

Preliminary Fiscal Sustainability Analysis

(National Directorate of Budget, 16th/11/2011)

Introduction and Definition of Fiscal Sustainability

This paper discusses long term fiscal sustainability. It calculates by how much the Government will have to constrain capital and recurrent expenditure in the long term to achieve fiscal sustainability.

BOX 1: DEFINITION OF FISCAL SUSTAINABILITY

Fiscal sustainability refers to the affordability of Government expenditure in the long term.

Policies are fiscally sustainable if: "there is enough money to pay for expenditures in the long term. The Government is not going to run out of money in the future."

Policies are fiscally unsustainable if: "expenditure is too high to be paid for in the long term. At some point in the future the Government will run out of money and will have to sharply reduce expenditure."

Fiscal policy in Timor-Leste can be defined as sustainable if in the long term:

$$\text{Total Expenditure} = < \text{Domestic Revenue} + \text{ESI}^i$$

This means that in the long term there will be no need for Excess Withdrawals from the Petroleum Fund.

Policy on Fiscal Sustainability

The Government launched the Strategic Development Plan (SDP) in July 2011. This document outlines the Government's overall policy on fiscal sustainability. The SDP states that capital expenditure will be frontloaded; with withdrawals from the Petroleum Fund initially exceeding the ESI, but then falling back towards the ESI as domestic revenue increases and capital expenditure falls. The policy of the Government is clear. There can be Excess Withdrawals from the Petroleum Fund in the short term, but in the long term expenditure must be restricted so that Total Expenditure = < Domestic Revenue + ESI.

The definition of the long term is open to interpretation. This paper assumes that ten years is a reasonable interpretation of the long term and trends in expenditure are calculated so that by 2022 fiscal policy is sustainable.

Linkages between Expenditure, Revenue, Financing, Economic Growth and Inflation

The Excel model used to undertake this fiscal sustainability analysis included a number of linkages between expenditure, revenue, financing, economic growth and inflation. The key linkages are:

- The rate of economic growth and inflation are set equal to the long term estimates produced by the Macroeconomics Directorate. Alternatively the rate economic growth is set equal to a base rate plus additional growth caused by capital expenditure;

- Domestic revenue grows at the rate of inflation * economic growth * tax efficiency (which varies by scenario), until it reaches a set % of GDP (which varies by scenario);
- Additional operation and maintenance spending is set as being equal to a fixed percentage (which varies by scenario) of the capital stock;
- Capital expenditure is set as equal to the amount stated in the 2012 Executive's budget proposal until 2016. Thereafter it declines by a fixed percentage each year (which varies by scenario) until it equals 2010 capital expenditure (before the infrastructure fund was established) in real terms;
- The budget is executed at 90% and non-executed expenditure results in a cash surplus financing item in the following year;
- Loan receipts are as stated in the 2012 Executive's budget proposal until 2016 and zero thereafter. Loan repayments are calculated using standard repayment terms from ADB;
- The ESI is calculated using a model and underlying assumptions provided by the Petroleum Fund directorate. This paper does not attempt to recalculate the ESI based on increased revenue from Greater Sunrise or a higher rate of return on petroleum fund investments.

These relationships are somewhat simplistic and further work needs to be undertaken to strengthen them in the future.

Future Work to Strengthen this Analysis

The analysis contained in this paper is preliminary in nature. In the future further more detailed work should be undertaken to:

- Cost new Government policies in detail;
- Better understand and model the relationships between expenditure, economic growth, inflation and domestic revenue;
- Analyze whether there is a direct relationship between capital expenditure and tax revenue.

Costing new Government policies is extremely important. Government policy decisions about pensions, community development and additional infrastructure construction will ultimately drive the overall level of expenditure and sustainability of fiscal policy. The volume of expenditure is also more directly under the Government's control than the rate of economic growth or inflation.

Fiscal Sustainability Scenarios

This paper calculates three different scenarios.

Scenario 1ⁱⁱ: Assumes high economic growth, strong domestic revenue growth and low recurrent maintenance costs. It then shows how much recurrent and capital expenditure will have to be constrained by to achieve long term fiscal sustainability by 2022.

Scenario 2: Assumes high economic growth, moderate growth in domestic revenue and high recurrent maintenance costs. It then shows how much recurrent and capital expenditure will have to be constrained by to achieve long term fiscal sustainability by 2022.

Scenario 3: Shows how quickly the ESI and Petroleum Fund Wealth will be reduced to zero if growth in expenditure is not constrained, economic growth is below expectations and domestic revenue stays constant as a % of GDP.

