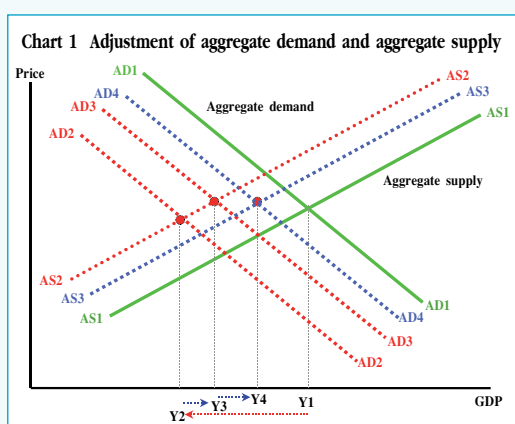


## The overall impact of the natural disaster on the Thai economy

The earthquake on 26 December 2004, with its epicenter on the Sumatra Islands resulted in the tsunami, which caused a significant loss in lives and possessions to many economies in the region, including Thailand. Six Thai provinces, namely Phang Nga, Krabi, Phuket, Ranong, Satun, and Trang, located along the coast of the Andaman Sea were directly affected by the tsunami. The total costs of the damages are immeasurable as there are not only economic costs, but also social costs involved such as the impact on mental health, orphan problems, and damages to the marine ecosystem.

The MPC has assessed the impact on the Thai economy with the framework as follows:

### 1. Framework



The MPC viewed that the tsunami had economic implications on both the demand and supply sides. Theoretically, the natural disaster caused damages to production factors, namely labour, where lives were lost and workers were injured; capital e.g. hotels, resorts, fishing boats, infrastructure; and natural resources such as beaches. Consequently, the **aggregate supply** declined abruptly as shown by a leftward shift of the aggregate supply curve from AS1 to AS2 in Chart 1. At the same time, **exports of services**

declined as foreign tourists either cancelled or postponed their trips. **Private consumption expenditure** will also decline due to: (1) lower household income from higher unemployment or the loss of main income earners despite financial assistance from the private and public sectors; (2) damaged wealth and (3) dampened confidence owing to psychological effects. As a result, the **aggregate demand** also fell, depicted by a leftward shift in the aggregate demand curve to AD2, causing GDP to decline to Y2.

On the positive side, the decline in both exports of services and private consumption will be partly offset by higher public spending and private investment. Public spending aims to restore damaged infrastructure such as roads, piers and government buildings as well as to invest in an early warning system to detect the tsunami. While private investment aims to reconstruct residential buildings and revive businesses, with some financial assistance from the authorities. These activities, however, normally takes time, unlike the sudden drop in exports of services and private consumption. The aggregate demand curve will thus shift to AD3 after some time and hence GDP will increase to Y3.

Over time factors of production will resume its normal trend, reflecting the rightward shift of the aggregate supply curve to AS3. Meanwhile, confidence of both domestic consumers and foreign tourists will gradually improve, shifting the aggregate demand curve rightward to AD4. Output growth will thus further increase to Y4 and resume its normal trend.

## 2. Assessment of the impact on economic sectors

### • Tourism

The MPC viewed that revenue from local tourists will not be significantly affected since revenue in the 6 provinces are mainly from foreign tourists which accounted for around 25 per cent of total tourism revenue or around 1.3 per cent of nominal GDP.

The number of tourists declined from the previous projection by 1.2 million people					
Number of tourists (million person)	2005				Total
	Q1	Q2	Q3	Q4	
Previous projection					
Tourists nation-wide	3.2	2.8	3.1	3.4	12.5
-tourist in the 6 provinces	0.9	0.7	0.8	0.9	3.3
New projection					
Tourists nation-wide	2.6	2.5	2.8	3.3	11.2
-tourist in the 6 provinces	0.3	0.5	0.5	0.8	2.1
Reduction in number of tourists	0.6	0.2	0.3	0.1	1.2
Tourism receipts fell from the previous projection by 1 billion US dollars					
Receipts (billion US dollar)	Q1	Q2	Q3	Q4	Total
Previous projection	2.8	2.4	2.3	2.7	10.2
New projection	2.3	2.2	2.1	2.6	9.2
Reduction in tourism receipts	0.5	0.2	0.2	0.1	1.0

Source: BOT estimates

According to the interviews under the Economic/Business Information Exchange Programme conducted in the affected areas, infrastructure was partially damaged. Resorts in Pang Nga (mainly Khao Lak) and Krabi (mainly Phi Phi Islands) were the most seriously hit. The rebuilding effort should thus take around 1-2 years to return to normal. Resorts in Phuket were slightly affected, while significant loss of revenue is expected to occur only in 2005 Q1, the high tourism season, after which tourism will recover and is expected to rebound to 2004's level by 2005 Q3. The other 3 provinces, namely, Ra Nong, Satun, and Trang were marginally damaged, so that tourism should recover quickly.

