

Thailand's infrastructure bottlenecks endanger economic takeoff

by Uwe Parpart

By both physical-economic measures and financial indicators, Thailand's economic growth since 1986-87 has been dramatic, comparable only to the rapid economic takeoff of South Korea and Taiwan since the late 1960s.

Spurred by large foreign direct investment (\$5.1 billion in 1989, compared, e.g., to less than \$800 million for Brazil), mainly from Japan, and more recently also from Taiwan and other Asian newly industrialized economies, Gross Domestic Product growth has been in the double digits for the third year running. This has been led by the manufacturing sector (15% in both 1989 and 1990) and construction (19% in 1989 and 22% in 1990), with services (10% in 1989) and agriculture (4% in 1989) lagging considerably behind. Growth is sustained as well by strong domestic investment (gross domestic investment was 29.4% of GDP in 1989) and savings (gross domestic saving was 28.1% of GDP in 1989).

And both the country's external and internal financial positions are sound: The current account was in deficit by \$2.2 billion in 1989, due mainly to large capital goods imports from, and a resulting \$4.28 billion trade deficit with, Japan. Merchandise exports, however, have grown rapidly, tripling from \$7 billion in 1985 to \$21 billion in 1989, and are expected to grow by another 20% this year to \$26 billion. In addition, the large capital inflows in 1989 easily offset the current account deficit to produce a \$4 billion balance of payments surplus, and bringing international reserves to an all-time high of \$14 billion. Domestically, the budgetary surplus grew to \$600 million in the first six months of 1990, double the amount during the same period last year.

The strong performance of the Thai economy in terms of national accounts in many respects mirrors similar strengths and advances in physical-economic parameters. In the 1980s, and especially since 1985, the industrial workforce, both in absolute terms and relative to the total labor force, has increased significantly, from 1.8 million (8% of labor force) in 1980, to 4 million (13.6%) in 1989. At the same time, with the development of several heavy industries (petrochemicals, steel, glass, other chemical complexes), Thailand's industrial structure is becoming more diversified, moving away from the almost exclusive reliance on textiles, electrical and electronics assembly, and food processing of the early 1980s.

The shift in the structure of the labor force from agriculture into industry (and services), though about 60% of the

working population is still employed in agriculture, is also clearly reflected in the changing composition of exports: In 1980, primary commodities (agricultural and mineral) made up 55% of total exports, and manufactured goods 45%; by 1989, this had changed to 32% for primary commodities and 68% for manufactures. As a final, telling physical-economic parameter we record the past 10 years' growth in electricity consumption: 13,000 gigawatt hours (Gwh) or 280 kilowatt hours (Kwh) per person in 1980, 31,000 Gwh or 555 Kwh per person in 1989, with total consumption doubling between 1983 and 1989, and an average rate of increase of 15% over the past three years. Note, however, that even with such respectable recent electricity consumption increases, Thailand's per capita consumption still remains at less than one-fourth that of South Korea.

The down-side: infrastructure bottlenecks

In a recent, well-publicized speech, Paron Isarasena, president of Siam Cement Group, Thailand's largest industrial conglomerate, sharply warned the government that debilitating infrastructure problems in the transport, communications, and energy sectors had gone unattended for far too long, and continued failure to implement big infrastructure projects was becoming a major threat to further industrial development and economic growth.

"All of these problems have been widely discussed, but little has been done to turn talk into action . . . the problems remain unresolved, causing a slowdown in foreign investment in our country. Some manufacturing concerns are now finding alternative investment destinations in neighboring countries like Malaysia," Isarasena said.

Bangkok's traffic jams are legendary, and a recent Japan International Cooperation Agency (JICA) study came to the conclusion that over the coming decade-and-a-half, a staggering \$10 billion would have to be spent on city traffic problems just to maintain the present average traveling speed of 10 kilometers per hour! No rapid mass-transit system exists, though an elevated train ("sky-train") system is in the planning stage.