Scenario 1: Strong growth in real GDP and domestic revenue and low recurrent maintenance costs

Assumptions:

Economic

- Real GDP and inflation projections are as provided by the Macro-economics directorateⁱⁱⁱ.

Revenue

- Domestic revenue grows by the rate of inflation, rate of economic growth and an additional 4.3% a year.

Expenditure

- Additional operation and maintenance spending is equal to 5% of the capital stock;
- Capital expenditure is as stated in the 2012 budget until 2016 and then declines by 30% a year until it reaches 2010 levels in real terms;
- The expenditure execution rate is 90%;
- Recurrent expenditure (other than O&M) does not grow at all.

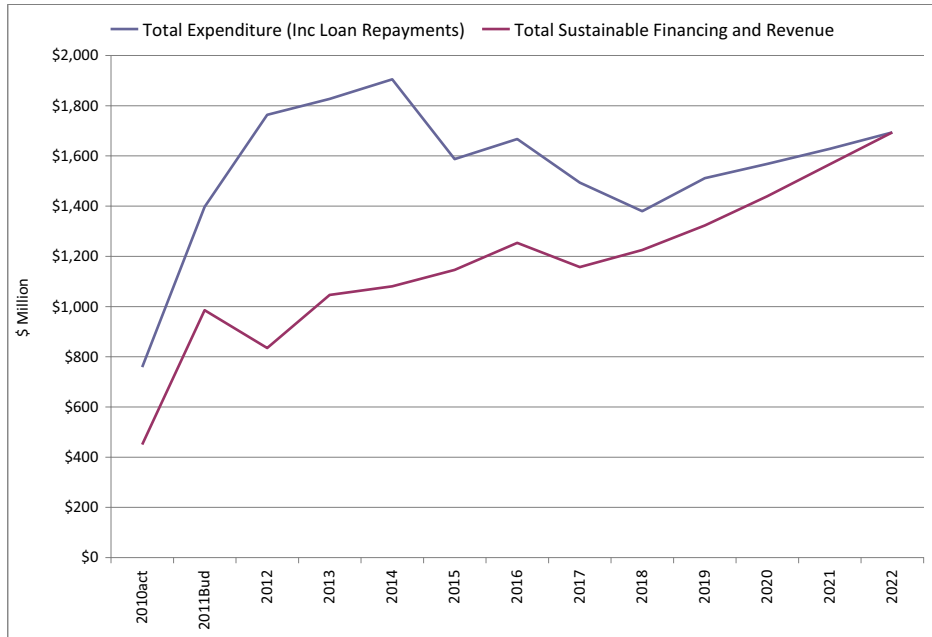
Discussion of Results

This scenario shows double digit rates of economic growth until 2019^{iv}. Economic growth then falls to 5% a year by 2022 (graph S1D). Double digit rates of economic growth are high by historical standards and compared to other countries. Domestic revenue also shows very strong growth (graph S1C). Domestic revenue reaches 22.4 % of GDP or \$907 million by 2022. Such a large increase in domestic revenue will only be achievable with high economic growth, tax increases and more efficient tax administration.

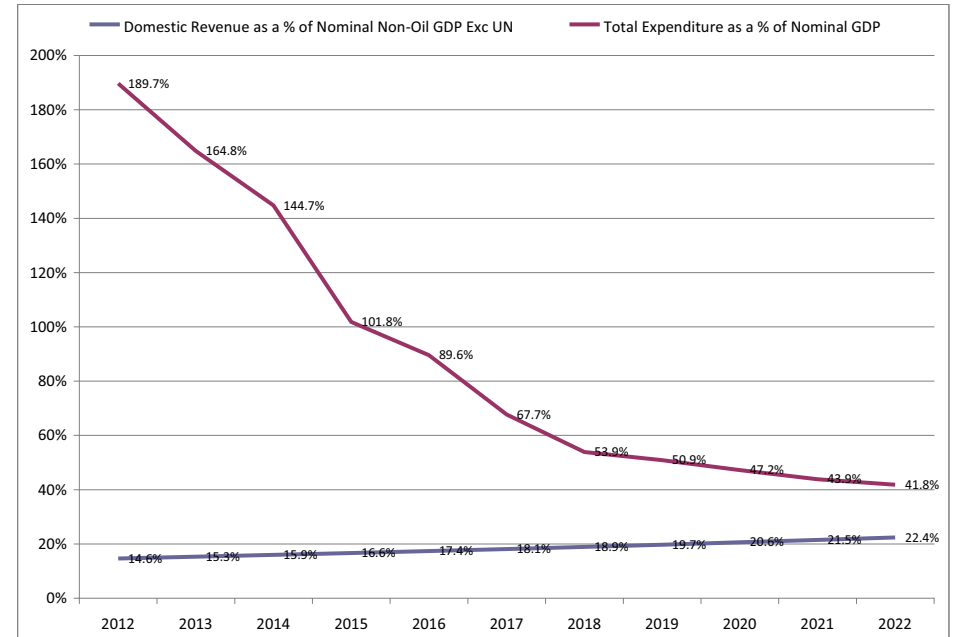
Capital expenditure sharply decreases after 2016 (graph S1B). The large capital expenditures until 2016, however, result in substantial operation and maintenance expenditures (graph S1B). Other recurrent expenditure (excluding operation and maintenance) will have to show zero growth in dollar terms to achieve fiscal sustainability by 2022. This implies a real terms cut in recurrent expenditure. It also indicates that there is little fiscal space for any new policies which will increase recurrent spending.

