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Domestic Resource Mobilization in Thailand: A Success Case for Financial Deepening?

by

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and
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Abstract

This study reviews the process of financial deepening in Thailand over the period 1970-1985. The success in deposit mobilization is attributed to the branch expansion of commercial banks and attractive interest rates. On the lending side inefficient allocation of funds and lack of long term finance are mainly the result of selective rediscount policies of the Central Bank. Lower barriers of entry especially for new and innovative financial institutions together with an improved supervisional framework are suggested to reach both enforced competition and the stability of the financial system.

Domestic Resource Mobilization in Thailand: A Success Case for Financial Deepening?*

by

Uwe Corsepius and Bernhard Fischer

1. Introduction

Although a strong causal relationship between economic growth and financial development is difficult to prove empirically[1], there is a strong theoretical reasoning that differences in economic growth can be attributed to the size, structure, and development of the financial sector in the countries in question. According to the concept of financial deepening (Shaw, 1973) an expansion of the financial sector can reduce the transaction costs within the economy by equating maturities of savings with those of credits, by exploiting economies of scale in gathering information and by risk diversification. However, in order to achieve these benefits of financial intermediation, financial institutions have to act as efficient intermediaries. The performance of financial intermediaries can be evaluated from three perspectives. First, financial intermediaries must offer instruments to savers which satisfy the various needs of depositors with respect to risk, return and maturity. Secondly, efficient intermediation requires that financial institutions provide funds for those investments which are most profitable both for the banks and from a macroeconomic perspective. Thirdly, the resources involved in the process of intermediation between savers and investors have to be minimized.

Referring to the three performance criteria mentioned above this article aims at evaluating the evolution of the financial sector in Thailand. With annual growth rates of real gross domestic product (GDP) averaging at about 6.4 per cent in the period 1970-

* Financial support of the Fritz Thyssen Stiftung and helpful comments of Friedrich Sell are gratefully acknowledged.

1 For a discussion of this issue see Fischer (1982, pp. 9-14 and pp. 117-124) and the literature cited therein.

1985 (Table A1) the Thai economy has performed well above the average of other oil-importing developing countries. Besides a strong performance of the agricultural sector Thailand successfully integrated its economy into the international division of labour by focusing on labour-intensive industrialization and outward-oriented economic policies[1]. This favourable economic development was accompanied by a continuously expanding domestic financial sector. Using the ratio of money[2] to of GDP as a proxy for the size of the financial sector, Thailand achieved a ratio of over 70 per cent in 1985. In comparison, the economy of the Philippines, for example, performing in 1970 at a similar stage of development than Thailand, grew at an average annual rate of 4 per cent and broad money accounted only for 23 per cent of GDP in 1985. This experience of relatively low growth rates of real GDP and poor performance of the financial sector could also be observed in many other developing countries (Fischer, 1982, pp. 95-104).

The structure and development of the financial system in Thailand are described in chapter 2. The growth of financial savings is evaluated in chapter 3 by analysing the impact of interest rate policy and branch expansion of commercial banks on deposits mobilization. Chapter 4 focusses on the credit allocation process both from an institutional and a sectoral perspective. Chapter 5 discusses the implication of selective rediscount policies and other credit rationing processes on the allocation of funds. An attempt to assess the efficiency of the intermediation process itself is pursued in chapter 6 by comparing the costs of intermediation in the Thai banking sector with those in other countries. Finally, chapter 7 summarizes existing bottlenecks in the financial sector and provides some reform proposals.

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[1] The share of manufactured to total exports increased from 11.0 per cent (1970-72) to 29.2 per cent in 1985 thus mainly contributing to the increase of the ratio of exports to GDP from 17.8 to 26.0 per cent in the same period.

[2] Including money outside the financial sector, time and savings deposits.

2. Structure and Development of the Financial Sector

Financial deepening involves sustained growth of monetary aggregates in real terms as well as an institutionally diversified financial system. Since financial institutions in developing countries mainly rely on savings and time deposits in providing long-term credits, the ratio of quasi-money to GDP is used to measure the real growth of monetary aggregates. In Thailand this ratio trippled over the period 1970-1985 from 19.8 per cent in 1970 to 62.1 in the mid-eighties (Table 1), indicating a tremendous growth of the financial system. Over the same period the share of M1 in GDP declined from 14.2 per cent (1970) to 8.6 per cent (1985). With the emergence of more sophisticated interest bearing assets, savers relied increasingly on time and savings deposits. The increase in quasi-money together with the relative decline in M1 caused the ratio of interest bearing to non-interest bearing assets (QM/M1) to almost quadruple. Since the growth in quasi-money outpaced the fall in M1, the overall monetization of the economy measured by the sum of money and quasi-money over GDP, increased from 34 per cent in 1970 to 70.7 per cent in 1985. However, financial deepening was no steady process in Thailand. After the first and second oil price shock as well as in 1984 financial growth slackened. Nevertheless, the share of quasi-money to GDP dropped relatively less than M1 to GDP and the trend towards interest bearing assets continued even in those years.

