

Public Debt and Economic Policy During the Economic Crisis

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December 1999

Abstract. Public debt in Thailand increased substantially between 1997 and 1999, leading to widespread concerns about its near and longer-term impact. This paper discusses the increase in public debt during the crisis and assesses its impact on various monetary and fiscal policy aggregates. Of particular concern is whether the increase in public debt has led or is likely to lead to crowding out of private investment or other types of public expenditure. This paper argues that whether or not this occurs depends not only upon the level of public debt *per se*, but crucially upon the monetary and fiscal stance adopted as well as the uses of public debt.

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1. Introduction

Public debt in Thailand increased substantially during the economic crisis. Central government debt alone increased from less than 177 billion baht in June 1997 to over 959 billion baht in September 1999. Other elements of public debt also rose significantly during this period. The rapid rise in public debt has led to widespread concerns about its impact both in the near and long-term.

This paper assesses the impact of public debt on monetary and fiscal policy aggregates. Of particular concern was whether the increase in public debt has led or will lead to the crowding out of private investment or other types of public expenditure. This paper argues that whether or not these have or will become critical issues depends not just upon the level of public debt *per se*, but also upon the monetary and fiscal stance adopted and the different uses of public debt.

The approach taken in the paper is analytical and descriptive. The short time period, coupled with the macroeconomic setting and the need to disaggregate public debt, make it difficult to conduct meaningful econometric exercises.

The paper is organized as follows. Section 2 provides an overview of public debt in Thailand. The major components of public debt and their evolution during the crisis period are discussed. It is argued that the appropriate definition of public debt depends crucially upon the particular question to be answered. Section 3 evaluates the impact of the increased public debt on monetary and fiscal policy aggregates. Section 4 discusses policy implications and offers some concluding remarks.

2. Public Debt in Thailand: An Overview

2.1 Components and evolution

Public sector debt in Thailand consists of four major components: central government debt; state enterprise debt; FIDF debt; and Bank of Thailand debt.

Central Government Debt

Central government debt, by the definition used by the Comptroller's General Department, is debt incurred by the Royal Thai Government. This component of debt can be further categorized into domestic debt and external debt. Domestic borrowing is largely in the form of promissory notes issued to the Government Savings Bank and treasury bills and bonds held by the Bank of Thailand, various financial institutions, and the general public. External central government debt includes borrowing from both private sources as well as official or semi-official multilateral and bilateral sources. External borrowing occurs in the form of both project as well as adjustment lending.

It should be noted that under the current law [พรบ. กำหนดแผนและขั้นตอนการกระจายอำนาจให้แก่องค์กรปกครองส่วนท้องถิ่น พ.ศ.2542], local governments, which include Bangkok Metropolitan Administration, provincial administrative organizations, district administrative organizations, municipalities, and Pattaya City, are also allowed to incur debt upon the approval of the cabinet. However, the local government has preferred requesting for subsidy from the central government to borrowing. Therefore, this component of public debt is currently low and negligible.

State Owned Enterprises (SOE) and Specialized Financial Institutions (SFI) Debt

Like privately-owned businesses, state owned enterprises and specialized financial institutions incur debt for capital investments and working capital. This includes debt which is both guaranteed and not guaranteed by the government.

Financial Institutions Development Fund Debt

Financial Institutions Development Fund (FIDF) is a separate juristic entity under the Bank of Thailand. It was established in 1985 with the primary objective of stabilizing the financial sector. The FIDF used a large amount of money to rescue ailing financial institutions, especially in 1997. However, the unsuccessful rescue effort resulted in huge liabilities to the FIDF. Although the government has fiscalized 500 billion baht of FIDF debt, FIDF still has a large amount of liabilities currently outstanding as well as future liabilities that will arise from loss sharing and yield maintenance agreements signed as part of the sale of intervened banks.

Bank of Thailand Debt

The Bank of Thailand (BOT) is responsible for monetary policy and international reserve management. Like most monetary authorities, its on-balance sheet liabilities are mainly composed of (1) notes in circulation, (2) liabilities to government, (3) liabilities to financial institutions, and (4) foreign liabilities.

The BOT's foreign liabilities increased significantly during the economic crisis. The reason for the increase is the BOT's entry into the IMF-supported stabilization program due to the depletion of net international reserves since August 1997.

These key components and their evolution during the crisis period are summarized in Table 1.

Table 1: Public Debt Summary

Unit: million baht

Debt Outstanding	June 1997	September 1999	Changes
1. Central Government	176,500	959,685	783,185
1.1 Domestic debt	40,917	598,640	557,723
1.2 External debt	135,583	361,045	225,462
2. State Enterprises			
2.1 Guaranteed	553,079	911,212	358,133
2.2 Non-guaranteed	n/a	403,808 ^{1/}	n/a
3. Financial Institutions Development Fund	1,047,673	959,586	(88,087)
3.1 Liabilities	865,123 ^{2/}	814,595	(50,528)
3.2 Contingent liabilities	182,550 ^{2/}	144,991	(37,559)
4. Bank of Thailand Foreign debt	150	520,692	520,542

Sources: Public Debt Management Office, Office of State Enterprises and Government Securities, Financial Institutions Development Fund, and Bank of Thailand

^{1/} as of June 30, 1999

^{2/} as of November 14, 1997

Central government debt rose 783.2 billion baht between June 1997 and September 1999. The total change comprises a 557.7 billion baht increase in domestic debt and a 225.5 billion baht increase in foreign debt. The major reason for the rise of domestic debt was the partial fiscalization of FIDF debt (500 billion baht), financing budget deficits (40 billion baht), and the issuance of bonds under the tier-1 and tier-2 capital support scheme (39 billion baht).²

Table 2: Changes in Central Government Domestic Debt

Unit: million baht

	Amount
1. New debt incurred	579,321
1.1 Fiscalization of FIDF debt	500,000
1.2 Statutory capital support bonds	
Tier-1	35,500
Tier-2	3,821
1.3 Budget deficit financing	40,000
2. Principal repayment	21,598
Total change	557,723

Source: Public Debt Management Office

With regard to external debt, the main sources of the dramatic increase between June 1997 and September 1999 were two-fold. First, the change in the exchange rate regime in July 1997 led to a large depreciation of the baht. Consequently, the existing government debt, in baht terms, increased approximately

² Principal repayments account for the difference between the total amount of new debt incurred and the 557.7 billion baht increase.

60%, regardless of loans disbursed after June 1997. Second, the government has disbursed several loans to alleviate the private capital outflow problem, to stimulate the economy, and to mitigate the social impact from the economic crisis. The foreign loans accounting for the significant increase in outstanding external debt are shown in Table 3. In addition to these loans, disbursement of numerous committed project loans before the onset of the crisis and a few project loans committed after the crisis also contributed to the increase in external debt.

