

The Impact of the IT Revolution on the Thai Economy

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1. The IT Revolution has differential impacts on the Thai economy.

While the IT revolution has stimulated the production and export of IT-related products, it has had only a marginal impact on e-commerce business or the creation of new industries relating to e-commerce.

- Between 1988 and 2000, IT-related exports surged by more than 17 times and their share of manufactured exports increased from 12% to 23.3%.
- Although Internet users jumped from 1% of the population in 1998 to 3.7% in 2000, the penetration ratio is still far below the other five East Asian economies. The number of Internet subscribers is forecasted to jump to more than 3 million in 2005.
- Less than 20% of Internet users have experience in B2C e-commerce and a TDRI survey found only 383 companies with web sites in 1999.

Rapid expansion of the export of IT-related products in the late 1980s and the early 1990s was caused by the inflow of FDI attracted to Thailand by cheap labor and macroeconomic stability.

As a result, Thailand is the largest producer of disc drives and one of the ten largest producers of computers and parts in the world.

- But Thailand will soon lose comparative advantage in the labor-intensive reports.

Although Information Society Index (ISI 2000) classifies Thailand in the group of Sprinters (third out of four groups), it ranked number 48 out of 55 countries in terms of the level of IT and communication development. Several indicators point to a serious problem of a digital divide in Thailand.

- Low penetration ratios of phone lines (12.5 per 100 persons) and computers (2.4 per 100 persons).
- Small number of Internet subscribers (less than 1 million) and users (2.3 million).
- 68% of Internet users and 54% of phones are in Bangkok and vicinity.
- 57% of Internet users are in their 20s and 50% have a college education.

Consequences: the new economy will concentrate in terms of opportunities and wealth.

The causes of the digital divide and the slow development of the new network economy include both supply and demand-side factors:

- Serious constraints in the IT infrastructure which result in high cost of IT services
- Shortage of qualified IT professionals which result in a transfer of IT jobs in the Thai subsidiaries of MNC's to Singapore
- Lack of legal infrastructure
- Language barrier because 78% of information in the Internet are in English
- Low effective demand for IT services, which result in low level of network externality

Implications: if the current trend in IT development is not reversed, Thailand may lag behind other Asian economies in terms of industrial competitiveness and development prospects.

2. The Cyclical impact of IT-related Product Exports

Although variations in world trade in IT-related products have some impact on the Thai economy, the business cycle in Thailand is governed more by fluctuations in total world trade than by the new economy. This is mainly because of Thailand's past liberalization policy and higher degree of openness. Moreover, the share of IT-related products in manufactured exports, though quite significant (23%), is relatively smaller than other East Asian economies.

A World Bank study found that cyclical factors were the major causes of the slowdown in East

Asian (including Thailand's) exports in 1996. Those factors included the slowdown in world exports (caused by the sudden rise in the value of dollar) and the sharp decline in the international prices of East Asia's major export products, particularly electronic products.

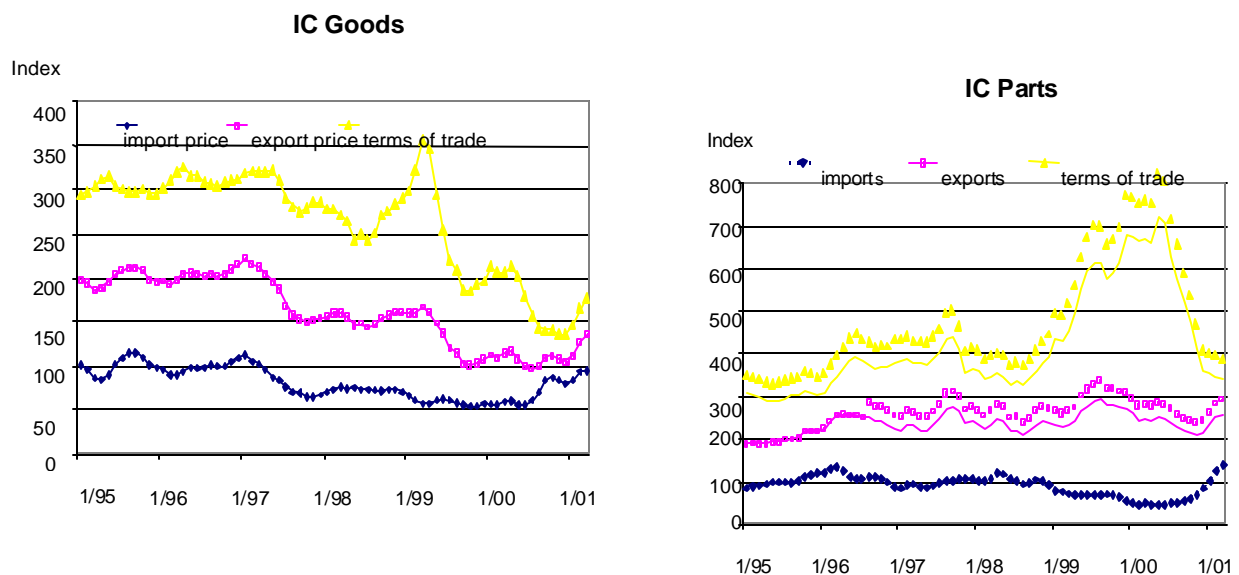
But Thai export data showed that the slowdown in growth of IT-related product exports was not the major factor causing the stagnation of Thai exports in 1996.

