

From Mega Projects to Macro Projection¹

Last month, the IMF published the assessment of Thailand's fiscal position in 2004 in its Article IV Consultation by pointing out various issues which also included the government's big investment projects, otherwise known as Mega Projects. The IMF made two notable statements about the Mega Projects 1) such projects should not destabilize the fiscal discipline 2) the projects should be prioritized and must be evaluated proficiently. I, as a follower of the Mega Projects, along with the Fiscal Policy Office (FPO) and Fiscal Policy Research Institute (FPRI) would like to elaborate on a few issues so that the readers can understand that the Ministry of Finance has already denoted some concerns similar to the IMF and has consequently been tracking them for some time.

1.1. Investment plan and fundraising strategy of Mega Projects between 2005 and 2008

1.1 Investment plan

The country's overall investment which stands at 25 percent of Nominal GDP can be divided into private investment (75 percent) and public investment (25 percent). Of the public investment, two-third of it will go into investment in Mega Projects. The forecast of the macroeconomic model has found that overall average investment and private investment between 2005 and 2008 will topple 2,480,568 million baht and 1,890,024 million baht, respectively. This can be viewed from Figure 1.

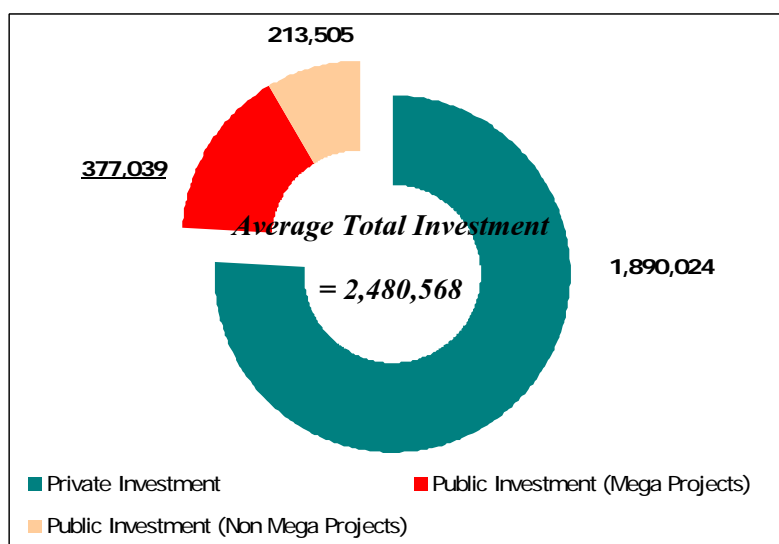


Figure 1 Mega Projects investment proportion to average national total investment in 2005-2008

In the budgetary years 2005 to 2008, the government and the State Owned Enterprises have formulated investment plans totaling 2,702,593 million baht whereby some have been approved by the cabinet while some are awaiting the approval by the cabinet and some are awaiting the approval by each ministry. Of these investment projects, the Mega Projects will be worth 1,508,156 million baht ² whereby investment plans worth 627,684 million baht have been approved by the cabinet, investment plans worth 64,666 million baht are awaiting the approval by the cabinet while investment plans worth 815,806 million baht are awaiting the approval by each ministry. This can all be seen via Table 1.

¹ By Pongnakorn Pochaporn. This article is a personal opinion which is not necessarily reflects opinion of the MOF.

² "Mega Project" means a project with budget size larger than 3 billion Baht.

Table 1 Government's and SOEs' 2005-2008 investment project status (million Baht)

Status	Cabinet authorized	In process for authorization	Department level	Total
Overall project (percentage to overall project)	633,257 (99.1%)	64,804 (99.8%)	2,004,532 (40.7%)	2,702,593 (55.8%)
Mega project	627,684	64,666	815,806	1,508,156

Remark: At the mean time, the dual track railway and water grid project still does not have clear annual investment plan. The estimation above is based on the historical pattern, which the Water Grid project (outstanding part) was assumed to start in 2006 and dual-track railway project was assumed to start in 2008.

Investment in Mega Projects will be worth on average 0.377 trillion baht per year. Only in 2007 that investment will exceed 0.4 trillion baht. It must be noted that the majority of Mega Projects investment are in the areas of transportation and energy. This can all be seen via Table 2.

