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Thailand: Selected Issues and Statistical Appendix

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THAILAND

Selected Issues

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Approved by the Asia and Pacific Department

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I. Overview

1. **Thailand has made considerable progress since the 1997 crisis, and its external vulnerability is much reduced, but there are still significant domestic risks**. The progress that Thailand has made in reducing external vulnerability by paying down external debt and building up reserves and the recent upturn in the economy make this a timely moment to examine in detail some of the domestic vulnerabilities which constrain growth and which could pose problems for Thailand in the future.

2. **During the recent Article IV Consultation discussions, the staff discussed with the authorities four areas that are either already causing problems or pose risks for the future**. The following Selected Issues Papers reflect the staff's continuing work on these areas.

3. **The first paper examines *The Channels of Monetary Policy Transmission in Thailand*. Following the crisis, the Bank of Thailand (BOT) progressively eased the stance of monetary policy**. Short-term interest rates declined from over 20 percent in early 1998 to about 1.5 percent by mid-2001. However, bank-lending rates have adjusted only slowly and private credit growth remains sluggish. This raises the question of whether the transmission mechanism is working, and, if so, through which channels. The paper addresses these questions by using vector auto-regressions to study the transmission of monetary policy.

4. **The main findings of the paper are that changes in monetary policy are associated with changes in real output, and that the main channel for transmission is not bank lending but asset prices**. Changes in interest rates by the BOT only weakly affect the supply of private credit, which in turn only modestly affects output. However, interest rates have a stronger effect on asset prices and corporate balance sheets, which in turn affect firms' investment decisions. The paper recommends an acceleration of ongoing reforms in the financial sector that would allow the bank-lending channel to become more fully operative and prevent supply side constraints.

5. **The next paper, on *Corporate Performance in Thailand*, takes stock of the performance of the Thai corporate sector in emerging from the crisis and discusses remaining challenges and vulnerabilities**. The unfinished task of corporate restructuring, mirrored in the still high burden of distressed assets in the financial sector (on the order of 35 percent of GDP), has been a significant constraint on Thailand's recovery from the crisis. The paper notes some encouraging signs: debt levels, though high, have fallen from post-crisis peaks, while returns and corporate cash flows have slowly stabilized, and many smaller firms have succeeded in reducing their debt ratios to pre-crisis levels. At the same time, a substantial subset of firms, especially larger firms, is still highly leveraged.

6. **To address the remaining problems in the corporate sector, the paper recommends a market-based process**. The key is to set up an institutional framework and incentive structure that facilitates price discovery of assets and an efficient sharing of the

costs associated with restructuring, whether through losses at banks or ownership changes and exit in the real sector.

7. **The third paper offers** ***An Assessment of Thailand's Fiscal Vulnerability***. After enjoying a decade of debt consolidation and fiscal surpluses, Thailand's fiscal trends reversed quickly during the 1997 crisis, which caused a surge in public debt and a sizable widening of the fiscal deficit. The heavy debt burden inherited from the crisis is a source of vulnerability and a constraint on economic management. High indebtedness limits the scope for policy flexibility in the face of a cyclical downturn. This paper examines Thailand's fiscal vulnerability in a cross-country perspective. It contains a description of the current fiscal position and its sustainability, including estimates of contingent liabilities, assesses the impact of various macro shocks on the medium-term fiscal outlook, and explores risks from debt management and other structural fiscal risks.

8. **The paper finds that the main sources of fiscal vulnerability in Thailand relate to the presence of sizable contingent liabilities; high sensitivity of the debt dynamics to adverse economic scenarios; and significant near-term gross financing requirements**. These vulnerabilities would be reduced if the authorities succeed in placing the medium term debt path on a firmly declining path. The ongoing economic recovery presents a timely opportunity to reorient fiscal policy from stimulus to debt consolidation. Asset recovery and privatization could also play a key role in containing the medium-term debt dynamics.

9. **The final paper examines** ***Fiscal Decentralization in Thailand*****, a process that has the potential to improve the quality of public services, but also entails substantial fiscal risks in itself**. Since the enactment of the 1997 Constitution, Thailand has embarked on a decentralization process that is expected to be fully implemented by fiscal year 2009/10. The paper takes stock of the ongoing decentralization process, and notes some shortcomings, which arise to some extent from institutional constraints, and which give rise to significant fiscal risks. So far, devolution of revenues is preceding the devolution of spending responsibilities, causing a bias in the central government budget toward higher deficits, and jeopardizing national policy objectives. Decentralization carries the risk of making budgeting a more fragmented process, reducing fiscal discipline and accountability. Since a large share of local financing takes the form of transfers from the central government, local governments also have incentives to overspend and to minimize local tax collection.

10. **The paper points to actions aimed at ameliorating some of the institutional problems that have arisen and at putting financial relations between the central and local governments on a firmer footing**. Specifically, the paper recommends that the authorities encourage consolidation among local governments and tailor devolution to the capacity of different levels of provincial and local government, increase accountability, and improve information flows and incentives. The paper also stresses the importance of devolving expenditure functions in tandem with revenues, of improving local revenue mobilization, and of developing a rules-based borrowing framework for local governments.

II. THE CHANNELS OF MONETARY POLICY TRANSMISSION IN THAILAND[1]

A. Introduction

1. **Recent changes in monetary policy highlight the importance of understanding the monetary policy transmission mechanism.** Following the crisis, the Bank of Thailand (BOT) progressively eased the stance of monetary policy. Short-term interest rates declined from over 20 percent in early 1998 to about 1.5 percent by mid-2001. However, bank-lending rates adjusted slowly and private credit grew sluggishly. Given continuing problems in the corporate and financial sectors, an important question is whether the transmission mechanism is working, and, if so, through which channels. This paper addresses these questions by using vector auto-regressions to study the transmission of monetary policy.

2. **The main findings of this paper are:**

- **Monetary policy *is* associated with changes in real output.** A typical shock to the key policy rate of the Bank of Thailand (equal to 1.7 percent, as identified in the model) has a peak impact of about 1 percent on real GDP after 4 to 6 quarters.

- **Bank-lending is not transmitting monetary policy—asset prices are playing an important role.** Changes in the policy rate weakly affect the supply of private credit, which in turn only modestly affects output. However, interest rates affect asset prices and corporate balance sheets, which in turn affect firms' investment decisions.

3. **The following policy implications follow from the analysis:**

- **Accelerating reforms of the banking system will strengthen the transmission mechanism.** As the current economic turnaround unfolds and the economy picks up steam, credit demand will likely rise. An acceleration of ongoing reforms in the financial sector will allow the bank-lending channel to become more fully operative and prevent supply side constraints.

- **While asset prices appear to propagate monetary shocks, monetary policy should not target asset prices.** Asset prices cannot be fully controlled by central banks in general. Ineffective attempts at targeting asset prices can therefore undermine the credibility of the monetary framework.

4. The paper is organized as follows: the next section briefly discusses the different channels through which monetary policy affects economic activity; section C presents the evidence; and the last section summarizes the results and discusses the potential for further work.

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[1] Prepared by Reza Baqir.

B. The Channels of Transmission

5. **The channels through which monetary policy works include the following:**[2]

- ***Interest rate channel.*** This is the standard Keynesian channel of monetary transmission. Contractionary monetary policy raises short-term nominal interest rates. Real interest rates rise as well due to price rigidities in the short-term. The increased cost of financing depresses expenditure on business investment, housing, and consumer durables, leading to a fall in aggregate demand and output.

- ***Exchange rate channel.*** A rise in domestic interest rates attracts foreign capital which appreciates the real exchange rate and leads to a fall in net exports. However, the exchange rate can also have opposite effects on domestic demand when substantial corporate debt is foreign currency denominated. A depreciated exchange rate weakens balance sheets, leading to a fall in investment spending and output.

- ***The "credit" view.*** As one of the more recent contributions in the literature on monetary transmission, the channels grouped under this heading emphasize problems of information asymmetries in credit markets. Two channels under this heading include the *bank-lending channel* and the *balance sheet channel*. The former arises when problems of information asymmetries prevent some firms, especially small firms, from tapping securities markets directly for their financing needs. Banks play a special role in financial markets by maintaining close relationships with borrowers and overcoming these information asymmetries. A monetary contraction which reduces bank reserves causes banks to reduce the supply of loans. Since such firms do not have access to other sources of borrowing, this leads to a fall in investment spending. The balance sheet channel focuses on the weakening of corporate balance sheets when interest rates rise and free cash flows fall. Lower net worth borrowers create problems of adverse selection (borrowers in effect are offering lower collateral) and moral hazard (borrowers' have less stake in the firm) for creditors, causing them to reduce the supply of lending. Balance sheet effects can also directly affect firms' planned investment spending by reducing retained earnings available for financing investment.

- ***Asset price channel.*** This channel emphasizes the behavior of equity and other asset prices. A monetary contraction is generally associated with a fall in equity prices, as investors move from stocks to bonds. To the extent that firms compare the market value of capital to its replacement cost (Tobin's q theory of investment) in making investment decisions, this reduces investment expenditures, and hence output.

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[2] More elaborate discussion of the channels can be found in Mishkin (1995, 2001) and Taylor (2000), amongst others.