Table 3: Significant External Loans Disbursed
(between June 1997 and September 1999)

Unit: million USD	
	Disbursed Amount
1. Adjustment loans from multilateral sources	
World Bank	1,350
Asian Development Bank	600
2. Loans under Miyazawa Plan	879
3. Social Investment Project Loan	
World Bank	52
Japan Bank for International Cooperation	26

Source: Public Debt Management Office

Unfortunately, non-guaranteed state-owned enterprise (SOE) and specialized financial institutions (SFI) debt have not been monitored on an ongoing basis. However, the Office of State Enterprises and Government Securities conducted a survey of the outstanding debt without government guarantee in June 1999. The survey indicated that state enterprises had 403.8 billion baht of debt without government guarantee, of which 182.2 billion was external debt and 221.6 billion was domestic debt. With regard to guaranteed debt, domestic guaranteed debt and foreign guaranteed debt rose 85.9 and 272.2 billion baht, respectively, resulting in a total change of 358.1 billion baht during the given period. State enterprise debt is summarized in Table 4.

As of the end of September 1999, the five SOEs and SFIs with the largest amount of outstanding guaranteed domestic debt were the Government Housing Bank (84.9 billion baht), the Express and Rapid Transit Authority of Thailand (76.5), the Electricity Generation Authority of Thailand (44.5), the Petroleum Authority of Thailand (42.2), and the Metropolitan Rapid Transit Authority (17.9). The five collectively accounted for 67.3% of outstanding government guaranteed domestic debt.

As for external debt, the five SOEs and SFIs with the largest amount of outstanding guaranteed debt were the Electricity Generation Authority of Thailand (150.2 billion baht), the Provincial Electricity Authority (53.8), the Petroleum Authority of Thailand (44.0), the Telephone Organization of Thailand (33.2), and the Industrial Finance Corporation of Thailand (31.7). The five accounted for 60.7% of the outstanding guaranteed debt.

Table 4: State-Owned Enterprise and Specialized Financial Institutions Debt
(as of September 30, 1999 except for non-guaranteed debt)

Unit: million baht	
	Outstanding Amount
1. Financial State Enterprises	
1.1 Guarantee	211,288
- Domestic	120,482
- External	90,806
1.2 Non-Guarantee ^{1/}	232,083
- Domestic	151,306
- External	80,777
2. Non-financial State Enterprises	
2.1 Guarantee	699,923
- Domestic	274,897
- External	425,026
2.2 Non-Guarantee ^{1/}	171,726
- Domestic	70,338
- External	101,388

Sources: Public Debt Management Office and Office of State Enterprises and Government Securities

^{1/} as of June 30, 1999

The fourth component, FIDF debt and contingent liabilities decreased by 88.1 billion baht during November 1997 and September 1999. However, if the effect of having sold 475.5 billion baht of the 500 billion fiscalized as of September 1999 were not taken into account, FIDF debt and contingent liabilities would have increased by 387.4 billion baht. This increase is due to the financing cost of the existing debt and additional costs from intervening in troubled financial institutions.

The Bank of Thailand's foreign debt increased by 520.5 billion baht during June 1997 and September 1999. Under the IMF-arranged scheme, the Bank has disbursed 12.7 billion USD from IMF and central banks, which is responsible for escalation of the Bank's foreign liabilities.

2.2 Definitional issues

The exact level of public debt has recently been an issue in dispute. The level of public debt cannot be measured without an appropriate definition of public debt, which depends on the particular question to be answered. Adding up the outstanding debt of the four components does not yield a meaningful figure, and also includes significant double-counting.

If the particular question to be answered is what is the debt burden *currently* borne by taxpayers, then it makes sense to focus only on those components of public debt which have to be borne by the budget. This would exclude Bank of Thailand debt, most state enterprise debt, and FIDF debt (on the grounds that it has not yet been fiscalized). However, this figure does not correspond directly to direct central government debt for several reasons. First, some central government debt, while

nominally incurred by the government, was lent to state enterprises who are responsible for servicing the debt, creating no burden for the budget. Proceeds from several issues of Samurai bonds, for example, were lent to Thai Airways International on this basis. In addition, the bonds issued under the tier-2 capital support facility do not create any net burden on the budget. As of September 1999, the outstanding amount of this type of debt was 101.5 billion baht.

Second, some government guaranteed state enterprise debt results in a burden to the budget because of Cabinet resolutions to either fully or partially service these debts. As of the end of September 1999, 62.0 billion baht of the outstanding debt of four state enterprises—the Metropolitan Rapid Transit Authority, the State Railway of Thailand, the Express and Rapid Transit Authority of Thailand, and the Bangkok Mass Transit Authority—fell in this category. Taking these two adjustments together yields 920.2 billion baht ($= 959.7 + 62.0 - 101.5$) as the amount of public debt which currently is a burden on the budget.

If the concern is crowding out of credit demand by the private sector, it may make sense to focus on the credit used by the public sector as a whole, but excluding debt used to carry out its financial and monetary functions.³ This would suggest focussing on central government debt, both guaranteed and non-guaranteed debt of non-financial state owned enterprises, and possibly FIDF debt. Financial state-owned enterprise (SOE) debt should not lead to crowding out as funds are subsequently lent.

Including financial SOE debt also leads to some data and conceptual problems. First, inclusion of financial state enterprises in the scope causes double counting problems due to their financial intermediary role. Debt raised by the Government Saving Bank which is subsequently lent to the Petroleum Authority of Thailand would, for example, be counted twice if the debt of both agencies were added together.⁴ Second, it raises the conceptual issue of how to treat the other liabilities of the financial SOE. For those financial SOEs which also have deposits, for example, why should one type of liability (debt) be counted while other types (deposits) are not? It is worth noting that the Government Statistics Finance (GFS) Manual of the International Monetary Fund also places the debt of financial SOEs and the central bank outside its definition of public sector debt. The intention of GFS is to separate monetary and financial activities from fiscal activities.

If the question is to assess the total liabilities—contingent and otherwise—which need to be borne by the government, then it no longer makes sense to focus simply on the above four components of public debt. Social security benefits and government employee pension payments also constitute government liabilities. All

³ If domestic crowding out is the specific issue, then it may also make sense to focus only on domestic borrowing. However, to the extent that (1) public foreign borrowing taps external funds which would otherwise have been available for private markets or (2) the Bank of Thailand sets a rigid base money target and reduces net domestic assets for any increases in net foreign assets caused by government borrowing, government foreign borrowing can also crowd out private credit demand.

⁴ Indeed, this is what presently happens given the manner in which state enterprise debt data is reported.

deposits in commercial banks and finance companies are currently guaranteed by the government, and therefore also constitute contingent liabilities for the government. Incorporating the latter would add over 4.9 trillion baht to government contingent liabilities! Conceptually, there is little reason to distinguish between the government's contingent liabilities with regard to guaranteeing (say) an EGAT bond and from guaranteeing the deposits of troubled financial institutions. In fact, in terms of valuing contingent liabilities, it is clear that the former has had a lower cost to the government than the latter.

3. The Impact of Public Debt

3.1 Public debt and monetary policy

As shown in the preceding section, many categories of public debt increased rapidly during the period of the economic crisis. Of concern from the standpoint of monetary policy is whether such an increase in government borrowing and the resulting buildup in public debt resulted in any inflationary pressure or crowding out of private sector borrowing. As discussed below, neither appeared to have occurred to any significant degree.

