Chapter 1. Growth, Inequality, Poverty, and Financial Deepening

This chapter presents the salient facts related to growth, inequality, financial deepening, and policy variation. Described here are macro variables such as growth, which are often taken to characterize an entire economy as if it were composed of a homogenous collection of identical clones of a representative consumer. But inequality reminds us there is considerable heterogeneity, either initially or as the result of idiosyncratic shocks. Poverty is of special interest, but here distinctions are drawn among income, consumption, and wealth. Income is most transient, consumption is smoothed, and wealth moves slowly and most reflects underlying constraints. Financial depth is another key macro variable, but it also reflects policy changes that are at the heart of this book.

Growth has been relatively high for the past 50 years, with the exception of a sharp drop due to the 1997 financial crisis and the ensuing recession. The trend of long term industrialization dominates the data, and it seems unwise to try to describe the contemporary Thai economy without understanding this history. Hence the focus in the models is on occupation choice and investment. Thailand has also gone through a demographic transition, with lower family size, increased longevity, increase in the number of inactive workers, and an increase in the number of female headed households.

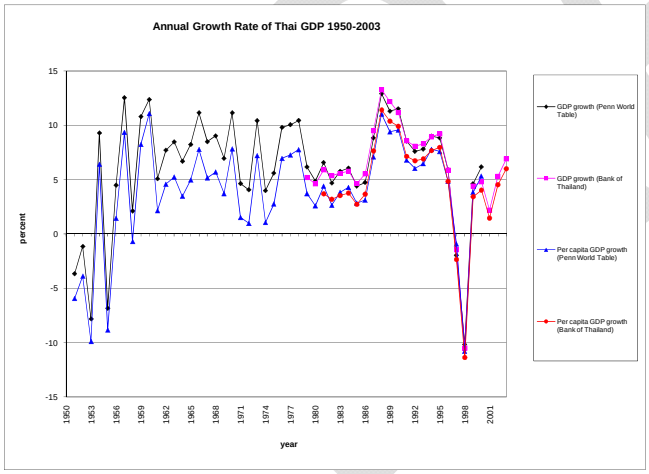
Inequality by almost all measures has been increasing since at least 1976, along with income, but unlike the growth of income, inequality peaks and starts to decline in 1992, with some backtracking for the crisis. These movements in inequality are the focus of many of the models subsequently explored in later chapters, which pay particular attention to reconciling the theory of inequality with these observed facts.

Poverty measures have shown a steady decrease in the fraction of poor, along with a decrease in the distance of the poor from the poverty line, with only a slight wobble in the crisis. Health and other measures of well-being have steadily improved over time, apart from HIV/AIDS. Poverty is shown in panel data to be a transient phenomenon, especially if the focus is on income, which responds relatively quickly to a variety of shocks in a variety of ways. Consumption is more stable, and wealth moves quite slowly. Thus where wealth is the primary constraint on households, we would expect to see a more stubbornly persistent poverty, with constraints only attenuated in the long run. Many of the models focus on the relationships among wealth, underlying constraints, and endogenous choices.

Financial deepening in Thailand displays astounding trends relative to the U.S. over the same period. Part of that can be attributed to a financial liberalization starting in 1986. Foreign capital inflows increased at the same time, so this needs to be sorted out with the subsequent models. By the 1990's commercial bank regulation appears to have been increasingly deficient, and government transfers masked the distortion. Post crisis, the government's explicit involvement in the financial sector has increased.

1.1 Growth: Demographic, GDP, and the 1997 Crisis

The growth of GDP, 1950-2003, has been consistently high, at 6.2% per year on average overall and 5.3% on average on a per capita basis. There are exceptions, namely negative growth in the early 1950's and more obviously the financial crisis of 1997. Though recovery from the crisis was slow, Thai growth by 2003 was the third highest in Asia, after China, India, and Vietnam. (At the time of writing, there had been an adverse impact from the 2004 tsunami as well as rising oil prices). Of special note is the sharp upturn in growth in 1986, with per capita growth reaching 12%, in contrast to the relatively sluggish period of the early 1980's. The lower per capita numbers early on reflect higher population growth prior to the demographic transition.



[Figure 1.1.1. Compiled from Penn World Table, and Bank of Thailand data]

Year	Population	Annual growth rate
1909	8,149,487	-
1919	9,207,355	1.22
1929	11,506,207	2.23
1937	14,464,105	2.86
1947	17,442,689	1.87
1960	26,257,916	3.15
1970	34,397,374	2.70
1980	44,824,540	2.65
1990	54,548,530	1.96
2000	60,606,947	1.05

[Table 1.1.2. Population of Thailand from 1909 to 2000. Source: NSO Office of the Prime Minister.]

Indeed, the Population Census (see Table 1.1.2) shows a population growth rate of 2.2% on average between 1919 and 2000. Though fluctuating decade by decade, population growth peaked at an annual rate of 3.15% from 1947-1960 and has been on a steady decline ever since. The most recent rate, 1990-2000 is 1.05%.

Over the last two decades, the demographic composition of Thai households substantially changed. Average family size dropped from 5.5 to 3.7, while the total population increased from 43 million to 60 million persons. Life expectancy at birth increased from 65 years to 74 years. The average age of the labor force increased from 31 to 37. The proportion of households with a head more than 60 years old increased from 16 percent to 22 percent of the population. The proportion of female-headed households increased from 17 percent to 24 percent. The proportion of economically inactive households increased substantially from 10 percent to 16 percent.

