05th December 2011, Drafted by the National Directorates of Macroeconomics and Budget

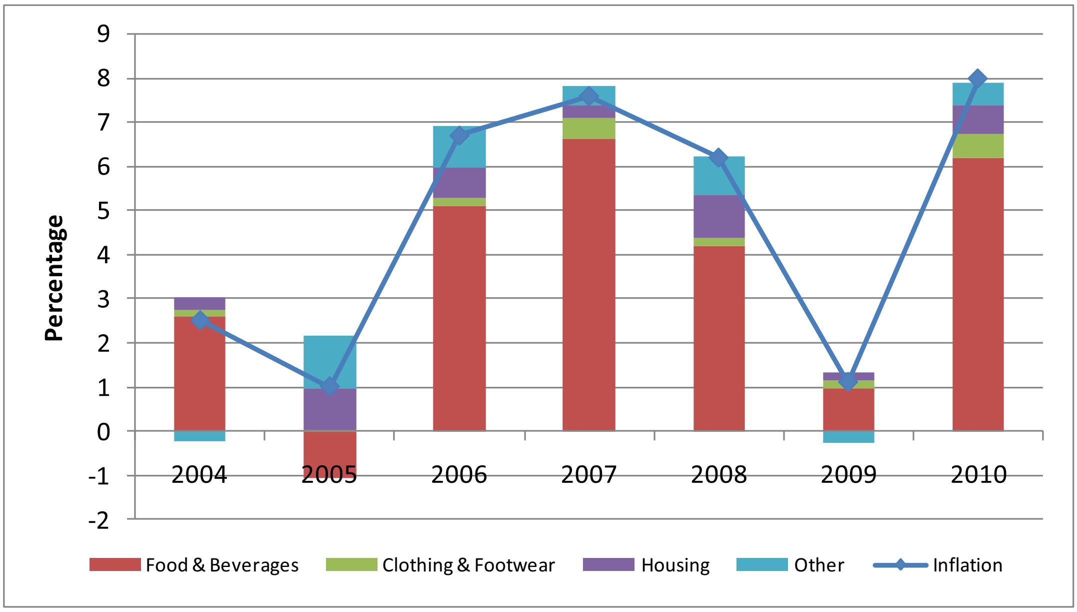
# Briefing Note on Inflation in Timor-Leste

## *Trends in Inflation*

Inflation in Timor-Leste has recently sharply increased. Chart 1 shows the CPI measure of Inflation from 2004 to 2010. The blue line on this chart shows there was an increase in inflation to 8% in 2010. This represents a sharp increase in inflation compared to 2009, where inflation increased by only 1.1%, and is a higher rate than the average over the last six years (4.2%). Inflation has further increased during the first 9 months of 2011. The rate of inflation from September 2010 to September 2011 was 12.4%.

The bars in Chart 1 show how different types of goods have contributed to inflation. The main driver of inflation has been food and beverages. Clothing and footwear, housing and transport (classified under other in chart 1) have also contributed to inflation.

Chart 1: Timor-Leste's CPI change December - December and Contribution by Type of Good




## *Costs of Inflation*

Inflation has two main costs.

First, high inflation can reduce the purchasing power of citizens' wages. As shown in chart 2, there is evidence that the wages of unskilled laborers have not kept pace with inflation in Timor-Leste.

Second, inflation can also increase costs for manufactures making Timorese business uncompetitive. Chart 3 compares wage costs in the manufacturing sector and the level of education of workers in Timor-Leste with other developing countries. The data show Timor-Leste has the lowest level of primary school enrolment of the countries in the chart but the second highest wages for manufacturing. Timor-Leste also had a higher rate of inflation than the vast majority its trading partners in 2010[1]. This will further undermine Timor-Leste's international competiveness. International companies are likely to produce goods in other countries with lower and slower rising costs than Timor-Leste. They will then export these goods to Timor-Leste to satisfy domestic demand. In both the domestic and international markets companies manufacturing in Timor-Leste will struggle to compete with companies producing goods abroad, where the costs of manufacturing are lower.