Besides examining the level of monetary aggregates, an analysis of the financial infrastructure and the range of savings instruments available also serves to document the process of financial development. At the end of 1985 various types of deposit taking institutions and the Security Exchange of Thailand (SET) competed for financial savings. Within the deposit taking institutes the 30 commercial banks, 14 of which are branches of banks incorporated abroad, clearly dominated the mobilization of financial savings in Thailand (Table 2). Throughout the period 1972-1985 the percentage share of outstanding deposits held at commercial

Table 1 - Monetary Aggregates[a], Thailand 1970-1985

Year	Currency and Demand Deposits (M1)	Quasi-money (QM)			M1 + QM	QM/M1
		Commercial Banks[b]	Other Financial Institutions[c]	Total		
1970	14.2	16.4	3.4	19.8	34.0	1.4
1971	14.8	18.9	3.6	22.5	37.3	1.5
1972	15.1	21.5	4.1	25.6	40.7	1.7
1973	13.8	20.2	4.0	24.2	38.0	1.8
1974	12.1	20.6	3.8	24.4	36.5	2.0
1975	11.6	22.9	3.9	26.8	38.4	2.3
1976	11.6	25.0	8.4	33.4	45.0	2.9
1977	11.6	26.8	9.5	36.3	47.9	3.1
1978	11.6	26.8	10.6	37.4	49.0	3.2
1979	11.4	25.6	10.0	35.6	47.0	3.1
1980	10.4	26.3	9.8	36.1	46.5	3.5
1981	9.3	27.9	10.5	38.4	47.7	4.1
1982	9.3	33.6	11.9	45.5	54.8	4.9
1983	8.9	39.6	12.1	51.7	60.6	5.8
1984	8.3	36.9	11.9	48.8	57.1	5.9
1985	8.6	48.6	13.5	62.1	70.7	7.2

[a]Percentage of GDP. - [b]Time and saving deposits at commercial banks. - [c]Development institutions, Government Savings Bank and promissory notes of finance companies.

Source: IMF, International Financial Statistics, various issues; own calculations.

Table 2 - Private Financial Household Savings by Type of Institution, Thailand 1972-1985 (per cent)

Institution	1972	1973-78	1979-84	1985
Commercial banks	75.3	72.9	71.8	74.7
Government Savings Bank	16.3	12.7	9.6	9.2
Finance companies	3.6	9.2	12.3	9.5
Life insurance companies	2.4	2.2	2.4	2.4
Others[a]	2.4	3.0	3.9	4.2

[a]Including agricultural cooperatives, savings cooperatives, credit foncier companies, BAAC, and Government Housing Bank.

Source: TDRI (1986, Table 3.12).

banks never fell below 70 per cent. However, the most dynamic institutions in mobilizing household savings have been the 109 finance companies. Within a period of 14 years their percentage share of outstanding savings grew from 3.6 per cent of total financial savings (at the end of 1972) to 9.5 per cent in 1985. Up to 1979 the growth of finance companies was mainly due to two factors. First, interest ceilings for finance companies were not as binding as for commercial banks and the former could therefore pay higher interest rates on deposits. Second, finance companies were allowed to be engaged in security financing which has been prohibited for commercial banks (Go, 1984, p. 33). However, in 1979 when there was a collapse of a finance company which was involved in stock market related lending activities, the whole financial system suffered from a loss of credibility. Consequently, the Bank of Thailand has restricted stock market activities of finance companies and increased their supervision. These measures together with the loss of public confidence in the prudence and solidity of finance companies have resulted in a reduction of their share in the deposit market.

In contrast to the growth of finance companies the Government Savings Bank lost 7.1 percentage points of its deposit shares, between 1972 and 1985 despite the efforts to expand its branch network. The shares of household savings held by the other institutions during the period 1972-85 were relatively small. While life insurance companies accounted on average for 2.4 per cent of total deposits, the percentage share of the Bank for Agriculture and Agriculture Cooperatives (BAAC) fluctuated between 2 and 3.5 per cent. Finally, 30 credit foncier companies, 444 saving cooperatives, 87 credit unions and 1010 agricultural cooperatives together never mobilized more than 2 per cent of all deposits.

Changes in the composition of savings instruments provide further insights in the financial development of Thailand (Table 3). Most notable is the relative decline of equity from 34.8 per cent (1967-72) of total financial savings of private households to 20

Table 3 - Composition of Financial Household Savings by Instruments, Thailand 1967-1984 (per cent)

	1967-72	1973-78	1979-84
Share of instruments			
Equity[a]	34.8	22.8	20.0
Non-equity	65.2	77.2	80.0
Thereof[b]:			
- deposits	72.5	63.5	66.0
- commercial bills[c]	0.0	7.5	5.4
- public securities	0.9	0.3	2.3
- life insurance and pension funds	4.6	2.3	1.9
- others[d]	22.0	26.4	24.5

[a]Including share capital and debentures. - [b]Percentage share of total non-equity funds. - [c]Including negotiable bills, promissory notes, and trust receipts. - [d]Including mortgages, trade credits, hire purchases and (premium) savings bonds.

Source: TDRI (1986, Tables 3.14 and 3.15); own calculations.

per cent (1979-84). Measured by market value 76 per cent of all assets listed at the SET were bonds, mainly government bonds and securities of state-owned enterprises. The decline of equity holdings in the late seventies can partly be attributed to the collapse of the SET in 1979. While in 1979 still 11 per cent of domestic savings were tapped by new issues of the SET, the share of the SET dropped in the period 1980-83 to 2 per cent (TDRI, Table 3.28). Only from 1984 onwards lower interest rates and the increase of the tax on interest payments from financial intermediaries could partly reactivate the SET. A major reason for the decreasing importance of equity in the portfolios of private households over the period under investigation was the preference

of private firms to finance growth by commercial debt rather than by equity. Thus, the debt-equity ratio of firms listed at the Security Exchange of Thailand almost doubled between 1977 and 1983 namely from 1.66 to 3.12 (TDRI, 1986, p.76).

Within non-equity assets the ratio of deposits to total non-equity funds fell from 72.5 per cent (1967-72) to an average of 66 per cent (1979-84). This reduction can mainly be attributed to the growth of promissory notes issued by finance companies and the rising attractiveness of government securities. The return of the latter was raised to levels similar to saving deposits and the growth of the secondary market increased their liquidity substantially.

