

University of Sydney Library



0000000603110104



**economics
Division
Working
Papers**

Southeast Asia

*Explaining the Thai miracle:
dragons, planners and other myths*

Peter G. Warr

95/6

UNIVERSITY OF SYDNEY

FISHER
RESEARCH

338.9593
20

Research School of Pacific and Asian Studies

ANU

Enquiries

The Editor, Working Papers
Economics Division
Research School of Pacific and Asian Studies
The Australian National University
Canberra 0200
Australia

Tel (61-6) 249 4700

Fax (61-6) 257 2886

The Economics Division encompasses the Department of Economics, the National Centre for Development Studies and the Australia-Japan Research Centre from the Research School of Pacific and Asian Studies, the Australian National University. Its Working Paper series is intended for prompt distribution of research results. This distribution is preliminary work; work is later published in refereed professional journals or books. The Working Papers include work produced by economists outside the Economics Division but completed in cooperation with researchers from the Division or using the facilities of the Division. Papers are subject to an anonymous review process. All papers are the responsibility of the authors, not the Economics Division.

economics Division Working Papers

Southeast Asia

***Explaining the Thai miracle:
dragons, planners and other myths***

Peter G. Warr

95/6

24
G
© Economics Division, Research School of Pacific and Asian Studies, The Australian National University, 1995.

This work is copyright. Apart from those uses which may be permitted under the Copyright Act 1968 as amended, no part may be reproduced by any process without written permission from the publisher.

Published by the National Centre for Development Studies

Printed in Australia by Better Printing Service,
1 Foster Street, Queanbeyan, NSW, 2620.

The Economics Division acknowledges the contribution made by the Australian Agency for International Development towards the publication of this working paper series.

ISBN 07315 1975 2

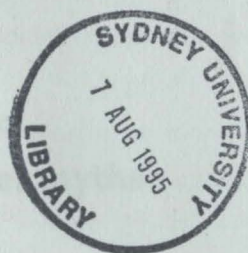
ISSN 1038-412X

Key to symbols used in tables

n.a.	Not applicable
..	Not available
-	Zero
.	Insignificant

Peter G. Warr is John Crawford Professor of Agricultural Economics in the Department of Economics, Research School of Pacific and Asian Studies, The Australian National University.

Univ. of Sydney Library



*a*bstract

Over several decades, Thailand has achieved sustained aggregate economic growth combined with low inflation and only moderate growth of external debt. Poverty incidence has fallen significantly and the rate of poverty reduction over time has been greatest when the rate of aggregate economic growth has also been greatest. The evidence indicates that Thailand's impressive achievement of rapid growth combined with macroeconomic stability was not due to active economic planning. Industry policy, in the form of measures ostensibly intended to promote exports, did not favour industries which subsequently performed well in terms of exports. Further, attempts at short-run macroeconomic stabilisation, in the form of discretionary fiscal policy, did not promote economic stability. Automatic stabilisers, operating through the structure of the fiscal system, were far more important.

explaining the Thai miracle: dragons, planners and other myths*

At the end of World War II, following a century of economic stagnation, Thailand was one of the world's poorest countries. Since then, its economy has achieved a startling combination of rapid growth, declining poverty and macroeconomic stability. For the period 1965 to 1990, the growth rate of Thailand's real GNP per capita was well over 4 per cent per annum (7 per cent per annum in total), compared with an average of 2.5 per cent per capita for low and middle income countries (World Bank 1992). Even more remarkable than this was the stability of Thailand's growth. Almost uniquely among oil importing countries, Thailand has not experienced a single year of negative growth of real output per head of population since 1958. Most recently, over the four years to 1990, Thailand's economy was the fastest growing in the world.

How did they do it? Thailand has indeed joined that exclusive list of countries whose performance economists are anxious to explain. Others include Taiwan, (South) Korea, Singapore, Hong Kong, and now Malaysia, Indonesia and Thailand and China may soon join them. For some reason, various zoological metaphors have become popular as labels for this group of economies. They have been called Asia's 'dragons', 'tigers', 'flying geese', and so forth. They have been also been called Asia's 'miracle' economies (World Bank 1993). The labels are unhelpful and in most cases silly, but the use of the language of mythology to describe this group of economies is one sense apt. Much that has been said about them is indeed based on myth.

This attempt to explain the performance of the 'miracle' economies probably derives from recognition of a basic fact. There is an unlimited number of possible ways of performing poorly, but far fewer possible ways of performing well. The lessons of success may thus be more transferable to other countries than the lessons of failure. This paper gives three examples to contend that the standard analyses of Thailand's

* This paper has benefited from the author's collaboration with Bhanupong Nidhiprabha of Thammasat University, Bangkok, who is nevertheless not responsible for the views presented, or for any errors.

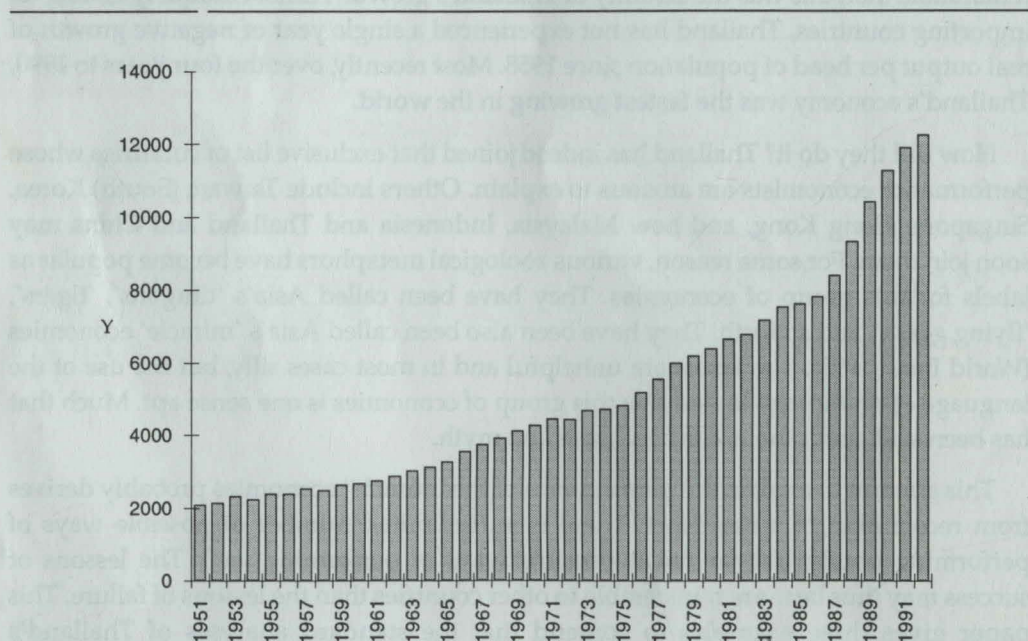
economic performance are wrong and misleading. Before they are discussed some background is required. First the Thai economy and its economic performance is described, then Thailand's economic policies are summarised.

Thailand's economic performance

Economic growth

Long-term changes in real income in Thailand can be estimated from data provided in Sompop (1989). From these data, it is possible to estimate real GDP per capita in baht, expressed in 1950 prices. These data imply growth over the 80 year period from 1870 to 1950 at an average annual rate of a mere 0.2 per cent per annum. Growth since World War II can be estimated more reliably. From 1951 to 1992, growth is calculated from national income data provided by Thailand's National Economic and Social Development Board (NESDB) (Figure 1). Unlike the century before, growth per capita has been impressive. The average annual rate of growth of measured real GDP per capita over this period was 4.3 per cent.

Figure 1 Thailand: per capita GDP at constant 1972 prices, 1951-92



Source: National Economic and Social Development Board, Bangkok.

Thai national income data before 1970 are considered questionable and the NESDB has released a revised national income series for the period since 1970. A statistical summary of Thailand's macroeconomic performance from 1970 to 1991 is provided in Table 1. The annual fluctuations around the average rate of growth of real GDP of 7.1 per cent principally involved external phenomena. Domestic political events have had remarkably little apparent effect on Thailand's aggregate economic performance. An export commodity boom was experienced from 1972 to 1973, operating mainly through the export price of rice. Exports surged and economic growth rose sharply in 1973. This was quickly followed by the first OPEC-induced international oil price increases of 1973–74 (known as OPEC I). Since Thailand is a substantial petroleum importer, the rise in oil prices slowed Thai growth in 1974 and 1975. Recovery occurred from 1976 to 1978, but the second round of oil price increases of 1979–80 (OPEC II) slowed growth again (Warr and Nidhiprabha 1995).

Other oil-importing countries were devastated by these petroleum price increases, but Thailand experienced only a 'growth recession'—from around 9 per cent to around 6 per cent. Having borrowed internationally to finance the increased cost of petroleum imports during the mid to late 1970s, Thailand suffered again from the high international interest rates of the early 1980s. By 1985 serious macroeconomic problems were evident.

* The boom which began in 1987 surprised Thai observers almost as much as outsiders. As already suggested, the boom was driven by two forces

- The depreciation of the US dollar relative to other currencies and the fact that the baht was pegged to it made Thai exports more competitive internationally
- Foreign investment, especially from the present newly industrialising economies, Taiwan and Hong Kong, motivated by the desire to avoid rising labour costs in their own countries.

In explaining the remarkable growth boom of the late 1980s, it would be easy to give too much weight to causes specific to Thailand. Similar foreign investment-led booms were occurring in Malaysia and Indonesia, and even more significantly, the southeastern corner of China, adjacent to Hong Kong and Taiwan. In the case of the Philippines unreliable infrastructure, labour unrest and high level of political uncertainty discouraged foreign investment flows.

External events seem to explain most short-term fluctuations in Thailand's growth rate, but what about the long-term rate? To what extent can Thai economic growth be explained by the growth of conventional factors of production, capital and labour, or alternatively, by other factors, such as technological change, external price movements, and so on? The standard techniques of growth accounting have been applied to Thai data in an attempt to answer this question.

Table 1 Thailand: macroeconomic summary, 1970-91

Variable	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Real GNP											
(per cent growth rate)	7.4	4.6	5.4	9.1	4.1	5.0	8.9	9.8	9.3	5.9	6.2
Exports (per cent growth rate)	0.3	10.7	26.6	33.2	44.9	-7.8	24.9	14.9	21.7	29.4	27.0
Imports (per cent growth rate)	4.0	1.2	13.8	36.1	49.2	3.8	12.2	30.3	15.9	38.4	23.2
Terms of trade (Export unit value/ import unit value)	100	101	111	155	130	116	107	101	102	105	100
Inflation (per cent growth rate)	0.8	0.4	4.8	15.6	24.3	5.3	4.2	7.1	8.4	9.9	19.77
Current account balance/GDP (per cent)	-3.8	-2.5	-0.6	-0.5	-0.7	-4.1	-2.7	-5.7	-1.5	-7.7	-6.2
Money supply (M1) real (per cent growth rate)	9.7	11.0	17.7	17.9	13.0	11.0	12.4	9.0	17.1	17.0	13.8
Total debt/GDP (per cent)	16.6	17.2	16.8	14.3	13.2	15.5	13.1	14.8	18.5	20.2	25.7
Total debt service/exports (per cent)	17.1	18.9	17.4	15.3	14.8	15.1	12.8	16.7	17.4	19.11	14.5
Exchange rate (Baht/US\$20.80)	20.80	20.80	20.80	20.40	20.00	20.00	20.00	20.00	20.34	20.42	20.48
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Real GNP											
(per cent growth rate)	5.2	4.8	7.1	6.3	3.0	4.6	9.7	13.3	12.4	10.3 ^a	7.4 ^b
Exports (per cent growth rate)	14.1	6.0	-4.6	14.1	10.5	20.7	28.8	33.9	27.7	14.4	23.6 ^a
Imports (per cent growth rate)	14.3	-9.6	20.1	3.8	4.6	-3.0	39.0	46.1	29.8	28.5	16.6 ^a
Terms of trade (export unit value/ import unit value)	87.0	79.0	85.0	83.0	80.0	89.0	89.0	86.0	83.0	81.0	80.0 ^a
Inflation (per cent growth rate)	9.9	5.2	3.8	0.9	2.4	1.9	2.5	3.8	5.4	6.0	5.7
Current account balance/GDP (per cent)	-7.1	-2.7	-7.3	-5.1	-4.1	0.6	-0.7	-2.7	-3.6	-4.9	-4.9 ^b
Money supply (M1) real (per cent growth rate)	6.5	12.0	10.3	5.4	8.4	18.2	24.9	8.0	11.7	8.5	n.a.
Total debt/GDP (per cent)	31.0	34.2	35.0	36.4	46.9	44.6	35.9	30.1	28.2	31.3	31.6 ^b
Total debt service/exports (per cent)	14.4	16.0	19.1	21.5	25.3	25.4	17.1	13.7	12.4	9.8	15.2 ^b
Exchange rate (Baht/US\$20.80)	21.82	23.0	23.0	23.64	27.13	26.3	25.7	25.3	25.8	25.6	25.6

^a Preliminary, from Bank of Thailand, *Quarterly Bulletin*, December 1991.