Communications, energy, and skilled manpower problems are just as immediate. Toward the end of this year's dry season in late April, Thailand's electricity reserve, the margin of dependable capacity over actual consumption,

dropped to only 6%, compared to a standard safe 16% level. The Electricity Generating Authority of Thailand (EGAT), which controls the bulk of the country's 8,000 megawatt (Mw) installed capacity, had underestimated dry season consumption by 13%. Three new 100 Mw natural gas-fired power units will come on line before the end of this year, but will hardly make a dent in the power problems, when an added 1,000-1,200 Mw annually is required to keep up with present demand growth.

Skilled manpower problems, including especially an acute lack of scientists (other than social) and engineers (a deficit of several thousand per year), are the legacy of an educational system which had never planned for—and, one suspects, never wished for—rapid industrialization and economic takeoff. In 1986, while enrollment in primary education (through grade 6) was 99% of the 6-11 age group, enrollment of 12- to 17-year-olds in secondary education was still a very low 29%, and is estimated to remain below 40% at present (South Korea was at 96% in 1986). Tertiary education enrollment now stands at a rather high 25%, but this figure is misleading, because the bulk of college-level students attend so-called "open universities" with questionable educational standards. And as late as 1985, for example, Thailand's oldest and most prestigious institution of higher learning, Chulalongkorn University, was able to enroll only a handful of undergraduates in its physics program, and only three years ago awarded its first doctoral degree in physics.

Infrastructure and manpower problems aside, regional economic development and associated income disparities define Thailand's most serious longer-term development problem. Most of the past several years' rapid industrial development has occurred in the already highly congested Bangkok metropolitan area (10 million people of a total of 56 million for the entire nation) and in the central region, leaving especially the impoverished northeastern region and the south—including the predominantly Muslim provinces bordering on Malaysia—further and further behind. Large-scale infrastructure, industrial, and agro-industrial development projects for these regions, e.g., the Pa Mong dam (Mekong River) project on the Thai-Lao border with a 10,000 Mw electric and vast irrigation potential, and the Kra Canal project for the southern Thai peninsula, which would readily alleviate regional development disparities and create alternative growth centers away from Bangkok, have long been on the drawing board, but still appear far from implementation. For southern seaboard development, a land bridge across the upper south is now being studied.

Government attempts to cope

When the present Thai government of Prime Minister Chatichai Choonhavan, a loose coalition of business interests and the military, came to power as the result of the August 1988 general elections, the Thai economic—or rather, business—miracle was already well under way, based initially

on little more than favorable world market prices for Thai agricultural commodities and a tourist and hotel construction boom. That even the proverbial luck of the Thais—drought conditions in China, for example, when Thailand produced bumper rice crops—would not sustain such an economic brush fire, was clear enough.

Already in 1988, however, sizeable amounts of Japanese capital had begun flowing into the country, reaching a level of close to \$1 billion in 1988, up from only \$48 million in 1985. Between 1987-89, Japanese companies submitted 823 investment projects for approval of promotional privileges to the Thai Board of Investment (BOI). Simultaneously, Thailand became the beneficiary of several hundreds of millions of dollars in Japanese official development assistance. Numerous Japanese projects, mainly in the manufacturing sector, which started coming on line in 1988, added depth to the economic takeoff, and luckily for Prime Minister Chatichai, added popular appeal to his government, which most political observers had expected to last six months at best.

The country's infrastructure, however, was ill-prepared for the sudden economic boom, and the government at first did little but replace a few old bricks by new ones to cope with the developing crisis. It behaved, commented a foreign observer, like the suddenly prosperous Chinese shop owner who will cram three times the number of employees and machines into his typical 4×8-meter downstairs shop, string

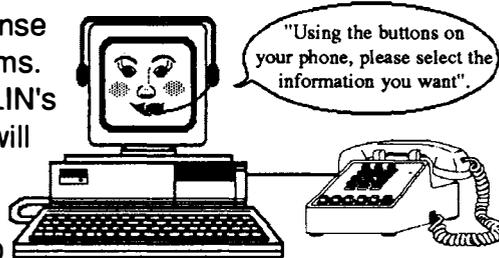
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a few new electrical wires, and hope for the best. Bad times, after all, may come back again as quickly as the arrival of the present good times.