3. The Impact of Financial and Institutional Policies on Deposit Mobilization

The preceding section revealed that interest bearing deposits increased rapidly in Thailand over the last 15 years. Which have been the factors for successfully mobilizing financial savings? Explanations referring to income effects - attributing changes in the growth of the ratio of quasi-money to GDP to changes in the savings ratio - cannot be applied for the total increase of financial savings. A Pearson correlation between the gross national savings ratio and the growth in interest bearing deposits is negative and statistically insignificant. In order to explain the growing share of time and saving deposits to GDP, therefore, changes in the composition of savings have to be analyzed.

The factors which influence the composition of total private savings may be classified in two broad categories. Firstly, real interest rates could have made the return of financial assets relative attractive in relation to saving alternatives such as real assets. Secondly, the expansion of the institutional system and/ or the development of new financial instruments might have also contributed to the attractiveness of financial versus real assets.

As empirical analyses of savings behaviour in developing countries have shown, interest rate policies which allow banks to charge positive real interest rates are of major importance in raising the share of savings being held in financial assets (Corsepius, Fischer, 1987). In the case of Thailand this finding is confirmed by empirical studies of Go (1984) and Kirakul, Sriphayak, Ploydanai (1984). Both studies proved empirically a positive and statistically significant relationship between real interest rates and financial savings. In the seventies and early eighties the Bank of Thailand managed nominal interest rates by setting ceilings for credits and deposits. Before the first oil price shock low rates of inflation nevertheless enabled banks to pay positive real interest rates, thus stimulating financial savings. However, when during the first oil price shock inflation rates moved up to double digits real deposit rates became negative and in the absence of upward adjustment financial disintermediation took place (Table 4). Successful stabilization brought inflation rates down and real interest rates on time deposits turned positive again. The second oil price shock again led to higher rates of inflation, resulting in negative real interest rates on deposits. It was only at the beginning of 1980 that the move towards a more flexible interest rate regime was started and ceiling rates on both deposits and loan were adjusted upward by a record margin of more than 3 percentage points[1]. Together with declining inflation rates real interest rates then became positive. Although negative real interest rates also existed during some years, compared with other developing countries over the period 1970-85, real interest rates in Thailand were relatively high, thus stimulating the growth of interest bearing deposits (Table 5).

[1] The adjustment was supplemented by the introduction of higher ceiling rates on deposits of more than one year maturity, a two per cent penalty rate on early withdrawal and the abolition of ceilings on foreign currency deposits.

Table 4 - Nominal and Real Interest Rates on Deposits in Thailand, 1970-1985 (per cent)

Period	Nominal rate of interest		Rate of inflation	Real rate of interest[c]	
	Savings deposits[a]	Time deposits[b]		Savings deposits	Time deposits
1970-72	3.5	6.3	1.7	1.8	4.6
1973-75	4.2	7.0	15.1	-10.9	-8.1
1976-78	4.5	8.0	6.6	-2.3	1.4
1979-81	7.3	10.9	10.8	-7.0	-3.2
1982-85	9.0	13.0	3.1	5.9	9.9

[a]Ceiling rates. - [b]One year deposit rate, ceiling rates until July 1981, average values thereafter. - [c]Average nominal rate minus inflation rate.

Source: Bank of Thailand (1986); own calculations.

Table 5 - Real Interest Rates, Inflation and Financial Development in Selected Developing Countries, 1970-1985

Country	Period	Deposit Rate	Lending Rate	Inflation	Quasi Money[a]/ GDP
Bangladesh	1971-85	-7.4	-5.1	18.5	12.2[b]
Kenya	1970-85	-4.3	-1.2	12.0	13.9[c]
Korea, Rep. of	1971-85	-1.1	2.6	12.1	24.4[d]
Nigeria	1970-85	-9.7	-7.0	16.5	10.8[c]
Pakistan	1970-84	-1.7	0.2	10.7	13.7
Peru	1970-85	-18.2	-4.7	56.0	15.4[c]
Thailand	1970-85	1.7	7.9	7.8	32.9

[a]Includes foreign currency deposits. - [b]1974-85. - [c]1970-84. - [d]1971-84.

Source: World Bank (1987), IMF (1986), BCRP (Memoria), various issues; own calculations.

Attractive real interest rates on deposits contributed to the growth of interest bearing assets in two ways. Within the formal financial sector positive real interest rates on time and saving deposits increased the opportunity cost of holding non-interest bearing financial assets like currency and demand deposits. As the empirical results of Cole, Chunanuntathum, Loohawenchit (1986, p. 15 f.) confirm, depositors responded to increases in the real interest rate on savings deposits by reducing currency holdings as well as demand deposits in favour of savings deposits[1].

However, comparing the magnitude of the growth of quasi-money and the decline in M1 suggests that the growth of interest bearing deposits cannot be attributed to portfolio reallocations within the formal financial sector alone. It may, therefore, be supposed that higher interest rates induced households also to shift their savings portfolio in favour of interest bearing assets in the formal financial sector at the expense of real assets (land, housing) and/or informal financial assets. In order to test this hypothesis empirically, data from the flow-of-funds accounts in Thailand, adjusted for inflation, have been used. To proxy informal financial savings and the acquisition of precious metals the difference between household saving in the flow-of-funds and the national accounts (IF) is taken as suggested by Kirakul, Sriphayak, Ploydanai (1984, p. 32). In addition, the acquisition of housing and land by private households (RS) are used to measure household savings in real assets. Financial savings (FS) include mainly deposits and share capital. Explanatory variables are a weighted average nominal interest rate on deposits (RD) and total savings (S). To account for the impact of inflation, the expected rate was proxied by the actual inflation lagged one period (P) and calculated as yearly change in the consumer price index (adaptive expectation hypothesis). The equations were estimated with annual observations over the period 1967-83 using the ordin-

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[1] In addition, the high liquidity of savings deposits has certainly favoured this development.

ary-least-squares technique. As the Durbin-Watson test statistic as well as the Box-Pierce test indicated autocorrelation in equation one and two, they were reestimated with the filtered-least-squares-technique correcting for first and second order autocorrelation.

