

## Chapter 2 MACROECONOMIC FRAMEWORK

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### 2.1 OVERVIEW

This chapter embraces discussion on five topics, i.e., fiscal policy, monetary policy, macroeconomy model, and macroeconomy projection. Firstly, fiscal policy formulation is a merging point between executive and legislative bodies since both share ideas on three issues, i.e., state revenue resources, expenditure policy and development funding. Secondly, monetary policy discusses about financial system, banking institution and money. The policy is generally run by the central bank which has a role as a regulator of the national banking system and monetary system regulators. However, the central bank has not been established yet and the national currency used is US dollars. Hence, the discussion is mostly concentrated on the establishment of central bank and other financial institutions, and on the feasibility to have the national own currency. Fourthly, the macroeconomy model discusses about method to measure economic growth and the relationship among important aspects that contributes to the growth.

Finally, the economy projection is calculated based on the model. The main finding is that the investment creation or gross capital domestic formation (GCDF) does eventually replace the role of government spending to drive the country's economy during the second decade. Furthermore, the investment also creates import substitution to reduce imported good and services requirement. The economic forecast is projected that per capita income will rise from \$2,200 in 2010 to around \$9,300 in 2030, a rise in per capita income of 17 percent per annum. Even in non-oil incomes the figures are also convincing, from \$770 in 2010 to \$6,200 in 2030. This level of income would put Timor-Leste among the *high-middle-income countries*.

### 2.2 FISCAL POLICY

The Government of Timor-Leste arranges Fiscal Policy Framework as the basis for the formulation of public policy and budget priorities. The formulation is then used as a reference for each department in preparing the budget. The Fiscal Policy

Framework of Timor-Leste includes the policy of the state revenue through tax administration reforms, tax incentives, the new tariff adjustment, tax intensification and extensification, and improvement of the population data base system.

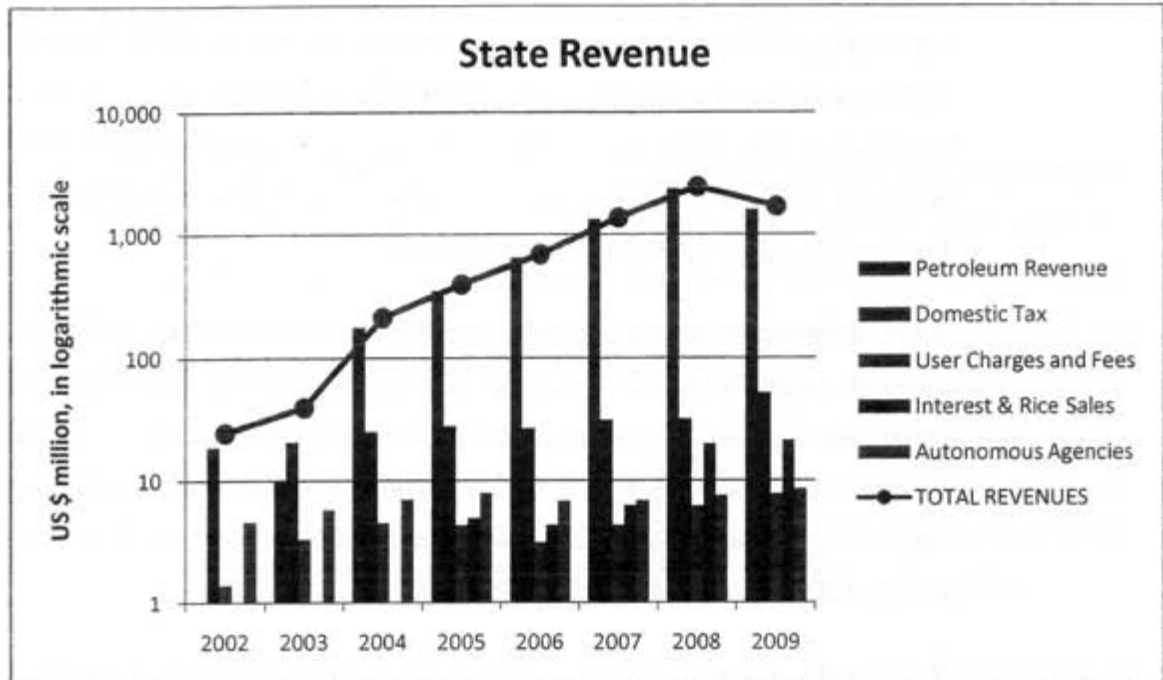
Meanwhile for the state budget side, several Fiscal Policy Frameworks were also developed. These include policies to encourage the growth of government savings through activities to reduce government spending that is not a priority, improving the preparation of departmental work plan, departmental vision and mission clarification, make savings through the improvement of procurement systems and government spending. Furthermore, policies to improve government services is realized through improved administration and improvement of government officials, organizational structure, improving the quality of employees through education and training, improved salaries and enforcement officials who violate discipline.

Priority to encourage the expansion of employment opportunities and support the government policy, several strategies are developed. These include government spending policies aimed at domestic production, government spending policies directed at labour-intensive products and the development of national entrepreneurs. State property security priorities are done through increased maintenance expenditures. Meanwhile, development expenditure will be carried out throughout the district in Timor-Leste to support investment.

### 2.2.1 State Revenue

Based on the state revenue policy, Timor-Leste has revenue sources from the natural wealth of oil and natural gas as well as the state income from taxes. The composition of revenue is described as follows.

Figure 2.1 - State Revenues (including Oil &amp; Gas)



Source: Processed from General Budget of the State and State Plan 2010. Note that since the range is quite high, the vertical axes use a logarithmic scale.

### 1. Oil Revenue

According to the existing conditions, Timor-Leste is still very dependent on the sources of state revenue derived from oil and natural gas. Oil and gas contribute almost 90% of the total revenues of Timor-Leste with the production of petroleum reserves around 800 million barrels and 12 trillion cubic feet of natural gas. Oil drilling is now only in the region Bayu-Undan is included in the Joint Petroleum Development Area (JPDA). According to its production capacity, this region is still comparatively into the early period of production and will continue to be maximized as a source of revenue until the year 2023.

According to the existing conditions, Timor-Leste is still very dependent on the sources of state revenue derived from oil and natural gas. Oil and gas contribute almost 90% of the total revenues of Timor-Leste with the production of petroleum reserves around 800 million barrels and 12 trillion cubic feet of natural gas. Currently there is only oil drilling in the area of Bayu-Undan, which is in the Joint Petroleum Development Area (JPDA). According to its production capacity, this area is still in the early period of production and will continue to be maximized as a source of revenue until the year 2023.

In 2007 the real production of the region is around 58.2 million barrels, and planned continuously to reach 64.3 million barrels in 2008. Provided the drilling area that operated only in the Bayu Undan, in order to reduce operational risk, then the production volume is based on Low Production Operator Case. This scheme roughly similar to the projection generated from the state budget in 2008 and its amendment.

We assume that current petroleum upstream revenues of around \$1.6 billion per year could rise to \$2 billion per year by 2030, given other fields from the three zones come on stream and oil prices continue to rise. In addition, we assume that a petroleum-based downstream industry -LNG, petrochemicals, refineries, fertilisers and other petroleum based sectors will add value of another \$2.5 billion per year to the domestic economy.

The total petroleum-based economy, upstream plus downstream, is therefore estimated at \$4.5 billion per year by 2030. The assumption is reasonable given Timor-Leste's favorable geology and the expectation of strong world energy demand in the coming twenty years.

## 2. Petroleum Fund

Oil revenues in 2008, by removing the profit from the Petroleum Fund investment, are estimated at \$ 2.284 million. This is based on the combination of actual revenues Petroleum Fund until the end of October plus the remaining months in 2008. In 2009, revenues were estimated at \$ 1.460 million due to falling oil prices and production volumes when compared to the year 2008.

Rates of return on the Petroleum Fund in 2008 is estimated at \$ 164.2 million, with \$ 148.9 million came from interest and \$ 15.3 due to changes in the balance sheet value. The level of net profit from January 1 until September 30 is approximately \$ 93.8 million, with annual interest rate on the Petroleum Fund of 6.3%.

The position of the Petroleum Fund account balance as of 30 September 2008 was \$ 3,738 million or an increase of \$ 1,652 million during the period of 2008. Until the end of 2009 the position of the balance is expected to reach \$ 4,215 million, after the reduction of the Petroleum Fund in 2008 of \$ 396 million. This is slightly different from initial projections in 2008 for \$ 3,116 in

the 2008 budget. This budget is expected to continue to rise until reaching \$ 4,876 million in 2009 and \$ 7.743 million in 2012.

### **3. Petroleum Revenues, Wealth and Sustainable Income**

Total Petroleum Wealth Fund consists of the balance plus the net present value of oil revenues. This is estimated to reach \$ 13,595 million as of January 1, 2009. Estimated Total Wealth is increased \$ 3,784 million compared to the calculation of the budget 2008 and 2008 mid-year review. There are several factors that affect the estimation of Petroleum Wealth and continue to increase in mid-2008. These include: 1) changes in assumptions on service cooperation contracts Banyu Undan, and buyers of LNG from Japan; 2) the increase in operational costs and investment costs; 3) projections of oil prices in 2009 is estimated to slightly decline in prices compared to 2008.

The ESI has been calculated based on only one field, the Bayu-Undan, while Timor-Leste has already proved another field of comparable size (Greater Sunrise), and has solid geological prospects for many more fields in all three zones of the country: the Joint Petroleum Development Area (JPDA) with Australia, Timor-Leste's exclusive jurisdiction offshore zone, and the terrestrial zone, where many oil and gas seeps give strong evidence of significant petroleum deposits. Moreover, the ESI calculation regarding Bayu-Undan has also used conservative assumptions (for example, completion of production by 2023) that under estimate the ultimate recoverable petroleum wealth of the field.

### **4. Tax Revenues (Direct and Indirect Tax)**

Apart from oil revenues and natural gas, Timor-Leste also has sources of other income. However, revenue contribution from the state tax is still very small compared to revenues from oil and natural gas. During the 4-year period from 2008 to 2013, tax revenues of Timor-Leste ranged between \$ 36 - \$ 80 million, with the composition of Direct Taxes including Individual Wage Income Tax and Business Income Tax. Moreover, Indirect Taxes consist of Sales Tax, Excise Tax, Import Duty, and Services Tax. Note that figures mentioned for 2008 are based on actual data; the rest is based on 2009 projection.

From the composition of direct taxes, from the year 2008 income tax role is still very dominant with revenues ranging from \$ 13.31 million in the year 2008, fell slightly in 2009-2011 and then estimated increased to \$ 12.28 million in the year 2012. Meanwhile, individual tax contributions ranged from \$ 4.70 million to \$ 4.38 million in the year 2012.

In the meantime, if seen from the composition of indirect taxes, the role of customs is still quite dominant. It consists of Excise Tax and Import Duty and significantly increases from year to year. From 2008 to 2013 the customs income is from \$11.59 million to \$38.23 million. On the contrary, the role of Service Tax is still less significant, from 2008 to 2013 the value is only from \$3.83 million to \$4.33 million, although its potential was really quite promising.