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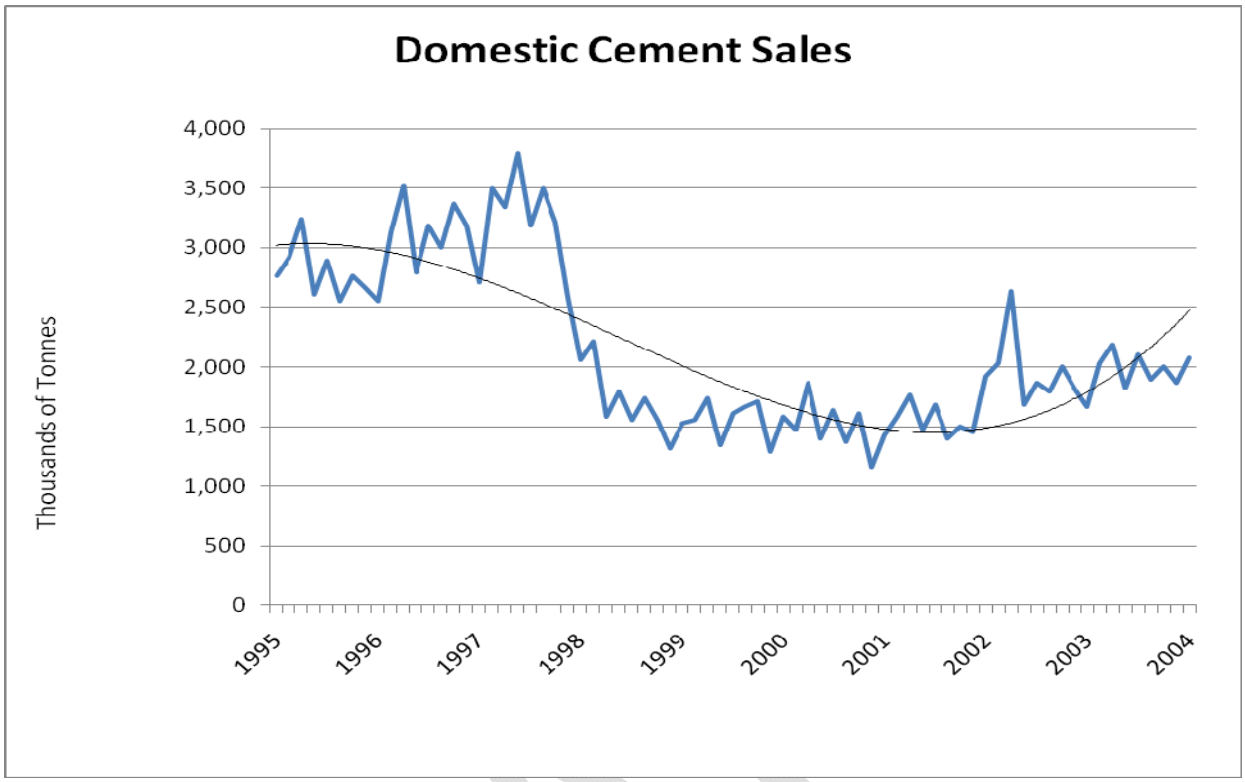
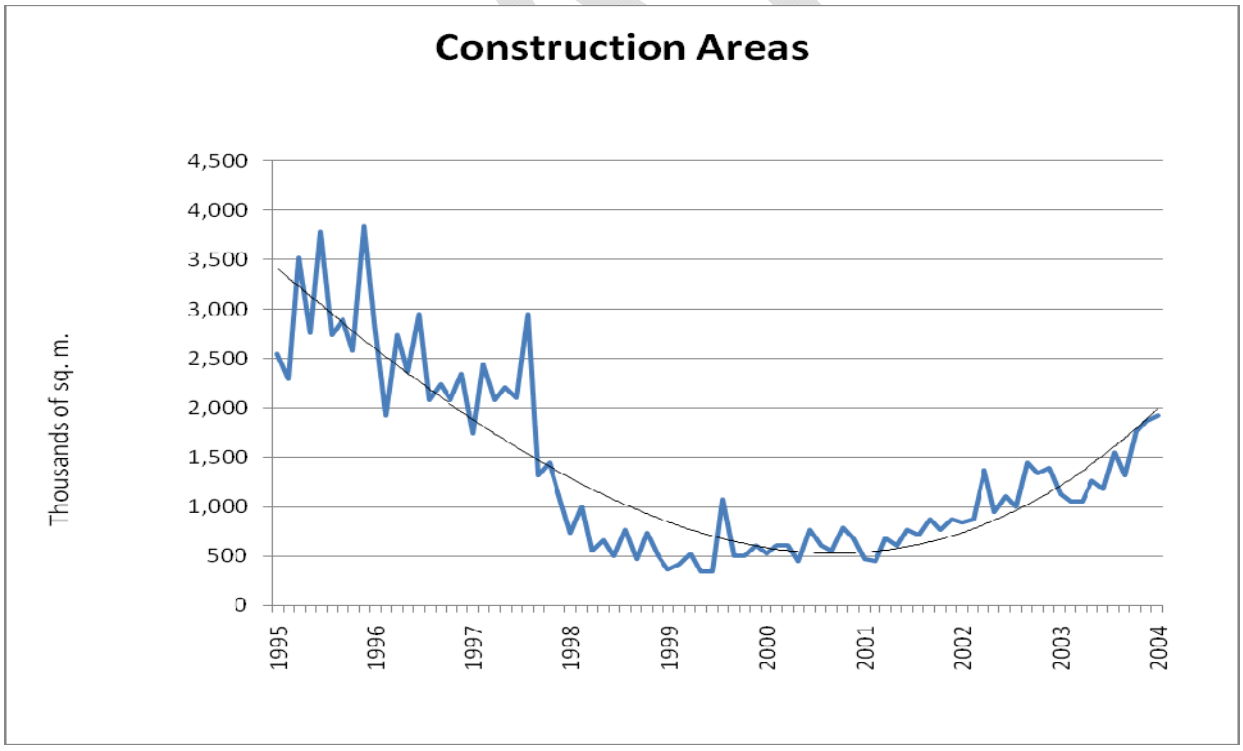
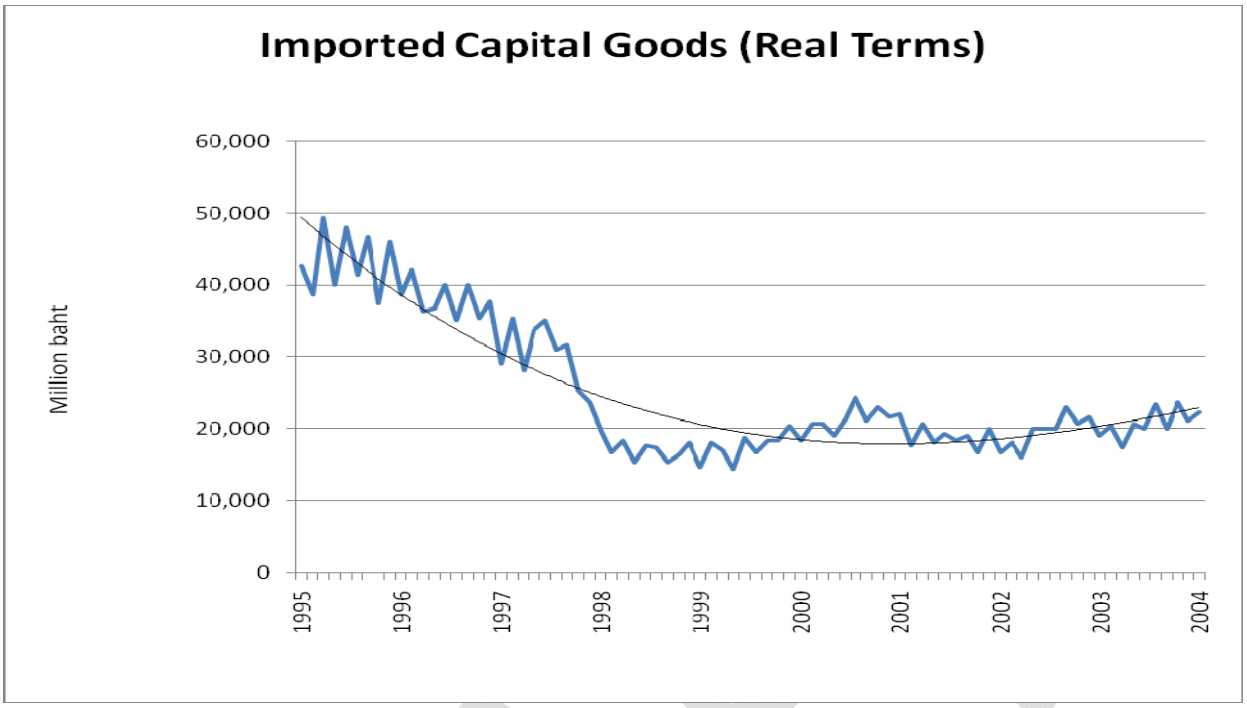
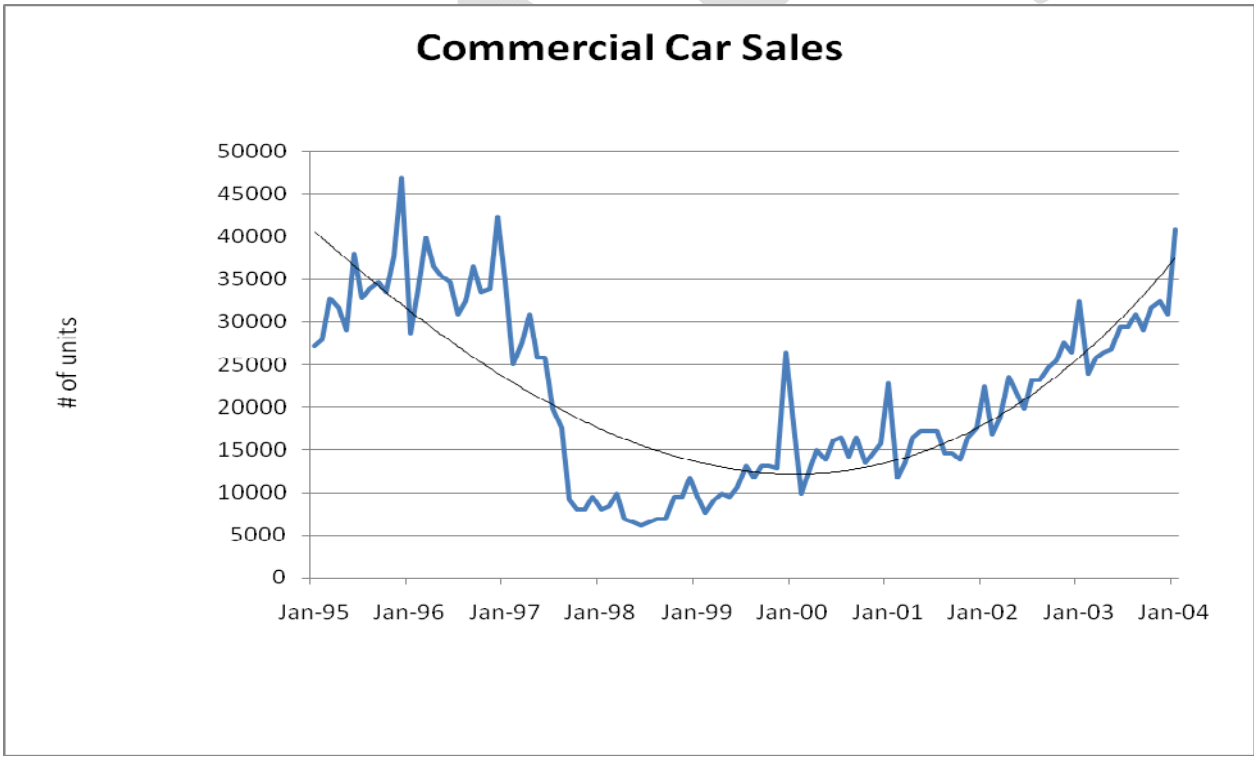

