the same, a reduction of KN100 in identified borrowing would simply induce an increase of approximately KN100 in the net unidentified borrowing flow.

Table B Lao PDR: Projected Fiscal Accounts for the Base Scenario, FY2010–FY2015
(% of GDP)

<i>Initial projection year: FY2011</i>	<i>estimate</i> FY2010	<i>projection</i> FY2011	<i>projection</i> FY2012	<i>projection</i> FY2013	<i>projection</i> FY2014	<i>projection</i> FY2015	<i>Average</i> FY2011– FY2015
Deficit—gross borrowing requirement (surplus)	3.2	2.5	2.9	2.6	2.4	2.2	2.5
Debt repayment	2.4	1.5	1.3	1.2	1.0	0.9	1.2
External debt repayment	1.0	1.3	1.1	1.0	0.9	0.8	1.0
Internal debt repayment	1.3	0.1	0.1	0.1	0.1	0.1	0.1
Deficit—net borrowing requirement (surplus)	0.8	1.0	1.6	1.5	1.4	1.3	1.3
Deficit (surplus) excl. resource receipts	2.8	3.2	3.9	3.8	3.8	3.8	3.7
Primary deficit	-0.2	-0.1	0.6	0.6	0.6	0.6	0.5
Primary deficit excl. resource receipts	1.8	2.1	2.9	3.0	3.0	3.1	2.8
Interest due	1.0	1.0	0.9	0.9	0.8	0.7	0.9
Expenditure (central and provincial, incl. net lending) (+)	22.1	22.7	22.7	22.7	22.8	22.9	22.7
Current expenditure (+)	12.0	12.2	12.2	12.3	12.3	12.4	12.3
Non-interest current expenditure (+)	11.0	11.1	11.3	11.4	11.5	11.7	11.4
Wages and other staff remuneration	5.2	5.4	5.5	5.7	5.8	6.0	5.7
Wages and salaries	3.9	4.0	4.1	4.2	4.3	4.4	4.2
Benefits	1.4	1.4	1.4	1.5	1.5	1.6	1.5
Goods and services	2.2	2.2	2.1	2.0	2.0	1.9	2.0
Subsidies and transfers	2.7	2.8	2.9	3.0	3.1	3.1	3.0
Other current non-interest expenditure	0.8	0.8	0.7	0.7	0.7	0.6	0.7
Interest due (+)	1.0	1.0	0.9	0.9	0.8	0.7	0.9
External interest due (+)	0.8	0.4	0.3	0.3	0.3	0.3	0.3
Internal interest due (+)	0.2	0.7	0.6	0.5	0.5	0.4	0.5
Capital expenditure and on-lending (+)	10.1	10.5	10.5	10.5	10.5	10.5	10.5
Government capital expenditure	10.3	10.8	10.8	10.8	10.8	10.8	10.8
Externally financed government capital expenditure	7.1	8.3	8.3	8.3	8.3	8.3	8.3
Project/NSEDP7	4.4	8.3	8.3	8.3	8.3	8.3	8.3
Non-project/non-NSEDP7	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Internally financed government capital expenditure	3.2	2.5	2.5	2.5	2.5	2.5	2.5
Project/NSEDP7		2.5	2.5	2.5	2.5	2.5	2.5
Non-project/non-NSEDP7		0.0	0.0	0.0	0.0	0.0	0.0
Net on-lending	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Revenue (including external grants) (-)	-19.8	-21.7	-21.1	-21.3	-21.4	-21.6	-21.4
Revenue excluding grants (central and provincial) (-)	-15.0	-16.9	-16.3	-16.5	-16.6	-16.8	-16.6
Tax revenue	-12.9	-14.6	-14.1	-14.2	-14.4	-14.5	-14.4
Tax revenue from resources	-1.8	-2.0	-2.1	-2.1	-2.2	-2.3	-2.2
Other tax revenue	-11.1	-12.6	-12.0	-12.1	-12.2	-12.2	-12.2
Nontax revenue	-1.5	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Nontax revenue from resources	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Other nontax revenue	-1.3	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Capital revenue	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
External grants (-)	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8
Project grants	-1.6	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8
Non-project grants	-2.8	0.0	0.0	0.0	0.0	0.0	0.0
Program grants	-0.4	0.0	0.0	0.0	0.0	0.0	0.0

continued on next page

Table B *continued*

<i>Initial projection year: FY2011</i>	<i>estimate</i> FY2010	<i>projection</i> FY2011	<i>projection</i> FY2012	<i>projection</i> FY2013	<i>projection</i> FY2014	<i>projection</i> FY2015	<i>Average</i> FY2011– FY2015
Statistical discrepancy	-1.4	0.0	0.0	0.0	0.0	0.0	0.0
Financing of the deficit (application of the surplus)	0.8	1.0	1.6	1.5	1.4	1.3	1.3
Net external financing—net loans (excl. grants) (+)	1.8	2.2	2.4	2.5	2.6	2.7	2.5
Gross disbursement of loans (+)	2.8	3.5	3.5	3.5	3.5	3.5	3.5
Project/NSEDP7 loan disbursements	2.8	3.5	3.5	3.5	3.5	3.5	3.5
Non-NSEDP7 loan disbursements	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Repayment of principal (-)	-1.0	-1.3	-1.1	-1.0	-0.9	-0.8	-1.0
Net internal financing (+)	-1.0	-1.2	-0.8	-1.1	-1.3	-1.5	-1.2
Programmed net internal borrowing	-1.0	0.2	0.2	0.2	0.2	0.2	0.2
Treasury bill issues	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Treasury bill repayment	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Other programmed net internal borrowing	-1.2	0.0	0.0	0.0	0.0	0.0	0.0
Unprogrammed net internal financing	0.0	-1.4	-1.0	-1.3	-1.5	-1.7	-1.4
Unprogrammed net internal borrowing	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unprogrammed net increase in deposits	0.0	-1.4	-1.0	-1.3	-1.5	-1.7	-1.4
Year-end external debt stock (+)	69.6	58.4	53.4	49.2	45.7	42.7	49.9
<i>Approximate interest rate (%)*</i>	1.1%	0.6%	0.6%	0.6%	0.7%	0.7%	0.6%
Year-end net internal debt stock (+)	3.4	1.6	0.3	-1.0	-2.4	-3.7	-1.0
<i>Approximate interest rate*</i>	5.6%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Memorandum							
Tax and nontax revenue less current expenditure	3.0	4.7	4.1	4.2	4.3	4.4	4.3
External grants plus gross disbursements of loans	7.7	8.3	8.3	8.3	8.3	8.3	8.3
External debt service (interest plus repayment of principal)	1.8	1.7	1.5	1.3	1.2	1.1	1.4
Nominal GDP (KN billion)	54,100.0	61,349.4	69,570.2	78,892.6	89,464.2	101,452.4	80,145.8
Nominal GDP (\$ million)	\$6,364.7	\$7,379.8	\$8,696.3	\$9,861.6	\$11,183.0	\$12,681.6	\$9,960.4
Real GDP (KN billion, base 2009/10)	56,805.0	61,349.4	66,257.4	71,557.9	77,282.6	83,465.2	71,982.5
<i>Growth rate</i>	7.5%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Implicit GDP deflator (2009/10 = 100)	95.2	100.0	105.0	110.3	115.8	121.6	110.5
<i>Growth rate</i>	8.3%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Exchange rate (annual average, KN/\$)	8,500.0	8,313.2	8,000.0	8,000.0	8,000.0	8,000.0	8,062.6
Exchange rate (year-end, KN/\$)	8,638.6	8,000.0	8,000.0	8,000.0	8,000.0	8,000.0	8,000.0
Population (million)	6.2	6.3	6.4	6.6	6.7	6.9	6.6

FY = fiscal year, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic, NSEDP7 = Seventh National Socio-Economic Development Plan.

* Approximate interest rates are calculated by dividing interest due by the average of the year-end and the previous year-end debt stocks.

Source: Ministry of Finance, Lao PDR.

Perhaps the most important point to note about the fiscal strategy projection is that the external and internal debt stocks would continue to decline. The year-end external debt stock would decline from just under 70% of GDP at the end of FY2010 to just over 40% of GDP at the end of FY2015, while the year-end net internal debt stock would decline from 3.4% of GDP at the end of FY2010 to -3.7% of GDP at the end of FY2015. External borrowing and government savings would cover more than the entire fiscal borrowing requirement, and the net internal debt stock would turn negative as the fisc accumulated assets.

Sensitivity analysis may be used to determine the degree to which the fiscal strategy would be vulnerable if certain programming assumptions turned out differently from their programming values. One particularly important programming assumption concerns the provision of financing from non-fiscal external sources. In the base scenario, non-fiscal external financing would cover 54.3% of total NSEDP7 expenditure. If non-fiscal external financing were to turn out only to cover 50% of total NSEDP7 expenditure, there are two polar possibilities: either non-ODA fiscal sources would have to make up the difference so that the NSEDP7 remains fully financed, or NSEDP7 expenditure would have to diminish. If non-ODA fiscal sources were to make up the difference, the fiscal balances would deteriorate significantly. The average gross borrowing requirement would rise to 5.5% of GDP from 2.5% in the base scenario, while the average net borrowing requirement would rise to 4.3% of GDP from -1.2% in the base scenario. The net internal debt stock would fall from 3.4% of GDP by the end of FY2010 to 1.9% of GDP by the end of FY2015, compared with the base scenario in which the net internal debt stock would turn non-positive at the end of FY2015. By this criterion, fiscal performance is highly sensitive to the NSEDP7's non-fiscal external financing.

This assumes that the government would allow total NSEDP7 expenditure to continue as programmed at 32% of GDP. The government might choose instead to allow a reduction in total NSEDP7 expenditure. Suppose it allowed a reduction in total NSEDP7 expenditure to 22.4% compared with 32% of GDP in the base scenario. If it did so, even if non-NSEDP7 expenditure remained at 11.2% of GDP as in the base scenario, the overall gross fixed capital formation rate would be 25.8% rather than 32% of GDP. The annual real GDP growth rate would then be 6.4% rather than 8%. This would be a significant reduction compared with the base scenario and would significantly reduce the rate at which per capita real GDP and private consumption grew: in the base scenario, per capita real GDP growth would average 5.7%, whereas in this reduced-growth scenario per capita real GDP growth would average 4.1%. (Per capita real GDP would double in 12.5 years at the 5.7% rate, but would require 17.3 years to double at the 4.1% rate.) This difference is noteworthy because the fiscal balance percentage-of-GDP indicators would improve even by comparison with the base scenario: the average gross borrowing requirement would be 0.5% of GDP compared with 2.5% in the base scenario, while the average net borrowing requirement would be a surplus of 0.7% of GDP compared with a deficit of 1.3% in the base scenario.

A lesson that emerges from this analysis is that fiscal balances as percentages of GDP should not be the only criteria for fiscal strategies' comparative desirability, especially if GDP growth rates and real per capita expenditure flows differ from one fiscal strategy to another. It is equally important to examine whether the expenditure program is likely to address national development and poverty-reduction objectives efficiently and effectively and, if so, whether the government's external and internal indebtedness could be expected to remain firmly under control.

1 Introduction: Definition and Purposes of a Multi-Annual Fiscal Strategy

1.1 Introduction

This report sets out and describes an illustrative multi-annual fiscal strategy for the Lao People's Democratic Republic (Lao PDR), covering fiscal years FY2011–FY2020.¹ This decade corresponds to the present Seventh National Socio-Economic Development Plan (NSED7), FY2011–FY2015 and a presumed future Eighth National Socio-Economic Development Plan (NSED8), FY2016–FY2020. (For present purposes, a 5-year projection from FY2011 to FY2015 is considered “medium term,” while a 10-year projection from FY2016 to FY2020 is considered “longer term.”)

The fiscal projections that constitute the strategy that this report presents are intended to be purely illustrative. Specific assumptions used to generate the fiscal projections and the detailed structure of the fiscal-accounts projections are the writer's choices and not necessarily those the Government of the Lao PDR, or any other person or institution, would choose. This report aims to promote dialogue and in this way to support the government's efforts to develop not only its fiscal strategy but also its fiscal strategy framework. In addition to the projection methodology, the fiscal strategy “framework” would encompass the administrative and institutional arrangements through which the government would continually discuss and update its fiscal strategy.

There is at least one more reason the fiscal strategy that the paper describes must be considered no more than illustrative. At this writing, a substantial proportion of the state's financial activities in the Lao PDR fall outside the government's fiscal accounts. Activities not incorporated in the fiscal accounts include a large number of off-budget projects carried out in the past decade by provincial and central administrations. These generated substantial internal debt stocks. The total amounts of these activities and the consequent debt stocks can only be guessed. Since 2009, activities of this kind have been phased out, but the banking system continues to hold large debt stocks originating in earlier years. This reality should not affect the methodological soundness of the approach that the paper recommends, but the projected internal debt stocks are limited to the treasury's issue of bills and bonds, and the results must accordingly be understood to show a much smaller overall public-sector internal debt than the economy's banking system can be expected to carry (Section 1.6).

¹ The Lao PDR fiscal year runs from 1 October T-1 to 30 September T.

The Fiscal Policy Department of the Ministry of Finance provided the basic historical fiscal data used in this exercise. Additional data sources include the *Gazette* of the Ministry of Finance, the *International Financial Statistics* of the International Monetary Fund, and the *Global Development Finance* publication of the World Bank.

The bulk of the Lao PDR's capital formation takes place under its national investment program, the NSEDP7. As such, the NSEDP7 constitutes a large proportion of the fiscal strategy. The fiscal strategy must therefore be fully consistent, indeed integrated, with the NSEDP7.

The analysis of the NSEDP7 program and the fiscal strategy formulation that this report describes are carried out in an Excel workbook LaFS.xls and incorporated in a manual prepared under the technical assistance. This workbook has been under development since March 2010, with assistance and input from Ministry of Finance analysts and in collaboration with World Bank analysts. (Details of the Excel workbook and its formulas are described in the "User Guide for the Lao PDR Fiscal Strategy Exercise" [LaFS.xls].)

In this introductory chapter, Section 1.2 presents a working definition for a multi-annual fiscal strategy. Section 1.3 lists reasons a developing economy's government should develop and continually revise a fiscal strategy. Section 1.4 gives a working definition for a "national investment program." It then discusses, in broad terms, why a fiscal strategy should consistently reflect the national investment program in any economy where it is significant. Section 1.5 summarizes the projection methodology used to formulate the fiscal strategy that this report describes. Section 1.6 mentions some issues regarding the "coverage" and limitations of the strategy projection exercise: it does not incorporate public enterprise projections (although such projections could be included, if the necessary data and assumptions could be constructed). No attempt is made to take account of fiscal contingencies (although, again, such projections could be incorporated). Section 1.7 introduces the issues involved in the relationships between the Lao PDR's central and "subnational" governments. Section 1.8 describes the content of this report's remaining chapters.

1.2 Definition of a Multi-Annual Fiscal Strategy

A multi-annual "fiscal strategy" may be defined as a set of consistent multi-annual projections of government revenue, expenditure, and financing accounts based on common assumptions about macroeconomic performance, including real gross domestic product (GDP) growth, inflation, and exchange rate; and the state of the world economy, including export prices and world interest rates, sufficiently detailed to show how the government will address specified national development and poverty-reduction objectives, while holding expenditure within a limited, feasible "envelope" of taxation and net external and internal borrowings.

Accordingly, a "financially feasible fiscal strategy" sets out projected expenditure programs adequate and appropriate for the nation's needs and development objectives, along with projected revenue and financing flows that cover the expenditure flows and are

“financially feasible,” in the sense that they could happen if the nation’s macroeconomy and the “state of the world” turn out as programmed.

In practical terms, a fiscal strategy exercise must address two questions: (i) Are the projected expenditure programs appropriate and sufficient to meet the nation’s development and poverty-reduction objectives? (ii) Are the projected revenue, external financing, and internal financing flows sufficient to cover the expenditure flows and are they financially feasible?

1.3 Reasons a Government Should Develop and Maintain a Fiscal Strategy

There are at least two broad reasons a government should develop and continually update a fiscal strategy: (i) The fiscal strategy preparation process should help government analysts and policy makers determine whether the government’s present policy stance is “right” given plausible external and internal economic circumstances. If a draft fiscal strategy suggests that the expenditure program cannot be financed, or that it cannot adequately meet the nation’s needs and objectives, the analytical structure of the fiscal strategy should enable them to propose and evaluate possible adjustments to make the policy stance “right.” (ii) Once disseminated, a fiscal strategy should help persuade the government’s various stakeholders that they could act confidently on the basis of the government’s policies. This should enhance the likelihood that the government would achieve its objectives. Broadly speaking, achievement of any government’s objectives is premised on action by the full range of the government’s stakeholders, including foreign donors, foreign and domestic investors, foreign and domestic media, government officials, legislators, and the nation’s citizens. The point of disseminating the government’s fiscal strategy would be to assure these stakeholders that the government would be financially able to fulfill its national development role and that they can therefore confidently fulfill their roles.

Foreign donors, for example, would want assurance that the national development programs in which they participate would likely meet their objectives and would be fully financed. If government finances were to slip into crisis at some future date, projects in which donors participate could be adversely affected. Foreign donors would therefore want some assurance that government finances would likely avoid crisis. The same is true for would-be foreign investors. Foreign and domestic investors have at least as large a stake in the soundness of the government’s finances as foreign donors, in part because the financial plans of investors’ projects are premised on the government’s tax, revenue, and financing policies. If in the future the government were forced to increase taxes or cut expenditure, the projects’ success could be adversely affected.

To the extent that government officials and staff have confidence in the government’s financial program, they can be expected to act more confidently in fulfilling their roles in the government’s program. Schoolteachers should have stronger assurance that they will be paid adequately and fairly and that they will be kept on staff if their work is satisfactory; this should contribute to their effectiveness. Similarly, managers of malaria

eradication programs can be expected to work with greater confidence if they feel their work will not be interrupted before its completion. Health workers, the police force, and other government staff will find it likewise reassuring that the government has a plan to ensure that funds are likely to remain available to keep them working and regularly and adequately paid over the medium and longer term.

In sum, there are many people and institutions that would, or should, want to know how a government plans to maintain its expenditure programs so as to meet national objectives while maintaining a sound financial stance, and who would act more supportively as long as they are reassured. This suggests that a government could enhance the likelihood of meeting its objectives by formulating and disseminating a persuasive fiscal strategy.

To be sure, a fiscal strategy is a planning exercise, *not* a prediction of exactly what will happen. Since no one is ever in a position to make economic predictions that will assuredly turn out correct, no one should expect a fiscal strategy to predict precisely how national economies and their fiscal accounts will, in fact, evolve. Fiscal strategies are useful, nevertheless, because governments are entrusted with a large share of their respective nation's resources in order to achieve national objectives, and they must plan and program their mobilization and allocation as best they can, on the basis of reasonable assumptions about the future evolution of exogenous conditions.

Perhaps paradoxically, a medium- or even longer-term fiscal strategy is basically an instrument of *short-term* budget policy analysis. Participants in the preparation of an annual budget need to be aware of the medium- and longer-term consequences of their current decisions. Almost all current-budget decisions are likely to have some medium- or longer-term consequences. Accordingly, a large part of any current budget discussion, whether within government or with international development partners, should be about “where all this will lead” over the medium and longer term.²

A properly formulated fiscal strategy could also constitute an alternative government debt strategy. The kind of fiscal strategy that this report describes could be as useful for debt-sustainability analysis (DSA) as those similar to the type that is standardly conducted by the International Monetary Fund and the World Bank for highly indebted poorest countries (HIPC). HIPC-type DSAs (originally developed in the late 1990s in connection with the HIPC debt-reduction initiative) focus mainly on whether an economy's projected debt stock and debt service would evolve to levels exceeding distress benchmarks set in terms of exports of goods and services. The fiscal strategy would focus on whether projected debt stocks and debt service flows are consistent with government expenditure programs structured to meet national objectives.

² It is sometimes suggested that multi-annual fiscal projections be used to formulate multi-annual budget laws. It is probably inadvisable for a government to try to set a legally binding multi-annual budget, however. For one thing, multi-annual budgets would almost always violate national constitutional arrangements, which usually provide for annual budget cycles. This is generally a good thing because it allows the political system to address the national budget as frequently as practical—i.e., once a year. Even annual budgets will, and should, undergo significant adjustment in execution, as reality takes a different course from what the budget-preparation process assumed, and multi-annual budgets diverge all the more.

1.4 The Role of a National Investment Program in a Fiscal Strategy

Some governments manage their development efforts through what may be generically described as national investment programs (NIPs). The Lao PDR, for example, has carried out a series of national socio-economic development plans (NSEDPs). In October 2010, the Lao PDR commenced the NSEDP7, for the fiscal years FY2011–FY2015.

