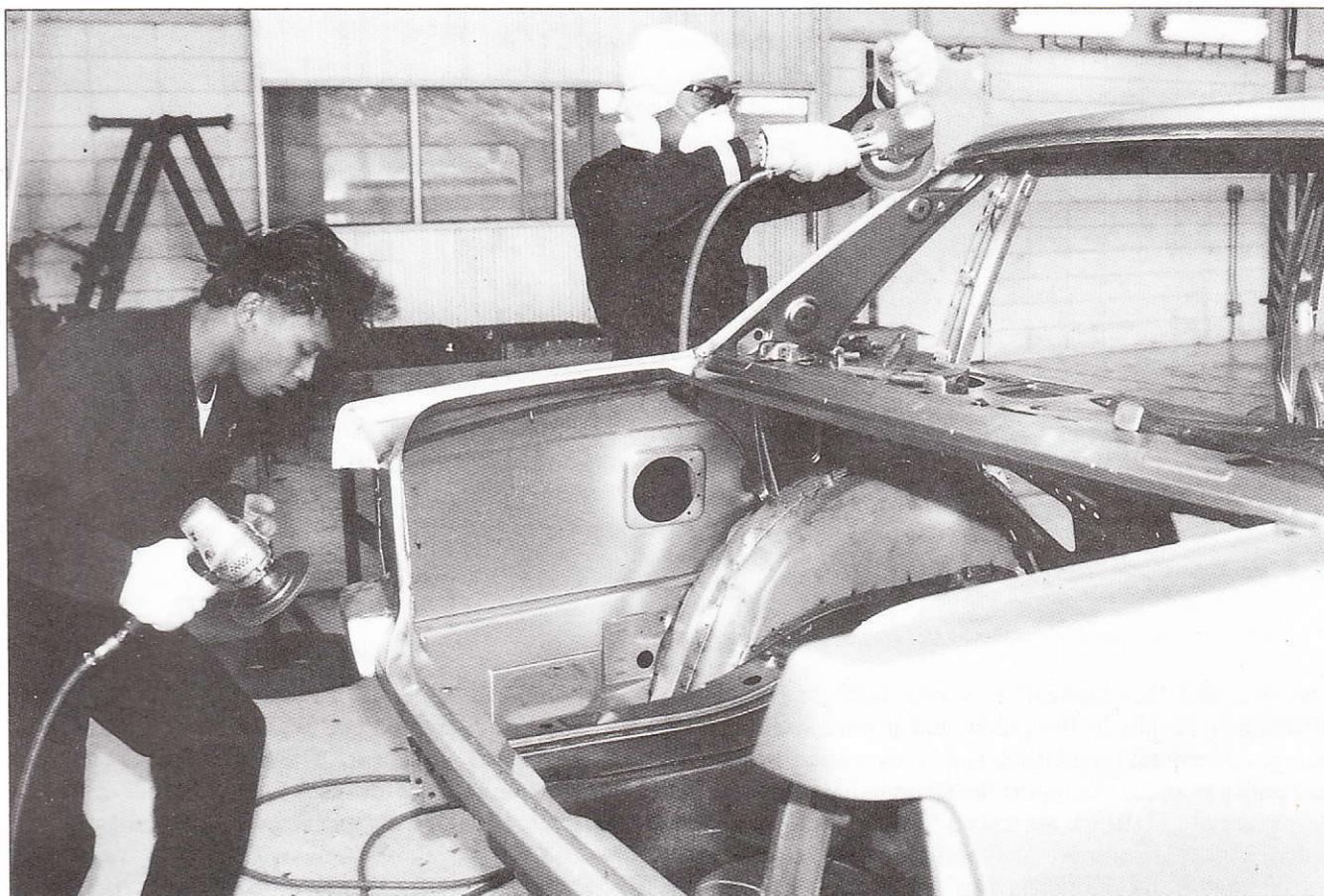


TDRI

Quarterly
Review

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Does TNC involvement in the Thai auto industry help or hinder the achievement of national goals for industrial development? For a study of this question, see related article on page 9.

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The TDRi 1992 Year-End Conference

“Thailand’s Economic Structure: Towards Balanced Development?”

For the past two decades, Thailand’s economic development has progressed at an unexpectedly accelerated rate. Various industries have contributed to this surge in economic growth. To focus on one sector at the expense of another would be to deviate from the nascence of a balanced development. Such development is a priority objective of the country’s present national economic and social development plan.

To address this issue, the Chai Pattana Foundation and TDRi selected the theme “Thailand’s Economic Structure: Towards Balanced Development?” for the TDRi 1992 Year-End Conference. At the Conference, the results of extensive research on economic structural changes, focussing on the agricultural, manufacturing and tourist industries, were presented at the following four main sessions:

- Myths and Demons of Thai Agriculture
- Manufacturing Growth: A Blessing for All?
- Tourism Growth: Quantity vs. Quality
- Towards Balanced Development: Sectoral and Spatial Dimensions

Papers presented at the Conference included “Between the Farmer and the State: Towards a Policy Analysis of the Role of Agribusiness in Thai Agriculture,” “The Environment in a Tourist Economy: A Case Study of Pattaya,” “Required Returns on Investment by Small and Large Firms in Thailand: Case of Capital Differentials and the Fiscal Environment,” “Exports, Structural Change and Thailand’s Rapid Growth,” “Tourism and Culture: Bang-Fai Festival in Esarn,” and “The Structure of the Textile Industry and Government Policy in Thailand.”

The balanced development implied in the title of the TDRi Year-End Conference refers to giving equal emphasis to all dimensions of development, hopefully leading to an increase in national income and a better quality of life, with equal opportunity for rich and poor alike, for both urban communities and rural areas, and for both large and small businesses. It also means that the business community shares equal responsibility in contributing to a balanced development. It is the business community, after all, that has gained most from the country’s economic development so far.

Held December 12-13, 1992, at the Ambassador City Jomtien, Chon Buri, the Conference was attended by more than 500 participants, including representatives



Her Royal Highness Princess Maha Chakri Sirindhorn, who graciously presided over the Opening and Closing Ceremonies, arrives at the Conference.

from government organizations, state enterprises, academic institutes, private agencies, international agencies, non-government organizations, and the media.

Participants were indeed gratified and honored by the presence of Her Royal Highness Princess Maha Chakri Sirindhorn, who graciously presided over the Opening and Closing Ceremonies.

In her opening address, Her Royal Highness voiced her concern towards balanced development:

Economic and social development plays an important role in Thai society today. It is, therefore, appropriate that the topic, “Thailand’s Economic Structure: Towards Balanced Development?” becomes the main focal point when discussing the country’s economic development.

Economic growth in the manufacturing and export industries has been instrumental in promoting a gradual change in Thailand’s economic structure. Manufacturing has replaced agriculture as the major contributor to national income.

I hope this Conference will address relevant issues, such as the effects of economic structural change on farmers, the extent to which the standard of living can be raised for the socially-disadvantaged, cultural effects of the change from a subsistence to a market economy, and what should be the proper model for the country’s future economic and social structure.

The TDRI 1992 Year-End Conference

Summary of the Synthesis of Research Findings

“Thailand’s Economic Structure: Towards Balanced Development?”

Over the past three decades the Thai economy has undergone a gradual but steady structural transformation in which agriculture has given way to manufacturing as the major contributor to national income. The pace quickened dramatically in the late 1980s. Despite the expansion of manufacturing, however, the agricultural sector still employs more than half of Thailand’s total labor force, by far dominating all other sectors. The combination of rapid manufacturing expansion and the relatively slow decline in the agricultural labor force appears to accentuate the income differentials between the two sectors, which were large to begin with.

The Conference was divided into four main sessions, examining individual economic sectors to find out whether and to what extent imbalances are a “normal” consequence of development and to what extent are they the consequence of deliberate policy within individual sectors. Fifteen papers were presented pertaining to the Conference’s sessions. The more important findings of this extensive research effort are summarized as follow:

Session I Myths, Demons and the Future of Thai Agriculture

The following myths are commonly believed about the agricultural sector:

Myth: agriculture is homogeneous and uniform. *Fact:* production conditions are extremely diverse.

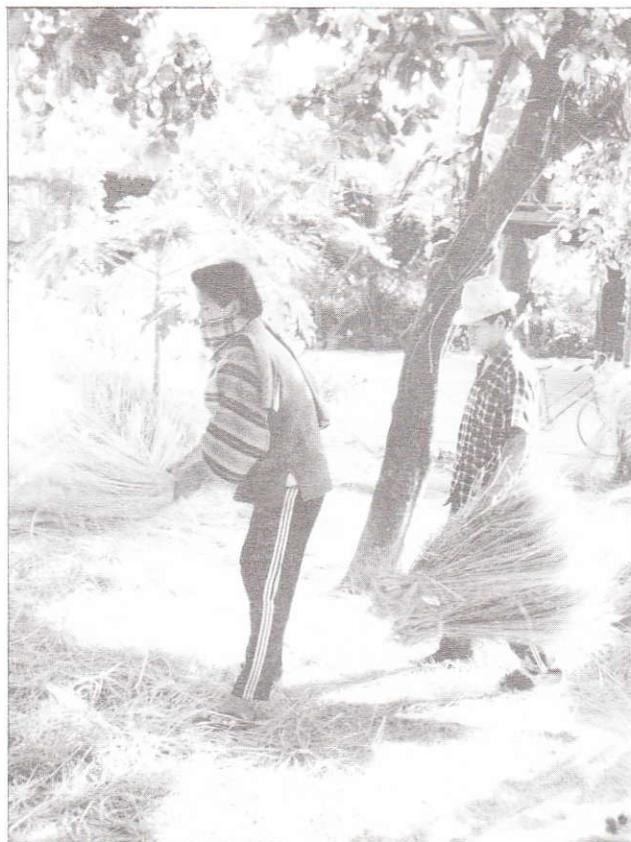
Myth: farmers are ignorant. *Fact:* they are more knowledgeable about conditions on their farms than all outsiders.

Myth: small-scale agriculture is inefficient. *Fact:* it is efficient and much more resilient than other systems of production.

Myth: agricultural technology is backward and stagnant. *Fact:* the science and technology needed to advance agricultural production is highly complex, and needs considerable effort.

Technological advance in agriculture takes three forms:

Genetic improvement. This requires considerable input from scientists, usually from public research stations, but in some areas, private firms may find it profitable to undertake such scientific research.



Farmers are more knowledgeable about conditions on their farms than all outsiders.

Crop and resource management. This is usually highly farm-specific. Scientists can engage in some basic research, but farmers have to be, and in some cases are, active in ensuring that their cultivation practices will maximize yields on a sustainable basis.

Mechanization. The developmental work on this is mostly done by private firms.

There are also unreasonable fears concerning the economic environment in which farmers operate. The first is fear of the market—the belief that the market has lowered farmers’ welfare. The second is fear of indebtedness—the belief that indebtedness is a major social ill besetting Thai farmers because it is ultimately responsible for loss of their land. In both cases there is insufficient trust in the farmer’s ability to make wise decisions.

In reality, the market, in general, and the credit market in particular, opens up options for farmers which may not necessarily enrich them, but will not impoverish them either.

Once rid of these myths and demons, two clear policy principles follow:

Decisions on agricultural production should as much as possible be handed to the farmers themselves. They alone know best what is good for them.

The government could best serve farmers' interests by opening up the range of options available to them. Second, more resources should be made available to the farmers. The government should refrain from interfering in farmers' decisions to produce or not produce.

The second half of this session looked at some of the factors influencing the future of Thai agriculture. They are:

Resources. The pressure on the land, increasingly noticeable over the last 15 years, is expected to ease as more of the work force leaves the farm. Water, on the other hand, is expected to become increasingly scarce during the dry season.

Comparative advantages. Despite Vietnam's reentry into the world market and, possibly in the future Myanmar's, Thailand's comparative advantage in the traditional commodities is expected to continue. The key issue is how much productivity increases through technological advances will overcome the price falls that are bound to occur with these countries' reentry.

Domestic Demand. Growth in domestic demand is expected to be rapid and to be the main motor for some of the less tradable items, such as horticultural and livestock products (excluding poultry, which has come to depend on export markets for its dynamism), and inland fisheries. Past growth in some of these items, particularly in horticultural products, has been inadequate and has prompted price increases. It is expected that resources will flow toward these commodities.

Technology. The role of technology in promoting agricultural growth is almost entirely dependent on how much public sector research is undertaken. It is imperative that investment in this area should be increased.

Foreign government policies. The future of Thai agriculture depends to a great extent also on foreign government policies. The extreme case in point is the cassava trade, which has come to rely on the European Community's Common Agricultural Policy. As this policy is being dismantled, trade in cassava products will have to shift from the highly-lucrative European market to the more competitive starch market in highly-protective countries. If GATT negotiations are successful, sugar is possibly another sector where some adjustments will have to be made.

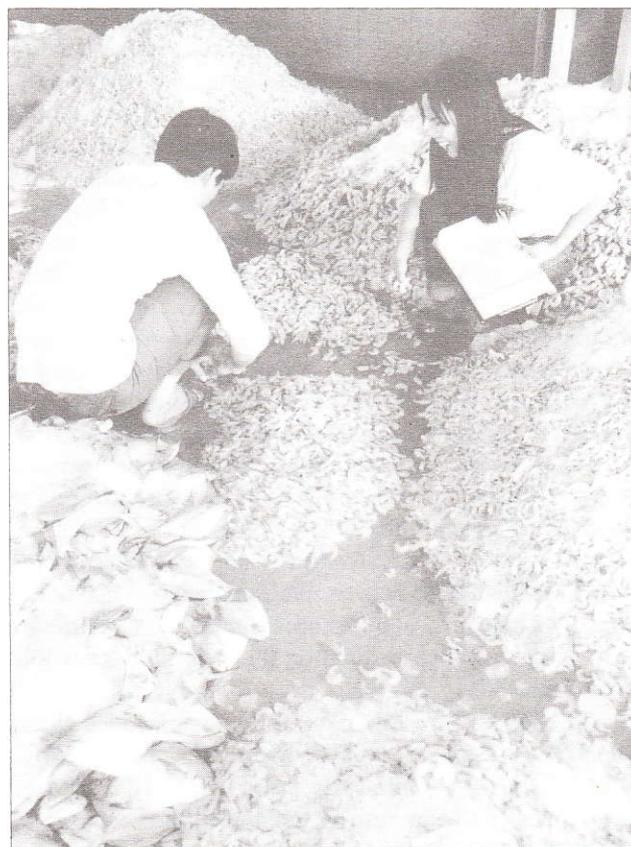
Domestic policy problems. The central domestic policy problem discussed in this session was the declining

relative incomes faced by an aging farming population. Clearly some transfer of resources from the more productive sectors of the economy will have to be made. There is little dispute here. The controversy centers on the means by which such a transfer will be effected.

Session II Manufacturing Growth: A Blessing for All?

This session examined the factors underlying the Thai manufacturing sector's impressive economic growth in recent years. Exports of manufactured goods accounted for between 40 and 60 percent of the increase in Gross National Product (GNP) from 1984 to 1987. Three exceptional subsectors—canned and processed food, textile and leather products, and machinery and electrical products—accounted for three-quarters of this export-induced growth. The contribution of exports subsided in 1990. By 1990, exports of manufactured goods contributed only 11 percent of income growth, down from 28.8 percent in 1989.

Preliminary evidence suggests that during this high growth period, large operators enjoyed faster growth than smaller operators. The large firm bias has, to some extent, been encouraged by the present fiscal system. Although there are signs that industries are moving away from Bangkok, most are still located near the capital.



Investigations of the country's marine resources suggest a coming crisis caused by harvesting beyond sustainable yield.

There is some concern regarding the sustainability of manufacturing growth. Investigations of supply side factors affecting the country's marine resources suggest a coming crisis caused by harvesting beyond sustainable yield. The manufacturing sector, however, has so far raised labor productivity beyond increases in real wages. Thus, increasing wage rates have not slowed growth. At present there is still substantial untapped labor with at least secondary education in both the agricultural and informal sectors. The more important issue concerning labor and its relation to growth, however, is how to raise the work force's educational and skill levels. By the year 2000, or so it is expected, three quarters of the work force will have no more than a primary education. Future growth will be sustainable only if the provision of public infrastructure, including human capital investment, is quickened and if the private sector responds to changing situations in both the input and output markets.