C. Evidence

6. **The channels of monetary policy transmission can be studied using vector auto-regressions (VARs).** A large empirical literature, primarily on the U.S., Europe, and selected other countries, uses VARs to study transmission issues.[3] This methodology has both strengths and weaknesses. The key strengths are that it allows for flexible dynamic modeling of the key macro series of interest and affords a useful graphical way to present the results. Impulse response functions (IRFs), through which VAR results are generally presented, show the dynamic response of the variables in the system due to a shock in one of the variables of interest. The shape of the IRFs shows the magnitude and persistence of the effects of shocks. The key weakness is that VARs, by their nature, are somewhat a-theoretic and it is difficult to identify exogenous monetary policy shocks. Also, IRFs show the response to *unanticipated* changes in monetary policy, as identified in the model. In using the results to consider actual policy changes, due attention has to be paid to the extent to which the policy change is not already anticipated.

7. **This paper first estimates a baseline model and then considers extensions to study the different channels discussed above.**

Baseline Model

8. **A baseline VAR consisting of real GDP, the consumer price index, and the policy rate (14-day repurchase rate) was estimated on quarterly data from 1993:1 to 2002:1.** Output and prices are seasonally adjusted and expressed in log levels.[4] The IRFs can therefore be interpreted as percent deviations from baseline. A measure of world interest rates (the U.S. federal funds rate) was additionally included as an exogenous variable, since it is likely to be one of the important determinants of domestic rates.[5]

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[3] For a review of the empirical U.S. literature, see the Fall 1995 symposium in the *Journal of Economic Perspectives*. Morsink and Bayoumi (1999) present evidence for the importance of bank balance sheet effects in Japan. Clements et. al. (2001) find the interest rate channel to be the most important in the Euro area. Related work on Thailand includes Kirakul (1996), Sirivedhin (1998), Patrawimolpon et. al. (2001), and Santiprabhob (2001).

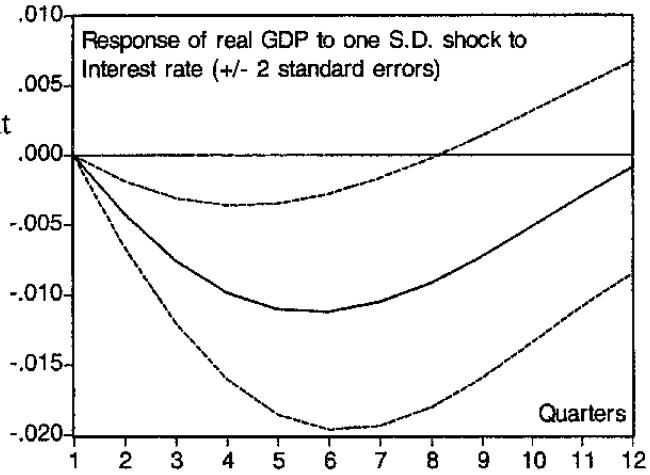
[4] This specification follows the convention in the literature. Unit root test for most of the series do not reject. However, first-differencing often results in eliminating too much information. Moreover, since there is likely to be at least one cointegrating relationship in the series, and given problems in correctly estimating the cointegrating vector, estimating the model in first differences can lead to a mis-specified model. This is the principal reason why the literature generally uses a log-levels specification.

[5] Given the small number of observations, the smallest possible lag order which adequately captures the dynamics is preferable to preserve efficiency in estimation. Two commonly used criteria to guide the choice of the lag order, the Akaike information criterion and the

(continued)

9. **The VAR was identified by assuming a standard ordering of the variables: output, prices, and interest rates**. The identification scheme is important for computing the impulse responses. If shocks to the different variables were uncorrelated the impulse responses could simply be computed from the estimated coefficients in the underlying OLS equations. However, in such macro models, shocks to one variable are likely to occur with predictable changes in other variables. For instance, a negative aggregate supply shock would cause both a positive price shock and a negative output shock. An identification scheme imposes a partial structure on the model which allows for the extraction of the exogenous component of the shock. The scheme used here, known as a Cholesky decomposition, is common in the literature and recursively identifies exogenous movements in the variables with the first variable in the ordering treated as the most exogenous and the last as the least. Thus a monetary shock is identified as that part of the change in the interest rate which cannot be explained by contemporaneous changes in output and prices.[6]

10. **The response of real GDP to a one standard deviation change in the policy rate (1.7 percent) peaks at about a 1 percent deviation from baseline after about 1½ years.** The estimated 95 percent confidence interval shows that unanticipated changes in the policy rate produce statistically significant changes in the path of output.[7] Additional measures of the monetary stance yield similar results. When the VAR is re-estimated using both the repurchase rate and money base (M0) as measures of monetary stance, a consistent picture for the output response emerges. Real GDP responds negatively to an interest rate shock and positively to a money base shock. However, a variance decomposition analysis—which seeks to determine which variable accounts for most of the forecasted variation in output—shows the interest rate to be a more relevant measure of the monetary stance.



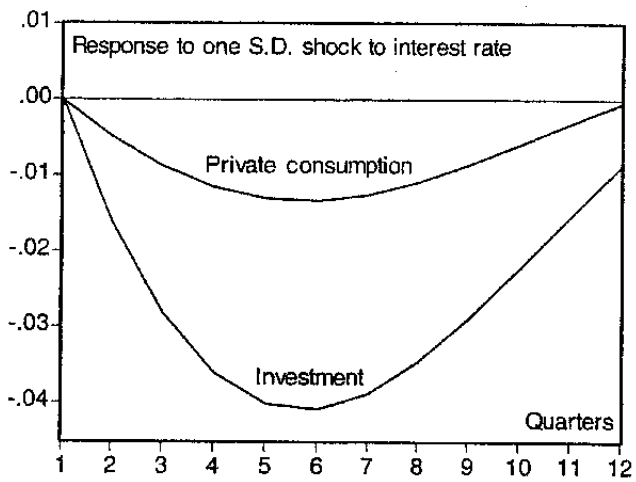
Schwaz criterion, indicate use of one lag. The impulse responses of the baseline VAR reported below remain qualitatively the same with two lags.

[6] Such an identification scheme can also be interpreted as a reaction function for the central bank where the central bank observes information on output and prices in the current period before deciding the stance of monetary policy.

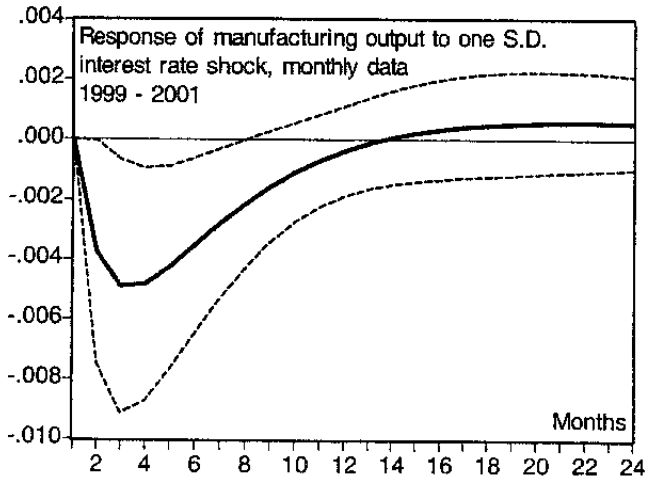
[7] A different scaling of the data, with output expressed as ratio of potential output (as in Morsink and Bayoumi (1999), shows a similar response.

11. **Impulse responses with respect to the other variables in the system show reasonable patterns**. The price level declines immediately following an output shock, reflecting a movement down the aggregate demand curve. Subsequently, as demand picks up, prices rise, reflecting a movement along the aggregate supply curve. Impulse responses of the policy rate are consistent with a Taylor-rule type framework: rates rise in response to a positive output and price shocks. The price level *rises* following an increase in the policy rate. This surprising response of prices to a monetary tightening is a frequent result in the VAR literature on monetary transmission. It can arise if the central bank uses additional information for judging inflationary pressures which is missing from the model. As the central bank expects an adverse shock it tightens rates while at the same time prices rise.

12. **Investment responds more than private consumption to an interest rate shock**. Decomposing real GDP into private consumption and total investment and estimating similar VARs shows that the peak response is one percent and 4 percent respectively.[8] The greater impact on investment is consistent with the greater role of financing in investment expenditures, compared to consumption. As the economy matures and consumer credit becomes more important, the contribution from consumption is likely to grow.