This scenario shows that even if the Government achieves high growth in GDP and domestic revenue and sharply cuts capital expenditure after 2016 recurrent expenditure will have to be cut in real terms to achieve fiscal sustainability by 2022. There are three reasons for this. First, the base from which domestic revenue is increasing is very low compared to the current level of expenditure. Second, large capital expenditures until 2016 will require substantial operation and maintenance spending in future years. Third, Excess Withdrawals from the Petroleum Fund lead to a lower future ESI.

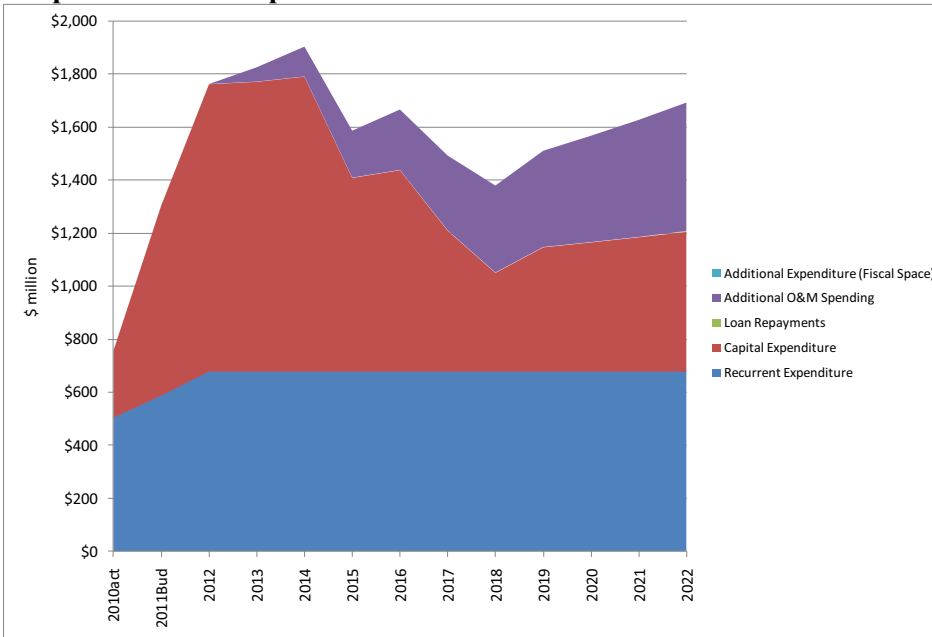
Graph S1A: Total Expenditure and Total Sustainable Financing and Revenue



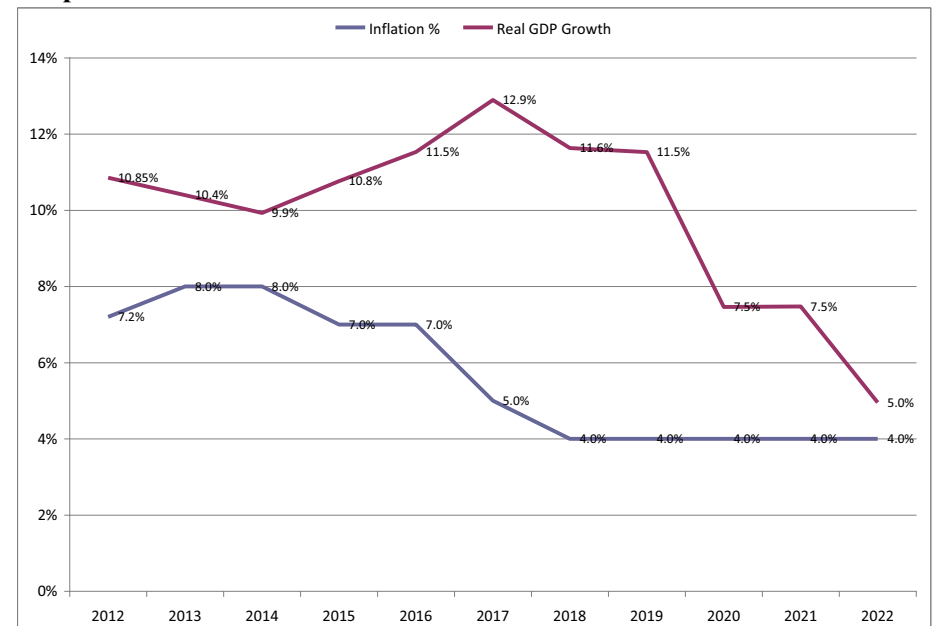
Graph S1C: Domestic Revenue and Expenditure as a % of GDP