For the relatively short period when Thailand's advantages of an abundance of natural resources and inexpensive labor remains, both the public and private sectors must contribute to improvements in the work force's education and skill. A new comparative advantage based on more productive labor, especially in organizational skills, could and should be developed. This would provide lasting benefits.

The session went on to discuss technology as a key production factor, that provides sustained productivity increases. Japan's experiences, plus those of other newly-industrialized economies (NIEs), demonstrate how a systematic approach to strengthening technology and the upgrading of industries results in sustained high economic growth rates and new comparative advantages. The question is how do the NIEs plan for the future and design policies to achieve the desired ends? Throughout the process, good information technology is required to define the various options. Information is generated, screened and distributed among individual economic agents so that they can plan and make all necessary adjustments. Once a national vision for development is defined, policies follow. When a policy is adopted, a long-term commitment to achieve the agreed objectives is then devised, including milestones and performance criteria. Information is needed at this juncture to monitor the performance of the private sector. At the same time, sectoral, macro, infrastructural and market policies should be aligned to achieve the same goals. This model requires a high level of information-gathering capabilities and bureaucratic co-ordination if accelerated growth is to be achieved.

The paper presented at this session gives three popular views for potential growth paths. Two—newly-industrializing agro-based economies (NIAEs) and newly-industrializing agro-based and service economies (NIASEs)—can be achieved by normal neoclassical policy prescriptions. The third is for a high-technology industrial society requiring interventionist government

policy. In some cases this may include using industrial targeting instruments.

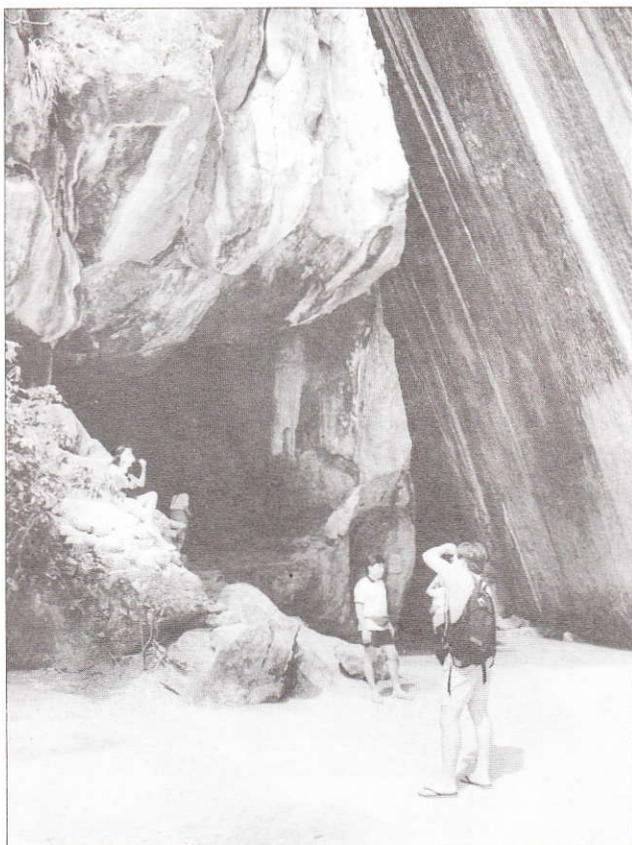
The last part of this session analyzed Thai industrial policy. Thailand has carried out a number of industrial policies and has recently targeted some industries. In recent years, the trend has been towards a greater reliance on market mechanisms. The paper presented at this session argues that Thailand's sectoral policies have been used to serve more diversified objectives than merely industrial upgrading. Policies have become means of distributing economic rents. For industrial targeting to be successful, more in-depth information about industries, and greater coordination between the public and private sectors will be needed. This paper also notes that a *laissez-faire* approach to growth has often been successful, in Hong Kong for example. The paper cites many examples suggesting that the existing policy formulation system and its bureaucracy need to be adjusted to effectively carry out the third option, as previously mentioned. It is also important to recognize that Korea's type of growth has produced negative short-run welfare results. The public should make the final choice.

Whichever path Thailand takes, a new approach to industrial objectives, a new policy and better industrial coordination will be needed. The role of the government should increasingly enhance the quality of human resources and focus on supply co-ordination, in contrast with past policies that focused on capacity control. The current trend of industrial development suggests that Thai industries are moving towards types of production less friendly to the environment. This type of industrial growth path will require the government to protect public interests and safety, for example, in converting potential industrial hazards into manageable risks. Finally, the government above all should provide information and a vision of a better future.

Faced with increasing international competition, Thailand's public and private sectors must compete as a team, especially as the international playing field is far from level. There must be an attempt to reach a common vision rather than a shared illusion, to consult rather than control, to perfect management rather than malfeasance. Thai society as a whole needs to be given the right to foresee future possibilities and to make the informed decisions that will turn challenges into opportunities.

Session III Priorities for Thai Tourism Development in the 1990s

The tourism industry is a major source of Thailand's foreign exchange earnings. Between 1987 and 1991, the industry earned 436 billion baht, or 17.2 percent of total export earnings for that period, from international tourists. The growth of tourism earnings has been more impressive than the growth of export earnings. This impressive performance came more from an increase in tourist numbers than from an increase in the length of stay or from any increase in per capita tourist expenditure.



The growth of tourism earnings has been more impressive than the growth of export earnings.

The underlying comparative advantage for Thai tourism is the country's ability to provide inexpensive and diversified services. It is expected that over the next five years, barring political disturbances, Thailand will continue to remain the most favored Southeast Asian holiday destination. Long-term prospects seem bright. Tourism constraints are expected to be internal, mainly the spread of AIDS and inadequate infrastructure.

The current efficiency in providing tourism services is based on low cost labor and efficient management. These could be undermined by failure to coordinate tourism with other macro socioeconomic management efforts, especially policies related to the infrastructure needed to supply safety, comfort and sanitation.

In the paper presented at this session, two strategies—the selling of “nature” and “culture”—as tourism packages were both investigated. Taking Pattaya as a case study, the paper suggests that the environmental costs of selling “nature” have been under-estimated. Such costs can be lowered by proper planning and monitoring. The “culture for sale strategy,” which aims to provide additional attractions for tourists, was found to be a catalyst for cultural change. Tourism, however, is not the only factor or even necessarily the most significant one contributing to the current process of cultural change. It is thus important that local organizers, local businesses, and the Tourism Authority of Thailand (TAT) develop a

better understanding of local culture to prevent inappropriate distortions.

Findings on the sharing of private costs and benefits of tourism promotion, especially for promoting individual tourist events such as Chiang Mai's Flower Festival, revealed that costs “shared by” private businesses were much less than the privately-accrued benefits. In addition, larger enterprises tended to receive a disproportionately higher income share than smaller enterprises.

This paper concludes with the suggestion that tourism be treated as just one type of public good the government encourages and provides for its citizens. Tourism's goal should be to protect and conserve Thailand's natural and historical heritage for future generations. Taxation and pricing systems need to be redesigned so that such goals can be achieved. Tourism promotion often misleads many into believing the state will always provide free assistance to the private tourist industry. The government budget should instead be used to conserve and protect tourism resources. Marketing and promotion expenses should be covered by the tourism industry itself. The state's role should be to ensure that tourism benefits accrue to as many Thai citizens as possible.

Session IV Towards Balanced Development: Sectoral, Spatial and Other Dimensions

The paper presented at this session describes Thailand's past development successes, highlighting the key factors. It then looks at imbalances along various dimensions, and develops a conceptual framework useful for understanding sustainable development with all its attendant imbalances. Finally, it applies this framework to obtain some key policy directions for the future.

Past development successes are characterized by high growth, poverty reduction, and expansion in provisions of basic education and health for the Thai people. The underlying factors relate to three key words: stability, quality, and friendship. Stability refers to macroeconomic and political stability. Quality refers to the quality of the natural resource base and particularly to the quality of the people. Friendship refers to the friendship of Thais with Thais and between Thais and foreigners.

Past development successes, however, also contributed to numerous imbalances. These include imbalances between employment and educational structures and sectoral composition, locational imbalances, income distribution, economic and environmental imbalances, and transitional imbalances. Given past development patterns, some conceptual framework is needed for analysis. For this, a dynamic view is taken, its ultimate objective being the sustainable improvement to the quality of Thai life. The concept of a damped oscillated development path is introduced to characterize a sustainable development path. Ultimately, there should be an approximate balance between the various dimen-

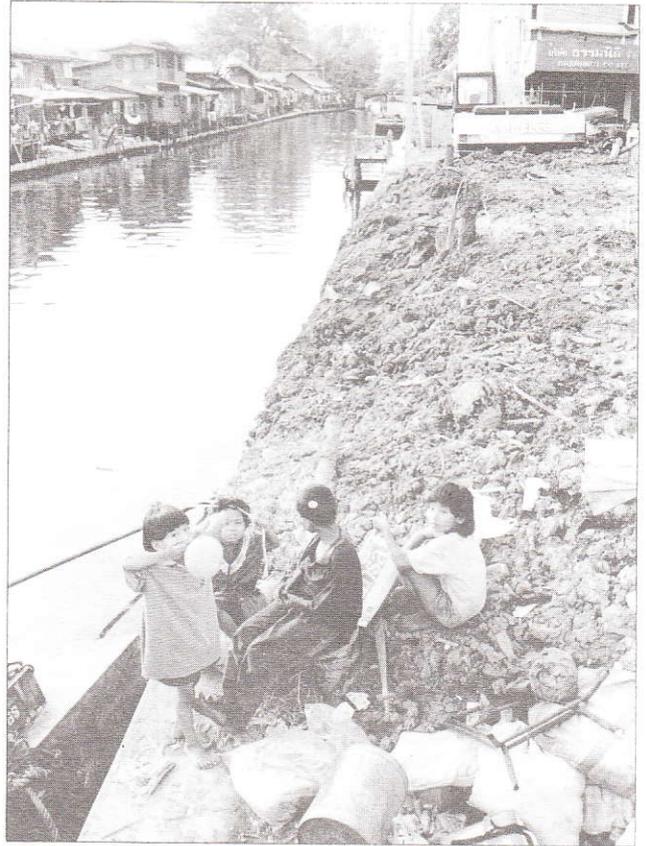
sions and sub-dimensions of development—economic, social, political, and ecological. Imbalances during the course of development, however, are likely to be the norm. The key is to make sure that they do not become too big or too destabilizing, or get beyond the critical thresholds of imbalances.

Applying the principle of dynamic balance and the principle of avoidance of the critical thresholds of imbalances to future Thai development, some key policy directions are developed.

As the ultimate goal of development is sustainable improvement, the most important threshold is the basic needs threshold. This indicates the level below which the struggle to survive becomes paramount and the possibilities of self-improvement, self-investment, and investment in children become minimal or even non-existent. Being below the basic needs level for a long time is incompatible with sustainable improvement in the quality of life. As the basic needs level is essentially measured by the poverty line, it is unacceptable that about one in five Thais still live below this most basic of thresholds. Thus, a scheme of poverty eradication by the year 2000 is suggested.

The above scheme can be achieved by extending the coverage of the tax system to the whole population, as this is the most effective way of monitoring income on a mass scale. The Value-Added Tax (VAT) should also be extended to all sectors, including agriculture, with no exemptions. This is particularly useful for monitoring income from own account operations. In the poverty eradication scheme, the government would guarantee every family an income equivalent to the poverty line income. Shortfalls from the poverty line income would be given to families by the government. The target group for this scheme is people under the poverty line. It is not about sectors of production, nor about the locations of households. The scheme should cost 30,000 million baht per year, or 2.1 percent of total household income, in 1990, assuming a 23.7 percent poverty incidence as in 1988/89. This is not a charity scheme. The idea is that people are normally resourceful and can help themselves. To be able to do so effectively, however, they must be free from the constant and overriding struggle to meet basic needs. Only then can they use their resourcefulness effectively, invest in themselves and their children. Only then can they sustainably move up and out of poverty. Other “safety nets” to supplement the poverty eradication scheme are also needed for the non-poor as well as the poor. Health insurance schemes are particularly needed. Many “safety net” programs will, however, have to be redefined, as the income guarantee nature of the poverty eradication scheme means that this feature of other schemes can be eliminated.

For income distribution, the principle of dynamic balance implies that a dynamic analysis is needed. The key is to examine socioeconomic mobility. In the past, Thai society allowed much socioeconomic mobility. Data from the last decade, however, shows that during this



The basic needs threshold indicates the level below which the struggle to survive becomes paramount and the possibilities of self-improvement, self-investment, and investment in children become minimal or even non-existent.

dynamic phase of Thai development, those with more than a primary education took full advantage of their opportunities. While rough, the data appears to show substantial socioeconomic mobility for this group. They presumably are the new middle class or the new rich who have become a highly-visible part of the Bangkok scene over the last several years. For those with primary education or less, however, the data shows very few prospects of socioeconomic upward mobility. This group starts at the bottom, and in all probability, it will stay at the bottom. This is very worrying, as Thailand will then reap the worst of both worlds: large disparities in income and low mobility for the bottom group. The situation appears close to a critical threshold of imbalance. Unless the situation is soon reversed, harmonious development in Thailand over the medium-term appears unlikely.

The key here is to provide those in the labor force, who have primary education or less, with more skills, more knowledge, and more opportunities—the same conclusion reached at the 1991 Year-End Conference. The problem is now even more urgent. Again, the focus should be on people, not sectors or locations.

The session ended by briefly discussing some other thresholds of imbalances—the economic-environmental threshold, the friendship threshold, and the macro-economic stability threshold.

TNC Involvement in the Thai Auto Industry*

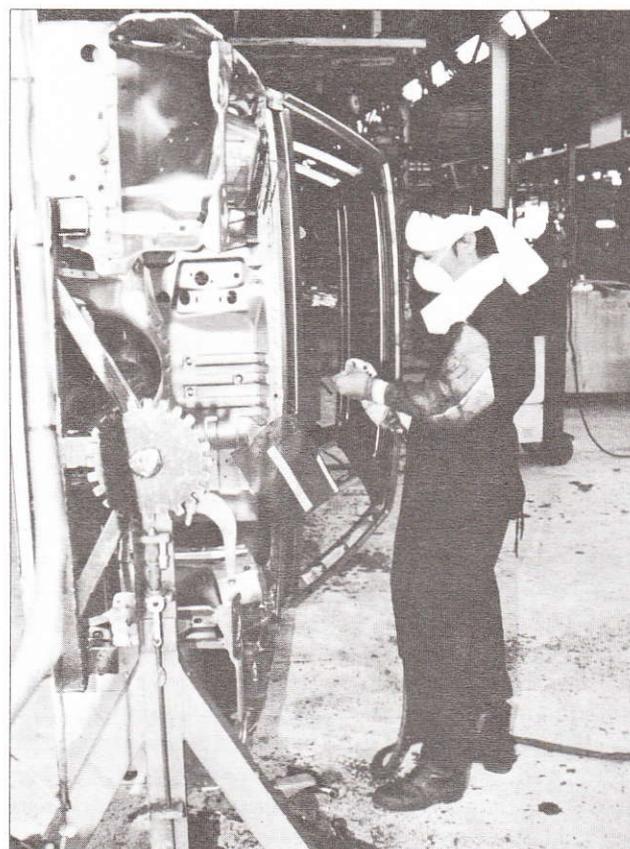
Mingsarn Santikarn Kaosa-ard**

Thailand's per capita Gross Domestic Product (GDP) more than tripled from 1970 to 1980, and almost tripled again by 1990. From 1988 to 1990, the economy registered three consecutive years of double digit growth. Thailand has emerged as another Asian success story. Unlike the majority of its predecessors, however, the country has achieved high growth with relatively little government involvement. Among the ASEAN economies, Thailand's is the most inclined toward *laissez-faire*.