An NIP is a listing of specified nonrecurrent expenditure to be carried out year by year under projects within government programs and along with the programs of nongovernment entities. This expenditure comprises (i) gross fixed capital formation (GFCF) and (ii) other nonrecurrent expenditure in government projects, nongovernment projects of national interest, and government–private sector partnerships. An NIP also indicates how this expenditure is to be financed. Non-fiscal financing sources comprise (i) foreign direct investment (FDI) and (ii) nongovernment entities, including private and public enterprises whose accounts are not incorporated in the government’s accounts. *Fiscal* financing sources include (iii) official development assistance (ODA)—grants and loans from official (multilateral and bilateral entities). Any NIP expenditure not financed from these sources must be financed from (iv) non-ODA fiscal sources.

While most nations have fiscal systems, only some have formal NIPs. Socialist and many ex-socialist economies sometimes have national plans generally modernized and much-evolved versions of the national investment plans that the former Soviet Union undertook in the 1920s and 1930s. Many non-socialist economies (e.g., Brazil) have also used national investment plans. Many governments have public investment programs encompassing the nonrecurrent expenditure of government and public-enterprise entities. Some governments, however, have found it useful to formulate and monitor more general NIPs, encompassing significant investment expenditure by foreign and domestic private entities, particularly private–public partnerships, along with public-sector investment programs. The NSEDP7 is an example of this broader class of NIPs since it encompasses a wide range of nonrecurrent expenditure within and outside the public sector.

If an economy has a significant NIP, the fiscal strategy and the NIP should be consistent. The fiscal projection and the NIP would each have quantitatively significant common accounts, and since these accounts would be equal once executed, they should be programmed to be the same. In the fiscal accounts, investment expenditure under the NIP financed by ODA and other fiscal sources must be included in the government’s projected capital expenditure; ODA grants under the NIP must be included in the government’s projected external grants receipts; and ODA loan disbursements under the NIP must be included in the government’s projected net external borrowing flows.

1.5 Projection Methodology

To formulate the fiscal strategy, the various fiscal accounts are projected by means of a “consistency” methodology (carried out in the Excel workbook “LaFS.xls”). The analysts

carry out multi-annual projections of revenue, expenditure, and financing flows based on assumptions for (i) the evolution of international economic variables and programming assumptions for the evolution of the macroeconomy, (ii) national development and poverty-reduction goals, (iii) revenue policies, and (iv) net external and internal borrowing flows. The capital-expenditure projections incorporate expenditure programmed under the NSEDP7; the revenue projections incorporate external grants programmed under the NSEDP7; and the financing projections incorporate external loans programmed under the NSEDP7.

For each future year, revenue, expenditure, and financing projections are made consistent—i.e., made to add up according to the fiscal accounts identity—by calculating the required “gap-filling,” unprogrammed internal borrowing or addition to the government’s deposit accounts if the financing gap is negative. These unprogrammed flows ensure that the fiscal identity is satisfied in each year. In principle, any fiscal account could be designated as “residual”—i.e., to be determined by the identity. Unprogrammed internal borrowing is a logical choice, though, because this account would show the overall *financing* implication of *all* projected fiscal accounts. If “large” internal borrowing flows are required “to close” the projected fiscal accounts, the analyst should judge the projections of revenue, expenditure, and (programmed) financing to be unfeasible and should then adjust the projection assumptions accordingly. In particular, “gap-filling” internal-borrowing flows that bring about significant continuing increases in the ratio of the economy’s net internal debt stock to GDP should be considered unfeasible.

In general, it is inadvisable to formulate a multi-annual fiscal projection by first projecting available revenue and financing resources and then determining an expenditure flow that “fits” within this “resource envelope.” Although this approach is practical for formulating an annual budget, it is inappropriate for a multiyear projection, particularly when the expenditure includes a significant amount of capital formation intended to affect GDP growth. To understand why, suppose an analyst proceeds by setting out a multiyear resource envelope with revenue premised on a GDP growth rate. The capital formation expenditure that the resource envelope allows could be insufficient to support the GDP growth on which the resource envelope is premised. It is therefore better to proceed by using the same GDP growth rate to determine the resource envelope *and* the expenditure program, and *then* determine whether the financing gap between expenditure and the resource envelope would be financially feasible. It is often said that governments must live within their means, and this is the usual rationale for projecting expenditure only after projecting available tax and financing resources. For a multi-annual fiscal programming exercise, however, this misses the point: the expenditure flows and the capital formation flows, in particular, are fundamental determinants of the means within which the government must live over the projection period.

1.6 Questions of Coverage and Contingency

As noted above, the fiscal strategy that this report discusses is set out in consistent projections of the conventional fiscal accounts and the NSEDP7 accounts. The NSEDP7

is a quantitatively large component of the fiscal accounts, and so it must figure centrally in any Lao PDR fiscal strategy. An argument could be made that other aspects of the Lao PDR economy and public sector need to be taken into account as well. The government is the sole owner of a large number of nonfinancial and financial enterprises and also participates directly in nine joint ventures with the private sector. In principle, the accounts of these enterprises also ought to be included in the projection exercise. The present exercise, however, has not included them, mainly because representing them fully would introduce a large and complex range of additional projections and assumptions. Nevertheless, it is important to recognize that they affect a large number of government accounts, including profit tax, dividend revenue, and certain subsidies and transfers. Their operations, moreover, affect a wide range of macroeconomic accounts, including exports, imports, and external and internal financing flows.

The central bank, the Bank of the Lao PDR, makes a continuing demand for resources on the internal financial system. Interest due on the financing instruments issued by the central bank in the course of monetary management apparently produces a significant borrowing requirement. This report focuses on the conventional fiscal accounts and so excludes quasi-fiscal operations of this kind from its discussion. Nevertheless, it is important to recognize that exclusion of the bank from the fiscal strategy leaves out a potentially important aspect of the public sector's fiscal flows.³

Over the past decade, the central and various provincial governments executed a significant number and total value of projects off-budget. In the process, they incurred substantial amounts of internal debt not included in the official budget accounts. At this writing, the total amount of this debt owed to the banking system and by contractors, who probably obtained some banking-system financing on the basis of what the governments owed them, has not yet been calculated. Since 2009, the central and provincial governments have not been permitted to take on any further debt in this way, but the accumulated debt stock remains. It seems clear that the servicing of this debt will be mostly off-budget; basically, from the proceeds of the projects in question. The fiscal projections that this paper discusses are restricted to the budget figures and therefore do not reflect this off-budget debt.

An additional coverage issue concerns "own" revenues. Some government agencies receive revenues from fees and other sources that they do not pass on to the treasury and which may not figure in overall government-revenue figures. Moreover, some government agencies are in a position to accumulate resources, based on either "own" revenue flows or budgeted appropriations. "Own" and accumulated resources may permit particular agencies to carry out expenditure flows not explicitly included in the budget statistics.

In addition, the government has mobilized some resources off-budget through asset sales, or through financing operations involving partial or total pledges of such assets. These flows have not always been reported in the fiscal accounts. The fact that they are inadequately reported means that some observers believe that the fiscal accounts

³ The profits and losses of the Bank of the Lao PDR and of other commercial banks could be incorporated into the projection exercise.

inadequately represent the Lao PDR's fiscal realities. In principle, asset sales should be included below the line as entries in the financing accounts, with the expenditures they finance included as entries above the line in the expenditure accounts.

A coverage issue of a different kind concerns contingent liabilities, which may be defined as substantial expenditure flows that governments in question would have to pay if certain contingencies came to pass, ranging from natural disasters to unforeseen financial crises. By its nature, some expenditure that may turn out necessary cannot be predicted. In any case, it is difficult for developing economy governments already under intense fiscal pressure to accumulate financial resources to prepare for unknowable contingencies. Still, although the present fiscal strategy excludes such contingent liabilities from the discussion, it is important to bear in mind that if the government had to carry out large expenditures to cope with natural disasters or to recapitalize financial institutions, they could overwhelm the fiscal program described here. (As the experience of the United States since 2008 eloquently illustrates, the same could be said for any economy.)

1.7 National and Subnational Governments

Like most nations, the Lao PDR has a central government and various subnational governments. The subnational governments are provincial and municipal administrations. These entities are nominally part of the national government, since provincial governors and key administrators are appointed by the national government: the Lao PDR is in no sense federal. In practice, however, provincial and municipal administrations have some scope for autonomous decision making. While they rely on funding transfers from the central government, and the central government must approve their expenditure programs, they can raise some revenue from their jurisdictions and they have a measure of control over staffing and staff services. They can and do undertake their own investment projects if they can secure financing (although as discussed in Section 1.6, since 2009, they have not been allowed to borrow from the banking system for such purposes).

The present report mostly treats the Lao PDR as a unitary state in that it focuses on the consolidated budget. Nevertheless, the relationship between the central and subnational governments and its quantitative evolution must figure in any fully elaborated fiscal strategy. The government's strategy will need to address such issues as the division of expenditure responsibilities and the appropriate financing mechanisms.

1.8 The Structure of the Report

The report's remaining chapters are structured as follows: Chapter 2 describes recommended methodologies for formulating a fiscal strategy in an economy that has a significant NIP. Chapter 3 reviews the Lao PDR's fiscal performance since FY2005, setting it within the context of the overall macroeconomic evolution.⁴ Chapter 4 describes the projection procedure, including the projections of the main "contextual" variables

⁴ See the discussion of the Lao PDR's recent macroeconomic performance in World Bank (2011b, Chapter III).

(external variables relevant to the Lao PDR economy, key macroeconomic programming variables, and the sector output components of GDP); the NSEDP7 and its main projection variables; the main elements of revenue and expenditure; and the fiscal accounts' external and internal financing flows. Chapter 5 then summarizes the fiscal strategy as a whole. It also discusses exercises in sensitivity analysis, offers some concluding observations, and concludes with a summary list of recommendations.

2 Methodology: Formulating a Fiscal Strategy for an Economy with a National Investment Program

2.1 The Overall Projection Procedure

This chapter describes the general principles of the techniques used to formulate the fiscal projections. (It is assumed that the reader would find it useful to review first the principles underlying the exercise before moving on to the description of the exercise in Chapter 4. Alternatively, the reader may prefer to skip directly to Chapter 4 and refer back to this chapter as necessary.)

As noted in Section 1.3, the basic purpose of a fiscal strategy is to indicate realistically and persuasively how policy makers intend to attain the nation's development and poverty-reduction goals while maintaining sound government finances. The core of the fiscal strategy presentation is a summary set of projected government financial accounts in the standard format:

Table 1 Standard Format Summary Fiscal Accounts Presentation

Overall deficit (surplus):	
=	Total expenditure
	Current expenditure
	Current non-interest expenditure
	Interest due
	External interest due
	Net internal interest due
	Capital expenditure and net lending
-	Total revenue including external grants
	External grants
	Tax and nontax revenue
≡	Total financing
	Net external financing
	Disbursements
	Repayments
+	Net internal financing

Notes: The underlined equals sign indicates that this is a flow accounting identity, always true for any time interval for any set of fiscal accounts. The projection can be set out in this format using different units of account, including (i) national currency, (ii) United States (US) dollars, (iii) percent of gross domestic product, (iv) US dollars at base-year prices and exchange rate (i.e., in real terms), and (v) per capita US dollars at base-year prices and exchange rate (i.e., in per capita real terms). When evaluated from the different perspectives afforded by the different units of account, it should be possible to draw conclusions as to whether the strategy adequately addresses the main development and poverty-reduction objectives *and* is financially feasible.

Source: Beckerman, Paul. 2010. *Multiannual Macroeconomic Programming Techniques for Developing Economies*. World Scientific Publishing Company.

Over the period of the Seventh National Socio-Economic Development Plan (NSED7), expenditure under the NSED7 will account quantitatively for most of the capital expenditure in the fiscal accounts, and financing for the NSED7 will account quantitatively for most of the external grants and loan disbursements. The NSED7 will also have substantial non-fiscal financing, i.e., financing from the private sector and publicly owned enterprises, which would not figure in the fiscal accounts. This implies that the projection exercise ought to include a projection of the NSED7 expenditure and financing flows, in a “sources-and-uses” format:

Table 2 The Expenditure and Financing Structure of a National Investment Program (Seventh National Socio-Economic Development Plan)

Expenditure under the Seventh National Socio-Economic Development Plan (NSED7): Uses	
	Gross fixed capital formation under the NSED7
	Other expenditure under the NSED7
<u>≡</u> Financing of expenditure under the NSED7: Sources	
	Non-fiscal financing
	Financing from external sources (foreign direct investment)
	Non-fiscal financing from internal sources
	Fiscal financing
	Official development assistance
	External grants
	External loan disbursements
	Government savings
	Tax and nontax revenue
-	Current expenditure
	Other net fiscal accounts excluding net internal financing
	Net internal financing

Notes: The underlined equals sign indicates that this is a flow accounting identity, always true for any time interval for any set of fiscal accounts.

Source: Beckerman, Paul. 2010. *Multiannual Macroeconomic Programming Techniques for Developing Economies*. World Scientific Publishing Company.

All expenditure under the NSED7 financed from fiscal sources, including official development assistance (ODA) loans and grants from multilateral and bilateral entities, should figure in the fiscal projection’s capital expenditure account. The accounts under the NSED7 projection’s “fiscal financing” line would therefore have to be fully consistent with capital expenditure accounts in the fiscal accounts.

This presentation of the fiscal and NSED7 accounts shows that the performance of the fiscal accounts and the implementation of the NSED7 would be closely interrelated. In particular, if the NSED7 expenditure program is carried out as programmed, but the non-fiscal financing flows turn out smaller in implementation than programmed—e.g., a lower foreign direct investment (FDI) flow—the fiscal financing flows would have to make up the difference. All other things being equal, this would imply a larger fiscal deficit and financing requirement. (This point is discussed again in Section 5.2.)

To formulate the projections in the formats given in Tables 1 and 2, this report recommends a procedure comprising sequenced steps in six main categories:

- (i) context projections, including assumptions for the evolution of exogenous world variables; macroeconomic programming values, including gross domestic product

- (GDP), price level, and exchange rate; and sector GDP growth rates, based on the government's programming assumptions (see Sections 2.4, 2.5, and 2.7);
- (ii) programming of the NSEDP7 expenditure and financing flows, using the government's programming assumptions (Section 2.6);
 - (iii) projection of tax and nontax revenue, from assumptions that generate revenue flows based on the macroeconomic programming assumptions (Section 2.8);
 - (iv) programming of current non-interest expenditure, formulated from policy assumptions about expenditure in the various sectors under the economic categories of (i) wages and salaries, (ii) other remuneration, (iii) transfers and subsidies, and (iv) goods and services (Section 2.9);
 - (v) projection of external debt and debt service, formulated from financing assumptions for the NSEDP7 and from assumptions about specific multilateral and bilateral donors (Section 2.10); and
 - (vi) projection of net internal financing flows and interest, including the gap-filling procedures required to ensure that each year's fiscal accounts identity is satisfied (see Section 2.11).

For each projection year, each of these steps is carried out separately, except that the projection of the net internal financing flow and interest is calculated out residually to ensure that the fiscal identity holds for each year.

Sections 2.4–2.12 describe the projection procedure in more detail, although for now in theoretical terms only. (Chapter 3 reviews the Lao PDR's fiscal performance over the decade just ended, to set the stage for Chapter 4 to describe the specific projection procedures used for the Lao PDR fiscal strategy projection. Chapter 5 then discusses the overall results.) Before proceeding to the discussion of the principles of the projection procedure, Section 2.2 digresses to apply simple algebra to describe more precisely the relationship between a national investment program like the Lao PDR's NSEDP7 and the fiscal accounts, and Section 2.3 reviews the key fiscal balance indicators.

2.2 The Relationships between the Fiscal and the National Investment Program Accounts

To describe the relationships between the fiscal and the national investment program (NIP) accounts, begin by defining the following symbols:

- G = government consumption expenditure (expenditure on staff remuneration plus expenditure on current goods and services);
- H = government subsidies and income transfers;
- R = government external and internal interest payments;
- W = government capital expenditure;
- T = tax and nontax receipts;
- S = external grants to the government;
- X = net external financing to the government
= loan disbursements (L) less loan repayments (A); and
- Z = net internal financing to the government.

The fiscal accounts identity may be expressed using these symbols:

$$G + H + R + W - T - S = X + Z = (L - A) + Z.$$

The left-hand side of this accounting identity is the government's deficit measured "above the line," while the right-hand side is the government's deficit measured "below the line." The (gross) ODA flow is given by $S + L$. Government savings are given by $T - G - H - R$. The government's capital expenditure W is therefore financed by

$$W = [(S + L) - A] + [T - G - H - R] + Z,$$

that is, by the sum of (i) ODA flows net of external loan repayment, (ii) the government-saving flow, and (iii) the government's net internal financing.

For the NIP, define the following symbols:

- N = total expenditure under the NIP;
- J = total gross fixed capital formation under the NIP;
- F = FDI; and
- V = internal non-fiscal (private-sector) financing.

Note that some NIP expenditure is not gross fixed capital formation. NIP expenditure should be entirely nonrecurrent, but may include technical assistance, training, project-administration costs, and other expenditure that is not gross fixed capital formation and not counted as such in the national expenditure accounts. NIP expenditure that is not gross fixed capital formation is given by $N - J$.

Part of the reason it is important to distinguish gross fixed capital formation from other investment expenditure is that gross fixed capital formation can be expected to bring about economic growth more immediately than other kinds of investment expenditure. Gross fixed capital formation—expenditure on structures and equipment—is the investment that figures in the Harrod–Domar real growth projection discussed in Section 2.7.

Assume, to simplify, that ODA is used only to finance NIP expenditure—i.e., that ODA is not used to finance any government expenditure not included in the NIP. Define

$$U = \text{government capital expenditure outside the NIP.}$$

With these definitions and the assumption that ODA is used only to finance NIP expenditure,

$$\begin{aligned} N &= F + V + (W - U) \\ &= F + V + [(S + L) - A] + [T - G - H - R] + Z - U. \end{aligned}$$

That is, the national investment program is financed by the sum of

- (i) FDI (F),
- (ii) internal non-fiscal financing (V),

- (iii) ODA net of external loan repayment [(S + L A),
- (iv) government savings [T – G – H – R], and
- (v) net internal financing (Z), less
- (vi) government capital formation outside the NIP (U).

The first two items in this list are non-fiscal financing flows. The remaining four are fiscal accounts flows. The values shown for these flows in the NIP accounts should be precisely consistent with the corresponding values in the fiscal accounts.

Some gross fixed capital formation takes place outside the NIP and the fiscal accounts. Define

- I = the economy's total gross fixed capital formation (gross fixed capital formation in the national accounts), and
- B = government non-NIP capital expenditure which is gross fixed capital formation.

Then, gross fixed capital formation outside the NIP and not carried out by the government is given by

$$I - J - B.$$

This may include capital formation carried out by enterprises wholly or partially owned by the government, in addition to private-sector capital formation outside the NIP.

The sections following discuss the integrated projection procedure for the fiscal accounts and the NSEDP7.

2.3 Fiscal Balance Indicators

Fiscal accounts analysis and projection conventionally focus on the fiscal deficit as a bottom-line indicator. In what is now standard international fiscal accounting practice, for any given accounting period the fiscal deficit is defined as the difference between total revenue and total expenditure, with total expenditure including external and internal interest but excluding external and internal debt repayment.

Like some other economies, however, the Government of the Lao PDR defines its fiscal deficit with government expenditure including debt repayment. This means that the fiscal deficit reported by the country's accounts will always be higher, by the amount of debt repayment, than the fiscal deficit that will be recorded under standard international conventions. Readers of this report, or of any document that discusses Lao PDR fiscal figures, should be aware of this difference between the standard international definition and that of the Lao PDR, and adjust conclusions and interpretations drawn from any fiscal deficit figure accordingly.⁵

⁵ To be sure, no one should think that one deficit concept is wrong and the other correct. What is important is to understand the correct interpretation of each deficit concept—to know, so to speak, which question each concept answers. To convert the gross borrowing flow to the net borrowing, it is necessary also to know the flows of internal and external debt repayment for the period in question.

Under the standard international deficit concept, fiscal deficit is defined as the flow increase in the government's net liability stocks—i.e., total liabilities less total asset.⁶ Equivalently, it is the net financing flow for the period in question. Under the government convention, fiscal deficit is defined as the gross financing flow for the period in question. Gross financing comprises loan disbursements, asset sales, and withdrawals from government deposit accounts. The net financing flow is equal to the gross financing flow less loan repayment, asset purchases, and deposits into government deposit accounts.

The fiscal deficit result for any year indicates the financing a government requires in addition to its revenues from tax, nontax, and external grant sources to cover its total expenditure. The main reason a large deficit should cause concern is that it implies that the government's net liability position is rising rapidly. All other things being equal, this implies that the debt service—i.e., the interest and repayment—burdens are increasing. Resources that must be dedicated to these purposes are, perforce, unavailable to spend on development and poverty-reduction objectives.