Domestic Cement Sales
Thousands of Tonnes
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004


Construction Areas
Thousands of sq. m.
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004

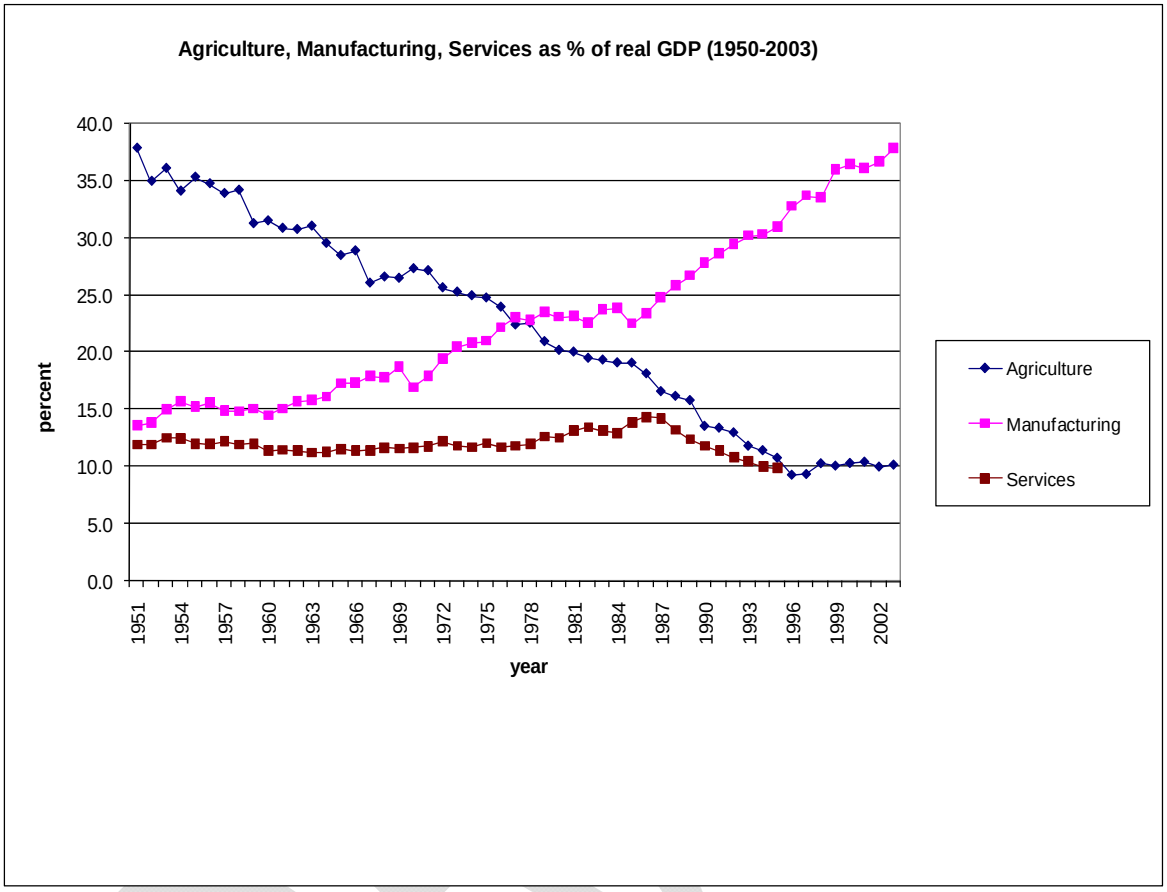




[Figure 1.1.3. Private Investment Indicators with Trends. Adapted from The Bank of Thailand (2003)]

The financial crisis of 1997 and subsequent recession has complicated much of the thinking about Thailand and Asian economies. It is not hard to find evidence of a dramatic slowdown, with domestic cement sales, construction, imported capital goods, and commercial car sales dropping to half of their

previous levels, if not lower, according to Bank of Thailand estimates. Even as late as 2004, some indicators had not recovered (see Figure 1.1.3).



[Figure 1.1.4. Source: Adapted from NESDB data]

But when viewed within a wider time frame, the crisis and recession have only modestly interrupted long term trends. The manufacturing share of GDP has increased more or less steadily, from 13% in 1950 to 37% in 2003, with agriculture declining from 37% to 10%. The agricultural series does go flat at about 1997, and the growth in manufacturing was attenuated at that time, but neither of these events is salient in the larger context. Clearly one cannot understand Thailand in the short or long term without understanding what lies beneath these trends.

1.2 Inequality

[Figure 1.2.1. Average Income and Income Inequality in Thailand. Kuznets Curve: see stages marked (as vertical lines). Source: Jeong (2000)]

Accompanying long term growth are movements in inequality (see Table 1.2.2). According to the Gini index, inequality rises from .436 in 1976 to .535 in 1992, before falling to .511 by 1996. The overall level of inequality is high for Asia and rivals the nontrivial levels of Latin America. Specifically, the average for East Asia and Pacific is .362, for Sub Saharan Africa is .441, and Latin American and Caribbean is .502. (See Jeong (2000).)

Thai socioeconomic data display the Kuznets curve. See Figure 1.2.1. Specifically, from 1976 to 1986 there is a period of increasing inequality with relatively flat growth. Then, from 1986-1992, inequality increases with relatively high growth. A small exception is the drop in inequality 1986-1988. Inequality begins a longer-term decrease after 1992 while growth stayed relatively high.

The Gini is not the only measure of inequality, and indeed other measures such as the Theil entropy indices allow decompositions, as described below. But with only one exception, every measure of inequality establishes 1992 as the peak. Other measures also pick up the more modest decline of 1986-1988.

Year	1976	1981	1986	1988	1990	1992	1994	1996	1976-1996 [1]
Population (million)	43.1	47.9	53.6	55.2	56.8	58.9	60.2	60.3	1.7%
Total Income (billion)	43.5	63.1	65.8	78.2	96.2	119.7	133.9	160.4	6.7%
Mean	1009	1317	1227	1418	1693	2033	2225	2659	5.0%
Median	709	884	745	859	981	1113	1270	1584	4.1%
Standard Deviation	1201	1575	1643	1795	3228	3985	3909	4223	6.5%
Interquartile Ratio	1.01	1.12	1.30	1.31	1.31	1.38	1.38	1.36	1.5%
Theil-L	0.292	0.330	0.408	0.402	0.451	0.496	0.470	0.437	2.0%
Theil-T	0.340	0.373	0.461	0.441	0.564	0.603	0.559	0.504	2.0%
Gini Coefficient	0.418	0.443	0.489	0.486	0.512	0.535	0.521	0.503	0.9%
Coefficient of Variation	1.191	1.195	1.339	1.266	1.906	1.960	1.757	1.588	1.5%
Atkinson Index (e=1)	0.253	0.281	0.335	0.331	0.363	0.391	0.375	0.354	1.7%
Polarization	0.374	0.413	0.480	0.487	0.485	0.518	0.512	0.499	1.4%
Head-count Ratio	0.483	0.359	0.446	0.365	0.307	0.256	0.205	0.130	-6.4%
Poverty Gap	0.175	0.119	0.170	0.127	0.100	0.079	0.061	0.034	-7.8%
FGT P_2	0.083	0.054	0.085	0.060	0.044	0.034	0.026	0.013	-8.7%
Number of Observations	11356	11880	10895	11044	13174	13458	25208	25110	

Note 1: This column reports the annual average rates of change between 1976 and 1996 for each summary statistics.