Thailand's economic success, despite the May 1992 Tragedy, has reinforced the country's reputation as a profitable base for investment. Until the early 1980s, foreign investment in Thailand was relatively low, the second lowest in ASEAN. After the international currency realignment in 1985, Japan and the other newly-industrialized economies (NIEs) chose Thailand as an export base. In 1987, Japanese investment exceeded the country's cumulative investments over the previous two decades.

Thailand thus offers an interesting case study of the interplay between transnational corporations (TNCs), the state and local enterprises.

The automobile industry is one of the few Thai industries that has specific sectoral goals and policies. In its initial stages in the early 1960s, the industry was protected through import substitution. Subsequent trade deficits in this sector led to the establishment of the Automobile Development Committee (ADC) in 1969 to provide guidelines and to monitor the local content program. Today the automobile industry is dominated by Japanese assemblers, supplied by strings of joint ventures and local supplies. The purpose of this study is to review TNC involvement in this industry. It explores the evolution of the host country's policies, designed to extract benefits especially in technology transfer from TNC investments. The Thai automotive policy is reputed to be the most successful of the ASEAN Four, which includes Malaysia, Indonesia, and the Philippines (Doner, 1991). In particular, this study aims to answer the question: Do TNCs help or hinder the achievement of national goals for industrial development?



PROFILE OF THE AUTO INDUSTRY¹

The Thai auto industry was one of the first industries to receive investment incentives. In 1961, the country produced a mere 525 vehicles. By 1970, the number had soared to 10,667. Although the economic downturn of 1985 depressed production, the industry regained momentum in 1988. Production doubled between 1988 and 1990. Commercial vehicles accounted for about three quarters of local production. Interestingly, Thailand is one of the world's largest markets for commercial cars, second only to the United States (Board of Investment, 1991).

* This study was financed by ESCAP/UNCTC Joint Unit on TNCs.

** The author is the Director of TDRI's Sectoral Economics Program.

Table 1 Capability of Vehicle Assemblers in Thailand, 1990

No. Manufacturers	Category	Capacity/One Period
1 Toyota Motor Thailand Co.,Ltd.	Passenger & Truck (Pick-up)	54,805
2 Thai-Swedish Assembly Co.,Ltd.	Passenger	3,500
3 Thai Hino Industry Co.,Ltd.	Passenger & Bus	19,200
4 Thonburi Automotive Assembly Co.,Ltd.	Passenger	2,928
5 Bangchan General Assembly Co.,Ltd.	Passenger & Truck	12,690
6 YMC Assembly Co.,Ltd.	Passenger & Truck (Pick-up)	12,000
7 Siam Motors & Nissan Co.,Ltd.	Passenger & Truck	18,840
8 Siam Automotive Industry Co.,Ltd.	Passenger & Truck (Pick-up)	40,390
9 MMC Sithipol Co.,Ltd.	Passenger & Truck & Truck (Pick-up)	54,000
10 Sukosol & Mazda Motor Industry Co.,Ltd.	Passenger & Truck (Pick-up)	24,000
11 Isuzu Motor (Thailand) Co.,Ltd.	Passenger & Truck & Truck (Pick-up) & Bus	25,200
12 Thairung Union Cars Co.,Ltd.	Truck (Pick-up) & Truck	5,899
Total		273,452

Note: One period = 48 hours/week.

Source: Ministry of Industry.

By international standards, the size of the Thai auto industry is negligible. Thai production capacity was only 0.3 percent of world capacity in 1988 and domestic production was mainly for local consumption. Thailand has 12 auto assemblers and their capacities are shown in Table 1. The auto industry's contribution (Thailand Standard Industrial Classification 38431-32-39) to manufacturing value added was 6.14 percent in 1989. The industry experienced rapid real growth of over 10 percent between 1970 and 1980.

The balance of auto trade has always been negative and its deficit continues to grow rapidly (Table 2). In 1987, this sector's trade deficit was 1.8 billion baht in 1970. By 1985, it had jumped to 13 billion baht, and stood at 47 billion baht by 1989 (Board of Investment, 1991). The auto trade deficit has been a major cause of concern to the Thai government and has been a decisive factor underlying various policy changes. Apart from the trade deficit, the industry has been by far the largest remitter of royalties and technical assistance fees, accounting for 16.9 percent of total remittances in 1989. In 1982 the amount paid to foreign technology owners, or mother companies, totalled 165,477,526 baht. By 1989 the amount had increased to 903,818,520 baht.

TNCs IN THE THAI AUTO INDUSTRY

The first transnational corporation to produce in Thailand was a British-based American TNC. Since then, the Thai auto industry has been increasingly dominated by Japanese TNCs. Today, of the country's 12 assemblers, eight are Japanese joint ventures, three are European affiliates (Table 3) and one is a fully locally-owned firm, but with less than 2 percent of total production capacity. The TNCs with the largest capacities include Toyota Motors (Thailand), Isuzu Motors and MMC Sittipol (Mitsubishi). In 1991, Japanese automobile TNCs con-

trolled about 95 percent of the market share, monopolizing the production of one-ton pick-up trucks and with 83 percent of the market share for passenger cars (Kato 1991). To understand Japanese TNCs operational strategies in Thailand, it is helpful to follow the evolution of their development in Japan itself.

Japanese TNCs

The Japanese auto industry was initially fostered in 1936 by government procurement of military trucks from a cartel comprising Toyota, Nissan and Jidosha Kogyo, or Isuzu (Adachi and Nawadhinsukh, 1982). The passenger car market was, however, left intact to avoid competition with Ford and General Motors (GM). These two firms had to struggle to fulfill production quotas and local content requirement. At the same time, they were also facing increased import prices and yen devaluation. By the time the two closed their plants in 1939, a large number of Japanese producers of parts and components had been established.

After the Second World War, the Japanese government revived the auto industry by giving it a wide range of support, including protective tariffs, import quotas, restriction on foreign capital participation, loans and bounties, accelerated depreciation and special import arrangements for machinery and technology. By 1980, Japanese TNCs had become major exporters in the world auto market. Japan came second only to the USA in the number of vehicles produced.²

The Japanese auto industry now boasts 10 producers. Toyota and Nissan are the top two, followed by three medium-sized manufacturers (Mazda, Honda and Mitsubishi). The remaining companies are smaller. These are Suzuki, Subaru, Hino, Daihatsu and Isuzu (Doner, 1991). Some of the smaller manufacturers, such as Hino, Isuzu and Nissan Diesel, specialize in trucks, while Suzuki

and Daihatsu concentrate on light cars. Medium-sized producers have defied the Ministry of Trade and Industry's attempt to transform the Japanese auto industry into a few producers with links with U.S. producers, for example, Mitsubishi with Chrysler, Isuzu and Suzuki with GM, and Mazda with Ford. Cartelization between Toyota, Hino and Daihatsu, for example, has resulted in fierce group competition in the form of product differentiation and export competition. Mitsubishi is particularly anxious to improve its present fifth place position in the national market. Its export policies are aggressive. These policies are also reflected in its joint venture here in Thailand.

In sharp contrast to the U.S. big three, which produce 35 percent of their vehicles overseas, Toyota and Nissan together produce one percent of their total production off-shore. Nissan, which characteristically has relied less on the Sogo Shosha, or trading companies, initially avoided off-shore investment, especially in the less developed countries (LDCs). This partially explains Nissan's initial involvement in Thailand on a purely contractual and non-equity basis.

The spread of the Japanese auto industry into Southeast Asia was a defensive strategy driven by host

country policies and inter-group rivalry. At the time, though, Japanese TNCs had less reason than U.S. or European car makers to expand production in low-wage countries. First, Japanese auto makers were relatively capital intensive. During the 1980s, they required only 65 percent of the labor used in the U.S. and used 30 percent fewer hours than their West German counterparts. Although Japanese TNCs could exploit their older plants in the LDCs, cheap labor was not a major attraction (Doner, 1991). Second, the Japanese TNCs operated in close production links with their parts and component suppliers. The introduction of just-in-time inventory systems further increased their dependence on reliable suppliers. Third, the subcontracting system whereby Japanese auto manufacturers procure parts and components from outside firms has lessened the pressure from assemblers' labor unions and allowed them to minimize the number of plant workers (Smitka 1992).

When Thailand initiated its local auto industry, the Japanese TNCs found it necessary to defend their market. Initial investments were small and the Japanese TNCs attempted to fragment the Thai market by offering varied models and series and thus raising entry barriers. As the local market grew and the Thai government in-

Table 2 Value of Imports and Exports of CBU and CKD

Year	CBU		CKD		Total		Trade
	Imports	Exports	Imports	Exports	Imports	Exports	Balance
1965	725.5	0.0	612.7	1.3	1,338.2	1.3	(1,336.9)
1966	1,482.1	0.0	637.9	1.4	2,120.0	1.4	(2,118.6)
1967	1,230.2	0.0	772.5	1.1	2,002.7	1.1	(2,001.6)
1968	1,628.8	0.0	707.7	1.1	2,336.5	1.1	(2,335.4)
1969	1,562.5	0.0	713.7	1.9	2,276.2	1.9	(2,274.3)
1970	1,247.1	0.1	105.8	0.0	1,352.9	0.1	(1,352.8)
1971	1,197.3	0.1	131.6	0.7	1,328.9	0.8	(1,328.1)
1972	974.0	0.9	115.9	0.1	1,089.9	1.0	(1,088.9)
1973	1,627.7	0.0	109.4	0.3	1,737.1	0.3	(1,736.8)
1974	1,783.0	0.1	1,115.9	3.6	2,898.9	3.7	(2,895.2)
1975	2,073.1	0.6	1,406.7	2.1	3,479.8	2.7	(3,477.1)
1976	1,720.8	0.4	2,322.3	2.4	4,043.1	2.8	(4,040.3)
1977	2,254.5	0.6	4,635.5	41.4	6,890.0	41.9	(6,848.1)
1978	2,058.8	0.3	4,013.0	78.4	6,071.8	78.7	(5,993.1)
1979	1,382.2	19.0	4,126.9	149.5	5,509.1	168.5	(5,340.6)
1980	572.5	15.7	4,452.7	165.7	5,025.2	181.4	(4,843.8)
1981	666.6	11.7	6,639.4	153.1	7,306.0	164.8	(7,141.2)
1982	529.6	11.2	4,891.7	176.8	5,421.3	188.0	(5,233.3)
1983	887.8	1.0	7,609.1	171.6	8,496.9	172.6	(8,324.3)
1984	1,130.8	27.4	7,488.6	202.6	8,619.4	230.0	(8,389.5)
1985	115.4	1.1	7,835.3	265.0	7,950.7	266.1	(7,684.6)
1986	2,216.8	20.5	6,215.2	320.1	8,432.0	340.6	(8,091.4)
1987	4,246.3	82.1	10,655.4	480.7	14,901.7	562.8	(14,338.9)
1988	8,473.1	2,048.7	18,232.5	682.3	26,705.6	2,731.0	(23,974.6)
1989	8,407.7	1,370.7	29,254.6	765.7	37,662.3	2,136.4	(35,525.9)
1990	12,821.4	1,104.3	40,059.8	707.6	52,881.2	1,811.9	(51,069.3)

Source: Department of Customs.

Table 3 List of Auto Assemblers and Makes in 1990

No.	Starting Date of Operation*	Name of Company	TNC Ownership	Makes
1	1960	Thonburi Automotive Assembly Plant Co.,Ltd.		Mercedes Benz
2	1961	MMC Sittipol Co.,Ltd.		Mitsubishi, Fuso
3	1962	Siam Motors and Nissan Co.,Ltd.		Nissan, Suzuki
4	1962	Toyota Motors (Thailand) Co.,Ltd.	Japan 59%	Toyota
5	1964	Thai Hino Industry Co.,Ltd.	Japan	Hino, Toyota
6	1966	Isuzu Motor (Thailand) Co.,Ltd.	Japan 47%	Isuzu
7	1970	Bangchan General Assembly Co.,Ltd.	Japan 34%	Honda, Opel, Holden,
8	1973	Y.M.C. Assembly Ltd.		BMW, Peugeot, Citroen
9	1973	Siam Automotive Industry Co.,Ltd.		Nissan
10	1973	Thai Rung Union Cars Co.,Ltd.		Daf Truck
11	1974	Sukosol and Mazda Motor Industry	Japan 64%	Mazda, Ford
12	1976	Thai Swedish Assembly Co.,Ltd.	Sweden 70%	Volvo, Renault

Remark: * These are assembly plants which have obtained licenses to assemble CKD under MOI's localization plan.

Source: Ministry of Industry.

sisted on localization of parts and components, the Japanese TNCs overcame these disadvantages by bringing their parts suppliers to Thailand.

Technology Transfers

A rough measure of the benefits of technology transfers in the auto industry is the number of local suppliers and the growing sophistication of the parts and components produced locally. Over the past three decades, the number of local firms supplying parts and components to Japanese TNCs has grown relatively slowly. During the 1960s, local firms supplied tyres, batteries and leaf springs. Tyre producers were all foreign affiliates or joint ventures. One battery firm acquired a technical assistance contract from a Japanese manufacturer. One leaf spring producer is a Japanese-controlled joint-venture of a Japanese supplier.

The 1970s saw more local suppliers. It was estimated that in 1977 Thailand had some 180 local suppliers (Doner, 1991). The parts and components produced included starters, alternators, filters, exhaust pipes, radiators and safety glass, or mostly peripheral equipment (Board of Investment, 1991). A number of modern metal working plants were, however, established during this period. Production of pressed small body parts and rubber parts also increased. During the first half of the 1980s, when the industry was under the "progressive localization scheme," it became necessary for TNCs to invite their more sophisticated suppliers to invest in Thailand. At the same time, native suppliers, such as Siam Nawaloha, Siam Machinery and Equipment, and CM Industries found it necessary to upgrade their casting and machining processes (Board of Investment, 1991). Suppliers of non-metal parts also proliferated. Locally-supplied parts included exhaust brake fuel suspension, lighting systems, and pressed parts.

The latter half of the 1980s saw substantial growth in the Thai automobile industry. The first batch of Thai-assembled vehicles was exported to Canada by MMC Sittipol in 1988. Japanese joint-ventures, after long delays and negotiations, decided to produce engines locally. During this high growth period, however, there were few new suppliers.

One reason for this was reportedly that Japanese firms, which dominated the auto-assembly industry, tended to produce high value-added parts and components internally or within their closely affiliated groups of companies. Outside vendors had little chance of penetrating the doubly-protected domestic market... (Board of Investment, 1991, p. 56).

To understand this statement, one must understand the historical links between Japanese auto assemblers and parts and components suppliers. After the Second World War, the auto industry in Japan abandoned in-house production of parts and components and began to procure parts and components from outside firms. This was to take advantage of the excess capabilities of machining industries (Smitka 1992). This practice reduced both trade union pressure on the auto industry and, at the same time, lowered production costs, as the machining industries paid lower wages. The subcontracting system thus became a main feature of the Japanese automobile industry.

Japanese auto assemblers in Thailand generally have 40 to 50 suppliers. Typically, Japanese TNCs have three classes of suppliers—affiliates, close associates and general vendors (TDRI, 1991). Affiliates are those suppliers with whom auto makers have made joint investments. Close associates are regular subcontractors. General vendors are local suppliers who do not fall into these two categories. Japanese TNCs first deal with local

firms as vendors. If they determine that the local firm has adequate technical capacity and is reasonably reliable, they will promote them to subcontractors. The proportion of subcontractors to vendors varies from firm to firm. Subcontractors are provided with design specifications and limited technical assistance. Contrary to general impressions, TNCs do not train local firms from scratch. If substantial technical assistance is required, a separate contract for technology transfer may be secured. One Thai supplier revealed in an interview that Japanese TNCs require compensation for the same level of technology provided free by a European firm.