All other things being equal, of course, any external debt disbursement used to finance an expenditure flow brings about an increase in the deficit. When a foreign donor disburses, say, \$1 million to finance a capital purchase under a project, capital expenditure increases, so that in the double-entry accounting, capital expenditure increases above the line and the flow of external financing increases below the line. To be sure, an external debt disbursement applied to an increase in the government's deposit accounts has no effect on the deficit—above the line, expenditure remains unaffected, while below the line, the positive disbursement flow is offset by the negative deposit flow.

At least two other fiscal balance indicators should be as much of interest as the fiscal deficit: (i) net internal financing and (ii) government savings.

The net internal financing flow is the difference between the overall deficit and the net external financing requirement—i.e., the part of the deficit not covered by net external financing. This indicates the net financing the government would be obtaining internally. Internal government borrowing takes up financing resources that would otherwise be available to internal nongovernment borrowers and, all other things being equal, places internal interest rates under upward pressure. To the extent that the government increases its internal debt stock, its internal interest bill rises, which either adds to the deficit or requires offsetting increases in revenue or reductions in non-interest expenditure.

For a developing economy, internal borrowing is usually considered less desirable than external borrowing. Internal interest rates tend to be higher than external interest rates (unless a large exchange rate depreciation takes place in advance of the actual interest payment), and available internal maturities tend to be shorter than external maturities. In addition, government borrowing in internal financial markets takes up resources that the

⁶ This is not precisely true: in addition to disbursement and repayment flows, the government's stock of outstanding liabilities is also affected by valuation change. For example, if part of the liability stock is denominated in euros and the kip depreciates against the euro, then the value of the liability stock in kip will rise. If there is no valuation change over the period in question, however, then the liability stock will increase by an amount equal to the disbursement flow less the repayment flow.

private sector might otherwise have borrowed, which may drive up interest rates and make private projects at the margin unprofitable (the familiar “crowding-out” effect).

The government savings flow is defined as the difference between total revenue and current expenditure. According to fiscal accounting identity, the sum of current and capital expenditure less total revenue is identical to the sum of net external and net internal financing. It follows that government capital expenditure can be said to be financed by (i) total revenue less current expenditure, plus (ii) the sum of net external and net internal financing, or, equivalently, capital expenditure is financed by the sum of (i) government savings and (ii) overall government net financing. Put another way, government savings are the resource flow the government itself contributes to the financing of its capital expenditure.

The government savings flow is interest-free financing for government capital expenditure, although it is always appropriate to price it at an opportunity cost. It is important to remember that positive government savings arise from revenue raised from taxes and forgone government current expenditure. These may entail significant costs imposed on the private sector. It is possible that funds mobilized through taxes or expenditure cuts to fund government capital expenditure may have been used to fund private capital expenditure.

2.4 “Context”: Projecting “Exogenous” External Variables

The fiscal strategy and NSEDP7 projection are to be set out within a “context” comprising exogenous external (as opposed to exogenous *internal*) variables and macroeconomic programming variables. This section discusses the external variables, while Section 2.5 discusses the macroeconomic programming variables.

The external variables comprise the following:

- the overall international US dollar price level;
- unit export and import prices in US dollars of particular kinds of merchandise and services;
- growth rates of international trade volumes in export commodities and services relevant to the country; and
- relevant international interest rates, principally the London Interbank Offered Rate (LIBOR).

In general, for purposes of the fiscal projection, it is easiest to assume that the international US dollar price level will grow at a steady rate and that most other export and import prices will rise at the same rate. In some instances, however, there may be reasons to suppose that specific export and import prices will lag or lead the international US dollar price level.⁷ Alternatively, it may be convenient to use the price projections formulated by

⁷ In some cases, exports of specific commodities are governed by contracts. In these instances, at least in the near term, the prices in question may not evolve with projected world prices.

the International Monetary Fund or the World Bank. (It may also be helpful to carry out sensitivity analysis with varying assumptions for the growth rate of the international US dollar price level and of specific export and import prices.)

As a practical matter, specific kinds of exports may depend on the volume growth of international trade in that commodity. Although the small-country hypothesis implies that a small exporter can sell as much as it can produce in any world commodity market, it is also true that some small countries face formidable practical obstacles to increasing their share of world trade in particular commodities.

Export and import prices and volumes matter for the fiscal strategy mainly because they are essential determinants of the revenue from customs and taxes on export activities. Several different methods can be used to apply projections of exports and import prices and volumes to calculate projections of export and import values (see Section 2.5).

2.5 Context: Projecting Key Macroeconomic Programming Variables, Sector Output, and Exports and Imports

The key macroeconomic programming variables—GDP, inflation, exchange rate, and population—can be projected simply by setting assumptions for their future growth rates and applying these to the base-year and subsequent values over the projection period. These variables figure fundamentally in the projection exercise in that they figure in the calculation of many of the projected variables. Where these variables are concerned, however, certain detailed points must be taken into account.

First, projections of the price level and of the exchange rate must be made for year-average and year-end values, because the fiscal programming procedure makes use of both. Projections of year-average and year-end price-level values must be mutually consistent; projections of year-average and year-end exchange-rate values must also be mutually consistent.

For GDP, the projection exercise could simply assume that real GDP grows at a specified rate. Because the national investment program is large enough to affect the real GDP growth rate, however, the present projection exercise takes a somewhat different approach. The real GDP growth rate is taken to be a warranted growth rate derived from gross fixed capital formation within and outside the national investment program (the projection procedure is discussed in Section 2.7). This approach is essential for the projection exercise as set out here. If analysts wish to consider reducing or increasing the overall size of the national investment program, they must take account of the likelihood that doing so would reduce or increase the real GDP growth rate. This would affect the fiscal accounts and, hence, the revenue flows.

For the price level, the projection assumption is the December–December consumer price index growth rate. The year-end price-level values are taken to be the December consumer price index, which is an average for the month. The year-average price-level growth rate is then derived from the year-end price-level growth rate (as described in

the “User Guide for the Lao PDR Fiscal Strategy Exercise”). The projected growth rate of the GDP deflator is based on the assumed growth rate of the year-average consumer price index.

For consistency with the price index, the year-end national currency—US dollar exchange rate is taken to be the December average exchange rate, and the exchange-rate projection assumption is the December–December growth rate. The year-average exchange-rate growth rate is then derived from the year-end exchange-rate growth rate. (The “User Guide for the Lao PDR Fiscal Strategy Exercise” describes the derivation.)

The population growth rate is a simple projection assumption, based on recent experience.

Section 4.1 describes the specific projection assumptions that the Lao PDR fiscal strategy exercise uses for the key macroeconomic variables, except for the real GDP growth rate, which is described in section 4.2.

The real and nominal growth rates of the economy’s various productive sectors may affect specific aspects of the fiscal accounts. The growth rates of real output and of the sector price levels are simple projection assumptions. In general, these projections use a top–down approach: thus, for example, the overall real GDP growth rate is assumed, along with the real growth rates for the primary and secondary sectors, leaving the growth rate of the tertiary sector to be determined residually. (Section 4.1 discusses the specific projection assumptions for the Lao PDR fiscal strategy exercise.)

Projections of export and import flows are the bases for certain fiscal projections. In particular, customs revenue is projected based on the merchandise import flows. Merchandise export flows are projected on the basis of the relevant assumptions regarding their prices and world trade volumes, and merchandise import flows are projected on the basis of the relevant assumptions regarding their price and real GDP. (Section 4.1 discusses the specific projection assumptions for the Lao PDR fiscal strategy exercise.)

2.6 The National Investment Program

For purposes of the fiscal strategy, the NSEDP7 is a set of nonrecurrent expenditure flows financed from various sources. Some of the expenditure is gross fixed capital formation. The remainder comprises other kinds of nonrecurrent expenditure, including expenditure on training and administration. One point of the distinction is that, at least within the fiscal strategy’s time horizon, real GDP growth derives basically from “material” gross fixed capital formation. Overall NSEDP7 expenditure, as well as its gross fixed capital formation component, is simply *programmed*. Non-NSEDP7 gross fixed capital formation is also programmed. An assumption about the incremental capital–output ratio (ICOR) can then be used to transform these programmed gross fixed capital formation rates into real GDP growth projections.

The NSEDP7 financing flows are programmed as well in the categories discussed in Table 2: (i) FDI, (ii) internal non-fiscal financing flows, (iii) ODA net of external loan repayment, and (iv) other fiscal sources, including government savings. FDI, internal

non-fiscal financing, and ODA financing flows are programmed as percentages of overall NSEDP7 expenditure. Grants and loans are programmed as percentages of overall ODA financing flows. Grants and loans by particular international entities can be programmed as percentages of total grants and loans, respectively.⁸ Non-ODA fiscal financing is the residual—i.e., that part of overall NSEDP7 expenditure that is not financed by FDI, internal non-fiscal financing flows, or ODA.

In principle, this projection of the overall NSEDP7 expenditure and financing flows would suffice for the fiscal strategy. It may be useful, however, to program the NSEDP7 expenditure and financing flows in deeper detail. A more detailed programming structure would include expenditure and financing flows in different sectors. Expenditure in each sector (education, health, etc.) would be a percentage of the overall NSEDP7 expenditure flow, and the financing flows for each sector would be percentages of the expenditure for that sector. Ideally, expenditure and financing flows in each sector would be further classified into groups of projects, or relatively larger specific projects.

With overall NIP/NSEDP7 expenditure and financing classified by sector or in detail, it is possible to calculate a residual “other sectors” category showing the expenditure and financing not specifically programmed. (One point of doing so would be to ensure that no expenditure or financing flows in this residual sector would be non-positive, and thus ensure the overall expenditure and financing structure’s internal consistency).⁹

2.7 Projected Real Gross Domestic Product Growth

As the exercise is now structured, the real GDP growth rate is determined from the capital formation programmed within and outside the NSEDP7. Capital formation within the NSEDP7 is determined in each year as a percentage of GDP, and capital formation outside the NSEDP7 is projected, by means of a simple assumption, as a percentage of GDP. The warranted real GDP growth rate in the subsequent year is then determined on the basis of the standard Harrod–Domar analysis, applying a projection assumption for the ICOR to the total NSEDP7 and non-NSEDP7 gross fixed capital formation.¹⁰

2.8 Projecting the Government’s Revenue Accounts (Excluding External Grants)

The Ministry of Finance of the Lao PDR receives non-grant revenue flows through the Tax, Customs, Public Enterprises, and State Assets departments, and also through the

⁸ ODA flows are all assumed here to pass through the fiscal accounts. In reality, in recent years and in specific countries, some international entities have provided financing flows outside the fiscal accounts. In some economies where it operates, for example, the United States Agency for International Development (USAID) has provided funding flows to nongovernment entities without channeling them through the fiscal accounts.

⁹ In effect, the overall and detailed NSEDP7 expenditure and financing flows could be said to constitute the outcome of a “donors’ meeting”—i.e., a plan for the mobilization and allocation of funds for national investment or development.

¹⁰ Under the standard Harrod–Domar analysis, if v_t represents the ICOR related output in year t with total gross fixed capital formation in year $t - 1$ and i_t/y_t represents the ratio of gross fixed capital formation to GDP, the real GDP growth rate in year t would be given by $g_t = (i_{t-1}/y_{t-1})/v_t$. (Jones 1975 is an excellent summary of the Harrod–Domar analysis. The seminal papers are Domar 1947 and Harrod 1959.)

Land Authority. Each of these departments manages a different group of revenue flows. It is therefore useful to project the future revenues for which each of these departments is responsible, revenue line by revenue line.

In recent years, the authorities have discussed and set year-by-year revenue-mobilization objectives as percentages of GDP. It is therefore useful either (i) to formulate programming assumptions for revenue flows as percentages of GDP, where appropriate; or (ii) to formulate programming assumptions in such a way that they can easily be converted into percentages of GDP.

Thus, for example, it seems easiest and most helpful to project most kinds of profit-tax revenue using assumptions set as percentages of GDP, since most company profits and thus the taxes collected on these will grow at about the same rate as nominal GDP. Company profits based on mining operations for export may require a different kind of treatment, however, since these profits would be insensitive to the economy's overall real GDP growth. In these cases, the US dollar profits are projected on the basis of price and volume projections, and converted into the national currency at the projected nominal exchange rate.

Import-based revenues, including tariff revenue and import-based value-added and excise taxes, are most appropriately projected on the basis of projected volumes and US dollar prices and volumes of imports, converted into the national currency at the projected nominal exchange rate. Revenues based on import flows would decline over time as percentages of GDP to the extent that the depreciation rate of the national currency lags behind the differential between the Lao PDR and external inflation. Given the recent tendency of the Lao PDR national currency to appreciate in real effective and even in nominal terms, this would matter, because revenue deriving from imports has been a significant share of total revenue. If import-based revenue diminishes as a percentage of GDP, then overall revenue will as well, unless the authorities are able to increase revenue from non-import sources as a percentage of GDP. Of course, the negative effect of the real effective appreciation on import-based revenue flows will be offset in that the real effective appreciation encourages higher import volumes.

For the internal, non-import value-added tax (VAT), the projection procedure is somewhat different. Revenue from the VAT is projected for each future year by multiplying the projected GDP by the VAT rate and by a projected "collection coefficient." Programmed increases over time in the "collection coefficient" represent assumed policy measures to increase collection, such as more vigorous administrative measures or removal of exemptions.

A different projection procedure is appropriate for revenues deriving from hydroelectric and large-scale mining enterprises. The procedure is based on projections of each enterprise's output, earnings, costs, and profits. On the basis of these projections, it is then straightforward to calculate the revenue flows to the government, comprising royalties, profit tax, and dividends on the government's share in the ownership of the enterprise.

The procedure may be summarized by defining the following variables (* = US dollar) for each enterprise:

- V^* sales;
- p^* output price;
- q production volume;
- U^* total cost;
- c^* unit production cost, excluding royalty payments;
- Π^* pre-tax, pre-royalty profit;
- r^* unit royalty payment;
- τ profit-tax rate; and
- ω government share of ownership of the enterprise.

Sales would be given by

$$V^* = p^* q,$$

total cost would be given by

$$U^* = c^* q,$$

and the pre-tax, pre-royalty profit flow would be given by

$$\Pi^* = V^* - U^*.$$

The royalty flow would be given by $(r^* q)$, so the profit flow net of royalties would be given by $\Pi^* - (r^* q)$. The profits tax would apply to this flow, and the revenue generated would be given by

$$\begin{aligned} \tau [\Pi^* - (r^* q)] &= \tau [(p^* q) - (c^* q) - (r^* q)] \\ &= \tau [p^* - c^* - r^*] q. \end{aligned}$$

This would leave $(1 - \tau) [\Pi^* - (r^* q)]$ for distribution to shareholders. If the enterprise did not retain any of these earnings, the amount that would go to the government as dividends would be

$$\begin{aligned} \omega (1 - \tau) (\Pi^* - r^* q) &= \omega (1 - \tau) [(p^* q) - (c^* q) - (r^* q)] \\ &= \omega (1 - \tau) [p^* - c^* - r^*] q. \end{aligned}$$

For each enterprise, the programming assumptions for this projection would be the growth rates g_q , g_{p^*} , and g_{c^*} , the royalty rate r^* , the profit tax rate τ , and the government ownership share ω .

2.9 Projecting the Government's Non-Interest Current Expenditure Accounts

The Lao PDR's non-interest current expenditure is budgeted and executed at three levels: (i) the central government, (ii) provincial governments, and (iii) the "general administration." It is therefore useful to project non-interest current expenditure at the three levels. Within each government level, non-interest current expenditure may be classified in the "economic" categories of (i) personnel, (ii) benefits and allowances, (iii) goods and services (iv) subsidies and transfers, and (v) other current non-interest expenditure. Within each government level, total expenditure in each of these categories is projected:

(i) The growth rate of total expenditure on personnel is taken to be given by

$$[(1 + g_W) (1 + g_n) (1 + g_q)] - 1,$$

where g_W is the growth rate of the wage/salary rate and g_n is the growth rate of the payroll (number of persons). The growth rate g_q is an adjustment for what may be described as the "promotion effect"—all other things being equal, a substantial number of retirements in any given year of relatively higher-earning senior staff and their replacement with incoming junior staff would reduce total expenditure on personnel.¹¹ Expenditure on personnel is therefore projected on the basis of programming assumptions for the growth rates of the wage/salary rate, the number of people on staff, and any "promotion effect."

As in most economies, staff remuneration is the most important component of current expenditure, not only because of its relative size, but because other aspects of government expenditure are likely to grow in relation with staff remuneration. To ensure that the fiscal strategy is realistic, it is important to project staff remuneration, including wage rates and staff size realistically.

Wage rates are set before the year in which they take effect, so unless they are linked ex post to inflation or per capita nominal GDP, they can turn out to grow more rapidly or more slowly than the price level or per capita nominal GDP. Still, for a medium-term fiscal projection, government pay rates can be expected to rise to maintain pace with per capita nominal GDP, or at least not lag very far behind. There are several steps in the reasoning underlying this view. First, while public-sector pay rates are likely to be lower than comparable private-sector rates, the differential cannot widen significantly without leading to significant consequences for public-sector morale and productivity, and possibly ethical standards. Second, assuming for the sake of argument that the share of labor income in overall national income remains constant as the economy grows, overall per capita labor earnings for the whole economy would grow at the same rate as per capita nominal GDP. Public- and private-sector labor earnings taken together could grow at that rate. If private-sector earnings grew much faster, then public-sector earnings would lag accordingly. To be sure, it is unlikely that the share of labor income in overall national income would remain constant as the Lao PDR economy grows. It is likely to

¹¹ If a particular agency's staff increased, for example, 2% in a given year while its official pay rates increased 3%, but the overall payment flow rose only 4%, one could conclude that its "promotion effect" amounted to -1%.

decline somewhat, basically because the economy is now expected to grow on the basis of its resource sectors. Still, it is probable that the share of labor income in nominal GDP would decline relatively slowly. This suggests that while per capita labor earnings are likely to grow more slowly than per capita nominal GDP, they would probably not grow very much slower than per capita nominal GDP. This implies that an appropriate medium-term projection assumption for the growth rate of public-sector wage rates would be just under the projected growth rate of per capita nominal GDP.

Meanwhile, the number of people on staff could be expected to grow at a rate at least equal to population growth, and possibly higher, since this is the means by which the government would improve per capita services delivery. Government service quality, particularly in such areas as education, health, and public security, is likely to be related positively to per capita government staff levels. The basic reason is that the overwhelming majority of government workers are service workers. A substantial majority of the government's workers are teachers, health workers, police, members of the armed forces, and tax and customs collectors. Since these are service professions, these workers' overall productivity levels are unlikely to increase significantly in the medium term. As a consequence, for the quality and quantity of government services to increase, the number of people who work for the government would probably have to grow at a faster rate than the population.

Benefits and allowances are assumed to grow at the same overall rate as expenditure on wages and salaries. Expenditure on government goods and services is assumed to grow at a rate equal to

$$[(1 + g_n)(1 + g_p)] - 1,$$

where g_p is the year-average price level. The idea here is that goods and services that the government uses are related by and large to the number of people that use or work with them. Thus, for example, government purchases of water and electricity for offices are likely to be related to the number of people on staff. This is not true of all goods and services that the government uses. The number of schoolbooks, for example, should be related to the number of students. Nevertheless, since the number of teachers on staff will be related to the number of students, relating the growth of expenditure on goods and services to the number of people on staff would still be a close enough approximation. Subsidies and transfers are also assumed to grow according to the combined growth rates of population and the year-average price level.

In principle, this approach to projecting the overall non-interest current expenditure flows would suffice for the fiscal strategy. It is useful, however, to program the non-interest current expenditure flows in more detail. A more detailed programming structure would include non-interest current expenditure flows in different sectors—i.e., with growth rates for the categories of expenditure indicated programmed for each sector. With non-interest current expenditure classified by sector in this way, it is possible to calculate a residual other sectors category, showing the non-interest current expenditure not specifically programmed. (One point of doing so would be to ensure that no expenditure or financing flows in this residual sector would be non-positive and so ensure the overall expenditure and financing structure's internal consistency.)

2.10 Projecting the Government's External Debt Flows and External Grants

The bulk of the projected external debt disbursements and external grants would be ODA financing flows under the NSEDP7. These are projected, accordingly, through the programming assumptions used for the NSEDP7 projection (see Section 2.6). External debt disbursements and external grants for budget or program support, as opposed to project finance, are programmed separately.

For each projection year, repayment flows are projected for each multilateral and bilateral donor. For each multilateral and bilateral donor, the difference between total disbursements and repayments gives that year's debt flow. For each multilateral and bilateral donor, the projected year-end debt stock is equal to the previous year-end debt stock plus the debt flow. These calculations are given in US dollars: when translated into the national currency, the debt flows must be converted at the projected year-average exchange rates and the debt stocks must be converted at the projected year-end exchange rates.