#### 5. Non Tax Revenue

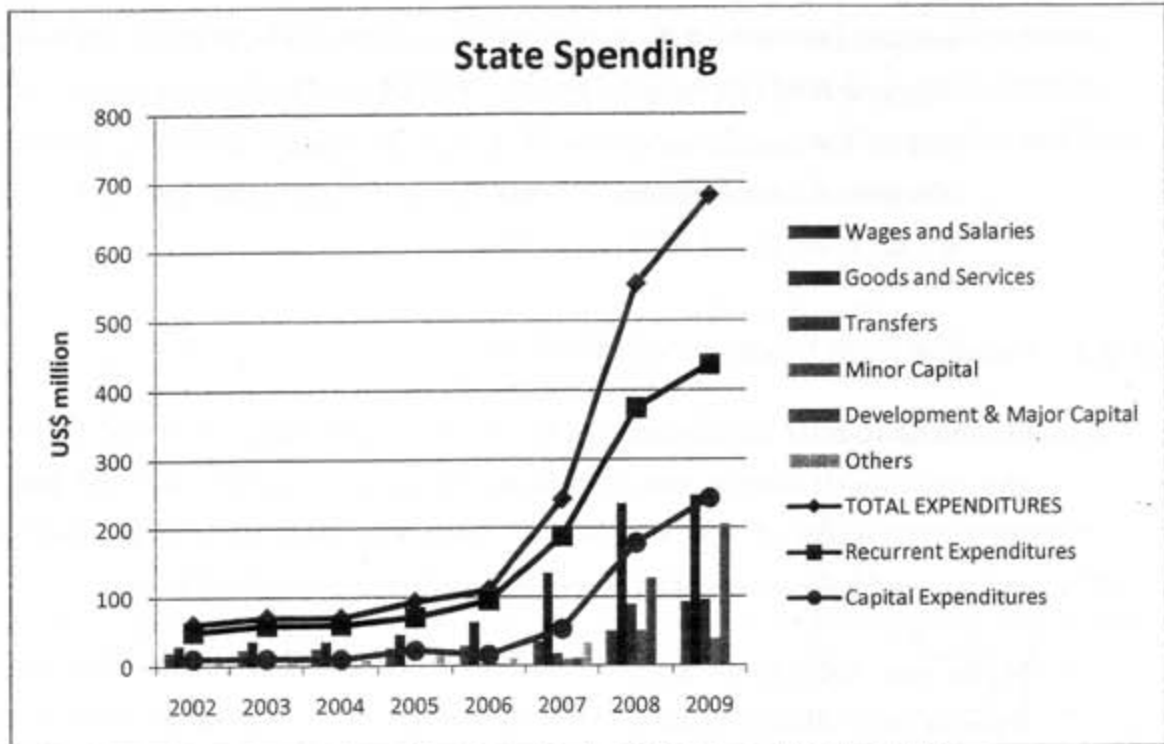
Non-tax revenue sources consist of User Fees and Charges Revenues. These kinds of revenues are small but increasing. From 2007 to 2008, the revenues increased from \$4.3 million to \$6.2 million or by 50% compared to the previous years. It is projected that they will increase to \$7.8 million in 2009 before reaching \$13.54 million in 2013.

### 2.2.2 State Spending

Projected total expenditures of East Timor for 4 years starting from 2008-2012 and its description can be described as follows.



Figure 2.2 - State Spending



Source: Processed from General Budget of the State and State Plan 2010

### 1. Recurrent Expenditure

Based on these revenues, Timor-Leste is then to spend in the form of government spending through several departments which include spending salaries, goods and services, capital, public transfers, public debt interest, and capital development. Annual report of state budget expenditures in 2010 mentions that the goods and services still dominate the total expenditure with the amount between \$ 248-\$234 million from the year 2009 to year 2013 estimates. Expenditure of salaries and public transfers also quite dominate the composition of government spending. It is between \$ 93-105 million for employee salary expenditure in 2009-2013 and \$ 96-97 million for the transfer of public expenditure in 2009-2013.

### 2. Capital Expenditure

The lack of infrastructure in Timor-Leste became the main obstacle to the low levels of investment in Timor-Leste in both the domestic and foreign. Limitations of this infrastructure are associated with low investment. Political and economic instability makes the provision of infrastructure becomes an obstacle especially when the disturbance occurred.

Timor-Leste Government itself is aware of the need for the establishment of adequate infrastructure so that in the budgeting always put the provision of infrastructure as a national priority. In 2009 the government budgeted \$ 205 million for capital expenditures. Based on Budget 2010 the Government allocates capital expenditure \$ 217 million for 2010, and then \$147, \$13, \$3 for 2011, 2012, and 2013 respectively.

### 2.2.3 Funding from Development Partner

In addition to state funding sources from domestic, the Government of Timor-Leste also has other financial resources from international cooperation. For the years 2009-2012 recorded \$ 465 million of funds from outside sources that can be utilized by the Government of Timor-Leste for the development fund.

In the year 2009, funds are given priority in sectors that already exist, for then there is little additional funds of \$ 39.5 million in humanitarian priority, media support and the establishment of community initiatives.

## 2.3 MONETARY SECTOR

### 2.3.1 Current Policy

Financial sector in Timor-Leste is yet to be developed. This sector is critical to the development of domestic economy because it can encourage savings mobilization, directing the use of savings effectively and directing the allocation of investments in accordance with development priorities in order to increase the productivity and economic prosperity.

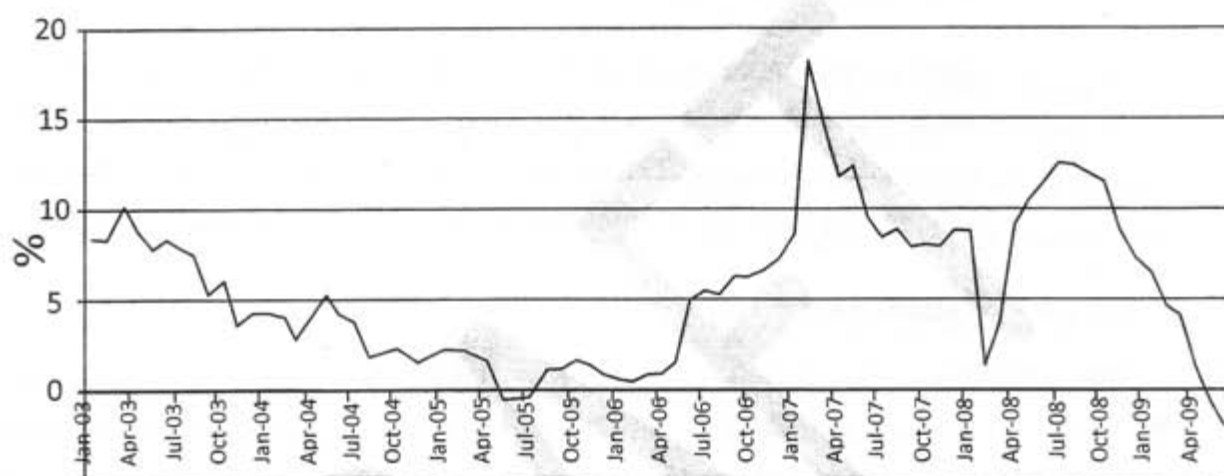
This sector covers the entire financial institution from the Central Bank to financial institutions at the village level. The fact is that not all savings channelled through financial institutions - some of them directly invested by the community - but most of it actually flows through the financial intermediaries so that the operations affected by such intermediary brokers.

The National Development plan put a high priority to the functioning of these financial institutions, which include not only the establishment and introduction of their activities, but also providing the best service possible to all requests for financial services. Therefore, there will be a specialization among financial



institutions to increase their competence in meeting financial needs of various sectors. Therefore, the main function of financial sector development plan is formulating area and level of specialization of these financial institutions such that there are no unfilled gaps. At the same time, identifying policy and institutional changes needed to ensure the financial system works properly.

**Inflation Rate Jan 03 – Jun 09**



### 2.3.2 Monetary Condition

Monetary policy is generally run by the central bank which has a role as a regulator of the national banking system and monetary system regulators. Currently, these functions cannot be carried out fully because the central bank has not been established. Bank and Payment Authority (BPA), which was formed on 30 November 2001 (Regulation No. 2001/30 About The Banking and Payments Authority of East Timor), is prepared to become the central bank of Timor-Leste.

Nevertheless, the monetary key indicators of Timor-Leste can be listed as follows.

#### 1. Inflation

Monthly inflation in Timor-Leste since 2003 shows a fluctuating pattern with a couple of times going up and down cycles. At the start with the inflation rate is still below 10 percent in early 2003, then declined gradually and reached the lowest level (to negative) in mid-2005. However, a negative inflation rate in the period proved a turning point with the monthly inflation

trends continue to rise sharply. The highest monthly inflation rate occurred in February 2007, which reached 17.9 percent.

Period after February 2007 was a period of inflation with dynamic fluctuations. The pattern of inflation in this period of change is more rapid than the previous period which was smoother. A year after its highest achievement, the monthly inflation rate declined sharply until it reaches the level of 1.3 percent. Then increased sharply again to above 12 percent in mid-2008 but then declined sharply until mid-2009.

With a variety of patterns in the last seven years, the inflation rate in the second semester of 2009 is relatively difficult to predict. However, when referring to the pattern began late in 2008, the inflation rate in the second semester of 2009 has the potential to be lower than the first half of 2009.

## 2. Exchange Rate

National official currency used is US dollar (US\$). Therefore, the exchange rate of Timor-Leste depends on the on monetary and economic conditions of the United States. The economic crisis in the United States can bring impact on the economy of Timor-Leste.

Since the national currency is the U.S. dollar, the in- and out-flow of these currencies into and from Timor-Leste is difficult to measure accurately. The circulation of money in society is also difficult to know exactly. In this case, the money supply as a monetary instrument for controlling inflation could not work.

Because the purchasing power relatively low, CPA introduces centavos coins, namely 1, 5, 10, 25, and 50 centavos. The value of money is synchronized with U.S. cent dollars. Thus 1 centavo equal 1 U.S. cent and 50 centavos equal to 50 U.S. cents.

## 3. Financial System

Bank and Payment Authority (BPA) has a function as a supervisor of financial systems in the country, especially in banking and insurance sectors. Still lack the legal rules governing the banking system and increasing banking activities primarily in bank credit, BPA intensively establishes coordination with related

parties as well as consultations with institutions such as the IMF and World Bank in preparing the necessary regulations.

BPA also plays a role in preparing and disseminating a modern payment system to the public, especially urban communities. Currently a number of payment instruments are available such as checks, inter-bank transfers and credit, debit cards and automatic teller machines (ATMs), and transfer money that can be accessed by the public. In addition, the BPA also serves as state treasurer in state activities and projects. BPA become paymaster of the activities or projects.

In 2005, BPA with the World Bank established a bank credit registry bureau to minimize credit risk. With a total distribution of credit by commercial banks reached more than 100 million dollars, the volume of potential non-performing loans is relatively high and could disrupt the financial system.

BPA operates Dili Clearing House (DCH) and its instrument including wire transfers and check credit. In 2005, DCH has been equipped with a new computerized system to improve performance. Volume of transactions on this DCH continues to increase along with payments directed to government projects and salaries of public officials.

The condition of Timor-Leste's banking system showed a rapid growth in the last two years. Total assets rose sharply in the year 2008, namely by 54.3 percent compared with the previous year. In 2009, total assets were increased significantly, although not achieving the growth rate in 2008. Until June 2009, total banking system assets reached U.S. \$ 268.6 million or an increase of 15.1 percent from the previous year to reach 233.2 million U.S. dollars.

Increased total assets were mainly driven by increased placements (due from commercial banks) which reached 96.5 percent in 2008 and 15.5 percent in 2009. Since 2005, these placements are always increasing and positive contribution to the growth of total banking system assets.

One of the main functions of a BPA is to ensure supply bank notes and enough money for the transaction in the community. BPA continued to maintain the supply of money supply which ensures operation of economic activities.

#### 4. Bank and Financial Institutions

Three banks that operate in Timor-Leste are foreign, namely Caixa Geral de Depositos (CGD), the Australian and New Zealand (ANZ) Bank and Bank Mandiri. CGD is also known to have been there as BNU in Timor-Leste since 2000. ANZ Bank operated in Timor-Leste since 2001 and Bank Mandiri began operations in Dili in 2003.

BNU is the first bank to have the opportunity to manage a small business loan, known as the Small Enterprise Project (SEP), during the initial reconstruction. That's part of an effort to move the economy after the destruction in 1999. This bank became the first bank that provides credit to the public, both consumers and the private sector. BNU has opened branch offices in almost all districts of Timor-Leste.

ANZ Bank is a bank that is relatively conservative by not giving credit to the public in large numbers. Meanwhile, Bank Mandiri is aggressively trying to attract creditors, mainly corporations from Indonesia and Timor-Leste in cooperation with partners in Indonesia. BNU, ANZ Bank and Bank Mandiri have provided a number of automatic teller machines (ATMs), especially in Dili.