^b Forecast, from Asian Development Bank (1991). The 1991 real GNP growth rate estimate relates to GDP.

Sources: Bank of Thailand, *Quarterly Bulletin*, Bangkok, various issues; World Bank, *World Development Report*, Washington, DC., various issues; Asian Development Bank, 1991, *Asian Development Outlook*, Manila.

Table 2 Growth accounting for Thailand, 1961–89

Variable	1961–72	1973–79	1980–85	1986–89
Growth in GDP (per cent per annum)	11.3	7.7	5.5	10.0
Growth of labour force (per cent per annum)	2.6	4.1	2.9	3.3
Growth of capital stock (per cent per annum)	8.7	8.8	7.0	4.2
Contribution from capital to overall growth (per cent per annum)	76.0	92.9	95.1	35.9
Contribution from labour to overall growth (per cent per annum)	8.5	18.4	18.0	12.2
Contribution of TFP to overall growth (per cent per annum)	15.5	-11.3	-13.1	51.9
TFP growth (per cent per annum)	1.7	-0.9	-0.7	5.2

Source: Author's calculations, as described in text, with data drawn from World Bank, *World Tables*, Washington, DC., various issues

Annual results are averaged over four periods: 1961–72, the period before Shock I; 1973–79, capturing the impact of Shock I; 1980–85, capturing the impact of Shock II; and 1986 to 1989, capturing the impact of Shock III (Table 2). The results are striking. The impacts of the two negative terms of trade shocks caused by OPEC I and II are clearly evident by comparing the results for 1973 to 1979 (Shock I) and 1980 to 1985 (Shock II) with the other two periods—before and after the two oil price shocks, respectively. Total factor productivity growth was significantly reduced by the two oil price shocks. From an annual rate of total factor productivity growth of 1.7 per cent prior to Shock I, this rate fell to -0.9 and -0.7 per cent during Shocks I and II, respectively. As the terms of trade recovered, during Shock III, total factor productivity growth rose to a startling 5.2 per cent per annum.

The total factor productivity growth contribution to overall growth from 1986 to 1989 can be interpreted to mean that the growth of conventional factors of production does not explain this period of economic expansion well. External forces seem to have been important, but the causes of this remarkable boom are still not sufficiently well understood.

Structural change

The structural change that has occurred in Thailand is not atypical insofar as it involves a decline of agriculture's share of GDP (Table 3). What is unusual is the high share of services in GDP. Manufacturing overtook agriculture as a share of GDP in 1985 in Thailand and in 1974 in Korea. The same transition seems likely in the early 1990s in Indonesia. Agriculture's share of the total labour force is also declining in all three countries, but lags well behind agriculture's declining share of national income (Martin and Warr 1994).

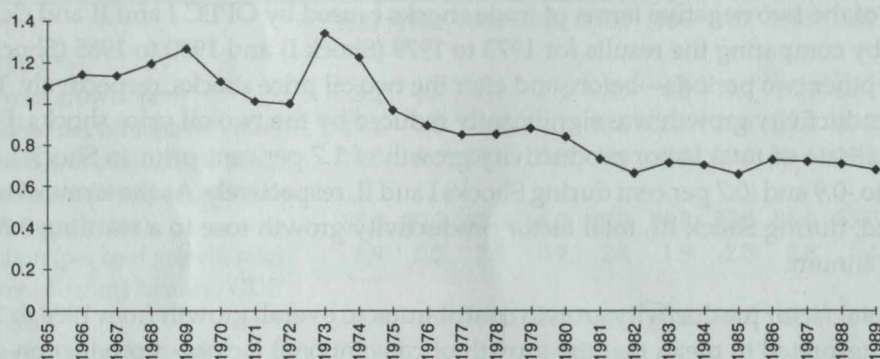
Table 3 Structure of production: distribution of gross domestic product, 1965–90 (per cent)

	Agriculture		Industry		Manufacturing		Services, etc.	
	1965	1990	1965	1990	1965	1990	1965	1990
Thailand	32	12	23	39	14	26	45	48
China	44	27	39	42	31	38	17	31
Indonesia	56	22	13	40	8	20	31	38
Philippines	26	22	28	35	20	25	46	43
Malaysia	28	19	25	42	9	32	47	39
Republic of Korea	38	9	25	45	18	31	37	46
India	44	31	22	29	16	19	34	40

Note: Manufacturing is a component of industry. Except for rounding errors the shares of agriculture, industry and services should sum to 100.

Source: World Bank, 1992, *World Development Report*, Washington, DC.

Figure 2 Thailand: terms of trade index, 1965 to 1989 (1971 = 100)



Source: Data supplied by Bank of Thailand, Bangkok.

The decline of agriculture's share of GDP coincided with an expansion of industry's GDP share. The share of services barely changed, but still exceeded industry's share. But turning to the structure of employment, the (much slower) decline in agriculture's share of employment was matched by a rise in services share, not that of industry (Warr 1993). Clearly, although the services sector is widely neglected by economists, it is very significant, especially for employment.

Table 4 Growth and structure of merchandise trade, 1965–90

	Percentage share of merchandise exports											
	Annual growth rate of exports		Fuels, minerals, metals		Other primary commodities		Machinery, transport, equipment		Other manufacturing		Textiles, clothing	
	1965–80	1980–90	1965	1990	1965	1990	1965	1990	1965	1990	1965	1990
Thailand	8.6	13.2	11	2	86	43	0	20	3	44	0	16
China	n.a.	11.0	15	10	20	16	9	17	56	56	29	27
Indonesia	9.6	2.8	43	48	53	16	3	1	1	34	0	11
Philippines	4.6	2.5	11	12	84	26	0	10	6	52	1	7
Malaysia	4.6	10.3	34	19	60	37	2	27	4	17	0	5
Korea, Republic	27.2	12.8	15	2	25	5	3	37	56	57	27	22
India	3.0	6.5	10	8	41	19	1	7	47	66	36	23

Source: World Bank, 1992. *World Development Report*, Washington, DC.

Exports and the terms of trade

It is clear that the growth rate of Thailand's merchandise exports accelerated through the 1980s (Table 4). The composition of these exports moved away from primary commodities and towards manufactured goods. By 1990 total manufactured goods exports exceeded those of primary goods, and exports of textiles and clothing alone exceeded that of rice, Thailand's traditional export commodity. Thailand's external terms of trade (the ratio of the average international prices of its exports to those of its imports) are shown in Figure 2. Two points are notable. First, the terms of trade have declined, from an index of 100 in 1965 to an index of 65 in 1990. Second, the terms of trade surged upwards following the 1973 commodity price boom and then fell with each of the two OPEC petroleum price shocks (1973–74 and 1979–80).

Inflation

Economic policy in Thailand has been characterised by a strong aversion to inflation. This is especially true of the monetary policies implemented by the Bank of Thailand since World War II. How well has this goal been achieved? Since 1948, cost of living surveys have been conducted. These data show a rapid inflation during and shortly after World War II (Warr and Nidhiprabha 1995). Since then, inflation has been below five per cent except for two brief surges, associated with each of the two OPEC petroleum price increases of 1973–74 and 1979–80. It is notable that after each of these episodes, inflation was quickly brought under control by stringent monetary contractions.

Table 5 Total external debt and total external debt ratios, 1980-90

	Total external debt (US\$ million)		Total external debt as a percentage of			Total debt services as a percentage of exports of goods and services		
	1980	1990	Exports of goods and services	GNP		1980	1990	
Thailand	8,257	25,868	96.3	82.0	25.9	32.6	18.7	17.2
China	7,972	52,555	22.1	77.4	1.5	14.4	4.6	10.3
Indonesia	20,888	67,908	94.2	229.4	28.0	66.4	13.9	30.9
Philippines	17,386	30,456	212.5	229.2	49.5	69.3	26.5	21.2
Malaysia	5,195	19,502	44.6	55.9	28.0	48.0	6.3	11.7
Korea, Rep. of	29,749	34,014	130.6	44.0	48.7	14.4	19.7	10.7
India	20,560	70,115	136.0	282.4	11.9	25.0	9.3	28.8

Source: World Bank, *World Development Report*, Washington, DC, various issues.

External debt

Thailand largely avoided the debt crises experienced by many developing countries in the 1980s, but by Thailand's conservative standards its levels of debt were a problem. In 1990 total debt service as a proportion of exports of goods and services was moderately high by East Asian standards (Table 5). The stock of debt relative to GDP and the annual volume of exports were large, but manageable, because of the high volume of exports. Nevertheless, the level of debt means that Thailand now could not afford a significant decline in the value of exports.

Thailand's adjustments to the oil price shocks of the 1970s, and the high interest rates of the early 1980s were financed to a large extent by foreign borrowing. This is sustainable, so long as the borrowed funds are invested wisely, enabling the loans to be repaid. The major difference between Thailand and the Philippines in this respect seems to be that in the Philippines the borrowed funds were not invested well. Indonesia is more heavily indebted than either of these two countries but appears to have used the borrowed funds in productive ways.

Balance of payments

As with all countries operating with fixed exchange rates, Thai economic policy discussion is dominated by concern about the balance of payments. This preoccupation is almost certainly excessive, but it does act as a restraint on policies which would imply unsustainable external deficits. Thailand's international reserves are satisfactory, relative to its level of imports and GDP. In 1990 these reserves were equivalent to 4.4 months of import coverage, compared with 1.5 months for the Philippines, 3.2 months for

Table 6 Direct foreign investment into Thailand (net flows), 1980-91 (US\$millions)

	1980-85 (average per year)	1986	1987	1988	1989	1990	1991
Northeast Asia	103	159	188	831	1,160	1,683	1,179
ASEAN	14	14	21	65	109	252	253
Europe	45	30	67	111	196	198	196
North America	84	51	71	128	209	232	237
Other	22	9	5	4	97	77	130
Total	268	263	352	1,139	1,771	2,442	1,995

Source: Data supplied by Bank of Thailand, Bangkok.

Indonesia and 1.9 months for India. For many African countries, reserves are equivalent to less than one month's import coverage.

Foreign investment

In the late 1980s Thailand became a major recipient of direct foreign investment. The magnitude of this foreign investment boom is shown by Figure 11, which shows net private foreign investment in Thailand each year from 1970 to 1991. Data on net inflows of direct foreign investment over the 1980s is shown in Table 6. By 1991 the composition of this foreign investment had shifted away from Thailand's traditional sources—Japan, United States and Europe—and towards the Northeast Asian countries. In 1990 Northeast Asia accounted for 60 per cent of the US\$2 billion total net direct foreign investment in Thailand, ASEAN 13 per cent, Europe 10 per cent and United States 12 per cent. Japan alone represented only 30 per cent, compared with 44 per cent in 1986. The change was the new importance of Hong Kong (23 per cent), Taiwan (6 per cent) and Singapore (13 per cent). These three sources together accounted for 40 per cent of the total, well exceeding investment from Japan.

Established newly industrialising economies were looking for new places to invest. Labour-intensive manufacturing industries were becoming less profitable in the old newly industrialising economies because of rising labour costs. Thailand was seen as an attractive host. The importance of this source of investment for Thailand is indicated by the fact that in 1990 total foreign investment (direct plus portfolio) accounted for 41 per cent of Thailand's total net private investment (Bank of Thailand 1991).