For any multilateral or bilateral donor, the interest bill for any given year is projected as follows: Let I^* represent the interest bill ($*$ = US dollar); let D^{*t} represent the year-end debt stock (the prime indicates that this variable is a year-end value), let L^* represent the disbursement flow, and let R^* represent the repayment flow. The previous year's interest rate is given by

$$i_{-1} = I^*_{-1} / D^{*t}$$

where D^* represents the average of the year-end stocks D^{*t}_{-1} and D^{*t} . Let s represent the interest rate on newly disbursed credit. The projected interest bill is taken to be given by

$$I = [D^{*t}_{-1} - (A^*/2)] i_{-1} + [(L^*/2) s],$$

which is a weighted average of i_{-1} and s , with the weights being based on the stocks of debt that would pay the two rates, on the assumption that the repayment and disbursement each take place halfway through the year. This interest payment would be converted into national currency at the projected year-average exchange rate.

These projections would be carried out for each identified external creditor. The summed interest payments, in the national currency, appear in the projected government expenditure accounts as external interest. The summed external grants, again in the national currency, appear in the projected government revenue accounts. The summed debt flows appear "below the line" of the projected government financing accounts as net external financing.

2.11 Projecting the Government's Internal Financing Flows

The government's internal financing flows fall into three main categories: (i) identified net internal borrowing, (ii) net withdrawals from internal government deposit accounts, and (iii) unidentified net internal financing.

Identified or “programmed” net internal borrowing flows and net withdrawals from internal government deposit accounts are projected as percentages of GDP, in the various categories. Borrowing, for example, includes direct borrowing from commercial banks and issues of bonds and bills. Deposits include the government’s account at the (central) Bank of the Lao PDR and deposit accounts at other institutions. For any borrowing or deposit category, the year-end projected stock is equal to the previous year’s projected stock plus the net borrowing, or minus the projected net withdrawal. Programmed flows are those specifically projected in the government’s policy program.

“Unidentified” net internal financing is more intricate, because it addresses several issues at once and so requires some explanation. For any projection year, after all aspects of the fiscal accounts mentioned thus far have been projected using the kinds of assumptions and the techniques indicated, there is no reason to suppose that the above- and below-the-line fiscal accounts would balance for that year—i.e., the projected difference between expenditure and revenue is likely to differ from the projected sum of net external and identified net internal financing. For any projection year, the above-the-line flows may exceed or fall short of the below-the-line flows. The fiscal accounts identity requires, however, that the above- and below-the-line flows be equal for any period.

To reconcile the above- and below-the-line accounts, the basic idea is that for any projection year, (i) if total above-the-line flows (A) exceed total below-the-line flows (B), unidentified internal borrowing is projected as the precise amount necessary to fill the gap; and (ii) if total below-the-line flows (B) exceed total above-the-line flows (A), unidentified internal deposits are projected as the precise amount necessary to absorb the negative gap. In the first case, the amount of the borrowing would have to be slightly larger than the gap $A - B$, because the unidentified borrowing would generate interest due, which would add to the financing gap; similarly, the amount of the unidentified deposit would not be precisely equal to the gap $B - A$, because interest would accrue on the unidentified deposit stock, which would add to the gap. If it is assumed that the unidentified borrowing is carried out in the middle of the year (i.e., 30 June), or that the deposit is made in the middle of the year, it can be shown that the unidentified amount to be borrowed or withdrawn would be $(A - B)/[1 - (r/2)]$, where r is the relevant interest rate (the borrowing rate if $A - B > 0$ and the deposit rate if $A - B < 0$).¹²

The unidentified financing flow ensures that the fiscal projections balance. No less important, the size of each year’s flow is an indicator of the feasibility of the projection assumptions. If the projected unidentified borrowing requirement is very large, then the projection assumptions, taken together, should be deemed financially unfeasible. What constitutes a very large unidentified borrowing requirement is a matter of judgment for the analyst. Broadly speaking, if no external or internal source can be identified that could realistically be expected to provide the financing—especially if the unidentified financing

¹² Suppose $A - B > 0$. If the unidentified amount borrowed is $(A - B)/[1 - (r/2)]$, a half year’s worth of unidentified interest would be $(r/2)(A - B)/[1 - (r/2)]$. With the unidentified borrowing added to the below-the-line total and the unidentified interest subtracted from the above-the-line total, the above- and below-the-line flows become

$$A + (r/2)(A - B)/[1 - (r/2)] = B + (A - B)/[1 - (r/2)].$$

Multiply both sides by $[1 - (r/2)]$ to show that they have been set equal.

is projected to rise over time as a percentage of GDP—the unidentified borrowing requirement should be taken to indicate that the projection assumptions are unfeasible and should be adjusted.¹³

2.12 Formulating an Overall Fiscal Strategy

To summarize, formulating an overall quantitative fiscal strategy consists of setting realistic assumptions for (i) context variables, (ii) revenue flows, (iii) non-interest current expenditure, (iv) expenditure and financing under the NSEDP7, and (v) other identified external and internal flows. These assumptions are set so that the expenditure flows address the nation’s development objectives and the revenue and financing flows suffice to cover the expenditure.

If on the first “run,” these assumptions taken together generate a fiscal projection that is not financially feasible, the assumptions must be adjusted. They must be adjusted until the fiscal projection becomes financially feasible and so could be considered as a feasible government “program”—or “strategy.” (Even then, the assumptions should be tested for sensitivity: if small variations in one or more of the assumption settings were to produce significant increases in the unidentified net borrowing requirement, then the fiscal strategy would have to be judged vulnerable or sensitive. It might then be sensible to consider “defensive” adjustments to the strategy.)

¹³ It would be possible to have the projection simply show the financing gaps, without accumulating a debt stock from the unidentified borrowing. But one good reason to accumulate such a debt stock is that it would generate a projected debt-service flow. If a financing gap is projected, then it would be only appropriate to show its consequences for the government’s debt-service flow.

3 Background: The Lao PDR's Recent Fiscal Performance

3.1 Introduction

To help “set the background” for the fiscal strategy, this chapter¹⁴ briefly describes the Lao People’s Democratic Republic’s (Lao PDR) fiscal performance over the past decade. Section 3.2 describes the overall macroeconomic context, including (i) the evolution of the economy’s key performance indicators, (ii) the growth rates of the different output sectors, and (iii) the export and import performance. Section 3.4 reviews the external debt evolution. Section 3.5 then reviews the evolution of the consolidated revenue, expenditure and financing flows.

The Lao PDR grew rapidly and fairly steadily over the first decade of the century. Inflation remained moderate. The growth was driven in large measure, however, by investment in and output of hydroelectric power and mining products. This was problematic in some measure, because these activities generated limited new employment. The Lao PDR experienced some Dutch disease pressure as a consequence: real effective exchange rates with trading partners appreciated, particularly toward the end of the decade. Meanwhile, although expenditure grew faster than revenue, the overall deficit and the internal borrowing requirement remained relatively low, so that the government’s financing requirement and internal debt evolved favorably.

3.2 The General Macroeconomic Context

Although the Lao PDR grew rapidly and steadily over the first decade of the century, its per capita real gross domestic product (GDP) is still among Asia’s lowest, at about \$1,030 in 2010. For 2003–2010, real GDP growth averaged 7.4% with a low of 6.2% in 2003 and a high of 8.7% in 2006. Population growth averaged about 1.7% over these years so that per capita real GDP grew at an annual average rate of about 5.5%. (Growth at this rate would double per capita real GDP in 13 years.)

National accounts sector output data are complete for 2003–2009 and can be used to help characterize the evolution of the economy’s productive structure in recent years (Table 3 and Figure 1). The Lao PDR has grown at high rates in recent years on account of substantial investment in mining and hydroelectric projects. Over these years, copper output rose from virtually 0 to 89,000 metric tons in 2008, and hydroelectric power output

¹⁴ See the discussion of the Lao PDR’s recent macroeconomic performance in World Bank (2011b, Chapter III).

Table 3 Lao PDR: Gross Domestic Product (GDP) by Productive Sector, 2003–2009 (% of GDP)

	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Agriculture	38.7	36.7	34.4	30.3	31.2	30.1	30.7
Agriculture and forestry	34.5	32.6	30.2	26.7	27.7	26.7	27.3
Crops and livestock	31.1	28.9	26.9	23.9	23.3	22.6	23.1
Forestry	3.5	3.7	3.3	2.8	4.4	4.0	4.1
Fishery	4.2	4.1	4.2	3.6	3.5	3.4	3.4
Industry	20.1	19.3	22.0	27.9	26.5	25.9	26.4
Mining and quarrying	2.6	2.0	5.8	12.6	10.5	9.9	10.2
Manufacturing	8.2	8.4	8.1	7.7	8.4	8.7	8.8
Food and beverage	2.7	2.4	2.3	2.2	2.5	2.4	2.5
Others	5.5	6.0	5.8	5.5	5.9	6.2	6.4
Electricity and water supply	4.4	4.3	3.5	3.0	2.6	2.5	2.6
Construction	4.9	4.6	4.6	4.5	5.0	4.7	4.8
Services	35.5	38.0	37.3	35.3	35.8	37.4	38.2
Wholesale and retail trade	17.1	20.5	19.1	17.8	18.6	18.9	19.3
Hotels and restaurants	0.8	0.7	0.7	0.7	0.7	0.7	0.7
Transportation, warehouse, post, and communication	4.9	4.6	5.0	4.5	4.3	4.6	4.7
Banking	2.0	1.9	1.5	2.8	2.8	3.2	3.3
Leasing and real estate	4.2	4.1	3.8	3.2	3.3	3.2	3.2
Ownership and dwelling	3.2	2.9	2.7	2.2	2.2	2.0	2.1
Others	1.1	1.2	1.1	1.0	1.1	1.1	1.1
Services to public, individuals, and institutions	1.7	1.5	1.9	1.7	1.7	1.6	1.7
Household employment	0.8	0.6	0.7	0.6	0.6	0.6	0.7
Government services	4.4	5.0	5.8	5.2	5.6	6.7	6.8
Brokerage (Indirect measure)	-0.4	-0.8	-1.2	-1.3	-1.6	-2.1	-2.1
GDP at factor cost	94.3	94.0	93.7	93.5	93.5	93.3	95.3
Import duties	5.7	6.0	6.3	6.5	6.5	6.7	4.7
GDP at current prices (Kf billion)	100.0	100.0	100.0	100.0	100.0	100.0	100.0

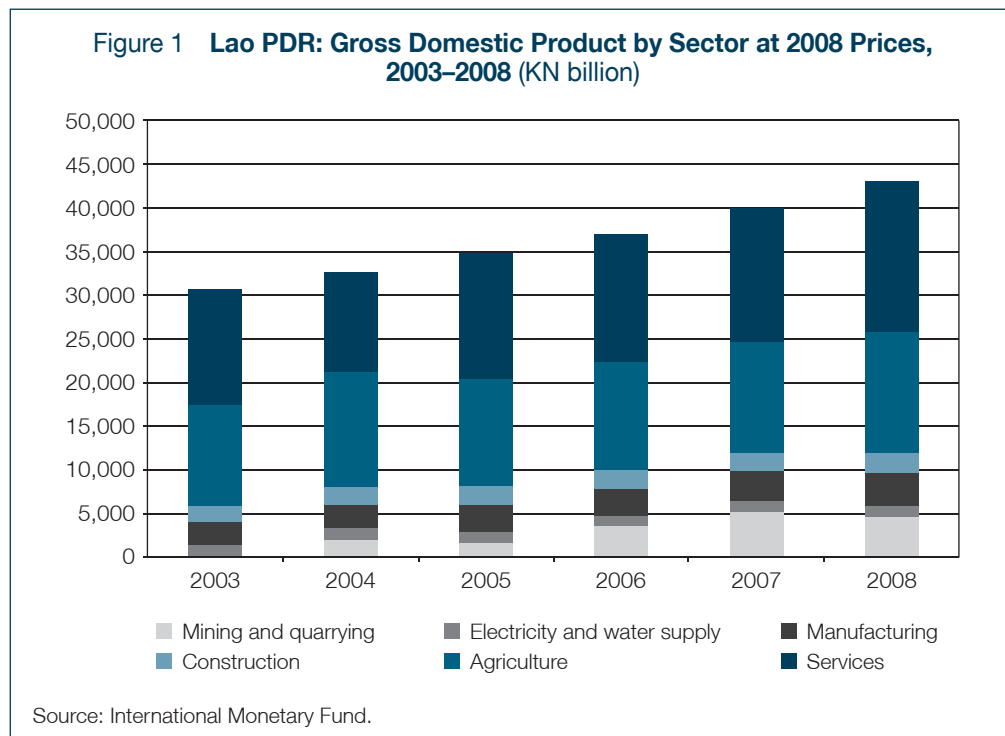
FY = fiscal year, Lao PDR = Lao People's Democratic Republic.
Source: LaIFS.xls workbook.

rose from just under 3,350 million to just over 3,700 million kilowatt-hours. Increased capital investment in mining and hydroelectric power, increased output in these sectors, and indirect effects of the increased investment and output on other sectors all contributed to the economy's relatively strong growth over these years.

Over the past decade, the Lao PDR's consumer price index has grown at moderate rates, between 3% and 5% per year. The growth rates of the GDP deflator have been generally higher but declined over the decade: the 2004 and 2006 rates were 10.4% and 14.6%, respectively, but the 2008 rate moderated to 5.9%, and estimates of more recent annual rates have been still lower.

Since 2006, the Lao PDR's currency, the kip, has been appreciating steadily in nominal terms vis-à-vis the US dollar. The December-average values of the exchange rate were KN9,708.3 in 2006, KN9,396.7 in 2007, KN8,520.1 in 2008, KN8,486.3 in 2009, and KN8,055.9 in 2010. It has also been appreciating vis-à-vis the currencies of the Lao PDR's main trading partners: the People's Republic of China, Thailand, and Viet Nam. While this has been generally favorable for price stability, the Lao PDR's competitiveness has been affected (see Section 3.3).

The overall balance-of-payments surplus was on the order of 1% of GDP in 2003–2005, but it reached 2.9% of GDP in 2006 and 4.8% of GDP in 2007. Merchandise exports rose from 17.4% of GDP in 2003 to 25.3% of GDP in 2006, largely because of the onset of substantial copper exports. Merchandise imports also rose from 24.1% of GDP in 2003 to 30.4% of GDP in 2006, largely because capital goods imports increased. The current account reached surplus in 2006 and 2007, but this includes external grants. If grants



were excluded, the Lao PDR would have been running a substantial current account deficit, to some degree because of substantial capital-goods imports financed by foreign direct investment (FDI): FDI inflows were at 1% of GDP in 2003–2005, but reached 5% of GDP in 2006 and 8% of GDP in 2007.

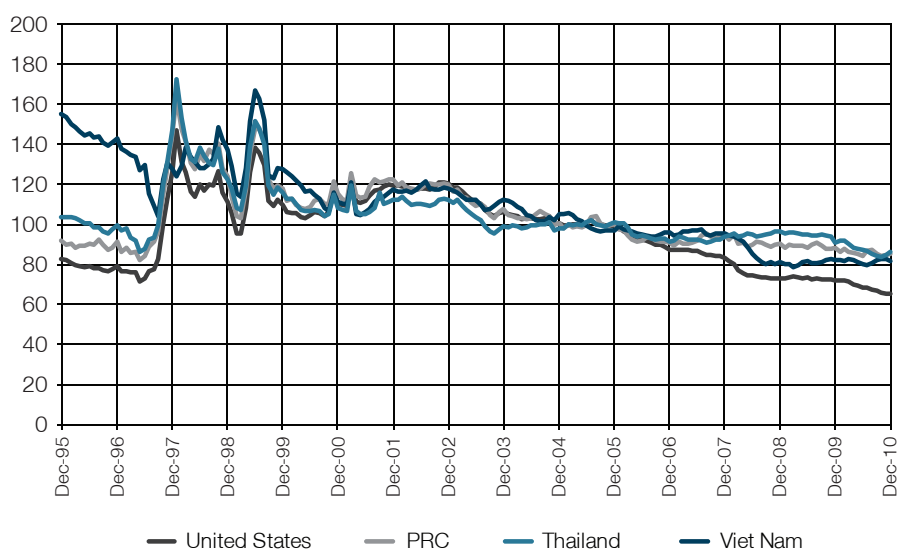
The 2006–2007 balance-of-payments inflows placed monetary policy under some pressure. The monetary base grew 37.2% in 2006 and 58.8% in 2007, compared with nominal GDP growth of 15.7% in 2006 and 10.9% in 2007. The contribution of the net increase in net international assets to the monetary base growth was 37.6% in 2006 and 71.7% in 2007, which meant that the Bank of the Lao PDR had to carry out a substantial sterilizing policy. In 2008, given the onset of the international financial crisis and reduced copper prices, the growth of the monetary base moderated to 20.2%, with net international reserves contributing just 9.2 percentage points and net internal assets contributing the difference.

3.3 Resource Pressures

The increase in hydropower and mining exports has helped sustain a relatively high real GDP growth rate, but they may also have contributed to Dutch disease conditions. The behavior of the real effective exchange rate in recent years provides evidence on this view (Figure 2).

In mid-2010, Lao PDR bilateral exchange rates with its main trading partners were significantly appreciated compared with their 2005 values: the kip had appreciated in

Figure 2 Lao PDR: Monthly Bilateral Real Effective Exchange Rates vis-à-vis Selected Trading Partners, 1995–2010 (+ = depreciation, 2005 = 100)



PRC = People's Republic of China, Lao PDR = People's Democratic Republic.
Source: International Monetary Fund.

real effective terms by about 15% vis-à-vis the People's Republic of China, 12% vis-à-vis Thailand, more than 30% vis-à-vis the United States, and 13% vis-à-vis Viet Nam. (The United States is not an important trading partner, but appreciation relative to the US dollar is indicative, since prices of many internationally traded goods are denominated in US dollars.)

The real effective appreciation is at least partly the consequence of the Lao PDR's trading partners' economic policies. The United States has allowed the dollar to slip in value against other currencies in recent years, and Viet Nam has kept its exchange rate favorable for exporters, particularly in recent years as its economy has dealt with a crisis. All the same, it is clear from the developments discussed in Section 3.2 that the Lao PDR resource (hydropower and mining) export flows have also contributed to competitiveness pressures.

As new hydropower projects come on line, the world economy's recovery from the 2008 crisis continues, and world mining prices strengthen, there is a possibility that the real effective exchange rate will continue appreciating. This appreciation could take place, as it has in recent years, through a combination of nominal appreciation and a somewhat higher inflation. Either way, real effective appreciation would discourage non-resource exports. One unfortunate consequence would be that the Lao PDR might find it difficult to generate export-based employment. (It is noteworthy that the Lao PDR has been unable to increase textile exports to nearly the same degree as neighboring Cambodia and Viet Nam.) It is likely also to encourage imports in addition to the capital-goods imports associated with resource production. Further, nominal appreciation and higher inflation would have a wide range of consequences for fiscal performance, as discussed below.

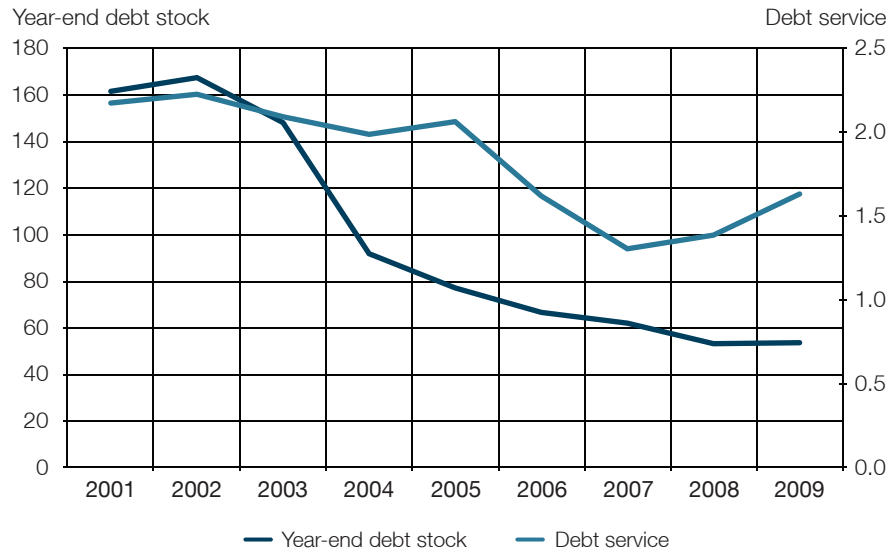
3.4 External Debt Evolution

Data covering the Lao PDR's public and publicly guaranteed external debt are available through 2009. In December 2000, public and publicly guaranteed external debt amounted to 161.7% of 2000 GDP, although this debt was and is almost entirely concessional. The Government of the Lao PDR was a candidate for participation in the highly indebted poorest countries (HIPC's) debt-reduction initiative, but the government declined to participate, possibly because the debt-service flow of just over 2% of GDP was low and there was a risk that participation would affect the nation's credit reputation (Figure 3). Since then, public and publicly guaranteed debt has declined as a percentage of GDP, partly because of the economy's high real growth rate and the currency appreciation vis-à-vis the US dollar: the 2009 debt stock amounted to 53.5% of GDP, with the debt-service flow amounting to just 1.6% of GDP. This debt is almost entirely owed to official creditors on concessional terms.