Besides banks, in Timor-Leste there is also Microfinance Institution of Timor-Leste (Instituição de Micro Finanças de Timor-Leste / IMFTL). This institution was formed from the contribution of donors in 2003 and provides banking services despite the relatively limited. In design, the institution has become a kind of quasi-banks that will be expanded into full commercial banks with government ownership status. IMFTL has opened branches in several districts in East Timor. Some microfinance institutions in small scale have also been operating in some rural and urban areas in East Timor. Among these are the Moris Rasik and Tuba Rai Metin.

Policies taken by banks operating in East Timor, the Caixa Geral de Depositos (CGD), the Australian and New Zealand (ANZ) Bank and Bank Mandiri, and the Microfinance Institution of Timor-Leste (Instituição de Micro Finanças de Timor-Leste/IMFTL), are relatively more determined by each bank. BPA role in regulating activities of these banks is still relatively small. BPA cannot fully control interest rates, either savings/deposits or loans. Related with

mandatory reserve bank in BPA, currently it is set at 50.000 U.S. dollars. This is a mandatory reserve requirements set because of the clearing process between BPA with commercial banks.

Currently except IMFTL, there is not any non-bank financial institution that is operated in Timor-Leste, including insurance companies. The latter is currently in the approval process operates. However, it is estimated such institution will operate within 2-3 years. The absence of financial markets in the country enforces BPA to put the funds abroad.

## 2.4 MACRO ECONOMIC INDICATORS

In order to support short-, medium-, and long-term fiscal policies, the State is suggested to introduce a budgeting scheme called the Medium-term Expenditure Framework (MTEF). The scheme consists of budget plan for more than one year ahead, say from three to five years. Each year the plan is evaluated and redefined to meet current situation and condition. Timor-Leste's Annual State Budget Plan is also in favour with such a framework, which means the budget plan is always shown as allocated until the next five years. However, the execution plan is only for the next one year. Yet in MTEF, some prioritized programs may receive definitive allocation for more than one year. However, method to allocate budget for multi-year programs still varies among countries since it depends on the certainty or assurance in budget reserves for the incoming years.

MTEF has been implemented in many countries. The main advantage of implementing the framework is in the budget plan transparency and accountability to the public. It consists of the future fiscal policy orientation for three to five years that is disclosed to the public. The framework presents summary of macroeconomic indicators to be used as a baseline for formulating the state budget, fiscal policy direction and outline, and fund resource projection that will be achieved in the upcoming years. Moreover the projection figures in the MTEF will be revised each year to meet the macroeconomic condition and the implementation of fiscal policy.

Having MTEF the State is capable of harmonizing not only between planning and budgeting, but also between fiscal capacity and fund resource alternatives. Formulating MTEF is performed based on the mid-term assumption of macroeconomic projection and of revenue, expenditure, and funding policy. The



assumption is defined based on the current condition and the future prediction of macroeconomy, including either internal or external influencing factors.

The outline of Timor-Leste's MTEF is based on the macroeconomic assumption as follows.

#### 2.4.1 Impact of the UN Phasing Out in 2011 and 2012

From 2000 to 2010, two major events have shown to give significant impact to the economic growth of the country, i.e., the UN phasing out on 2001 and a social unrest on 2006. A summary of the impact to the economic growth is given as follows.

**Table 2.1 - The Impact of the UN Phasing Out in 2001 and Social Unrest in 2006**

Sector	UN Scaling Down		Social Unrest	
	% Growth	Description	% Growth	Description
Agriculture	-0.5%	Only one year impact	0.3%, -5.1%	Gradually lag impact
Industry	-15.1%, -0.6%	Negative growth, two years impact	-18.1%	Negative growth, one years impact only
Private Service	0.7%, 2.1%	above zero growth but longer recovery	-12.5%	Negative growth, one years impact only
Public Administration	-46.1%	Significant drop, one year only	1.3%	Drop a bit and easily recovered

*Source: Analysed figures*

In both cases, industry sector has been significantly affected, whereas the agriculture sector shows relatively zero growth. Private sector that during the UN phasing out in 2001 has not been quite affected, might suffer worse from the next UN scaling down in 2011. The reason is because currently more public services have been developed. Most of them serve the UN staffs. On the contrary, public administration that has previously underwent the worst impact, is now relatively stable as the government has learned from the past.

UN contributes about 10% to the GDP. The following table shows the sectoral share of non-oil GDP including UN. Since 2002, the contribution gradually decreased but suddenly increased due to social unrest in 2006. After that, the share continued to decrease about 10% until 2010.



Table 2.2 - Sectoral Shares of Real Non-oil GDP

Percentage share of non-oil GDP, excluding UN							
	2002	2003	2004	2005	2006	2007	2008
<b>Non-oil GDP, excluding UN</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Including UN</i>	121.3	113.6	109.5	105.4	108.0	116.4	115.7
Agriculture, forestry & fishery	33.1	33.1	33.5	33.5	35.7	31.1	31.4
Industry	19.0	19.0	15.4	16.0	13.9	17.0	17.9
Services	47.9	47.9	51.1	50.5	50.4	51.9	50.7
United Nations	21.3	21.3	9.5	5.4	8.0	16.4	15.7
Memorandum item							
Government sector	29.0	29.7	30.0	31.3	32.2	35.1	34.8

Source: General Budget of the State and State Plan 2010

However, since the government has experience to overcome the impact of UN phasing out in 2001 and 2002, then it is predicted the next phasing out would not quite much affected the economy of Timor-Leste during 2011 and 2012. The following table shows the predicted impact to the main sectors.

Table 2.3 - The Impact of the UN Phasing Out in 2011-2012

Sector	UN Scaling Down	
	% Growth	Description
Agriculture	1%	Only one year impact
Industry	-3%, -1%	Negative growth, two years impact
Private Service	3%, 1%	above zero growth but longer recovery
Public Administration	-3%	Negative growth, one year only

Source: Estimated figures

## 2.4.2 Employment

Within a decade, labour force has increased 35% from 300,000 people in 2001 to 405,000 people in 2010. It is estimated that about 12,000 to 15,000 new job-seekers enter the labour force each year. The TLSLS 2007 survey estimates that almost 50% young people (between ages 15 to 34) are unemployed in urban areas. Unemployment is largely an urban phenomenon and youth account for well over 90% of the unemployed. The similar condition is also found in rural areas. The great majority of Timorese are employed in low-productivity jobs in subsistence agriculture, often referred to as the "working poor." It is believed that direct and indirect wage employment (in terms of full-time employment equivalent) generated by government budget execution for each year. The macroeconomic model that is discussed in the previous section also shows that most corresponding variables to construct GDP are highly correlated with the government spending.

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Agriculture, forestry & fishery	33.1	33.1	33.5	33.5	35.7	31.1	31.4
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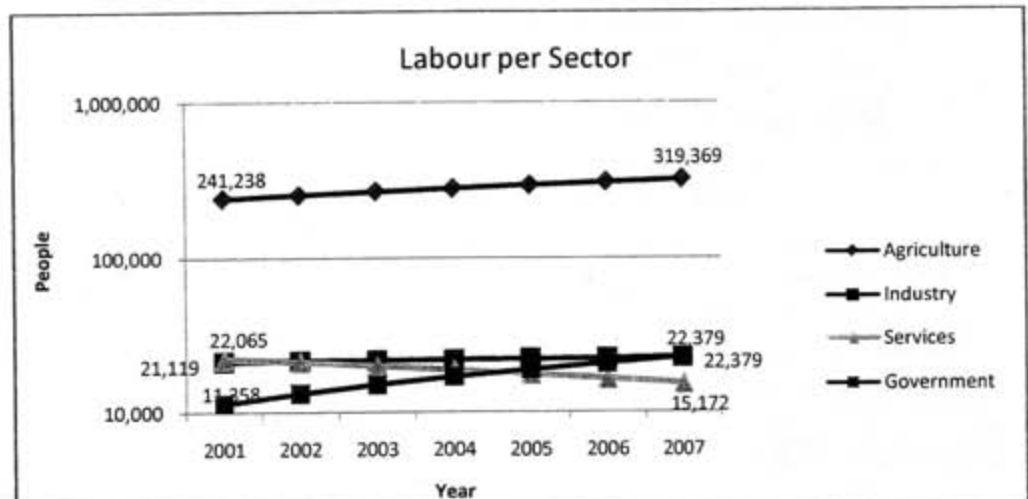
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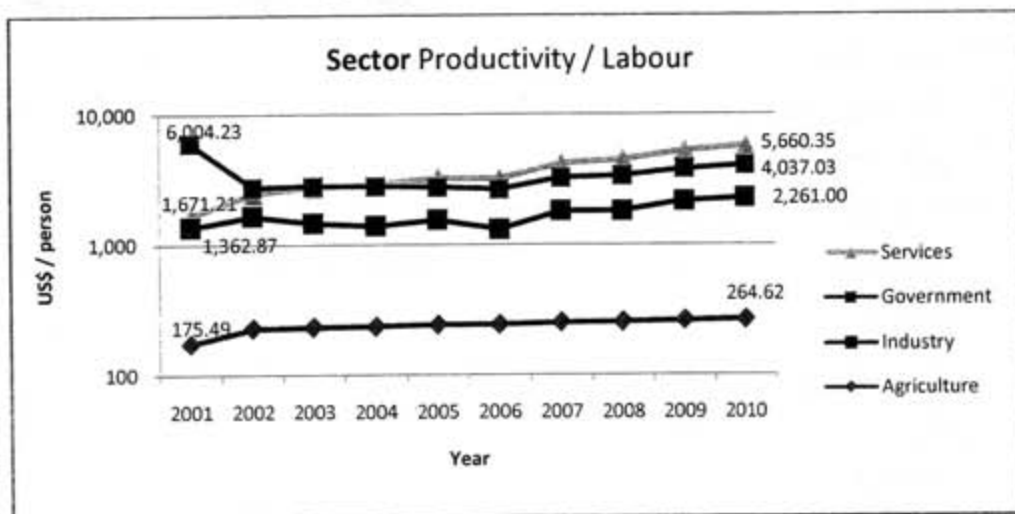
Based on two surveys conducted in 2001 (TLSS) and 2007 (TLSS) we can compare the condition of labours and their role in four sectors: agriculture, industry, services, and government (public sector). The number of labours in agriculture and public sector has increased from 2001 to 2007 by 32.4% and by almost 100%, respectively. Whereas in industry the number remained the same, it only increases 1% each year. On the contrary, the number in the service sector has decreased 5% each year on average; this industry consists of trade, finance, transport, and communications. Yet, in many countries, services play an important role in their economy. Again, this figure shows the importance of government budget to drive the economic activities of Timor-Leste.