13. **The crisis period complicates interpretation of the results. However, a similar VAR estimated on post-crisis monthly data shows consistent results**. The tumultuous movement of the key macro series during the crisis represents the operation of other factors not inside the model. At the same time, the limited number of time series data available prevents dealing with the issue in a sophisticated manner. One simple way is to examine if the output response holds in the post-crisis period. A similar VAR was estimated on monthly data for 1999-2001. As GDP is not available on a monthly basis, the



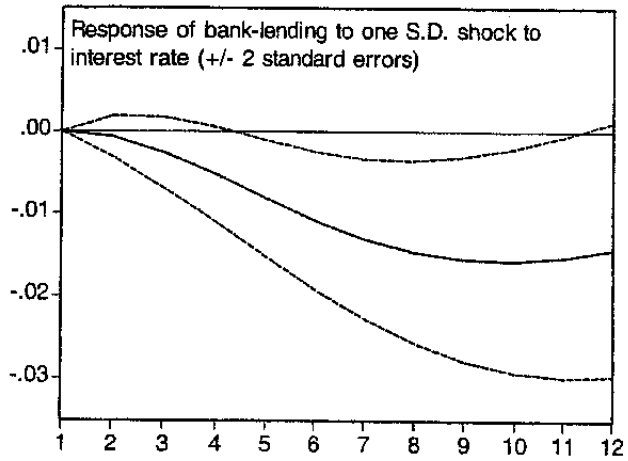
[8] The series used here is total investment—private investment which was not available on a quarterly basis for the entire period. Annual data, however, show that private investment was 72 percent of total investment over the sample period.

manufacturing production index was used as an indicator of activity. Since the large variation in the series during the crisis may be complicating the estimated relationships, the start of the post-crisis period was chosen late enough to allow for interest rates to have adequately come down from the crisis highs. The accompanying figure shows a consistent output response. Moreover, the price puzzle, discussed above, also disappears, indicating that it was driven by the sharp rise of interest and inflation rates during the crisis period.[9]

Bank-lending channel

14. **There is little evidence that monetary shocks are transmitted through bank-lending**. The baseline VAR was augmented to include private credit extended by commercial banks, adjusted for debt write-offs and transfers to asset management companies.[10] This allows an examination of how the policy rate affects bank-lending, and in turn, how bank-lending affects output.[11]

- **There is weak transmission from the policy rate to bank-lending**. In fact, bank-lending rises immediately following a rate increase, and then declines. Such a relationship could arise if the policy rate may in part be reacting to developments in credit markets. Indeed, when the bank-lending variable is ordered first in the VAR, to measure the interest rate shock as exogenous to contemporaneous movements in private credit, the positive effect disappears. Private credit reacts very weakly and after a considerable lag to changes in the policy rate. As the figure shows, a one standard deviation change in



[9] The impulse response peaks earlier with the monthly data. Part of this may be explained by the use of the manufacturing production index which misses out on the lagged effects on the services and other sectors of the economy. All other impulse responses are by quarter.

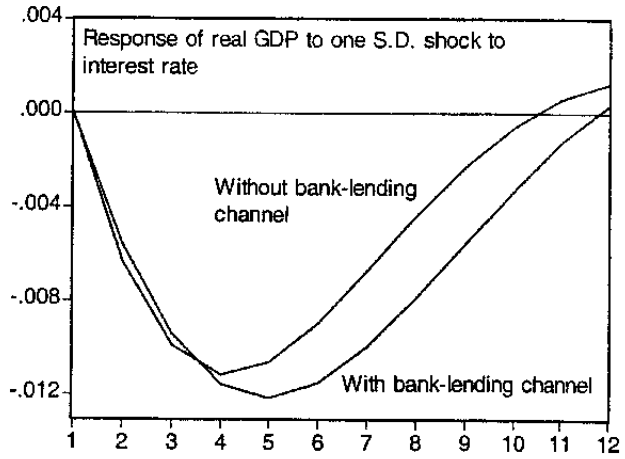
[10] Private credit was ordered last in the Cholesky decomposition as it is potentially one of the channels through which shocks to the interest rate affect the economy.

[11] Bernanke and Gertler (1995) caution against interpreting movements in credit aggregates as evidence for or against the credit view of monetary transmission. They point out that credit flows are often counter-cyclical and that even though credit flows may not change, the terms of credit can move in ways predicted by the credit view.

the interest rate has a peak effect at a 10-quarter lag of roughly 1½ percent. In cumulative terms this amounts to a 5 percent reduction in bank-lending after two years. When scaled by the standard deviation of bank-lending over the period, this is equivalent to a 0.17 standard deviation fall in bank-lending—a small effect.

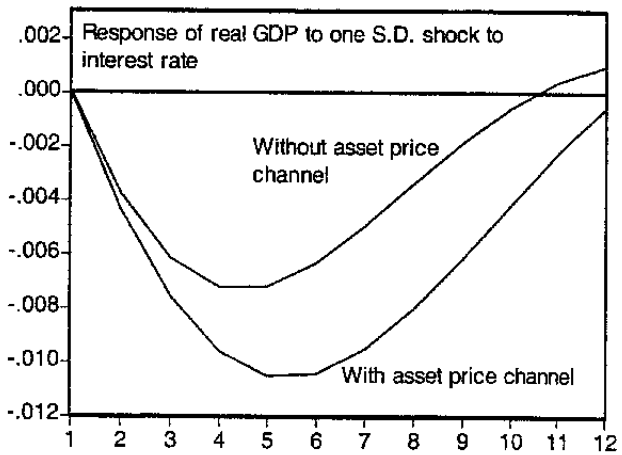
- **Shocks to bank-lending have weak effects on output**. On the other hand, bank-lending reacts to output shocks. Taken together, these impulse responses imply that demand side factors may be more important, than supply factors, in determining credit flows.

15. **A useful way to demonstrate the significance of bank-lending in the transmission process is to compare the impulse responses with and without the bank-lending channel operating**. The bank-lending channel can be "closed" by preventing shocks from endogenously propagating through this variable. Operationally, this amounts to not estimating an equation for bank-lending, but treating it as an exogenous variable in the equations for the other variables. A big difference in the impulse response would indicate that bank-lending is an important channel.[12] The figure shows that this channel contributes little to the output response. A different criterion to evaluate the significance of bank-lending is to decompose the forecasted variance of an output shock into the various channels—bank-lending accounts for only 9 percent of the total variation in output at a 2 year horizon.



Asset price effects

16. **Asset prices play an important role in the propagation of monetary shocks**. The baseline VAR was augmented in a similar fashion to include the SET stock market index as a proxy for the movement in asset prices. The impulse responses show that stock prices react significantly to an unanticipated interest rate shock and that output in turn expands after an unanticipated rise in the stock market.

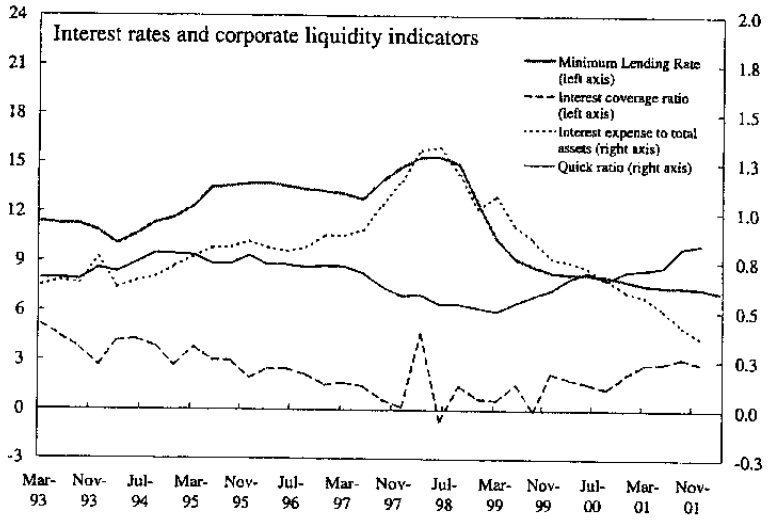


[12] The interest rate channel is treated as a residual—it is assumed to account for the output response which cannot be attributed to other channels.

A one standard deviation interest rate shock leads to a maximum deviation of 4 percent in the stock market index from baseline after about 6 quarters. The cumulative effect is a 18 percent reduction in the index (equal to a 0.4 standard deviation fall), a much bigger effect than the private credit response discussed above. In turn, a one standard deviation rise in the stock market index is followed by a peak one percent rise in output from baseline, an effect similar in magnitude to the direct effect of interest rate shocks on output. The figure shows the impulse responses with and without this channel operating. The output response is considerably muted and of a short duration. Asset prices account for about 30 percent of the variation in output at a 2-year horizon.

17. **Interest rate changes also directly affect firm balance sheets and hence the net worth of firms**. A rise in interest rates increases the interest expense of firms, reducing cash flow and net worth of firms. This can directly impact output by reducing investment expenditure financed from retained earnings. The accompanying figure indeed shows the co-movement between interest rates and three indicators of corporate liquidity: the interest coverage ratio (defined as the earnings before interest and taxes divided by interest expense), quick ratio (ratio of liquid assets to short-term liabilities), and interest expenditure scaled by total assets. These indicators can be incorporated into the VAR framework, although the results have to be interpreted with caution since the small sample of firms may not be completely representative.[13]

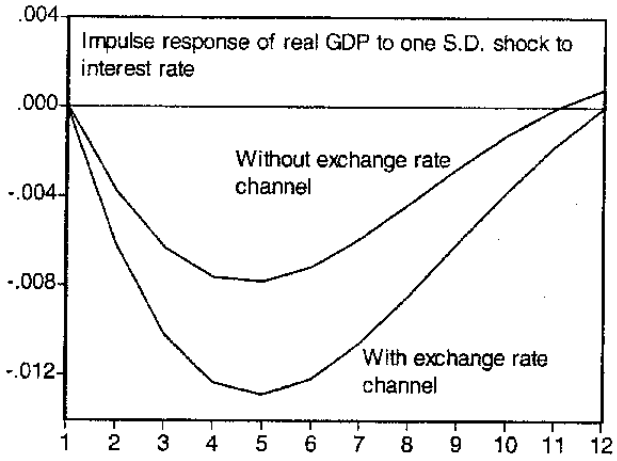
Results show that while indicators of liquidity do decline in response to an interest rate shock, the response of output to liquidity indicators is weak. Closing the corporate balance sheet channel produces some impact on the impulse responses—however, a variance decomposition shows that very little variation can be attributed to movements in the liquidity indicators.



[13] To partially address concerns from use of an unbalanced sample, the median ratio is used for all three indicators as it is less sensitive to outliers than a simple average.