The general assessment of the status of technology transfer in the auto industry is that while the quantitative aspect of development, measured by the number of local firms, has been respectable, qualitative growth is much less impressive. According to interviews, of the technology needed in auto production – design, production engineering, including plant layout, quality and inventory control, and post-assembly technologies, such as spare parts management and after sales services – only the last technologies have been mastered by the Thai assembly industry. The transfer of production engineering technology has been moderately successful. As for design technology, a key component of the automobile industry, the Thai industry has not been given the opportunity to absorb the technology. Thai technicians are as yet unable to design major parts and components, let alone a complete vehicle. Local joint ventures and locally-owned assemblers rely on foreign partners' specifications. A recent survey reported that Japanese auto manufacturers procure about 70 percent of their parts from their subsidiaries (Kato, 1992).

The exception is one local assembler who initiated limited designs of selected body parts for the assembly of a van. As the van became commercially popular, the Japanese supplier informed the local assembler that the production of major parts for this particular model would be terminated and that the next model would be assembled by its own subsidiary.

In an evaluation of the Thai auto industry's success, based on the percentage of local content, Thailand's record compares favorably with its ASEAN counterparts (Doner, 1991). Since the mid 1980s, for example, the Thai industry achieved 45 to 54 percent local content, while Malaysian input into the Proton Saga was only 36 to 40 percent. In Doner's study, local subcontractors in Thailand were found to be relatively numerous. They also possess higher technical capacity than their ASEAN counterparts. In October, 1992, when a TDRI survey was conducted, the local content of locally-assembled one-ton pick-up trucks reached almost 80 percent. Most of the parts and components produced locally are, however, subsidiary parts. The local industry has not been able to produce major parts, such as those for power transmission.

Other criteria for industrial progress include the reduction of the ratio of local cost to deletion allowance from around 2.7 in the early 1980s to around 1.5 to 1.7 in

the early 1990s. The ex-factory cost of a Thai automobile is about 15 percent higher than the same model in Japan.

While a static and snapshot evaluation places Thailand's success above other ASEAN countries, the future of the Thai auto industry does not seem promising. First, the lack of designing ability greatly limits the opportunity to strengthen technology and to adapt existing models or technology to fit new markets. Second, the industry is almost completely controlled by Japanese TNCs. Whether Thailand will become an exporter of automobiles or auto parts will be decided in Tokyo rather than in Bangkok.

THE STATE'S ROLE

The benefits to host countries of establishing local auto industries include foreign exchange savings, labor absorption, extensive inter-industry linkages and transfer of high technology. The emphasis on these different objectives varies from one country to another. Most developing countries offer fiscal and other benefits to attract TNCs.

There are two different views regarding the role of the state in extracting full benefits from TNCs. The structuralist approach maintains that the state is an important actor in the negotiation process, although its bargaining leverage decreases over time owing to technological barriers and the oligopolistic nature of the market. Such monopolies generally lead to stifling price competition and increasing entry barriers.

In contrast, the "product cycle" approach suggests that competition from rival TNCs ensures the gradual transfer and the spread of financial benefits. Local firms are able to develop technical capacities using imported technologies. Unlike the structuralist approach, which assumes strong links between local businesses and TNCs, leaving the state to act on behalf of the society at large, the product cycle theory relies on pressure through competition. Doner (1991) modified this approach by highlighting the significance of a coalition between the state and local entrepreneurs. He used the Thai case to explain his argument. The following section argues that the role of the state in the case of Thailand's auto industry is merely as an arbiter of economic rent which is shared between assemblers and part makers.

The development of the Thai auto-industry was shaped by policies which emphasized protection of the local industry and local content requirements. The debate over auto policy is a familiar one. The auto TNCs, who discourage price competition, wanted a ban on imported vehicles. Local suppliers advocated increased local content. Economic technocrats argued, according to neoclassical economic doctrines, against diseconomies of scale in local production and for increased competition and liberalization of the industry. Technical officials insisted on a limited number of plants, etc. The outcome of the negotiations reflects most clearly the pressures from the interested groups.

The development of government policy toward the industry can be divided into four phases:

Initial Protection (1962-1969)

When Field Marshal Sarit Thanarat came to power after a coup d'état in 1957, he soon realized he could not rely on inefficient state enterprises as a power base. Promoting private capital was an inviting alternative. The Investment Promotion Act of 1959 established the Board of Investment (BOI) which was given the authority to provide investment incentives to industries deemed vital to economic development. Sarit appointed himself as the first Chairman of BOI.

From 1962 and 1969, the auto industry was among the first industries that BOI promoted. It was classified under category B, which allowed a 50 percent reduction of import duties and trade taxes. At that time, import duties for completely built-up units (CBU) were 60 percent for passenger cars, 40 percent for commercial vehicles and 20 percent for trucks. Duties on completely knocked-down units (CKD) for promoted assembly were 30, 20 and 10 percent, respectively.

These incentives encouraged a few transnational affiliates to enter local production. The first joint venture was formed by Ford Inc. (U.K.) and the Anglo-Thai Motor Co. Ltd.—its local distributor. In 1961, the first year of production, the Thai auto industry assembled 310 passenger cars and 215 trucks, or about 12 percent of the total auto market (Nawadhinsukh and Benjaratana, 1981). The first Japanese assembler, Toyota, entered into local production in 1964. Although Nissan—Toyota's arch rival—vehicles were assembled beginning in 1962, the assembler was fully-Thai owned and operated under Japanese technical assistance. By 1969, there were six assemblers, five of which were Japanese-related enterprises. The number of automobiles assembled in 1969 totalled 12,140.

Foreign exchange savings is considered a prime contribution of the auto industry. Toward the end of the 1960s, when the tax incentives granted to the first group of promoted assemblies were expiring, it became apparent that the industry had created negative rather than positive trade balances (Table 2). BOI commissioned a study to review its policies. This study, known as the Organ Report, confirmed the general public view that the auto industry generated a substantial trade deficit and suggested rationalization of the industry. In 1969, BOI stopped granting new privileges and the MOI set up the Automotive Development Committee (ADC) to review past policies jointly with private industry. As a consequence, MOI announced a rationalization plan in 1971 which introduced a new phase into the Thai auto industry's development.

Industrial Rationalization (1972-1977)

Rationalization guidelines, designed by liberal economists at the MOI in July 1971, aimed chiefly at achieving better economies of scale through restricting

the number of models. An assembler was required to produce either passenger cars or commercial cars. Existing producers of passenger cars were allowed to produce no more than three models, among which only one model with a 2000 cc. engine would be permitted. New passenger car assemblers were only allowed to produce one model with a 2000 cc. engine. Existing assemblers of commercial vehicles were not allowed to produce more than five models and new assemblers were limited to just three models. These restrictions provided a competitive edge to Japanese TNCs against American TNCs.

These regulations were, however, undermined by cooperation between a local politician and a local general assembler who wanted to circumvent the model restrictions. Consequently, the restrictions were revoked before they could become effective. An announcement by ADC in February of the following year aimed to rationalize the industry by advocating minimum capacity and investment levels. Producers were required to assemble no fewer than 30 vehicles per eight hour shift and the minimum investment in machinery was fixed at 20 million baht. Restrictions on vehicle types, models and engine size were abandoned.

At the same time, local content requirements were introduced and became effective on January 1, 1975. Local content (LC) was fixed at 25 percent for passenger cars, 20 percent for commercial vehicles with windshields and 15 percent for commercial vehicle without windshields. The local content was measured according to the following formula:

$$LC = A/(A + B)$$

A = Value of local contents

B = Value of the deleted CKD kit, plus import duties

This simple formula no doubt created a number of difficulties and biases. The requirement was in favor of lower cost models, meaning Japanese models. It was argued that parts and components for these models were more readily available than for others (Nawadhinsukh and Benjaratana, 1981). Higher cost models tend to have a higher value of B. Moreover, the value of B is influenced by changes in exchange rates. B also includes import duties which make it impossible to use LC as an indicator of foreign exchange savings. The value of A can be easily inflated and is also subject to transfer pricing abuse, especially when upstream production is by the same conglomerate. Most importantly, "A" is not necessarily equal to local value added. When CBU imports were still allowed, the incentive from the import duty differential between CBU and CKD was not high enough. This resulted in a relatively high ratio of imports of CBU in the first half of the 1970s.

As the sectoral balance of trade continued to worsen, the auto industry was singled out as a major negative factor. The sectoral trade deficit leaped to 6,890 million baht in 1977 from just 1,089.9 million baht in 1972. In 1975, the existing industry capacity was six times its total sales. Consequently, unit cost was exceedingly high.

Despite such high costs, the number of local producers of parts and components increased substantially to 180 by 1977 (Doner, 1991). A range of local parts and components were, however, produced by Japanese affiliates (Board of Investment, 1991). Locally-produced parts and components were technically simple, for example, alternators, exhaust pipes, filters, radiators and starters. The local content requirement favored relatively large suppliers of original equipment rather than small local workshops.

Localization (1978-1986)

In January 1978, the Thai government banned CBU imports and increased import duty on CKD to 80 percent. The import ban raised the effective import duty on CBU to infinity. Eight months later new local content requirements were announced. The local content of passenger cars had to be at least 25 percent, increasing to 35 percent within two years and going up 5 percent every year thereafter until it reached 50 percent. It was also stipulated that by 25 August 1981 all assemblers should achieve 40 percent local content. Motorcycle assemblers were required to meet the 50 percent local requirement, increasing to 70 percent within two years.

In addition, the "mandatory deletion" of specific parts, for example, brake drums and exhaust systems, which had been locally-produced for some time, was also introduced. The mandatory deletion of brake drums was the outcome of lobbying by an influential local joint-venture between the Japanese engine producer Kubota and Siam Cement. This measure signaled forthcoming mandatory local production of increasingly sophisticated components to disgruntled Japanese transnational assemblers.

The localization policy was severely criticized by economists, including Japanese scholars (Adachi and Nawadhinsukh, 1982). Adachi argued that it was impossible to have an auto industry without an auto-assembling industry. Increasing local content would strengthen the monopolistic power of the established Japanese TNCs.

Deletion of a part will only partially save on foreign exchange way below the full price of the part. On the other hand, substitution of local parts more often than not requires import of equipment and material for local production, constituting little local added value. The problem is ever more serious with the increasing ratio of local content. Economically speaking, if the price elasticity of deleted CKD import is lower, then the higher is the local content. It is a big joke when a host country runs a policy that strengthens the monopoly position of foreign firms without knowing it (Adachi and Nawadhinsukh, 1982).

The CBU ban was applauded by Japanese TNCs who, of course, were the largest producers. Smaller as-

semblers, more reliant on CBU imports, were seriously affected. Consequently, many non-Japanese models, for example, Hillman, Simca, Dodge and Holden, were eliminated from the local market.

The method for calculating local content was also substantially altered. ADC assigned scores to every part and component in percentages. Weights were based on technical criteria for existing and expected contribution to local technical capacity, that is, higher scores for pressed products rather than their contribution to value added or production costs. The point system was criticized because it was unrelated to either economically meaningful indicators of value added or foreign exchange savings.

Transition Toward Low Protected Industry (1987-present)

Thailand exported cars and buses for the first time in 1987, when 488 passenger cars and 40 buses were exported to Canada by a local joint venture with Mitsubishi. According to its contract with Chrysler of Canada, the joint-venture would deliver 100,000 vehicles within six years. This event was hailed as a major breakthrough, although many still wondered whether the exports were actually profitable, given the high levels of protection.

During this period, plans to establish local production of engines were revived after having been dropped in the early 1980s. Four contenders, all Japanese TNCs, were promoted for the assembly of diesel and gasoline engines. Imports of engines were banned and a progressive content requirement was set up.

Despite emerging export possibilities, the local auto market remained highly-protected. Imports of CBU under 2300 cc. were still banned and CBU over 2300 cc. had to pay 300 percent import duties. High levels of protection rendered domestic vehicle prices far above prices of comparable models in other countries. For example, the Toyota Starlet was priced at 350,000 baht in 1988 in Thailand, but the same model was sold for 279,870 baht in Italy (MOI, 1990). A Mercedes 300E was 2.5 million baht in Thailand, while the same model was sold at around one million baht in France and Italy. Total taxes for a 2300 cc. passenger car were over 616 percent for CBU and 125.3 percent for CKD.

Recognizing the high cost of the industry and the pending outcome of the Trade-related Investment Measures (TRIMs), the Anand government, dominated by liberal technocrats, decided to slash import duties on motor vehicles in 1991. Import duties on vehicles over 2300 cc. (CBU) were reduced from 300 percent to 100 percent and CKD duties were reduced from 112 to 20 percent. This substantially reduced the total tax from 616.8 percent to 210.8 percent for CBU and from 125.3 percent to 106 percent for CKD.

The decision severely affected auto assemblers. Overnight the highly-protected Thai industry was exposed to external competition. The effect of the transition

remains to be seen, but Japanese TNCs are expected to retain their competitive edge owing to their more flexible technology.

As to the three criteria of local content, rationalization and exports, Thai auto policy is more effective than that of Indonesia, Malaysia and the Philippines, all ASEAN countries (Doner, 1991). Doner contributes this success to the coalition of the Thai government and local subcontractors, initially through ADC and later through the Joint Public and Private Sector Consultative Committee (JPPCC), chaired by the prime minister and represented by the three major business associations, the economic ministers and the secretariat of the National Social and Economic Development Board (NESDB).

Others have found the performance of the Thai auto policy less impressive, especially the technological spillover to local suppliers who are not part of the Japanese production family (Adachi and Nawadhinsuk, 1982; Kaosa-ard, 1990; and the Board of Investment, 1991).

THE NEED FOR NATIONAL POLICY COORDINATION

An examination of the local content policy for automobiles made in Thailand reveals that its primary objective is to save foreign exchange. The government's attempt to institute the local content program was, in fact, to improve the auto sector's trade deficit, rather than to foster greater national capacity in automotive technology. Firms are now free to produce more parts, but these are invariably simple parts easily produced. Moreover, the mandatory items are often those already traditionally produced. Nor has the time table for producing these items been strictly adhered to. More importantly, there have been no systematic programs to technically support local part makers. The Thai auto industry was made to feel that protection, an important instrument for generating rents, would never be removed. In contrast, Japan's auto industry invested heavily in technology during the government's protection period, knowing that the protection period would not last long. (Goto and Irie 1990). The Citizen's Car Project also disciplined Japanese car makers to produce fuel-efficient and low cost vehicles. In Thailand, in contrast, the assembly industry has been allowed to become high cost.

The Thai case study shows a lack of policy co-ordination. When the government used market mechanisms to replace both import bans and the local content policy, it should have given some priority to using the ASEAN Free Trade Area (AFTA) to enlarge the country's local parts and components markets, particularly as Thailand has a competitive edge in some subsidiary auto items. Unfortunately, this was not done.

Over the past 30 years, the Thai auto policy has gone from high to low protection. Japanese TNCs have displayed remarkable flexibility and tenacity in response to these changes in policy. They keep an extremely low profile and wait patiently for long-term profit.

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ENDNOTES

- 1 In this study, the automotive industry is defined to include automobile assemblers and parts and components producers. Throughout this study the automotive industry will be called the auto industry.
- 2 The USA produced 55,890 vehicles, while Japan followed with 37,856. West Germany came third with 24,792 (Doner, 1991, Table 4.3).

Railways: The World Experience*

Human Resources and Social Development Program

Like most of the world's great railways, the State Railway of Thailand (SRT) has entered its second century of operation. Throughout its history, SRT has served the people of Thailand well. That it has made a significant contribution to Thai society is unquestionable. But in current times of rapid economic expansion and increased transportation competition, does SRT continue to make such a contribution? If it does not, should it be discontinued, or is there a different role it should play?

By world standards, SRT productivity remains high, even today. In traffic units per employee, for example, SRT ranks second of the 10 Asian railways reported (see Figure 1), and eighteenth in 78 railways reporting worldwide. Yet SRT is entering a state of crisis. Its financial position is poor and continues to deteriorate. Its infrastructure is also deteriorating and, in some cases, is below normal safety standards. Public confidence in SRT's abilities is low, as is employee morale. The government is becoming increasingly concerned with SRT's net annual operating loss, which it must subsidize if SRT is to remain operational.