Belatedly, however, and under a good deal of Japanese and other foreign investors' prodding, the government now appears ready to believe in its own and the country's economic success and to initiate urgently needed larger infrastructure and manpower development undertakings. Japan's ambassador to Bangkok, Hisahiko Okazaki, stated in a recent interview that the Thai economy might grow to three times its present size by the end of the century, and that the Japanese government is prepared to assist with the required infrastructure buildup. Still, the bulk of the necessary development financing will have to come out of the government budget, and budgetary provisions for fiscal year 1990 compared to FY1989, show substantial increases in relevant categories. For example: science and technology was up 247%, to a total of \$125 million; transport and communications was up 40%, to a total of \$830 million; education was up 25%, to a total of \$2.45 billion; and the Eastern Seaboard Development Project (including development of two deep-sea ports) was up 99%, to a total of \$56 million.

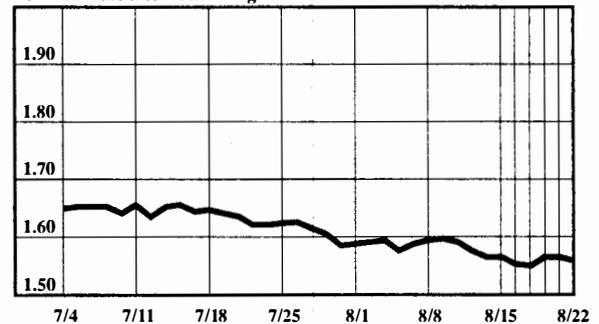
The most urgent and simultaneously most controversial infrastructure development area remains energy. Installed electricity generating capacity will have to double between 1990 and 1995—to about 15,000 Mw—to keep up even with conservative demand forecasts. Since the early 1980s, Thailand has rapidly developed its lignite resources in the north and several natural gas fields in the Gulf of Thailand to save on imported oil for electricity generation. But much as the country's hydroelectric potential (not counting the vast Mekong potential), these resources, natural gas in particular, are now reaching the limit of their further exploitation for energy development with the eastern seaboard petrochemical complexes coming on line. Ironically, between 1976 and 1988, Thailand spent over \$3 billion on oil imports for electricity generation. Had these funds been applied to nuclear energy development as planned in the early 1970s, much of the country's present electricity needs could now be supplied by nuclear power plants. Today, in the southern, eastern, and central regions, nuclear power remains the only long-term answer, while in the north, pending agreement with Burma, the 6-7,000 Mw Salween River hydroelectric project could be developed for joint Thai-Burmese use. For the northeast, pending—and perhaps as part of—settlement of the Indochina conflict, the Pa Mong dam would solve the region's energy problems well into the next century.

Earlier this year, officials of the prime minister's office, of the Office of Atomic Energy for Peace (OAEP), and of EGAT began to urge nuclear energy development. In June, EGAT announced plans for a public relations campaign to promote understanding of nuclear power. With Indonesia already having drawn up plans for 10 nuclear power stations throughout the country, Thailand may soon follow suit.

Currency Rates

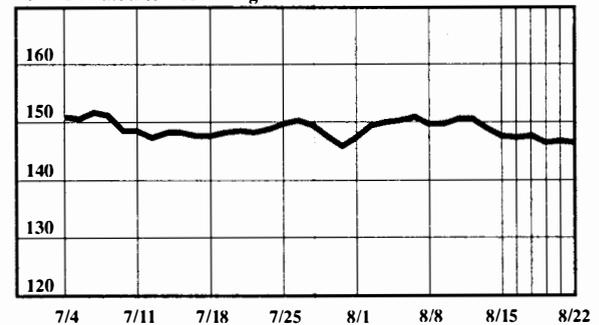
The dollar in deutschemarks

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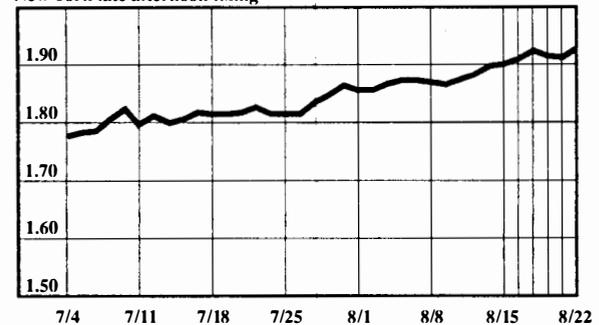
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