As the empirical results show increases in nominal interest rates induced households to reduce informal savings in favour of financial assets in the formal financial sector (Table 6). Nevertheless, when high rates of inflation made real returns on deposits negative, the amount of savings being allocated to informal assets increased. The positive impact of nominal interest rates on savings in real assets indicates a complementary relationship between deposits and real assets. Higher interest rates motivate some households to deposit more savings at the banking system, thereby enabling other households to borrow more to finance the acquisition of real assets. Table 7 illustrates the increase of indebtedness of households along with the acquisition of financial assets. However, the simultaneous increase of assets and liabilities in the formal financial sector may also be interpreted as indication that commercial banks have assumed more functions of the informal financial sector. According to Fischer et al. (1986, p. 172 f.) the access to credits has motivated households in many developing countries to favour informal saving clubs relative to deposits at banks. As commercial bank credit becomes available for more households the attractiveness of the informal saving arrangements is reduced.

Improved access to financial institutions has also contributed to the process of financial deepening in Thailand. Since the density of the branch system determines significantly the transaction costs of depositors, an expansion of the branch network may attract new deposits by reducing transaction costs and thereby increasing the effective return to financial assets. Several empirical studies reveal that in Thailand the number of branches is positively associated with the volume of deposits (Bürkner,

Table 6 - Regression Results of the Impact of Interest Rates and Inflation on Different Saving Assets, 1967-1983[a]

Independent Variable / Asset	Constant	RD	P	S	$R^{\bar{2}}$	DW	Q[b]
1. FS	-41736.8*** (-6.22)	755.0*** (6.49)	-762.3*** (-3.55)	0.49*** (7.35)	0.95	2.07	2.66 (0.91)
2. IF	48200.5*** (8.16)	-5795.5*** (-9.59)	753.2*** (4.31)	0.38*** (6.69)	0.90	2.07	5.34 (0.62)
3. RS	-678.0 (-0.41)	265.1*** (2.69)	-109.5* (-1.80)	0.14*** (5.31)	0.85	2.10	5.23 (0.73)

[a]t-values in parentheses - [b]Box-Pierce test statistic, level of significance in parenthesis. - * significant at the 10 per cent level. - ** significant at the 5 per cent level - *** significant at the 1 per cent level.

Source: Bank of Thailand, Flow-of-Funds Accounts, various issues; own calculations.

Table 7 - Structure of Household Savings in Thailand[a], 1967-83 (Percentage Share of Total)

Asset	1967-70	1971-74	1975-78	1979-83
Real assets	34.9	26.7	27.9	31.3
Net financial assets[b]	50.0	65.9	38.2	64.0
- Acquisition of financial assets	59.2	78.7	72.9	95.7
- Incurrence of liabilities	9.2	12.8	34.7	35.7
Informal assets[c]	15.1	7.4	33.9	4.7

[a]Annual averages over the period. - [b]Acquisition of financial assets ./. incurrence of liabilities. - [c]Informal financial savings, precious metals.

Source: Bank of Thailand, Flow-of-Funds Accounts, various issues; own calculations.

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1981, p. 169; Homasawin, 1984, p. 82; Rakthum, 1984, p. 80)[1]. However, the causality does not run unequivocally from branch expansion to the growth of deposits. It will rather be a mutual process where new branches serve to mobilize additional deposits and the growth of deposits indicates a potential market for other banks, thus leading to the opening of further branches. In the period 1970-83 commercial banks expanded their branch network vigorously. The number of branches almost tripled from 647 in 1970 to 1709 in 1983, growing at an average annual compound rate of 7.8 per cent (Bavovada, 1985, p. 412).

The branch expansion was, however, not equally distributed throughout country. Commercial banks founded relatively more new branches in rural areas where the number of branches grew during the period 1970-83 at an average annual rate of 8.1 per cent compared with 7.1 per cent in urban areas. In spite of this growth, in 1982 the ratio of branches per 10,000 inhabitants was in rural areas only 0.3, while in urban areas 0.9 branches per 10,000 inhabitants existed (Fischer et al., 1986, p. 94). Nevertheless, these figures are similar to those in other developing countries such as the Philippines where the density ratios for urban and rural areas were in 1982 1.3 and 0.3 respectively.

In the late seventies the Thai government has made branch expansion less attractive. Since 1977 the ability of banks to shift funds between branches is hampered, because 60 per cent of all deposits have to be relend locally. In addition, from 1977 onwards, banks wishing to open new branches have been obliged to hold 16 per cent of their deposits in relatively low-yielding government securities (Fry, 1986, p. 180). The impact of these measures can be seen from the development of branch banking. From 1970 to 1978 the number of commercial bank branches increased at an average annual rate of 9.0 per cent, while the growth rate dropped to 6.3 per cent in the period 1978-83.

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[1] Nevertheless, the number of branches is only a weak proxy for the spatial distribution of branches, since new offices are not necessarily opened up in regions where no other banks existed before.