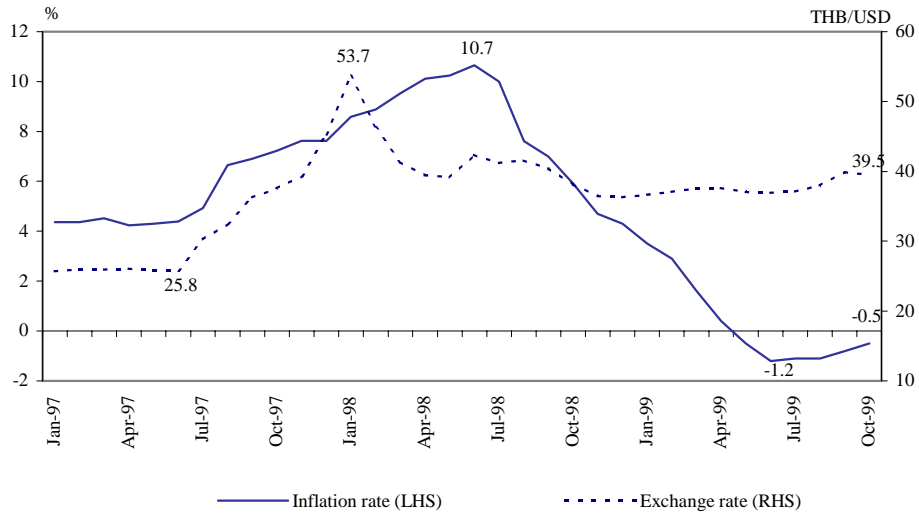
3.1.1 Reserve money and inflation

From a theoretical standpoint, it is possible that an increase in government debt financed by borrowing from the Bank of Thailand or from external sources could be inflationary if it leads to an expansion of reserve or broad money. The monetary base, or reserve money, is equal to the sum of net foreign assets (NFA) and net domestic assets (NDA) of the Bank of Thailand (BOT).⁵ Increases in either NFA or NDA due to government borrowing could therefore increase reserve money and potentially contribute to inflationary pressure.

As indicated in the following chart, in actuality inflation peaked in June 1998 and declined steadily before bottoming out in the middle of 1999. The inflation peak was largely a lagged response to the depreciation of the exchange rate. Therefore, in no way did increasing public debt result in inflationary pressure. However, this still leaves the question of the impact of the increased public debt on reserve money, which we address below.

⁵ NFA consists of gross reserves less foreign liabilities. NDA consists of net claims of the BOT on the government, nonfinancial public enterprises, and financial institutions.

Chart 1: Inflation Rate and Exchange Rate

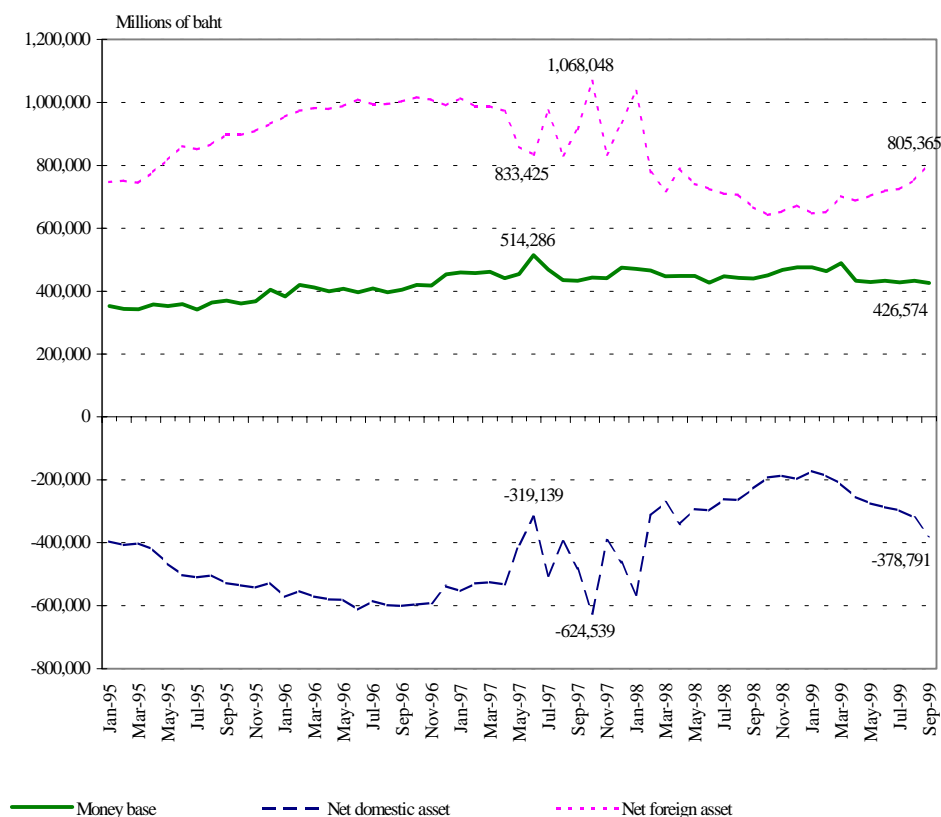


Source: Bank of Thailand

While broad money (M2A) did increase somewhat, this was largely due to an increase in the money multiplier, which rose from 9.5 in August 1997 to 11.1 in August 1999. As illustrated in Chart 2, one of the salient facts of monetary policy during the economic crisis is that the Bank of Thailand kept reserve money largely constant throughout. Reserve money was 426 billion baht in September 1999, compared to 435 billion baht in August 1997.⁶

⁶ The average month-end figure for the period from August 1997 to September 1999 was 449 billion baht.

Chart 2: Reserve Money



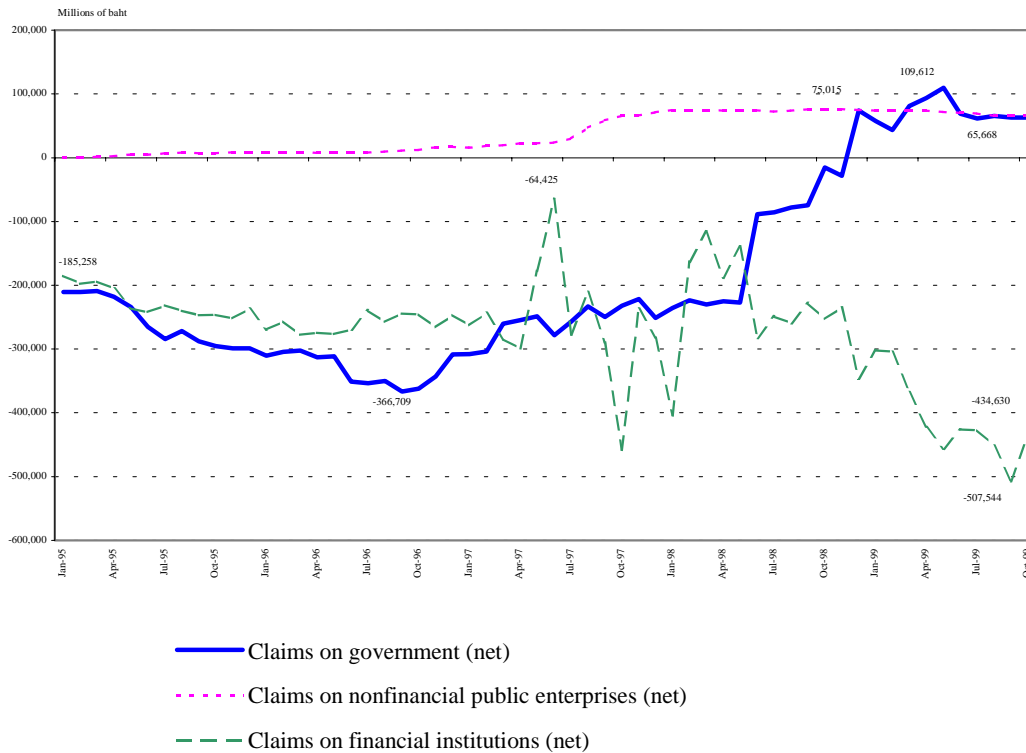
Source: Bank of Thailand

Although reserve money was fairly level, its components changed substantially. NFA declined somewhat steadily from May 1998, bottomed out in October, and subsequently increased fairly steadily.