Table 2 Government and SOEs investment plan by sector (million Baht)

Sector	2005	2006	2007	2008	2005-2008
Transportation	214,328	156,911	206,506	188,145	765,890
Land	126,530	123,958	184,444	162,383	597,316
Air	87,798	32,953	22,062	25,761	168,574
Real Estate	28,587	72,140	97,678	72,000	270,405
Energy	61,325	52,208	79,454	59,185	252,171
Agricultural and Irrigation	8,170	24,480	41,194	68,804	142,649
Telecom	19,519	7,004	3,340	210	30,073
Water for consumption	8,195	8,385	6,850	4,080	27,510
Other	5,398	6,526	5,688	1,845	19,458
Total	345,522	327,655	440,710	394,269	1,508,156

1.2 Fundraising Strategy

Fundraising strategy from 2005 to 2008 is expected to come from 5 main sources. For most part, funding will be obtained from domestic loan (33%) and the budget (32%). Investment in transportation will depend most on funding from the budget and external loans while investment in real estate will seek domestic loan the most. Investment in energy will, on the other hand, derive from its own revenue. These fundraising strategies can be viewed from figure 2. By looking at the fundraising strategies in annual term, it can be seen that in 2005 and 2007, domestic funding will be the major source of investment, whereas the budget will be used the most in 2006 and 2008 as shown in Table 3.

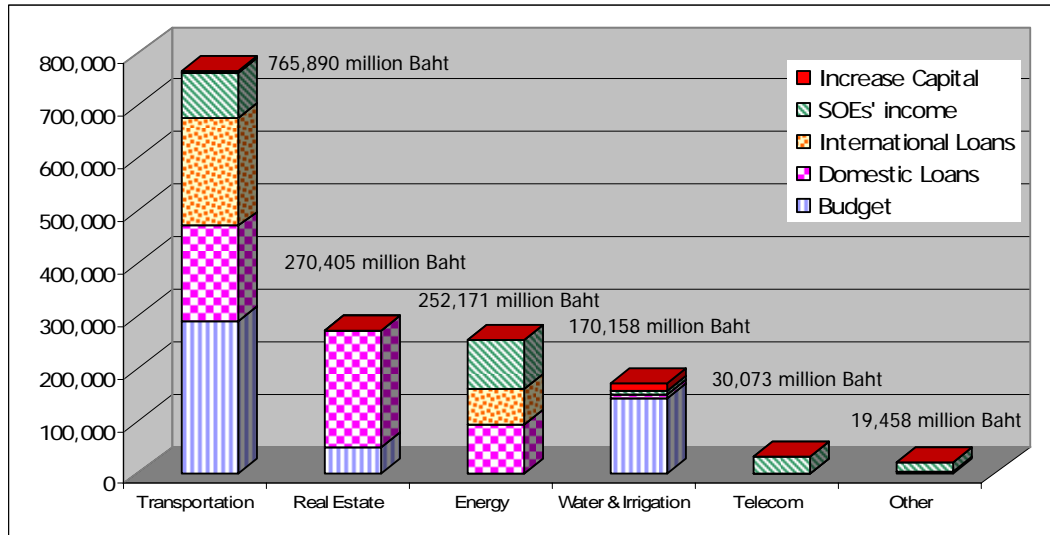


Figure 2: Government and SOE fundraising needs by Sector in 2005-2008

Table 3: Government and SOEs fundraising plan (million Baht)

Source of fund	2005	2006	2007	2008	2005-2008	After 2008	Total
Budget	87,563	115,653	146,103	135,339	484,658	489,576	974,234
Domestic loans	107,295	106,449	158,463	126,437	498,644	177,764	676,407
International loans	36,801	47,676	90,869	100,135	275,482	362,994	638,476
SOE's income	105,118	54,359	41,253	28,278	229,007	164,103	393,110
Increase capital	8,745	3,518	4,022	4,080	20,365	-	20,365
Total	345,522	327,655	440,710	394,269	1,508,156	1,194,437	2,702,593

2. 2. Macroeconomic analysis

2.1 2.1 Sectoral / Project prioritization framework

In June 2004, the MOF's economic policy committee, chaired by Dr. Olarn Chaipravat, agreed that the sectoral / project prioritization framework should be as follows:

- Project that offer high return (observe IRR)
- Project that offer quick return (observe Gestation Period)
- Project that requires low import content (observe Import Content)
- Project that generates revenue in foreign currency (observe Export Earning)

The inquiry has been made to the government agencies participating in the mega-project investments. The budget for the mega-project investments of the corresponding parties combined has totaled THB 1318 billion, or 87 percent of the total investment budget for the mega-projects. The answers to the inquiry leads to the conclusions that:

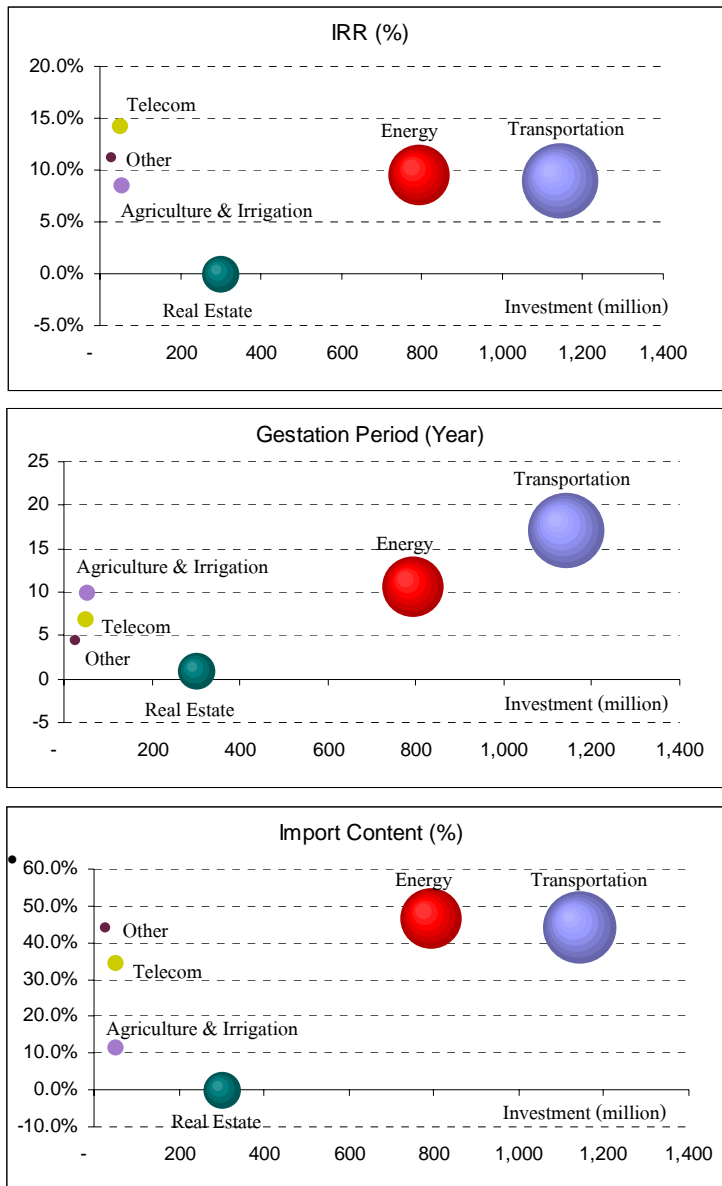


Figure 3: Sector/project prioritization framework

the energy sector requires the highest value of import content.

- **Export earning:** the outcome suggests that these investment projects tend to generate the revenue in the local currency; Thai Baht, with the exception of the air transportation, the revenue of which appears to be in foreign currencies.

Given the conclusion, investments in each sector tends to score differently in each criteria listed above. For example, the property sector is ranged lowest in the IRR category but its strength arrives from its low requirement for import content as well as the shortest gestation period. Consequently, the decision to launch an investment in any sector should rely on the score of the criteria that the decision-makers put more weight on. Some example can be viewed in the table 4.

- **Internal Rate of Return (IRR):** with the order set from the highest to the lowest IRR, the outcome suggests that the communication sector appears on top, followed by the energy sector, the transportation sector, the agriculture and water supply sector and the property sector consecutively.
- **Gestation Period (year):** with the order arranged from the shortest to the longest period, the outcome suggests that the property sector scores above other sectors and followed by the communication sector, the agriculture and water supply, the energy sector and the transportation sector respectively.
- **Value of import content (%):** the order is put from the lowest to the highest import content value, which suggests that the property sector needs the cheapest import content, followed by the agriculture and water-supply, the communication sector, the transportation sector, whereas

Table 4: Simple Sector prioritization sample (weight all criteria equally)

Sector/ by criteria	IRR (%)	Import Content (%)	Gestation Period (Year)	Export Earning	Total Rank
- Land transport	7	4	8	2	27
- Air transport	2	8	3	1	14
Transportation	5	6	7	2	20
Telecommunication	1	3	4	2	10
Energy	4	7	6	2	19
Agriculture & Irrigation	6	2	5	2	15
Real Estate	8	1	1	3	13
Other	3	5	2	2	12

Remark: Low total rank is more preferable e.g. Telecommunication, Real Estate, and Air Transportation

2.2 Macroeconomic management framework

In the case that no money was spent on the mega-projects, it is assumed that the public investment would expand at the rate of 12 percent annually. On the other hand, if the mega-investment projects are implemented, the public investment will grow 22 percent per year.