4. Sectoral and Institutional Breakdown of the Credit Supply

A growing volume of deposits enabled financial institutions to expand their credit supply substantially (Table 8) which was supported by low legal reserve requirements (7 per cent of total deposits)[1]. The ratio of total credit to GDP increased from 32 per cent (1971-75) to 58 per cent (1981-85). However, in the second half of the seventies, credits grew faster than deposits so that the ratio of credits to deposits of households was 137 per cent (1976-80) compared to roughly 120 per cent in the period 1971 to 1975 and 1981 to 1985. The strong credit expansion was partly made possible by borrowing from abroad. Between 1976 and 1980 commercial banks on average received 9.7 per cent of their total funds from abroad, while the same ratio was around 7 per cent in the other two periods.

Not surprisingly, a breakdown of total credit extended by type of institution reflects over the period 1971-1985 mainly the market shares in the deposit market. Commercial banks and finance companies together accounted for almost 90 per cent of total credit (Bank of Thailand, 1986). From 1971-1975 to 1976-80 the average share of commercial banks declined from 75 per cent to 69 per cent, while finance companies managed to increase their part of the credit market from almost 14 per cent to 18.6 per cent over the same period. During the years 1981 to 1985 the instability of finance companies enabled commercial banks to gain back two percentage points of the credit market. Besides commercial banks and finance companies the Bank for Agriculture and Agricultural Cooperatives was the third largest creditor with an average of 4 per cent of total credits. All other institutions over the period 1970-85 individually never accounted for more than 2 per cent of total credits. Noteworthy is finally the low share of the Government Savings Bank (0.5 per cent), which results from its policy to invest on average almost 90 per cent of its deposits in government securities.

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[1] This is rather low by developing countries' standards. 50 per cent of the required reserves could be invested in interest bearing government securities, thus lowering c.p. the opportunity costs of holding reserves.

As far as the sectoral breakdown of the credit supply of commercial banks is concerned (Table 9), the proportion of credits going to the manufacturing sector grew from 17.1 per cent (1970-75) to 22.2 per cent (1980-85). This is in line with the contribution of the manufacturing sector to GDP, which gained in importance from 17.1 per cent (1970-75) to 22.2 per cent (1981-85). However, the reduction in the amount of credit allocated to the financing of international trade cannot be explained by the export performance, since the ratio of exports to GDP increased by 56 per cent between 1970 and 1985 (Table A1). Furthermore, the change in the commercial banks' credit portfolio cannot be attributed to the growth of finance companies. In the period 1976-80 on average only 6.7 per cent of their credits were used for exporting or importing and the trend pointed downwards (Go, 1984, p. 62). Thus, it may be hypothesized that importers and exporters increasingly relied on foreign finance facilities. Some support for this hypothesis comes from the flow-of-funds accounts, which unfortunately do not allow to separate firms according to their participation in international trade. However, taking all firms together the percentage share of liabilities being incurred outside of Thailand augmented from an average of 39 per cent (1970-74) to 52 per cent in the period 1980-1983.

Finally, the growing share of credit being extended to agriculture seems to be noteworthy: While the share of the agricultural sector in GDP declined from 25 per cent (1970-75) to 19 per cent (1981-84), the average share of credits to agriculture in the commercial bank portfolio increased steadily from 2.3 per cent (1970-75) to 7.3 per cent (1981-85). Among possible explanations, such as an increased capital intensity in agriculture, one hypothesis attributes the risen share of agricultural credit to the selective credit policy of the Bank of Thailand. Accordingly, credit demand of the agricultural sector was heavily rationed in the early seventies. Since the mid-1970s the Thai government relied to an expanding degree on minimum lending requirements to enforce lending to the agricultural sector. Selective credit policies serve to channel credit to priority sectors, groups and

Table 8 - Credit Supply in Thailand, 1971-1985 (per cent)

	1971-75	1976-80	1981-85
Credit outstanding/GDP	32	46	58
Credit outstanding/household savings at financial institutions	117	137	122
Borrowings from abroad/total funds[a]	7.2	9.7	7.0

[a]Commercial banks only.

Source: Bank of Thailand (1986); IMF, International Financial Statistics, Yearbook 1986; own calculations.

Table 9 - Sectoral Breakdown of Credit Extended by Commercial Banks, 1970-1985 (Share of Total)

Period / Sector	1970-75	1976-80	1981-85
Agriculture	2.3	5.2	7.3
Mining	1.1	0.8	0.6
Manufactures	17.1	18.3	22.2
Construction	5.3	5.0	5.4
Real estate	5.1	3.1	3.2
Import	18.1	12.9	7.7
Export	10.4	11.8	8.6
Wholesale and retail trade	21.7	22.5	23.7
Public utilities	1.2	2.3	1.8
Banking	4.7	6.1	5.9
Services	5.1	3.9	5.0
Personal consumption	8.0	8.0	8.6
Total	100.0	100.0	100.0

Source: Bank of Thailand, Quarterly Bulletin, various issues; own calculations.

regions of the country at subsidized rates of interest. Under the new rural credit regulation Thai commercial banks are obliged to allocate a minimum of 20 per cent of total deposits as rural credits, 14 per cent directly to farmers and small industries in rural areas, and 6 per cent to agroindustries. This requirement can be satisfied by placing funds on deposit at the state-owned Bank for Agricultural and Agricultural Cooperatives.