Figure 2.4 - Labour Per Sector



Source: data processing on TLSS 2001, TLSS 2007, Population Census 2004

Figure 2.5 - Sector Productivity / Labour



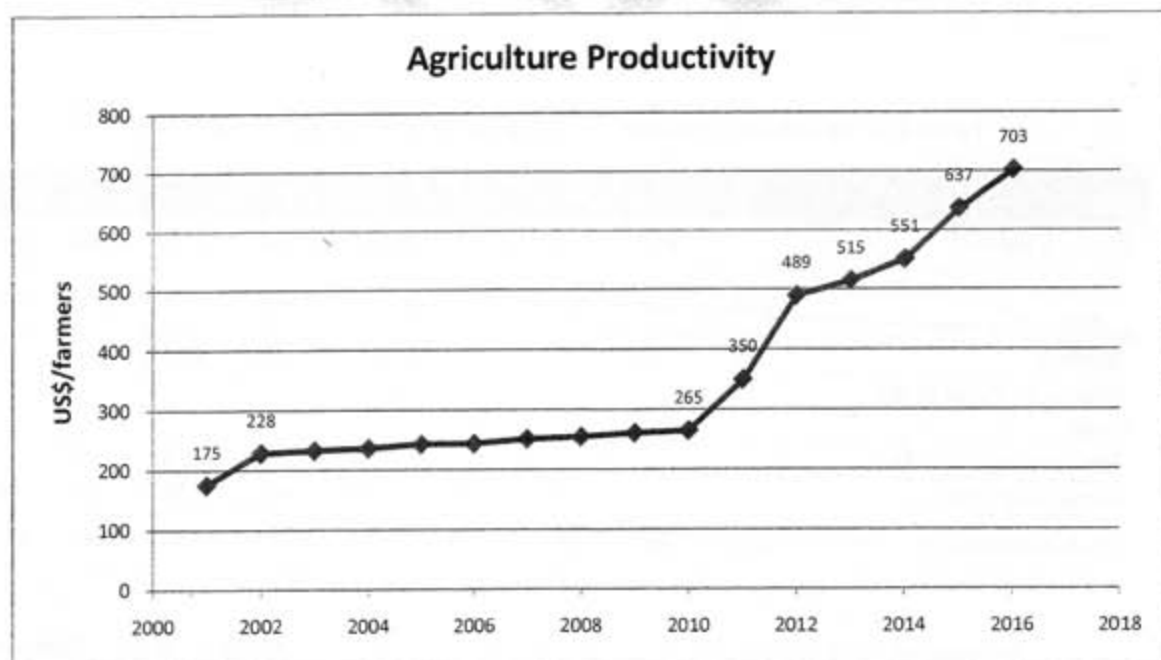
Source: data processing on TLSS 2001, TLSS 2007, Population Census 2004

### 2.4.3 Productivity Sectors

The productivity of each sector shows a significant performance except in public sector. The decreasing number of labours in service sector does indeed improve the productivity by 141% from US\$ 1,600/labour to US\$ 4,000/labour. From 2001 to 2007 this sector raises US\$ 40 million contribution to GDP. Industry shows a bit of increase in productivity (around 15% each year, from US\$ 1,300 to US\$ 1,800). The burden in the agriculture sector is still high, with less than \$250/labour in subsistence level. This means less than US\$ 1 per day per labour. Yet the number of poor labour entering this sector is very high, about 80% work force or about 300,000 people (30% of the population).

To raise the quality of life of the subsistence farmers, an agriculture investment package of SDP 2011-2030 is introduced. The fund allocated for the first five years from 2011-2015, is about US\$ 275 million. This embraces crops & horticulture, plantation, husbandry, fisheries, and forestry. The output is estimated to reach more than \$ 900 million. Detailed explanation is given in Chapter 4: Section Agriculture.

Figure 2.6 - Agriculture Productivity



Source: data processing on TLSS 2001, TLSLS 2007, Population Census 2004, self research

## 2.4.4 Revenues

The main source of Timor-Leste's revenue is mainly from the Bayu Undan gas field. This revenue is invested in US Treasury Bills and every year the government withdraws 3% of the Petroleum Wealth as an Estimated Sustainable Income (ESI) to finance the State Budget (see Table 2). As a result of this prudent policy, the Timor-Leste has accumulated the petroleum fund over \$5 billion dollars by end July 2009. It is estimated that the ESI will be around half a billion annually during the next few years. Other revenue sources are estimated to contribute about \$100 million. Thus, estimated total State annual revenue, assuming all the PF is availed, is about \$600 million.

By end 2009 the PF is expected to have \$5.27 billion, net of the estimated ESI withdrawal of \$408 million. It is forecast that the PF will have \$6.16 billion by end 2010 and \$7.29 billion by end 2012.

The Total Petroleum Wealth (PW) is defined as the in the Fund plus the net present value of future petroleum revenue. The 2010 estimate indicates that PW to be \$16.72 billion (as of 1 January 2010). The Petroleum Wealth has increased by \$3,123 million compared to the estimate provided in the 2009 Budget.

Table 2.4 - Estimated Petroleum Fund Savings 2007 to 2012 (US\$ million)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Opening Balance	-	260	800	1,394	2,086	4,197	5,270	6,156	7,294	8,450
Petroleum Revenue (Bayu Undan)	260	469	956	640	2,284	1,460	1,244	1,467	1,454	1,158
Interest	1	13	37	33	116	138	147	173	202	229
Change in Value of the Fund	(1)	58	(139)	60	108	(114)	-	-	-	-
BPA Management Fee				1	1	3	3	3	3	3
Withdrawal (ESI)	-	-	260	40	396	408	502	499	497	495
Closing Balance	260	800	1,394	2,086	4,197	5,270	6,156	7,294	8,450	9,339

Source: General Budget of the State and State Plan 2010

According to the Petroleum Fund Law, the ESI shall be 3% of the PW. This implies the ESI for the Fiscal Year 2010 is about \$502 million. This is an increase of \$94 million compared to the ESI for 2009.



Table 2.5 - ESI as of 1 January 2010 compared to figures in the 2009 Budget (US\$ million)

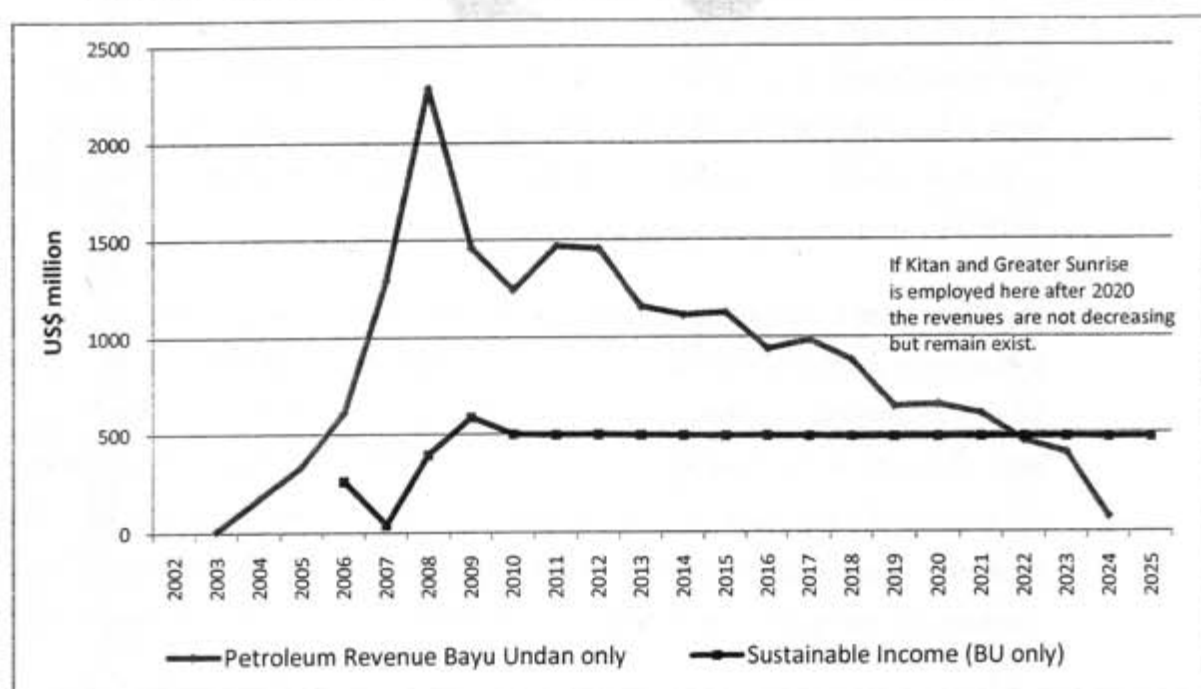
	2009 Budget	2010 Budget
Petroleum Fund Balance	4,216	5,272
+ Net Present Value of Future Revenues	9,379	11,446
Total Petroleum Wealth (PW)	13,595	16,718
Estimated Sustainable Income (PW x 3%)	408	502

Source: General Budget of the State and State Plan 2010.

Estimates of future oil price are lower than the current market price. However, it should be noted that the calculations are based on significantly higher oil prices than historical prices, and that oil prices have displayed considerable volatility over time.

Chart below shows forecast ESI and petroleum revenue up to 2024 and withdrawals from the Petroleum Fund from 2007 to 2012 from Bayu Undan only. Estimates from Kitan and Greater Sunrise are not presented here.

Figure 2.7 - Petroleum Revenue and Sustainable Income 2002 to 2024 (nominal prices)



Source: General Budget of the State and State Plan 2010.



## 2.5 MACRO ECONOMIC PROJECTION

### 2.5.1 GDP Projections

The GDP projections are based on the assumption that the government spending programme in the SDP is implemented. The total amount of ESI (US\$ 500 million) plus other sources of revenue (US\$100 million) is assumed to fund the programme.

It is assumed that government spending eventually decreases while the investment creation starts to take place driving the economy and replacing some import demand.

The structure of the economy will improve characterised with ever increasing productivity on the agriculture sector that complemented by small scale industries and manufacturing as well as expected massive private investment in the industrial (oil & gas) sector starting 2016. The two will provide a balance between the need for a broad based development distribution and an intensive capital development. The result shows a much preferable situation that is represented by accumulated capital expenditure of US\$ 6.5 billion between 2011 - 2020. The average annual growth is around 11.4% and per capita GDP would reach more than US\$ 2,900 in 2020. This is quadruple of the current per capita income.

The investment package proposed in the SDP 2011-2030 promises to raise the subsistence farmers from \$300/worker in 2007 into \$700/worker in 2015. The impact of phasing out the UN staffs mostly to service sector have also been taken into account. A massive short-term labour intensive construction package to develop rural infrastructure would boost not only the consumption but also trigger local and interregional trading activities hence service sector. Having the skill, the workers are ready to enter bigger construction projects in the upcoming years.

Detail distribution based on either production or expenditure approach is given in the following tables and charts.

Table 2.6 - Combined Sources Budget and Cash Balances for 2002 to 2010 (US\$ million)

	2002	2003	2004	2005	2006	2007	2008 Actual	2009 Estimate	2010 Budget
<b>Cash Balance at Start of the Year</b>		<b>(36.00)</b>	<b>(76.50)</b>	<b>(110.00)</b>	<b>(158.50)</b>	<b>31.30</b>	<b>(121.70)</b>	<b>(148.97)</b>	<b>(79.07)</b>
<b>Income</b>	24.80	29.90	36.80	45.20	40.90	48.90	65.83	91.10	87.30
Domestic Revenue	20.20	24.10	29.80	37.30	34.10	42.00	58.28	84.20	76.80
Autonomous agencies own revenue	4.60	5.80	7.00	7.90	6.80	6.90	7.55	6.90	10.50
Budget support from donors									
Note: Oil and gas revenue is not included and transfers from the Petroleum Fund are shown as financing.									
<b>Expenditure</b>	60.80	70.40	70.30	93.70	111.10	241.90	489.10	610.90	650.99
Recurrent expenditure	49.90	59.10	60.00	71.20	95.00	188.40	311.00	369.60	405.39
Central government budget + Autonomous Agencies									
Capital expenditure	10.90	11.30	10.30	22.50	16.10	35.50	50.30	241.30	245.60
Central government budget + Autonomous Agencies									
<b>Overall non-oil balance (excl. donor project)</b>									
<b>Funding Gap</b>	<b>(36.00)</b>	<b>(40.50)</b>	<b>(33.50)</b>	<b>(48.50)</b>	<b>189.80</b>	<b>(153.00)</b>	<b>(27.27)</b>	<b>69.90</b>	<b>(14.09)</b>
<b>Financing</b>	-	-	-	-	260.00	40.00	396.00	589.70	549.60
Oil fund financing (ESI)					260.00	40.00	396.00	589.00	502.00
Changes in treasury cash-balances								0.70	47.60
<b>Donor Projects</b>									
<b>Projects financing by donors</b>			135.00	129.00	126.00	107.00	184.00	221.00	128.70
Donor Expenditure: Recurrent			94.00	86.00	85.00	75.00	167.00	203.00	122.00
Donor Expenditure: Capital			41.00	43.00	42.00	32.00	17.00	18.00	6.70
<b>Cash Balance at End of the Year</b>	<b>(36.00)</b>	<b>(76.50)</b>	<b>(110.00)</b>	<b>(158.50)</b>	<b>31.30</b>	<b>(121.7)</b>	<b>(149.0)</b>	<b>(79.1)</b>	<b>(93.2)</b>