Graph S1B: Total Expenditure



Graph S1D: Economic Growth and Inflation



Scenario 2: Strong growth in GDP, moderate growth in domestic revenue and higher recurrent maintenance

Assumptions

This scenario makes the same assumptions as scenario 1, apart from:

- operation and maintenance spending is set as equal to 8% of the capital stock;
- domestic revenue grows at the rate of inflation, rate of real GDP growth and an additional 2.5% a year.

Under these assumptions recurrent expenditure would have to decline by 9.8% a year in dollar terms to achieve fiscal sustainability by 2022.

Discussion of Results

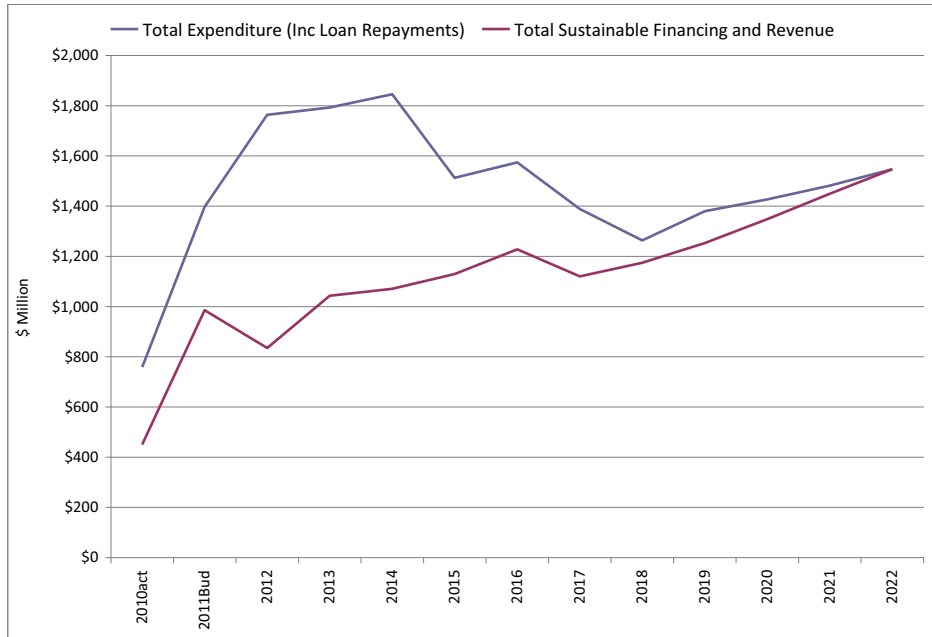
These results show strong economic growth (graph S2D). They also show strong growth in domestic revenue, which increases from \$ 136 million to \$759 million between 2012 and 2022. This is equivalent to domestic revenue reaching 18.7% of GDP by 2022 (graph S2C).

Operation and maintenance spending sharply increases under this scenario. This is due to both the high capital expenditures made before 2016 and the assumption that operation and maintenance spending each year is equivalent to 8% of the capital stock. (graph S2B)