[Table 1.2.2. Summary Statistics for Income in Thailand SES. Source: Jeong (2000)]

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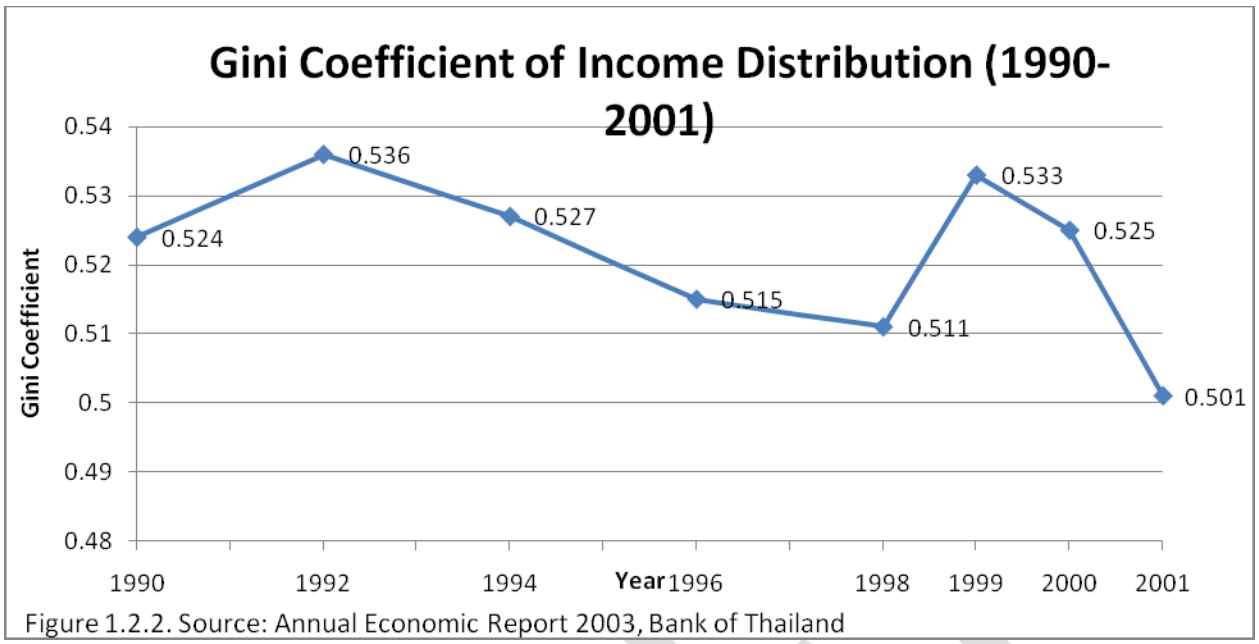

[Figure 1.2.3. Gini Coefficient of Income Distribution, 1990-2001. Adapted from Bank of Thailand data.]

During the financial crisis, Thailand moved in reverse along the Kuznets curve, sliding back up the declining part of the line (see Figure 1.2.1 and 1.2.3). Not only did growth go negative, but inequality increased, by 1999 reaching the level it had been at between 1992 and 1994. One caution regarding the data is in order here. The SES is administered bi-annually in even years, with a few exceptions, so we have to interpolate for the odd years. Inequality appears lower in 1998 than in 1996, but one surmises that it had declined to a lower level in 1997 and increased thereafter to its 1998 level. In any event inequality seems to have resumed its downward trek after 1999, now reaching levels it had not displayed since the late 1980's.

1.3 Poverty and Well-being

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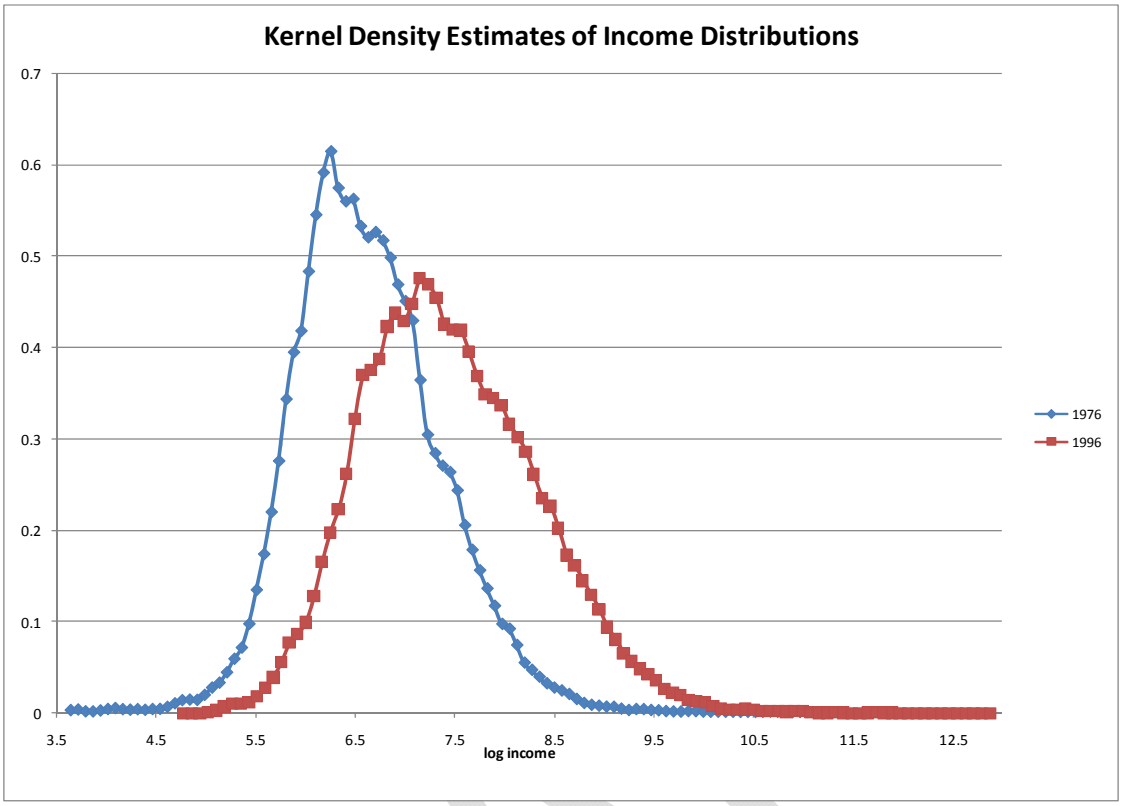


[Figure 1.3.1. Kernel Density Estimates of Income Distributions. Source: Jeong (2000)]

The diversity and temporal movement in incomes is evident in the income histograms. Figure 1.3.1. shows kernel densities using the log scale, comparing 1976 to 1996, and shows a clear right-shift in the distribution. The fraction of the relatively poor, those on the left tail of the distributions, has diminished sharply over the years.

Poverty	1976	1981	1986	1988	1990	1992	1994	1996
Head-count Ratio	0.483	0.359	0.446	0.365	0.307	0.256	0.205	0.130
Poverty Gap	0.175	0.119	0.170	0.127	0.100	0.079	0.061	0.034
FGT P_2	0.083	0.054	0.085	0.060	0.044	0.034	0.026	0.013
Sample Size	11356	11880	10895	11044	13174	13458	25208	25110