A major function of a financial system is to transform short-term deposits into long-term credits, which can be used to finance investments with gestation periods of above one year. Although no data on the term structure of credits are available, splitting up the credit portfolio according to the type of credit provides some information on the maturity structure of loans (Table 10). Since bills and overdrafts are short-term credit instruments by nature, short-term credits accounted over the period 1975-84 on average for 80 per cent of total credit, even if it is unrealistically assumed that all loans are long-term. Comparing this to a ratio of short- to long-term finance of 2:1, which is assumed to be convential (World Bank, 1983, p. 38), there seems to have been a shortage of long-term investment finance in Thailand. However, it may be objected that overdrafts can be rolled over continuously and therefore, are in effect long-term credits. Nevertheless, in the absence of guarantees that overdrafts will be prolonged, firms will be reluctant to use overdrafts to finance long-term investments. Furthermore, overdraft financing favours large and established firms irrespective of the returns to their investments, since they are the only ones which can provide the requested collateral. Both, firms and banks favour overdrafts, because they minimize transaction costs. In addition, firms find it convenient to have a flexible credit frame. Banks, however, may face cash management problems, if the demand for overdrafts fluctuates widely.

Table 10 - Type of Credit[a] Extended by Commercial Banks, 1975-84 (per cent)

	1975-77	1978-80	1981-83	1984
Commercial bills	30.1	27.9	29.0	28.8
Overdrafts	49.0	50.6	48.5	44.8
Loans	20.9	21.5	22.5	26.4

[a]Percentage share of total credits.

Source: TDRI (1986, Table 3.24); own calculations.

In order to reduce overdraft financing somewhat, recently two measures were taken. First, minimum interest rates for overdrafts and loans were introduced, setting the former higher than the latter. Second, the Bank of Thailand fixed the maximum overdraft line being given to a single borrower at 50 million Baht.

5. Preferential Credit Access and Allocation Efficiency

Besides an apparent lack of long-term finance, the selective rediscount policy of the Bank of Thailand which favoured some sectors over others as well as the crowding out of smaller borrowers hampered the efficient allocation of funds available in the formal credit market since interest rates were not allowed to account for the different risks and profitability investments.

The Bank of Thailand used a variety of concessional rediscount rates to provide subsidized credit for priority sectors. Over the period 1970-85 banks could charge 7% on loans to agriculture, industry and exports which were rediscounted at the Bank of Thailand at the 5% priority rediscount rate. During the same years the prime market rate moved between 10.5% and 17.9% so that the interest rate subsidy was around 4% in 1970-78 and above 10% in the early eighties. Between 1970 and 1982 banks could only charge

10% on refinanced agricultural bills while the basic rediscount rate was 8% in 1971 and peaked at 14.5% in 1981/82[1]. It is difficult to justify these differentials on efficiency grounds (Hanson, Neal, 1986, p. 118). They rather document how the Bank of Thailand realized the government's perception which economic activities are central to Thailand's economic development. The structure of subsidized credits being extended reveals that the government's focus changed over time from industrialization to export promotion. That is, in the 1960's most subsidized loans were given to activities related to industrialization, while since the mid 1970s the focus shifted in favour of exports.

Misallocation of credits may also arise from credit rationing, i.e. the exclusion of borrowers from the formal credit supply according to non-price criteria and irrespective of the risk and profitability considerations. The relevance of credit rationing is indicated by the various activities in the informal financial sector. A recent survey has shown that in the urban unorganized money market four types of informal arrangements are of particular importance (Vongpradhip, 1986): personal rotating credit operations, business rotating credit associations, trade credit practices and cheque discounting[2]. Based on data from the 1980 household survey Kirakul and Vongpradhip have estimated that the size of the unorganized money market relative to total deposits outstanding is around 16 per cent and relative to total loans outstanding 40 per cent (cited in Vongpradhip, 1986, p. 24). The apparent contradiction is solved if it is taken into account that firms with access to formal credits re-lend funds in the informal sector because of more attractive interest rates. Companies participating in rotating credit schemes, for example, state that 47.5 per cent of their funds stem from the formal financial mar-

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[1] 14.5% up to 1 per cent of a bank's deposit value and 15-18.5% beyond that magnitude.

[2] Other more illegal financial activities with a touch of crime have been borrowing against oil shares or pyramid schemes. For a description of these schemes and the measures undertaken by the Bank of Thailand to stop these activities see Follett (no date).

ket (Vongpradhip, 1986, p. 10) indicating that informal and formal financial markets are not segmented but closely connected. On the other hand the possibilities for some firms to re-lend funds highlights that firms have unequal access to formal credits.

The incidence of credit rationing in the formal financial sector is further strengthened, when the reasons for firms and households to participate in informal saving and credit arrangements are incorporated into the analysis (Table 11). Cheque discounting is used because some firms have limited access to formal funds (24.8 per cent) and they wish to obtain credit quickly without having to provide collateral (42.5 per cent). Similarly, households participating in rotating credit clubs stress the quick access to funds (29.1 per cent) and the possible recourse to funds in the case of contingencies (15.6 per cent). The importance of informal credits to finance fluctuating working capital requirements was also confirmed by an empirical study which found that in the late seventies small and medium sized firms financed 17 per cent of their working capital requirements by the informal and 19 per cent by the formal financial sector (Isarangkun, 1979). The majority (64 per cent), however, were own funds. Obviously, the formal financial sector is not flexible enough to extend credits fast and with simple procedures to smaller borrowers which cannot provide adequate collateral.

The existence of credit rationing in the formal financial sector can be at least partly attributed to the low degree of competition among formal financial institutions and to links between major banks and industrial groupings (Go, 1984, p. 109). The increasing concentration can be seen from the development of the Herfindahl-Hirschmann index of banking concentration (H)[1] which increased between 1962 and 1980 from 0.113 to 0.165 (World Bank, 1983, p. 82). Thus, in 1980 the three largest banks (Bangkok

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[1] Calculated as $H = \sum_i (MS_i)^2$, where "MS_i" equals the share of the i-th bank in total assets of the banking system.