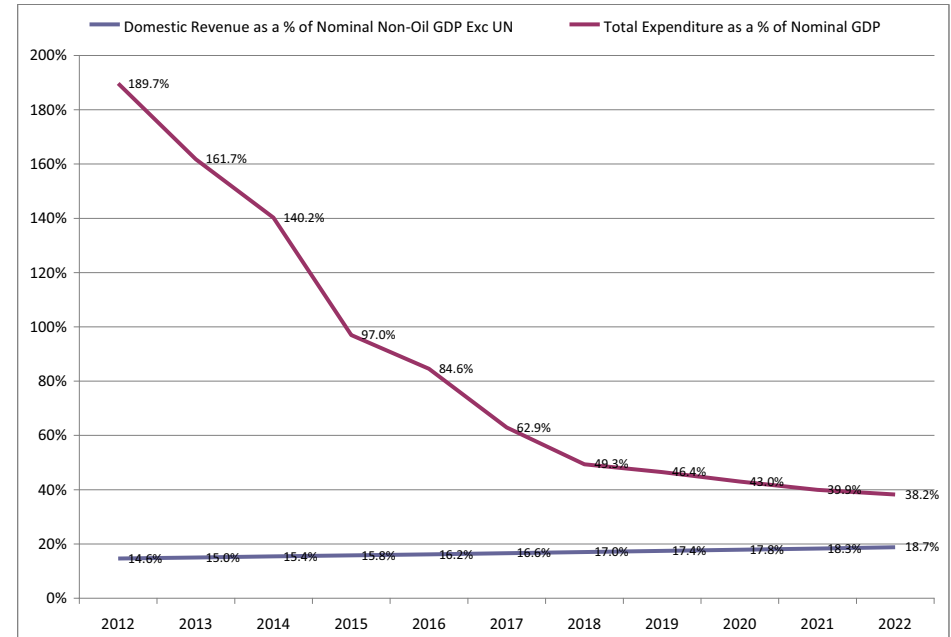
Recurrent expenditure sharply declines by 9.8% a year in dollar terms after 2022. Such a large decrease in nominal and real recurrent expenditure is probably not feasible. In reality operation and maintenance spending would have to be under-budgeted, capital expenditure would have to be reduced before 2016 or fiscal sustainability would not be achieved by 2022.

The assumptions made in this scenario, while showing that fiscal sustainability would be difficult to achieve, are by no means a worst case scenario. Economic growth rates are still high by historical standards and compared to other countries and significant growth in domestic revenue occurs.

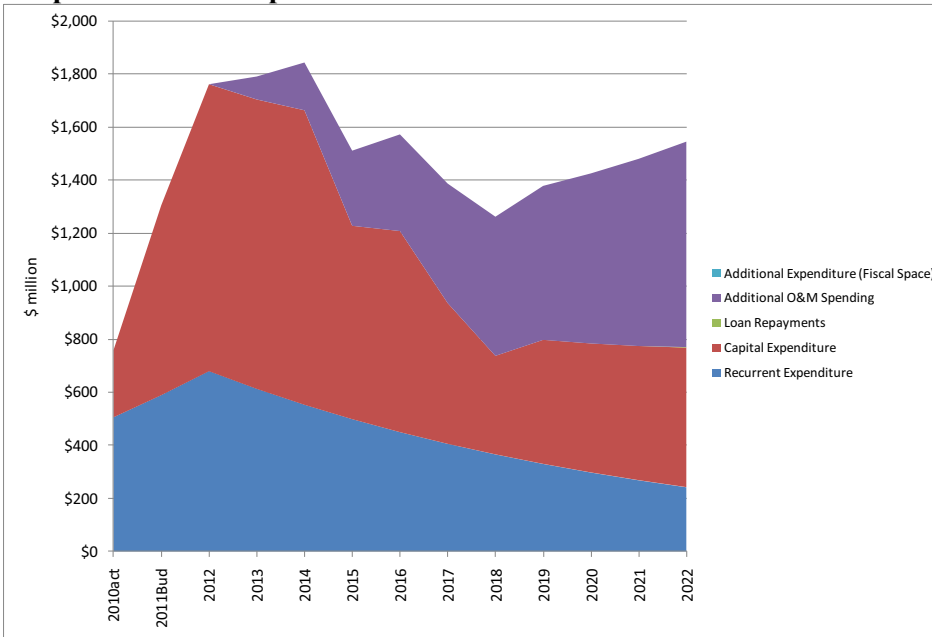
Graph S2A: Total Expenditure and Total Sustainable Financing and Revenue