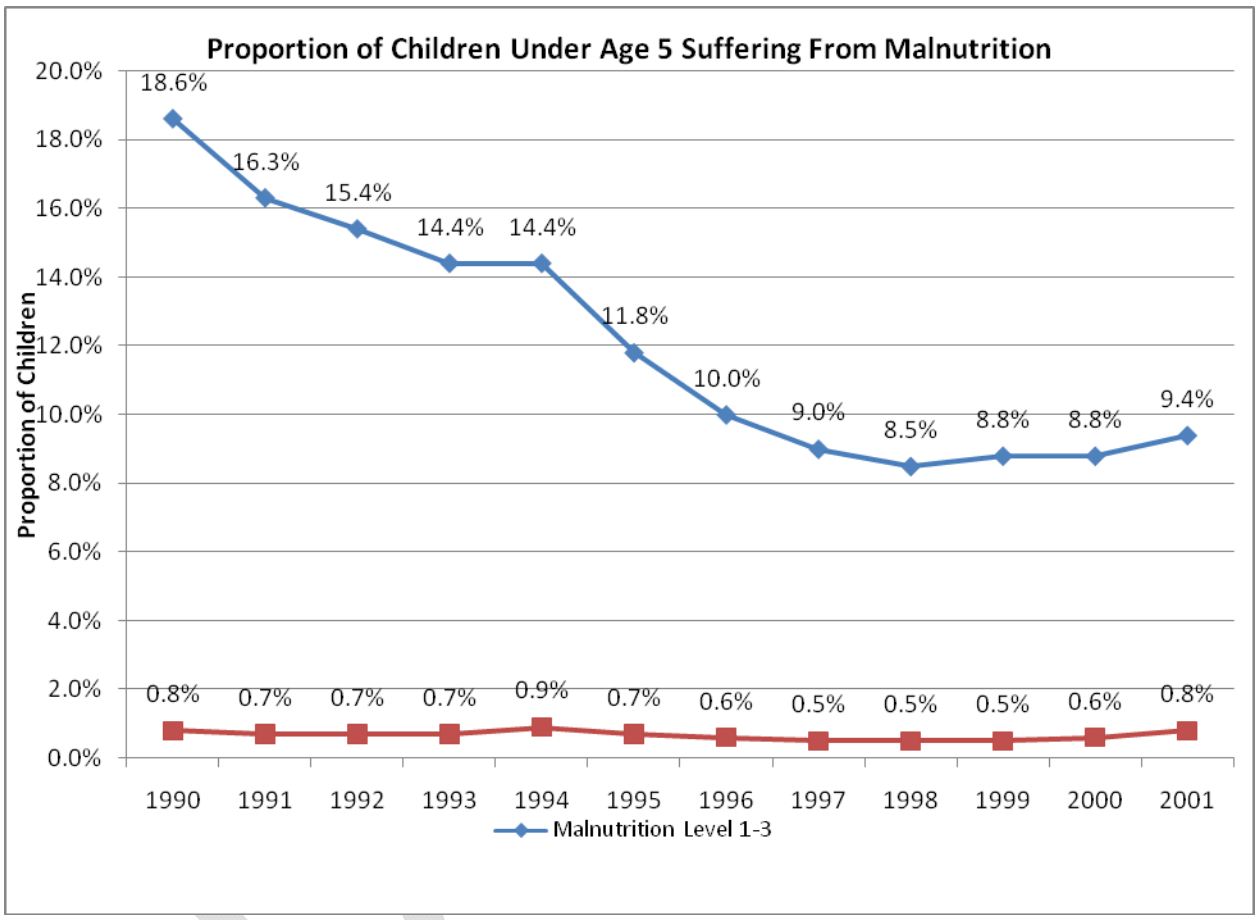
1998	2000	2002
0.125	0. 149	0.089

[Table 1.3.2. Summary Statistics of Income in Thai Socio-economic Survey. Source: Jeong (2000)]

Hyeok Jeong's (2000) thesis shows with SES data that the fraction of impoverished households has declined from 48% of total households in 1976 to 13% in 1996. Jeong uses $2.00 per day as a widely accepted international standard, and converts this to Thai baht using the Penn World Tables purchasing power parity. The average distance between those of low income and the poverty line has declined from

17.5% in 1976 to 3.5% in 1996. Another widely used measure is the Foster Greer Thorbecke (FGT) measure, which adopts a squared-weighted scheme; and it shows similar movement.

The trend of decreasing poverty was slightly interrupted in the aftermath of the crisis, with the poverty rate rising from 12.5% in 1998 to about 15% in 2000. Shortly thereafter it achieved an all-time historic low, at 9%, in 2002.



[Figure 1.3.3. UNDP Indicators Show Health Improving, except HIV/AIDS. Proportion of Children Under Age 5 Suffering from Malnutrition. Adapted from the Thai Ministry of Public Health data]

The decline in poverty is mirrored by improvements in other United Nations Development Programme (UNDP) indicators. Thailand is classified by the UNDP as having a medium level of human development. The proportion of children suffering from malnutrition has been coming down in the 90's, reaching 9.4% in 2000. The longer term, historical data is more dramatic. Infant mortality, deaths per 1000, was 74 in 1970 and this dropped to 24 in 2002. By contrast, current rates are 87 in Laos and 96 in Cambodia. Life expectancy at birth was 61 years in 1970, and this has increased to 69 in 2000-05, compared with an increase from 40.4 to 54.5 in Laos and 40.3 to 57.4 in Cambodia.

Unfortunately, Thailand and other countries have had a problem with HIV/AIDS. The proportion of pregnant women infected reached 1.8% in 1998, but this appears to have little to do with underlying growth process. The overall infection rate at 1% in Thailand is low relative to many other countries.

No of years in poverty	Percent
0	10
1	9
2	9
3	11
4	12
5	13
6	16
7	20
Total	100

[Table 1.3.4. Number of years household had been poor. Source: Townsend Thai Panel Data]

Poverty Transition, 1997- 2003		
	Poor in 1997 and also poor or not in2003	
Poor in 1997	No	Yes
No	60.3	39.7
Yes	39.3	60.7
Total	48.9	51.1

[Table 1.3.5. Poverty Transitions; Those Poor in 1997 and in 2003. Source: Townsend Thai Panel Data]

The income histograms and poverty rate data might be taken to indicate that a small, if declining, segment of the population remains chronically poor. But such cross sections can be misleading. The Townsend Thai panel data of 1997-2003, show that households moved in and out of poverty. The number of years a household remained poor is only slightly tilted to the right: the fraction of those poor for one year only between 1997 and 2003 was 9%, the fraction of those who were poor for four years was 12%, and those who remained poor for all 7 years was 20%. See Tables 1.3.4 and 1.3.5 for more details.

More revealing are tables reporting transitions in the panel across income, consumption, and wealth quintiles, comparing 1997 with 2003. Here "poverty" is defined implicitly relative to the income levels of other households. Twenty seven percent of households stay in the lowest income quintile, and 42% in the highest income quintile. More typical are transitions into other groups. Indeed, 9.5% of the population went from the lowest to the highest quintile, while 18.7 % fell down from the highest to the lowest quintile. The data clearly show that income is volatile.

Consumption may be a better measure of overall well-being and by that standard 44% of the population remains in the lowest quintile, with 41% in the highest. There are fewer transitions across the other quintiles as well. We may infer that households are attempting to smooth consumption from income fluctuations, but are not completely successful in doing so.

Transition by Quintile of Income (Shocks)

	Income quintile in 03				
Income quintile in 97	1	2	3	4	5
1	27.4	29.2	17.3	16.7	9.5
2	19.4	25.5	29.7	13.9	11.5
3	17.8	23.1	17.8	24.9	16.6
4	16.5	15.9	22.6	25.6	19.5
5	18.7	9.6	10.8	18.7	42.2

Transition by Quintile of Consumption (Smoothing)

	Consumption quintile in 03				
Consumption quintile in 97	1	2	3	4	5
1	44.3	25.9	12.7	13.3	3.8
2	21.0	25.7	19.2	21.0	13.2
3	16.4	19.9	26.9	25.1	11.7
4	8.2	21.8	24.1	16.5	29.4
5	11.6	11.0	17.1	19.5	40.9

Wealth Quintiles in 1997 by Wealth Quintiles in 2003

	Wealth quintiles in 03				
Wealth quintiles in 97	1	2	3	4	5
1	69.9	22.2	5.2	2.6	0.0
2	24.6	42.3	23.4	8.0	1.7
3	9.6	22.6	37.9	26.6	3.4
4	0.6	11.1	22.8	42.7	22.8
5	1.2	1.2	8.2	18.2	71.2

[Table 1.3.6. Income, Consumption and Wealth. Wealth is Difficult to Measure in Most Surveys, But Crucial. Source: Townsend Thai Panel Data]

When wealth is taken as a measure of well-being, things move slowly indeed. Approximately 70% of the poor and rich stay in place and most of the mass is concentrated on the diagonal or adjacent categories. Wealth is, in some sense, a pre-determined variable and is associated in the models with chronic constraints.

Two caveats, however: most households have gained in wealth, even more so than in income, and inequality in wealth seems to have decreased dramatically from 1977 to 1996. Wealth in the SES is not measured directly but indirectly though Jeong's principal components index of the ownership of key assets in the SES data. The right-shifted distribution of wealth and its smaller left tail are not reflected in quintiles such as those shown in Table 1.3.6.