NDA showed a near mirror-image movement. Chart 3 shows the breakdown of NDA. As can be seen, net claims on non-financial public enterprises (NFPE) have been fairly stable since end-1998. However, net claims on government increased sharply during this period.⁷ Net claims on government stood at -227.4 billion baht in May 1998 and rose to a peak of 109.6 billion baht in May 1999, before declining to 63.8 billion baht in September 1999. By contrast, net claims on financial institutions declined sharply during this same period, falling from -139.3 billion baht in May 1998 to -507.5 billion in September 1999. This decline in net claims on financial institutions offset the increase in net claims on the government. As a result, NDA rose only moderately, from -293.0 billion baht in May 1998 to -378.8 billion in September 1999.

⁷ Net claims on government are defined as gross claims less currency, deposits, and other liabilities to the government.

Chart 3: Breakdown NDA



Source: Bank of Thailand

It should be emphasized, however, that this increase in net claims on government was not due solely to increased (gross) government borrowing. Although the government has consistently run deficits since FY98, these deficits were initially financed not by additional borrowing, but by drawing down treasury reserves. Gross claims on government increased by 117.6 billion baht between May 1998 and September 1999, while government currency and deposits declined by 172.0 billion baht.

From the above discussion, we can conclude that increased government borrowing—in both gross and net terms—did not contribute to inflationary pressure because it did not result in an expansion of reserve money. Of course, this is in turn a result of the policy decision by the Bank of Thailand to maintain reserve money at these levels. Given that a certain level of reserve money was desired or targeted, one question that immediately follows is whether increased government borrowing crowded out other forms of credit. We turn to this question in the following section.

3.1.2 Crowding out

A significant portion of the increase in public debt during the economic crisis was financed domestically. This raises the possibility that the increase in public sector borrowing may have crowded out credit to the private sector.⁸ As shown in

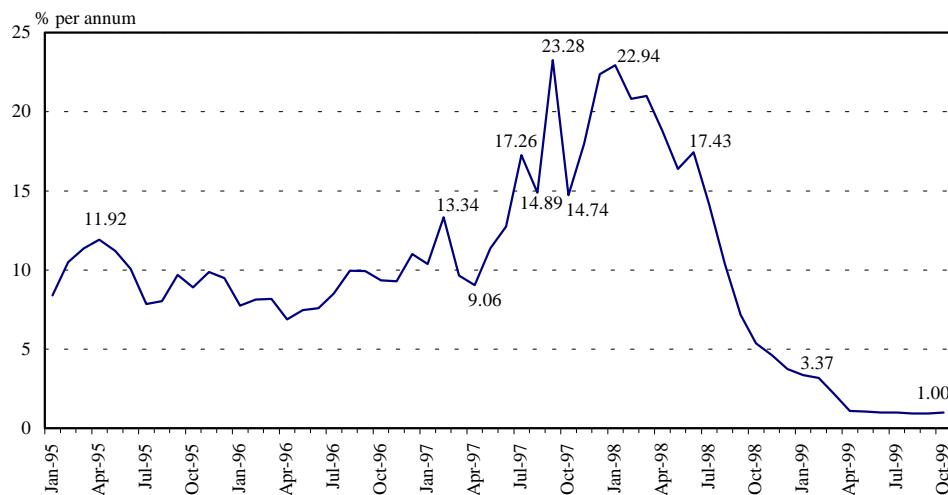
⁸ Debt-financed public expenditures may not affect aggregate demand and interest rates if Ricardian equivalence holds. This is discussed briefly in Section 4 below.

Chart 3, a breakdown of NDA during this period indicates a sharp increase in net claims on government accompanied by a sharp decline in net claims to financial institutions. Taken at face value, Chart 3 could provide grounds for claiming that increased public borrowing crowded out credit to the private sector.

However, crowding out requires assessing both demand and supply side factors. The NDA breakdown shows that the supply of credit to private financial institutions did decline. But if credit demand also fell, then there may have been little crowding out. A useful summary indicator of whether there is any strong crowding out effect is the domestic interest rate, the price which reflects the demand and supply of credit.

There are numerous interest rates--e.g., various repurchase rates, the interbank rate, and the minimum lending rate. Broadly speaking, however, these interest rates—especially the repurchase (R/P) rates of various maturities—followed a similar pattern during the economic crisis. For ease of reference, we will refer to the seven-day repurchase rate. As shown in Chart 4, this interest rate declined fairly steadily from nearly 23% in January 1998 to around 1% in October 1999. The decline was especially marked during the period between June (17.4%) and October (5.4%) of 1998.

Chart 4: 7 Day R/P Rate



Source: Bank of Thailand

The decline in interest rates, of course, resulted from a variety of factors, e.g., a stable exchange rate and declining inflation. But the key point for our purposes is that interest rates during 1998 and 1999 declined steadily while domestic public sector debt increased throughout this period, indicating that there was little evidence of

crowding out due to increased public sector borrowing.⁹ Several factors appear relevant.

First, the macroeconomic contraction reduced the demand for credit from the private sector. The contractionary macroeconomic environment of the past several years is well known and does not bear repeating here. What is worth highlighting are the results of a study by the Research Department of the Bank of Thailand which suggests that the slow growth in bank lending reflected slow growth in demand for lending as well. The study found that although the demand for loans fell substantially in 1998, the ratio of the amount of loans approved to the demand for loans remained high at over 83% in 1998, and increased to over 89% for the first nine months of 1999.