The environment

Since World War II, Thailand's agricultural growth has been achieved primarily by expansion of its cultivated area, through deforestation, rather than through

improvements in yields. The rapid rate at which land clearance has occurred is largely explained by two factors. First, the use of tractors facilitated land clearance and increased the amount of land that could be profitably cultivated by a single family, relative to the area manageable with draft animals. Second, this technical change greatly exacerbated the effects of Thailand's inadequate system of land titling.

Much of the newly deforested land is formally claimed by the Royal Forestry Department, resting on legislation dating to the end of the last century. Under this law, the Department has legal claim to around half the total land area of the country, but this legal claim cannot be policed. As a result, no one has effective legal claim to this land. When the land does come under cultivation this lack of legal title has the effect that the land is not properly maintained and protected from erosion. Moreover, since the land cannot be used as legal collateral for long-term loans the pattern of resource use on it has been inefficient. Farmers in this position have frequently been unable to obtain the credit required for investment in land productivity enhancement or even maintenance, or for purchase of yield-improving equipment.

The rainforests which covered much of Thailand only twenty years ago supported lush vegetation, but their nutrient cycles were fragile (Anat, Dhira, Elkington and Phaitoon 1988). Once burned and cleared, they supported much less plant growth, making these shallow soils vulnerable to erosion, especially in sloping terrain. The resulting silt found its way partly to the bottoms of streams and reservoirs, partly to the alluvial plains downstream, and partly to the Gulf of Thailand. The land upstream was irreparably damaged.

A similar story can be told of Thailand's fishery resources. Technical changes in fishing technology made it possible for a single fishing vessel to 'mine' huge areas of coastal fishing areas. Competition for fishing sites became increasingly intense and, because individual fishermen lacked legal claim to any particular area of the sea, there was no incentive for individual fishermen to conserve the stock of fish. Over-fishing resulted.

Like Venice, Bangkok is slowly sinking. Flooding is becoming increasingly serious during the rainy season. The basic problem is land subsidence caused by the over-pumping of ground water (Anat et al. 1988). In 1968 the water table lay 12 metres under the surface of central Bangkok and 4 metres under the eastern suburbs. By 1979 the corresponding depths were 45 and 54 metres. A study by the Army Survey Department suggests that in the past 60 years the surface of central Bangkok has subsided by around half a metre. In the areas of heaviest ground water pumping, rates of land subsidence exceed ten centimetres a year. Meanwhile, Bangkok's construction boom continues as the land on which it is based slowly sinks.

Thai economic policy

Macroeconomic policy

Thailand has followed a fixed exchange rate policy since the end of World War II. The baht has been pegged to the US dollar. The trading system is relatively open, but the capital account less so. Movements of foreign exchange and Thai currency out of Thailand have been regulated, although some of these regulations were relaxed in the early 1990s. Large conversions of Thai currency into foreign exchange, for the purpose of capital export, require Bank of Thailand approval (Robinson, Yangho and Ranjit 1991).

Interest rates within Thailand are regulated by ceilings set by the Bank of Thailand and apply to both borrowing and lending rates. Throughout most of Thailand's recent economic history interest rates have remained at these ceiling levels. Wages within Thailand are officially subject to minimum wage controls, but these controls are effective only within the public sector and among large business enterprises. Elsewhere (in agriculture, small industrial enterprises and in much of the service sector) minimum wages cannot be enforced. These minimum wages, in any case, seem to follow market forces, remaining somewhat above wages seen in the small private manufacturing enterprises.

Thailand's macroeconomic policies have been conservative for most of the last century and for all of the post-war period. Maintenance of a stable exchange rate backed by secure international reserves and, most especially, avoidance of domestic inflation, have been central policy objectives. The post-war Thai policy environment has also been characterised by the relative independence of the central bank, the Bank of Thailand.

To what extent have Thailand's macroeconomic policies been responsible for its achievement of macroeconomic stability? According to one important study of the Thai economy (Robinson et al. 1991) appropriate adjustment of discretionary fiscal policy has been a principal source of stability. This forms the basis for the discussion of Myth 3.

Sectoral interventions

Interventions in agriculture. The main impetus of Thailand's economic growth in the 1960s and the 1970s had been the growth of agriculture. The momentum of agricultural growth was lost in the late 1970s as the land frontier was exhausted, and the relative importance of agriculture in production declined. Although growth in agriculture came mainly from private initiative, government interventions in agriculture, particularly in the pricing system, have had considerable impact. Historically, the most important example had been the taxation of rice exports, but this tax was suspended in 1986.

Intervention in industry. The main feature of government intervention in industry has been the promotion of private investment administered through the Board of Investment. The Board, established in 1959, uses a combination of various investment promotion schemes, tariff policies, tax regimes, and trade and price controls to direct the pattern of private investment. During the 1960s and the early 1970s, industrial policies strongly favoured import substitution. Import tariffs were raised significantly to protect local industries, with incentives strongest for production of final goods based on imported intermediate and capital goods. The officially stated emphasis of industrial promotion policy was shifted towards exports with the passage of the Investment Promotion Act of 1972.

To earn a Board of Investment promotion certificate, prospective investors apply for privileges according to the Board's regulations. A list of industries eligible for promotion privileges is drawn up by the Board using the national development plan as a broad framework. The incentives offered typically include tax and tariff exemptions, guarantee of government protection from nationalisation and from direct competition by state enterprises, and guarantees of rights of profit and capital repatriation. The range of incentives differs between industries, reflecting priority rankings in the promotion policy. The main criticisms of the promotion policy have been that policy measures are frequently changed without notice and that the Board of Investment often exercises discretionary powers both in the granting of promotional privileges and the extent of incentives given. It has been observed that the incentives offered differ among firms within the same industry.

In addition to the Board of Investment, the Ministries of Industry, Commerce, and Finance, as well as the Bank of Thailand also formulate and administer policies which directly affect industrial development. The Ministry of Finance operates a comprehensive tax refund system for all taxes incurred in the production process. The Bank of Thailand provides a rediscount facility at subsidised interest rates to export-oriented firms. The Ministry of Commerce provides technical assistance through its Export Service Centre.

Protection policy. Thailand does not practice free trade, but its protection levels are moderate. Since the 1960s empirical studies of effective rates of protection in Thailand have used different sets of data, different product definitions, as well as different methodologies. For example, some studies use the official tariffs rates, while others use tariff rates estimated from customs duty collections or from price comparisons. It is thus difficult to compare the results of these studies over time. Nevertheless, the effective rate of protection studies show the same pattern over the past three decades (Warr 1993). The protective system has been biased against the agro-based industries and towards the manufacturing sector, both import competing and non-import competing goods. This is the typical pattern of protection found in developing countries.

Over the period 1969 to 1987 the export industries received the lowest effective protection, followed by the import competing industries, while the non-importing industries received the highest effective protection. In 1969 and 1974, most of the export industries were agro-based, such as rice milling, frozen seafood and canned fruit, which use agricultural products as raw materials. From 1980 onwards, there have been more diversified export industries. The new export industries, in addition to the traditional agro-based ones, have been canned fish and crustaceans, garments, rubber sheets and rubber products, wood products, jewellery and footwear.

A dominant characteristic of the new export industries is that they are labour-intensive, such as garments and footwear. But have these been the industries favoured by the system of protection, or by other instruments of industry policy? This issue is discussed under Myth 2.

Myth 1: Growth does not benefit the poor

Anyone who visits Thailand can see that income distribution is highly unequal. Judging from estimated Gini coefficients, income distribution in Thailand is about as unequal as in its neighbours Malaysia and the Philippines, and a little more unequal than in Indonesia and Korea (Table 7). Unfortunately, studies of income distribution and poverty in Thailand have necessarily been dominated by a single, deeply flawed and incomplete data set (Medhi 1993). The periodic Socio-Economic Surveys conducted by the National Statistical Office have been the source for virtually all serious research on this subject.

The difficulties of making comparisons across time, when sampling procedures and definitions used by the National Statistical Office have repeatedly changed, and the difficulties of defining 'poverty threshold' levels of income (an inherently arbitrary matter) have dominated the academic literature. This has not stopped others from claiming that Thai growth has benefited only the wealthy urban élite, leaving the mass of the population mired in poverty, and possibly even worse off. Can this kind of claim be substantiated?

The Socio-Economic Surveys data on the distribution of income over the period from the mid-1970s to the late 1980s is summarised in Figure 3. National Statistical Office statistical definitions have been reasonably constant during this period, and comparison with other periods is very difficult. The figure divides the population into five groups of equal population, arranged with the poorest one-fifth of the population (Quintile I) separated from the next poorest one-fifth (Quintile II), up to the richest one-fifth (Quintile V). The vertical axis then shows the proportion of total income received by each quintile. The data show that the proportion of total income received by the poorest one-fifth of the population fell over this period, while the proportion received by the richest quintile rose. The distribution of income became more unequal. Thai scholars

Table 7 Basic social indicators for Thailand and some other East Asian countries

	Average annual growth of population (per cent)	GNP per capita US\$	Average annual growth of real GNP per capita (per cent)	Average annual rate of inflation (per cent)	Life expectancy at birth (years)	Employment (1986 to 1989) (per cent of total)		
	1980-90	1990	1965-90	1965-90	1990	Agriculture	Industry	Services
Thailand	1.8	1420	4.4	5.1	69	70	6	24
China	1.4	370	5.8	2.1	70	74	14	13
Indonesia	1.8	570	4.5	24.7	62	54	8	38
Philippines	2.4	730	1.3	12.8	64	42	10	49
Malaysia	2.6	2320	4.0	3.6	70	42	19	39
Korea, Republic	1.1	5400	7.1	13.1	71	18	27	56
India	2.1	350	1.9	7.7	59	63	11	27

	Expenditure on education as a percentage of GNP (1989)	Secondary school enrolment (per cent of age group) (1988-89)	Urban population as per cent of total (1990)	Per cent urban population in largest city (1980)	Income distribution		Poverty	
					Lowest 20 per cent share of total (per cent) year	Gini coefficient	Percent population below poverty line (1980-1989)	
							Total	Rural
Thailand	3.2	28	23	69	4.0 (1988)	0.47	30	34
China	2.4	44	33	6	..	..	..	..
Indonesia	0.9	47	31	23	8.8 (1987)	0.31	39	44
Philippines	2.9	73	43	30	5.5 (1985)	0.45	58	64
Malaysia	5.6	87	72	41	4.6 (1987)	0.48	27	38
Korea, Republic	3.6	87	72	41	n.a.	0.36	16	11
India	3.2	43	27	6	8.1 (1983)	0.42	48	51

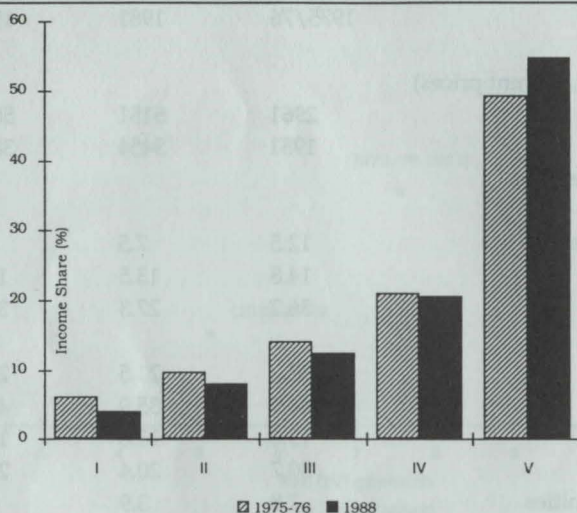
Source: World Bank, 1992. *World Development Report*, Washington, DC.

have disputed whether or not inequality has increased at an accelerating rate (Medhi 1993), but there is little doubt that inequality did increase.

Increased inequality is presumably undesirable, but widening inequality does not necessarily imply that the poor are worse off. Average incomes also increased over the same period. The share of total income received by the poorest quintile fell from 6.1 to 4.5 per cent over the period 1975-76 to 1988, but total Thai income rose in real terms from 5,200 to 9,500 baht per capita in constant 1972 prices, that is by 83 per cent. According to this calculation, the poorest quintile gained in absolute real income by 35 per cent (from 317 to 428 baht per capita, in constant 1972 prices), even though the richest quintile gained proportionately three times as much, from 2,564 to 5,216 baht per capita, an increase of 103 per cent.