To understand how SRT reached this crisis, we should recognize that this railway problem is by no means unique to Thailand. Over the past 15-20 years, railways

throughout the world have experienced, or are experiencing, similar problems and challenges. This includes railways in both developed and underdeveloped countries. A brief look at these problems on a world scale will assist in understanding the Thai dilemma, and indeed will indicate what some of the solutions might be.

THE HISTORIC RAILWAY PROBLEM

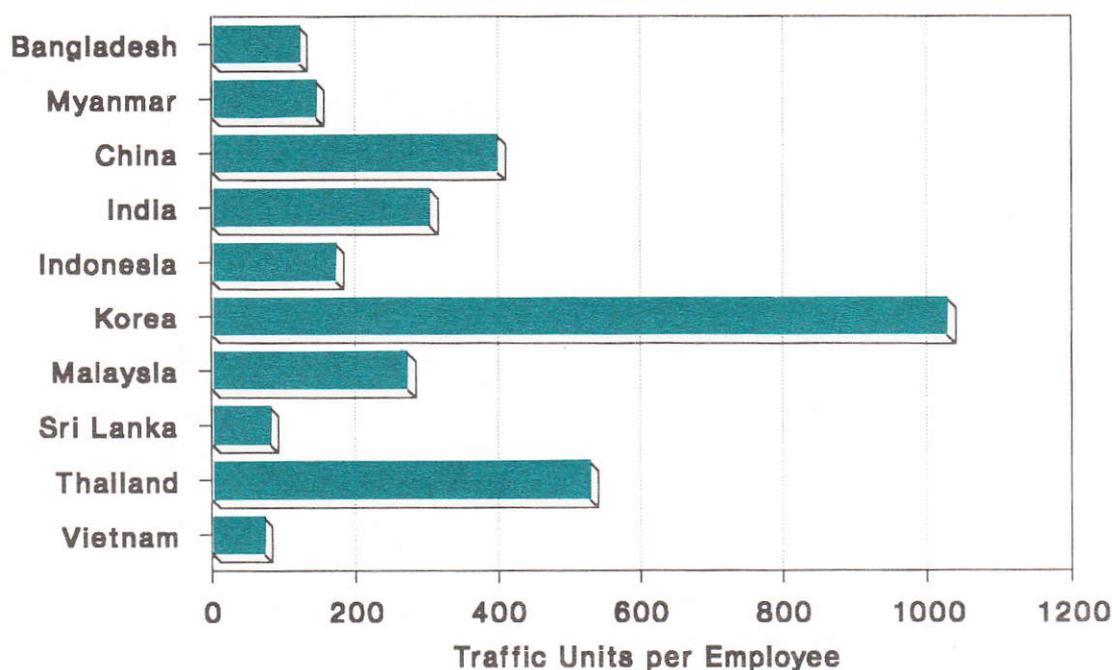
During the nineteenth and early part of the twentieth centuries, railways throughout the world represented the vanguard of technology. They virtually had a monopoly on medium- to long-range overland transportation, both of passengers and goods. In this type of environment, it was a "sellers' market." The railways' monopolistic position allowed them to pick and choose the services they wanted to offer, based on their own preferences rather than those of their customers. In the absence of any real competition, they had a free hand to charge whatever tariffs necessary to offset costs and realize profit.

This monopoly status prompted most governments to create regulations to control railway rates and, in the case of government-owned railways, to ensure the

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* Chapter 1 of the State Railway of Thailand Master Development Plan Study, Final Report.



Source: The World Bank.

Figure 1 Asian Railway Outputs (1988 or Latest Available Year)

general public had access to the railways' services. With the advent of viable trucking and bus operations, the railways' monopoly vanished. Governments invested massive amounts of capital into road systems, with little or no regard for direct investment returns. As the road networks grew, and automotive technology improved, the truck and bus operators made ever-increasing gains in the transportation market. They had the advantage of being smaller and had easier-to-manage units, and their high motivation towards profit made them efficient and highly responsive to the needs of their customers.

As they continued to see their share of the market being eroded, the railways tried to fight back. They were, however, now at a disadvantage. Because of their size and their history, they were not as responsive to customers' needs as were their competition. They were also at a competitive disadvantage because of the many regulations in place, and governments continued to require low tariffs. In Canada, for example, a government-imposed railway tariff for shipping grain, introduced in the early 1900s, remained in existence into the 1970s. In many other countries, including Thailand, governments required the railways to maintain artificially low fares for passenger services offered to the poorer class of society. Railways which were once large money-makers were now put at a distinct competitive disadvantage, by having to offer services at rates less than costs.

Faced with a deteriorating financial status, the railways pondered how to reverse the trend. The task was enormous. All the factors now worked against them.

Often their attempts to reduce costs by staff reductions were thwarted by government regulations disallowing such layoffs. Their management teams had been recruited from the ranks of railway operators, and had little experience in aggressive or dynamic business techniques. Although they tried to turn things around, the obstacles were too formidable and they continued in financial decline.

As railways tried to function with ever-decreasing cash, the inevitable happened. They started to defer maintenance activities and capital investments. Little or no funds were put into research and development. For a long time there were negligible advances in railway technology. These "fixes" only ensured that problems became worse with time. In their paper "Strategic Repositioning of Railways," Booz-Allen & Hamilton Inc. refer to this as the "Cycle of Doom," characterized by the following interacting features:¹

- Insufficient capital and funds
- Poor track conditions
- Old locomotive fleet
- High out-of-service levels
- Slow train operations
- Excess equipment needs
- Excess locomotive needs
- Excess trains, crews
- Excess costs
- Slow and unreliable service
- Low fares, rates and tariffs
- Declining traffic base

The world's successful railways are normally oriented towards either freight or passenger services, but not both.



One notable “victim” of this cycle, with the resultant financial fiasco, was the Japanese National Railways (JNR). Prior to its restructuring in 1987, the JNR experienced annual losses of US\$10 billion. Their long-term debt was over US\$210 billion which, if paid at one time, would represent 10 percent of the total Japanese GNP!

A World Bank paper, “Techniques for Railway Restructuring,” summarizes the problems of the world’s railways:

The World Bank’s reviews of railway crises show very clearly that they do not come about suddenly, nor do they happen by accident. Although the points of emphasis may differ, this conclusion is just as true of railways in the developed as in the developing world. As a broad generalization, railway crises occur because railways have not been encouraged, or allowed, to respond to changes in the economies they serve. Long after major segments of railway traffic have been captured by competitors which are often privately owned and operated, railways continue to offer services which are not in demand, at prices which are often far below cost, and with a quality of service which is inferior to the customer’s needs. Typically also, as the railway becomes a fiscal drain on an economy already short of resources, longer range maintenance and capital needs are neglected, further diminishing the railway’s capabilities as the years pass. The longer the problem continues, the more difficult and expensive it is to resolve, and the more likely it is to be “put off until next year.”

One of the co-authors of this World Bank paper, Louis S. Thompson, has an advisory role on the current SRT study.²

Across all economies and cultures, this situation is the result of some or all of the following forces:

- The railway is generally one of the nation’s oldest institutions, and its years of history have endowed it with perceived roles – such as a “public service obligation” – and an associated engineering and production-oriented management culture which are uniquely resistant to change.
- The railway often has the largest single unionized work force in the nation, giving its workers a great deal of political power which is used to protect the size of the labor force, even when there is little productive work to be done.
- Over the years, various classes of passengers, typically commuters and third class inter-city passengers, and shippers (often agricultural interests and major government-owned mining or industrial enterprises) have been able to persuade the regulatory government authorities to distort the rate structure in their favor. The stated rationale for the intervention in freight rates – “the nation needs to control freight rates in order to promote exports, or to control inflation” – is as predictable as the result: nothing positive is achieved because the resulting deficits are merely shifted from one agency budget to the other, and the management incentives of both railway and shipper are badly distorted. Regional interests also believe that the existence of rail service, but not necessarily its use, is important either to maintain the local economy, or to protect the possibility of a desired future development program. Eventually the beneficiaries of the system of cross subsidies come to believe that their

avored status is not only important to them, but is also important to the health of the nation, and they defend their positions tenaciously.

- The people at large may believe that a railway is “needed,” whether or not it is economically justifiable, either because they believe that rail service is a basic “right,” like education or health, or because they consider the presence of a railway to be one of the status symbols of nationhood.
- The ministry which owns and operates the railway may be as interested in protecting its organizational domain, budget, and political influence as it is in serving the needs of shippers or tackling the difficult task of restructuring the railway.
- Finally, many of the important actual or potential customers eventually switch to other modes because the service may have become sufficiently slow and unreliable that it is no longer economical to use rail. These former users are no longer advocates for change and improvement. Of course, the other beneficiaries of poor rail service, the competing, non-rail transport modes, are often committed advocates of the status quo as well.

THE CONCEPTUAL SOLUTIONS

It would be very helpful if we could list here proven remedies that could directly be applied to the current problems of SRT. Unfortunately that is not possible, for there is no such list. Different world railways have tried different solutions, achieving different levels of success. Each railway is serving a country with different markets, different business and social cultures, and different governmental objectives. It is, therefore, reasonable to assume that the ideal structure for one country’s railway system is not necessarily valid for all countries.

Just as the problem symptoms are similar country by country, however, we might expect to find the concepts for positive change to be similar. The discussion which follows will consider, in general terms, some of the more important concepts. This discussion is in a global context, related to the experiences of railways that have successfully effected positive change, but not specifically related to the requirements of SRT.

Political Leadership

In any attempt to resolve the “ills” of a railway, it is natural to focus on financial and technical considerations only. These, of course, are important ingredients. Any comprehensive restructuring plan, however, will inevitably lead to some population groups becoming beneficiaries, while others suffer harm. These groups

need to be defined. Thus, the highest levels of political leadership must fully understand and support the proposed plan. Where this has not occurred, the plan usually fails.

In turn, all government agencies involved with reforms and results must also understand and accept the plan, and exactly what their responsibilities are in effecting it. This only occurs when there is strong political leadership. Successful reform has occurred in those countries where the railway problems are perceived as national problems, requiring political leadership to resolve, rather than problems to be resolved by the railway’s management alone.

Planning

Today’s railway problems are the result of many decades of inefficient policies and objectives. We might, therefore, expect that there is no simple “overnight” cure, and the experience in other countries supports this premise. In some countries, notably Britain, Japan and the United States, reform has taken many years to effect, and further reforms are still needed. Implementing the reforms is a staged process over time, with a fair degree of “trial and error” required. Because it is a process over time, it requires long-range planning. The plans must be well thought out, and must remain dynamic. The first plans will not be perfect, due in part to the long-range unpredictability of the environment in which the railway will operate over the planning time frame.

Global experiences further demonstrate that this planning process must, to the extent practical, start at “square one.” The primary planning emphasis should not be on the railway of today, and how to change it, but on the basic question of what future role, if any, should the railway serve in the economy. That the railway is not adequately serving the economy today is accepted, and determination of blame for this situation inconsequential. The important planning consideration is what are tomorrow’s needs. If these needs include operation with certain business goals, then the transformation of the railway must meet those goals.

Public Service Obligations

Governments have social responsibilities – railways do not. Not recognizing this simple truth has paralyzed many of the world’s railways in the past. It is only when governments recognize the effectiveness of market forces in business development in general, and in railways specifically, that real solutions to railway ills can be developed.

Where the public good requires railways to offer services at less than cost, however, it is clearly the government’s responsibility to shoulder these losses. These services may include providing specific train runs, track branch lines, or stations. Governments in the past have made up the railways’ losses by global annual sub-

sidies. This does not afford the government the opportunity to evaluate what good it is receiving for its money, does not lead to incentives for railway management efficiency, nor do the subsidies normally include enough funds for future railway investment.

A very successful solution to this problem, on a world scale, is implementation of a system of Public Service Obligations (PSO) for railways. As a part of this system, governments reimburse the railway for specific services it requires, but which cannot earn enough income to cover costs. It is simple for the government to delete, or add, such services, when the costs are fully known. There should be no other subsidies paid to the railway other than the PSO, which requires railway management to become more concerned with operating efficiencies and cost control. Moreover, the railway must show the government that the PSO services are being operated as efficiently as possible.

This issue of PSO is covered in detail later in this report. The Thai Cabinet has already taken the important step of adopting a PSO strategy for SRT. The working details of the strategy are currently being developed, and it is hoped that this report will aid this development.

Railway Organization (External)

An important issue is how the railway should relate to the government and its various agencies. Included in this issue is the degree of railway privatization, if any, desired. For this, there is no standard world resolution. Virtually every country that has effected railway restructuring has taken a different approach. There is no “perfect” plan, rather any number of alternatives work well if implemented effectively. It is not so important what the plan is, but simply to have one.

In drawing up such an external organization plan, it is of prime importance that the railway be treated fairly in relation to its competition. The degree of regulation must be equal across all transport modes. Safety regulations and policy must also be equally applied to prevent, for example, over-crowding or over-loading. Direct or indirect subsidies, taxation and duty levies too must all be applied equally. Failure to create such organizational and regulatory equalities, or to use a common expression; “to create a level playing field,” will surely lead to the financial collapse of the transport mode in the sector for which it is disadvantaged.

Railway Organization (Internal)

Developing an effective internal management organization is an important ingredient in the restructuring plan. The key factor to consider is that the organization be responsive to the needs of its chosen market niche. On a world scale, several approaches have been undertaken. British Rail remained a single organization subsequent to reforms effected to date, although additional reforms are being considered). Swedish Rail was split into basically

two organizations; one to manage infrastructure and the other to manage a set of operating lines of business. The Japanese National Railways basically adopted both approaches. They are broken into geographical market-oriented companies, then one cross-cutting freight company, and then on an infrastructure basis for the high-speed lines, and on an operating basis for operating the Shinkansen lines.

The choice of the appropriate organizational structure for SRT will depend on the mission and objectives to be set for it. In the words of Sir Robert Reid, Board Chairman, British Railways:

The choice or the trade-off is between a simple, but unfocused and unresponsive monolith, or the increasing complexity in the case of a market-focused organization, and I want to make it very clear that as the complexity of the organization grows in order to deal with different markets, the cost of operating that organization grows. There is a price to be paid between the market sensitivity and focus of the railway and the cost of operating it that way. Those trade-offs are based on a number of different things, but one of them is the relative importance of the markets to be served. If a railway is carrying 99.9 percent of its traffic as freight, and 0.1 as minor traffic, or passenger traffic, it makes no sense to assign equal importance to those two kinds of traffic. If, however, it is equally poised between commuter traffic, inter-city passenger traffic, and freight traffic, a completely different balance needs to be struck.

Railway Physical Constraints

There is a common feeling that anything that can move by truck or bus can move on the railway. This may be essentially correct technically, but experience in other countries shows that this premise is not economically sound. This experience shows that the inherent advantage of a railway lies in the mass production of transportation. This advantage cannot be fully realized, however, if there are extraordinary limits on train sizes or numbers of trains.

Train sizes may be limited by:

- drawbar strength
- maximum axle loads
- clearances
- tractive effort
- siding lengths and spacing
- yard trackage lengths
- labor agreements
- dispatching capability
- gradients and curves

The numbers of trains may be limited by:

- maximum speeds
- slow orders
- running speeds
- siding lengths and spacing
- yard times
- dispatching capability
- communications effectiveness
- signaling effectiveness

Each of these constraints needs to be considered in determining new market niches for the railway. Some constraints can be lessened in severity at relatively low cost, others at very high cost. In each case, the potential rate of investment return needs to be taken into account. This includes consideration of new technologies, such as high-speed trains, electrification, or, in the case of a single track railway, double tracking.

These considerations result in the railway of the future being oriented to those market segments for which it is best suited. In the past, railways attempted to enter all land transport markets. It is further true, based on experiences in other countries, that even when market segments are compatible with the railway's capabilities, there may be conflicts between the various segments. The best example is the conflict between fast and slow train services. Experience shows that the two big money-makers for the railways are medium- to high-speed passenger services and heavy haul freight services. Because of speed differences, however, the two are generally incompatible. This is why the successful railways in the world are normally oriented towards either freight or passenger services, but not both.