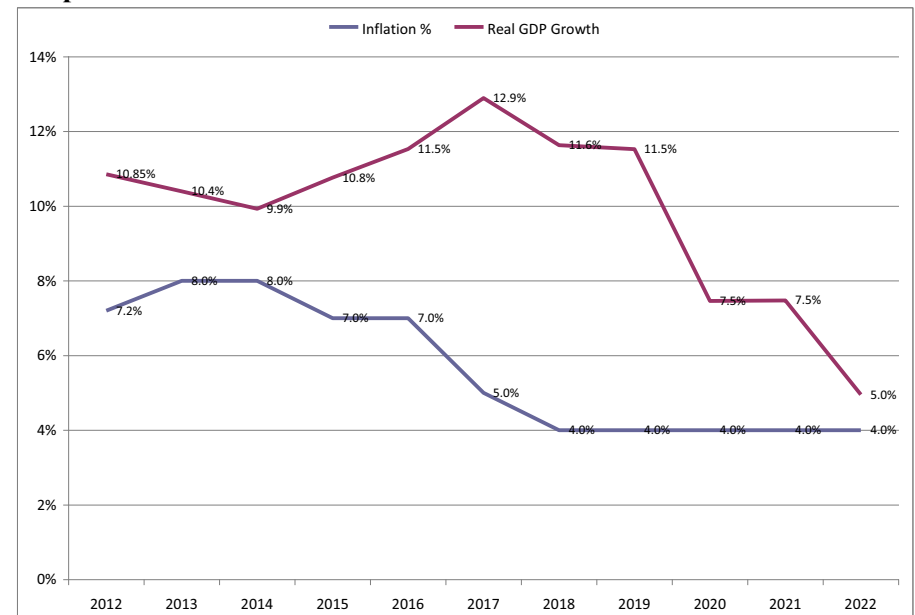
Graph S2C: Domestic Revenue and Expenditure as a % of GDP



Graph S2B: Total Expenditure



Graph S2D: Economic Growth and Inflation



Scenario 3: High spending with more moderate economic growth

Assumptions

This scenario makes the same assumptions as scenario 2, with the following exceptions:

1. Economic growth is calculated within our Excel model using a coefficient on capital expenditure of 3% and assuming a base rate of economic growth of 4%;
2. Capital expenditure after 2016 only declines by 10% a year;
3. Recurrent expenditure grows at 10% a year;
4. Revenue is set equivalent to 14.6% of GDP in all years.

Discussion of Results

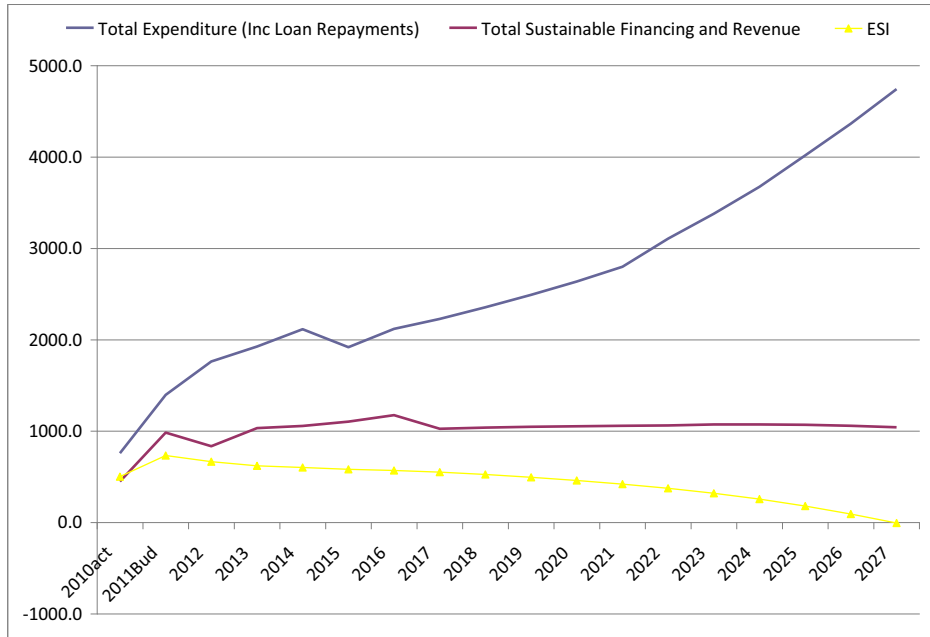
Real GDP grows by 10.9% in 2012, falling to 4.8% by 2019 (graph S3D). This is a lower rate of economic growth than seen in scenarios 1 and 2, but it is still fairly high compared to many other countries. Domestic revenue grows substantially in real and nominal terms, but stays constant as a percentage of GDP at 14.6% (graph S3C).

Capital expenditure declines relatively slowly after 2016 (graph S3B). The Government's policy is to frontload capital expenditure. It may, however, be the case that the 2012 budget does not contain a complete list of the projects necessary to develop Timor-Leste and that high capital expenditure will thus continue after 2016.