An alternative way of addressing issues of absolute poverty is to measure the proportion of the population whose incomes fall below a designated poverty line.

Figure 3 Thailand: income shares by population quintile, 1975-76 and 1988



Note: Quintile 1 is the poorest, quintile V the richest.

Sources: Suganya Hutaserani and Somchai Jitsuchon, 1988. Thailand's income distribution and poverty profile and their current situations, paper for the 1988 TDRI Year-end Conference, Thailand; National Statistical Office, 1988; Report of the 1988 household socio-economic survey: whole Kingdom, Bangkok, Thailand.

Studies along these lines necessarily suffer from the intrinsic arbitrariness of any such 'poverty' cut-off point, but the change in poverty incidence, so measured, may not be especially sensitive to the particular cut-off point selected (Table 8; Suganya and Somchai 1988; Medhi, Pranee and Suphat 1991). The data confirm that absolute poverty in Thailand is principally a rural phenomenon, especially concentrated in the Northeast region. What about changes in poverty incidence over time? While the limitations of the underlying Socio-Economic Surveys data must be stressed, a clear picture does emerge. Over the decade to 1986 the incidence of poverty seems first to have declined until the early 1980s, then to have worsened until the mid-1980s, and then to have declined again.

What could explain this pattern of apparently fluctuating poverty incidence? It is obvious that over the long term, sustained economic growth is a necessary condition for poverty alleviation; no amount of redistribution could turn a poor country into a rich one. But it is not obvious that growth favours poverty reduction in the short run.

To the extent that the data can be trusted, and notwithstanding the smallness of the sample, the results are clear. The faster the growth, the greater the poverty reduction. Rapid growth from 1976 to 1981 coincided with a decline in the incidence of poverty. Reduced growth caused by the world recession in the early to mid-1980s coincided with worsening poverty incidence to 1986. The economic boom of the late 1980s coincided

Table 8 Thailand: poverty incidence and economic growth, 1975/76-88

	1975/76	1981	1986	1988
Poverty lines (Baht per capita per year, current prices)				
Urban	2961	5151	5834	6203
Rural	1981	3454	3823	4076
Poverty incidence (per cent)				
By community type				
All municipal areas	12.5	7.5	5.9	6.1
All sanitary areas	14.8	13.5	18.6	12.2
All villages	36.2	27.3	35.8	26.3
By region				
North	33.2	21.5	25.5	19.9
Northeast	44.9	35.9	48.2	34.6
Central	13.0	13.6	15.6	12.9
South	30.7	20.4	27.2	19.4
Bangkok and vicinities	7.8	3.9	3.5	3.5
Whole Kingdom	30.0	23.0	29.5	21.2
Average growth rate of real GNP over preceding period (per cent per annum)	5.9	7.5	5.2	11.5

Note: In both studies cited below, poverty incidence was calculated by applying the rural poverty lines to sanitary areas.

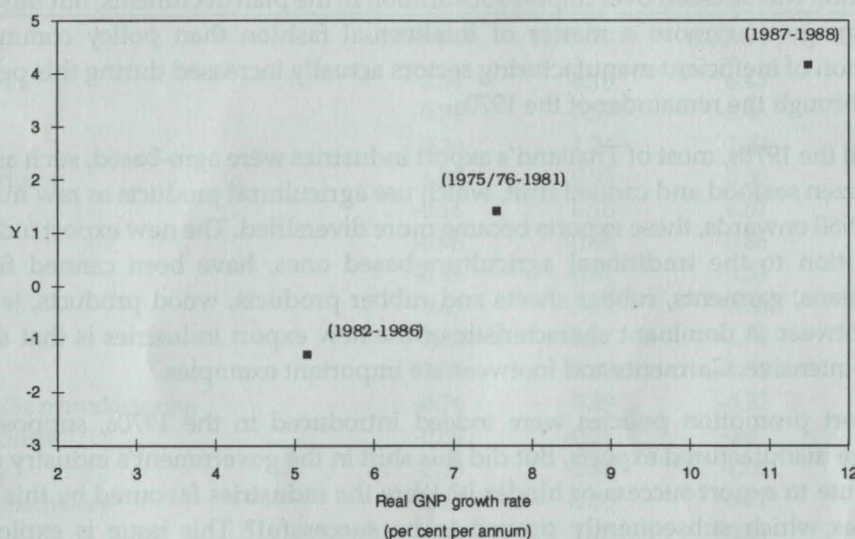
Sources: Poverty incidence data for 1975/76, 1981 and 1986 are from Suganya Hutaserani and Somchai Jitsuchon, 1988, Thailand's income distribution and poverty profile and their current situations, paper for the 1988 TDRI Year-end Conference, Thailand; for 1988 from Medhi Krongkaew, Pranee Tinakorn and Suphat Suphachalasai, 1991, *Priority Issues and Policy Measures to Alleviate Rural Poverty: the case of Thailand*, Economic Development Resources Centre, Asian Development Bank, Manila; GDP growth rates are calculated from World Bank data.

with markedly reduced poverty incidence. It would be absurd to say that the answer to poverty is rapid growth, and nothing more, or to deny that increasing *relative* inequality could become a genuine social problem. But the data provide no support for the notion that rapid economic growth is bad for the poor in absolute terms. On the contrary, they suggest that the rate of growth may be the single most important determinant of the rate at which poverty declines, even in the short run.

Myth 2: Industrial policy promotes export growth

The role of industry policy has been a central issue in the interpretation of the economic performance of the newly industrialising economies, and this is now true of Thailand as well, because in the last two decades much of Thailand's growth has been led by manufactured exports. Discussions of Thailand's microeconomic policy have frequently

Figure 4 Thailand: poverty reduction and economic growth



Sources: Poverty incidence data for 1975/76, 1981 and 1986 are from Suganya Hutaserani and Somchai Jitsuchon, 1988, Thailand's income distribution and poverty profile and their current situations, paper for the 1988 TDRI Year-end Conference, Thailand; for 1988 from Medhi Krongkaew, Pranee Tinakorn and Suphat Suphachalasai, 1991, *Priority Issues and Policy Measures to Alleviate Rural Poverty: the case of Thailand*, Economic Development Resources Centre, Asian Development Bank, Manila; GDP growth rates are calculated from World Bank data.

characterised the period since the mid-1970s as one of 'export promotion', contrasted with the preceding two decades of 'import substitution'. In this much-repeated account of Thailand's industry policy the overall direction of policy supposedly shifted away from discrimination against export industries and towards policies which favour them. The growth of non-traditional exports is then attributed to this supposed policy shift.

There is good evidence that from around the mid-1970s there was a shift in the views of Thailand's economic planners and their academic advisers away from the desirability of import substitution industrialisation policies. Export promotion became the intellectual fashion among economists, in Thailand as elsewhere. This seems clear from the text accompanying the *Five Year Development Plans* produced by the government's economic planning agency, the National Economic and Social Development Board. But while the views of development planners may be important, they are not policy.

Was there really a shift in policy and was it significant enough to produce the dramatic surge in exports which subsequently occurred? According to Myth 2, the answer is 'yes'. This belief arises because the change in the ideology and rhetoric of the development planners coincided, very roughly, with significantly improved exports of

manufactured goods from Thailand. Beginning with the Third Plan (1972-76), export promotion was stressed over import substitution in the plan documents, but this change of language was more a matter of intellectual fashion than policy commitment. Protection of inefficient manufacturing sectors actually increased during this period, as it did through the remainder of the 1970s.

Until the 1970s, most of Thailand's export industries were agro-based, such as milled rice, frozen seafood and canned fruit, which use agricultural products as raw materials. From 1980 onwards, these exports became more diversified. The new export industries, in addition to the traditional agriculture-based ones, have been canned fish and crustaceans, garments, rubber sheets and rubber products, wood products, jewellery and footwear. A dominant characteristic of the new export industries is that they are labour-intensive. Garments and footwear are important examples.

Export promotion policies were indeed introduced in the 1970s, supposedly to promote manufactured exports. But did this shift in the government's industry policies contribute to export success or hinder it? Were the industries favoured by this system the ones which subsequently proved to be successful? This issue is explored by examining the statistical relationship between the trade performance of industries and the government's interventions to promote them. First a measure is presented of the export performance of an industry designed to reveal the degree to which that industry is competing successfully in international markets. This index of trade performance is based on earlier work of Balassa and others on 'revealed' comparative advantage, but is intended to improve upon these earlier measures. We shall call it the net export performance ratio (NEPR).

$$N_j^T = \frac{(X_j^T - M_j^T) / X_j^T}{X^T / X^W}, \quad (1)$$

where N_j^T denotes Thailand's NEPR for industry j , X_j^T and M_j^T denote Thailand's gross exports and gross imports of commodity j , respectively, X_j^W denotes world exports of commodity j , X^T denotes Thailand's total exports of all goods and X^W denotes total world exports of all goods. Thus the index measures the degree to which Thailand's net exports of commodity j , as a share of world exports of that commodity, exceed or fall short of Thailand's share of world exports in general.

The value of the NEPR for 16 industries from 1970 to 1989 is shown in Table 9. The annual trade data are summarised by computing the NEPR ratios over five year periods to minimise the effect of random year-to-year variations in trade data. The data make it clear that Thai agriculture continues to perform well in export terms, but the improving export performance of textiles is also particularly important. Furniture and non-metallic manufactured products show steadily improving export performance, while the relative performance of less highly processed wood products declined.

Table 9 Thailand: net export performance ratios, by industry, 1970-89

	1970-74	1975-79	1980-84	1985-89
Agriculture	5.54	6.16	6.43	4.43
Tobacco	-0.74	-0.57	-0.46	-0.35
Textiles	0.20	1.24	1.77	2.16
Wood products	1.29	0.93	0.30	0.42
Furniture	-0.16	0.15	0.57	1.05
Paper	-0.96	-0.98	-0.86	-0.50
Printing	-0.99	-0.61	-0.53	-0.38
Rubber	-0.65	-0.49	-0.33	0.04
Chemicals	-2.20	-2.07	-1.74	-1.44
Petroleum	-2.27	-1.69	-1.56	-1.43
Non-metallic manufacturing	-0.74	-0.49	-0.22	0.09
Metal products	-0.68	-0.75	-0.67	-1.27
Machinery	-2.18	-1.95	-2.06	-1.75
Electrical machinery	-1.23	-0.95	-0.71	-0.40
Transport	-1.28	-1.25	-0.88	-0.74
Other manufacturing	-0.05	-0.10	0.27	0.76

Source: Computed from United Nations trade data provided by International Economic Databank, The Australian National University, Canberra.

The behaviour of the above index over time and its correlation with measures of industrial policy interventions are of interest. Five instruments of intervention are focused on because they are capable of being quantified from available data: industry protection, the allocation of subsidised loans through the Industrial Finance Corporation of Thailand (IFCT), the promotion of industries through the Board of Investment, the allocation of tax exemptions by the Customs Department, and the allocation of tax rebates by the Fiscal Policy Office of the Ministry of Finance. We shall compare the allocation of these five instruments of industry policy across industries with the industries' export performance.