Table 11 - Reasons for Participation in the Informal Urban Financial Sector in Thailand, 1984 (per cent)

Reasons / Type of Market	Personal Rotating Credit	Business Rotating Credit	Cheque Discounting
Asked by friend/relative	18.5	28.6	-
Limitations of formal financial market	65.8	60.9	89.9
- Higher deposit interest rate	17.0	15.0	-
- Lower credit interest rate	-	19.5	-
- Inconveniencies with formal institutions	4.1	26.4	22.6
- Limited access to formal funds	-	-	24.8
- Quick access/no collateral	29.1	-	42.5
- Source of contingency funds	15.6	-	-
Other	15.7	10.5	10.1

Source: Vongpradhip (1986).

Bank, Krung Thai Bank and Thai Farmer Bank) accounted for 59 per cent of all banks' assets. The Bangkok Bank alone held 34.5 per cent of all banks' assets being as large as the other four leading banks together. The high degree of concentration and the limited number of firms in the banking industry need not imply that competition is absent. Competitive pressures may nevertheless exist, if the markets served by banks are contestable. For a market to be contestable, entry and exit of firms must be easy and costless (Baumol, Panzar, Willig, 1982, p. XX). The threat of a potential entry of new competitors prevents the firms which are already in the market from making excessive profits or incurring excessive costs. However, in order to make the threat of entry

convincing, the existing firms in the market must face the possibility of their own exit if they fail to remain viable in view of potential competition.

Both prerequisites for contestable markets were hardly fulfilled in Thailand. Subsequent to the licensing of the Asia Trust Bank in 1965 only one foreign branch was granted a license in 1978, while no other domestic bank has been authorized. One might suppose that finance companies being less regulated than commercial banks were able to exert some competitive pressure on the banking system. However, assets of finance companies which have no major ties with domestic or foreign banks constitute only 44 per cent of total finance company assets (World Bank, 1983, p. 84). Domestic commercial as well as foreign banks used finance companies to expand their business into areas they themselves were not allowed to deal with. Therefore, there was some competition on the deposit side, because finance companies did pay higher interest rates. On the lending side, nevertheless, a complementary rather than competitive relationship prevailed. As with entry free exit was not guaranteed in the Thai formal financial sector. The period around the collapse of the SET provides a clear example. Before 1979 several finance companies had become too heavily involved in speculative deals in the SET. Nevertheless, they did not become insolvent after the collapse of the SET, because the Bank of Thailand intervened in order to stop the erosion of public confidence in finance companies. Restricted entry and exit together with a high level of concentration indicate that competition in the Thai banking system was rather low.

The Thai authorities have recognized the problems stemming from interlocking ownership and low competition. Various measures were taken in the 1979 amendment of the Commercial Banking Act of 1962. The maximum amount a bank is allowed to lend to a single borrower was reduced from 40 per cent of its capital to 25 per cent. Furthermore, a single bank must not hold more than 10 per cent of the equity of any limited company, while total equity

participation of a bank is restricted to 20 per cent of its capital[1]. Finally, the concentration of ownership was dealt with by divestiture requirements. A single shareholder is since 1979 not allowed to own more than 5 per cent of the outstanding shares of one bank and at least 250 shareholders should not hold less than 50 per cent of the banks' shares. However, it remains to be shown that these measures have effectively reduced interlocking ownership and increased competition in the banking sector. The existence of bank holding companies and interlocking directorates cast doubts on the effectiveness of these measures.

6. Assessment of Financial Intermediation Costs from an International Perspective

So far the performance of the Thai financial sector with respect to deposit mobilization and credit allocation has been investigated. This section takes a third perspective of financial deepening and tries to evaluate intermediation efficiency of financial institutions. Efficient intermediation involves minimizing of transaction costs in transfering funds from depositors to borrowers. This implies that profits in the banking industry do not exceed levels in competitive situations. High costs of intermediation may result among other things from a low level of development of the banking industry or a monopolistic/oligopolistic market structure. The rationale behind the structure-performance hypothesis is that few firms protected by high barriers of entry are able to maximize profits jointly[2].

A rough idea of the intermediation costs in Thailand can be gained from Table 12. In terms of the gross earnings margin and operating costs the Thai banking system competes well with other developing and even developed countries. The higher efficiency of finance companies relative to commercial banks in Thailand can be

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[1] However, a Thai bank may own up to 20 per cent of a single finance company (Leelakithul, 1982, p. 50).

[2] See Gilbert (1984) for an overview of the extensive literature on the structure-performance issue.

partly attributed to the lower degree of regulation of finance companies with respect to mandatory credit allocation or size and composition of required reserves. Furthermore, finance companies are concentrated in the Bangkok area and have no expensive branch system like commercial banks. However, both measures may be misleading in the judgement of the magnitude of intermediation costs. A third proxy for intermediation costs, the return-to-asset-ratio shows relatively high profits for Thai banks, especially if compared to developed countries. This may be taken as an indication that some scope for monopoly profits exists in Thai banking.

Nevertheless, the limitations of these indicators to test the structure-performance relationship have to be born in mind. In particular, it is not clear to what extend differences in observed profit ratios across countries are due to differences in accounting practices. Furthermore, the ratio of profits to total assets may be lower in countries, where banks are more regulated than in Thailand or economic policies are less favourable for banking activities. However, there are also reasons, why profits may be low in spite of high concentration. Banks may follow a limit pricing strategy and set spreads high enough to earn some excess profits but too low to attract new entrants or the regulating authorities (Rezende Rocha, 1986, p. 45). Finally, actual profits could be higher than those stated, because within a conglomerate the excess profits are transferred to the producing firms by subsidizing credits (Galbis, 1986). At the level of manufacturing firms the incidence of excess profits is then much more difficult to detect.