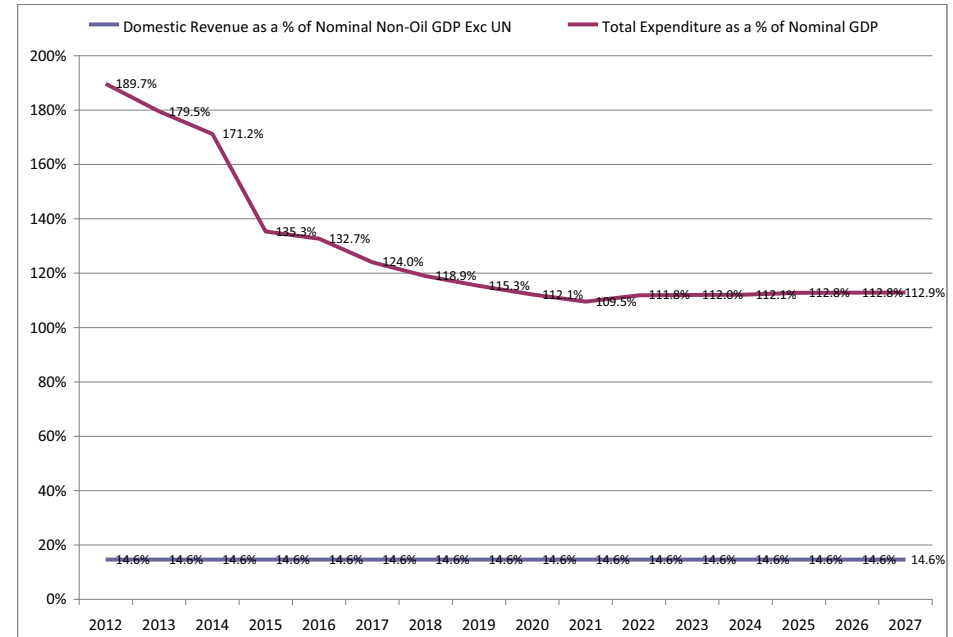
Significant operational and maintenance spending is required to maintain the capital stock (graph 3B). Recurrent expenditure excluding operation and maintenance spending grows by 10% a year in dollar terms. Although this is a substantial dollar increase it only results in a real terms increase of 1.9% to 5.8% a year. This is a lower increase in real terms expenditure than has occurred in Timor-Leste over the last few years.

The Petroleum Fund balance and ESI would reach zero in 2026 or 2027. This would result in the need to massively reduce expenditures after 2026.

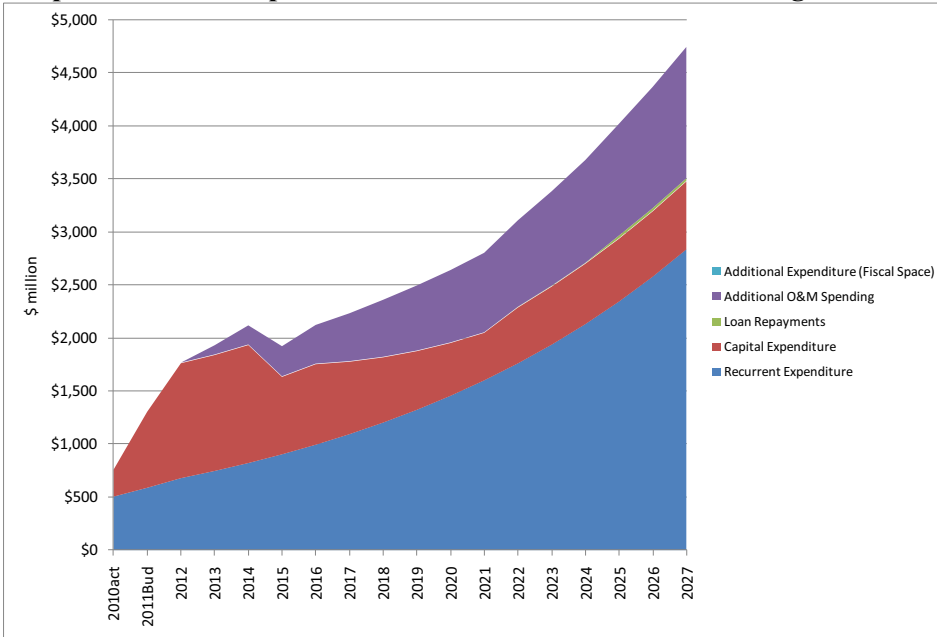
Graph S3A: Total Expenditure and Total Sustainable Financing and Revenue