The calculations shown in Table 10 draw on data for each industry's receipt of each of five forms of industry policy measures: effective rates of protection (per cent); allocation of subsidised IFCT loans (by value); allocation of Board of Investment approved projects (by number of projects); allocation of Customs Department tax exemptions (by value); and allocation of Fiscal Policy Office tax rebates (by value). The effective rate of protection data are aggregated across industries using value-added weights. They are shown for the three years for which data were available: 1974, 1984 and 1987. The IFCT loans data are expressed as a percentage of the industry's total value added and they are shown for three periods: 1960-79; 1980-85; and 1986-90. The Board of Investment data are available only in terms of the number of projects approved in each industry and are

Table 10 Thailand: instruments of industry policy by industry

	Effective rates of protection (per cent)			Industry share of IFCT approved loans relative to industry share of total value added		
	1974	1984	1987	1960-79	1980-85	1986-90
Agriculture	5	9	13	0.94	1.14	1.49
Tobacco	2067	7	10	0.18	0.01	0.00
Textiles	46	23	25	0.44	0.31	0.24
Wood products	-42	58	65	0.46	2.06	1.37
Furniture	183	1	2	0.36	0.91	1.10
Paper	10	29	36	4.06	2.34	2.65
Printing	-2	-2	2	0.72	0.23	0.56
Rubber	48	7	14	0.32	0.40	0.94
Chemicals	52	35	45	3.45	2.87	2.24
Petroleum	-10	5	-6	0.26	0.07	0.56
Non-metallic	88	20	24	3.54	4.46	1.47
Metal products	29	13	20	1.66	2.61	4.47
Machinery	5	23	25	0.00	1.94	1.87
Electrical machinery	217	21	26	2.95	0.25	1.01
Transport	151	40	153	0.33	0.20	0.08
Other manufacturing	498	18	18	0.97	1.15	0.15

	Industry share of total BOI promoted projects of total value added		Industry share of total tax drawback of funds relative to total value added			Industry share of total tax rebate funds relative total value added		
	1983-85	1987-89	1986	1987	1989	1986	1987	1989
Agriculture	0.86	0.70	0.06	0.04	0.02	0.07	0.06	0.05
Tobacco								
Textiles	0.18	0.22	2.32	2.46	2.33	2.06	2.03	1.93
Wood products	0.71	2.13	0.16	0.20	0.14	0.42	0.59	0.6
Furniture								
Paper	0.52	2.80	1.88	1.12	0.84	0.99	1.20	1.23
Printing	0.38	2.08						
Rubber	1.52	1.74	8.22	8.43	7.39	1.84	1.77	2.07
Chemicals	1.93	1.62	0.49	0.37	0.61	0.76	0.65	0.72
Petroleum								
Non-metallic	3.38	0.98	0.69	0.95	0.67	0.58	0.64	0.72
Metal products	2.48	1.13	1.01	0.64	0.95	1.34	0.94	1.14
Machinery	0.49	1.54	0.68	0.30	1.77	1.63	2.52	6.11
Electrical machinery	3.00	2.59						
Transport			0.08	0.18	0.12	0.10	0.14	0.35
Other manufacturing	0.99	1.31	0.21	0.23	0.28	0.92	0.98	0.54

Sources: IFCT approved loans: from the Bank of Thailand. Value added: from National Income of Thailand, Office of the National Economic and Social Development Board, Bangkok. Effective rates of protection: Warr, Peter G. (ed.), 1993, *The Thai Economy in Transition*, Cambridge University Press, Cambridge.

Table 11 Thailand: correlation coefficients across industries—trade performance and industry policy

	Effective rate of protection			IFCT loan allocation		BOI projects 1986–90	Tax drawbacks		Tax rebate	
	1974	1984	1987	1960–69	1980–85		1983–85	1987–89	1986–89	1986–89
NEPR										
1970–74	-0.06	-0.02	-0.08	-0.16	-0.03	-0.02	-0.24	-0.39	-0.16	-0.46
1975–79	-0.07	-0.11	-0.14	-0.18	-0.09	-0.08	-0.26	-0.47	-0.12	-0.39
1980–84	-0.06	-0.16	-0.15	-0.16	-0.11	-0.11	-0.23	-0.52	-0.11	-0.40
1985–89	-0.04	-0.14	-0.15	-0.17	-0.15	-0.25	-0.28	-0.52	-0.03	-0.35

Source: Calculated from data in Tables 2 and 3.

Table 12 Thailand: correlation coefficients across industries—changes in trade performance and changes in industry policy

Change in NEPR	Change in EPR			Change in IFCT loan allocation		Change in BOI promoted projects	
	1974 to 1987	1974 to 1984	1984 to 1987	(1960–79) to (1986–90)	(1960–79) to (1980–85)	(1980–85 to 1986–90)	(1983–85) to (1987–89)
(1985–89) – (1980–84)	-0.09	-0.09	0.01	-0.34	-0.13	-0.27	-0.19
(1980–84) – (1975–79)	-0.10	-0.10	0.07	-0.46	-0.27	-0.26	-0.43
(1975–79) – (1970–74)	0.06	-0.06	0.17	-0.38	-0.40	-0.03	0.20

Source: Calculated from data in Tables 10 and 11.

summarised for the periods 1983–85 and 1987–89 (Table 10). The tax drawback and tax rebate data are available only for the four years 1986–89 and the data in the final column of the table are based on the aggregation of these data across these four years.

To allow for the fact that the industries shown have different sizes, we have divided each industry's share of the total allocation of each of the five instruments shown (except rates of protection) by its share of total value added, summed across all 16 industries indicated. Thus, an industry for which the resulting ratio exceeds unity receives a higher share of the total export promotion incentive concerned than its share of total value added, and so forth.

Correlation coefficients between the measures of export performance and each of the above five measures of industry policy interventions are shown in Table 11. Table 12 shows the correlation between the changes over time in each industry's trade performance and the changes over time in each of the five measures of industry policy for which we have usable time series data—effective rates of protection, IFCT loans, Board of Investment approved projects, tax drawbacks, and tax rebates. The results

show that export performance is negatively related to all five measures. Moreover, the change over time in net export performance is negatively related to the change in all five instruments. Industries whose export performance worsened over time received increasing levels of support over time—not those whose performance improved. (The only exception to this pattern was the change in the structure of effective protection between 1984 and 1987, which showed a weak positive relationship to changes in export performance).

In the case of import protection these results are hardly a surprise. Protection is explicitly an incentive to import-competing production and (implicitly) a disincentive to exporting. But the negative correlation with export performance is even higher in the case of the Board of Investment instruments and, most surprising of all, the case of tax rebates as well. Far from being instruments of export promotion the IFCT loans, Customs Department tax drawbacks, Fiscal Policy Office tax rebates, and most especially the Board of Investment investment promotion schemes, turn out to be surprisingly similar to industry protection in their allocation across industries. It is clear that, at the industry level, poor performers are promoted by these measures, not successful exporters.

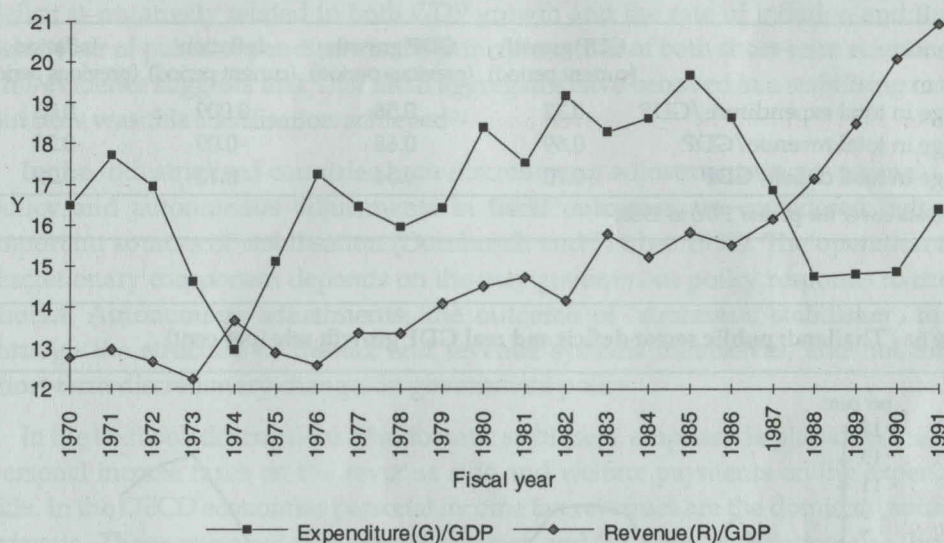
✓ The political economy behind these results is presumably that industries that are well organised for lobbying purposes put proportionately more resources into the behaviour that secures bureaucratic support than industries which are less well organised. But the former are not necessarily performing well in economic terms—our results suggest the reverse. Thus policy measures intended to promote exports are captured by the system of rent-seeking and in fact support roughly the same poorly performing industries as are favoured by the system of protection.

Myth 3: Discretionary fiscal policy stabilises income growth

Thailand has a truly impressive record of macroeconomic stability. It also has a set of professionally competent macroeconomic planners eager to practise stabilising fiscal policy. It is all too easy to suppose that the latter caused the former. It is widely recognised, at a theoretical level, that fiscal policy is more effective under a fixed exchange rate regime than under a flexible exchange rate, but that the opposite applies to monetary policy. Fiscal policy therefore seems a strong candidate as a potentially significant stabilising or de-stabilising force in the Thai context of a closely managed exchange rate, and has been described as such in the literature on Thailand's adjustment experience.

We therefore wish to explore whether the manner in which Thailand's fiscal aggregates responded to external shocks had the effect of exacerbating or ameliorating the short-term macroeconomic effects of those shocks. We shall look very briefly at the

Figure 5 Thailand: government expenditures and revenues, 1970–91



Sources: Data supplied by Bank of Thailand and Ministry of Finance, Bangkok.

behaviour of Thailand's overall fiscal aggregates—the expenditure, revenue and budgetary deficit of the central government—and ask whether the behaviour of these aggregates has been stabilising or de-stabilising with respect to income and the price level. We conclude that fiscal adjustments have been broadly stabilising. Next, we ask whether fiscal stabilisation resulted from deliberate decisions of Thailand's fiscal authorities or from the automatic consequences of the structure of the country's revenue and expenditure systems. The conclusion is that stabilisation resulted overwhelmingly from the effects of automatic stabilisers, rather than from the effects of discretionary adjustments to fiscal policy.

The size of government expenditures and revenues since 1970 are expressed as proportions of GDP (Figure 5). For comparison with the behaviour of these fiscal variables, Figure 6 shows the behaviour of the deficit corresponding to Figure 5, along with GDP growth and inflation over the same time period. It appears that the years of budgetary surplus (largest deficits) coincide roughly with years of most rapid (slowest) income growth.

The statistical relationships between the major fiscal aggregates and variations in aggregate income and the price level (Table 13). The correlation is shown between real public expenditure, real public revenue and the real public sector deficit on the one

Table 13 Thailand: correlation between fiscal variables, income growth and inflation, 1970 to 1988

	GDP growth (current period)	GDP growth (previous period)	Inflation (current period)	Inflation (previous period)
Change in total expenditure/GDP	0.32	0.56	0.009	0.03
Change in total revenue/GDP	0.69	0.68	-0.09	-0.20
Change in total deficit/GDP	-0.70	-0.54	0.13	0.29

Note: Data cover the period 1970 to 1988.

Figure 6a Thailand: public sector deficit and real GDP growth rate (per cent)

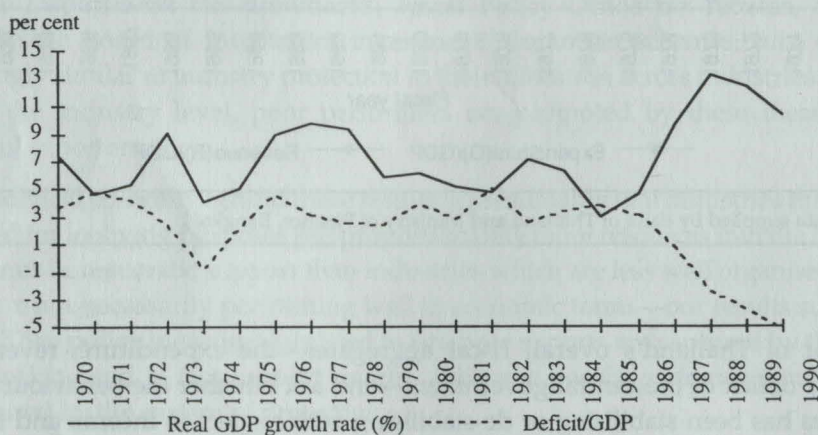
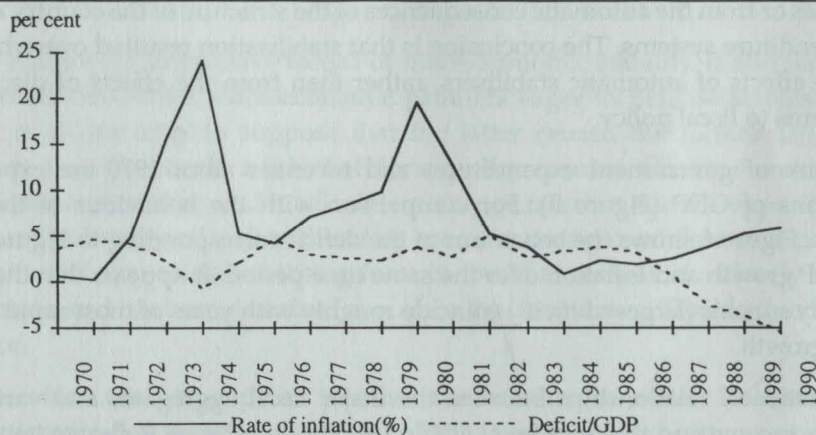


Figure 6b Thailand: public sector deficit and rate of inflation (per cent)



Sources: Data supplied by Bank of Thailand and Ministry of Finance, Bangkok.

hand and the current and lagged values of GDP growth rates and rates of inflation on the other. The data cover the period 1970 to 1990. It is clear that the size of the budgetary deficit is negatively related to both GDP growth and the rate of inflation and that the behaviour of public expenditure is the principle source of both short-term relationships. This evidence suggests that Thai fiscal aggregates have behaved in a stabilising manner. But how was this stabilisation achieved?