7. Bottlenecks of and Reform Proposals for the Financial Sector

Over the last 15 years, deposit mobilization in Thailand was extraordinarily successful. Several factors contributed to the growth of interest bearing financial assets. The access of savers

Table 12 - Indicators for the Costs of Financial Intermediation in Selected Industrial and Developing Countries, 1978-1980 (Percentage Share of Total Assets)

Country	Concentration Ratio[a] (1982/83)	Gross Earnings Margins[b]	Operating Costs	Profits before Tax
Colombia[c]	0.52	6.0	4.0	1.3
Germany, Fed. Rep. of	n.a.	2.6	2.1	0.5
Korea, Rep. of[d]	n.a.	4.8	2.0	1.1
Malaysia[e]	0.42[f]	3.6	1.3	1.9
Peru[e]	0.51	7.3	5.6	2.1[g]
Spain	n.a.	4.9	3.2	0.8
Turkey[c]	0.50	7.6	6.8	0.8
United States[h]	n.a.	3.9	2.6	0.8[i]
Thailand				
- Commercial banks	0.59	4.2	2.4	1.5
- Finance companies	n.a.	2.9	1.6	n.a.

[a]Share of the largest three banks in the assets of all banks in 1982/83. - [b]Interest received and other income (net)/interest paid. - [c]Domestic commercial banks. - [d]Nationwide commercial banks. - [e]Commercial banks. - [f]Deposits instead of assets used. - [g]1981 only. - [h]FDIC insured banks. - [i]1977-79. - n.a. = not available.

Source: Rezende Rocha (1986); World Bank (1983).

to financial institutions improved considerably due to the vigorous effort of commercial banks to expand their branch network. Finance companies broadened the supply of saving instruments and enforced competition in mobilizing deposits. Finally, in spite of interest rate ceilings, low rates of inflation provided a favourable environment for mobilizing financial savings with the exception of the periods around the first and second oil price shock. Positive real interest rates induced households to shift their saving portfolio in two ways. Within the financial sector savers minimized opportunity costs by reducing currency holdings and demand deposits in favour of higher interest bearing saving deposits. Furthermore, attractive real interest rates caused major shifts from investments in real assets and informal funds to financial assets of the banking system.

Notwithstanding the successful mobilization of deposits an analysis of the credit allocation process revealed several bottlenecks and the need for further financial reforms. Referring to selective rediscount policies a more uniform structure of rediscount rates could avoid significant welfare losses for the economy. The dominance of short-term credits and the relatively less developed equity market indicates the lack of long-term finance in Thailand. Improving the access for life insurance companies and mutual funds as well as for foreign investors to the equity market could help to activate the stock exchange, while a more sophisticated regulatory framework would be necessary to avoid speculative booms and crashs and to assure the confidence of institutional investors. Furthermore, the complete deregulation of interest rate ceilings on time deposits would support commercial banks in mobilizing long-term fixed deposits thus facilitating the expansion of long-term credits. Finally, as long as high concentration and a low level of competition prevail in the commercial banking system the crowding out of smaller firms and households in the credit rationing process will be as difficult to avoid as to have the informal financial markets shrinked.

Policies designed to protect the domestic banking system by high barriers of entry proved to entail significant economic costs. As the experience with finance companies has shown an increased competition within the banking system requires both deregulation and careful supervision. Without an adequate supervision the existing institutions will rather attempt to avoid competition by incorporating newly emerging financial institutions. Furthermore, a minimum of regulation for new entrants might be seen as necessary in order to assure the safety of private deposits. Otherwise bank failures may seriously destabilize the financial system. In particular, anti-trust legislation and uniform control ratios for financial intermediaries should be part of such a regulatory framework. In addition, foreign banks will only be able to exert competitive pressure on the domestic banks if subjected to the same regulatory framework. Finally, the government itself can enforce competition by entering more actively into lending activities at market-oriented conditions.

Table A1 – Basic Economic Indicators for the Thai Economy, 1970-1985 (per cent)

Period	Growth rate of real GDP	Ratio of exports to GDP		Rate of inflation[a]	Real effective exchange rate[b] (1960=100)	Gross investment to GDP	Gross domestic savings to GDP	Ratio of foreign debt[c] to	
		Total	Manufactured					GDP	Exports
1970-72	5.3	17.8	2.0	1.8	99.4	23.6	21.6	0.8	12.9
1973-75	7.3	20.5	3.3	15.0	93.4	24.7	26.1	0.7	3.7
1976-78	8.7	21.2	4.5	6.6	87.2	25.4	23.3	7.8	37.0
1979-81	6.1	24.5	6.3	14.1	87.4	26.9	22.2	17.4	71.2
1982-84	5.4	23.9	5.9	3.3	93.7[d]	22.6	18.3	26.0	121.8
1985	4.0	26.0	7.6	2.4	n.a.	22.7	17.9	39.0	148.5

[a]Percentage change of the consumer price index. – [b]Trade-weighted exchange rate index multiplied by domestic inflation and divided by a trade-weighted inflation rate of major trading partners. – [c]Net debt outstanding, excluding foreign direct investments. – [d]1982-83.

Source: Office of the National Economic and Social Development Board, National Income of Thailand, 1985, Tables 7, 8 and 9, and National Income Accounts (Research and Development Group), Consolidation of National Income Statistics, 1970-1984, old and revised series, 1985, Table 1.5; TDRI (1986, Tables 2.5, 2.13 and Table 3.6); Fry (1986, Table 12.3); own calculations.

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