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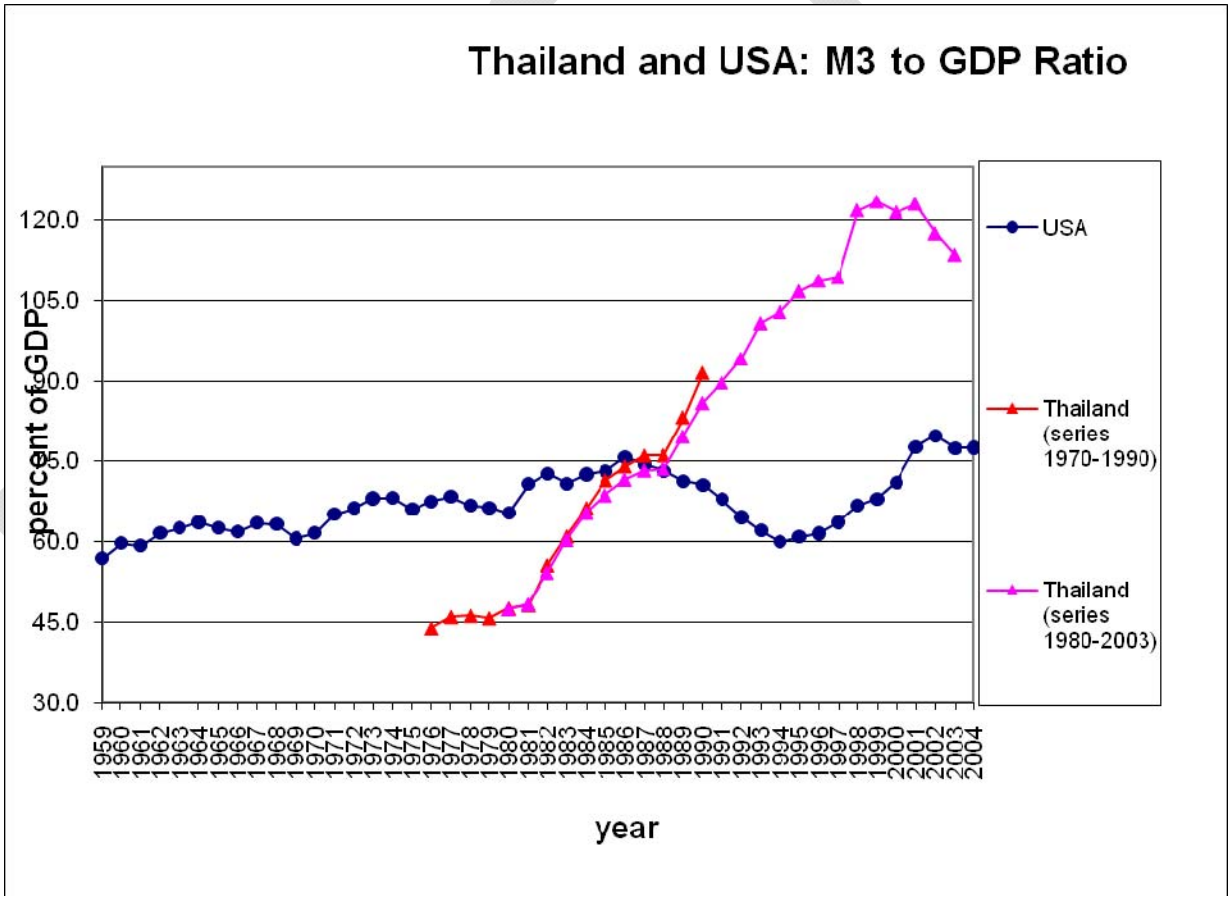
1.4 Financial Deepening, Crisis, and Policy Change

The extent of intermediation, a standard measure of the depth of the financial system, is an aggregate money-to-GDP ratio. Thailand's M3/GDP ratio rose from 45 in 1976 to about 125 in 1997. As Figure 1.4.1 shows, Thailand passed the US level around 1987 and continued to climb thereafter, up until 2001. Only after 2002 does M3/GDP drop, and it remains well above the US level, as is the case with other Asian economies. However, M3/GDP may also be taken as a measure of inefficiency, indicating the amount of money needed to support a given level of income; the jump in 1997 reflects an increase in the government's Financial Sector Development Fund and financial sector bailouts.



[Figure 1.4.1. Thailand and the USA: M3 to GDP ratio, 1959-2004. Source: Adapted from Federal Reserve Bank of St. Louis, BOT, NESDB Data]

Other measures of Thai financial deepening from 1976-1996 display similar patterns. Figure 1.4.2. shows that total domestic credit and private credit relative to GDP both increased, with especially high rates of increase starting about 1988. Public credit, which had been increasing, decreased from that time onward. Another commonly used ratio, private to public credit, increased. Apparently, it was the private sector which expanded during the high growth period.

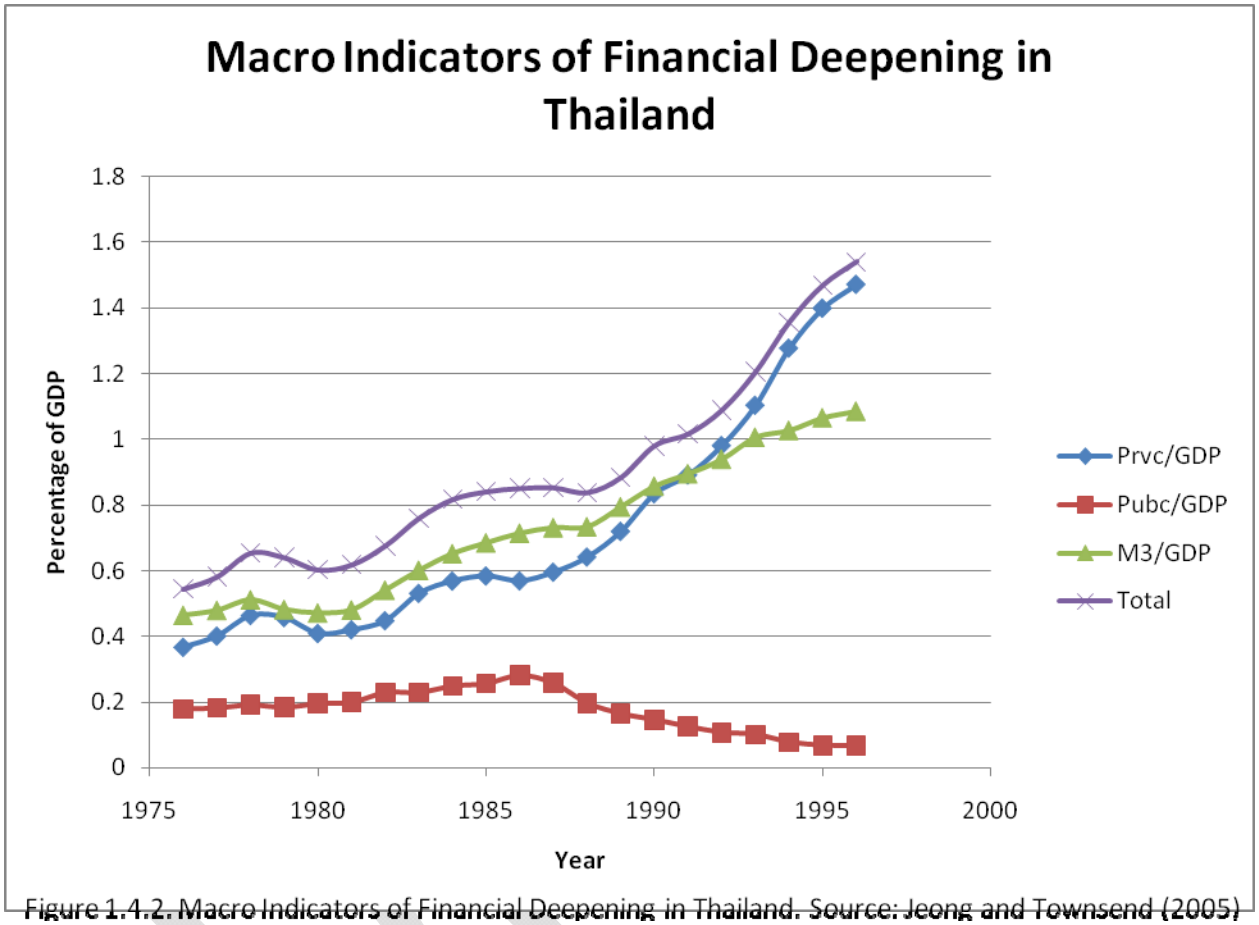


Figure 1.4.2. Macro Indicators of Financial Deepening in Thailand. Source: Jeong and Townsend (2005)

[Figure 1.4.2. Macro Indicators of Financial Deepening in Thailand. Source: Jeong and Townsend (2005)]

Expansion in the financial system took place on both domestic and foreign margins. The *S*-curve of expansion on the extensive domestic margin, shown in Figure 1.4.3, is computed as the fraction of households in the Socio-Economic Survey who had reported a saving or credit transaction with a formal intermediary in the previous month. The surge starting in 1986 is remarkable. Foreign capital inflows remained relatively small, but there was a substantial upturn at the same time, 1986. We will try to sort out and distinguish the impact of the models examined in subsequent chapters.