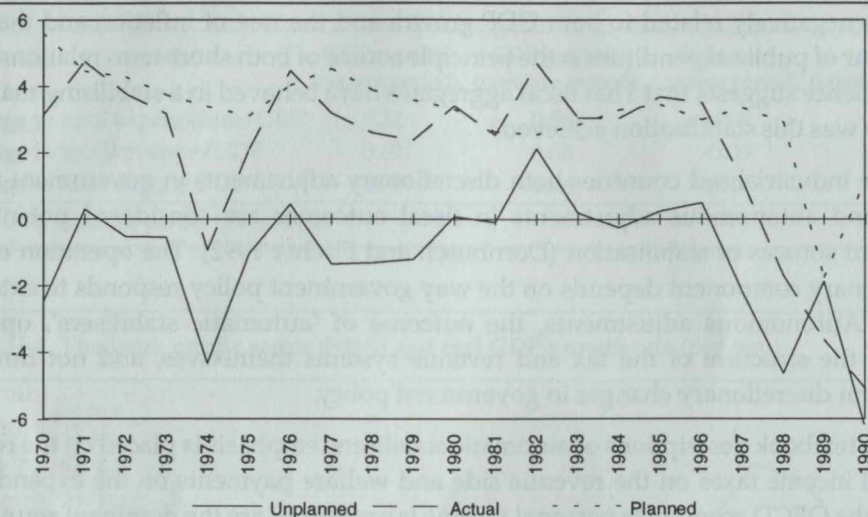
In the industrialised countries both discretionary adjustments in government fiscal policy and autonomous adjustments in fiscal outcomes are considered potentially important sources of stabilisation (Dornbusch and Fischer 1992). The operation of the discretionary component depends on the way government policy responds to external shocks. Autonomous adjustments, the outcome of 'automatic stabilisers', operate through the structure of the tax and revenue systems themselves, and not through short-term discretionary changes in government policy.

In the textbook descriptions of automatic stabilisers, emphasis is placed on the role of personal income taxes on the revenue side and welfare payments on the expenditure side. In the OECD economies personal income tax revenues are the dominant sources of revenue. These revenues rise as real incomes and/or rates of inflation rise, but in a greater proportion than the increase in nominal income because of the progressive income tax schedules. On the other hand, welfare and social security expenditures rise as incomes fall because income relief is required most in times of recession. The result is that the public sector deficit declines during periods of rapid growth, as tax revenues rise and welfare expenditures decline as proportions of GDP. The public deficit rises in periods of recession as income tax revenues decline and welfare payments rise. As a consequence of these processes, the counter-cyclical behaviour of the government's fiscal deficit plays a stabilising role, reducing the impact of externally induced fluctuations of national income.

Automatic stabilisers are seldom mentioned in the context of developing countries. This is in one sense unsurprising. If personal income taxes on the revenue side and welfare payments on the expenditure side were truly the important variables to look for, we should not expect automatic stabilisers to be significant at all for developing countries like Thailand. Personal income taxes are minor sources of revenue, accounting for less than one tenth of total revenues and, like most developing countries, Thailand has no public sector social security system at all. From this it would seem that automatic stabilisers are unlikely to be important in developing countries.

For Thailand at least, the reverse is true: automatic stabilisers are important on both the expenditure and the revenue sides of the public sector accounts. They are far more important sources of short-run stabilisation than discretionary changes in fiscal policy. To some extent at least, it must be expected that tax revenues and expenditures will be responsive to short-term changes in economic activity and that some degree of automatic

Figure 7 Thailand: actual, planned and unplanned deficits, 1970 to 1990 (proportion of GDP)



Source: Data supplied by Ministry of Finance, Bangkok.

stabilisation will result. If government forecasts of income growth and inflation are inaccurate, and they must inevitably involve some errors, then the actual levels of spending and taxation revenue will presumably be somewhat different from their planned levels. As a result, the planned level of deficit will be different from the actual level. Unexpected expansion (slowdown) of economic activity presumably causes underestimation (overestimation) of the future revenues on the part of fiscal planners.

It is possible to study the behaviour of fiscal intentions in relation to fiscal outcomes because the planned levels of revenue and expenditure are declared in the government's annual budget documents in advance of fiscal outcomes. The magnitude of the planned deficit reflects discretionary fiscal policy, which reacts to changing macroeconomic policy variables such as deviation from trend growth rate, the inflation rate, and the current account deficit to GDP ratio. The intention here is not to study the way fiscal intentions are formed, but to compare fiscal intentions with fiscal outcomes and to relate both to income growth and inflation. We define the unplanned deficit as the difference between the planned and actual deficit. The unplanned revenue, unplanned expenditure, and unplanned deficit can be thought of as a result of the responsiveness of automatic fiscal stabilisers.

The relationship between the planned and unplanned deficits, expressed as percentages of GDP is shown by Figure 7. The government planned to run a budget deficit in all years between 1970 and 1990, except for 1989. The surpluses that occurred

Table 14 Thailand: correlation between planned and unplanned fiscal variables, income growth and inflation, 1970 to 1988

	GDP growth (current period)	GDP growth (previous period)	Inflation (current period)	Inflation (previous period)
Actual fiscal impulse	-0.35	-0.38	-0.32	0.27
Planned fiscal impulse	0.18	-0.09	-0.25	-0.38
Unplanned fiscal impulse	-0.39	-0.37	-0.24	0.37

Note: Data cover the period 1970 to 1988.

in 1974, 1988 and 1990 were the result of unexpected increases in revenue. It appears from the table that the planned deficit, which reflects the discretionary intention of the government, has less variation than the unplanned deficit. Consider the relationship between year-on-year variations in fiscal policy and year-on-year fluctuations in income, inflation and external balance. First, some definitions. By 'expansionary fiscal policy' we shall mean that the ratio of the deficit to GDP is larger than in the previous year. Fiscal impulse is defined as the change in the ratio of the deficit to GDP, and an expansionary fiscal policy will thus mean a positive fiscal impulse. The unplanned fiscal impulse is defined as the difference between the actual and planned fiscal impulse.

The behaviour of these variables is clearer from Figure 8, panels a, b and c. Deviations from the trend growth rate (normalised GDP growth rate), are negatively correlated with the actual fiscal impulse (Figure 8a). Fiscal impulse was stronger during periods when the real growth rate fell below its trend path, and weaker during economic expansion. A decomposition of the actual impulse into its planned and unplanned components is revealing. It is apparent that the planned level of fiscal impulse (Figure 8b) does not exhibit an anti-cyclical pattern as strong as the unplanned fiscal impulse (Figure 8c). A striking negative correlation can be observed between unplanned fiscal impulse and growth deviation. The key to this inverse relationship is that tax revenues are more responsive than expenditures to changes in aggregate income.

The correlation between these variables is shown in Table 14. The difficulties of drawing inferences from short sample periods must be recognised, but the results suggest that to the extent that short-term stabilisation with respect to income occurred, it was due entirely to the role of automatic stabilisers. Planned fiscal impulses were weakly destabilising with respect to current income. Clearly, to understand Thailand's fiscal stabilisation with respect to income it is more important to understand the operation of automatic stabilisers than the discretionary behaviour of the planners. This interpretation differs from Robinson et al. (1991:16). This important study mentions automatic stabilisers in passing, but emphasises what is described, without supporting evidence, as the stabilising role of *discretionary* fiscal policy.

Figure 8a Thailand: GDP growth and actual fiscal impulse, 1971 to 1990 (per cent)

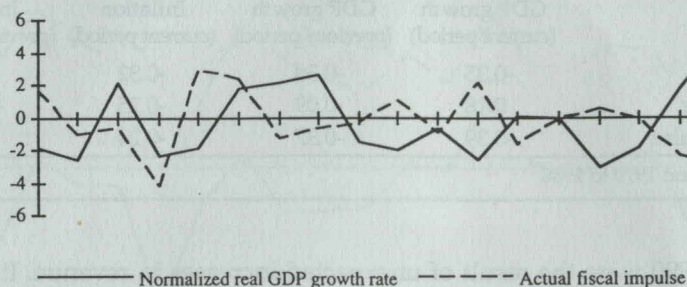


Figure 8b Thailand: GDP growth and fiscal planned impulse, 1971 to 1990 (per cent)

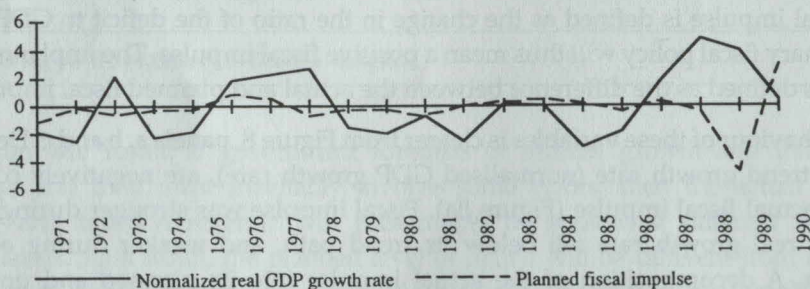
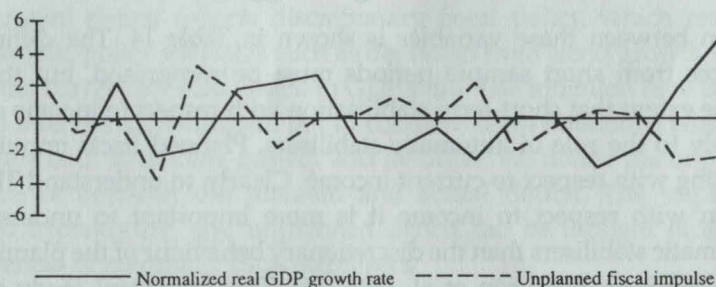
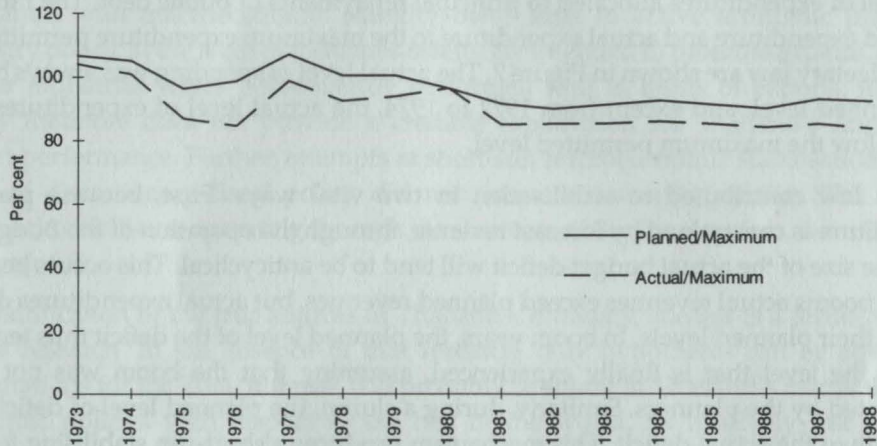


Figure 8c Thailand: GDP growth and unplanned fiscal impulse, 1971 to 1990 (per cent)



Sources: Data supplied by Bank of Thailand and Ministry of Finance, Bangkok.