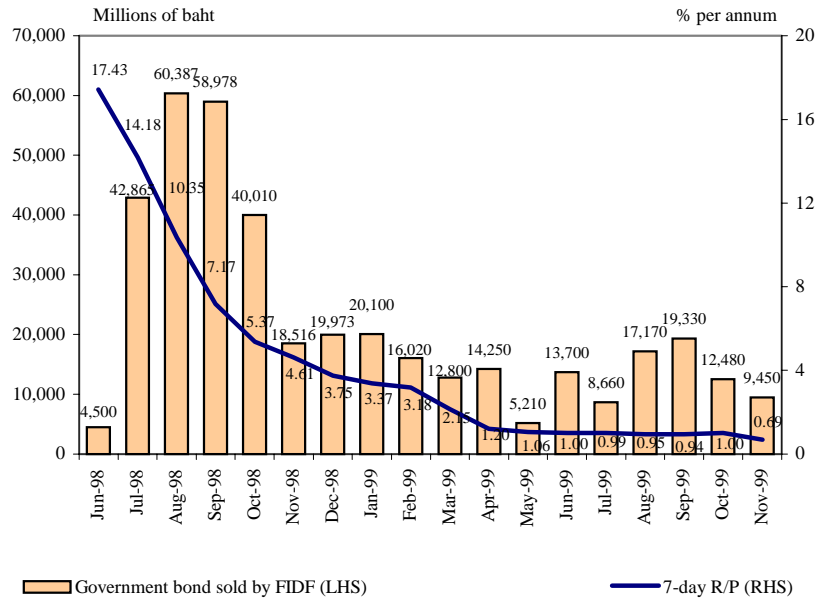
Second, to the extent that there was a credit crunch, this may have been attributable to capital constraints among financial institutions rather than to competing demand for funds from the public sector. Although currently there is high liquidity among financial institutions, commercial bank lending growth remains lackluster. Year-on-year growth rates of commercial bank credits excluding BIBF increased by only 0.1%, 1.0% and 2.7% during August, September and October 1999.

Third, and most importantly, a significant part of the public debt buildup was of a sort that would have alleviated problems in the credit market. Of the 579 billion baht increase in domestic central government borrowing between June 1997 and September 1999, approximately 500 billion was used to fiscalize debt of the Financial Institutions Development Fund (FIDF), and 39 billion to recapitalize private financial institutions via the Tier 1 and Tier 2 Capital Support Facility announced on August 14, 1998. The 500 billion baht fiscalization did not represent a net new increase in public sector borrowing, but was a conversion of FIDF short-term debt into long-term central government debt. Rather than contribute to crowding out, this fiscalization helped substantially to *lower* interest rates by reducing distortions in the short-term money market caused by large FIDF borrowing. Chart 5 shows the amount of government bonds auctioned by the FIDF.¹⁰ The auctions began in June 1998, and over 200 billion baht of bonds were issued by October 1998. This corresponds to the period when short-term interest rates came down markedly.

⁹ In principle, an increase in foreign borrowing could decrease domestic interest rates by increasing reserve money. However, as noted above, the Bank of Thailand kept reserve money largely constant during this period.

¹⁰ This does not total 500 billion because the remainder is held by the Bank of Thailand.

Chart 5: Government Bonds Sold by FIDF and 7-day R/P Rate



Source: Bank of Thailand

Of the 229 billion increase in foreign borrowing by the central government, 13 billion baht was earmarked for the capitalization and recapitalization of financial institutions and 40 billion baht for onlending.¹¹ Furthermore, of the 231 billion baht increase in government guaranteed debt between November 1997 and September 1999, 54 billion baht was for financial public enterprises.¹² Since this debt improves the liquidity of the financial public enterprises and may be used for onlending, such public sector borrowing should not lead to crowding out of the private sector.

Looking Forward

There appears to have been little crowding out in the past few years from increased government borrowing. However, as the economy recovers and private demand for credit increases, it is possible that crowding out becomes more of an issue in the future, especially with further increases in government debt.

Government debt will increase from two sources: further fiscalization of FIDF losses and additional deficit financing. The former should not result in crowding out because it will simply be a conversion of extant debt from one source and maturity to another. While the latter could potentially contribute to crowding out,

¹¹ Of the 13 billion capitalization, 7 billion was used to recapitalize IFCT (6) and Thai EXIM (1); and another 6 billion was for initial capitalization (of which 4 billion for Radhanasin Bank). The 40 billion for onlending includes the Asset Management Corporation (14); the Government Housing Bank (12); and the Bank for Agriculture and Agricultural Cooperatives (9).

¹² Unfortunately, reliable time-series data on non-guaranteed public enterprise debt is currently not available.

it is important to remember that crowding out can be alleviated through accommodative monetary policy. Assessing the likelihood of crowding out therefore requires assessing the tightness of monetary policy.

A full-fledged analysis of the appropriate monetary stance is far beyond the scope of this paper and is properly under the purview of the Bank of Thailand. However, a rough assessment of the near-term outlook as it relates to public sector borrowing may be worthwhile. Table 5 shows the quarterly changes in the monetary program as indicated in recent Letters of Intent signed with the IMF.¹³ The 1999 fourth quarter (December 1999) program figures show NDA increasing by 44 billion, with net claims on the public sector (NCPS) increasing by 25 billion. What is worth noting is that the program figures for the first quarter of 2000 indicate no increase in reserve money with NDA *decreasing* by 17 billion, but NCPS *increasing* by 25 billion. Should private demand for credit increase significantly with the economic recovery, crowding out could potentially become an issue with the monetary program figures as currently specified.

Table 5: Quarterly Changes in Monetary Program

Unit: billion baht

Quarter	Reserve Money	NDA	Cumulative Government Balance	Net claim on Public Sector
Dec. 1998				
Mar. 1999	19	-95	-54	-80
Jun. 1999	-63	1	47	-6
Sep. 1999	5	18	-62	186
Dec. 1999	-47	44	50	25
Mar. 2000	0	-17	-5	25

Source: LOI, BOT Monthly Bulletin

Notes:

December 1998 to June 1999 figures are actuals.

NCPS is revised series (December 1998).

March 1999: Reserve and NDA are end-period BOT figures; CGB is target figure.

Whether or not reserve money and NDA are “too tight” depends upon the outlook for the economy as a whole. Table 6 provides some basic monetary indicators. The figures for CY 1999 are derived from growth rates as indicated in LOI 8. Program figures for 2000 are not available. The money multiplier in 1999 is implicitly expected to grow by 4.4%. This appears broadly reasonable. The figure is lower than that of last year (5.9%), and the financial sector arguably considerably more stable this year. The multiplier for the second and third quarters also grew by 10.6% and 1.9% from the previous period, respectively. However, the program

¹³ It should be noted that the data reported in the LOIs signed with the IMF differ from those reported in the monetary survey of the Bank of Thailand for several reasons. First, the reserve and NDA data are based on a 10-day end-of-period average, as opposed to the end of period data recorded in the BOT Monthly Bulletins. Second, the net claim on public sector (NCPS) figure is an adjusted figure which excludes various costs associated with financial sector restructuring (e.g., FIDF bonds held by banking system). The unadjusted NCPS figure reported in the Monetary Survey for end-June 1999 was 43.2 billion baht. The adjusted NCPS figure reported in LOI 8 was -360.8 billion baht.

figures also imply **negative** velocity growth of **-1.5%** for 1999. Velocity growth was negative for last year overall (-7.9%), and negative for the first and second quarter of 1999 as well (-3.5% and -5.3%, respectively). However, third quarter velocity increased by 4.4%. If actual velocity turns out to be lower than projected under the program, the monetary program could prove to be too tight, and exacerbate any possible crowding out effects due to government borrowing. However, the fact that the exchange rate is stable and inflation is below its likely long-term target level suggests that there should be sufficient scope for relaxing the monetary stance should the need arise.