[Figure 1.4.3. Foreign Capital Inflows and Financial Liberalization. Foreign capital inflows are indicated by solid line, Fraction of population with access to intermediation by dotted line. Source Giné and Townsend (2004)]

1975	▪ April: Securities Exchange of Thailand began trading (changed name to stock exchange of Thailand (SET) in 1991).
1979	▪ Repurchase market was established by the Bank of Thailand (BOT) to serve as instrument of open market operation, and to facilitate money market development by providing financial institutions with additional means of adjusting liquidity.
1980	▪ Ceilings on lending interest charged by commercial banks and finance companies were freed from the 15 percent limit imposed previously by the Civil and Commercial Code of 1924. This measure provided the Bank of Thailand with more flexibility in adjusting interest rate ceilings in line with monetary policy stance and market force.
1984 Nov	▪ To facilitate informational trade and to improve Thailand's current account balance, the official exchange rate determination was changed from pegging the Thai baht solely to the U.S. dollar, to pegging the Thai baht to a basket of major currencies. The Thai baht was also effectively devalued by 15 percent against the U.S. dollar. ▪ A joint private-public fund called "Small Industries Credit Guarantee Fund" was established to provide credit guarantee to small industries with fixed assets of less than 10 million baht. (The Fund had been operated within the Industrial Finance Corporation of Thailand up until 1993 when it became an independent financial institution.
1985	▪ February: Imposing a 50-million baht limit on overdraft loan to any person. This was intended to improve the loan structure of commercial banks. ▪ March: The BOT encouraged commercial banks to introduce the BIBOR (Bangkok Interbank Offered Rate) quoting system to facilitate money market transactions and to obtain benchmark money market rates. ▪ May: Control on the opening of letters of credits was lifted. ▪ November: The Financial Institution Development Fund (FIDF) was established within the Bank of Thailand to gain more flexibility in providing assistance to financial institutions in distress.
1986	▪ Separate interest rate ceiling for loans to priority sector was lifted. ▪ To encourage mergers between finance companies, authorities relaxed branching restriction for newly-merged companies, where the previous finance companies could operate only one branch office. ▪ To enable credit foncier companies to mobilize funds from the public more efficiently, minimum maturity of promissory notes issued by credit foncier companies was reduced from 3 years to only one year, without early redemption.
1987	▪ The list of authorized businesses for commercial banks and finance companies was broadened to include the following: Custodian service, Loan syndication, Advisory service regarding merger and acquisition, and Feasibility study
1988	▪ To help increase competitiveness of smaller banks, the BOT encouraged them to open "mini-branches" in certain regions of the country to reduce operating cost.
1989	▪ June: Interest rate ceiling on commercial banks' time deposits of 1 year and over was lifted, marking the first step toward full interest rate liberalization. ▪ July: Prior approval from the BOT was no longer needed for outflow capital transfer regarding dividend repatriation and interest/principal payment on foreign debts.
1990	▪ March: Abolishing interest rate ceiling on commercial banks' time deposits of less than one year.

	▪ May: Phase 1 of exchange control liberalization began when Thailand formally accepted obligations under Article VIII of the IMF's Articles of Agreement, which resulted in complete liberalization of current account transactions and fewer restrictions on capital outflow. ▪ November: Branch opening requirement for commercial banks to hold government bonds as a minimum proportion of total deposits was reduced from 16% to 9.5%. ▪ Relaxing commercial banks' end-of-day net FX position limit from 20% to 25% of capital on net overbought, while the limit on net oversold remained at 20% of capital.

[Table 1.4.4. Source: Bank of Thailand]

The intimate link between the expansion of the financial system dating from roughly 1986 and de-regulation and liberalization is evident in the chronology shown in Table 1.4.4. For example, in 1986 the government lifted interest rate ceilings on loans to designated priority sectors and reduced branching restrictions for newly merged finance companies. In 1988 smaller banks were allowed to open mini-branches, and in 1990 interest rate ceilings on saving were reduced. It seems likely that these changes in government policy had a positive impact, and this is analyzed below.

On the other hand, by the 1990's problems with many of the commercial banks and finance companies had become increasingly evident, and the government and the regulatory framework proved incapable of responding adequately. Table 1.4.4. tells the tale. There was evident over-investment in the property sector; as property values fell, bank share prices fell too, yet reported capital adequacy ratios increased. Bank capital was overvalued, due to insufficient provisioning and over-assessment of collateral values; the Bank of Thailand doubted it had the authority to intervene. Accrued interest earnings on non-performing loans likewise inflated bank profit statements. Beginning with finance companies on the brink of failure, there was massive and secret support from the Financial Institution Development Fund, which reached $10 billon in 1997, about 8% of GDP.

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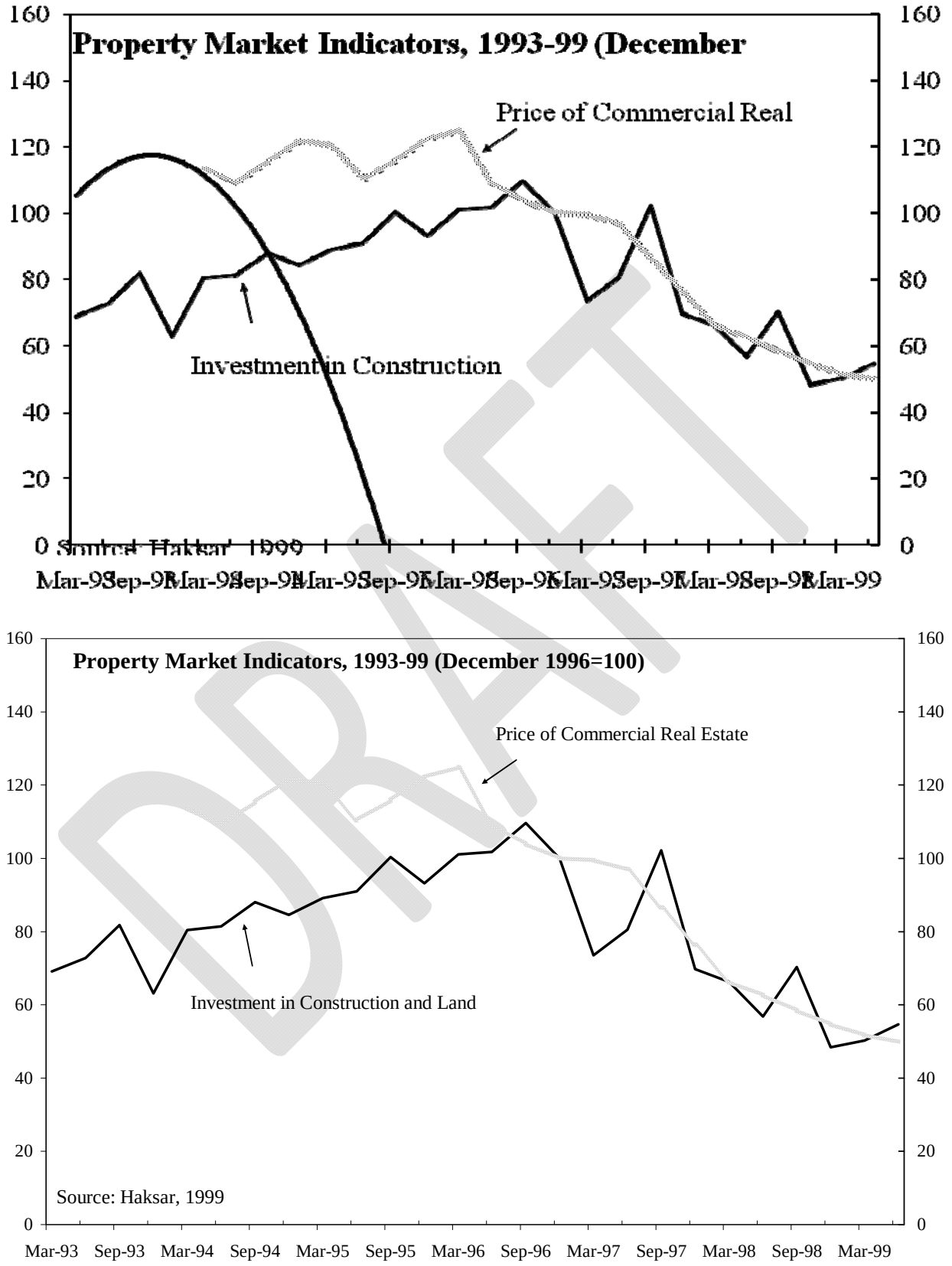
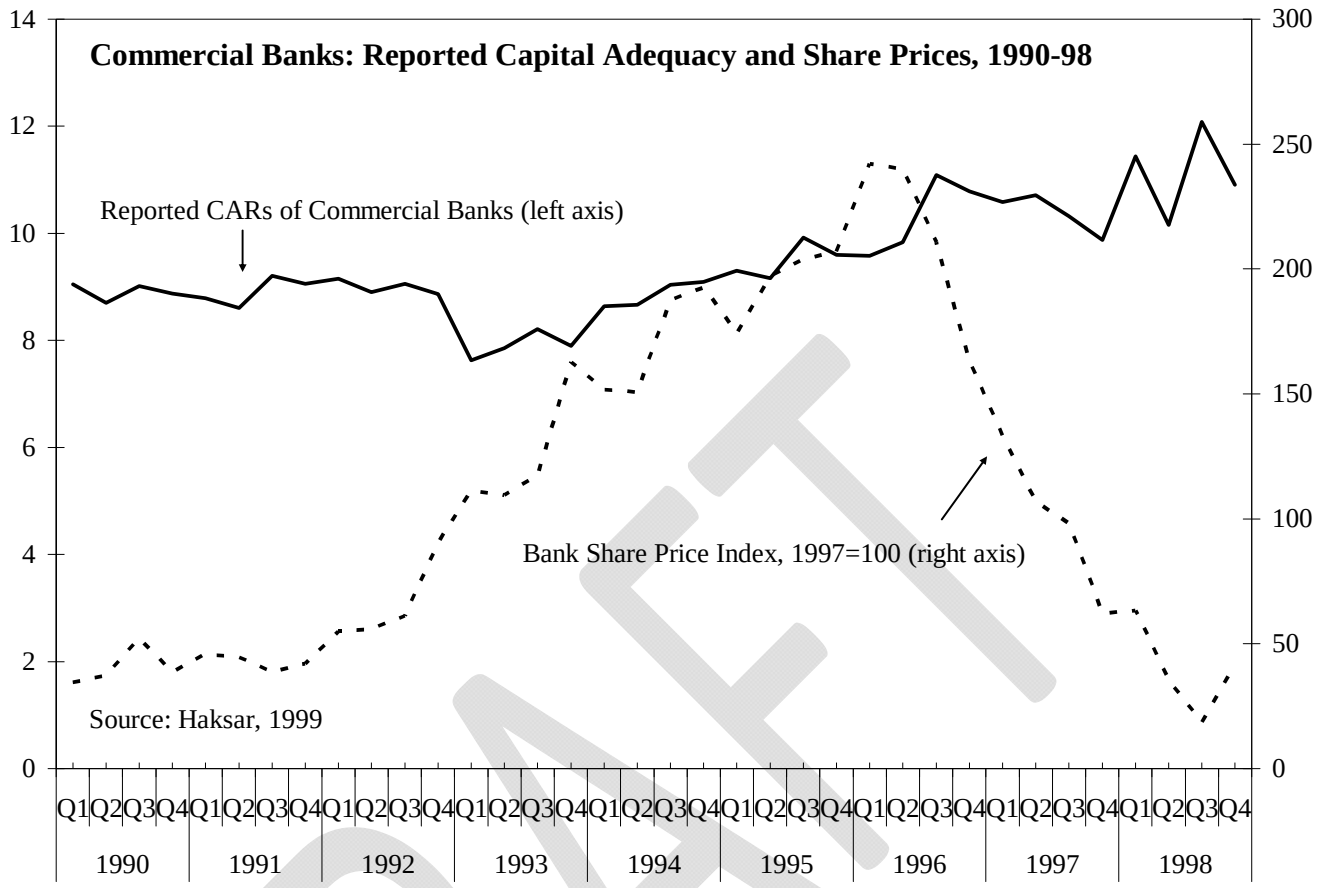