Exchange rate channel

18. **Evidence on the exchange rate channel is difficult to interpret and reveals mixed results.** Interpretation is complicated by the change in the exchange rate regime during the sample period. Results therefore have to be interpreted with caution. The accompanying figure shows the impulse responses of output to the interest with and without the real effective exchange rate and indicates significant impact of the exchange rate channel. However, a variance decomposition analysis shows that the real exchange rate accounts for less than 10 percent of the variation in real output up to a 10 quarter horizon.



Summary Model

19. **A direct comparison of the asset price and exchange rate channels shows the relative importance of asset price effects.** A summary model was estimated to directly compare the contribution of asset price and the exchange rate channels. The appropriate metric to evaluate the relative importance of the channels is through a variance decomposition of real GDP. Such an exercise revealed that the asset price channel accounts for the greatest variation in output (40 percent) at roughly a 10-quarter horizon.

D. Conclusion

20. **The collective picture of the transmission mechanism which emerges from this analysis is one where supply effects in private credit do not appear to be working.** Instead interest rate changes appear to directly impact firms' investment decisions, either through a Tobin's *q* type channel as the market value of firms falls or directly by weakening corporate balance sheets and reducing available retained earnings for financing investment.

21. **Resolution of financial sector problems will contribute to the importance of the bank-lending channel.** The current high levels of distressed assets on bank balance sheets have made banks highly risk averse, focusing only on the best credit risks. Quick restructuring of the remaining problem loans will allow the banking sector to support growth.

22. **While the analysis has pointed to the importance of asset price effects, monetary policy can be more effective if it focuses on the nature of the shocks.** Changes in asset prices can have important effects on aggregate demand and thus should be closely followed to evaluate the stance of monetary policy. An examination of the nature of asset price shocks and whether they are considered to be temporary or permanent would assist in devising the

appropriate monetary policy response.[14] In general, however, it is difficult for monetary authorities to identify asset price bubbles. It is also difficult for them to control asset prices since stock markets in particular are volatile and often move for reasons unrelated to monetary policy. If the central bank is perceived as trying to target the level of stock prices, in addition to other objectives, and is proved ineffective at doing so, it will likely undermine the credibility of the monetary framework. For these reasons it is problematic for monetary policy to target the level of asset prices.

23. **Although the analysis has provided useful insights into the transmission mechanism, further work would enhance our understanding of different channels**. One particular area would be to further examine the demand and supply side factors in private credit. Micro-data based evidence would nicely complement the findings in this paper.

[14] Mishkin (2001), amongst others, discusses the role of asset prices in the conduct of monetary policy.

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III. Corporate Performance in Thailand[1]

A. Introduction

1. **Recent crises in emerging markets have highlighted the role of the corporate sector in transmitting financial shocks to the macroeconomy**. Prior to the Asian crisis, growth in the regional emerging market countries was driven by private investment, financed mostly by bank lending. In Thailand, growth accelerated in the 1990's on the back of large capital inflows, ultimately driving an investment and asset price bubble. The financial crisis triggered by the baht devaluation in 1997 was followed by a slump in economic activity. Firms found themselves unable to service their debt in an environment of weak aggregate demand and a sharply higher cost of capital. Their crippled position was reflected in the rising level of non-performing loans held by financial institutions, undermining the stability of the financial system, and feeding back into an intensification of the downturn.

2. **This paper takes stock of the performance of the Thai corporate sector in emerging from the crisis and discusses remaining challenges and vulnerabilities**. Aggregate economic growth resumed in Thailand in 1999. However, the rebound has not been as strong as in other countries in the region. This reflects in part the unfinished task of corporate restructuring, mirrored in the still high burden of distressed assets in the financial sector (on the order of 35 percent of GDP).

3. **The main findings of the paper are:**[2]

- **Debt levels, though high, have fallen from post-crisis peaks, while returns and corporate cash flows have slowly stabilized**. Profitability has recently picked up, though cash flow remains weak and still volatile. Interest coverage ratios continue to hover just above 1, the break-even point for firms on a cash flow basis.[3]
- **The aggregate picture masks significant firm-level variation**. Not all firms in the sample are still highly leveraged. Indeed, more than half of the firms (mostly smaller firms) have reduced their debt ratios to pre-crisis levels. At the same time, a substantial subset of especially larger firms is still highly leveraged.

4. **These findings support the following policy implications**:

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[1] Prepared by Vikram Haksar and Piyabha Kongsamut.

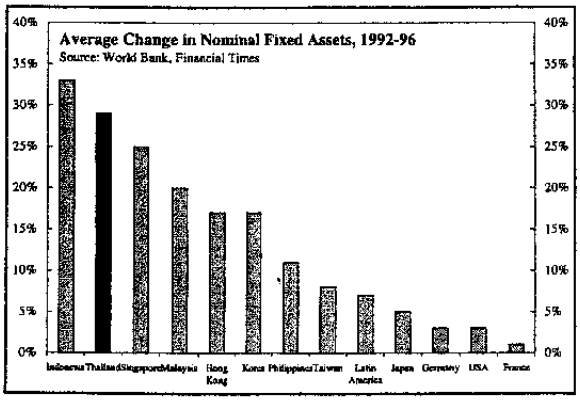
[2] The paper analyzes firm level data using companies listed on the Stock Exchange of Thailand (SET) as a proxy for the broader corporate sector. Listed companies account for about a quarter of total private non-household borrowing.

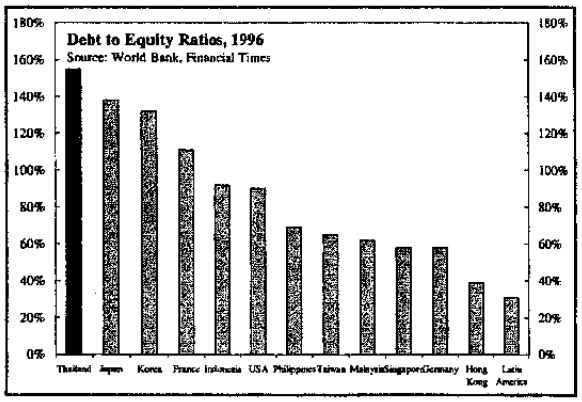
[3] The interest coverage ratio is earnings before interest and taxes divided by total interest expenses. With a coverage ratio less than 1, a firm is unable to fully service all its debts.

- **Weakness in the aggregate corporate sector remains, and has substantial macro-economic implications**. But the strength of a broad base of firms is encouraging. While the financial implications of dealing with big troubled debtors are of course substantial, the coordination problems are much reduced.
- **The true extent of excess capacity can best be found through a market-based process**. It is hard to gauge the full extent of the remaining debt over-hang, the financial counterpart to excess capacity. The key is to set up an institutional framework and incentive structure that facilitates price discovery of assets and an efficient sharing of the costs associated with restructuring.

B. Background

5. **Thai corporates borrowed heavily in the 1990's, sustaining growth rates that were very high by international standards**. Thailand had grown fast during 1970-90 reflecting a pattern of export-led growth, high savings and stable macroeconomic policies. In the early 1990's, on the back of capital account liberalization, substantial foreign savings were intermediated through the financial system leading to a surge in growth, investment and asset prices.[4] Investment by firms grew at an average of about 30 percent per annum during this period, faster than most other countries in the region (Text Figure). While growth was debt-financed across Asia, the resulting skewed capital structure was particularly pronounced in Thailand, reflected in high debt-equity levels even before the crisis (Text Figure).[5] Moreover, an increasing share of private corporate debt was denominated in foreign currencies, and largely unhedged as firms bet on the stability of the baht peg.[6]



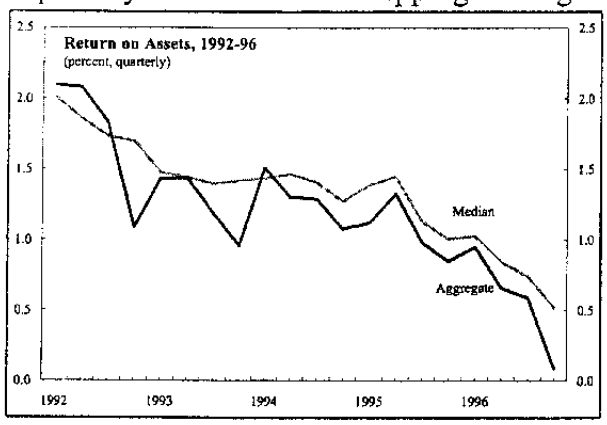


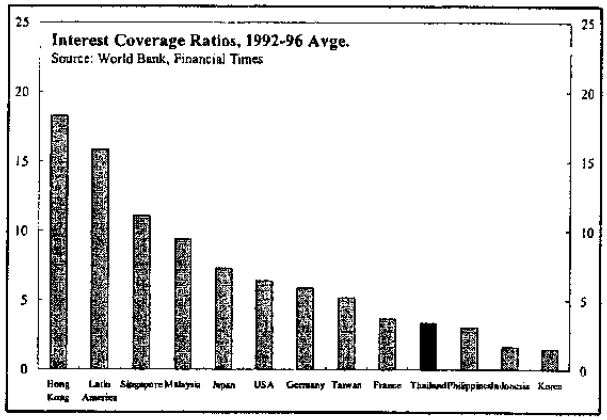
[4] This was reflected by a clear upward break in the trend of real GDP as well as capital output ratio during the period 1992-96, the so-called bubble years.

[5] The rapid growth of Thai debt during this period was evinced by the increase in the leverage ratio from 71 percent at end-1992, to 155 percent by end-1996 (Pomerleano, 2001).