Table 6: Monetary Indicators

Unit: billion baht

	Calendar Year			Quarter		
	1997	1998	1999	1999:Q1	1999:Q2	1999:Q3
Levels						
Nominal GDP	4,724,107	4,642,204	4,851,103	1,179,383	1,104,338	1,158,822
M2A	4,821,794	5,118,058	5,425,141	5,126,230	5,074,142	5,101,700
Reserve money	474,136	475,249	482,853	489,064	432,290	426,574
Growth rates						
Nominal GDP	2.5%	-1.7%	4.5%	-3.3%	-6.4%	4.9%
M2A	2.0%	6.1%	6.0%	0.2%	-1.0%	0.5%
Reserve money	4.7%	0.2%	1.6%	2.9%	-11.6%	-1.3%
Implied velocity	0.5%	-7.9%	-1.5%	-3.5%	-5.3%	4.4%
Implied money multiplier	-2.6%	5.9%	4.4%	-2.7%	10.6%	1.9%

Source: NESDB, Bank of Thailand, LOI

Note: 1999 CY figures based on LOI 8 growth rates.

3.1.3 International reserves and the exchange rate

External public debt also has a direct impact on the exchange rate by building up international reserves. Bank of Thailand borrowing from the IMF and co-financing central banks was used specifically for balance of payments support. As of December 3, 1999, this figure stood at 12.7 billion USD. However, it should be noted that the sharp increase in net international reserves is not largely due to external public borrowing. “Net-net” international reserves (gross reserves less forward obligations less borrowing from the IMF and cofinancing central banks) stood at 2.9 billion USD at the end of June 1997.¹⁴ As of December 3, 1999, this figure reached 17.1 billion USD, an increase of 14.2 billion.

Part of this increase was due to public external debt. Based on Comptroller-General Department figures, central government and guaranteed state enterprise external borrowing between June 1997 and September 1999 increased by 3.5 and 3.1 billion USD, respectively, for a total of 6.6 billion USD. However, this last figure represents very much an upper bound to the contribution to “net-net” international reserves, as not all of the funds borrowed by state enterprises need to be converted at the Bank of Thailand.

¹⁴ The lowest point was on 28 July 1997 when “net-net” reserves stood at 200 million USD.

3.2 Public Debt and Fiscal Policy

There has been a long debate in academic circles about whether or not it makes any difference if public expenditures are financed by taxes or debt. The argument, generally referred to as Ricardian equivalence, is based on the premise that consumers recognize that additional public expenditures eventually have to be funded by future additional taxes. Rational, forward looking consumers reduce spending and save more in anticipation of this future tax liability. Government deficits therefore would not affect aggregate demand. The conditions required for Ricardian equivalence are rather stringent and unlikely to hold in practice.¹⁵ This paper therefore does not test Ricardian equivalence and assess whether debt-financing of public expenditures provided an effective fiscal stimulus to the Thai economy during the crisis.¹⁶ The section will instead focus on two practical issues regarding debt which have implications for fiscal policy: (1) to what degree is fiscal policy likely to be constrained by the legal framework on contracting debt; and (2) how worrisome is the budgetary burden of the increased public debt.

3.2.1 Legal restrictions

There are several legal restrictions on public sector borrowing. These can be broadly broken down into restrictions on direct borrowing, on government guaranteed debt, and on external public debt service payments.

Restrictions on direct borrowing

Two laws have a direct bearing on fiscal policy. First, according to Article 9 of the Budgetary Appropriation Act B.E. 2502 [พรบ.วิธีการงบประมาณ พ.ศ.2502], borrowing to finance the budget deficit (as submitted to Parliament) must not exceed 20% of expenditures in the budget plus 80% of principal repayment expenditures in the budget. Second, article 3 of the Act authorizing the Ministry of Finance to borrow from abroad B.E. 2519 [พรบ.ให้อำนาจกระทรวงการคลังกู้เงินจากต่างประเทศ พ.ศ.2519] limits commitments on foreign direct borrowing to less than 10% of expenditures in the budget.

During the crisis, the government also issued three emergency decrees authorizing it to borrow above and beyond the above general restrictions. First, Article 3 of the Decree authorizing the Ministry of Finance to fiscalize FIDF debt B.E. 2541 [พรก.ให้อำนาจกระทรวงการคลังกู้เงินและจัดการเงินกู้เพื่อช่วยเหลือกองทุนเพื่อการฟื้นฟูและพัฒนาระบบสถาบันการเงิน พ.ศ.2541] authorized the Ministry of Finance to borrow up to 500 billion to fiscalize FIDF debt. Second, article 3 of Decree authorizing the Ministry of Finance to borrow for strengthening the financial sector B.E. 2541 [พรก.ให้อำนาจกระทรวงการคลังกู้เงิน

¹⁵ To the extent that the future tax liabilities fall on future generations, Ricardian equivalence requires the current generation to internalize fully the liabilities of future generations by granting bequests. It also requires capital markets to function well enough that consumers are able to optimize their intertemporal consumption without facing any cash constraints.

¹⁶ For an example of how various authors have assessed the impact of debt-financed public expenditures on interest rates, see Evans, Paul. "Do Budget Deficits Raise Nominal Interest Rates? Evidence from Six Countries." *Journal of Monetary Economics* 20 (1987) 281-300.

เพื่อเสริมสร้างความมั่นคงของระบบสถาบันการเงิน พ.ศ.2541] authorized the Ministry of Finance to borrow up to 300 billion baht by December 31, 2000 as part of its Tier 1 and Tier 2 capital support facility. Third, article 3 of the Decree authorizing the Ministry of Finance to borrow for rehabilitating the economy B.E. 2541 [พ.ร.ก.ให้อำนาจกระทรวงการคลังกู้เงินจากต่างประเทศเพื่อฟื้นฟูเศรษฐกิจ พ.ศ.2541] authorized the Ministry of Finance to borrow externally up to 200 billion baht by December 31, 2000 to rehabilitate the economy.

Overall, the borrowing restrictions do not appear to have been a binding constraint for fiscal policy. Table 7 lists the ceiling imposed by Article 9 of the Budgetary Appropriation Act B.E. 2502 and actual or planned borrowing to finance the budget deficit. Since much of the budget deficits of FY2541 and FY2542 were financed by drawing down treasury reserves, the government borrowing to finance these deficits was far below the levels imposed by legal restrictions.

Table 7: Deficit Financing

Unit: million baht

Fiscal Year	Budget Expenditure	Principal Repayment Expenditure	Upper Limit for Deficit Financing	Actual or Planned Borrowing for Deficit Finance
1998	923,000 ^{1/}	31,236	209,589	-
1999	825,000	5,350	169,280	40,000
2000	860,000	7,320	177,856	110,000

Source: Budget of Bureau and Public Debt Management Office

Note: ^{1/} Before expenditure cut.

The picture is slightly different for foreign borrowing. As indicated in Table 8, reliance solely on the ceiling imposed by Article 3 of the Act authorizing the Ministry of Finance to borrow from abroad B.E. 2519 would have been inadequate given the level of foreign borrowing in FY2542. For this reason, the government had to rely on Article 3 of the emergency decree authorizing the Ministry of Finance to borrow for rehabilitating the economy B.E. 2541 for some of its foreign borrowing.¹⁷ Significant legal headroom remains for FY 2543.

¹⁷ This includes the 53 billion additional expenditures in the March 30 economic stimulus package.