THE WORLD EXPERIENCE: CONCLUSION

All of the above factors, and many more, have to be taken into account in developing a conceptual design of a country's ideal future railway. It can readily be seen that the analysis is complex, the solutions are not simple, and the process is very lengthy. The potential dividends are high, though, in terms of the contribution the railway of the future may make to the economy. The complexity of the process should not divert us from tackling it. In the words of Louis S. Thompson, Railways Advisor to the World Bank, at the January 30, 1992, symposium which "kicked off" this current study (Thompson, 1992):

The problem is not unsolvable. There is no reason for despair. Many other countries have attacked exactly this problem with success. British Rail has made considerable progress over the past 30 years. Rintne in Spain has made dramatic progress in the

last 10 years, as have SNCF in France, Finland, Sweden, Japan, New Zealand, Australia, South Africa, the U.S., and Canada. Deutsche Bundesbahn is now in the process of reorganization, which is every bit as thoroughgoing as anything that has been undertaken. These are developed countries. In developing countries, we have been working in Argentina, Chile, Korea, Cameroon, Senegal, Poland, and Hungary. Many, many countries have decided to attack this problem. In all cases, although the outcome differed considerably, and in many cases is still developing, the process was based on several simple steps.

First, the government and the railway together stepped back and asked: 'Why do we have a railway? What is the function of this railway?' It is no longer enough to say we need a railway for national pride or we need a railway because someone thinks we need a railway. What purpose, or market, or function, or social objective does it serve, and is this the most efficient way to serve that objective?

Second, the roles of the railway and the government were clearly distinguished and separate. The government took the responsibility for defining social needs. The railway assumed the posture of a paid supplier of social requirements. Except for these (PSO) the railway assumed the role of a commercial competitor to serve market needs and then, finally, the railway was reshaped or reorganized to meet the market and social functions defined in this process. It was not allowed to remain a traditional government agency.

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ENDNOTES

- 1 Booz-Allen & Hamilton Inc., 1990.
- 2 Huff and Thompson, 1990. See also Thompson, 1992.

Thailand's Macroeconomic Outlook: 1991-1996

TDRI's Macroeconomic Policy Program

Following is an analysis of Thailand's macroeconomic profile in 1992 and a forecast of its macroeconomic development to 1996, the last year of the country's Seventh Plan. Some key policy issues are also discussed, in particular the crisis in the Stock Exchange of Thailand.

MACROECONOMIC PROFILE IN 1992

Overall Economic Growth Slows

The political crisis after the March election and the tragic events in May had a strong impact on the economy. After having been hit by the Middle East War, the AIDS problem and the coup of 1991, the tourist sector, in 1992, suffered another setback. Hopes that tourism would show a strong recovery were dashed.

In a similar vein, investment growth continued to decline – the trend since 1988. This year is the first year

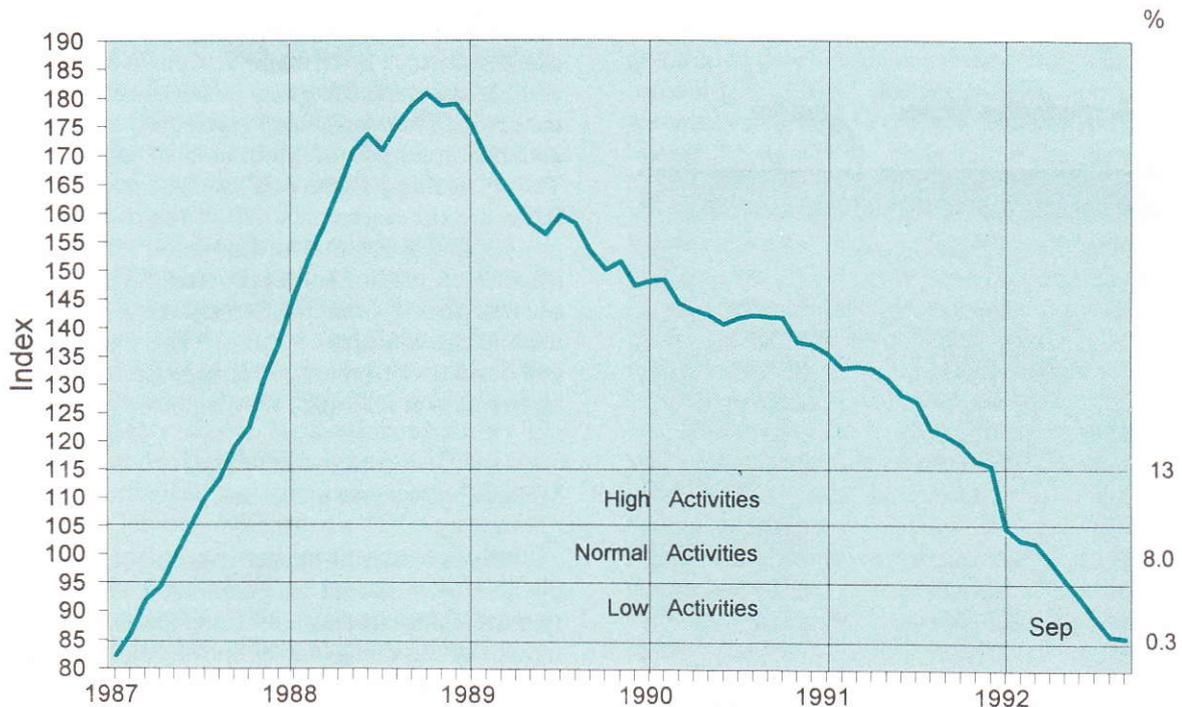
since 1987 that the Bank of Thailand's private investment index (Figure 1) reached the "low" range. Public investment was also affected. The three changes in government, and the delay in finalizing the 1993 budget meant that some public investment programs were delayed.

As a turnaround in the tourism sector and of investment did not occur, economic growth this year is expected to be lower than last year's.

Import Growth Slows Significantly

This year's import growth has been exceptionally low. Part of the reason is the down trend in investment and economic growth in general. The decline in import growth, however, was largely due to the introduction of the value added tax system (VAT) to replace the business tax.

Table 1 shows merchandise imports by quarter, together with growth rates compared to those of the



Source: Key Economic Indicators, Bank of Thailand.

Figure 1 Private Investment Index

corresponding quarter a year earlier. In the last quarter of 1991, import growth abruptly changed trend. Instead of growing at between 20-25 percent as in earlier quarters, it suddenly became negative. This trend continued throughout the first quarter of 1992. Since the second quarter of 1992, import growth has picked up substantially.

The explanation of this pattern is that there was considerable confusion over VAT, particularly with the transitional measures implemented in the shift from the business tax. Producers, wholesalers and retailers, for example, were uncertain whether the business tax they had already paid on merchandise that remained in stock after the VAT had come into effect would be refunded.

Among the results of this confusion was a lowering of stocks and delays in new orders. Import orders were thus delayed, producing the pattern shown in Table 1. It should be noted that import growth picked up strongly in the third quarter, even though the investment index continued to decline. Thus, the pattern in Table 1 cannot be explained by the decline in investment alone.

The Economic Climate Improved in the Latter Part of the Year. But...

Khun Anand Panyarachun's appointment as Prime Minister on June 10 effectively prevented the political crisis from worsening. The economic climate, however, continued to be sluggish, as people waited for the outcome of the September election. The election results on September 13 led to a major improvement in political confidence and renewed economic optimism. The new government under Prime Minister Chuan Leekpai con-

sisted of many new faces, including prominent bankers and economists. To many people this meant that the May tragedy at least succeeded in providing welcomed changes and a restoration of democratic rule.

The stock market index, usually a good indicator of the economic climate, depends on both the economic fundamentals of the various stocks as well as perceived economic trends and corporate outlook. The stock index everywhere is, of course, quite volatile, quickly swinging up and down. This is a natural process, as the following example makes clear:

Suppose, as of today, everyone has new information and is firmly convinced that Company A's profitability will gradually increase to double its current level within one year and remain high thereafter. This implies that Company A's share price will also increase rapidly. As everyone expects that Company A's share price will eventually become close to double the current level, the sooner the shares are snapped up, the cheaper will be their price and the larger will be eventual profits. Thus, it would not be unnatural for Company A's share price to increase to almost twice the current level in two or three weeks. This example makes clear that, generally, changes in share prices take place in anticipation of actual changes in company performance, and occur much more quickly than changes in actual company performance.

The renewed confidence in the political and economic systems following the September election was quickly felt in the stock market. The SET index increased from around the 800 level, just after the election, to almost 1000 points in less than two months (Figure 2). The SET was finally hit by another major crisis, however, this time originating from within. The crisis culminated in the arrest of Mr. Song Watcharasriroj and his associates on charges of stock price manipulation. Whether Mr. Song and his associates are guilty or not awaits the verdict of the courts. The crisis, however, severely affected the SET and the hundreds of thousands of market investors. Today the slump in the SET, and the generally low confidence in the market, is still far from over.

To find a solution to the stock market problems, those responsible for supervising SET operations, whether directly or indirectly, beginning with the government to the Ministry of Finance, the Bank of Thailand, and down to the Security Exchange Commission, should try to follow at least the following three guidelines:

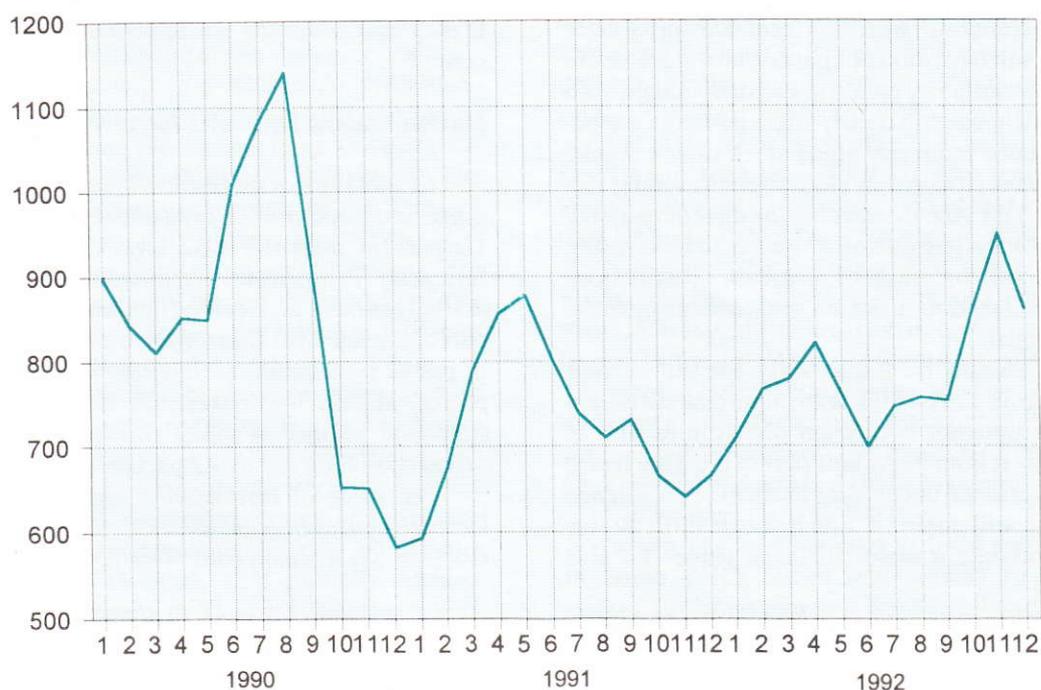
Serious Enforcement of the Law

This is clearly of utmost importance, as fair trading for all parties should be guaranteed. The information system for stock trading must be further developed so that signs of wrong-doings can be spotted early. Enforcement measures can then be more easily carried out without causing widespread market havoc. Enforcing section 241 of the SET Act B.E. 2535 concerning "insider trading" should also receive particular attention.

Table 1 Merchandise Import by Quarter

Quarter	Import	Growth
1989 Q1	149,508	42.47%
Q2	161,941	26.46%
Q3	163,913	25.35%
Q4	172,853	25.84%
1990 Q1	188,143	25.84%
Q2	195,769	20.89%
Q3	208,617	27.27%
Q4	239,609	38.62%
1991 Q1	235,520	25.18%
Q2	246,626	25.18%
Q3	251,835	20.72%
Q4	229,819	-4.09%
1992 Q1	229,364	-2.61%
Q2	255,819	3.73%
Q3	281,564	11.80%

Note: Growth from the same quarter of the previous year.



Source: Security Exchange of Thailand.

Figure 2 SET Index (the opening price of the first working day of each month)

Do Not Interfere in the Market Mechanism

Interference with the market to “shore up” prices of certain stocks, rather than “stabilizing the market,” are more likely to damage natural market forces which are the key to the SET’s development. Investment in the stock market depends on psychology, on information, and on expectations for the future. Nothing is certain. No government or public agency should have the authority to assert that one stock is better than another, and that the prices of some stock should rise while others should decline. If those in authority believe that they really know better than investors about which stocks have better fundamentals, then this could only come from having access to undisclosed information about companies that is unavailable to the public. To use such information to shore up prices of various stocks seems perilously close to contravening section 241 of the SET Act, certainly in spirit if not the letter of the law.

If left alone, the stock market has natural means to adjust itself. If prices shoot skyward, then “corrections” can be expected. If prices fall very low, then more people will be tempted to buy. Take-over bids will occur as companies appear to become bargains. There is certainly no need for the authorities to intervene in the name of “market stability.” There appears to be a major misconception—particularly on the part of those more familiar with macroeconomic stability—that stock market stability implies that share prices should not change

rapidly. Yet, as already explained, share prices by nature do change quickly; they rise quickly and fall quickly. The key to achieving stock market “stability” is to enforce present regulations and improve them if necessary, so that trading becomes fair for all. Monitoring mechanisms should also be improved so that enforcement will be effective. Trying to affect prices of specific stocks so that they do not fall too much or change too quickly is in complete contradiction to what stock market “stability” is all about.

Correct Attitudes Concerning the Stock Market

Some people connected directly or indirectly with supervising SET do not really understand the stock market. They do not seem to know that share prices change quickly, up or down, as expectations change or new information becomes available. When stock prices increase quickly, the public comments most often heard are that “stock prices are too high, an index level of xxx appears more appropriate” or “stock prices have increased too quickly,” or “daily trading volumes are much too high, they should be xxx,” etc. Yet, when stock prices tumble, the same individuals give good reasons as to why the decline has occurred—the Middle East crisis or political conflict, etc.

This type of behavior should end. While discussions as to whether stock prices are too high, or have increased too quickly, are commonplace among stock investors, it

is a completely different matter when such "advice" comes from someone who has real authority over measures that will have direct impact on how stock prices move. Given the authority vested in such individuals, such phrases as cited above will clearly affect investors' expectations, and hence indirectly affect stock prices. Again, such statements are perilously close to contravening section 239 of the SET Act, concerning the dissemination of news or information to cause other parties to believe that shares prices will increase or decrease. Regulations should be introduced to make such statements by those in authority illegal.

Solutions should be found soon for the current problems in the SET. The SET is an important institution for raising investments, both from domestic as well as foreign sources. It is an important part of the Thai financial system. Continued uncertainty and loss of confidence in the market will make it much more difficult for Thailand to become a major financial center for this

region, a declared government aim for the Seventh Plan. It may also adversely affect economic development in general.

Macroeconomic Estimates for 1992

As already discussed, investment has been weak. It is expected that private investment actually declined by 1.2 percent from the 1992 level (see Table 2 for the forecasts). This private investment also includes changes in stock, thus the de-stocking that took place in the earlier part of the year also affected the estimate. For the volume of public investment, an increase of 9.6 percent is expected, slightly lower than the increase in 1991. The combined volume of public and private investment is expected to increase by 1.2 percent in 1992.