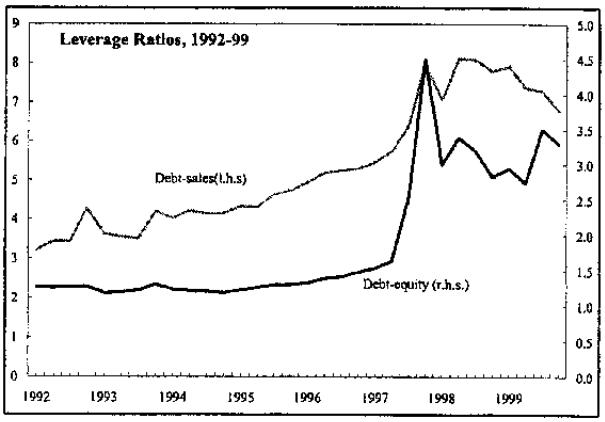
[6] About 30 percent of corporate debt was foreign currency denominated at end-1996. The share jumped to over 40 percent by end-1997 reflecting the devaluation, but has since declined to just over 20 percent as of end-2001.

6. **Returns on investment were declining already before the crisis while corporate liquidity was also coming under pressure**. While there was a bona fide asset bubble involving real estate and share prices, the factors driving the broader surge in corporate investment have been widely debated. Much attention has fallen on weaknesses in bank supervision, large capital inflows, and the exchange rate regime. From a corporate finance perspective, the governance structure of family-owned Asian conglomerates is often cited as a motivating factor behind a focus on growth through debt (see discussion in ¶9). In such a model of corporate governance, there is little outside pressure for immediate return on investment. This mode of organization may well have been appropriate at an early stage of development and worked well in an environment of high growth. However, vulnerabilities were growing insofar as firms borrowing externally without hedging their exposure were not internalizing the true cost of capital. Meanwhile interest coverage ratios in Asia and especially in Thailand were dipping to dangerously low levels.





7. **The substantial depreciation of the exchange rate following the crisis effectively bankrupted a large part of the Thai corporate sector**. While debt levels were already high prior to 1997, the doubling of the baht-dollar exchange rate during 1997 wiped out the capital of many firms. The cost of servicing unhedged foreign currency debt doubled, while the temporarily high interest rates used to manage the depreciation of the exchange rate also caused an increase in debt service on local currency liabilities. Leverage shot up, while interest coverage ratios for many companies dropped to levels that would ultimately drive the large increase in NPLs in the banking system.



8. **The authorities initially opted for a more private sector-led approach to corporate restructuring, and only recently established a central AMC**. While direct state intervention in the financial sector was substantial, the strategy for corporate debt restructuring revolved around facilitating private party resolution. A first round of reforms of the legal framework for debt restructuring was undertaken in the wake of the crisis. The main

measures included passage of an important new bankruptcy law and procedures to expedite the foreclosure process. The voluntary Corporate Debt Restructuring Advisory Committee (CDRAC) process (now winding down) was set up to help bring debtors and creditors to the negotiating table. At its peak, CDRAC was advising on deals worth almost 50 percent of GDP. More recently in 2001, the Thai Asset Management Corporation (TAMC) was established. The TAMC has taken over most of the non-performing loans from the state-owned banks, and has been granted special powers to speed up the asset resolution process.[7]

C. The Problem with Leverage

9. **High leverage can reflect poor corporate governance**. The theoretical literature on choice of capital structure is wide ranging and points to different costs and benefits of issuing debt (See Box III.1). In general, the optimal capital structure depends on the specific circumstances of the firm and overall development of the capital market infrastructure. From the Asian perspective, a particularly relevant strand of the literature focuses on corporate governance. It could be argued that "insiders"—in this case often the founding family—exerted too much control over firms that outgrew family-based management. As such, Asian conglomerates eventually focused more on size and market share while downplaying return on investment. Further, insiders were more likely to use outside debt financing as opposed to raising equity and diluting their ownership control. In this scheme, high leverage is ultimately a symptom of weak governance.

10. **Leverage also exposes firms to risks in the event of economic volatility** Another important part of the literature focuses on financial fragility, especially arising from debt. Pioneering risk assessment models by Altman (1977 and 1993) established a modeling framework for assessing the probability of firms entering into bankruptcy. In particular, the level, maturity and repricing structure of debt are considered to be important variables affecting the credit-worthiness of companies. For example, ratings agencies apply standard criteria when assessing companies, many of which center around the riskiness of the firms' capital structure as compared to average historical risk. The Text Table gives some of the standards applied by S&P in rating US corporates. While international differences in historical volatility reduce the cross-country applicability of these standards, they do provide a flavor of the relatively weak position of Asian firms.

Standard and Poors Required Financial Ratios
(By rating level, percent)

	AAA	AA	A	BBB	BB	B
Interest coverage ratio	20.3	14.9	8.5	6.0	3.6	2.3
Long-term Debt/Capital	13.4	21.9	32.7	43.4	53.9	65.9
Total debt/capital	23.6	29.7	38.7	46.8	55.8	68.9

Note: Ratios are calculated as three-year medians (1994-96)
Source: Pomerleano (2001)

[7] For a discussion of CDRAC and the "Bangkok Approach" to debt restructuring, see SM/99/304. The main features of the TAMC are discussed in SM/01/232.

BOX III.1. WHY DO FIRMS ISSUE DEBT AND WHEN DOES IT BECOME A PROBLEM?

The literature on capital structure suggests that the issuance of debt carries both benefits and costs. Building on the pioneering work by Modigliani and Miller (1958), some of the main strands of literature revolve around the implications of agency costs, asymmetric information, and risk management.[1]

Agency costs illustrate the various possible conflicts of interest between managers, shareholders, and debt-holders (Jensen and Meckling (1976)). Issuing debt to solve one agency cost problem may give rise to a different incentive compatibility problem. Whereas the conflict of interest between managers and shareholders suggests that issuing debt should be beneficial (add to firm value) by better aligning the manager's interests with those of the shareholders, agency costs of debt are also found in the conflict of interest between debt-holders and equity-holders. This conflict may lead to suboptimal investment decisions (the underinvestment problem), as equity-holders may not reap the full benefits from undertaking good projects. For example, when firms are close to bankruptcy, there is little incentive for shareholders to inject more capital, as any improvement in performance will fully benefit the debt-holders only (the debt overhang problem highlighted by Myers (1977)). This line of models also suggests that firms with high growth opportunities would issue less debt, while firms with well-established cash flow would have higher debt (Jensen (1986)). A related implication is that firms with more tangible assets can support more debt and have higher market value, but would be more likely to default (Harris and Raviv (1990)).

Asymmetric information has also been identified as a motivating factor for firms to issue debt. This strand of the literature is based on the assumption that managers know more private information about the firm's investment opportunities and future revenue stream. Debt may then be used as a signaling device for the quality of investment opportunities to the firm (Ross (1977)). Alternatively, given the costly nature of raising finance, firms raise funds according to a hierarchy, preferring first to undertake investments out of retained earnings, then to issue (riskless) debt, and only to issue new equity as a last resort (Myers and Majluf (1984)). This "pecking order" theory implies a negative relationship between debt and firm value, as high profit firms can finance future growth internally without resorting to issuing debt.

A related strand of the literature deals with risk management issues, including on the maturity structure, currency composition of debt, and hedging decisions. Some of the agency costs identified above are actually mitigated by the choice on the maturity structure of debt. For example, issuing more short-term debt can help eliminate the underinvestment problem by giving debt-holders control over renewed financing at relatively short intervals (Myers (1977)). This hypothesis implies that firms with high growth opportunities are likely to issue more short-term debt. Signaling hypotheses suggest that high-quality firms (with higher credit ratings) will issue more short-term debt.[2] On the other hand, the finance literature appears largely silent on the issue of currency composition of debt. It notes mainly that firms that operate in many countries tend to issue foreign debt to better match asset and liability positions in their different countries of operation. However, the accumulation of foreign currency debt by domestic firms has been identified as an important contributing factor to some of the Asian crisis countries. By taking on external debt at the prevailing lower foreign interest rates, these firms made savings on their interest costs but exposed themselves to exchange rate risk (debt was mostly unhedged). After the shock hit, firms were unable to service their debt, with many still be suffering from this legacy.

Other determinants of corporate performance have also been identified in the literature, including diversification, ownership concentration, and corporate governance. Diversification may have advantages at certain levels of financial development, but could also become a weakness as firms expand into non-core areas and lose focus. Concentrated ownership has been seen as a method of control to help investors ensure some return on their investment, as another approach to solving the agency problem. However, ownership concentration can also create problems of its own, if majority shareholders try to expropriate resources for their own purposes to the detriment of the firm (Grossman and Hart (1988)). Solutions to this problem reach into the field of corporate governance, including mechanisms for investor protection (such as minority shareholder rights) and the legal and regulatory framework (such as information standards and disclosure requirements). Thus, higher standards on corporate governance should induce better performance.[3]

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[1] For a more extensive survey of the various strands of the literature on capital structure, see Harris and Raviv (1991).

[2] When the market cannot distinguish between good and bad borrowers, bonds will be mispriced (and the problem will be worse for longer-term debt). As a consequence, high quality firms will prefer to issue (better priced) short-term debt.

[3] For a survey on corporate governance issues, see Shleifer and Vishny (1997).