Table 8: Foreign Loan Commitments

(Actual Commitments for FY 1998 and FY 1999; Planned Commitments for FY 2000)

Unit: million baht

Fiscal Year	Amount Committed (1)+(2)	Loans Committed under the Act		Loans Committed Under the Decree (200 billion baht)		
		Upper Limit	Amount Committed (1)	Amount Committed (2)	Amount Accumulated	Amount Remaining
1998	86,999	92,300 ^{1/}	86,999	-		
1999	95,974	82,500	36,570	59,404	59,404	140,596
2000	67,706	86,000	52,228	15,479	74,883	125,117

Source: Public Debt Management Office

Note: ^{1/} Before expenditure cut.

Restrictions on guaranteeing debt

There are both stock and flow legal restrictions on guaranteeing debt for state-owned enterprises (SOE) or specialized financial institutions (SFI). Stock restrictions specify that the Ministry of Finance can guarantee debt of a SOE or SFI only up to a certain multiple of its capital, which includes paid-up capital, reserves, and unappropriated retained earnings. Flow restrictions govern the amount of debt the government can guarantee in a given year. A critical distinction is whether the SFI or SOE in question has its own law.

For SFIs and financial SOEs with their own law, the government can only guarantee debt up to a certain multiple of its capital (usually 12, as in the case of the Bank for Agriculture and Agricultural Cooperatives; the Export-Import Bank of Thailand; the Industrial Finance Corporation of Thailand; the Small Industry Finance Corporation; the Small Industry Credit Guarantee Corporation). For other SOEs with their own law, no such stock restriction exists, but provision of government guarantees must be in accordance with a Cabinet-approved business plan.

For SOEs without their own law, the Ministry of Finance can guarantee debt no more than four to six times their capital, and the amount guaranteed in each year cannot exceed 10% of budget expenditures.

In all cases, the amount of foreign debt guaranteed must also be included in each year's foreign borrowing plan and be below the ceiling specified in the plan.

Restrictions on debt service payments

According to the National Borrowing Regulation B.E. 2528 [ระเบียบการก่อหนี้ของประเทศไทย พ.ศ.2528], the ratio of foreign debt service payments of the public sector to earnings from the exports of goods and services must not exceed 9% within a five-year period. As indicated in Table 9, while this ratio is expected to increase, it is still expected to remain significantly below the 9% ceiling. As with other legal restrictions discussed above, significant headroom still remains.

Table 9: Public Sector Debt Service Ratio

Fiscal Year	Debt Service Ratio (Percent)
1999	3.4
2000	4.0
2001	4.3
2002	4.6
2003	4.9
2004	5.4
2005	5.2
2006	5.9

Source: Public Debt Management Office

3.2.2 Budgetary burden

Based on the discussion in the preceding section, legal restrictions regarding public debt do not appear to constitute a binding constraint for fiscal policy. However, a more binding constraint on public debt is the burden it creates on the budget. Excessively high debt service payments run the risk of crowding out other types of public expenditure in the budget and contributing to deficits in the coming years.

The budgetary burden of public debt comes from interest, fee, and principal repayments that have to be borne by the budget. As discussed earlier, not all public debt creates a debt service burden for the budget. Based on our debt and fiscal model, we project that debt service payments as a percentage of total budgetary expenses could reach at least 14.7% in FY 2004, compared to 9.5% in FY2000. Central government debt as a share of GDP should reach 25.5% in 2001, prior to declining to 23.8% in FY 2004. Including guaranteed SOE and SFI debt would bring the share to about 43.0% in FY2004. As a share of GDP, the budget deficit should peak in FY2001, prior to declining to about 1.5% in FY2004. *This is based on the assumptions indicated below, and does not include any additional fiscalization of FIDF debt. The projection also assumes that the remaining balance of the 500 billion baht fiscalized debt, 15 billion deficit financing of FY1999, and new deficit financing are rolled over.*

While the government will need to fiscalize additional FIDF losses, the net loss from FIDF operations is still unclear.¹⁸ Each 100 billion of additional fiscalization of FIDF losses would add roughly 7.5 billion in annual interest payments to the government budget (assuming a government interest rate of 7.5 %); raise the deficit:GDP ratio by 0.1 percentage points; increase the share of debt service to total expenditures by about 0.3 percentage points in; and increase the central government debt:GDP ratio by 1.6 percentage points in FY2004.

¹⁸ For example, the gain loss sharing and yield maintenance agreements signed as part of the sale of the intervened banks last for five years.

Table 10: Assumptions used for base case analysis

Fiscal Year	2000	2001	2002	2003	2004
Nominal GDP growth (%)	4.8	7.4	8.0	8.5	9.1
Exchange rate (THB/USD)	39.0	39.0	39.0	39.0	39.0
Elasticity of revenue	1.0	1.0	1.0	1.0	1.0
Recurrent expenditure growth (%)	6.0	6.0	6.0	6.0	6.0
Interest rate (%)	6.5	6.5	7.0	7.0	7.5
New project loans committed (million USD)	685.4	300.0	300.0	300.0	300.0
Adjustment loans disbursed (million USD)	1,409.0	800.0	500.0	500.0	500.0

The above projections are, of course, a function of the assumptions and the structure of the model used. We consider first the impact of changing assumptions. A one percentage point increase in the interest rate over the baseline scenario would increase debt service payments as a share of government expenditures to 15.3% in FY 2004 (an increase of 0.6%); the budget deficit as a share of GDP to 1.7%; and central government debt to GDP to 24.1%. A one percentage point increase in the growth rate of current expenditures reduces the share of debt service payments slightly, but raises the deficit and central government debt to 2.0% and 24.8% of GDP in FY2004, respectively. By contrast, a one percentage point increase in nominal GDP growth reduces the share of debt service payments to 14.3% (a decrease of 0.4%); and lowers the budget deficit and central government debt to 0.8% and 21.3% of GDP in FY2004, respectively.

Even more critical than the assumptions employed is the structure and “closure” of the model. In the above projections, the policy variables are desired growth in current and capital expenditure, with the budget deficit treated as a residual. This has the effect of causing the deficit and debt as a share of GDP to increase, while mitigating the crowding out effect caused by higher debt service payments.

By contrast, treating the deficit as the key policy variable targeted and letting current or capital expenditures act as a residual would have a significantly different impact. Suppose, for example, that a balanced budget was desired in FY2004. Aggregate expenditures would be given by aggregate revenues. Debt service payments then determine how much residual expenditure is left over for capital and recurrent expenditures. We therefore get “full crowding out” of other expenditures by debt service payments. In principle, debt service payments could crowd out either capital or current expenditures. In practice, barring broad civil service reform, it is extremely difficult to cut significantly non-interest, recurrent expenditures which consist largely of wages and salaries. With a deficit target, it is therefore likely that capital expenditures become the residual in practice.

Under the above, alternative scenario, debt service payments as a share of total expenditures increases to 16.1%, surpassing the share of capital expenditures at 15.5%. With a fixed deficit target, each one baht increase in debt service or recurrent expenditures decreases capital expenditures by one baht. But the crowding out of capital expenditures occurs more as a result of the increase in recurrent expenditures. Projected debt service payments increase by less than 90 billion between FY 2000 and FY 2004, while recurrent expenditures increase by over 148 billion over the same

period. *This is based on growth in recurrent expenditures of only six percent per annum, which is considerably below historical levels.* This suggests that controlling non-interest, recurrent expenditure growth is crucial to minimize crowding out.