[Figure 1.4.5.a. Source: Financial Crisis and Reform in Thailand 1997-1999, Vikram Haksar.]



[Figure 1.4.5.b. Source: Financial Crisis and Reform in Thailand 1997-1999, Vikram Haksar.]

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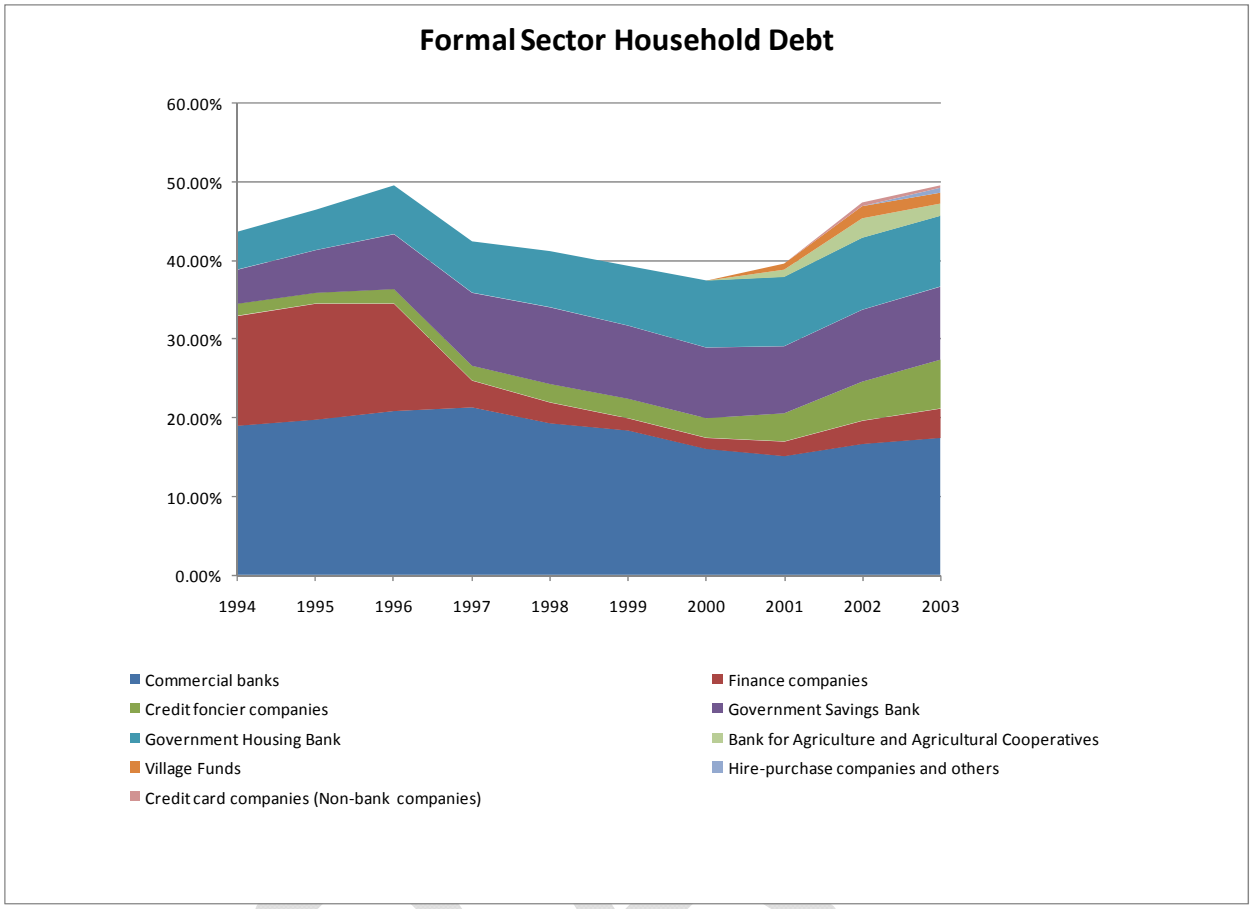

[Figure 1.4.6. Formal Sector Household Debt: Regime Shift in Financial System. Source: Annual Economic Report (2003), Bank of Thailand]

The net effect of this episode, and contemporaneous government efforts to provide stimulus though the financial sector, is that the government's role in the credit sector has increased. Figure 1.4.6. shows that while the share of finance companies and commercial banks has decreased, state control over assets (loans as a percentage) was 10% in mid 1997, and this reached 23% by 1999. The new one million baht funds putting $25,000 in each of 75,000 villages alone sums to approximately 1.5% of GDP. There were new and expanded initiatives with the Government Savings Bank, Peoples' Bank, the BAAC, and SME bank.

In sum, for better or worse, the government's role in the financial system has changed substantially over the years. This will be explored in what follows as we attempt to assess the efficiency of the financial system and the impact of policy change.