11. **In the wake of the crisis, the empirical corporate finance literature has begun to explore the sources of weaknesses in the Asian corporate sector**. Research has generally focused on other possible weaknesses besides high debt, including the role of ownership structure and concentration, or the strength of corporate governance. Alba, Claessens and Djankov (1998), Wiwattanakantang (2001), and Suehiro (2001) focus on the ownership concentration issue in Thailand. The first paper finds a weakly negative relationship between ownership concentration and performance in listed companies, while the latter two papers dispute this finding. Suehiro (2001) does not formally test this empirical relationship, but provides stylized facts on ownership, debt, and performance within an extensive classification scheme for ownership in a larger sample of firms. Claessens, Djankov and Xu (2000) explore cross-country corporate performance of listed companies during the East Asian crisis, and highlight the role of institutional weaknesses (e.g. property rights, bankruptcy, and accounting procedures) in compounding the risk from weak firm financial structures before the crisis.[8] While these papers do not focus in particular on the role of debt, leverage often enters as a control variable in the regression analysis, and the estimated coefficient on leverage is consistently negative (where the dependent variable is some measure of performance).[9] In a related vein, Klapper et al (2001) find that the level of debt, but not its currency composition, is inversely correlated with performance.

12. **Other studies have emphasized more strongly the impact of debt on corporate fragility**. Dollar and Driemeier (2000) highlight the role of pre-crisis borrowing for Thai industrial firms, particularly short-term, even in the face of declining profitability. They also note that only a small proportion of firms were audited. Mulder *et al* (2002) and Ghosh and Ghosh (2002) explore the macroeconomic impact of shocks to corporate balance sheets, finding evidence of feedback between weak balance sheets and economic activity. High debt and weak governance are found to exacerbate the contractionary impact of currency crises. Heytens and Karacadag (2001) analyze Chinese corporate data and find that true liability levels are higher than apparent from bank and balance sheet data, reflected in low interest coverage and correspondingly higher vulnerability.

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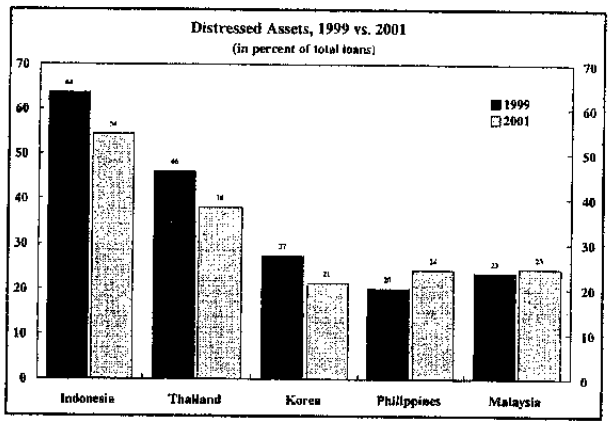
[8] They analyze the role of non-financial firm-specific factors (e.g. sales growth, size), financial structure (initial leverage and liquidity, ownership concentration), and institutional environment (equity rights, creditor rights and judicial efficiency), as well as country and industry effects.

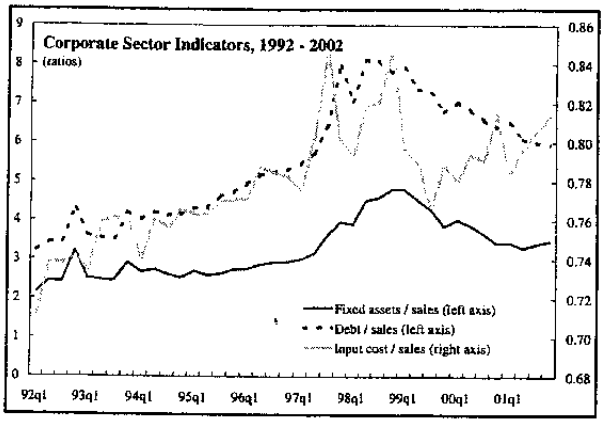
[9] Some studies have focused on the determinants of corporate debt in various countries, for example Wiwattanakantang (1999, Thailand) and Lee *et al* (2000, Korea).

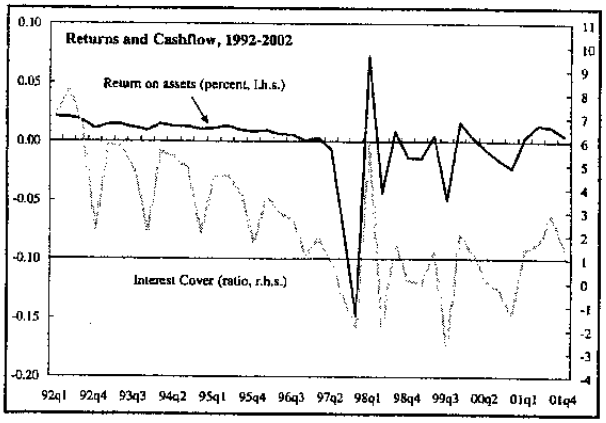
D. Recent Thai Corporate Performance



13. **The Thai corporate sector remains among the most highly leveraged in the region.** The slow progress in debt restructuring is mirrored in the continued high level of *total* distressed assets, which is used here as an indicator of the amount of troubled corporate debt that remains to be resolved.[10] A similar pattern is reflected in measures such as debt-equity ratios, which have fallen further in some other countries.

14. **Debt levels, though high, have fallen from post-crisis peaks, while returns and corporate cash flows have slowly stabilized.**[11] Debt has fallen in part reflecting the stabilization of the exchange rate, though the overall level remains high. Fixed asset ratios also remain high, though these can be distorted by valuation effects. However, the share of input costs to final sales, considered an indicator of underlying profitability and efficiency, also remains elevated. Meanwhile, corporate profitability has picked up, though returns and cash flow remain modest and still volatile. Troublingly, interest coverage ratios continue to hover just above 1, the break-even point for firms on a cash flow basis.



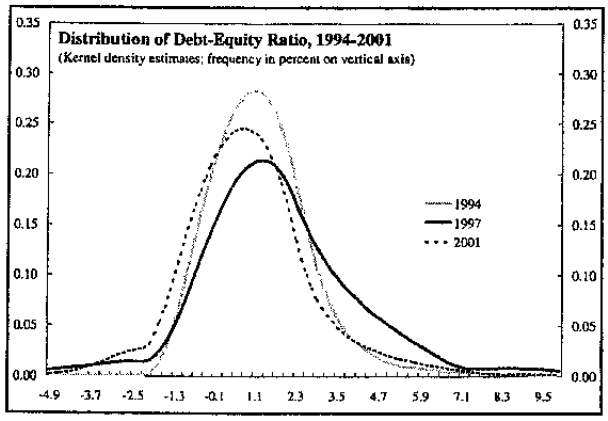


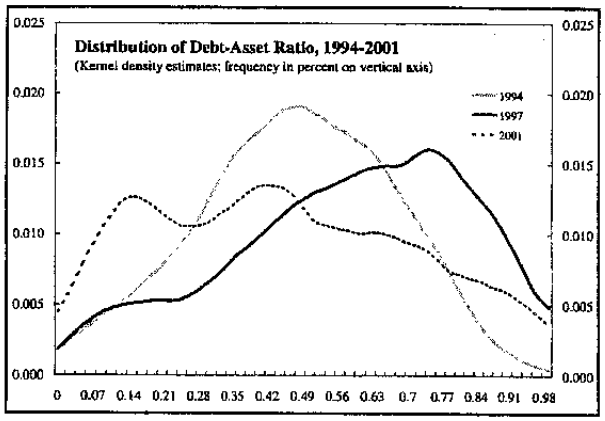
[10] Distressed assets are defined here as on balance sheet NPLs, plus NPLs transferred to off balance sheet AMCs, plus the written off portion of fully provided NPLs. The lack of detailed information on restructuring means that this definition is likely an upper bound. While banks already had adequate reserves for the write-offs, in many cases these have not translated into debt reduction for corporates reflecting unfinished troubled debt resolution.

[11] The focus of the firm level analysis here on the listed company sector introduces important caveats to generalizing from these findings. But data from other sources suggests that performance among SMEs is not superior to that of listed companies (see SM/01/232).

15. **The aggregate picture presented above masks significant firm-level variation.** Figure III.1 shows the difference between the medians and aggregated debt measures for all firms. The charts suggest that not all firms in the sample are still highly leveraged. Indeed, more than half of the firms (mostly smaller firms) have reduced their debt ratios to pre-crisis levels, and have done so at a faster pace than the aggregated figures suggest. At the same time, the large difference between the aggregate and the median figures that has persisted since 1997 shows that a substantial subset of especially larger firms is still highly leveraged.

16. **The difference between the aggregate and firm-level financial position is borne out by looking at the distribution of key ratios across firms.** The distribution of leverage ratios through time (the text figures below show the debt-equity and debt-asset ratios) shows the expected rightward shift during the crisis as the exchange rate depreciated increasing the baht value of foreign currency denominated debt. The distributions have since shifted back with current modes even lower than pre-crisis levels. However, the fatter tails at both ends of the distributions indicate the increased dispersion in leverage arising in the wake of the crisis. The increased number of highly leveraged firms is what drives the divergence between the aggregate and median ratios. Moreover the distributions below are not weighted by size. Thus the divergence between aggregate and median ratios shows that some large companies remain troubled and highly indebted.