What may we conclude from the above? Debt service payments are likely to be a significant burden on the budget. Even without additional fiscalization of FIDF debt, the share of debt service expenditures in the budget will increase significantly over the next few years. How significant a burden this represents, and how much crowding out of other—probably capital—expenditures will occur depends heavily on several key factors.

First is how well FIDF operations are managed. The higher are asset recovery levels and the prices received for the bank shares held by FIDF, the lower are the losses that the government needs to fiscalize. Second, how well can growth in recurrent expenditures be contained. At present trends, a much larger portion of the budget will be consumed by growth in recurrent expenditures as opposed to debt service payments. Third, and most importantly, is the fiscal stance. If the government chooses a stringent deficit target, e.g., by aiming for a balanced budget, the crowding out effect on capital expenditures will become more pronounced.

This last point raises the issue—as was the case in the discussion in the preceding section on monetary policy—of how much scope there is for choosing a less stringent policy stance. In the near term on the macroeconomic front, the current account is not likely to be a constraint on running fiscal deficits. In the event that the current account swings sharply into deficit, then domestic demand would have recovered sufficiently to eliminate the need to provide a fiscal stimulus.

Running additional deficits obviously builds up additional public debt. But maintaining an excessively stringent fiscal policy in the near-term could also lead to problems by reducing the stimulus to support the ongoing economic recovery as well as crowding out needed capital expenditures, which have already been scaled back significantly. Budgetary capital expenditures (i.e., excluding foreign-financed capital expenditures) in FY2000 are roughly the same level as they were in FY1994 in *nominal* terms. Capital expenditures are likely to continue to be under pressure due to additional expenditures required under the new Constitution; further revenue losses from the comprehensive tariff reform exercise currently under consideration; and additional fiscalization of FIDF losses.

On balance, there appears to be some scope for maintaining some flexibility in the immediate and near-term fiscal stance, especially given the need to accommodate needed expenditures. Refinancing would also reduce the budgetary burden from principal repayments. Over the medium-term, however, there is less scope for such an accommodative fiscal stance due to likely changes in the macroeconomic environment, notably stronger private domestic demand and larger current account deficits. Over the longer-term, the needed fiscal adjustment is likely to require structural measures to contain the growth of recurrent expenditures. In FY2000, non-interest, recurrent expenditures grew by over 8 percent. At this rate, the simple mathematics of compound growth imply that non-interest, recurrent expenditures will double in less than 9 years to reach over 1.1 trillion baht per annum.

4. Concluding Remarks

This paper has reviewed the rapid increase in public debt during the economic crisis and provided a preliminary assessment of its impact on various monetary and fiscal policy aggregates. Of particular concern was whether the increase in public debt has or will lead to crowding out of private investment and other types of public expenditure.

There appears to be little evidence to support the view that private investment was crowded out due to higher public borrowing during the crisis. Whether or not this occurs once private investment demand recovers depends crucially upon the monetary stance adopted. In this regard, there should be some leeway for a more relaxed monetary stance should the need arise. The exchange rate has been stable for quite some time, and inflation remains below its long-run, target level.

Of greater concern are the increased debt service payments, which run the risk of crowding out other forms of public expenditure. This suggests the need to carefully manage debt repayments, including possible refinancing. However, the seriousness of the crowding out depends critically upon several factors—e.g., the management of FIDF, the control of recurrent budget expenditures, and the fiscal stance—which have little to do with debt management *per se*. What is worrisome is that the fiscal position will already be under significant pressure from additional expenditures required under the new Constitution and additional revenue losses from the comprehensive tariff reform exercise currently under consideration. This is of particular concern because the scope for maintaining an accommodative fiscal stance is likely to be increasingly limited in the coming years.

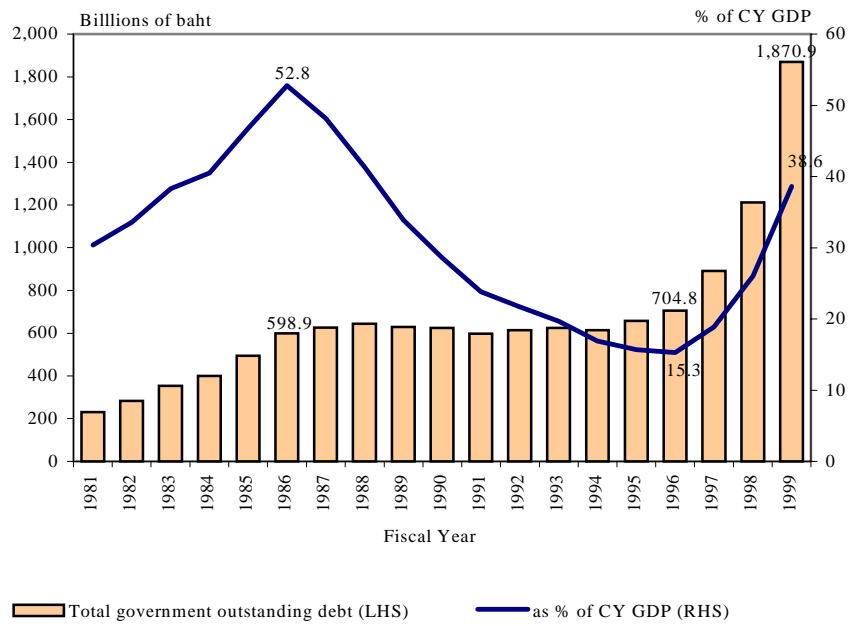
While the government has recently established a Public Debt Management Office, several additional steps may be warranted given the particular importance of careful debt and fiscal management in the coming years. First, to ensure a comprehensive perspective on debt and fiscal issues, it may be worthwhile to consider moving towards an integrated budget which incorporates foreign-financed expenditures into the budget. Second, to highlight the longer-term implications of current debt and fiscal decisions, it may also be desirable to move towards adopting some form of a medium-term fiscal framework whereby planning and policy are conducted explicitly on a rolling, multiple-year basis. To enhance transparency and appropriate fiscal discipline, key debt and fiscal policy aggregates on a forward-looking basis could be regularly published.

It may be useful to conclude by providing some historical perspective on these issues. While the share of debt service payments in the budget will be quite high in the coming years, it has been significantly higher. This share stood consistently above 20% between FY1985-FY1990, and reached as high as 24.7% in 1987.

Similarly, central government and guaranteed debt as a share of GDP stood as high as 52.8% in FY1986 and declined fairly steadily and rapidly, bottoming out at 15.3% in 1996, before increasing again to reach its current level of 38.6%. What is particularly noteworthy is that this share declined almost entirely due to GDP growth, rather than reductions in debt outstanding. As illustrated in the following chart, total

debt outstanding remained fairly level throughout the period when the share of debt to GDP fell. This reinforces the fact that good debt management does not simply mean reducing public debt to as low a level as possible, but also involves incurring debt when necessary to ensure that economic growth can resume.

Chart 6: Direct Government and Government- Guaranteed Debt (1981-1999)



Source: Comptroller General Department