Over the past decade, the external debt stock declined, and appears now to be within the debt-stock benchmark that has been applied since the HIPC began in the mid-1990s. Figure 4 shows the external debt and debt-service flows represented as percentages of GDP in Figure 3.

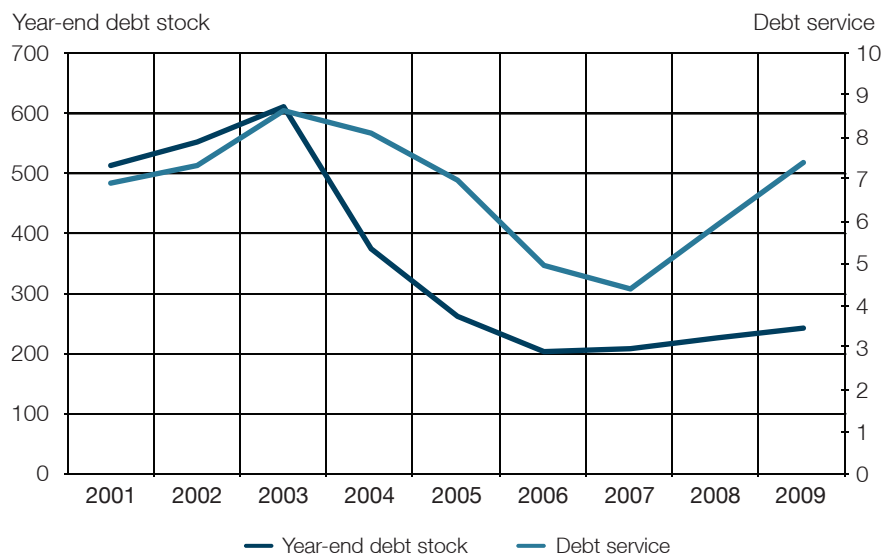
To understand the significance of the chart, note that the HIPC debt-stock benchmark calls the debt "distressed" if the present discounted value of the debt stock as a percentage

Figure 3 Lao PDR: Public and Publicly Guaranteed External Debt and Debt Service, 2001–2009 (% of GDP)



GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic.
Source: World Bank.

Figure 4 Lao PDR: Public and Publicly Guaranteed External Debt and Debt Service, 2001–2009 (% of exports of goods and non-factor services)



Lao PDR = Lao People's Democratic Republic.
Source: World Bank.

of exports lies above the 150%–200% range. Figure 4 shows the nominal debt stock. Because the Lao PDR's public and publicly guaranteed external debt is essentially all concessional, the present discounted value of the debt stock will be significantly less than the nominal debt stock.

A recent agreement to resume servicing of former Soviet Union debt could increase the service flow, and the ambitious financing needs associated with the Seventh National Socio-Economic Development Plan (NSED7) could eventually bring about some increase in the debt stock and the debt-service flow. The likelihood that the servicing flow would rise significantly as a percentage of GDP in the near term seems relatively low.¹⁵

3.5 Recent Fiscal Performance Indicators

Data for the general government (encompassing the central, provincial, and municipal authorities) covering fiscal years FY2001–FY2010 indicate that the authorities have generally maintained control of expenditure relative to GDP, while gradually increasing revenue and maintaining a conservative approach to financing (Table 4). The fiscal deficit (the government gross borrowing flow) declined from a high of 7.1% of GDP in FY2003 to an estimated 3.2% of GDP in FY2010. The conventional fiscal deficit (the government net borrowing flow) declined from a high of 5.4% of GDP in FY 2003 to an estimated 0.8% of GDP in FY 2010.

These broadly favorable deficit trends accompanied a declining trend in the government-savings: tax and nontax revenue less current expenditure fell from 7.3% of GDP in FY2001 to 3.0% of GDP in FY2010. Tax and nontax revenue, excluding external grants, declined from 15.1% of GDP in FY2001 to 12.2% of GDP in FY2003 and rose gradually to 15.5% of GDP in FY2009 and 15.0% of GDP in FY2010. Current expenditure rose from 7%–8% of GDP in the first few years of the decade to 12.8% of GDP in FY2009 and 12% of GDP in FY2010. Wages and other staff remuneration rose gradually from 2.9% of GDP in FY2001 to 6% of GDP in FY2009 and 5.2% of GDP in FY2010. Subsidies and transfers rose gradually from 1.7% of GDP in FY2001 to 2.7% of GDP in FY2010.

It is important to note the various components of the financing flows. External grants averaged 2.6% of GDP over the decade, ranging from 1.2% of GDP in FY2004 to 4.8% of GDP in FY2010. Net external borrowing, virtually all at concessional rates and terms, averaged 3.6% of GDP over the decade, ranging from 1.8% of GDP in FY2003 to 5.4% of GDP in FY2010. Net internal financing was less than zero for most years and well within 1% of GDP for the years at the outset of the decade when it was positive.

As noted above, overall tax and nontax revenue slipped as a percentage of GDP in the early years of the decade, but recovered gradually. It is helpful to examine the figures in

¹⁵ A recent debt-sustainability analysis by the World Bank and the IMF sets out a case that the Lao PDR faces some risk of debt distress in coming years, basically if the present discounted value of the debt stock were to increase faster than exports, in which case the debt-stock indicator would rise above the benchmark distress indicator. As long as the country's debt remains concessional, however, there is little likelihood that the debt-service flow would rise significantly.

Table 4 Lao PDR: General Government Financial Accounts, FY2001–FY2010 (% of GDP)

	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	estimate FY2010
Deficit—gross borrowing requirement (surplus)	6.6	5.3	7.1	4.0	5.9	4.5	4.4	2.8	4.7	3.2
Debt repayment	2.8	2.5	1.8	2.2	2.4	2.1	2.7	2.6	2.6	2.4
External debt repayment	1.7	1.2	1.0	0.9	1.1	0.9	0.9	0.9	1.1	1.0
Internal debt repayment	1.1	1.3	0.8	1.2	1.3	1.2	1.8	1.7	1.5	1.3
Deficit—net borrowing requirement (surplus)	3.8	2.9	5.4	1.8	3.5	2.4	1.7	0.2	2.0	0.8
Deficit (surplus) excl. resource receipts	5.6	5.4	6.8	3.0	4.7	4.3	4.5	2.6	5.0	2.8
Primary deficit	2.9	2.2	4.8	0.8	2.3	1.6	1.2	-0.6	1.5	-0.2
Primary deficit excl. resource receipts	4.7	4.7	6.2	2.0	3.6	3.5	4.0	1.8	4.5	1.8
Interest due	0.9	0.6	0.6	1.0	1.1	0.8	0.5	0.8	0.6	1.0
Expenditure (central and provincial, incl. net lending) (+)	21.1	17.9	19.1	14.6	17.2	17.8	17.7	19.0	19.6	22.1
Current expenditure (+)	7.8	7.4	7.5	7.7	9.0	9.6	9.4	11.1	12.8	12.0
Non-interest current expenditure (+)	6.9	6.7	6.9	6.8	7.9	8.8	8.9	10.3	12.2	11.0
Wages and other staff remuneration	2.9	3.2	3.3	3.8	4.0	3.9	4.1	4.7	6.0	5.2
Wages and salaries	1.6	2.3	2.4	2.9	3.1	3.0	3.1	3.5	4.4	3.9
Benefits	1.3	0.9	0.9	0.8	0.9	0.9	1.0	1.2	1.6	1.4
Goods and services	2.3	1.9	1.9	1.7	2.1	1.7	1.8	2.0	2.2	2.2
Subsidies and transfers	1.7	1.6	1.7	1.3	1.6	1.7	2.0	2.1	2.4	2.7
Other current non-interest expenditure	0.0	0.0	0.0	0.0	0.2	1.5	1.0	1.5	1.6	0.8
Interest due (+)	0.9	0.6	0.6	1.0	1.1	0.8	0.5	0.8	0.6	1.0
External interest due (+)	0.8	0.5	0.6	0.8	1.0	0.7	0.4	0.7	0.4	0.8
Internal interest due (+)	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.2	0.1	0.2
Capital expenditure and on-lending (+)	13.3	10.5	11.6	6.9	8.2	8.2	8.4	7.9	6.8	10.1
Government capital expenditure	14.4	11.3	12.4	7.3	8.7	8.6	8.7	8.2	7.2	10.3
Externally financed government capital expenditure	8.4	5.5	7.4	4.8	7.0	7.4	7.3	6.7	4.7	7.1
Project/NSEDP7	8.4	5.5	7.4	4.8	7.0	6.4	6.0	5.4	4.7	4.4
Non-project/non-NSEDP7	0.0	0.0	0.0	0.0	0.0	1.0	1.3	1.3	0.0	2.7
Internally financed government capital expenditure	6.1	5.9	5.0	2.5	1.7	1.2	1.4	1.6	2.4	3.2
Project/NSEDP7										
Non-project/non-NSEDP7										
Net on-lending	-1.1	-0.8	-0.8	-0.5	-0.5	-0.4	-0.3	-0.3	-0.3	-0.2
Revenue (including external grants) (-)	-18.4	-16.0	-14.5	-13.4	-14.4	-15.9	-16.8	-18.0	-18.0	-19.8
Revenue excluding grants (central and provincial) (-)	-15.1	-14.6	-12.3	-12.2	-12.6	-12.9	-14.0	-15.2	-15.5	-15.0
Tax revenue	-11.4	-11.1	-9.5	-9.6	-10.0	-10.6	-12.1	-12.7	-13.4	-12.9
Tax revenue from resources	-1.8	-2.5	-1.4	-1.2	-1.2	-1.5	-2.6	-2.3	-2.6	-1.8
Other tax revenue	-9.6	-8.6	-8.1	-8.4	-8.8	-9.1	-9.5	-10.5	-10.8	-11.1
Nontax revenue	-2.5	-2.6	-2.0	-2.0	-2.1	-1.8	-1.6	-1.8	-1.8	-1.5
Nontax revenue from resources	0.0	0.0	0.0	0.0	0.0	-0.4	-0.2	-0.2	-0.4	-0.2
Other nontax revenue	-2.5	-2.6	-2.0	-2.0	-2.1	-1.4	-1.4	-1.6	-1.3	-1.3
Capital revenue	-1.2	-0.9	-0.8	-0.5	-0.5	-0.4	-0.3	-0.6	-0.4	-0.5
External grants (-)	-3.3	-1.4	-2.2	-1.2	-1.8	-3.1	-2.8	-2.9	-2.5	-4.8
Project grants	-3.3	-0.7	-1.6	-0.6	-1.5	-1.9	-1.3	-1.4	-1.4	-1.6
Non-project grants	0.0	0.0	0.0	0.0	0.0	-1.0	-1.3	-1.3	-0.2	-2.8
Program grants	0.0	-0.7	-0.7	-0.6	-0.3	-0.1	-0.2	-0.2	-0.9	-0.4

continued on next page

Table 4 *continued*

	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	estimate FY2010
Statistical discrepancy	1.1	1.0	0.8	0.6	0.6	0.5	0.7	-0.8	0.4	-1.4
Financing of the deficit (application of the surplus)	3.8	2.9	5.4	1.8	3.5	2.4	1.7	0.2	2.0	0.8
Net external financing—net loans (excl. grants) (+)	3.3	3.8	5.4	3.8	4.5	4.1	3.8	3.1	2.2	1.8
Gross disbursement of loans (+)	5.0	5.1	6.4	4.8	5.5	5.0	4.7	4.0	3.3	2.8
Project/NSEDP7 loan disbursements	5.0	4.8	5.8	4.2	5.5	4.5	4.7	4.0	3.3	2.8
Non-NSEDP7 loan disbursements	0.0	0.3	0.6	0.5	0.0	0.5	0.0	0.0	0.0	0.0
Repayment of principal (-)	-1.7	-1.2	-1.0	-0.9	-1.1	-0.9	-0.9	-0.9	-1.1	-1.0
Net internal financing (+)	0.5	-1.0	0.0	-2.0	-1.0	-1.6	-2.1	-2.9	-0.2	-1.0
Programmed net internal borrowing	0.5	-1.0	0.0	-2.0	-1.0	-1.6	-2.1	-2.9	-0.2	-1.0
Treasury bill issues	0.0	0.4	0.2	0.3	0.1	0.1	0.4	0.1	0.2	0.4
Treasury bill repayment	-0.3	-0.1	-0.2	-0.3	0.0	-0.2	-0.3	-0.6	-0.5	-0.1
Other programmed net internal borrowing	0.8	-1.3	-0.1	-2.0	-1.1	-1.5	-2.2	-2.4	0.1	-1.2
Unprogrammed net internal financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unprogrammed net internal borrowing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unprogrammed net increase in deposits	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Year-end external debt stock (+)									76.6	69.6
<i>Approximate interest rate (\$)*</i>										1.1%
Year-end net internal debt stock (+)	1.3	1.2	1.5	1.7	2.7	2.3	1.7	2.6	3.9	3.4
<i>Approximate interest rate*</i>			3.4%	11.3%	8.8%	4.2%	5.0%	7.7%	3.9%	5.6%
Memorandum										
Tax and nontax revenue less current expenditure	7.3	7.2	4.8	4.5	3.6	3.3	4.6	4.0	2.8	3.0
External grants plus gross disbursements of loans	8.4	6.5	8.6	5.9	7.3	8.0	7.5	6.9	5.8	7.7
External debt service (interest plus repayment of principal)	2.5	1.8	1.5	1.7	2.0	1.6	1.3	1.6	1.5	1.8
Nominal GDP (KN billion)	14,370.0	16,975.0	20,385.7	24,185.4	27,998.7	34,226.5	39,081.1	44,211.9	46,473.8	54,100.0
Nominal GDP (\$ million)	\$1,666.5	\$1,732.3	\$1,907.7	\$2,280.7	\$2,635.1	\$3,280.0	\$4,032.2	\$4,915.3	\$5,444.9	\$6,364.7
Real GDP (KN billion, base 2009/10)	30,542.5	32,473.8	34,541.0	36,899.2	39,418.4	42,654.8	45,751.5	49,120.1	52,841.9	56,805.0
<i>Growth rate</i>		6.3%	6.4%	6.8%	6.8%	8.2%	7.3%	7.4%	7.6%	7.5%
Implicit GDP deflator (2009/10 = 100)	47.0	52.3	59.0	65.5	71.0	80.2	85.4	90.0	87.9	95.2
<i>Growth rate</i>		11.1%	12.9%	11.1%	8.4%	13.0%	6.5%	5.4%	-2.3%	8.3%
Exchange rate (annual average, KN/\$)	8,623.0	9,799.4	10,685.9	10,604.4	10,625.4	10,434.9	9,692.2	8,994.8	8,535.2	8,500.0
Exchange rate (year-end, KN/\$)	9,459.3	10,790.8	10,672.0	10,916.3	10,890.5	10,083.7	9,625.9	8,637.3	8,505.7	8,638.6
Population (million)	4.9	5.1	5.2	5.3	5.5	5.6	5.7	5.9	6.0	6.2

FY = fiscal year, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic, NSEDP = Seventh National Socio-Economic Development Plan.

* Approximate interest rates are calculated by dividing interest due by the average of the year-end and the previous year-end debt stocks.

Source: Ministry of Finance, Lao PDR.

more detail. Tax revenue evolved in the same pattern as overall tax and nontax revenue, declining from 11.4% of GDP in FY2001 to 9.5% of GDP in 2003, and rising to 13.4% of GDP in FY2009 and 12.9% of GDP in FY2010. Non-resource tax revenue—i.e., tax revenue excluding taxes on profits of hydroelectric and mining enterprises—declined from 9.6% of GDP in FY2001 to 8.1% of GDP in FY2003 and rose to 11.1% of GDP in FY2010. Nontax revenue, including dividends on the government's shares in resource enterprises and royalties, averaged 2.6% of GDP over the decade, varying up and down within a percentage point of GDP around this value.

Per capita real tax revenue followed a similar declining pattern in the first years of the decade followed by recovery. Per capita non-resource tax revenue at FY2010 prices was \$66.80 in FY2001. After slipping to \$60 in FY2003, it rose gradually over the remainder of the decade to \$114.50 in FY2010, an annual average growth rate of 6.2% in FY2001–FY2010). (Estimated per capita real GDP at FY2010 prices was \$693 in FY2001 and \$1031.40 in FY2010.)

External grants remained a significant source of funding for government expenditure over the decade, averaging 2.6% of GDP in FY2001–FY2010. Of this average, project grants came to 1.5%, program grants to 0.4%, and other grants to 0.7% of GDP. Total external grants ranged between 1.2% of GDP in FY2004 and 3.3% of GDP in FY2001, while project grants ranged between 0.6% of GDP in FY2004 and 3.3% of GDP in FY2001. In FY2001, project grants made up almost all of external grants, but in FY2010 they amounted to only about one-third. It is important to remember that the evolution of external grants as a percentage of GDP was influenced by the relatively slow growth in aid provision by the international donor community compared with the economy's relatively high real growth rate. Total real external grants at FY2010 prices and the exchange rate rose from just under \$23 million in FY2001 to about \$50 million in FY2010, although project grants declined from just under \$23 million in FY2001 to just under \$17 million in FY2010.

Current non-interest expenditure rose over the second half of the decade as a percentage of GDP from an average of 6.8% in FY2001–FY2004 to 12.2% in FY2009 and 11% in FY2010. Wages and other staff remuneration rose from 2.9% of GDP in FY2001 to 5.2% of GDP in 2010. Expenditure on goods and services remained fairly steady at about 2.0% of GDP. Subsidies and transfers edged up from 1.7% to 2.7% of GDP, while other current non-interest expenditure rose from near 0% to about 1% of GDP. Per capita real non-interest expenditure on wages and other staff remuneration at FY2010 prices rose from just under \$48 in FY2001 to \$120 in FY2009 and \$114 in FY2010, while per capita real expenditure on wages and other staff remuneration rose from \$20 in FY2001 to \$58.70 in FY2009 and \$54 in FY2010. Per capita real non-interest expenditure grew at an annual average rate of 10.1% over the decade, while per capita expenditure on wages and other staff remuneration grew at an annual average rate of 11.7%.

Interest expenditure remained low and steady as a percentage of GDP over the decade. External interest averaged 0.7% of GDP, reflecting that most of the Lao PDR's external credit was concessional. Internal interest averaged just 0.1% percent of GDP, reflecting both the country's high real GDP growth rate and the government's low net internal borrowing requirement.

Capital expenditure averaged 9.7% of GDP over the decade, ranging between 14.4% of GDP in FY2001 and 7.2% of GDP in FY2009. Government capital expenditure declined from about \$483.6 million in FY2001 at FY2010 prices and the exchange rate to about \$243.5 million in FY2004, but thereafter grew steadily and reached \$657 million in FY2010 when it amounted to about 10.3% of GDP. Over the decade, real per capita capital expenditure rose from just under \$100 at FY2010 prices and the exchange rate in 2001 to \$106.50 in 2010.

Aspects of the sector allocation of expenditure can be estimated from available data. Data for expenditure by sector are available from the official Gazette of the Ministry of Finance for FY2007–FY2010. Unfortunately, the totals for these data are now inconsistent with the overall expenditure data. (In the LaFS.xls workbook, these have been reconciled by adjusting the Gazette data. This has been done at the level of the economic data. That is, sector Gazette data for “wages and other staff remuneration” have been multiplied by “fudge factors” for each of the 4 years, so that they sum to total “wages and other staff remuneration.”)

Table 5 shows these data in a summary format that sets them out as percentages of overall government expenditure. Subnational governments have together accounted for about 40% of total expenditure. In the sector listing, communications, transport, and post in which road construction and maintenance figure heavily, have all amounted to 15%–20% of total expenditure. Current expenditure has amounted to about 70% and capital expenditure to about 20% of total government expenditure. Education has accounted for just under 10% of total expenditure, while health has accounted for about 5%. Sectors not specifically listed, including security expenditure, have totaled about 30% of total expenditure.

Although the Lao PDR's government is unitary, provincial government budgets are set out separately from those of the central government. Even at the central government level, a distinction is made between the budgets of the central administration and of the general administration. At both the central and provincial budget levels, non-interest current expenditure is classified by sector. As a consequence, non-interest current expenditure is classified first into central, general administration, and provincial categories; then, under the central and provincial classifications, into various sector categories; and, finally, under each sector category, into the economic classifications indicated above.

These expenditure figures should be considered indicative rather than precise, not least because of the reconciliation adjustment of the sector figures. The assignment of expenditure by sector is institutional, not functional. This means, for example, that expenditure by the armed forces on health would be counted as defense, not health expenditure. (Budgets are, by their nature, institutional since they indicate allocations to institutional entities. It is important to bear in mind, however, that they may therefore provide a distorted indication of the actual functional expenditure allocation.)