Chart 2: Inflation and Wages

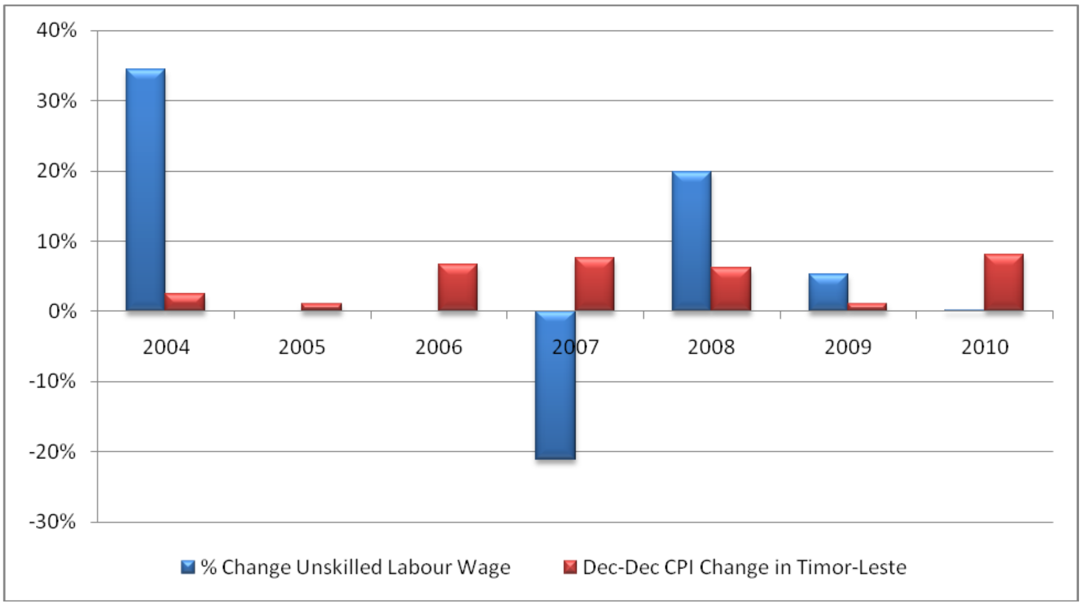
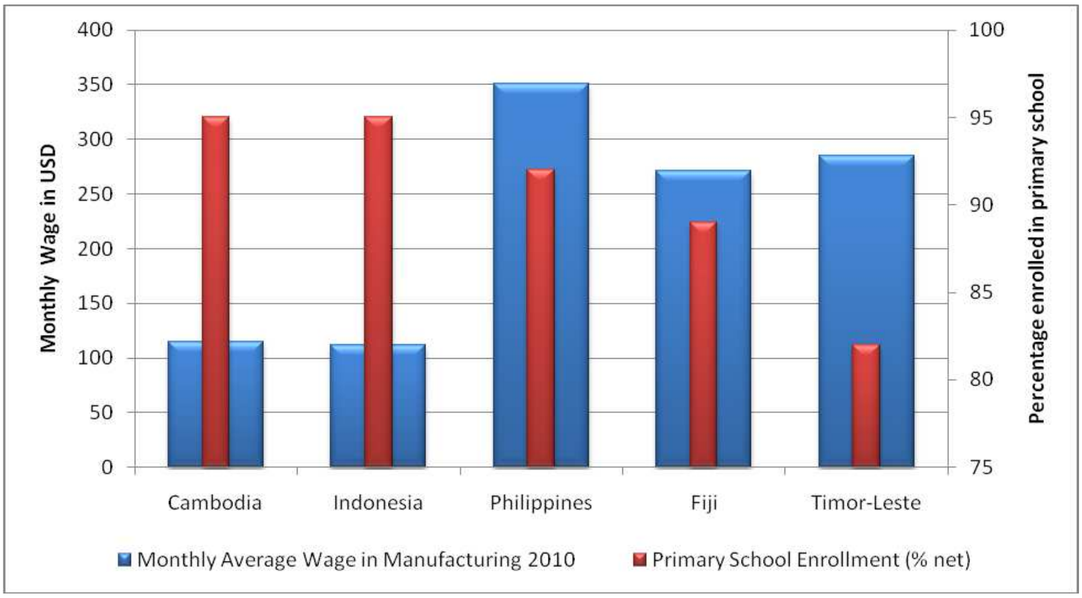



Chart 3: Wages and Education in Timor-Leste and Other Developing Countries




[1] See main paper for supporting evidence.