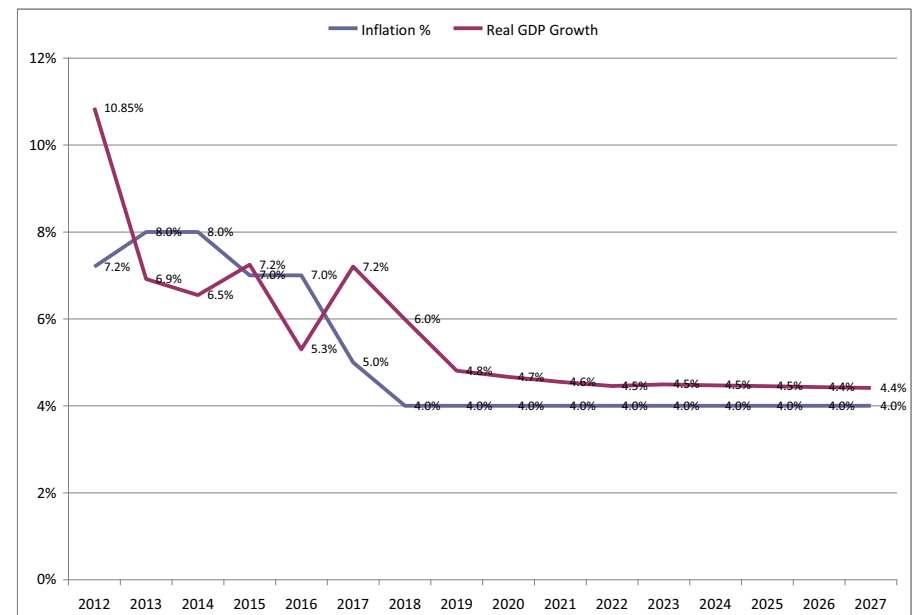
Graph S3C: Domestic Revenue and Expenditure as a % of GDP



Graph S3B: Total Expenditure and Total Sustainable Financing and Revenue



Graph S3D: Economic Growth and Inflation



Discussion and Policy Options

Long term fiscal sustainability is still achievable by 2022. But the worst case scenario of the Petroleum Fund running out of money is also possible if economic growth is lower than expected, domestic revenue growth is not increased as a % of GDP and recurrent expenditure is not carefully controlled. Government policies will ultimately determine whether fiscal policy becomes sustainable or not. To achieve fiscal sustainability by 2022 Government policies should:

- Ensure double digit economic growth until 2019;
- Restrict growth in recurrent expenditure (excluding operation and maintenance);
- Ensure there is sufficient spending on operation and maintenance;
- Ensure capital expenditure between 2012 and 2016 does not exceed that outlined in the 2012 Executive's budget proposal and sharply declines thereafter;
- Ensure strong growth in domestic revenue as a percentage of GDP.

The policies required for double digit economic growth are beyond the remit of this paper and are not discussed here. Options for restricting growth in expenditure and increasing domestic revenue collections are discussed below.

Expenditure

Recurrent expenditure (excluding operation and maintenance spending) will have to be severely restricted. This could potentially be achieved by:

- Identifying existing recurrent expenditures which are not a high priority for the Government and excluding these from the 2013 budget ceiling and budget;
- Ensuring no new decree laws are passed by the Council of Minister without detailed costings being undertaken first;
- Any decree laws or policies which are likely to substantially increase recurrent costs should not be approved;
- Ensuring that the pensions decree law is amended before it is passed to reduce the on budget funding requirement;
- Ensuring that expenditure on any new community development programs is matched by a reduction in spending on the PDD1, PDD2 or PDL programs;
- Creating a separate ceiling for recurrent maintenance spending during the 2013 budget process and asking all line ministries to submit detailed proposals for new operation and maintenance spending to the major projects unit and budget directorate;
- The MoF agreeing with the Infrastructure Fund board that no new capital expenditures (other than those included in the 2012 budget) will be approved in 2013, 2014, 2015 or 2016.

Domestic Revenue

- A detailed tax policy document should be drafted. This document should show how tax rates and administration will be changed to ensure domestic revenue reaches at least 22% of domestic GDP excluding UN by 2022.
- No new decree laws or policies which are likely to reduce domestic revenue collections should be passed.

i The Government has also recently committed itself to financing through loans. This means that loan receipts and repayments have to be included in any calculation of fiscal sustainability. Loan receipts and repayments are included in all the scenarios calculated in this paper. A cash balance financing item due to budget execution being below 100% of budgeted expenditure is also included in our model.

ii Scenarios one and two were also recalculated with lower rates of economic growth. These lower rates of economic growth were based on calculating GDP growth internally in the Excel model using a coefficient of 7% or 5% to capital expenditure and a base rate of economic growth of 5%. These models showed that a 2.1% or 17.43% cut in recurrent expenditure (excluding operation and maintenance spending) was required each year to achieve financial sustainability by 2022.

iii These rates of economic growth are slightly lower than stated in the SDP page 209.

iv Economic growth in 2014 is actually slightly below double digits at 9.9%.