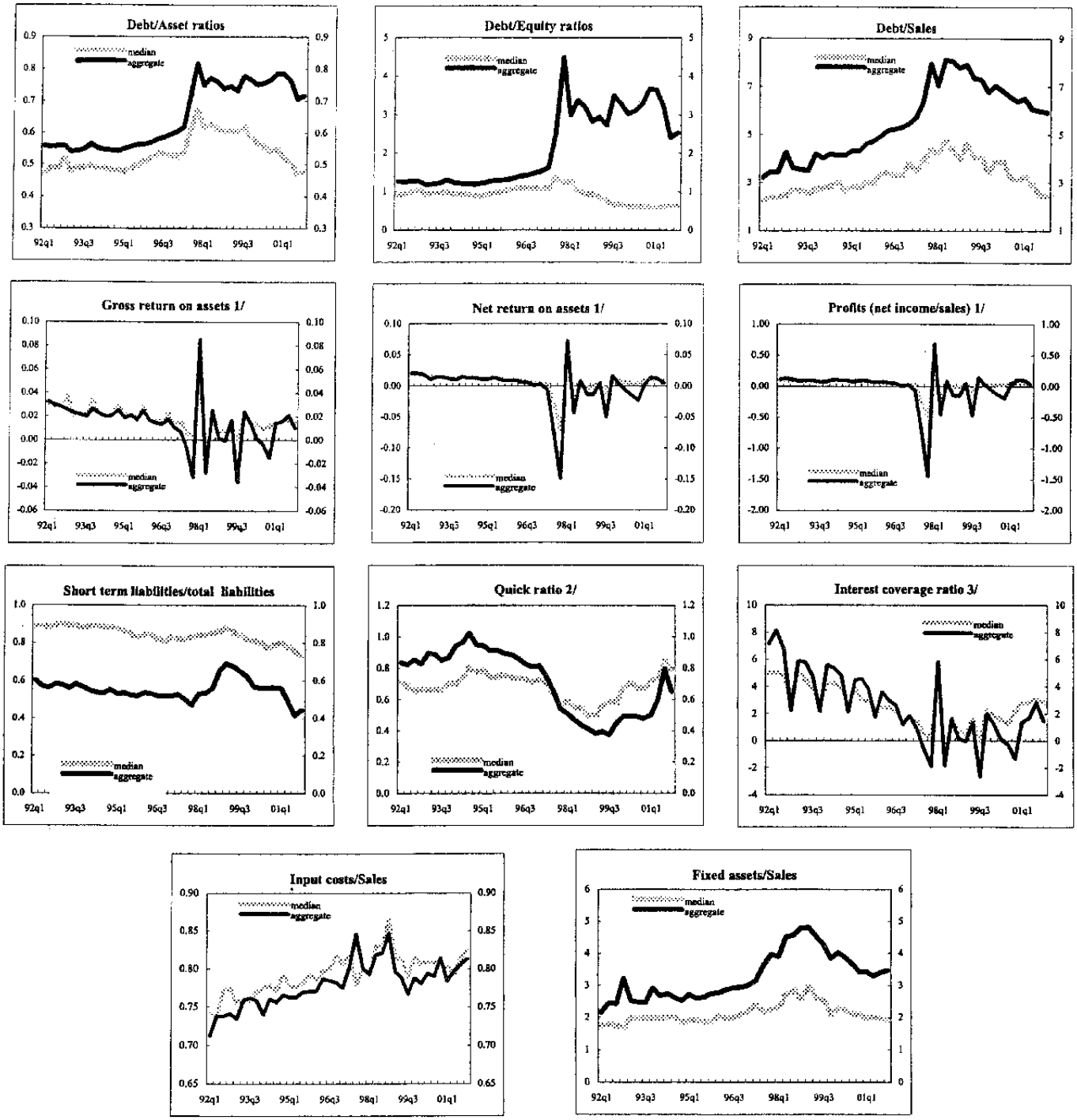




17. **Debt held by firms that have been under rehabilitation appears to account for a significant portion of this disparity between median and aggregate debt measures.** Figures III.2 and III.3 show aggregate and median (respectively) debt ratios calculated for various sub-samples of firms, with a clear divergence emerging across the different splits. Firms that have been under SET rehabilitation[12] (weak firms) have continuing high debt, more volatile performance, and continued poor cash flow positions. They also hold higher

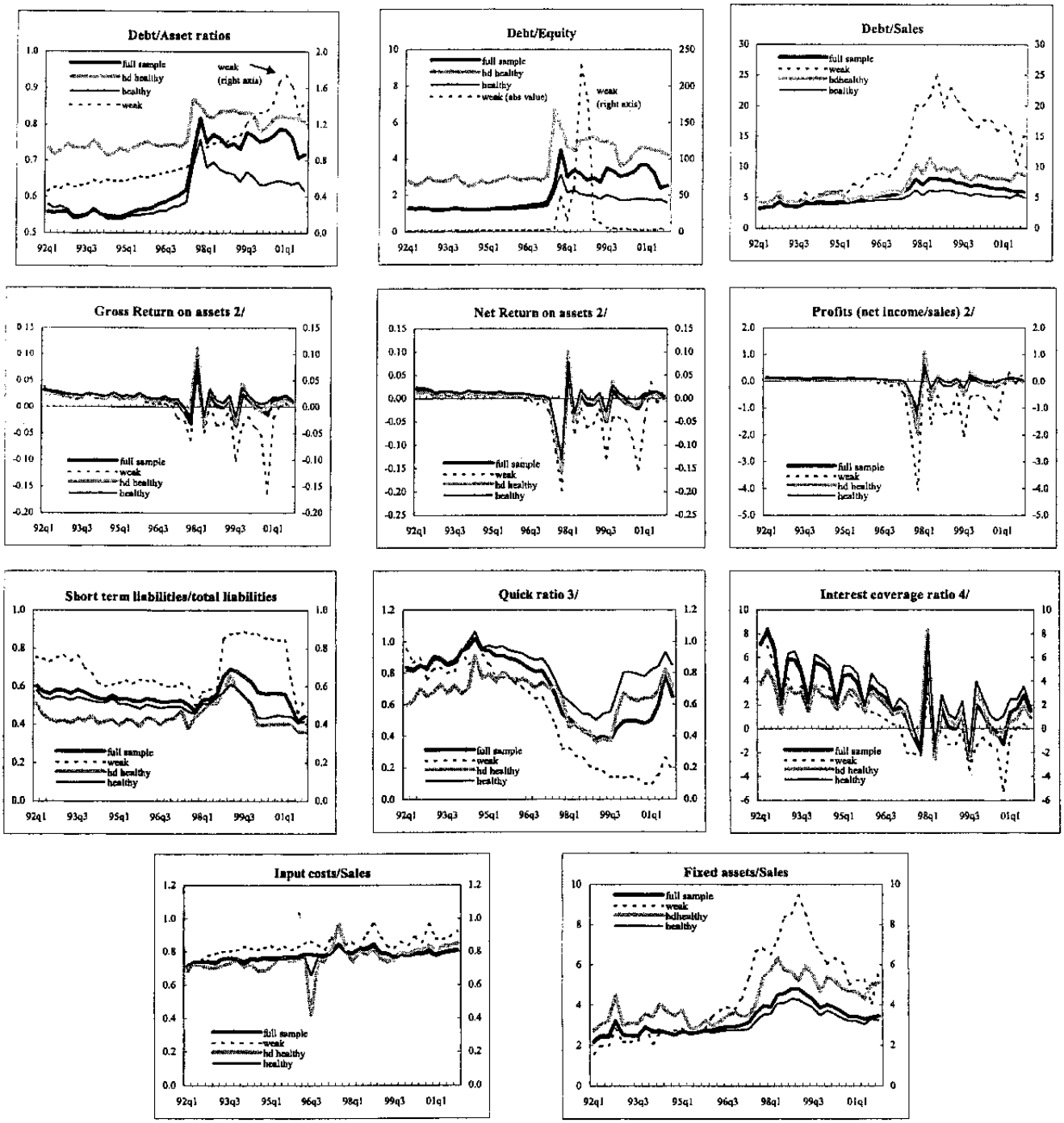
[12] Listed companies that are experiencing financial difficulty and meeting some specific criteria on profitability and net worth, can be moved to the so-called "Rehabilitation" board of the SET. They are then removed from their specific industry sub-category of the SET index. In principle, this would typically constitute a first step towards delisting. But most companies under rehabilitation have continued to be listed.

Figure III. 1. Median vs. Aggregate Corporate Performance Measures



1/ The figures are not annualized.
2/ Quick ratio = (current assets - inventory)/current liabilities.
3/ Earnings before interest and taxes divided by interest expense.