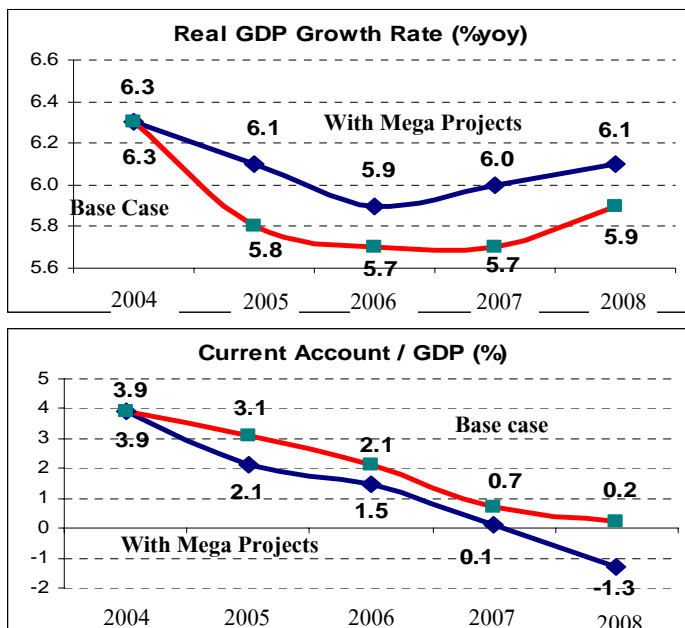


Figure 4: Comparisons between economic growth and CA to GDP of the base case and case with Mega Projects

When taking the total investment amount each year and the value of import content into the analysis by the macroeconomic model, it is found that the mega investment projects should boost the rate of economic growth 0.2 percent from the base case. It is likely that the real public investment will surge 3.2 percent. The value of the import goods will increase by 3.0 billion USD per year, which results in the 2.0 billion USD trade account deficit annually. The current account surplus will shrink by 0.9 percent of the GDP, or 1.9 billion USD annually (the tables 4 and 5 respectively).

Table 5: Thailand economic forecast of 2005-2008 (with and without Mega Projects).

	2004	2005	2006	2007	2008	2005 – 2008 Average
Base case: Assume that there is a part of Mega Project invested						
Core Assumption						
Fund invest in Mega Projects (Mill. Baht)	207,000	231,000	260,000	291,000	326,000	277,000
Growth	24%	12%	13%	12%	12%	12%
Forecast (without Mega project)						
Economic growth (%yoy)	6.3	5.8	5.7	5.7	5.9	5.8
Current Account (Bill.\$)	6.3	5.9	4.2	1.6	0.4	3.0
Current Account to GDP (%)	3.9	3.1	2.1	0.7	0.2	1.5
Case with Mega Projects:						
Core Assumption						
Fund invest in Mega Projects (Mill. Baht)	207,000	345,000	327,000	440,000	394,000	377,000
Growth	24%	67%	-5%	35%	-10%	22%
Forecast						
Economic growth (%yoy)	6.3	6.1	5.9	6.0	6.1	6.0
Current Account (Bill.\$)	6.3	3.8	2.9	0.3	-2.9	1.0
Current Account to GDP (%)	3.9	2.1	1.5	0.1	-1.3	0.6

3. Conclusion

From the analysis here, although further study is still required, it should lessen the IMF concern to the certain extent.

- **The mega-investment projects will not damage the fiscal balance of the government:** the government has clearly stated its commitment to the fiscal sustainability framework. Despite the mega-investment projects, the ratio of the public debt to the GDP will be kept below 50 percent. And the proportion of the debt burden to the government budget will not exceed 15 percent, while the investment budget is set at no less than 25 percent of the total budget.
- **The mega-investment project plan has been thoroughly evaluated and prioritized** by the related government agencies. The factors such as costs and benefits in terms of IRR, gestation period, the value of import content and the export earning have been carefully studied before any decision to agree on the launch of any investment.

Despite the fact that the mega-investment projects will lead to a higher growth rate of GDP, the government is well aware that such projects will also result in a bigger amount of trade deficit and a gradual decline of the current account surplus until it reaches the deficit of 1.3 percent of the GDP in 2008. **However, the government believes that the effective Saving Mobilization strategy, the correctly prioritized order of investments as suggested earlier and the right timing to conduct such investments should result in sustainable growth of the Thai economy in future.**