Figure 9 Thailand: effectiveness of budgetary law, 1970 to 1988 (per cent of maximum expenditure)



Source: Data supplied by Ministry of Finance, Bangkok.

Short-run discretionary changes in fiscal policy do not seem to have been stabilising. If 'stabilising fiscal policy' is interpreted in this way, then the data we have reviewed suggest that it would be wrong to attribute Thailand's record of economic stability to this source. But policy clearly had a crucial effect in a deeper and longer-term sense. Most obviously, short-term discretionary behaviour was not significantly de-stabilising. It could have been otherwise, and the instability experienced by so many other developing countries may well reflect a significant difference in this respect. Equally important, the structural features of the Thai revenue and expenditure systems that produce the automatic stabilising outcomes we have demonstrated are themselves the products of past policies.

What does explain Thailand's macroeconomic stability? The long history of macroeconomic conservatism in Thailand is discussed elsewhere (Warr and Nidhiprabha 1995), but here I shall mention a crucial source of sustained fiscal discipline in Thailand. It is the law. Legal limits on planned expenditures date back to laws introduced during the Sarit government of the late 1950s and early 1960s. The 1959 Budgetary Law stipulated that the excess of planned spending over planned revenue should not exceed 20 per cent of the level of planned spending. In 1973, the limit on spending was relaxed somewhat by the amendment that the deficit must not exceed 20 per cent of planned expenditure plus 8 per cent of the principal repayments of the public debt.

The effectiveness of the budgetary law in restraining the growth of public expenditure can be seen in Figure 9. The maximum amount of public spending is calculated by multiplying the level of planned revenue by 1.25 and adding 8 per cent of the level of expenditures allocated to principal repayments of public debt. The ratios of planned expenditure and actual expenditure to the maximum expenditure permitted by the budgetary law are shown in Figure 7. The actual level of spending was always below the planned level, and except from 1972 to 1974, the actual level of expenditures was well below the maximum permitted level.

This law contributed to stabilisation in two vital ways. First, because planned expenditure is constrained by forecast revenue, through the operation of the Budgetary Law, the size of the actual budget deficit will tend to be anticyclical. This occurs because during booms actual revenues exceed planned revenues, but actual expenditures do not exceed their planned levels. In boom years, the planned level of the deficit thus tends to exceed the level that is finally experienced, assuming that the boom was not fully anticipated by the planners. Similarly, during a slump, the planned level of deficit will be less than the actual deficit. This mechanism produces a short-run stabilising feature from the revenue side of the budget. This effect has been much more important than discretionary policy changes. The second point is that these budgetary laws contributed to long-run fiscal discipline by limiting the overall magnitude of planned fiscal deficits and so, in effect, constrained the capacity of fiscal policy to be de-stabilising, both in the short term and the long-term.

What is most intriguing about these legal expenditure limits is that they have remained intact and effective for over 30 years. Subsequent governments could have repealed the laws concerned and could even have disregarded them. After all, several changes in Constitution have occurred over the three decades since 1960, so in a legal sense any individual law could in principle have been abolished. But the Sarit laws were not abolished and were not disregarded. Even though the existence of these laws was at times politically inconvenient, it seems that once they were in place the political cost of removing or disregarding them was prohibitive. Their existence and wide acceptance, especially within the bureaucracy, generated a political inertia which helped constrain subsequent fiscal behaviour for at least three decades.

Conclusions

Since the late 1950s Thailand has achieved sustained aggregate economic growth combined with low inflation and only moderate growth of external debt. Although this impressive aggregate economic performance has coincided with increased relative inequality, all major socioeconomic groups seem to have benefited in absolute terms from the aggregate economic growth Thailand experienced. Poverty incidence fell

significantly and the rate of poverty reduction over time has been greatest when the rate of aggregate economic growth has also been greatest.

The evidence suggests that Thailand's impressive achievement of rapid growth combined with macroeconomic stability owes little to active economic planning. Industry policy, in the form of measures ostensibly intended to promote exports, did not favour industries which subsequently performed well in terms of exports. Industry policy therefore does not provide a credible explanation for Thailand's impressive export performance. Further, attempts at short-run macroeconomic stabilisation, in the form of discretionary fiscal policy, did not promote economic stability. The role of automatic stabilisers, operating through the structure of the fiscal system, were far more important.

Identification of the true sources of Thailand's economic success is a fertile area for future research. In the absence of that research, only hypotheses can be advanced. Explanations for the Thai 'miracle' will probably be found in Thailand's relatively open economic policies with respect to the rest of the world, its relatively free internal markets for goods and for factors of production, and in the relative steadiness and predictability of government macroeconomic policy. Testing these hypotheses systematically promises to reveal important insights not only for the study of Thailand itself, but also, by identifying the driving forces behind the Thai success, it may well prove to be of value for other developing countries as well.

References

- Ammar Siamwalla and Suthad Setboonsarng, 1989. *Trade, Exchange Rate and Agricultural Pricing Policies in Thailand: Comparative Studies on the Agricultural Pricing Policy*, World Bank, Washington, DC.
- Anat Arbbhabhirama, Dhira Phantumvanit, Elkington, J. and Phaitoon Ingkasuwan (eds), 1988. *Thailand Natural Resources Profile*, Thailand Development Research Institute, Bangkok.
- Bank of Thailand, 1991. *Quarterly Bulletin* 31(4), Bangkok, December.
- Dornbusch, Rudiger and Fischer, Stanley, 1992. *Macroeconomics*, 4th ed., McGraw-Hill, New York.
- Ingram, J.C., 1955. *Economic Change in Thailand Since 1850-1970*, Stanford University Press, Stanford.
- Martin, Will and Warr, Peter G., 1994. 'Determinants of Agriculture's Relative Decline: Thailand', *Agricultural Economics*, 11, (November 1994), 219-35.
- Medhi Krongkaew, 1993. 'Poverty and Income Distribution', in Warr (1993b copy), 401-37.
- , Pranee Tinakorn and Suphat Suphachalasai, 1991. *Priority Issues and Policy Measures to Alleviate Rural Poverty: the case of Thailand*, Economic Development Resources Centre, Asian Development Bank, Manila.

- Robinson, David, Yangho Byeon and Ranjit Teja, 1991. 'Thailand: adjusting to success, current policy issues', *Occasional Paper* 85, International Monetary Fund, Washington, DC.
- Silcock, T.H. (ed.), 1967. *Thailand: social and economic studies in development*, Australian National University Press, Canberra.
- Sompop Manarungsan, 1989. *Economic Development of Thailand, 1850-1950*, Chulalongkorn University, Bangkok.
- Suganya Hutaserani and Somchai Jitsuchon, 1988. Thailand's income distribution and poverty profile and their current situations, paper for the 1988 TDRI Year-end Conference, Thailand.
- Warr, Peter G., 1993a. 'The Thai Economy' in Peter G. Warr (ed.), *The Thai Economy in Transition*, Cambridge University Press, Cambridge.
- , 1993b. (ed.), *The Thai Economy in Transition*, Cambridge University Press, Cambridge.
- Warr, Peter G. and Bandid Nijathaworn, 1987. 'Thailand's Economic Performance: Some Thai Perspectives', *Asian-Pacific Economic Literature*, vol.1:60-74. Reprinted [in Chinese] in *Jingjixue Yicong* (Economic Translations, vol. 10. (1988):59-66.
- and —, 1995. *Thailand's Macroeconomic Miracle: Stable Adjustment and Sustained Growth*, World Bank, Washington, DC (forthcoming).
- World Bank, 1992. *World Development Report, 1992*, Oxford University Press, New York.
- , 1993. *East Asia's Economic Miracle*, Oxford University Press, New York.

Recent publications

Economics Division Working Papers ISSN 1038-412x

Development issues

- DI 95/3 *Trade in telecommunications services*, Tony Warren, 28pp.
- DI 95/2 *Post-graduate education of overseas students in Australia*, David Throsby and Christopher Heaton, 98pp.
- DI 95/1 *State enterprise reform and macroeconomic stability in transition economies*, Frances Perkins and Martin Raiser, 46pp.
- DI 94/7 *Changing sources of international comparative advantage: a Bayesian estimation of the trade dependence model*, Ligang Song, 40pp.
- DI 94/6 *Financial deregulation and trade expansion*, Suiwah Leung, 30pp.
- DI 94/5 *Banco solidario S.A.: micro-enterprise financing on a commercial scale in Bolivia*, Alexander Agafonoff, 32 pp.
- DI 94/4 *The subsidiarity principle and decentralisation: perspectives drawn from Australia's federal experience*, Cliff Walsh and Christine Fletcher, 30pp.
- DI 94/3 *Intra-industry trade among Asia-Pacific economies: a case study in econometric analysis*, Ngo Huy Duc, 22pp.
- DI 94/2 *Development and the environment: global expectations and economic essentials*, David Robertson, 34pp.
- DI 94/1 *Development administration and human resource management*, Michael Hess, 28pp.

East Asia

- EA 95/4 *The Hong Kong/China connection: trade and the wool industry*, Won Tun-Oy and Sung Yun-Wing, 56 pp.
- EA 95/3 *The Korean wool textile industry: recent events*, Young-il Park, 24pp.

- EA 95/2 *Export performance and enterprise reform in China's coastal provinces*, Frances Perkins, 32pp.
- EA 95/1 *Productivity performance and priorities for the reform of China's state-owned enterprises*, Frances Perkins, 34pp.
- EA 94/4 *How successful is China's trade reform: an empirical assessment*, Zhang Xiaoguang, 30pp.
- EA 94/3 *Human capital formation and the growth of the steel industry in East Asia*, Jong-Soon Kang, 48pp.
- EA 94/2 *Australia's Asia-Pacific connections*, Hal Hill, 38pp.
- EA 94/1 *Reform, internationalisation and macroeconomic instability in China*, Ross Garnaut and Guonan Ma, 26pp.
- EA 93/6 *Reforming a centrally planned foreign trade system: the Chinese experience*, Zhang Xiao Guang, 40pp.
- EA 93/5 *Expanding the scope of human capital theory: explaining wages in the Chinese rural industrial sector*, Bob Gregory and Xin Ming, 28pp.

South Asia

- SA 94/2 *Foodgrains policy in Bangladesh*, Umme Salma and Peter G. Warr, 46pp.
- SA 94/1 *India's economic reforms: towards a new paradigm*, Ric Shand and K.P. Kalirajan, 56pp.

Southeast Asia

- SEA 95/6 *Explaining the Thai miracle: dragons planners and other myths*, Peter Warr, 36pp.
- SEA 95/5 *Transferring new technology to village communities: a non-government organisation experience in Indonesia*, Colin Barlow and Mes Beeh, 22pp.
- SEA 95/4 *Indonesian banking post-deregulation: moral hazard and high real interest rates*, Titin Suwandi, 32pp.
- SEA 95/3 *The market for tree crop technology: a Sumatran case*, Colin Barlow, 26pp.

- SEA 95/2 *What happens to industrial structure when countries liberalise? Indonesia since the mid 1980s*, H.H. Aswicahyono, Kelly Bird and Hal Hill, 28pp.
- SEA 95/1 *Indonesia's industrial policy and performance: 'orthodoxy' vindicated*, Hal Hill, 42pp.
- SEA 94/6 *Changing sources of international comparative advantage*, Ray Trewin and Thomas Tomich, 28pp.
- SEA 94/5 *The economy and the countryside in Vietnam: the relevance of rural development policies*, Adam Fforde and Steve Seneque, 40pp.
- SEA 94/4 *The institutions of transition from central planning: the case of Vietnam*, Adam Fforde, 22pp.
- SEA 94/3 *Incentives for exports: the case of the Philippines*, Helen Cabalu, 42pp.
- SEA 94/2 *The development experience of the Philippines: a case of what not to do*, Helen Cabalu, 40pp.
- SEA 94/1 *Labour market developments in Indonesia during the New Order*, Chris Manning, 48pp.