3.6 Concluding Observations

Although the Lao PDR has maintained its overall fiscal accounts relatively conservatively, it is important to remember that these favorable results have come about in large part through the economy's rapid growth. If growth were to slow, fiscal management could require the authorities to make more difficult policy choices. In addition, analysis of the past decade's fiscal data reveals trends that need to be taken into account in formulating a medium-term fiscal strategy, particularly as the Lao PDR commences the relatively ambitious NSEDP7. The difference between tax and nontax revenue and current

Table 5 Lao PDR: General Government Expenditure, FY2007–FY2010

	FY2007	FY2008	FY2009	FY2010
Total government expenditure				
<i>Percent of GDP</i>	18.0	19.4	19.9	22.3
Percent of total expenditure	100.0	100.0	100.0	100.0
Current expenditure	71.1	71.7	69.4	66.9
Capital expenditure	28.9	28.3	30.6	33.1
Central government	30.2	33.1	35.9	40.8
Central government current expenditure	16.7	18.8	20.1	24.8
Central government capital expenditure	13.5	14.3	15.9	16.0
Subnational government	44.1	38.8	30.2	38.3
Subnational government current expenditure	32.7	28.5	21.1	29.2
Subnational government capital expenditure	11.4	10.2	9.1	9.2
General administration	25.6	28.2	33.8	20.9
General administration current expenditure	21.7	24.4	28.2	13.0
General administration capital expenditure	4.0	3.8	5.7	7.9
Agriculture and forestry	6.9	6.4	4.0	4.3
Central government current expenditure	0.2	0.3	0.3	0.3
Central government capital expenditure	1.8	2.0	1.5	1.5
Subnational government current expenditure	3.2	2.8	1.2	1.6
Subnational government capital expenditure	1.6	1.4	1.0	0.8
Energy and mines	4.5	4.1	1.2	0.7
Central government current expenditure	0.0	0.0	0.0	0.0
Central government capital expenditure	1.3	1.4	0.5	0.3
Subnational government current expenditure	1.9	1.6	0.2	0.3
Subnational government capital expenditure	1.3	1.1	0.4	0.2
Communication, transport, post	19.8	18.5	14.2	19.2
Central government current expenditure	0.2	0.2	0.4	0.3
Central government capital expenditure	5.1	5.5	3.8	5.4
Subnational government current expenditure	9.9	8.7	7.2	9.5
Subnational government capital expenditure	4.6	4.1	2.8	4.0
Industry and commerce	0.5	0.5	0.5	0.3
Central government current expenditure	0.3	0.3	0.3	0.2
Central government capital expenditure	0.1	0.1	0.1	0.1
Subnational government current expenditure	0.0	0.0	0.0	0.0
Subnational government capital expenditure	0.0	0.0	0.0	0.0
Education	8.5	7.8	7.4	10.3
Central government current expenditure	0.8	0.8	1.1	1.2
Central government capital expenditure	1.2	1.3	1.8	1.6
Subnational government current expenditure	5.5	4.7	3.3	6.4
Subnational government capital expenditure	1.0	0.9	1.3	1.1

continued on next page

Table 5 *continued*

	FY2007	FY2008	FY2009	FY2010
Health	2.8	2.7	5.8	5.2
Central government current expenditure	0.4	0.4	0.4	0.5
Central government capital expenditure	0.7	0.8	0.9	0.4
Subnational government current expenditure	1.1	1.0	3.7	4.0
Subnational government capital expenditure	0.7	0.6	0.7	0.3
Information and culture	3.0	2.6	1.5	2.0
Central government current expenditure	0.2	0.2	0.2	0.2
Central government capital expenditure	0.1	0.1	0.1	0.2
Subnational government current expenditure	2.6	2.2	1.1	1.5
Subnational government capital expenditure	0.1	0.1	0.1	0.1
Labour and social welfare	6.2	6.2	2.6	2.4
Central government current expenditure	1.3	1.4	1.4	1.4
Central government capital expenditure	0.0	0.0	0.2	0.0
Subnational government current expenditure	4.7	4.8	0.8	1.0
Subnational government capital expenditure	0.0	0.0	0.2	0.0
Other sectors	22.3	23.1	29.1	34.7
Central government current expenditure	13.3	15.2	15.9	20.6
Central government capital expenditure	3.2	3.1	6.9	6.6
Subnational government current expenditure	3.7	2.7	3.7	4.9
Subnational government capital expenditure	2.1	2.0	2.6	2.6
Gross domestic product (KN billion)	39,081.1	44,211.9	46,473.8	54,100.0

FY = fiscal year, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic.
Source: Lao PDR Ministry of Finance, Official Gazette, with reconciliation adjustments by the author.

expenditure, the government savings flow, has been declining. This has been basically because current expenditure has been rising faster than revenue.

Chapters 4 and 5 describe the formulation and results of an illustrative fiscal strategy. Its underlying programming assumptions—set out in the Excel projection workbook in a numbered listing—are based partly on statements by government officials and partly on the writer's best guesses. In either case, since the assumptions have never been reviewed together as a whole, they must not be regarded as representing government policy. They are intended as broadly plausible, possible bases for a medium-term policy program. The overall purpose of the projection set out here is to demonstrate the kind of policy program it would be possible to set out as a fiscal strategy.

4 A Projection Exercise for the Lao PDR's Government Accounts

The fiscal accounts projection procedure has five main components: (i) projections of non-fiscal context variables, (ii) projections of tax and nontax revenue flows, (iii) projections of the of the Seventh National Socio-Economic Development Plan (NSDEP) expenditure and financing flows; iv) recurrent expenditure flows, and (v) non-NSDEP7 external and internal financing flows. This chapter describes the projection assumptions and their application based on the methodologies described in Chapter 2.

The fiscal strategy projection period begins with fiscal year FY2011 (October 2010–September 2011). The medium-term fiscal strategy period, coinciding with the NSDEP7, is FY2011–FY2015. The longer-term strategy period, coinciding with the NSDEP7 and a putative NSDEP8, is FY2011–FY2020.

This chapter describes the assumptions and estimates from which the fiscal strategy projection is constructed. In general, such a projection would be constructed from projections of (i) revenue, (ii) non-interest current expenditure, (iii) capital expenditure, (iv) external financing, and (v) internal financing. The capital-expenditure and external financing projections would be based on a projection of the NSDEP7. Section 4.1 discusses projections of the main context variables, including the external economic variables, the price level, the exchange rate, sector output, imports, and exports. Section 4.2 describes the main characteristics of the NSDEP7 as they relate to the fiscal strategy. Section 4.3 discusses the tax and nontax revenue projections. Section 4.4 focuses on projections of the revenues deriving from hydroelectric and mining activities. Section 4.5 discusses projections of overall non-interest current expenditure. Section 4.6 considers projections of sector (i.e., ministry-by-ministry) non-interest current expenditure. Section 4.7 discusses projections of external debt stocks and flows. Section 4.8 discusses identified internal financing flows. Section 4.9 discusses the unidentified internal financing flows that are calculated residually to close the projections.

4.1 Projections of Context Variables for the Fiscal Accounts

External economic variables relevant to the Lao People's Democratic Republic (Lao PDR) economy include various United States (US) dollar export and import prices and the growth rates of relevant export volumes. Relevant export prices include copper, gold, electrical power, rice, wood, and manufactures. Relevant import prices include petroleum and capital goods. While public and publicly guaranteed external debt is essentially all concessional, there is a growing stock of nongovernment debt. Some of this debt is at

floating interest rates based on the London Interbank Offered Rate (LIBOR), so a LIBOR projection is relevant for the economy as a whole.

Over the projection period, world US dollar inflation is assumed to run at an annual 2% rate. All export and import prices are assumed to grow at this rate. Trade volume is assumed to grow at an annual 5% rate.¹⁶ LIBOR is projected to average 1% in FY2011, 2% in FY2012, and 3% over all remaining projection years.

For the base-case projection, the Lao PDR price level is assumed to rise at an annual 5% rate over the entire projection period.¹⁷ This inflation rate seems reasonable in view of the Lao PDR's recent price-level history. Nevertheless, should recent increases in world food prices continue, the Lao PDR inflation rate could turn out higher than the base-case projection.

The exchange rate is assumed to remain stable indefinitely at an annual average rate of K_N8,000 per \$1. With the assumed annual inflation differential of 3% (= 5% – 2%), this assumption implies continuing real effective exchange-rate appreciation. The Lao PDR exchange rate has undergone sustained real effective appreciation in recent years, and many observers believe this will continue for some time because of the heavy investment in resource-export activities and the likelihood that these will produce increasing foreign exchange inflows.¹⁸ The assumption that the nominal exchange rate vis-à-vis the US dollar will remain unchanged reflects this view.

Sector output projections figure in the fiscal projections. The government has indicated that it anticipates that the agriculture sector comprising agriculture, forestry, and fishing will grow only 3.5% per year in real terms over the NSEDP7 period, while industry comprising mining, manufacturing, electricity and water supply, and construction will grow 15%. If the overall real gross domestic product (GDP) growth rate is 8%, this would imply that the services sectors would grow 6.8% in the aggregate, since services would be the residual sector. These are the sector growth rates assumed for the illustrative fiscal strategy.

For analysis of the tariff policy, the Lao PDR's merchandise imports fall into the categories of (i) fuels, (ii) vehicles, (iii) construction materials, (iv) electrical appliances, (v) other consumer products, and (vi) re-exports (Table 6). Because of the assumed real effective exchange-rate appreciation and enhanced capital formation under the NSEDP7, the import volume is projected to grow at a rate exceeding that of real GDP. Each import line would grow at an 11.7% annual rate in US dollars, the result of volume growth of 9.5% (1.5% higher than the real GDP growth rate) and US dollar price growth of 2%.

¹⁶ The assumptions that the projected international inflation rates will be steady over time and that relative exports and imports prices will remain unchanged are intended to be simplifying. This is helpful to ensure that, however the fiscal projections turn out, their explanation would not lie in the assumed behavior of the international prices. It may be useful to try out different international price projections, such as those of the World Bank or the International Monetary Fund, to see whether these would make a significant difference for the results.

¹⁷ Analysis of the feasibility of the inflation assumption would require a monetary projection analysis, including a projection of the (central) Bank of the Lao PDR's accounts.

¹⁸ Without a full balance-of-payments and monetary projection, it is difficult to analyze the feasibility of the assumption that the nominal exchange rate vis-à-vis the US dollar can continue unchanged. It may be useful to try out different exchange-rate assumptions—for example, to have the nominal exchange rate depreciate according to the assumed inflation differential after, for example, FY2013, to determine whether this would significantly affect the results.

Table 6 Lao PDR: Projected Merchandise Imports, FY2010–FY2015 (\$ million)

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Merchandise imports	1,147.7	1,245.0	1,390.5	1,553.1	1,734.6	1,937.4
Fuels	394.3	440.4	491.9	549.4	613.6	685.4
Vehicles	205.3	229.3	256.1	286.0	319.4	356.8
Construction materials	76.0	84.9	94.8	105.9	118.3	132.1
Electrical appliances	95.6	106.7	119.2	133.1	148.7	166.1
Other consumer products	207.6	231.9	259.0	289.3	323.1	360.9
Re-exports	135.9	151.8	169.5	189.3	211.5	236.2

FY = fiscal year, Lao PDR = Lao People's Democratic Republic.

Source: LaFS.xls workbook.

The only class of merchandise exports on which any significant government revenue flow is directly based is that of forest products and wild animals. The relevant revenue line is assumed to remain unchanged as a percentage of GDP (Section 4.3).

4.2 The Seventh National Socio-Economic Development Plan

The overall sector expenditure and financing flows of the NSEDP7 are central to the fiscal strategy conception. Under the base scenario projection exercise, total expenditure under the NSEDP7 would amount to roughly \$15 billion in FY2011–FY2015, about 32% of projected GDP.

The government has assumed that the investment programs under the NSEDP7 would enable annual real GDP growth of about 8% based on an assumed incremental capital–output ratio (ICOR) of 4. If real GDP grew at 8%, the investment program would average about 32% of GDP over 5 years. It is important to note, however, that not all of the expenditure under the NSEDP7 would be gross fixed capital formation. In addition, some gross fixed capital formation would take place outside the NSEDP7 and outside the government accounts. The projection exercise's base scenario assumes that only 65% of the NSEDP7 expenditure program, amounting to \$9.75 billion or 20.8% of GDP, would be gross fixed capital formation. It also assumes that non-NSEDP7 gross fixed capital formation would amount to 11.2% of GDP. With an assumed population growth of 2.4%, the 8% annual growth would bring about annual per capita real growth of about 5.5%. This would produce an increase in per capita real GDP totaling just over 30% over the NSEDP7 period.

The financing of the overall NSEDP7 expenditure program would be a combination of (i) foreign direct investment inflows (\$8.15 billion, 17.4% of GDP, or 54.3% of the total), (ii) non-fiscal internal financial resources (\$1.8 billion, 3.9% of GDP, or 12% of the total), (iii) official development assistance (ODA) in grants and loans (\$3.9 billion, 8.3% of GDP, or 26% of the total), and (iv) non-ODA fiscal resources (\$1.16 billion, 2.5% of GDP, or 7.7% of the total).

The foreign direct investment resources would be focused on relatively large transport, mining, and hydroelectric projects, structured to earn substantial rates of return for all investors, including the Government of the Lao PDR. Private financing from internal sources would also be applied in projects of this kind (Section 4.2). Multilateral grants and loans would be more likely to be applied to poverty-reducing and social sector projects (Section 4.2). Non-ODA fiscal financing flows would be applied in the full range of projects, including government participation in the transport, mining, and hydroelectric projects as well as the government's counterpart financing in ODA-funded projects.

Table 7 shows the overall structure of the NSEDP7 and its financing. External grants and loans taken together would average about \$825 million a year over the NSEDP7 period (totaling \$3.9 billion, 8.3% of GDP, or 26% of total NSEDP7 expenditure). The main multilateral donors would presumably be the Asian Development Bank and the World Bank under the International Development Association.

ODA flows would account for just over one-fourth of the total financing required for the NSEDP7—i.e., just over 8% of GDP or about \$825 million per annum.

The projections of expenditure and financing flows are carried out not only for the total NSEDP7 but also for the various sectors. Roughly reflecting the allocation priorities that the government has indicated for expenditure on economic, infrastructure, and social sectors (30%, 40%, and 30%, respectively), the exercise's programmed sector allocations are 10% for agriculture and forestry, 5% for industry and commerce, 35% for energy and mining, 20% for transportation and public works (mostly roads), 23% for education, and 7% for health. (The NSEDP7 comprises more than 7,000 projects, but the largest 20 of these together would account for more than 90% of total expenditure under the NSEDP7.)

4.3 Revenue Projections

To discuss the revenue projections, it is helpful to review the relevant base-year revenue data.¹⁹ The Lao PDR's total revenue flow, comprising tax, nontax, and capital revenues, but excluding external grants, averaged 15.2% of GDP in FY2008–FY2010. Of this total, tax revenue accounted for approximately 13% of GDP. Alongside this economic classification into tax, nontax, and capital revenues, the government revenues may also be classified institutionally, according to the government agencies that collect them. The Ministry of Finance's Tax Department collected revenues amounting to 7.4% of GDP, approximately half the total revenue flow. The Customs Department collected revenues totaling 4.6% of GDP, just under one-third of the total revenue flow. The State Assets Department, the Land Authority, and the State Enterprise Department received the remainder, totaling 3.3% of GDP.

Within the Tax Department component, the most important tax lines are (i) profit tax (2.5% of GDP), (ii) turnover tax/value-added tax (3%–4% of GDP), and (iii) domestic excise taxes (1.4% of GDP). Within the Customs Department component, the most important subcomponents are (i) import-based turnover tax/value-added tax (just over 1% of GDP), (ii) import-based excises (1.7% of GDP), and (iii) import duties (1.5% of GDP).

¹⁹ World Bank (2011b) discusses tax reforms that could be considered over the coming years.

Table 7 Lao PDR: Projected Financing of the Seventh National Socio-Economic Development Plan, FY2010–FY2015

	Average FY2011–FY2015	Sum FY2011–FY2015
National Socio-Economic Development Plan 7 (NSED7) (KN billion)		
Total government expenditure on the NSED7	8,642.9	8,642.9
Gross fixed capital formation under the NSED7	16,670.3	16,670.3
<i>% of GDP</i>	20.8	20.8
Total gross fixed capital formation (% of GDP)	32.0	32.0
Gross fixed capital formation under the NSED7	20.8	20.8
Gross fixed capital formation outside the NSED7	11.2	11.2
Incremental capital–output ratio	4.0	
Warranted real GDP growth rate (%)	8.0	8.0
\$ million		
Total expenditure under the NSED7	3,187.3	15,936.7
Non-fiscal financing	2,113.2	10,566.0
Non-fiscal financing from external sources	382.5	1,912.4
Non-fiscal financing from internal sources	1,730.7	8,653.6
External grants and loans	828.7	4,143.5
External grants	478.1	2,390.5
Multilateral	191.2	956.2
Asian Development Bank	76.5	382.5
World Bank	57.4	286.9
Other multilateral	57.4	286.9
Bilateral	286.9	1,434.3
External loans	350.6	1,753.0
Multilateral	182.3	911.6
Asian Development Bank	109.4	546.9
World Bank	72.9	364.6
Other multilateral	0.0	0.0
Bilateral	168.3	841.5
Non-ODA fiscal financing (residual)	245.4	1,227.1
% of GDP		
Total expenditure under NSED7	32.0	32.0
Non-fiscal financing	21.2	21.2
Non-fiscal financing from external sources	3.8	3.8
Non-fiscal financing from internal sources	17.4	17.4
External grants and loans	8.3	8.3
External grants	4.8	4.8
Multilateral	1.9	1.9
Asian Development Bank	0.8	0.8

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Table 7 *continued*

	Average FY2011–FY2015	Sum FY2011–FY2015
World Bank	0.6	0.6
Other multilateral	0.6	0.6
Bilateral	2.9	2.9
External loans	3.5	3.5
Multilateral	1.8	1.8
Asian Development Bank	1.1	1.1
World Bank	0.7	0.7
Other multilateral	0.0	0.0
Bilateral	0.4	0.4
Non-ODA fiscal financing (residual)	0.7	0.7
Nominal GDP (KN billion)	80,145.8	40,0728.9
Nominal GDP (\$ million)	9,960.4	49,802.2
Real GDP (KN billion, base 2009/10)	71,982.5	359,912.4
Implicit GDP deflator (2009/10 = 100)	110.5	
Exchange rate (annual average, KN/\$)	8,062.6	
Exchange rate (year-end, KN/\$)	8,000.0	
Population (million)	6.6	

FY = fiscal year, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic, ODA = official development assistance.

Source: LaFS.xls workbook.

For FY2011, the Ministry of Finance anticipates some increase in government revenue flows as a percentage of GDP, particularly revenue flows to the Tax Department. The basic reason is that the multiple-rate turnover tax is to be phased out and replaced with a value-added tax (VAT) at a uniform 10% rate. The VAT coverage is to be somewhat wider than the turnover tax. The government's programmed revenue figures are based on the assumptions that real GDP would grow at 8% and that the GDP deflator would grow at 5%, while the exchange rate would end the fiscal year at KN8,000 per \$1. Total tax, nontax, and capital revenue, excluding external grants, would rise from 15% to 16.9% of GDP. Of the total increase of 1.9 percentage points, 1.7% would come through a net increase in tax revenue: turnover-tax receipts would decline by 2.7 percentage points, while VAT receipts would increase by (and to) 4% of GDP. A certain amount of turnover tax, amounting to about 0.5% of GDP, would continue to be collected during FY2011, and turnover-tax receipts would not cease completely until FY2012. The remaining 0.2 percentage points of the overall increase during FY2011 would derive from increased administration fees received by the Tax Department.

The Ministry of Finance has not yet disseminated detailed revenue projections for years after FY2012. It has indicated, however, that it hopes to bring about increases of 0.2–0.3 percentage points per year from the FY2010 base over FY2012–FY2015. As

noted above, the turnover tax would be phased out completely in FY2012, which, in itself, would reduce total tax revenue by 0.5 percentage points of GDP.

The revenue projection is carried out as follows: First, the revenue flow for FY2011, the short-term projection, is taken to be as programmed by the Ministry of Finance. For FY2012–FY2015, for most components of the revenue flow, each year's revenue is taken to be the same percentage of GDP as the previous year's. There are several exceptions to this general rule:

Customs Department revenues, which include the quantitatively important revenue flows of (i) import-based VAT, (ii) import-based excises, and (iii) import duties, are projected for each year by assuming that their US dollar values are the same percentages of US dollar merchandise imports as they were the previous year, except for particular lines discussed below. Import duties may diminish somewhat in FY2012 as the Lao PDR reclassifies imports to harmonize with classifications of the Association of Southeast Asian Nations.

VAT revenues received by the Tax Department are projected for each year by multiplying nominal GDP by (i) the 10% VAT rate, which is assumed to remain in place through FY2015; and (ii) the collection efficiency, defined as the ratio of the tax collection to the theoretical maximum collection.²⁰ The collection efficiency is assumed to rise gradually from its implicit value of 26.3% in FY2011 to 28% in FY2015. Over the period, VAT revenue received by the Tax Department would rise from 2.6% to 2.8% of GDP.