The value of merchandise exports is expected to increase by 15.3 percent in 1992, compared to 1991, thus reaching 831.1 billion baht. This is a respectable rate of

Table 2 Thai Economic Outlook for 1992-1996

	1991*	1992	1993	1994	1995	1996
World Economy						
G-7 Growth	1.3	1.8	2.5	2.8	2.8	2.8
Economic Growth (real GDP)						
Agriculture	3.8	3.6	3.4	3.4	3.3	3.5
Industries	9.5	7.7	8.4	9.2	9.2	8.5
Services	7.4	7.0	9.1	9.2	8.8	9.1
Total	7.7	6.9	8.1	8.5	8.3	8.3
Inflation Rate (CPI %)	5.7	4.5	5.0	5.5	5.7	5.9
Private Investment						
Quantity (% increase)	9.0	-1.2	7.9	12.6	12.5	10.9
Public Investment						
Quantity (% increase)	13.0	9.6	10.6	16.7	14.9	12.7
Total Investment						
Quantity (% increase)	9.7	1.2	8.5	13.6	13.1	11.4
Merchandise Export						
Value (billion baht)	720.5	831.1	958.4	1095.5	1252.6	1422.8
Value (% increase)	23.6	15.3	15.3	14.3	14.3	13.6
Merchandise Import						
Value (billion baht)	968.1	1049.1	1218.4	1430.0	1665.8	1927.2
Value (% increase)	15.5	8.4	16.1	17.4	16.5	15.7
Trade Balance						
Value (billion baht)	-247.5	-218.0	-260.0	-334.6	-413.1	-504.4
% of GDP	-10.5	-8.5	-8.9	-10.0	-10.8	-11.5
Income From Tourism						
Value (billion baht)	115.7	109.9	130.8	148.3	168.0	188.3
% Increase	4.6	-5.0	19.0	13.4	13.3	12.1
Current Account Balance						
Value (billion baht)	-193.5	-162.0	-186.2	-247.1	-308.6	-383.4
% of GDP	-8.2	-6.3	-6.4	-7.4	-8.1	-8.7
Long-term Foreign Debt/GDP	28.6	31.0	32.0	33.4	35.2	37.4

* Estimate.

increase, considering the ever larger base of Thailand's exports and greater competition in the world market. The rate is also in line with the trend expected in the Seventh Plan's target. The value of merchandise imports is expected to increase by only 8.4 percent, reaching 1,049.1 billion baht. Thus 1992 was the first year since 1987 when import growth was lower than 10 percent. A major reason, of course, is the change over to the VAT system. As import growth is particularly low, the trade deficit is declining by about 30 billion baht from the 1991 level, reaching 218 billion baht, or 8.5 percent of Gross Domestic Product (GDP).

Tourism earnings are expected to be 109.9 billion baht, a decline of about 5 percent over last year. The current account deficit, however, shows a major improvement – in line with the lower trade deficit – reaching 162 billion baht, or 6.3 percent of GDP.

Over all, GDP growth is expected to be 6.9 percent in 1992, due to sluggish investment and lack of major growth in tourism revenue. All sectors are expected to show slower growth compared to 1991: 3.6 percent for agriculture (3.8 in 1991), 7.7 percent for industry (9.5 in 1991) and 7.0 percent for services (7.4 in 1991). As growth is sluggish, the inflation rate (CPI) this year should be about 4.5 percent.

MACROECONOMIC OUTLOOK FOR 1993-1996

Key Conditions Underlying 1993 Forecasts

It is expected that the world economy will show some improvement in 1993. While the outlook is uncertain,¹ G-7 growth should reach about 2.5 percent in 1993. This expected improvement in the world economic outlook should help Thailand achieve an export growth comparable to that targeted in the Seventh Plan.

For internal factors, the following assumptions are highlighted:

First, stock market problems should be solved, hopefully bearing in mind the guidelines suggested above. A prolonged slump and loss of confidence in the stock market could adversely affect both investment and consumption.

The next factor is the minimum wage. Two aspects are relevant. First, the negotiation process itself and how agreement is reached, and, second, the amount of adjustment. For the negotiation process, the system should be improved so that the focus does not remain primarily on the figure of the "minimum wage." The process should rather stress the cooperative nature of employer-employee relations, and the development of career paths that allow employees to see improvement in pay and other benefits over the course of their working career. Too narrow a focus on the minimum wage alone will inevitably highlight the conflicting interests between employers and employees. It could also lead to many new problems, particularly under the more democratic system prevailing

in Thailand today. For the 1993 forecasts, it is assumed that smooth negotiations and settlement of the minimum wage bargain will occur. The adjustment assumed ranges from 8 to 10 percent.

Finally, it is assumed that the political system will remain stable. This is not expected to be a problem. The government may fall or change, but as long as the current political system is not overturned there should be no serious impact on the economy.² The stability of the political system is simply stressed here as a reminder of what Thailand went through in 1992.

Thai Macroeconomic Outlook in 1993

Given the various conditions assumed above, the Thai economy is expected to reverse the downward trend of the last few years. Investment growth should increase. Exports are expected to maintain good growth. Recovery in the tourist sector is also expected.

Next year should finally see the start of various infrastructure projects long in the pipeline. Mass transit projects, such as the Tanayong and Hopewell projects, should finally get underway. A start may also be made on the second Bangkok Airport. The Chuan government has also stated its intention to carry out many infrastructure projects, such as the four-lane highway and railway double-tracking projects, and some of these may be started next year. Many private sector projects are also in the pipeline, such as the refinery projects. For 1993, it is expected that the quantity of private investment will increase by 7.9 percent, or an increase of about 150 billion baht at current prices. For the public sector, an increase of 10.6 percent is expected. This will lead to the overall investment volume increasing by 8.5 percent.

Export growth is expected to remain the same rate as during 1992, 15.3 percent, reaching 958.4 billion baht. In contrast with 1992, and in line with increased investment and improvement in the general economic climate, import growth is expected to be strong, increasing by 16.1 percent, to reach 1,218.4 billion baht. This will worsen the balance of trade, increasing the deficit to 260 billion baht, or 8.9 percent of GDP, compared to 218 billion baht, or 8.5 percent of GDP in 1992.

Tourism is expected to recover strongly next year, increasing by 19 percent to 130.8 billion baht. Due to the larger trade deficit, however, the current account deficit is expected to increase to 186.2 billion baht, or 6.4 percent of GDP.

Real GDP growth is expected to reach 8.1 percent in 1993, the main stimuli coming from increased investment and tourism growth, and at least satisfactorily high export growth. Both industry and services are expected to show stronger growth than in 1992. Industry should grow by 8.4 percent and services by 9.1 percent. Agriculture, however, is expected to show lower growth, increasing by only 3.4 percent. As for inflation, while the rate is expected to increase slightly, it should still remain relatively low at about 5 percent.

Medium Term Outlook to 1996

The pattern of Thai macroeconomic development from 1994 to 1996 is expected to remain similar to that of 1993.

- The volume of investment is expected to increase between 11-14 percent per annum, the main determinants being the various infrastructure and private investment projects.
- Export growth should maintain within the targets set for the Seventh Plan's target, increasing at about 14 percent per annum. Export value is expected to reach 1,422.8 billion baht in 1996, or about 1.7 times the level in 1992.
- Import growth is expected to remain strong. This appears to be a normal trend for a country in a similar stage of development as Thailand, where there is much need for infrastructure building, and the further development of industry and services. In South Korea, for example, from 1975-1980 the per capita GDP in 1975 was comparable to that of Thailand in 1990, taking inflation into account. The average real GDP growth was 7.5 percent³ and average growth of import volume (not value) was about 10 percent per annum. These figures are comparable to those expected for Thailand from now to the end of the Seventh Plan.
- As import growth is expected to be high, the trade deficit is expected to continue to widen, reaching 11.5 percent of GDP by 1996. Tourism growth is expected to continue at a rate of about 12-13 percent per annum from 1993 to 1996. Tourism earnings are expected to reach 188.3 billion baht in 1996. As the trade deficit continuously increases, however, the current account deficit is also expected to continually increase, reaching 8.7 percent of GDP in 1996, compared to just 6.4 percent in 1993. This will lead to a rapid increase in the stock of long-term debt, with the ratio of debt to GDP increasing to 37.4 percent in 1996 compared to 31.0 in 1992.
- Real GDP growth is expected to remain above 8 percent for the remainder of the Seventh Plan. Inflation should show a slight increase in trend, as the labor market for those with middle to upper levels of education becomes tighter over time. The inflation rate, however, is expected to remain below 6 percent between 1994 and 1996.

- From the above forecast, a particularly important feature is the increasing trend of the current account deficit – or equivalently, the savings-investment gap. It is true that Thailand currently has some room to maneuver in facing this problem. The trend over the last two years, 1990-92, has seen a decline in the ratio of the current account deficit to GDP, from a record high of 9 percent in 1990 to only 6.3 percent in 1992. At the same time, there has been a tremendous increase in short term capital inflow (maturity less than one year). Short term capital inflow through the private sector, for example increased from 33.4 billion baht in 1988 to 158.2 billion baht in 1992. These short term capital inflows have been important in explaining why Thailand's foreign reserves have continued to increase rapidly despite the current account deficit remaining high.

That the short term inflows are key factors in explaining increases in Thailand's foreign reserves suggests that over confidence toward the problem of the current account deficit should certainly be avoided. Being short term inflows, they can as easily be moved out as moved in, if conditions warrant. Many Latin American countries have found this out the hard way in the past. For Thailand, the stock market problem is certainly not conducive to attracting short term inflows. Moreover, as the Thai financial system becomes more open, Thai interest rates will inevitably move closer to foreign rates – adjusted for exchange risk factors – and thus the attraction for short term inflows is likely to be reduced.

With all the above developments, a continually widening current account deficit may very quickly become the premier macroeconomic problem for Thailand, just as it was during the first half of the 1980s, particularly if monetary and fiscal discipline is relaxed.

ENDNOTES

- 1 The International Monetary Fund has recently revised its forecasts downwards.
- 2 Though it is possible that a major change in the government may lead to delay in the implementation of government investment programs.
- 3 The reason for the seemingly low rate of growth was that South Korea was severely affected by the second oil shock, and its real GDP growth was actually negative in 1980.

A Proposal for Industrial Restructuring Assistance for AFTA

Wisarn Pupphavesa*

The ASEAN Free Trade Area (AFTA), which was established at the Fourth ASEAN Summit in Singapore in January 1992, was a major success of political cooperation. Much still needs to be done on the economic front, however. Each member country, as well as the group as a whole, cannot afford another meaningless economic cooperation initiative, nor further delays in the process of industrial and trade liberalization.

Though the gains from free trade exceed the losses, including the costs of adjustment, the gainers—consumers and competitive producers—are usually ambivalent about the benefits because they are diffuse and not readily perceived. At the same time, the losers—uncompetitive producers—tend to protest loudly and obstruct liberalization because the costs to them are easily observed. To forge ahead with trade liberalization, and a meaningful AFTA, a program to assist those adversely affected by liberalization under AFTA is necessary. It would be unfair if the losers did not receive some of the gains as a form of compensation.

Some may argue that the losers deserve to pay since they have long been supported and protected at the expense of national welfare. But this leads us nowhere. Many of these potential losers, in fact, were not the initiators of protectionist policies; they merely based their decisions on the wrong signals given to them by public policy makers in the past. Since they are victims, they deserve some sympathy. Moreover, the changing course of policy implies some backtracking on the part of the government. An assistance program would demonstrate the government's responsibility by enhancing its credibility vis-a-vis policy commitments. A well-designed assistance program, therefore, is vital to the success of liberalization and hence AFTA.

DESIRABLE CHARACTERISTICS OF RESTRUCTURING ASSISTANCE MEASURES

There are various measures which could be designed to assist restructuring. To help select the appropriate alternative, certain guidelines or criteria for considera-

tion should be adopted. These criteria should, inter alia, consist of the following:

- The measures must directly target the groups which are adversely affected by the liberalization scheme, be it under AFTA or under GATT (General Agreement on Tariffs and Trade). All adversely affected entities should have equal access to the assistance. In determining eligibility, the benefit of the doubt may be given to the beneficiaries to encourage rapid restructuring. Eligibility, however, should also be well defined, and justified in terms of the impact of liberalization, as a means of minimizing possible windfall gains, and of keeping the assistance budget from becoming bloated.
- The measure must be neutral and equally accessible to eligible entities of different industries and sizes. It is of utmost importance that small entities not be deprived of the restructuring assistance for which they are eligible. Since their ability to self-adjust, as well as to gain access to most government assistance except that which is provided exclusively for them is limited, small firms should be the primary target group of the assistance scheme. Industrial neutrality in a restructuring scheme is also desirable with respect to both the equitable receipt of benefits and the allocation of new industrial investment. An assistance scheme should not play a role in directing new investment or reinvestment toward certain sectors.
- The amount of assistance should be related to the extent of the burden born, or capital tied up in non-competitive production (and needing replenishment), by the beneficiary as a result of the liberalization scheme. The assistance provided, therefore, should cover only the funds needed for the beneficiary's real adjustment effort.

* *The author, who is the Director of TDRI's Thailand and Economic Cooperation in the Asia-Pacific Region Project, thanks Frank Flatters and David Stifel for their advice in writing this article, but takes full responsibility for the ideas presented.*

- For an adjustment program to be effective, assistance must be provided on a “once and for all” basis for each beneficiary, and a definite time-frame consistent with the liberalization schedule must be set.
- The measure should be transparent and automatically available to all eligible entities to ensure access to the assistance, and thus to guarantee acceptance of the liberalization policy. In other words, if firms are given an incentive to adjust through an easily accessible assistance scheme they will be less determined to fight the liberalization package.
- When the need arises, the scheme should be able to be readily and conveniently extended beyond liberalization under AFTA, i.e., to a wider coverage of most-favored nations (MFN) liberalization measures.
- Finally, the assistance scheme needs to be economical and administratively easy to implement. The administrative costs, relative to the total requirements for financial assistance, should be as low as possible. Furthermore, since the life of the scheme is to be limited, a new agency should not be created. Rather, it should be efficiently administered by an existing agency.

PROPOSAL FOR RESTRUCTURING ASSISTANCE

Although it is difficult to satisfy all of these demanding criteria, a measure which allows for the accelerated depreciation of capital as a means of assistance appears to do so. I, therefore, propose that an “accelerated depreciation allowance” provision be adopted as the main form of assistance for industrial restructuring made necessary by trade liberalization under AFTA. The provision, which is equivalent to a corporate income tax deduction, should be applied on a “once and for all” basis to the existing stock of capital machinery and equipment installed no later than a specified year of each eligible entity.

Administratively speaking, the “accelerated depreciation allowance” scheme can be implemented immediately by the Revenue Department of the Ministry of Finance. As a matter of fact, a similar measure already exists under the Royal Decree of 1984, under the Code of Revenue. Whereas the standard annual allowance for capital depreciation is 20 percent, an annual allowance for accelerated depreciation of 40 percent is permitted for capital machinery and equipment used for research and development (R&D) purposes. This provision can be extended conveniently to capital machinery and equipment used in industries adversely affected by liberalization policies, be it under AFTA or under GATT. Administrative costs for this sort of scheme are

obviously low, and insignificant relative to an assistance fund.

Once the coverage of industries eligible for assistance is defined, the “accelerated depreciation allowance” mechanism will be transparent and automatic. It will apply equitably to all eligible beneficiaries, regardless of industry and size, and will remain neutral with respect to direction of new investment or reinvestment. The amount of assistance will relate directly to the burden born by the affected entities. And finally, it will have a definite time-frame, i.e., the remaining capital stock could be written off in a specified year corresponding to the completion of the liberalization process.

The proposed “accelerated depreciation allowance” would infuse affected entities with fresh capital, allowing them to boost their competitiveness in identical industrial activities by upgrading technology or expanding to enjoy economies of scale. Or, if they can no longer remain competitive, firms can use the fresh capital for purposes of relocating to better locations and/or diversifying into relatively more competitive industries. Since this form of assistance does not involve government intervention, it allows the private sector to determine the direction of new investment. The private sector’s role, therefore, is enhanced even further under the newly-liberalized economic environment.