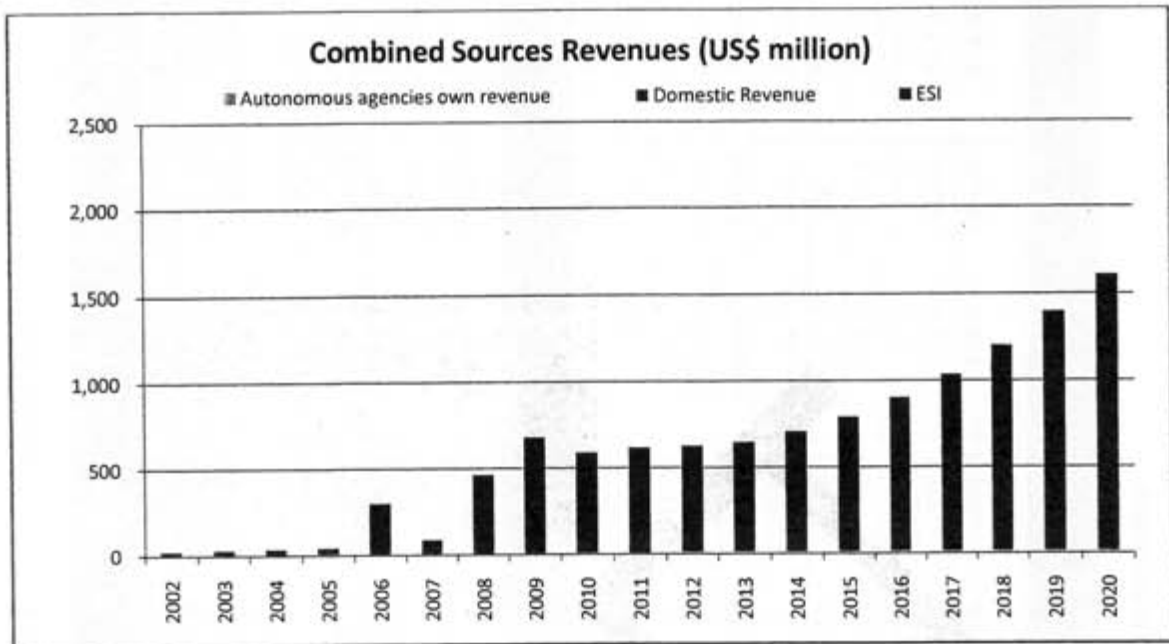
Table 2.7 - Combined Sources Budget and Cash Balances for 2011 to 2020 (US\$ million)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Cash Balance at Start of the Year</b>	<b>(93.16)</b>	<b>(327.23)</b>	<b>(721.85)</b>	<b>(1,232.06)</b>	<b>(1,835.30)</b>	<b>(2,479.92)</b>	<b>(3,159.54)</b>	<b>(3,864.88)</b>	<b>(4,583.29)</b>	<b>(5,304.13)</b>
<b>Income</b>	<b>120.76</b>	<b>129.36</b>	<b>151.74</b>	<b>215.37</b>	<b>302.07</b>	<b>412.74</b>	<b>549.84</b>	<b>716.04</b>	<b>914.30</b>	<b>1,147.81</b>
Domestic Revenue	117.84	139.21	201.83	287.51	397.17	533.25	698.44	895.68	1,128.18	1,103.00
Autonomous agencies own revenue	11.52	12.53	13.55	14.56	15.58	16.59	17.61	18.62	19.64	19.64
Budget support from donors										
<b>Expenditure</b>	<b>838.17</b>	<b>1,021.</b>	<b>1,156.96</b>	<b>1,311.61</b>	<b>1,437.69</b>	<b>1,581.36</b>	<b>1,741.18</b>	<b>1,919.96</b>	<b>2,120.18</b>	<b>2,250.50</b>
Recurrent expenditure Central government budget + Autonomous Agencies	442.17	473.27	500.21	523.97	545.22	564.45	582.00	598.15	613.10	627.01
Capital expenditure	396.00	547.70	656.75	787.65	892.47	1,016.92	1,159.18	1,321.81	1,507.08	1,623.49
Central government budget + Autonomous Agencies	300.00	320.00	330.00	340.00	345.00	349.00	351.00	352.00	353.00	354.00
<b>NSP INVESTMENT PACKAGE VALUED US\$ 5,374,700,000</b>	<b>110.00</b>	<b>227.70</b>	<b>326.75</b>	<b>447.65</b>	<b>547.47</b>	<b>667.92</b>	<b>808.18</b>	<b>969.81</b>	<b>1,154.08</b>	<b>1,269.49</b>
<b>Overall non-oil balance (excl. donor project)</b>										
<b>Funding Gap</b>	<b>(234.07)</b>	<b>(394.61)</b>	<b>(510.22)</b>	<b>(603.24)</b>	<b>(644.62)</b>	<b>(679.62)</b>	<b>(705.34)</b>	<b>(718.40)</b>	<b>(720.85)</b>	<b>(618.15)</b>
<b>Financing</b>	<b>499.00</b>	<b>497.00</b>	<b>495.00</b>	<b>493.00</b>	<b>491.00</b>	<b>489.00</b>	<b>486.00</b>	<b>485.51</b>	<b>485.03</b>	<b>484.54</b>
Oil fund financing (ESI)	499.00	497.00	495.00	493.00	491.00	489.00	486.00	485.51	485.03	484.54
Changes in treasury cash-balances										
<b>Donor Projects</b>										
<b>Projects financing by donors</b>										
Donor Expenditure: Recurrent										
Donor Expenditure: Capital										
<b>Cash Balance at End of the Year</b>	<b>(311.6)</b>	<b>(721.8)</b>	<b>(1,232.1)</b>	<b>(1,835.3)</b>	<b>(2,479.9)</b>	<b>(3,159.5)</b>	<b>(3,864.9)</b>	<b>(4,583.3)</b>	<b>(5,304.1)</b>	<b>(5,922.3)</b>

Table 2.8 - GDP Distribution Based On Production Approach

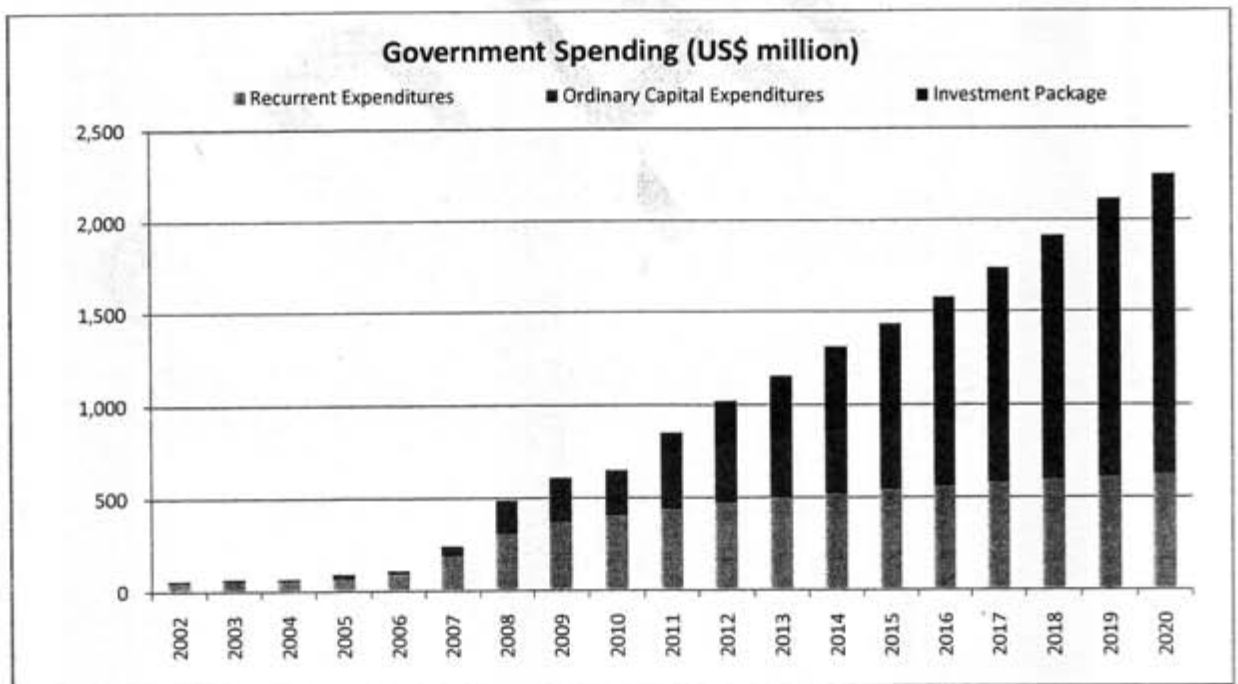
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Structure of Output (US\$ million)</b>										
GDP	277.0	284.1	297.8	309.3	331.9	326.8	398.0	499.0	627.6	769.0
Agriculture	66.7	94.1	98.1	103.7	111.3	116.6	124.3	189.4	235.1	294.3
Industry	45.3	53.9	47.9	47.5	53.0	45.4	65.9	66.7	95.2	125.1
Services	57.9	78.3	82.7	84.1	87.1	79.6	101.8	112.9	160.4	210.6
Public Administration	107.2	57.8	69.1	74.1	80.5	85.2	106.0	130.0	137.0	139.0
<b>Structure of Output (%)</b>										
GDP	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Agriculture	24.1%	33.1%	32.9%	33.5%	33.5%	35.7%	31.2%	34.4%	37.4%	36.7%
Industry	16.3%	19.0%	16.1%	15.4%	16.0%	13.9%	16.6%	12.1%	15.1%	15.6%
Services	20.9%	27.6%	27.8%	27.2%	26.2%	24.4%	25.6%	20.5%	25.5%	26.2%
Public Administration	38.7%	20.3%	23.2%	23.9%	24.3%	26.1%	26.6%	32.9%	22.0%	21.5%
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Structure of Output (US\$ million)</b>										
GDP	920.1	1108.6	1343.6	1637.3	1938.9	2293.7	2691.1	3136.2	3644.7	4228.1
Agriculture	352.0	424.2	512.9	621.2	726.7	846.7	975.7	1114.3	1266.6	1435.1
Industry	157.1	198.8	252.2	320.4	393.0	480.1	580.1	694.5	827.6	983.0
Services	264.1	333.5	422.7	536.3	657.2	802.1	968.0	1157.8	1378.5	1635.9
Public Administration	146.9	152.2	155.7	159.4	162.1	164.8	167.3	169.6	172.0	174.2
<b>Structure of Output (%)</b>										
GDP	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Agriculture	35.9%	35.2%	34.5%	33.8%	33.0%	32.3%	31.6%	30.9%	30.1%	29.4%
Industry	16.0%	16.5%	17.0%	17.4%	17.9%	18.3%	18.8%	19.2%	19.7%	20.1%
Services	27.0%	27.7%	28.4%	29.1%	29.9%	30.6%	31.3%	32.1%	32.8%	33.5%
Public Administration	21.0%	20.6%	20.1%	19.7%	19.2%	18.8%	18.3%	17.9%	17.4%	17.0%

Figure 2.8 - Combined Sources Revenues (including Oil &amp; Gas)



Source: Processed macro-economic model.