South Pacific

- SP 95/5 *Health services in Papua New Guinea: a review and remedial strategy*, Samuel Lieberman and Peter Heywood, 48pp.
- SP 95/4 *A review of the SPARTECA trade agreement*, Roman Grynberg and Matthew Powell, 18pp.
- SP 95/3 *The subsistence sector in Pacific island countries*, E.K Fisk, 32pp.
- SP 95/2 *The Pacific tuna: towards policies that support sustained investment*, Stephen Pollard, 24pp.
- SP 95/1 *Is there a need for a Pacific Islands Development Bank?*, James Mak and Seiji Finch Naya, 28pp.
- SP 94/2 *Women and development in Papua New Guinea*, Beatrice Avalos, 24pp.
- SP 94/1 *The implications of population growth for Tuvalu*, Habtemariam Tesfaghiorghis, 26pp.
- SP 93/9 *Saving behaviour in Vanuatu*, T.K. Jayaraman, 30pp.
- SP 93/8 *An analysis of Papua New Guinea's medium term strategy for sustainable growth*, John Asafu-Adjaye, 22pp.

Working papers are A\$10.00 each

Asian-Pacific Economic Literature

H.W. Arndt (editor)

ISSN 0818-9935

Vol. 9, No. 1, May 1995

Policy issues

APEC beyond Bogor: an open economic association in the Asian Pacific region, Andrew Elek

Literature survey

Industry policy in East Asia, Heather Smith

Literature survey update

Financial development in Asia: some analytical issues, Maxwell Fry

Annual subscriptions (for 2 issues)

Institutional price	A\$100
Developing country/personal price	A\$50

Asia-Pacific Profiles 1995

Asia-Pacific Economics Group

Ross Garnaut and Peter Drysdale

A comprehensive source of data on the region, including key economic indicators, foreign investment.

- 420 pages with up-to-date statistics on GDP growth, prices, inflation rates, export and import trends, trade flows, capital flows, social and political indicators, savings and investment, for

- China, Hong Kong, Indonesia, Japan, Korea, Malaysia, Papua New Guinea and the South Pacific, Philippines, Singapore, Taiwan, Asia, East Asia, Thailand, Vietnam, Australia and New Zealand. For the first time, in 1995 a profile was written on India.

Within Australia	A\$500
Overseas	US\$500

Pacific Policy Papers

ISSN 0817-0444

PPP 14 *Pacific 2010: urbanisation in Polynesia*, John Connell and John P. Lea, forthcoming.

PPP 13 *Strategies for Melanesian Agriculture for 2010: tough choices*, Euan Fleming and J. Brian Hardaker, 1994, 162pp. ISBN 0 7315 1931 0 A\$25.00

PPP 12 *Women's Education and Economic Development in Melanesia*, Ken G. Gannicott and Beatrice Avalos, 1994, 50pp. ISBN 0 7315 1920 5 A\$10.00

- PPP 11 *Planning the Future: Melanesian cities in 2010*, John Connell and John P. Lea, 1993, 172pp.
ISBN 0 7315 1694 X A\$25.00
- PPP 10 *The Future of Asia-Pacific Economies: Pacific islands at the crossroads?* Rodney V. Cole and Samsak Tambunlertchai (eds), 1993, 360pp.
ISBN 0 7315 1678 8 A\$25.00
- PPP 9 *Pacific 2010: challenging the future*, R.V. Cole (ed.), 1993, 152pp.
ISBN 0 7315 1671 0 A\$25.00

Pacific Issues Papers

Pacific 2010: strategies for Vanuatu, 1994, 28pp.
ISBN 0 7315 1949 3

Pasifik 2010: Vanuatu rod blong fuja, 1994, 18pp. ISBN 0 7315 1950 7

Pacific 2010: the future, a matter of choice, 1994, 50pp. ISBN 0 7315 1928 0 A\$10.00

Pacific Economic Bulletin

Ila Temu and Maree Tait (eds)

ISSN 0817-8038

Vol. 10, No. 1 June 1995

Special issue on Papua New Guinea

Contents • Foreword, Sir Frederick Reiher • Current economic issues, Desh Gupta • The need for financial discipline, Ron Duncan and Ila Temu • Unemployment, order and commodity stabilisation funds, Scott MacWilliam • Fiscal relations and services delivery, Chad Leechor • State and society, Peter Larmour • Promoting small businesses and micro-enterprises, Agogo Mawali and Charles Yala • Institutional rural finance: lessons from the failures and need for policy reforms, Chinna Kannapiran • Non-formal education, Pala Wari, Arietta Kairey and Pani Tawaiyole • The challenge of population growth, Christine McMurray • Women and development, Beatrice Avalos • Health services: a review and remedial strategy, Samuel Lieberman and Peter Heywood • Forestry resources, Hartmut Holzknecht and Kilyali K. Kalit

Reviews • Exchange Rate Policy in Papua New Guinea (John Fallon, Tim King and John Zeitch), Andrew Elek • Political Economy of Papua New Guinea (Scott MacWilliam and Herb Thompson), Ray Anere • Political Economy of Growth and Stagnation in Papua New Guinea (Desh Gupta), Lee Yew Martin

Subscriptions (2 issues, postage paid)

Australia	A\$25.00
All other countries	US\$20.00
Single issues	A\$12.50
Back issues	A\$10.00

National Centre for Development Studies

Books

- NC 8 *The Thai Economy in Transition*, Peter Warr (ed.), 1993, Cambridge University Press, Sydney, 488pp.
ISBN 0 521 38186 x A\$65.00
- NC 7 *The European Community and the Developing World*, Enzo R. Grilli, 1992, Cambridge University Press, Sydney, 408pp.
ISBN 0 521 38511 3 A\$65.00
- NC 6 *Disarray in World Food Markets: a quantitative assessment*, Rodney Tyers and Kym Anderson, 1992, Cambridge University Press, Sydney, 470pp.
ISBN 0 521 35105 7 A\$59.95
- NC 5 *The China-Hong Kong Connection: the key to China's open door policy*, Yun-Wing Sung, 1991, Cambridge University Press, Sydney, 198pp. ISBN 0 521 38245 9 A\$45.00
- NC 4 *New Silk Roads*, Kym Anderson (ed.), 1992, Cambridge University Press, Sydney, 272pp.
ISBN 0 521 39278 0 A\$59.50
- NC 2 *Achieving Industrialization in East Asia*, Helen Hughes (ed.), 1988, Cambridge University Press, Sydney, 396pp.
ISBN 0 521 35129 4 A\$65.00

Chinese Students' Conference Proceedings

- CPRO 5 *Chinese and East Asian Economies in the 1990s*, Papers presented at the annual conference of the Chinese Economic Association at the Australian National University, 30 November to 1 December 1993, Guonan Ma, Xin Meng and Shujuan Lin (eds) 1994, 220pp.
ISBN 0 7315 1937 X A\$15.00
- CPRO 4 *Chinese Economy in Transition*, Papers from a workshop of the Chinese Students' Society for Economic Studies (Australia) held at the University of Adelaide, 12-13 November 1993, Yanrui Wu and



Fisher Library

This book is due for return on the latest date shown below, **unless recalled**.

Fines accrue on overdue loans.

Volum
and 19

Austr
Mono
AJRC 2

AJRC 2

AJRC 2

AJRC 1

AJRC 1

Order
Books

**FISHER
DATE DUE**
- 2 NOV 2000
UNLESS RECALLED

**FISHER
DATE DUE**
- 9 JUL 2001
UNLESS RECALLED

**FISHER
DATE DUE**
22 MAY 2001
UNLESS RECALLED

**FISHER
DATE DUE**
27 MAY 2003
UNLESS RECALLED

**FISHER
DATE DUE**
14 MAY 2004
UNLESS RECALLED

**FISHER
DATE DUE**
24 JUN 2005
UNLESS RECALLED

**FISHER
DATE DUE**
- 8 MAY 2006
UNLESS RECALLED

UNPS

PRINTED BY THE UNIVERSITY PRINTING SERVICE

RS 48

To place a standing order for series or journals, write 50 in the quantity column and we will invoice you. Postage and packing charges are added to orders as follows

Australia	1st book \$4.80, each additional book A\$3.00
Asia/Oceania (airmail)	1st book A\$7.80, each additional book A\$4.00
Elsewhere (airmail)	1st book A\$11.70, each additional book A\$8.50

UNIVERSITY OF SYDNEY LIBRARY



0000000603110104

UNIVERSITY OF SYDNEY

FISHER
RESEARCH

338.9593

20

**Economics Division Working Papers
are divided into streams**

- Development Issues
- East Asia
- Southeast Asia
- South Pacific
- South Asia

Working Papers A\$10.00 plus postage

Order from:

Reply Paid 440
Bibliotech
ANUTECH Pty Ltd
Canberra 0200
Australia

Tel (61 6) 249 5662
Fax (61 6) 257 5088

Xhaohe Zhang (eds), 1994, 180pp.
ISBN 0 7315 1703 2 A\$15.00

Volumes are also available for 1989, 1990 and 1992.

Australia-Japan Research Centre Monographs

- AJRC 22 *Corporate Links and Foreign Direct Investment in Asia and the Pacific*, Edward KY Chen and Peter Drysdale, HarperEducational 1995 318pp. paperback ISBN 0 06 312178 6 A\$44.95
- AJRC 21 *Asia Pacific Regionalism: readings in international economic relations*, Ross Garnaut and Peter Drysdale (eds), A-JRC / HarperEducational Publishers, Sydney, 452pp. ISBN 0 06 3121 40 9 A\$39.95
- AJRC 20 *Wool in Japan: structural change in the textile and clothing market*, Christopher Findlay and Motoshige Itoh (eds), A-JRC / HarperEducational Publishers, 1994, 206pp. tables, figures, bibliography, index, paperback ISBN 0 06 312162 X A\$34.95
- AJRC 19 *A Life in Economic Diplomacy*, Saburo Okita, A-JRC, 1993, 194pp. photographs, index ISBN 0 86413 14 0 hardback A\$29.95
- AJRC 18 *Pacific Dynamism and the International Economic System*, C.Fred Bergsten and Marcus Noland (eds), 1993, 400pp. ISBN 0 88132 196 6 \$35.95

Pacific Economic Papers

ISSN 0728-8409

- PEP 241 *US trade policy towards the Asia Pacific region in the 1990s*, John Kunkel, 1995, 32pp.
- PEP 240 *A simple model of main bank monitoring in Japan*, Luke Gower, 1995, 20pp.
- PEP 239 *The impact of economic reform on technical efficiency: a suggested method of measurement*, Peter Drysdale, KP Kalirajan, Shiji Zhao, 1995, 28pp.
- PEP 238 *Price flexibility in Japan, 1970-92: a study of price formation in the distribution channel*, Kenn Ariga and Yasushi Ohkusa, 1994, 28 pp.
- PEP 237 *Political economy of the large-scale retail store law: transforming 'impediments' to entering the Japanese retail industry*, Takashi Terada, 1994, 32pp.
- PEP 236 *A microeconomic model of Japanese enterprise bargaining*, Akira Kawaguchi, 1994, 36 pp.
- PEP 235 *Building a multilateral security dialogue in the Pacific*, Liu Jiangyong, 1994, 40 pp.

Annual subscription rate for twelve issues

Individuals	A\$60
Institutions	A\$100
Cost for single issues	A\$15
Cost for single issues for students	A\$10

Orders

Books, journals and working papers are available from

Bibliotech
Reply Paid 440
Canberra ACT 0200 Australia
(FAX order follows)

To place a standing order for series or journals, write 'SO' in the quantity column and we will invoice you. Postage and packing charges are added to orders as follows

Australia	1st book \$4.80, each additional book A\$3.00
Asia/Oceania (airmail)	1st book A\$7.80, each additional book A\$4.00
Elsewhere (airmail)	1st book A\$11.70, each additional book A\$8.50

UNIVERSITY OF SYDNEY LIBRARY



0000000603110104

UNIVERSITY OF SYDNEY

FISHER
RESEARCH

338.9593

20

**Economics Division Working Papers
are divided into streams**

- Development Issues
- East Asia
- Southeast Asia
- South Pacific
- South Asia

Working Papers A\$10.00 plus postage

Order from:

Reply Paid 440
Bibliotech
ANUTECH Pty Ltd
Canberra 0200
Australia

Tel (61 6) 249 5662
Fax (61 6) 257 5088

Economics Division
Research School
of Pacific and
Asian Studies
The Australian
National University
Canberra 0200
Australia

ISSN: 1038-412X