The coverage of industries eligible for participation can be determined in accordance with those affected by the various phases of liberalization, i.e., those included in the fast track and Common Effective Preferential Tariff (CEPT) schemes of AFTA, or across-the-board MFN tariff reductions. The level of the allowances for accelerated depreciation can also be fixed in accordance with the pace of liberalization, i.e., the faster the pace of liberalization, the higher the rate of depreciation allowance.

“Accelerated depreciation allowance” has been used as an investment incentive in various countries, including Indonesia. As an investment incentive, however, its weakness is that it has an inherent capital-intensive bias. This is irrelevant in our case because the allowances are applicable only to the existing capital stock, and not to new investment decisions. Furthermore, the benefits derived from this scheme are only received on a “once and for all” basis. The magnitude of the assistance given to each entity corresponds perfectly to the burden placed on that entity, for example, the value of capital tied up in existing uncompetitive industries.

With the varying degrees of efficiency and competitiveness of firms in each industry, it is difficult to determine which industries are actually uncompetitive and adversely affected by trade liberalization. It is also cumbersome, as well as non-transparent, to judge the competitiveness of individual firms and whether they are adversely affected. This is the principal reason for adopting the “accelerated depreciation allowance” approach which applies to all of the firms in each eligible industry. Eligibility for tax allowances is best determined by considering the individual liberalization package itself, for

example, fast track, CEPT, and MFN, not by passing judgment on the competitiveness of a certain industry. Therefore, restructuring assistance in the form of “accelerated depreciation allowance” gives the benefit of the doubt to firms that indeed may be quite efficient and competitive.

It is noteworthy that this restructuring assistance scheme is applicable only to the entities which have properly registered and paid their taxes. Tax evaders will have no record of their capital stock and thus will be ineligible for assistance benefits.

“Accelerated depreciation allowance,” however, is not a panacea for all of the difficulties accompanying trade liberalization. It provides assistance only to capitalists, not to affected workers and farmers (i.e., oil palm growers in the case of AFTA, and cassava growers in the case of an agreement in the Uruguay Round of GATT). Skill training and development programs are apparently the most appropriate form of assistance which can be offered to affected workers. Assistance programs for farmers may take the form of rural development credits for crop diversification, replantation, and off-

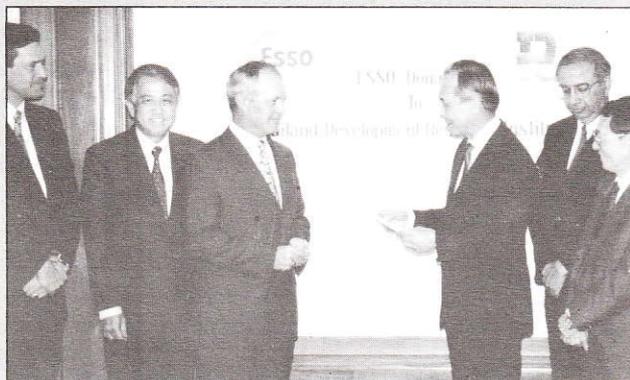
farm earning opportunities. An assistance scheme for workers and farmers, however, needs to be analyzed more carefully, and is beyond the scope of this paper.

The proposed “accelerated depreciation allowance” scheme, nevertheless, includes many of the adversely affected parties—those which may otherwise mount strong resistance to liberalization and restructuring. In doing so, there is more incentive for these groups to accept the new policies. The hope is, therefore, that the proposed scheme will significantly facilitate the process of trade liberalization and the accompanying restructuring of the economy.

ENDNOTES

- 1 The six members of the Association of Southeast Asian Nations (ASEAN) include Brunei, Indonesia, Malaysia, the Philippines, Singapore, and Thailand.
- 2 Present laws are designed such that allowances for capital depreciation can never reach zero.

Esso Contributes to TDRI's Endowment Fund



Shown at the Presentation Ceremony are, from left to right, Esso Standard Thailand Directors Mr. Stephen V. Arbogast and Mr. Smit Tiemprasert, Mr. David H. Ledlie, Mr. Anand Panyarachun, TDRI President Dr. Ammar Siamwalla, and TDRI Executive Vice-President, Dr. Twatchai Yongkittikul.

Esso Standard Thailand Ltd. has generously donated 650,000 baht, or US\$ 26,000, to TDRI's Endowment Fund. This is the second instalment of a total donation of 3.15 million baht, or US\$ 125,000. Esso's first instalment, donated last year, was for 630,000 baht, or US\$ 25,200.

At the Presentation Ceremony, held at the Institute on January 7, 1993, Mr. David H. Ledlie, Chairman and Managing Director of Esso, presented the check to Mr. Anand Panyarachun, Chairman of TDRI's Board of Directors and Council of Trustees.

The Institute aims to generate enough interest income from its Endowment Fund to carry out research projects deemed important, yet without funding. To date, TDRI has received 39.2 million baht, or US\$ 1.6 million, in contributions from private companies and other friends of TDRI.

CIDA Funds TDRI Seminar on Information Technology

Information is increasingly recognized as an essential production factor, as well as a source of competitive advantage. The information needs of any society are pervasive and wide ranging, from education and health-care to public administration and management of natural resources. While information technology can considerably enhance the quality of life, it also covers the stress brought about by adjustment to new methods of work and ways of life, information overload, invasion of privacy and so on. While it promises to bring economic wealth and give less-developed countries the opportunity to leap ahead in industrialization, information technology may also widen the disparity between the information-rich and poor countries and bring about new international tensions. With the increasing demand for information, it was clear that Thailand must examine both the problems and benefits of information technology. Hence, TDRI's Science and Technology Development Program (STD) undertook a one-year research study entitled "The Role of Information Technology in the Information Society in the Year 2010," and funded by the Canadian International Development Agency (CIDA).

To present the study's findings, CIDA recently sponsored a seminar at the Regent Hotel, Bangkok. Held on January 19, 1993, the seminar was attended by 144 participants from the public and private sectors, international agencies and academia. Dr. Ammar Siamwalla, TDRI President gave the welcoming address. H.E. Arthur C. Perron, Canadian Ambassador, presided over the opening ceremony. At the seminar, Study Project Director Dr. Chatri Sripaipan, presented his paper on "Policy Recommen-



Shown at the seminar are, from left to right, Mr. Krirkkrai Jirapaet, Deputy Permanent Secretary of the Office of the Permanent Secretary, Ministry of Commerce; Dr. Chatri Sripaipan; Mr. C.F. Chicarelli, Managing Director of Alcatel (Thailand) Co., Ltd; H.E. Arthur C. Perron; Dr. Ammar Siamwalla; and Mr. Eric P. Yendall, Canadian Development Program Director of the Canadian Embassy.

and Implications." Also presenting papers were Study Project Leader Dr. Sumeth Vongpanitlerd on "A Global Perspective of Information Technology Trends," Project Researcher Dr. Jittapatr Kruavan on "The Roles and Status of Information Technology Utilization in Thailand," Project Researcher and Dr. Pichet Durongkaverroj on "Information Technology Development Strategies." For the afternoon session, there was a panel discussion on "The Coming Information Society: For Better or For Worse."

State Railway of Thailand Coorganizes Seminar with TDRI



Director of TDRI's Human Resources and Social Development Program Dr. Chalongphob Sussangkarn gives a presentation at the seminar. Shown, from left to right, are: Mrs. Panadda Phurkhao, Senior Specialist of the Comptroller-General's Department, Ministry of Finance; Mrs. Krishnee Varanusupakul, Director of the Transport and Communications Economic Division, Ministry of Transport; Mr. Vatana Supornpaibul, Deputy General Manager of Development and Planning, the State Railway of Thailand; and Dr. Chalongphob Sussangkarn.

TDRI's Human Resources and Social Development Program (HRS), in cooperation with the State Railway of Thailand (SRT), recently organized a seminar on the draft of the final report for the SRT Master Development Plan Study. Held February 7-8, 1992, at the Golden Sands Hotel, Cha-am, the seminar was attended by some 100 SRT officers, and representatives from other government agencies, plus the media. Chapter 1 of this report is reproduced on page 17 of this issue of the *TDRI Quarterly Review*.

The SRT study had the following objectives:

- To project the socioeconomic environment in which SRT will operate over the next 20 years.
- To determine the role SRT should play to satisfy Thailand's economic and social needs over the next 20 years.
- To develop a master plan defining SRT prerequisites to assume this role. These prerequisites include the following requirements: capital investment, business diversification and private participation, legislative or regulatory changes, introduction of new rail transport technology, institutional and organizational changes, and SRT's financial viability.

Completed Project

The Role of Information Technology in the Information Society in the Year 2010

This recently completed study was a subproject of TDRI's "Thailand Toward the Year 2010 Project." Funded by the Canadian International Development Agency (CIDA), the study examines various strategies and major issues in the development of information technology in Thailand and some selected countries. The study outlines the potential benefits of information technology to important sectors of the Thai economy and sets out requirements for a smooth transition into a full-fledged information society by 2010.

The study consists of the following components:

- A review of current global technological trends, their applications, and policy issues on information technology development in a number of the world's leading countries.
- An examination of the present information technology diffusion across Thailand's major economic sectors, including market niches for the information technology industry.
- Recommendations for a suitable information technology development strategy and a discussion on its likely future in Thailand by the year 2010.

TDRI Holds Press Conference to Present Macroeconomic Outlook for 1992-1996



TDRI's Macroeconomic Policy Program held a press conference on December 24, 1992, to present the Institute's Macroeconomic Outlook for 1992-1996. The full macroeconomic outlook is given on page 23 of this *Quarterly Review*. Shown at the press conference, Dr. Ammar Siamwalla, TDRI President (left), and Dr. Chalongphob Sussangkarn, Acting Director of TDRI's Macroeconomic Policy Program.

New Contracts

TDRI to Conduct Study on Women's Participation in Village Development

The Women's Economic and Leadership Development Programme (WELD), has commissioned TDRI's Human Resources and Social Development Program (HRS) to conduct a study entitled "Strengthening Women's Abilities to Participate in Village Development Planning and Decision-making Processes." Begun in December 1992, this project will run 18 months. This is an action research project—a combination of research and implementation at the village level. The project will examine ways in which women's participation in village development planning and decision-making processes can be enhanced. Conducted jointly with the Population and Community Development Association (PDA) and the Community Development Department (CDD) of the Ministry of Interior, the project involves organizing community development planning workshops in 40 villages in Thailand's northern, northeastern, southern and central regions. The workshops will be conducted by PDA and CDD development officers, who received instruction in the "Appreciate-Influence-Control" (A-I-C) approach at a training workshop held between January 17-21, 1993, in Khon Kaen province. Four TDRI research teams will conduct village studies in each region, to assess the strengths and weaknesses of women's village development committees. The study aims to find solutions to problems the committees face in planning, improving their performance and their ability to participate in the village development planning and decision-making processes generally.

TDRI to Conduct Study for the Communications Authority of Thailand

TDRI's Science and Technology Development Program (STD) recently signed a contract with the Communications Authority of Thailand (CAT) to study Thailand's postal and telecommunications service policy and to collect information on other countries' experience in telecommunications and postal service restructuring. A TDRI research team will analyze the shortcomings of presents laws and ministerial regulations affecting CAT, as well CAT's operational efficiency regarding management, finances, technology, services, manpower and expansion plans in both postal services and telecommunications. The study, entitled "Future Direction of the Communications Authority of Thailand," will also evaluate CAT's present role and the problems, benefits and drawbacks of private-sector participation. Recommendations will be made on how best to restructure CAT, along with guidelines to enhance its efficiency and competitiveness.

Asian Development Bank Contracts TDRI to Study Financial Sector

The Asian Development Bank (ADB) recently contracted TDRI's Macroeconomic Policy Program (MEP) to carry out a project on "Financial Sector Policies, Institutional Arrangements and Economic Development," as part of a multi-country project. Debates on the relative benefits of financial liberalization and more interventionist policies are continuing. Currently, there are major differences of opinion on the role of the financial sector in development. The objective of this project is to reassess the extent and pace of financial deregulation and to examine the institutional framework necessary for the further development of the financial sector, through studying the experiences of a number of countries. The findings should be useful for drafting policies for strengthening both the financial and industrial sectors.

The following Research Reports and Working Papers are available from TDRI's Publications Office:

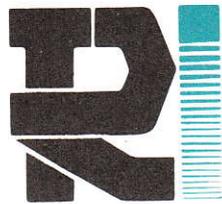
- "Private Sector R&D: Lessons from Success." Project Report prepared for the International Development Research Center (in English).
- "Development of the Machinery and the Equipment for Information Industries in Thailand." Project Report prepared for the National Institute for Research Advancement (in both English and Thai).
- "Case Studies of RD&E Performance in Biotechnology." Project Report prepared for the National Science and Technology Development Agency (in English).
- "Future Potential of Biotechnology in Thailand." Project Report prepared for the National Science and Technology Development Agency (in English).
- "Case Studies of RD&E performance in Electronics." Project Report prepared for the National Science and Technology Development Agency (in English).
- "Future Potential of Electronics in Thailand." Project Report prepared for the National Science and Technology Development Agency (in English).
- "Case Studies of RD&E Performance in Materials Technology." Project Report prepared for the National Science and Technology Development Agency (in English).
- "Future Potential of Materials Technology in Thailand." Project Report prepared for the National Science and Technology Development Agency (in English).

The 1992 TDRl Year-End Conference Papers

No.	Title	Authors	Pages	Price
1.	Synthesis Report Volume 1: Myths, Demons and the Future of Thai Agriculture Manufacturing Growth: A Blessing for All? Priorities for Thai Tourism Development in the 1990s	Ammar Siamwalla Mingsarn Santikarn Kaosa-ard Mingsarn Santikarn Kaosa-ard	140	170
2.	Synthesis Report Volume 2: Towards Balanced Development: Sectoral, Spatial and Other Dimensions	Chalongphob Sussangkarn	75	150
3.	Between the Farmer and the State: Towards a Policy Analysis of the Role of Agribusiness in Thai Agriculture	Scott R. Christensen	40	80
4.	The Environment in a Tourist Economy: A Case Study of Pattaya	Supachit Manopimoke	74	120
5.	Required Returns on Investment by Small and Large Firms in Thailand: Case of Capital Differentials and the Fiscal Environment	Robin Boadway Frank Flatters Jean-François Wen	60	100
6.	Exports, Structural Change and Thailand's Rapid Growth	William E. Brummitt Frank Flatters	45	80
7.	Tourism and Culture: Bang-Fai Festival in Esarn	Akin Rabhibhadana	36	80
8.	The Structure of the Textile Industry and Government Policy in Thailand	Suphat Suphachalasai	31	70
9.	The Future of the Sugarcane and Sugar Industries (in Thai)	Prayong Netayarak	44	80
10.	The Demand for and Supply of Horticultural Products in Thailand (in Thai)	Somporn Isvilanonda Jiraporn Plangpraphan	107	140
11.	The Canned Seafood Industry: Problems and Trends (in Thai)	Ruangrai Tokrisna	54	100
12.	Government Policy Impacts on Medium-scale Industry in Thailand (in Thai)	Arayah Preechametta	48	90
13.	Tourism and the Bang-Fai Festival and Wood Carving (in Thai)	Nidhi Eoseewong	57	100
14.	The Change of the Labour Market to a Labour Shortage Situation (in Thai)	Nipon Poapongsakorn Patamawadee Suzuki	57	100
15.	Regional Industry: Countervailing Policy (in Thai)	Nattapong Thongpakde Bunluesak Pussarangsri	72	110
16.	The Structure of the Textile Industry and Government Policy in Thailand (in Thai)	Suphat Suphachalasai	25	100

Note: Special price for complete set is: only 1,600 baht.

These publications can be obtained from the TDRl Publications Office
16th Floor, Rajapark Building, 163 Asoke Road, Sukhumvit, Bangkok 10110 Thailand
Tel. (662)258-9012-7, 258-9027-9; Fax (662)258-9046



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