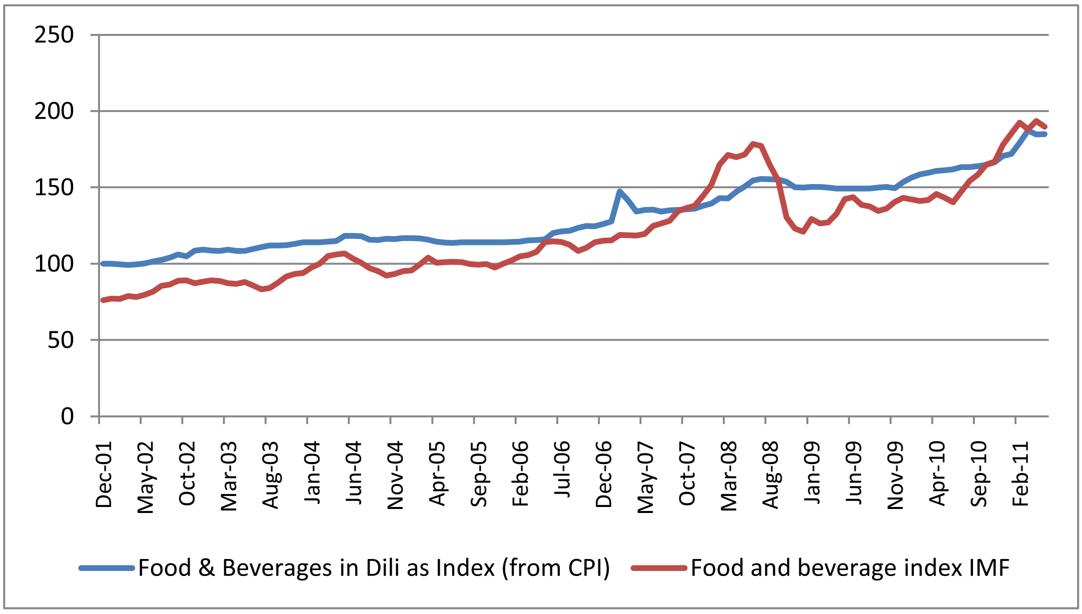
## *Causes of Inflation*

A detailed review of the evidence suggests that international increases in prices of commodities, depreciation of the USD and increased recurrent expenditure have caused inflation.

### International Prices and Inflation

Increases in the international price of imports can cause inflation. The recent increase in food prices in Timor-Leste is partly explained by increases in international food prices (see chart 4).

Chart 4: Food and Beverages Indices – World and Dili




Domestic rice prices have also significantly increased over the last 12 months. This has not been caused by an increase in international rice prices. Rather it has been caused by the scaling back of the rice subsidy program and unseasonal rain damaging production in 2010.

### Depreciation and Inflation

Depreciation of the USD against the currencies of Timor-Leste's major trading partners can also cause inflation by making imports more expensive. From May 2010 to May 2011 the dollar depreciated by 9% against the currencies of Timor-Leste major trading partners. This contributed to Timor-Leste's imports becoming more expensive in USD terms and inflation.

### Recurrent Expenditure and Inflation

Together depreciation of the USD and increases in international prices explain much, but not all, of the recent increase in inflation in Timor-Leste. These two causes cannot explain why commodities which are mainly produced in Timor-Leste, such as sand and concrete blocks, have become more expensive. And nor can they explain why the prices of some domestic commodities are not correlated with international prices. This suggests that a third factor maybe contributing to inflation. Both theory and empirical evidence indicate that this factor could be government recurrent expenditure.

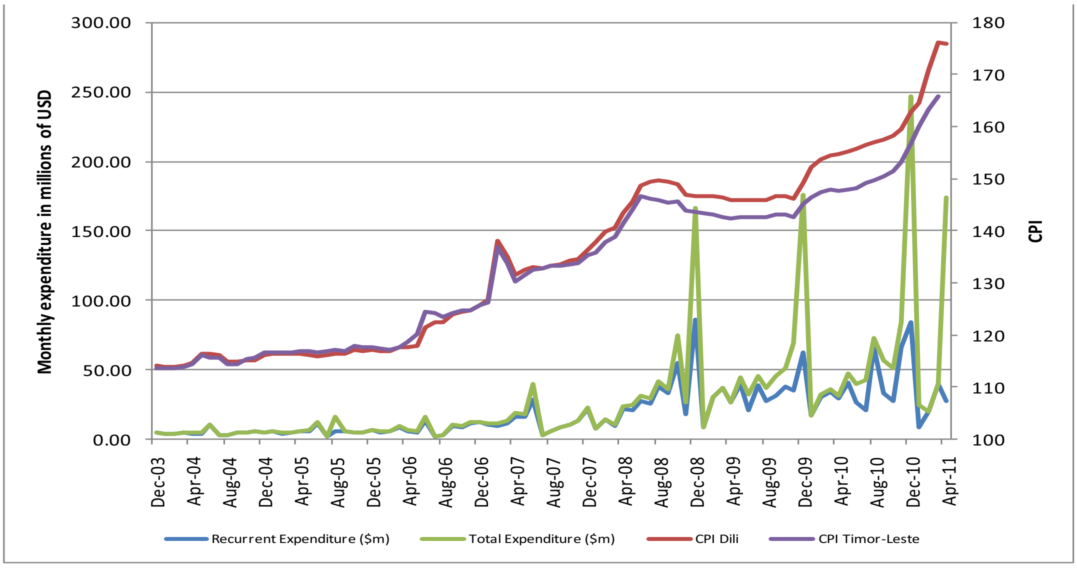
There is also a strong theoretical argument that recurrent expenditure could cause inflation in Timor-Leste. The reasons for this are that:

- because of dollarization monetary policy has a limited impact and therefore government expenditure is the main lever through which the government can affect demand and inflation;
- expenditure financed by oil revenue maybe more inflationary than expenditure financed by domestic revenue. The reason for this is that when expenditure is financed by domestic revenue the increase in demand caused by government spending is partially offset by the increases in taxes necessary to fund this expenditure. Yet when expenditure is financed by withdrawals from the petroleum fund there is no such offsetting effect;
- recurrent expenditure is likely to have a larger impact on demand than capital expenditure because much capital expenditure on large projects often goes directly to foreign companies with international bank accounts. Such spending thus does not directly enter the domestic economy.

At the risk of overly simplifying: when the government takes money out of the petroleum fund and gives it to Timorese companies or residents it is increasing the amount of money in the economy. More money chasing the same amount of goods can cause inflation.

There is also, as shown by chart 5, reasonable empirical evidence that recurrent expenditure has contributed to inflation in Timor-Leste. The sharp increases in spending in mid-2007 and late 2009 and 2010 seem to have contributed to the increases in the CPI in these periods. We also constructed a simple model of government expenditure and inflation. This model showed that every million dollar increase in government recurrent expenditure is associated with a 0.7 unit increase in the consumer price index four months later. It also demonstrates that 58% of the variation in CPI may be explained by recurrent expenditure. In conclusion, there is reasonable evidence that increased recurrent expenditure has contributed to inflation.

Chart 5: Recurrent Expenditure and Inflation




## *Modeling Future Inflation*

Our model of inflation also shows that growth in recurrent expenditure significantly exceeding 6% a year may result in inflation above the 4% to 6% range targeted in the SDP. High levels of inflation would probably undermine Timor-Leste's international competeiveness, private investment and attempts to increase exports.

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### *Comparison between this Paper and the IMF's Recent Analysis of Inflation*

The IMF recently analyzed inflation in Timor-Leste. The IMF's analysis concluded that: a) inflation has sharply increased to a double digit level in 2011; b) international prices have contributed to inflation in Timor-Leste; c) government domestic expenditure has contributed to inflation in Timor-Leste; and d) inflation can increase poverty. The overall conclusions reached by the IMF's study are then similar to the conclusions reached by this paper.

This paper has the following advantages over the analysis produced by the IMF. First, we discuss the impact of depreciation in the USD on inflation. Second, we examine the impact of inflation on Timor-Leste's international competiveness. And third, we discuss the impact of the scaling back of the rice subsidy programme inflation.

### *Conclusion*

Inflation in Timor-Leste has sharply increased. The main drivers of inflation are food and beverages, clothing, housing and transport. Sharp rises in food and clothing are undoubtedly hurting consumers. Inflation also increases the costs faced by businesses in Timor-Leste undermining their international competiveness.

Increases in international food and fuel prices, together with a depreciation of the US dollar have definitely contributed to the recent rise in inflation. There is also evidence that increased recurrent expenditure, financed by oil revenues, has increased inflation. Because international food and fuel prices and the value of the US dollar are not under the control of the Government, but recurrent expenditure is, the pressure for stabilizing inflation will lie with fiscal policy. Going forward, prudent fiscal management will be important in curtailing inflation. Annual growth in recurrent expenditure that is significantly higher than 6% a year may result in inflation which is higher than the 4% to 6% targeted in the SDP. Such high inflation would also undermine the international competiveness of Timorese businesses.

### *Key Recommendations*

This paper only lists key recommendations. A more detailed list of recommendations is provided in the main paper. The Government may wish to consider:

1. Reweighting the CPI index based on the Timor-Leste Standards of Living Survey 2007, and then update again in mid-2012, once the Household Income and Expenditure Survey is completed.

2. Drafting a bi-monthly briefing note on inflation, international prices and government expenditure. This short paper of one or two pages in length would examine trends in inflation and how these were related to changes in international prices and fiscal policy.

3. Restricting growth in government recurrent expenditure in the future to 0% to 6% per year. This would probably be in line with moderate increases in inflation and the SDP's commitment to prudent growth in recurrent expenditure.

4. Implementing initiatives to spur local rice production in order to increase supply and bring down prices and reduce imports.

5. Reviewing projects in the Infrastructure Fund to prioritize projects that have the potential to reduce the costs of imports and boost domestic production in the short term. The detailed results of this review should not be pre-judged but - a) prioritizing the construction of Tibar port; b) prioritizing road construction projects between Dili and other major towns; c) irrigation projects – may have the potential to reduce inflation in the long term.