Figure 2.9 - Government Spending

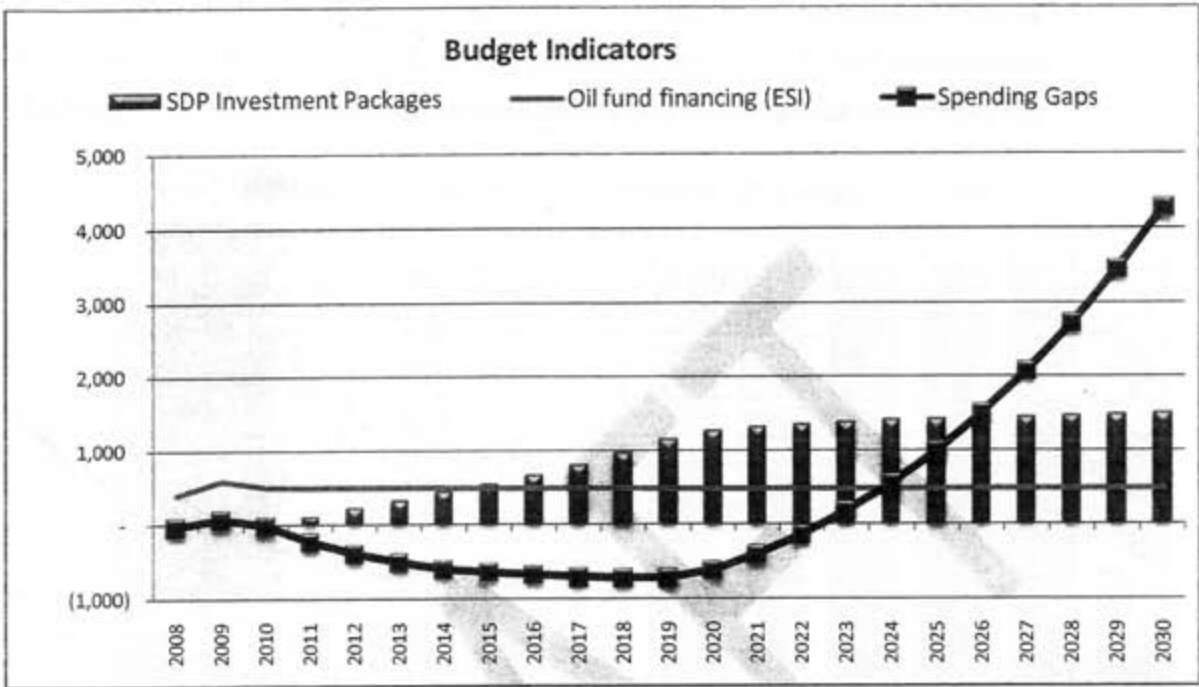


Source: Processed macro-economic model.

The combined sources integrate incomes mostly from the ESI and the domestic revenue (Figure 2.8). The autonomous agencies own revenue is quite small compare to the first two sources. On the other hand, Figure 2.9 shows the government

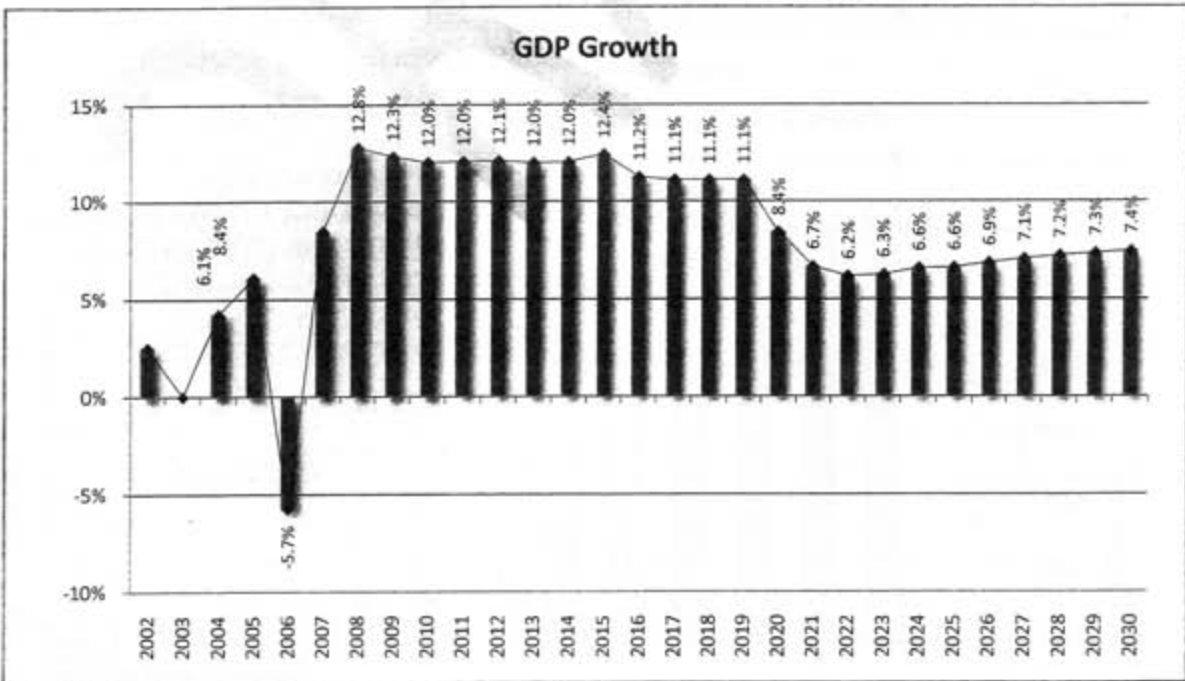
spending that is a bit higher than the revenues. This spending gap is also shown in Figure 2.10 (the red line curve).

Figure 2.10 - Funding Gaps and SDP Packages



Source: Processed macro-economic model.

Figure 2.11 - GDP Growth



Source: Processed macro-economic model.



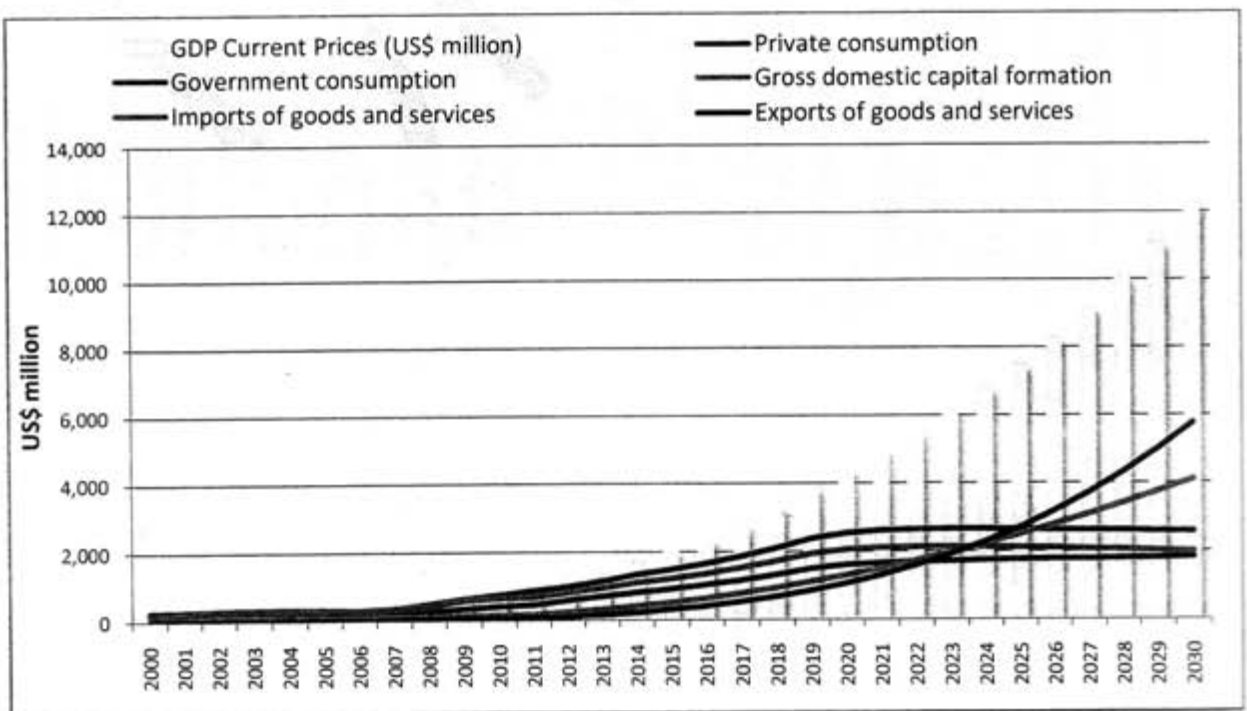
Based on the analysis, Timor-Leste is capable to maintain constantly double-digit GDP growth percentages for more than a decade (see Figure 2.11) since 2008 to 2020. The government has released official figures for 2008 and 2009 at 12.8% and 12.3% respectively. It is estimated that for 2010 the double-digit growth is still maintained and also for the upcoming years. With such an achievement the GDP per capita would reach US\$ 2900 in 2020 and US\$ 6,200 in 2030 (see Figure 2.12).

Figure 2.12 - GDP Current Prices/Capita (US\$/capita)



Source: Processed macro-economic model

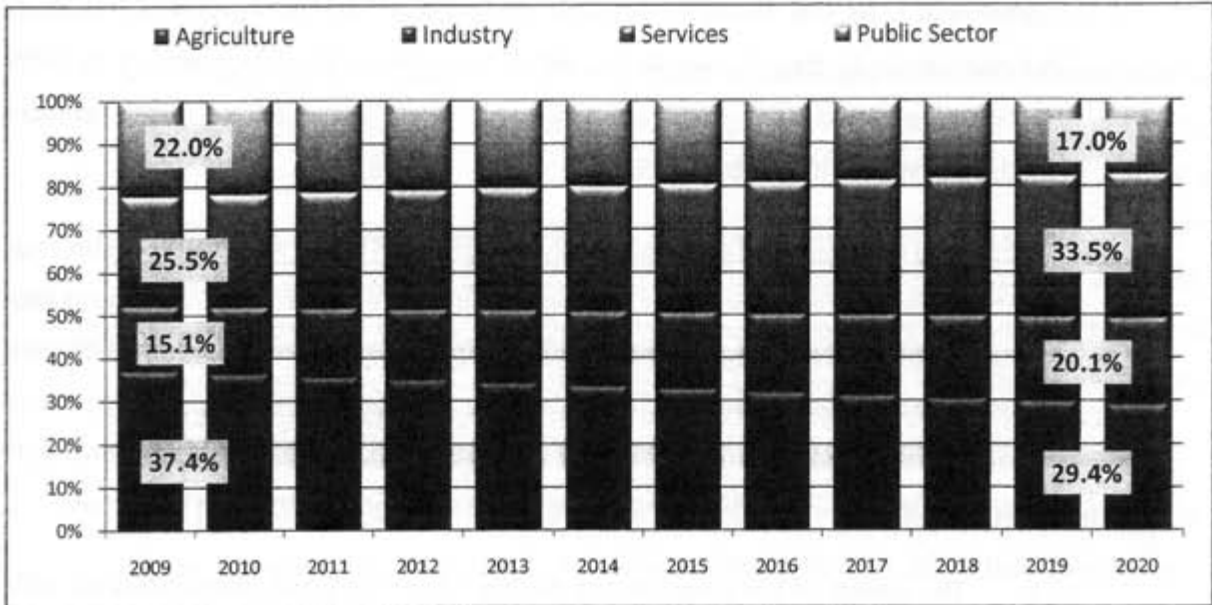
Figure 2.13 - Expenditure Shares of Non-oil Current GDP



Source: Processed macro-economic model.