On the other hand, the rapid expansion of exports of IT-related products in the late 1980s and early 1990s, which averaged more than 20% per year played an important, if not the major, role in accelerating economic growth.

While the high growth of IT-related exports in 1997-98 was not enough to pull the economy out of recession, the rapid economic recovery in 2000 was made possible to some extent by the jump in exports of the IT-related products.

The slow down of the US new economy has begun to have some negative impact on the Thai trade balance in the first quarter of 2001, which in turn will hurt the economic recovery. The negative impact is not only the consequence of the reduced demand for IT-related products, but is also caused by deterioration in the terms of trade for electronic products (Figure 1). While the US economic slowdown has resulted in a decline in the export prices for Thai electronic products, import prices have declined by a smaller proportion or even increased in some periods when the baht was expected to depreciate.

Figure 1: Import and Export Price Indices for IC Goods and Parts

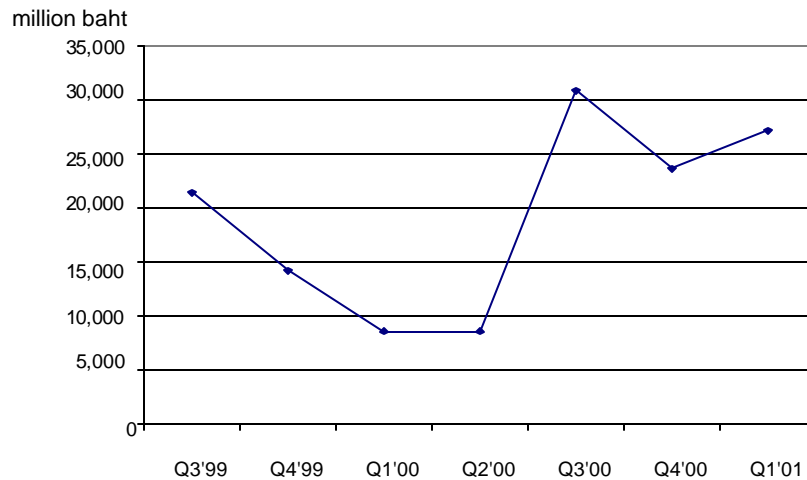


This reflects transfer pricing behavior and moves to speculate on the exchange rate by MNCs. What is good for the MNCs is not always good for the country receiving the foreign investment!

The downturn in the New Economy in the United States may adversely impact the Asian economic recovery until early 2002 for the following reasons

- Large inventory exists in the channel
- The downturn may cause the foreign investors to postpone their investment, which just picked up in 2001 (Figure 2)

Figure 2: Foreign Investment in Electronics Approved by BOI 99 Q3 - 01 Q1



3. Impact of the IT Revolution on the Industrial Structure.

The impact is still very marginal because the e-commerce market is still very much underdeveloped.

Although the use of the Internet is forecasted to increase significantly in the next few years, it is still too early to speculate on the potential impact on the industrial structure of Thailand.

In the banking business, the entry of foreign banks, which have a competitive edge in IT systems has not yet affected the market structure. But these foreign banks, with modern IT and superior risk management systems, will certainly be the standard-setters in the future.

There is some evidence supporting the hypotheses that the IT revolution may result in a higher degree of concentration in some businesses. One example is the impact of EDI in the retail trade business. Foreign firms and one large Thai firm have aggressively utilized EDI in their distribution system. The result is that a few large retailers now dominate the market.

- IT utilization has enabled firms to enjoy economies of scale and bargaining power against suppliers.
- IT alone is not sufficient to explain the higher concentration ratio, however. The debt problem of Thai firms has also forced them to sell a majority of their shares to large global retailers.

There are also some cases of successful small businesses in e-commerce, for example, jewelry and books in B2C e-commerce, IT distribution and markets for food and petroleum products in B2B e-commerce.

Given the facts that most Thai SME entrepreneurs are not computer literate, that only a few firms have utilized the ERP system in business, and that only a few SMEs can afford to use the application software provided by ASP's (which requires costly high-speed lease lines to function smoothly), Thai industry and business may become more concentrated in the medium term.

4. The Challenge: How to Improve the Competitiveness of the Thai Economy

Thai industry will be under an increasing cost-price squeeze. Thai exports will also soon lose competitiveness if the government fails to quickly upgrade the labor force. Many of the foreign-owned business in the IT-related sectors may move their plants to other lower cost countries in the near future.

The introduction of e-commerce, especially B2B, into the Thai manufacturing sector is one of the most pressing issues to maintain competitiveness. A World Bank study found that introduction of electronic supply-chain management systems would increase net profit by 65 percent for a hypothetical electronics component assembler in Thailand.

The government must take urgent steps to remove some of the major obstacles impeding the development of e-commerce business, namely, the monopoly in the Internet market, the shortage of qualified IT professionals, the language limitations, and the lack of a legal infrastructure.

The present government has a clear policy to promote the expansion of IT utilization. The most publicized program is the "One Tambon [Sub-district], one product" cum the "Tambon Internet." Other policies include education reform to promote a knowledge-based society, the universal provision of a national information infrastructure (NII), the School Net, the Software Park to promote the software industry, and enacting IT-related laws.

Regional cooperation in IT has also emerged. ASEAN has agreed to set up five working groups on IT and electronics and it has drafted an e-ASEAN Agreement Framework. The APEC Telecommunications and Information Working Group has an objective to reduce the national, regional, and international digital divide.