For certain revenue lines, the percentage of GDP received in FY2015 is assumed to be different from the percentage in FY2011. For these lines, the percentage of GDP to be collected in each year is assumed to rise gradually from FY2011 through FY2015. Income-tax receipts are assumed to rise as a percentage of GDP from 0.8% to 0.9%; excise-tax receipts received by the Tax Department are assumed to rise as a percentage of GDP from 1.2% to 1.3% of GDP; and natural-resources tax are assumed to rise as a percentage of GDP from 0.7% to 0.9% of GDP.

With these projection assumptions, the revenue-projection results are as presented in Table 8. Overall tax, nontax, and capital revenue would rise over FY2010–FY2015 from 15% to 16.8% of GDP. It would dip to 16.3% of GDP in FY2012 from 16.9% in FY2011, partly on account of the reclassification of imports for tariffs and the conclusion of the turnover tax, before it would rise again. Tax revenue would rise over the 5 years from 12.9% to 14.5% of GDP.

Table 9 shows the same revenue-flow projections classified according to the government agency that collects them.

²⁰ In the case of a 10% VAT collected, in principle, on GDP, the theoretical maximum revenue flow would be 10% of GDP. By definition, the collection efficiency would be the ratio of (i) the percentage of GDP collected to (ii) the theoretical maximum revenue flow.

Table 8 Lao PDR: Projected Government–Revenue Flows, FY2010–FY2015
(% of GDP)

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Tax revenue	12.9	14.6	14.1	14.2	14.4	14.5
1. Profit tax	1.8	2.4	2.4	2.5	2.5	2.6
Profit tax received by the Tax Department	1.8	2.4	2.4	2.4	2.5	2.5
from hydroelectric projects	0.1	0.1	0.1	0.2	0.2	0.2
from mining projects	0.9	0.9	0.9	0.9	1.0	1.0
from other companies	0.9	1.4	1.4	1.4	1.4	1.4
Profit tax received by the Customs Department	0.0	0.0	0.0	0.0	0.0	0.0
2. Income tax	0.9	0.8	0.8	0.8	0.9	0.9
3. Land tax	0.1	0.1	0.1	0.1	0.1	0.1
4. Business licences	0.0	0.0	0.0	0.0	0.0	0.0
5. Minimum tax	0.1	0.0	0.0	0.0	0.0	0.0
6. Turnover	3.1	0.5	0.0	0.0	0.0	0.0
Turnover tax received by the Tax Department	2.0	0.5	0.0	0.0	0.0	0.0
Turnover tax received by the Customs Department	1.1	0.0	0.0	0.0	0.0	0.0
7. Value-added tax (VAT)	0.0	4.0	3.9	4.0	4.0	4.0
VAT received by the Tax Department	0.0	2.6	2.7	2.7	2.8	2.8
VAT received by the Customs Department	0.0	1.3	1.3	1.2	1.2	1.2
8. Excise taxes	3.3	3.0	2.9	2.9	2.9	2.9
Excise tax received by the Tax Department	1.6	1.2	1.2	1.3	1.3	1.3
Excise tax received by the Customs Department	1.8	1.8	1.7	1.6	1.6	1.6
9. Import duties	1.4	1.6	1.6	1.5	1.5	1.5
10. Export duties	0.1	0.1	0.1	0.1	0.1	0.1
11. Registration fees	0.1	0.1	0.1	0.1	0.1	0.1
Registration fees received by the Tax Department	0.0	0.0	0.0	0.0	0.0	0.0
Registration fees received by the State Assets Department	0.0	0.1	0.1	0.1	0.1	0.1
Registration fees received from state enterprises	0.0	0.0	0.0	0.0	0.0	0.0
Registration fees received by the Land Authority	0.0	0.0	0.0	0.0	0.0	0.0
12. Other fees	1.1	1.0	1.0	1.0	1.0	1.0
Other fees received by the Tax Department	0.6	0.8	0.8	0.8	0.8	0.8
Other fees received by the Customs Department	0.4	0.1	0.1	0.1	0.1	0.1
Other fees received by the State Assets Department	0.0	0.0	0.0	0.0	0.0	0.0
Other fees received by the Land Authority	0.0	0.0	0.0	0.0	0.0	0.0
13. Natural resources taxes	0.5	0.7	0.7	0.8	0.8	0.9
14. Timber royalties	0.2	0.1	0.1	0.1	0.1	0.1
15. Hydropower royalties	0.2	0.3	0.3	0.4	0.4	0.4
Nontax revenues						
1. Leasing income	0.1	0.1	0.1	0.1	0.1	0.1
2. Concessions	0.1	0.0	0.0	0.0	0.0	0.0
3. Fines	0.0	0.0	0.0	0.0	0.0	0.0
4. Administration fees	0.1	0.3	0.3	0.3	0.3	0.3
5. Pay for depreciation/dividends (state enterprises)	0.7	0.7	0.7	0.7	0.7	0.7
6. Interest (state enterprises)	0.2	0.2	0.2	0.2	0.2	0.2
7. Overflight	0.4	0.4	0.4	0.4	0.4	0.4
8. Forest preservation funds	0.0	0.0	0.0	0.0	0.0	0.0
9. Other	0.0	0.0	0.0	0.0	0.0	0.0
10. Irrigation fees	0.0	0.0	0.0	0.0	0.0	0.0
Total tax and nontax revenues	14.5	16.3	15.8	15.9	16.1	16.2
Total revenue with capital revenues	15.0	16.9	16.3	16.4	16.6	16.8

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Table 8 *continued*

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Nominal GDP (KN billion)	54,100.0	61,349.4	69,570.2	78,892.6	89,464.2	101,452.4
<i>Growth rate</i>		13.4%	13.4%	13.4%	13.4%	13.4%
Nominal GDP (\$ million)	6,364.7	7,379.8	8,696.3	9,861.6	11,183.0	12,681.6
Real GDP (KN billion, base 2009/10)	56,805.0	61,349.4	66,257.4	71,557.9	77,282.6	83,465.2
<i>Growth rate</i>		8.0%	8.0%	8.0%	8.0%	8.0%
Implicit GDP deflator (2009/10 = 100)	95.2	100.0	105.0	110.3	115.8	121.6
<i>Growth rate</i>		5.0%	5.0%	5.0%	5.0%	5.0%
Exchange rate (annual average, KN/\$)	8,500.0	8,313.2	8,000.0	8,000.0	8,000.0	8,000.0
<i>Growth rate</i>		-2.2%	-3.8%	0.0%	0.0%	0.0%
Exchange rate (year-end, KN/\$)	8,638.6	8,000.0	8,000.0	8,000.0	8,000.0	8,000.0
Population (million)	6.2	6.3	6.4	6.6	6.7	6.9

FY = fiscal year, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic.
Source: LaFS.xls workbook.

Table 9 **Lao PDR: Projected Government–Revenue Flows by Collecting Agency, FY2010–FY2015 (% of GDP)**

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Total tax, nontax, and capital revenues	15.0	16.9	16.3	16.4	16.6	16.8
Tax revenue	12.9	14.6	14.1	14.2	14.4	14.5
Nontax revenue	1.5	1.7	1.7	1.7	1.7	1.7
Capital revenue	0.5	0.5	0.5	0.5	0.5	0.5
Received by the Customs Department	4.8	5.0	4.7	4.7	4.6	4.5
Tax revenue	4.8	5.0	4.7	4.6	4.6	4.5
Nontax revenue	0.0	0.0	0.0	0.0	0.0	0.0
Capital revenue	0.0	0.0	0.0	0.0	0.0	0.0
Received by the Tax Department	7.1	8.7	8.3	8.4	8.6	8.7
Tax revenue	7.0	8.4	8.0	8.1	8.3	8.4
Nontax revenue	0.1	0.3	0.3	0.3	0.3	0.3
Capital revenue	0.0	0.0	0.0	0.0	0.0	0.0
Received by the State Assets Department	1.5	1.9	2.0	2.0	2.1	2.2
Tax revenue	0.9	1.1	1.2	1.3	1.3	1.4
Nontax revenue	0.5	0.5	0.5	0.5	0.5	0.5
Capital revenue	0.0	0.3	0.3	0.3	0.3	0.3
Received from State Enterprises	1.1	1.1	1.1	1.1	1.1	1.1
Tax revenue	0.0	0.0	0.0	0.0	0.0	0.0
Nontax revenue	0.9	0.9	0.9	0.9	0.9	0.9
Capital revenue	0.2	0.2	0.2	0.2	0.2	0.2
Received by the Land Authority	0.5	0.2	0.2	0.2	0.2	0.2
Tax revenue	0.2	0.2	0.2	0.2	0.2	0.2
Nontax revenue	0.0	0.0	0.0	0.0	0.0	0.0
Capital revenue	0.3	0.0	0.0	0.0	0.0	0.0

FY = fiscal year, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic.
Source: LaFS.xls workbook.

4.4 Resource Revenue Flows (Profit Tax, Royalties, and Dividends from Hydroelectric and Mining Enterprises)

Since the early 1990s, the government has been fostering development of the Lao PDR's hydroelectric potential.²¹ Its basic approach has been to engage foreign independent power producers in partnerships. The government has discussed a large number of possible projects and concluded agreements of various kinds with several different foreign entities. Three major hydroelectric projects are now in full operation and several others are under development.²² The government has not yet developed a general sector policy framework.²³ The hydroelectric power sector is, nevertheless, a significant revenue source, and thus should be taken into detailed account in any fiscal strategy exercise.

Hydroelectric enterprises potentially generate revenue flows through four channels: (i) profit tax; (ii) indirect taxes, including turnover tax now being phased out, VAT, and excises; (iii) royalties; and (iv) dividends on government shares in the enterprises channeled through the state holding companies that hold the shares in the generating enterprises.²⁴ At present, revenue from hydroelectric projects is limited because the profits and indirect taxes are subject to tax holidays negotiated with the foreign partners. These holidays will expire within a number of years, however, so revenue should rise accordingly in future years. The government receives royalty payments, computed in practice on the enterprises' gross revenues. It does not now receive substantial earnings from dividends, however, because its participation in the projects is financed, and the financing is effectively serviced from the dividend flows.

The Lao PDR mining sector comprises small-, medium-, and large-scale enterprises (Larsen 2010, p. 7). Small-scale enterprises are largely informal and basically outside the tax-collection net, essentially because the cost of taxing them would exceed probable collections. Medium-scale enterprises, including some partnerships involving non-residents, are more likely to be taxable but are now still outside the collection net (Larsen 2010, p. 7). It is the larger-scale enterprises that produce significant revenue. Two large-scale copper and gold enterprises, the Lane Xang Minerals Limited and the Phou Bia Minerals partnerships, have been in operation since the mid-1990s. They account for more than 90% of all mining output.

The mining sector has produced significant revenue in the categories of profit tax, royalties, and dividends. Although this is likely to continue, expansion of the mining sector is likely to be delayed, because many companies put off exploration and expansion plans in 2008 on account of the onset of the world financial crisis. As a consequence, mining revenue can be expected to grow relatively slowly in coming years and to pick up only later when new ventures come into full operation. The World Bank's Lao PDR Development Report technical background paper on mining emphasizes that although the Lao PDR's potential

²¹ See MacGeorge, Stewart, and Vostroknutova (2010).

²² The major hydroelectric projects now in operation are Theun Hinboun, Nam Theun II, and Houay Ho.

²³ The policy framework under which the sector operates is therefore set by the Promotion of the Foreign Investment Law and the general tax law, particularly the 2005 Tax Law.

²⁴ In effect, a fifth revenue channel would be the discount applying to power purchases by the government and government-owned enterprises, but these do not appear directly in the fiscal accounts.

is believed to be substantial, it has a relatively small base of “*confirmed, measured*” deposits (Larsen 2010, p. 13). Moreover, estimates of exploitable deposits by different analysts vary considerably. This suggests that projections of revenue from mining for policy programming should be conservative.

In any case, any changes in the performance of the enterprises that generate the hydroelectric and mining revenues can also be expected to have substantial consequences for the determinants of other fiscal flows, including GDP and the exchange rate. Thus, for example, while an increase in the copper price can be expected to affect mining company earnings and so can be expected to affect profit-tax, royalty, and dividend flows, it would also affect the growth rates of GDP, the exchange rate, and the price level. It is possible that the changes in these variables would affect other revenue flows at least as much as the profit-tax, royalty, and dividend flows.²⁵

As the World Bank’s Lao PDR Development Report notes, a key distinction between the hydroelectric and mining sectors is that with proper technical management, the hydroelectric sector is renewable and less subject to earnings volatility because of the prevalence of fixed-price export contracts and other relevant features of the sector. Mining, in contrast, is exhaustible and its output prices are volatile (Larsen 2010, p. 36).

4.5 Overall Government Non-Interest Current Expenditure

At the aggregate level, non-interest current expenditure is assumed to grow over the NSEDP7 period according to the following assumptions given in Table 10:²⁶

The overall payroll, the number of persons on staff, would grow at a 5% annual rate over the NSEDP7 period. Broadly speaking, this payroll growth, which would be higher than the population growth rate, would enable the government to provide enhanced services in such areas as education, health, and public security. The nominal wage rate would grow at an annual average 11% rate over the period, which would be about the same as the growth rate of per capita nominal GDP. (The “promotion effect” is assumed to be zero.) Benefits and allowances are assumed to grow at the same rate as wages and salaries. Expenditure on goods and services is assumed to grow at a rate equal to the combined growth rates of the payroll and the general price level (10.3%).²⁷

On these assumptions, overall non-interest current expenditure would rise gradually from 11% of GDP in FY2010 to 11.7% of GDP in FY2015. Wages and other staff remuneration would rise from 5.2% of GDP in FY2011 to 6.0% of GDP in FY2015. Expenditure on goods and services would decline from 2.2% to 1.9% of GDP. Subsidies and transfers

²⁵ This suggests that the fiscal strategy projection ideally should be carried out in a projection exercise encompassing the full macroeconomy, including the national-production, national-expenditure, external, and monetary accounts along with the fiscal accounts.

²⁶ See World Bank (2011b, Chapter VII) for a discussion of current expenditure and the plans of the ministerial-level Public Administration and Civil Service Authority (PACSA) to reform it over the coming years.

²⁷ The current expenditure projections discussed here are not consistent with those of the initial version of the Medium-Term Expenditure Framework (MTEF) developed under Technical Assistance 7077.

Table 10 Lao PDR: Assumptions for the Percentage Growth Rates of Government Current Non-Interest Expenditure, FY2010–FY2015

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
<i>Annual percentage growth rate</i>						
Current non-interest expenditure	5.2	14.6	14.6	14.7	14.8	14.9
Staff remuneration, goods, and services (government consumption)	5.9	14.7	14.8	14.8	14.9	15.0
Wages and other staff remuneration	2.1	16.6	16.6	16.6	16.6	16.6
Wages and salaries	2.3	16.6	16.6	16.6	16.6	16.6
Payroll (number of persons on staff)		5.0	5.0	5.0	5.0	5.0
Nominal wage rate		11.0	11.0	11.0	11.0	11.0
“Promotion” effect		0.0	0.0	0.0	0.0	0.0
Compensation and allowances	1.4	16.6	16.6	16.6	16.6	16.6
Goods and services	16.1	10.3	10.3	10.3	10.3	10.3
Subsidies and transfers	32.6	16.6	16.4	16.4	16.4	16.5
Other current non-interest expenditure	-39.7	7.3	7.3	7.3	7.3	7.3
Subsidies and transfers	32.6	16.6	16.4	16.4	16.4	16.5
Other allowances	20.2	16.6	16.6	16.6	16.6	16.6
Intervention and subsidies	45.4	16.6	16.6	16.6	16.6	16.6
Contributions to international organizations	18.8	15.8	7.3	7.3	7.3	7.3
Other current non-interest expenditure	-39.7	7.3	7.3	7.3	7.3	7.3

FY = fiscal year, Lao PDR = Lao People's Democratic Republic.
Source: LaFS.xls workbook.

would rise from 2.7% of GDP in FY2011 to 3.1% of GDP in FY2015. Other current non-interest expenditure would decline slightly, from 0.8% of GDP in FY2011 to 0.6% of GDP in FY2015.

4.6 Sector Non-Interest Current Expenditure Flows

The growth rates of government sector expenditure are core aspects of the fiscal strategy, because they are based on what policy makers intend for the government to accomplish and because their relative rates express and embody expenditure priorities. Unfortunately, multi-annual expenditure programming is fairly intricate in practice because (i) it involves different government levels, different government sectors, and different economic classifications of expenditure; and (ii) the decisions on the different expenditure categories are interdependent.

Since the purpose of the present exercise is principally illustrative, the programming assumptions given for sector expenditure are simplified. The expenditure sectors for which programming assumptions are given are (i) agriculture and forestry; (ii) energy and mines; (iii) communications, transport, and post; (iv) industry and commerce; (v) education; (vi) health; (vii) information and culture; (viii) labor and social welfare; and (ix) all other sectors. Projected expenditure in the last category is calculated residually

from the overall projections and from the first eight sectors. In each sector, expenditure is projected in the economic categories described in Section 2.9. The basic economic expenditure categories are non-interest current and capital. Within the category of current expenditure, the basic expenditure subcategories are (i) wages, salaries, and benefits; (ii) compensation and allowances; (iii) goods and services; (iv) transfers and subsidies; and (v) other current non-interest expenditure. Capital expenditure in each sector is drawn from the NSEDP7 projection (Section 4.2).

Wages, salaries, and benefits grow through the growth of the sector payrolls, the wage rate, and the promotion factor. The wage rate is assumed to be the same in all sectors, and the promotion factor is assumed to be zero in all sectors. For most of the specifically indicated expenditure sectors, the payroll growth rates are assumed to grow at the same annual rates as overall wages, salaries, and benefits. (The exceptions are the education and health sectors discussed below.) In each sector, the compensation and allowances accounts are assumed to grow at the same rate as the sector's wages, salaries, and benefits. For all sectors, the goods and services accounts are assumed to grow at a rate equal to the combined growth rates of the sector payroll and the overall price level (Section 2.9). In each sector, the compensation and allowances accounts are assumed to grow at the same rate as the growth rate of the overall compensation and allowances account. The capital account projections are drawn from the NSEDP7 projections.

The Government of the Lao PDR has indicated that it intends to prioritize education and health expenditure during the NSEDP7. In FY2010, the education sector accounted for 10.3% and the health sector for 5.2% of total expenditure. "Prioritization" would imply increases in the proportion of total expenditure going to these sectors. To increase the proportion of total expenditure going to these sectors, expenditure allocations to these sectors would have to increase more rapidly than allocations to other sectors. To bring about prioritization, the growth rates of the payroll in each of the two sectors are set at twice the growth rates of the overall payroll growth rate. This will produce an increase in the relative proportion of expenditure going to these sectors and a reduction in the relative proportion of expenditure going to other sectors. The overall results for the FY2011–FY2015 are given in Table 11.

Total government expenditure would rise as a percentage of GDP over the projection period, from 22.1% of GDP in FY2010 to 22.9% of GDP in FY2015. This would help accommodate the increases called for in education and health expenditure, along with the substantial increase in capital expenditure that would come about through the NSEDP7. Education expenditure, both current and capital, would rise from 10.3% of total expenditure in 2010 to 12.8% in 2015, while health expenditure would rise from 5.2% of total expenditure to 5.8%.

4.7 External Financing Flows and External Debt

External financing flows encompass external debt and external grant flows. External debt flows encompass disbursements, repayment, and interest.