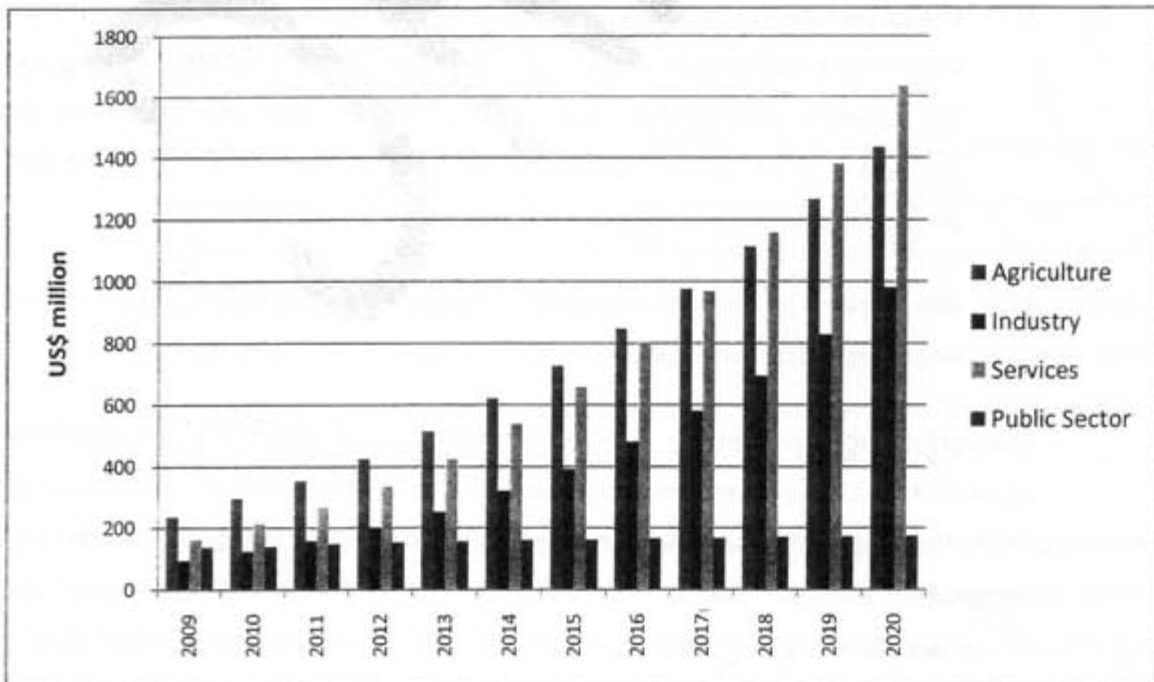
The expenditure shares show the improvement in not only capital formation but also export in which both are estimated higher than the government spending during the 3<sup>rd</sup> FYP (2021-2025). This implies that private sector will start to drive the economy (see Figure 2.13).

Figure 2.14 - Production Shares of Non-Oil Current GDP (%)



Source: Processed macro-economic model.

Figure 2.15 - Production Shares of Non-Oil Current GDP (US\$ million)



Source: Processed macro-economic model.

In line with the expenditure shares that show the improvement of the private sector, the production shares show which sectors play important role to govern the economy (see Figure 2.14). In 2009 the highest share is of the agriculture sector, 37.4%. However this sector undergoes the highest drop up to 8% in 2020. The negative shift is also happened in public sector from 22% in 2009 to 17% in 2020. On the contrary, the positive shifts are shown in industry and service sector. The latter will lead the share to replace the position of the agriculture sector. This phenomenon is also shown in the value of production shares where in 2009 the agriculture sector ranks the first position but in 2020 the service sector replaces the highest position (see Figure 2.15).

Such level of economic growth usually depends on the private sector. This may not be the case for Timor-Leste, at least in the first 5 years. Private investment requires an appropriate enabling environment that provides security and predictability for private sector development. Thus, creating a growth conducive for private sector environment is critical. A stable and conducive macroeconomic environment with low inflation, low interest rates and a stable currency system are essential.

1. The effect of UN phasing out during 2011 and 2012 might have no effect to the economic growth as the government had learned from the same situation in 2001-2002;
2. The government spending after 2015 start to steady position since the private investment initiates to replace the position as the economic driving force of the country. During this time about 2016 an 2017 the economic growth declines a while. Investment starts to drive the economy in the 3rd FYP. The economic growth eventually increases;
3. The growth of imports eventually decreases to represent effort to develop import substitution works.

The various policies that are directed at expanding employment opportunities such as described in the previous section and the implementation of policies in various fields that induce greater economic growth in various sectors. A relatively large creation of employment is expected to occur in the agriculture sector and the construction in the 2011–2015 periods. In the subsequent years, it will then follow by increase in the industrial, trade services, hotels and restaurants activities. This will in turn shift the economic composition into a more service and industrial base.

The growth rate of employment opportunities in the agricultural sector is expected to decline in the longer run, in line with the expected sources of growth in the agricultural sector, namely more from the increase of productivity of farmers rather than from the expansion of agricultural lands, and from the fisheries and livestock sub-sectors that have a lower capacity to absorb manpower than the sub-sectors of food products and estates. Thereby, it is expected that the income of farmers and their welfare will increase.

Since the initial focus will be on development of social and economic infrastructure, the economic growth will maintain double digits for a decade following the same position since 2008 with 12.8% and 2009 with 12.3%. This in average forms a growth rate of 11.4 percent per year between 2011 to 2020 and of 7 percent between 2020 to 2030. The trend is expected to be continued during the 2nd Mid-term Development Plan (2021 – 2030). With the average population growth rate of around 3 percent in 2011 and 2.5 percent in 2020, current income per capita will reach US\$ 780 in 2011 and US\$ 2,900 in 2020.

From the production side, in 2009 economic structure consists of 37.4% agriculture, 40.7% industry and services, and 22.0% public sector. In 2020 the industry and services will form 53.7%, agriculture 29.4% and public sector 17.0%.

## 2.6 MEDIUM TERM EXPENDITURE FRAMEWORK (MTEF)

### 2.6.1 Concept

Timor-Leste is suggested to implement MTEF as it is an ideal vehicle for actually incorporating poverty reduction initiatives into public expenditure programs within a coherent macroeconomic, fiscal, and sectoral framework. According to the World Bank's Public Expenditure Management Handbook (1998)<sup>4</sup>, "The MTEF consists of a top-down resource envelope, a bottom-up estimation of the current and medium-term costs of existing policy and, ultimately, the matching of these costs with available resources... in the context of the annual budget process."

The "top-down resource envelope" is fundamentally a macroeconomic model that indicates fiscal targets and estimates revenues and expenditures, including government financial obligations and high cost government-wide programs such as

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civil service reform. This model and the projected figures have been discussed in the above section. A comprehensive stages of implementing MTEF is given in the following table.

**Table 2.9 - The Six Stages of a Comprehensive MTEF**

STAGE	CHARACTERISTICS
I. Development of Macroeconomic/Fiscal Framework	<ul style="list-style-type: none"> <li>• Macroeconomic model that projects revenues and expenditure in the medium term (multi-year)</li> </ul>
II. Development of Sectoral Programs	<ul style="list-style-type: none"> <li>• Agreement on sector objectives, outputs, and activities</li> <li>• Review and development of programs and sub-programs</li> <li>• Program cost estimation</li> </ul>
III. Development of Sectoral Expenditure Frameworks	<ul style="list-style-type: none"> <li>• Analysis of inter- and intra-sectoral trade-offs</li> <li>• Consensus-building on strategic resource allocation</li> </ul>
IV. Definition of Sector Resource Allocations	<ul style="list-style-type: none"> <li>• Setting medium term sector budget ceilings (cabinet approval)</li> </ul>
V. Preparation of Sectoral Budgets	<ul style="list-style-type: none"> <li>• Medium term sectoral programs based on budget ceilings</li> </ul>
VI. Final Political Approval	<ul style="list-style-type: none"> <li>• Presentation of budget estimates to cabinet and parliament for approval</li> </ul>

*Source: PEM Handbook (World Bank, 1998: 47-51), adapted.*

To complement the macroeconomic model, the sectors engage in "bottom-up" reviews that begin by scrutinizing sector policies and activities (similar to the zero-based budgeting approach), with an eye toward optimizing intra-sectoral allocations. This will be thoroughly elaborated in Chapter III. In order to link between the "top-down" and "bottom-up" approaches in this section a resource envelope or sectoral budget ceiling will be presented. This ceiling will be subsequently refined in the implementation of each stage.

## 2.6.2 Lessons Learned

As discussed above, MTEF is a matching of the two approaches in the context of annual budget process. It involves rolling over this exercise every year by incorporating policy changes. Lessons learned from countries in Africa that implement MTEF, if successfully applied, it can improve macroeconomic balance by developing a multi-year resource framework (expenditure and revenue)<sup>5</sup>. Moreover, it assists in improving not only resource allocation between and across sectors but also predictability of funding for line ministries.

Apart from its benefits, the MTEF is just about budget planning given policy choices. However, it does not tell about what public spending is buying (i.e., the link

<sup>5</sup> V. Swaroop (2000). Medium term expenditure framework – what is it?. PREM Week Thematic Session. MTEF Debate. November 21, 2000. University of Maryland Conference Center.



between inputs and outputs) and it is not about accountability (i.e., how are resources being spend). To implement MTEF, Swaroop suggested five checklist to quest the readiness of the country.

1. Can the country do a reasonable 3-year projection of expenditures & revenue?
2. Is the bottom-up exercise of 3-year cost projections (capital & recurrent; programs & subprograms) feasible?
3. If the capacity does not exist, what would be a sequenced process of building it?
4. What country preparations are needed before a MTEF could be successfully adopted?
5. A MTEF will not solve all the service delivery problems.

In the same spirit, Allister Moon<sup>6</sup> coined four preconditions for beginning MTEF.

1. Macroeconomic stability
2. Predictability of aggregate expenditure envelope
3. Commitment from Cabinet
4. Core capacity in finance ministry/central agencies

Lessons from experiences in implementing MTEF in Africa are listed by Moon as follows.

1. Commitment from central agencies critical
2. Balance 'top down' and 'bottom up'
3. Develop 'bottom up' sectoral coverage in step with increasing predictability
4. Look for early engagement of players outside the executive
5. Keep expectations realistic and plan for long haul

<sup>6</sup> A. Moon (2000). MTEF: objectives and preconditions. PREM Week Thematic Session. MTEF Debate. November 21, 2000. University of Maryland Conference Center.



### 2.6.3 Sectoral Budget Ceiling

Data source to develop sectoral budget ceiling is mainly from Budget Plan 2009 and 2010. Distribution of budget fund can be obtained from both plans. On the other hand, from the macro analysis, the capital expenditures consists of two parts:

1. Ordinary Capital Expenditures: it is an allocation projection based on the history of budget allocations;
2. Strategic Development Plan (SDP) Investment Package: it is an additional fund suggested by the SDP's sectoral team as discussed in Chapter 4. The allocation commences in 2011 until 2020.

Since both types of expenditure overlap each other, sectoral budget ceiling is determined by regarding both as one government spending.

Capital Budget Priorities for Budget Plan 2010:

1. Roads Sector
  - a) Preparing technical designs for Annual Fiscal 2011 projects;
  - b) Periodic maintenance of roads, Flood control;
  - c) Rehabilitation of selected roads
  - d) Construction of bridges, flood controls;
  - e) Rehabilitation of Roads in Rural Areas in whole territory of Timor Leste;
  - f) Open to access new roads ;
  - g) Routine maintenance of roads;
2. Water Sector
  - a) Continuation of rehabilitate of water supply in urban areas;
  - b) Increase facilities of water supply in rural areas;
3. Power Sector
  - a) Continue rehabilitate of production and distribution Power Electricity for community in Timor Leste;

- b) Continue construction of new Center of Electricity Production (Heavy Fuel Oil);
4. Transportation and Communication Sector
    - a) Establish traffic post in all districts
    - b) Rehabilitation of facilities at Airport International Nicolau Lobato;
    - c) Rehabilitation of facilities at International Port Dili;
    - d) Continue promoting internet access to Districts and Sub Districts;
  5. Buildings and Urban Planning Sector
    - a) Preparing Housing Legislation
    - b) Preparing Urban Plan for Suai, Maliana and Oecusse;
    - c) Review of Urban Plan for Dili and Baucau;

By comparing the above list and the activities proposed in Chapter 4, it seems that some activities are proposed by both. Hence the overlap is quite high.

The sectoral budget ceiling is given as follows.