From the above assumptions, the MPC estimated that revenue lost from foreign tourists will be around 40 billion baht or around 0.6 per cent of GDP.

### • Fishery

The impact on fishery is expected to be limited as fisheries along the Andaman coast in those 6 provinces accounted for 17 per cent of total fishery or around 0.3 per cent of nominal GDP. According to statistics from the Department of Fisheries, the MPC estimated that the loss of fishery equipments of around 2 billion baht would reduce income from fishery by 3 billion baht in 2005 while repairing and procuring new equipment. In this respect, if the government provides effective assistance the fishery industry should recover relatively quickly than that of tourism.

### • Real estate

According to government agencies, the cost of damages to resorts, hotels and government buildings was estimated to be around 33.5 billion baht. The damage caused sudden reduction in wealth which will take time to recover. However, if reconstructions are rapid and income resumes, the damage should not adversely affect potential in production in the medium term.

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Items	Damage to asset <sup>1/</sup> (million baht)	Estimated loss in 2005 (million baht) <sup>2/</sup>				
		Q1	Q2	Q3	Q4	Total
Fishing nurseries	820	500	500	500	500	2,000
Shrimp hatcheries	258	100				100
Shellfish farms		30	30	30	30	120
Fishing boats	975	850				850
Total loss	2,053	1,480	530	530	530	3,070

Source: <sup>1/</sup>Royal Thai Navy Centre (as of 14 January 2005)

<sup>2/</sup>BOT estimates

- **Infrastructure**

Public utilities such as transportation, communication, water supply and electricity in the 6 affected provinces were slightly damaged, and in most areas have already been restored and have resumed services, except in some areas which will take several months to be completed such as Takua Pa, Khao Lak, Phi Phi, and Patong. In addition, the government has implemented measures to prevent diseases, which will help resume the well being of the people and the tourism industry .

### **3. Impact on the economy**

The estimated loss from tourism and fishery receipts of around 40 and 3 billion baht, respectively, will have a direct (first round) effect on GDP by reducing real output growth by 0.8 per cent, compared to the case without the tsunami. However, donations of around 1 billion baht and additional expenditure from the budget of around 3 billion baht will help to mitigate the effect. In this regard, the government's supplementary budget of 70 billion baht was not incorporated in the forecast due to its unclear direction. The MPC, however, assessed this as a positive risk which would drive economic growth, in future periods beyond that of the baseline projections.

Financial assistance from the Bank of Thailand and financial institutions in terms of soft loans amounted to 64.5 billion baht (or 0.8 per cent of total loans), of which the MPC assumed a disbursement rate of 75 per cent or around 48.38 billion baht or 0.7 per cent of real GDP. The soft loans will be used for investment in compensating and rebuilding resorts, hotels and fishing boats in the 6 affected provinces. A large proportion of businesses that are either directly or indirectly related to tourism, which were not affected by the tsunami or not located in the 6 provinces (such as businesses related to tourism, transportation, restaurants, cold storage, and insurance), will delay investments due to declining income. However, other things being constant, the injection of loans into the economy via private investment, will raise GDP growth by 0.1 per cent.

With regards to the second round effect from the tsunami, the fall in GDP will lower private consumption and investment as well as imports of goods and services. As a result, in simulating the aforementioned adjustments, GDP growth in 2005 would decline by 0.5 per cent compared to the case without the natural disaster. Meanwhile, without the tsunami, GDP growth would have been higher than the October forecast by 0.2 per cent due to adjustments in the assumptions. The new 2005 forecast is thus lower than that of October by 0.3 per cent.

### **4. Summary**

Although the economic impact is expected to be limited, the MPC viewed that economic stability should also be a concern, especially through the current account balance which will decline following the loss from tourism revenue. The MPC expects, however, that the current account will still register a surplus in 2005 although lower than the case without the tsunami by 1 billion US dollars.

In addition, the abrupt decline in wealth of the affected households will be compensated by debt accumulation. This is to compensate for the temporary decline in income and to re-accumulate assets such as housings, automobiles, and electrical appliances. Household debt in the region will unavoidably increase but may not put pressure on economic stability as long as the re-accumulated assets generate income and enhance the ability to service debt.