Table 11 **General Government Expenditure by Sector, FY2010–FY2015**
(% of total expenditure)

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
% of total expenditure	100.0	100.0	100.0	100.0	100.0	100.0
Current expenditure	66.9	84.1	83.9	83.6	83.3	83.0
Capital expenditure	33.1	15.9	16.1	16.4	16.7	17.0
Central government	40.8	40.5	40.6	40.8	41.0	41.2
Central government current expenditure	24.8	24.7	24.5	24.4	24.3	24.3
Central government capital expenditure	16.0	15.9	16.1	16.4	16.7	17.0
Subnational government	38.3	46.9	46.9	46.8	46.6	46.5
Subnational government current expenditure	29.2	46.9	46.9	46.8	46.6	46.5
Subnational government capital expenditure	9.2	0.0	0.0	0.0	0.0	0.0
General administration	20.9	12.5	12.5	12.4	12.4	12.3
General administration current expenditure	13.0	12.5	12.5	12.4	12.4	12.3
General administration capital expenditure	7.9	0.0	0.0	0.0	0.0	0.0
Agriculture and forestry	4.3	6.4	6.5	6.5	6.5	6.5
Central government current expenditure	0.3	0.3	0.3	0.3	0.3	0.3
Central government capital expenditure	1.5	1.4	1.5	1.5	1.5	1.5
Subnational government current expenditure	1.6	4.7	4.7	4.7	4.7	4.6
Subnational government capital expenditure	0.8	0.0	0.0	0.0	0.0	0.0
Energy and mines	0.7	2.6	2.6	2.6	2.6	2.6
Central government current expenditure	0.0	0.0	0.0	0.0	0.0	0.0
Central government capital expenditure	0.3	0.3	0.3	0.3	0.3	0.3
Subnational government current expenditure	0.3	2.3	2.3	2.3	2.3	2.3
Subnational government capital expenditure	0.2	0.0	0.0	0.0	0.0	0.0
Communication, transport, post	19.2	22.1	22.1	22.2	22.2	22.3
Central government current expenditure	0.3	0.3	0.3	0.3	0.3	0.3
Central government capital expenditure	5.4	5.3	5.4	5.5	5.6	5.7
Subnational government current expenditure	9.5	16.4	16.4	16.4	16.3	16.3
Subnational government capital expenditure	4.0	0.0	0.0	0.0	0.0	0.0
Industry and commerce	0.3	9.7	9.7	9.6	9.6	9.6
Central government current expenditure	0.2	0.2	0.2	0.2	0.2	0.2
Central government capital expenditure	0.1	0.1	0.1	0.1	0.1	0.1
Subnational government current expenditure	0.0	9.4	9.4	9.4	9.3	9.3
Subnational government capital expenditure	0.0	0.0	0.0	0.0	0.0	0.0
Education	10.3	12.2	12.4	12.5	12.7	12.8
Central government current expenditure	1.2	1.2	1.3	1.3	1.4	1.5
Central government capital expenditure	1.6	1.6	1.7	1.8	2.0	2.1
Subnational government current expenditure	6.4	9.4	9.4	9.4	9.3	9.3
Subnational government capital expenditure	1.1	0.0	0.0	0.0	0.0	0.0

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Table 11 *continued*

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Health	5.2	5.7	5.7	5.7	5.8	5.8
Central government current expenditure	0.5	0.5	0.5	0.6	0.6	0.6
Central government capital expenditure	0.4	0.4	0.5	0.5	0.5	0.6
Subnational government current expenditure	4.0	4.7	4.7	4.7	4.7	4.6
Subnational government capital expenditure	0.3	0.0	0.0	0.0	0.0	0.0
Information and culture	2.0	0.4	0.4	0.4	0.4	0.4
Central government current expenditure	0.2	0.2	0.2	0.2	0.2	0.2
Central government capital expenditure	0.2	0.2	0.2	0.2	0.2	0.2
Subnational government current expenditure	1.5	0.0	0.0	0.0	0.0	0.0
Subnational government capital expenditure	0.1	0.0	0.0	0.0	0.0	0.0
Labour and social welfare	2.4	1.5	1.5	1.5	1.6	1.6
Central government current expenditure	1.4	1.4	1.5	1.5	1.5	1.6
Central government capital expenditure	0.0	0.0	0.0	0.0	0.0	0.0
Subnational government current expenditure	1.0	0.0	0.0	0.0	0.0	0.0
Subnational government capital expenditure	0.0	0.0	0.0	0.0	0.0	0.0
Other sectors	34.7	26.9	26.6	26.4	26.3	26.1
Central government current expenditure	20.6	20.5	20.1	19.9	19.7	19.5
Central government capital expenditure	6.6	6.5	6.5	6.6	6.6	6.6
Subnational government current expenditure	4.9	0.0	0.0	0.0	0.0	0.0
Subnational government capital expenditure	2.6	0.0	0.0	0.0	0.0	0.0
Gross domestic product (KN billion)	54,100.0	61,349.4	69,570.2	78,892.6	89,464.2	101,452.4

FY = fiscal year, Lao PDR = Lao People's Democratic Republic.

Source: Lao PDR Ministry of Finance, Official Gazette, with reconciliation adjustments by the author.

Projected external disbursements may be classified in two broad categories: (i) disbursements to the government under the NSEDP7 and (ii) disbursements to the government outside the NSEDP7. Disbursements of external debt under the NSEDP7 are projected with the NSEDP7 projections (see Section 4.2). For the NSEDP7 period, it is assumed that there would be no disbursements of external debt outside the NSEDP7.

External debt repayment flows for each external creditor are assumed to run at the same rate in US dollars as they did in their historical data period. External debt interest flows are projected using the methodology described in Section 2.10.

Projected external grants may be classified in the categories of (i) grants to the government under the NSEDP7 and (ii) grants to the government outside the NSEDP7. External grants under the NSEDP7 are projected with the NSEDP7 projections (Section 4.2). As with external loans, it is assumed that no external grants outside the NSEDP7 would be made over the NSEDP7 period.

4.8 Identified (Programmed) Internal Financing Flows

Over the NSEDP7 period, annual gross borrowing in the form of Treasury bills is projected to amount to 0.4% of GDP, while annual repayment is projected to amount to 0.1% of GDP. These figures are roughly in line with historical experience. Net borrowing from banks, net borrowing in bonds, and other net debt repayment are assumed to amount to 0% of GDP. The interest rate on programmed internal debt is assumed to run at 5% per annum, equivalent to the projected inflation rate.

The government's unitary deposit account at the central bank of the Lao PDR is projected to grow each year at a rate equal to the growth rate of nominal GDP. Interest earned on the deposit balance is projected to average 1% per annum.

4.9 Unidentified Internal Financing Flows

The FY2009 base-year data and the various projection assumptions discussed in Sections 4.1–4.8 lead to a set of fiscal projections for which unidentified financing would be negative, at 1.2% of GDP. This suggests that the overall projection would be financially feasible. Chapter 5 describes the overall projection, which could serve as the quantitative basis for a fiscal strategy.

5 An Illustrative Fiscal Strategy for the Lao PDR

5.1 The Overall Fiscal Strategy

Table 12 shows the projected fiscal accounts following from the fiscal year FY2010 base-year data and the various projection assumptions given in Chapter 4. The basic macroeconomic variables over the Seventh National Socio-Economic Development Plan (NSED7) would include annual real gross domestic product (GDP) growth of 8%, inflation of 5%, and population growth of about 1.7%. The exchange rate would not vary in nominal terms, even though the inflation differential would be about 3% each year.

The overall deficit according to the government gross-borrowing-requirement concept would average 2.5% of GDP over the NSED7 period. The overall deficit according to the net-borrowing-requirement concept would average 1.3% of GDP over the same period. (External and internal debt repayment would average about 1.2% of GDP over the same period.) The primary deficit, excluding all debt-service payments, would average 0.5% of GDP.

Current non-interest expenditure would average 11.4% of GDP over the period, rising from about 11% of GDP in FY2010 to about 11.7% of GDP in FY2015. Government capital expenditure would average 10.8% of GDP over the period. Tax and nontax revenue, excluding external grants, would average 16.6% of GDP over the period, rising from about 15% of GDP in FY2010 to about 16.8% of GDP in FY2015.

The flow of external grants would be significantly higher over the NSED7 period, averaging 4.8% of GDP compared with an average of about 3.2% over FY2007–FY2010. Gross external loan disbursements would run somewhat higher over the NSED7 period, averaging 3.5% of GDP compared with about 3.2% over FY2007–FY2010.

Government savings, tax and nontax revenue less current expenditure, would average about 4.3% of GDP over the NSED7 period, and thus would constitute a significant financing source for NSED7 expenditure. External grants and gross loan disbursements would average 8.3% of GDP, while external debt service would average just 1.4% of GDP.

Perhaps the most important point to note about the fiscal strategy projection is that the external and internal debt stocks would continue to decline over time. The year-end external debt stock would decline from just under 70% of GDP at the end of FY2010 to

Table 12 Lao PDR: Projected Fiscal Accounts for the Base Scenario, FY2010–FY2015
(% of GDP)

<i>Initial projection year: FY2011</i>	<i>estimate</i> FY2010	<i>projection</i> FY2011	<i>projection</i> FY2012	<i>projection</i> FY2013	<i>projection</i> FY2014	<i>projection</i> FY2015	Average FY2011– FY2015
Deficit—gross borrowing requirement (surplus)	3.2	2.5	2.9	2.6	2.4	2.2	2.5
Debt repayment	2.4	1.5	1.3	1.2	1.0	0.9	1.2
External debt repayment	1.0	1.3	1.1	1.0	0.9	0.8	1.0
Internal debt repayment	1.3	0.1	0.1	0.1	0.1	0.1	0.1
Deficit—net borrowing requirement (surplus)	0.8	1.0	1.6	1.5	1.4	1.3	1.3
Deficit (surplus) excl. resource receipts	2.8	3.2	3.9	3.8	3.8	3.8	3.7
Primary deficit	–0.2	–0.1	0.6	0.6	0.6	0.6	0.5
Primary deficit excl. resource receipts	1.8	2.1	2.9	3.0	3.0	3.1	2.8
Interest due	1.0	1.0	0.9	0.9	0.8	0.7	0.9
Expenditure (central and provincial, incl. net lending) (+)	22.1	22.7	22.7	22.7	22.8	22.9	22.7
Current expenditure (+)	12.0	12.2	12.2	12.3	12.3	12.4	12.3
Non-interest current expenditure (+)	11.0	11.1	11.3	11.4	11.5	11.7	11.4
Wages and other staff remuneration	5.2	5.4	5.5	5.7	5.8	6.0	5.7
Wages and salaries	3.9	4.0	4.1	4.2	4.3	4.4	4.2
Benefits	1.4	1.4	1.4	1.5	1.5	1.6	1.5
Goods and services	2.2	2.2	2.1	2.0	2.0	1.9	2.0
Subsidies and transfers	2.7	2.8	2.9	3.0	3.1	3.1	3.0
Other current non-interest expenditure	0.8	0.8	0.7	0.7	0.7	0.6	0.7
Interest due (+)	1.0	1.0	0.9	0.9	0.8	0.7	0.9
External interest due (+)	0.8	0.4	0.3	0.3	0.3	0.3	0.3
Internal interest due (+)	0.2	0.7	0.6	0.5	0.5	0.4	0.5
Capital expenditure and on-lending (+)	10.1	10.5	10.5	10.5	10.5	10.5	10.5
Government capital expenditure	10.3	10.8	10.8	10.8	10.8	10.8	10.8
Externally financed government capital expenditure	7.1	8.3	8.3	8.3	8.3	8.3	8.3
Project/NSEDP7	4.4	8.3	8.3	8.3	8.3	8.3	8.3
Non-project/non-NSEDP7	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Internally financed government capital expenditure	3.2	2.5	2.5	2.5	2.5	2.5	2.5
Project/NSEDP7		2.5	2.5	2.5	2.5	2.5	2.5
Non-project/non-NSEDP7		0.0	0.0	0.0	0.0	0.0	0.0
Net on-lending	–0.2	–0.3	–0.3	–0.3	–0.3	–0.3	–0.3
Revenue (including external grants) (–)	–19.8	–21.7	–21.1	–21.3	–21.4	–21.6	–21.4
Revenue excluding grants (central and provincial) (–)	–15.0	–16.9	–16.3	–16.5	–16.6	–16.8	–16.6
Tax revenue:	–12.9	–14.6	–14.1	–14.2	–14.4	–14.5	–14.4
Tax revenue from resources	–1.8	–2.0	–2.1	–2.1	–2.2	–2.3	–2.2
Other tax revenue	–11.1	–12.6	–12.0	–12.1	–12.2	–12.2	–12.2
Nontax revenue	–1.5	–1.7	–1.7	–1.7	–1.7	–1.7	–1.7
Nontax revenue from resources	–0.2	–0.2	–0.2	–0.2	–0.2	–0.2	–0.2
Other nontax revenue	–1.3	–1.5	–1.5	–1.5	–1.5	–1.5	–1.5
Capital revenue	–0.5	–0.5	–0.5	–0.5	–0.5	–0.5	–0.5
External grants (–)	–4.8	–4.8	–4.8	–4.8	–4.8	–4.8	–4.8
Project grants	–1.6	–4.8	–4.8	–4.8	–4.8	–4.8	–4.8
Non-project grants	–2.8	0.0	0.0	0.0	0.0	0.0	0.0
Program grants	–0.4	0.0	0.0	0.0	0.0	0.0	0.0

continued on next page

Table 12 *continued*

<i>Initial projection year: FY2011</i>	<i>estimate</i> FY2010	<i>projection</i> FY2011	<i>projection</i> FY2012	<i>projection</i> FY2013	<i>projection</i> FY2014	<i>projection</i> FY2015	<i>Average</i> FY2011– FY2015
Statistical discrepancy	-1.4	0.0	0.0	0.0	0.0	0.0	0.0
Financing of the deficit (application of the surplus)	0.8	1.0	1.6	1.5	1.4	1.3	1.3
Net external financing—net loans (excl. grants) (+)	1.8	2.2	2.4	2.5	2.6	2.7	2.5
Gross disbursement of loans (+)	2.8	3.5	3.5	3.5	3.5	3.5	3.5
Project/NSEDP7 loan disbursements	2.8	3.5	3.5	3.5	3.5	3.5	3.5
Non-NSEDP7 loan disbursements	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Repayment of principal (-)	-1.0	-1.3	-1.1	-1.0	-0.9	-0.8	-1.0
Net internal financing (+)	-1.0	-1.2	-0.8	-1.1	-1.3	-1.5	-1.2
Programmed net internal borrowing	-1.0	0.2	0.2	0.2	0.2	0.2	0.2
Treasury bill issues	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Treasury bill repayment	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Other programmed net internal borrowing	-1.2	0.0	0.0	0.0	0.0	0.0	0.0
Unprogrammed net internal financing	0.0	-1.4	-1.0	-1.3	-1.5	-1.7	-1.4
Unprogrammed net internal borrowing	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unprogrammed net increase in deposits	0.0	-1.4	-1.0	-1.3	-1.5	-1.7	-1.4
Year-end external debt stock (+)	69.6	58.4	53.4	49.2	45.7	42.7	49.9
<i>Approximate interest rate (\$)*</i>	1.1%	0.6%	0.6%	0.6%	0.7%	0.7%	0.6%
Year-end net internal debt stock (+)	3.4	1.6	0.3	-1.0	-2.4	-3.7	-1.0
<i>Approximate interest rate*</i>	5.6%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Memorandum							
Tax and nontax revenue less current expenditure	3.0	4.7	4.1	4.2	4.3	4.4	4.3
External grants plus gross disbursements of loans	7.7	8.3	8.3	8.3	8.3	8.3	8.3
External debt service (interest plus repayment of principal)	1.8	1.7	1.5	1.3	1.2	1.1	1.4
Nominal GDP (KN billion)	54,100.0	61,349.4	69,570.2	78,892.6	89,464.2	101,452.4	80,145.8
Nominal GDP (\$ million)	\$6,364.7	\$7,379.8	\$8,696.3	\$9,861.6	\$11,183.0	\$12,681.6	\$9,960.4
Real GDP (KN billion, base 2009/10)	56,805.0	61,349.4	66,257.4	71,557.9	77,282.6	83,465.2	71,982.5
<i>Growth rate</i>	7.5%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Implicit GDP deflator (2009/10 = 100)	95.2	100.0	105.0	110.3	115.8	121.6	110.5
<i>Growth rate</i>	8.3%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Exchange rate (annual average, KN/\$)	8,500.0	8,313.2	8,000.0	8,000.0	8,000.0	8,000.0	8,062.6
Exchange rate (year-end, KN/\$)	8,638.6	8,000.0	8,000.0	8,000.0	8,000.0	8,000.0	8,000.0
Population (million)	6.2	6.3	6.4	6.6	6.7	6.9	6.6

FY = fiscal year, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic, NSEDP7 = Seventh National Socio-Economic Development Plan.

* Approximate interest rates are calculated by dividing interest due by the average of the year-end and the previous year-end debt stocks.

Source: Ministry of Finance, Lao PDR.

just over 40% of GDP at the end of FY2015, while the year-end net internal debt stock would decline from 3.4% of GDP at the end of FY2010 to -3.7% of GDP at the end of FY2015. External borrowing and government savings would cover more than the entire fiscal borrowing requirement, and the net internal debt stock would turn negative as the fiscal accumulated assets.

5.2 Sensitivity Analysis

While the base scenario seems to offer an optimistic outlook for the fiscal accounts of the Lao People's Democratic Republic (Lao PDR), it clearly relies on a significant number of programming assumptions whose values could turn out very different from the values assumed for the fiscal strategy. One of the most important concerns the NSEDP7 financing assumption, according to which non-fiscal (including non-ODA) external and internal financing sources would provide about two-thirds of the NSEDP7's total, and non-fiscal external sources in particular would provide just under 55%. The fiscal accounts are sensitive to this assumption because, all other things being equal, to the extent that non-fiscal external financing turns out smaller, the residual non-ODA fiscal financing would turn out higher.

One way to see what would happen if non-fiscal external financing turned out smaller than programmed would be to reduce the assumed non-fiscal external financing from 54.3% of total expenditure to 50% of the total NSEDP7 expenditure assumed in the base scenario. If this is the only change in the base scenario's programming assumptions, then non-ODA fiscal sources would have to replace the lost financing. This would have significant consequences for the fiscal accounts. The average gross borrowing requirement would rise to 3.9% of GDP from 2.5% in the base scenario, while the average net borrowing requirement would rise to 2.7% of GDP from -1.2% in the base scenario. Equally important, the net internal debt stock would fall from 3.4% of GDP at the end of FY2010 to 1.9% of GDP at the end of FY2015, compared with the base scenario in which the net internal debt stock would turn non-positive at the end of FY2015. By this criterion, fiscal performance is highly sensitive to the NSEDP7's non-fiscal external financing.

To be sure, this assumes that the government would allow total NSEDP7 expenditure to continue as programmed, at 32% of GDP. The government might choose instead to allow a reduction in total NSEDP7 expenditure. For example, supposing it allowed a reduction in total NSEDP7 expenditure to 22.4% compared with 32% of GDP in the base scenario, even if non-NSEDP7 expenditure remained at 11.2% of GDP as in the base scenario, the overall gross fixed capital formation rate would be 25.8% rather than 32% of GDP. The annual real GDP growth rate would then be 6.4% rather than 8%. This would be a significant reduction compared with the base scenario and would significantly reduce the rate at which per capita real GDP and private consumption grew: in the base scenario, per capita real GDP growth would average 5.7%, whereas in this reduced growth case, per capita real GDP growth would average 4.1%. (Per capita real GDP would double in 12.5 years at a 5.7% rate, but would require 17.3 years to double at a 4.1% rate.) This difference is noteworthy because the fiscal-balance percentage-of-GDP indicators would improve, even by comparison with the base scenario: the average gross borrowing requirement would be 0.5% of GDP compared with 2.5% in the base scenario, while the average net borrowing requirement would become a surplus of 0.7% of GDP compared with a deficit of 1.3% in the base scenario.

One obvious lesson that emerges from this analysis is that the fiscal balances as percentages of GDP should not be the only criteria for fiscal strategies' comparative desirability, especially if the GDP growth rates and real per capita expenditure flows are

different. It is at least equally important to examine whether the expenditure program is likely to address national development and poverty-reduction objectives efficiently and effectively, and, if so, whether the government's external and internal indebtedness can be expected to remain firmly under control.

One might suppose that it would be useful to apply sensitivity analysis to determine the consequences for the fiscal accounts of different copper-export prices. Unfortunately, much as one would like to carry out this kind of exercise, it is important to recognize that the present fiscal programming projection exercise is too limited in scope to do it usefully. The problem is that changes to the assumed copper-export price would have to be accompanied by changes to the assumptions for real GDP, price-level, and exchange-rate assumptions. An increase in the copper-export price should increase the growth rate of real GDP and would probably increase the real effective exchange rate. As it now stands, the LaFS.xls projection exercise incorporates none of the mechanisms by which changes in the copper price affect real GDP and the real effective exchange rate. This is one more reason to take the view that the fiscal strategy should be developed within a more comprehensive macroeconomic framework, encompassing interlinked projections of the national-production, national expenditure, external, and monetary accounts along with the fiscal accounts.

5.3 Concluding Observation

The base-scenario fiscal strategy projection set out in Table 12 is based on a wide range of assumptions, as set out in Chapter 4. The specific assumptions include some that are fairly neutral in character, but a few that constitute strong decisions about the Lao PDR's medium-term development path. For this reason, among others, when a government formulates a fiscal strategy, it should subject the fiscal projection to all relevant sensitivity analysis.

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Lao People's Democratic Republic

An Illustrative Fiscal Strategy Consistent with the Seventh National Socio-Economic Development Plan

This report discusses some of the technical issues involved in formulating a multiannual fiscal strategy for the Lao People's Democratic Republic. The strategy aims to achieve national growth and to reduce poverty, while maintaining sound government finances.

It is important to address the overlapping accounts of the government and the country's national socio-economic development plan. Thus, a detailed fiscal strategy is a valuable policy that can be the basis for dialogue and communication between the government and its stakeholders, such as foreign investors, international donors, and taxpayers.

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