**Table 2.10 - The Sectoral Budget Ceiling**

SECTOR	% DISTRIBUTION	ALLOCATION 2011	ALLOCATION 2020
<b>CAPITAL EXPENDITURES</b>	100%	396.0	1,373.1
<b>Ordinary Capex</b>		300.0	354.0
<b>SDP Investment</b>		96.0	1,091.1
<b>BUILDING</b>	20% with respect to Ordi.Capex	60.0	70.8
<b>HUMAN RESOURCES</b>	20%	84.0	325.6
<b>INFRASTRUCTURES</b>	35%	147.0	569.8
<b>BUSINESS DEVELOPMENT</b>	10%	42.0	162.8
<b>AGRICULTURE</b>	15%	63.0	244.2

Detail of this table is given in the following table.

Table 2.11 - Detail Sectoral Budget Ceiling

SECTOR / SUBSECTOR	UNIT	Distribution	TOTAL									
			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>CAPITAL EXPENDITURES</b>		<b>100%</b>	<b>396.0</b>	<b>518.7</b>	<b>611.6</b>	<b>725.8</b>	<b>815.6</b>	<b>918.5</b>	<b>1,023.0</b>	<b>1,131.5</b>	<b>1,254.9</b>	<b>1,373.1</b>
ORDINARY CAPEX			300.0	320.0	330.0	340.0	345.0	349.0	351.0	352.0	353.0	354.0
SDP INVESTMENT PACKAGES			96.0	198.7	281.6	385.8	470.6	569.5	672.0	779.5	901.9	1,019.1
<b>BUILDINGS</b>	(With respect to Ordinary Capex only)	<b>20%</b>	<b>60.0</b>	<b>64.0</b>	<b>66.0</b>	<b>68.0</b>	<b>69.0</b>	<b>69.8</b>	<b>70.2</b>	<b>70.4</b>	<b>70.6</b>	<b>70.8</b>
<b>HUMAN RESOURCES</b>		<b>20%</b>	<b>84.0</b>	<b>113.7</b>	<b>136.4</b>	<b>164.4</b>	<b>186.7</b>	<b>212.2</b>	<b>238.2</b>	<b>265.3</b>	<b>296.1</b>	<b>325.6</b>
HOSPITAL & HEALTH CENTER	Ministry of Health	7.50%	31.5	42.6	51.1	61.7	70.0	79.6	89.3	99.5	111.0	122.1
TRAINING CENTER	Secretary of State for Employment and Vocational Training	0.50%	2.1	2.8	3.4	4.1	4.7	5.3	6.0	6.6	7.4	8.1
SCHOOL	Ministry of Education	12%	50.4	68.2	81.8	98.7	112.0	127.3	142.9	159.2	177.6	195.3
<b>INFRASTRUCTURES</b>		<b>35%</b>	<b>147.0</b>	<b>198.9</b>	<b>238.7</b>	<b>287.8</b>	<b>326.7</b>	<b>371.3</b>	<b>416.8</b>	<b>464.2</b>	<b>518.1</b>	<b>569.8</b>
URBAN	Ministry of Infrastructure	6%	25.2	34.1	40.9	49.3	56.0	63.7	71.5	79.6	88.8	97.7
ROADS & BRIDGES	Ministry of Infrastructure	10%	42.0	56.8	68.2	82.2	93.3	106.1	119.1	132.6	148.0	162.8
RURAL ROADS	Ministry of Infrastructure	4%	16.8	22.7	27.3	32.9	37.3	42.4	47.6	53.1	59.2	65.1
AIR TRANSPORTATION	Ministry of Infrastructure & Civil Aviation	4%	16.8	22.7	27.3	32.9	37.3	42.4	47.6	53.1	59.2	65.1
SEA TRANSPORTATION	Ministry of Infrastructure & Ports Authority	3%	12.6	17.1	20.5	24.7	28.0	31.8	35.7	39.8	44.4	48.8
FLOOD CONTROL & MITIGATION WORKS	Ministry of Infrastructure	1%	4.2	5.7	6.8	8.2	9.3	10.6	11.9	13.3	14.8	16.3
TELECOMMUNICATIONS	Ministry of Infrastructure	2%	8.4	11.4	13.6	16.4	18.7	21.2	23.8	26.5	29.6	32.6
GAS	Ministry of Infrastructure	1%	4.2	5.7	6.8	8.2	9.3	10.6	11.9	13.3	14.8	16.3
POWER	Ministry of Infrastructure	3%	12.6	17.1	20.5	24.7	28.0	31.8	35.7	39.8	44.4	48.8
WATER SUPPLY SYSTEM	Ministry of Infrastructure	1%	4.2	5.7	6.8	8.2	9.3	10.6	11.9	13.3	14.8	16.3
<b>BUSINESS DEVELOPMENT</b>		<b>10%</b>	<b>42.0</b>	<b>56.8</b>	<b>68.2</b>	<b>82.2</b>	<b>93.3</b>	<b>106.1</b>	<b>119.1</b>	<b>132.6</b>	<b>148.0</b>	<b>162.8</b>
TOURISM	Ministry of Tourism, Commerce and Industry	0.50%	2.1	2.8	3.4	4.1	4.7	5.3	6.0	6.6	7.4	8.1
COMMERCE	MTCI & MED	2.00%	8.4	11.4	13.6	16.4	18.7	21.2	23.8	26.5	29.6	32.6
INDUSTRY	MTCI & MED	7.50%	31.5	42.6	51.1	61.7	70.0	79.6	89.3	99.5	111.0	122.1
<b>AGRICULTURE</b>		<b>15%</b>	<b>63.0</b>	<b>85.3</b>	<b>102.3</b>	<b>123.3</b>	<b>140.0</b>	<b>159.1</b>	<b>178.6</b>	<b>199.0</b>	<b>222.1</b>	<b>244.2</b>
MARKET	Ministry of Agriculture and Fisheries	1%	4.2	5.7	6.8	8.2	9.3	10.6	11.9	13.3	14.8	16.3
IRRIGATION	Ministry of Agriculture and Fisheries	10%	42.0	56.8	68.2	82.2	93.3	106.1	119.1	132.6	148.0	162.8
PRODUCTION	Ministry of Agriculture and Fisheries	4%	16.8	22.7	27.3	32.9	37.3	42.4	47.6	53.1	59.2	65.1

## 2.7 POLICY DIRECTION

### 2.7.1 Public Finance

The fiscal outlook is one of stability and fiscal sustainability. On the revenue side, efforts will be continued to increase tax revenue, which is expected to increase from 12 percent of GDP in 2011 to 26% in 2020. On the expenditure, budget allocations will increase for the education, health, low cost housing, food security and basic infrastructure in rural and remote areas. However, items of recurrent expenditure, such as personnel will be controlled.

To finance the SDP expenditure programme, the Government proposes, for expediency, additional withdrawals from the Petrol Fund, at least for the initial phase. The possibility of multilateral and bilateral loans to fund the latter part of the expenditure programme will be examined. In the long run, when the financial sector is more developed, the issuance of government debt could also be part of its fiscal armoury in future. Private finance, through the implementation of public-private partnerships, could be an option to fund some of the government capital projects. Realistically, this is likely to be a longer term development, requiring careful planning beforehand.

The basic framework for financing is the following. The government aims for a maximum pace of public investment consistent with: (1) efficiency of resource use; (2) avoidance of bottlenecks in implementation; (3) full transparency and accountability of outlays, including proper procurement procedures; (4) full monitoring and evaluation; and (5) completion of the investment targets for 2015 and 2020. To accomplish these objectives, the Government will pursue: (1) a multi-sector investment policy, with scale-up plans across the major sectors operating in parallel; (2) large-scale training of personnel in each major sector; (3) institutional innovations to improve oversight and implementation; (4) rigorous data collection, coupled with monitoring and evaluation; (5) frequent consultations with relevant stake holders and experts; and (6) financial prudence.

We anticipate a rate of public-sector investments during 2011-2015 in the order of 30 percent of GNP, counting outlays on public health and public education mostly within the investment budget. The rest of the public sector budget would be around 20 percent of GNP. Total public spending would therefore be in the order of

50 percent of GNP which would amount to approximately \$1 billion per year in the first years of this new decade.

Private-sector investment will add another 15 percent of GNP per year, perhaps 10 percent international investment and 5 percent domestic. With the total public investment plus the private investments, approximately 50 percent of GNP, and an incremental-capital-output ratio (ICOR) of around 5, the national investment rates would be consistent with GNP growth of around 12 percent per annum or higher.

Government revenues, including petroleum revenues, will support public spending of around \$1 billion per year, with the remainder accumulating in the Petroleum Fund. The total Petroleum Fund balance will rise between 2011-2015 to around \$9 billion from \$5.5 billion in 2010. The government intends to benchmark the "3 percent rule" to current outlays and transfers, not consuming or transferring more than the sustainable consumption level equal to 3 percent of the sum of the Estimated Sustainable Income, (ESI) calculated as the sum of the Fund balances plus estimated NPV of future Fund revenues from petroleum. The government is currently exploring options towards funding strategic public investments including withdrawing in excess of the ESI or borrowing at concessional rates.

### 2.7.2 Investment and Sources of Funding

On the basis of the measures taken to improve investment activities in various fields, it is estimated that the efficiency of economic activities, that is measured by the Incremental Capital Output Ratio (ICOR) will improve. In 2011, the ICOR is estimated to reach 7, then falling to 3.6 in 2020. On the basis of the estimated level of investment efficiency with a view to attaining an average economic growth rate of 10.7 percent per year, the total investment required cumulatively for the ten years period is US\$ 5.4 billion (at current price), representing an average increase of 39 percent per year.

The required investment will mainly be financed by government. Hence, it is imperative to develop policy on private domestic savings to complement government investment. Due to large investment in the early stage, despite increased government revenues and the controlled routine expenditures, it is expected that government will have no savings. Then again, private savings are expected to increase. Such private funding, in addition to being directly invested, will also be channelled through the banking system. On the basis of the



implementation of various breakthrough measures, it is expected that various domestic sources of funding can be increased and will become funding for investment activities, among others by increasing tax and non-tax government revenues, optimising natural resources (such as by preventing the thefts of marine resources, forest resources and minerals).

### 2.7.3 Monetary Policy

Without its own currency and a Central Bank and a relatively undeveloped financial sector, monetary policy has a scant role in Timor-Leste. Since the US dollar is the medium of exchange in Timor-Leste, its economy is unduly directly influenced by monetary policy in the US. Bank and non-bank financial intermediation is scarcely developed, another factor limiting the role of monetary policy: both interest rate and money supply policy (through open market operations) are not possible.

On inflation, Timor-Leste has been able to keep it under control: inflation in 2008 was 7.4% and future inflation is targeted at less than 4%. However, the achievement of the inflation target will depend on the value of the US dollar, which is beyond the control of the Government. Hence, the issue of imported inflation is an important concern.

For the above considerations, Timor-Leste will undertake a major policy review in the near future on the continuation of basing its economy on the US dollar.

One of the traditional roles of the banking sector is to allocate capital (for example, domestic savings) to capital projects or investments. Given the present unsophisticated nature of the sector, the Government has begun to establish a Development Bank through Timor-Leste to provide debt financing.

With regard to the banking sector, there are many things to be done to make this sector another engine for Timor-Leste economic growth. In this respect, the Government has started the establishment of the National Development Bank to channel microcredit throughout Timor-Leste. Other policy direction in the monetary sector is:

1. Development of Healthy Infrastructure and Banking System

To develop infrastructure and banking system that leads to service provision for short- and long-term activities.

## 2. Establishment of Monetary Authority

Confirming BPA to be the central bank of Timor-Leste. Establishment of the monetary authority becomes an essential prerequisite to support the government in maintaining economic stability. Monetary policy can only be taken by a legitimate monetary authority.

## 3. Studies and Evaluation to Establish the Use of Own Currency

Conducting studies and evaluation of the use of U.S. dollars that is currently applied. This is related to the potential development of monetary instruments to support the Government policy. The use of U.S. dollars do not provide flexibility in controlling inflation, pricing policies and setting the minimum wage is strongly related to poverty eradication strategies.

## 4. Mobilizing Community Funds

Continuing the development of deposits and evaluate the possibility of the use of means of fostering public savings. This is among others such as the introduction of insurance systems and other funds saving systems.