Figure III. 2. Aggregate Corporate Performance Measures 1/



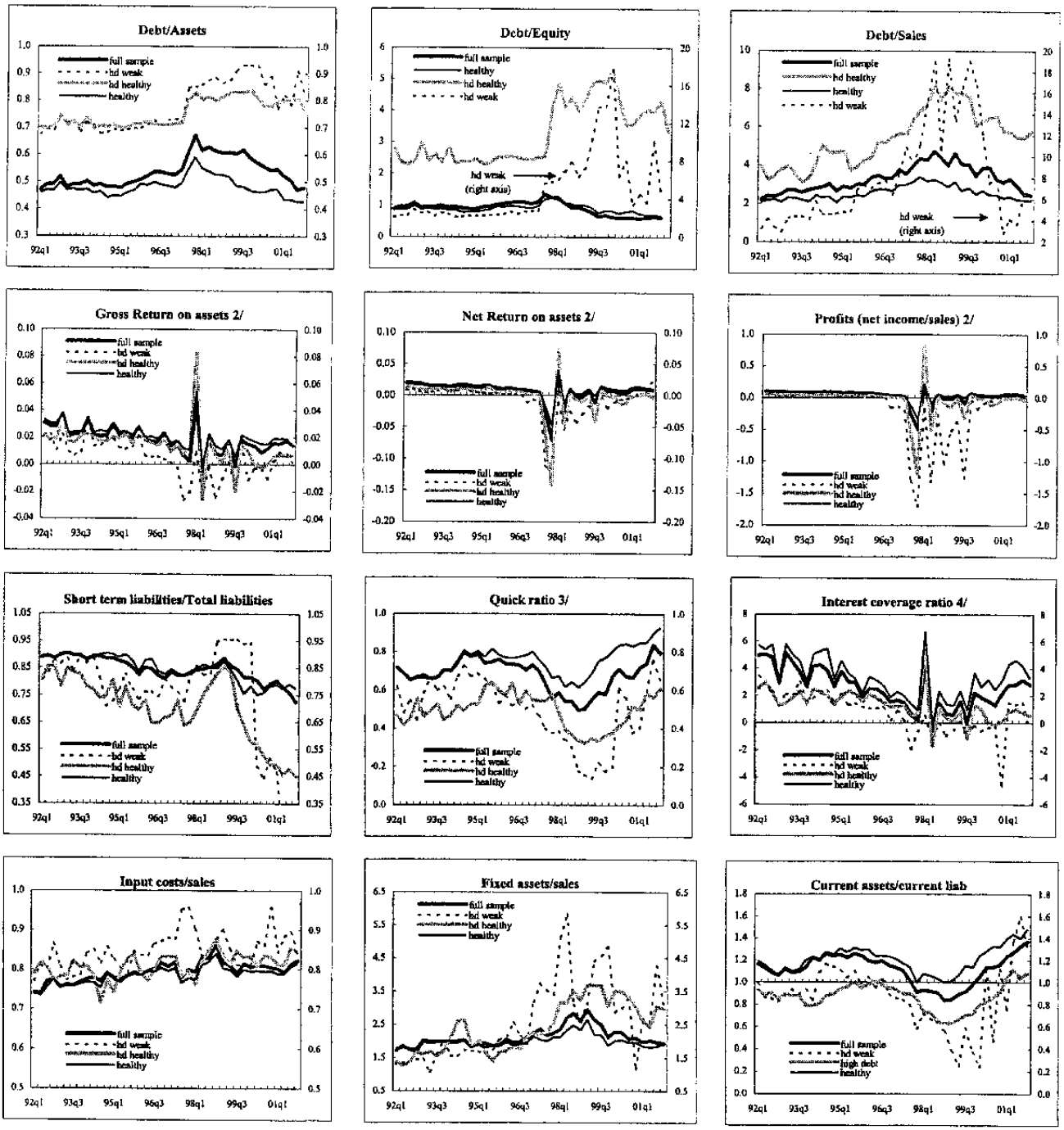
1/ The label "hd healthy" refers to firms with high debt that have never been in "rehabilitation". High debt is defined as a debt-to-equity ratio in the upper 25th percentile of the sample. "Weak" firms are those that have been in "rehabilitation", as defined by the SET, at some point. "Healthy" firms are those that have never been in rehabilitation.

2/ The figures are not annualized.

3/ Quick ratio = (current assets - inventory)/current liabilities.

4/ Earnings before interest and taxes divided by interest expense.

Figure III.3. Median Corporate Performance Measures 1/



1/ The label "hd healthy" refers to firms with high debt that have never been in "rehabilitation". High debt is defined as a debt-to-equity ratio in the upper 25th percentile of the sample. "Weak" firms are those that have been in "rehabilitation", as defined by the SET, at some point. "Healthy" firms are those that have never been in rehabilitation.

2/ The figures are not annualized.

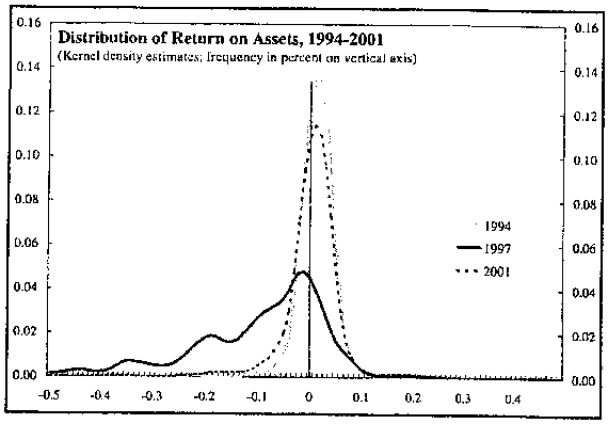
3/ Quick ratio = (current assets - inventory)/current liabilities.

4/ Earnings before interest and taxes divided by interest expense.

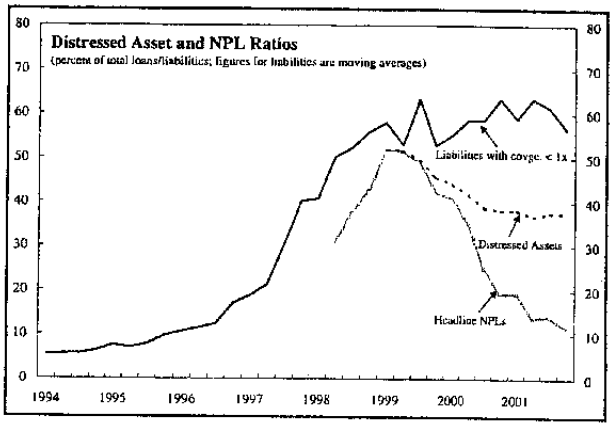
proportions of fixed assets (relative to sales), and have suffered from very weak interest cover for some time. These firms accounted for around 25 percent of total debt in 2001, but only 12 percent in assets and 10 percent in sales (Table III.1).[13]

18. **High debt firms that have never been under rehabilitation status also play a role in explaining the gap between the median and aggregate debt measures**. High debt firms are here defined as firms with debt-equity ratios in the upper quartile of the sample. Their median performance has lagged that of the full sample, including on return on assets, liquidity measures, and interest coverage (Figures III.2 and III.3). These firms are found in sectors that would be expected to have more tangible assets (real estate, capital-intensive manufacturing).[14]

19. **Similarly, the aggregate profitability data obscure interesting firm-level dynamics**. Again as expected, the distribution across firms of returns on assets shifted to the left during the crisis, with a fattening of the negative tail (Text Chart). (Indeed it is interesting to note that even in 1994, a sizeable number of firms were losing money). With the economic pick up, the distribution has shifted right again into more positive territory. While the mode is similar to that prior to the crisis, the slightly fatter negative tail again points to the presence of the still higher number of loss-making firms. Aggregate profitability remains modest, at about a 3½ percent ROA in 2001.



20. **Analysis of data on interest coverage suggests that the level of corporate debt under stress remains higher than reflected in the headline NPL figures**. An interest coverage multiple below 1 implies that firms are not generating adequate net cash flow to service fully their debt. This has typically been used by market



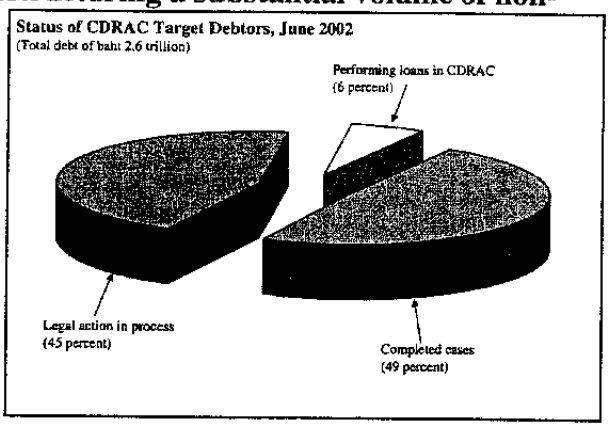
[13] The largest debtor in this category is Thai Petrochemical Industries (TPI), which accounted for 8 percent of total debt in 2001.

[14] These include communication, entertainment and recreation, energy, household goods, agribusiness, food and beverages, electronic components, chemicals and plastics, and commerce.

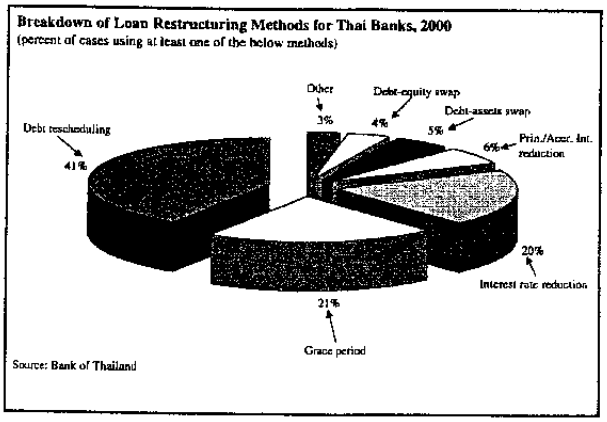
analysts as a threshold to categorize all such firms' liabilities as "implied NPLs". The text chart presents the value of total liabilities held by firms whose coverage multiple is less than 1, as a share of total listed company liabilities for the quarter in question. As can be seen this ratio has not fallen since the peaks during the crisis, and remains above both NPL and distressed asset ratios. While it is not possible to map directly from listed company data to the broader sample of the financial sector data on NPLs/distressed assets, the analysis is still sobering. Certainly a large portion of listed company liabilities are held by firms that still face debt-service difficulties.

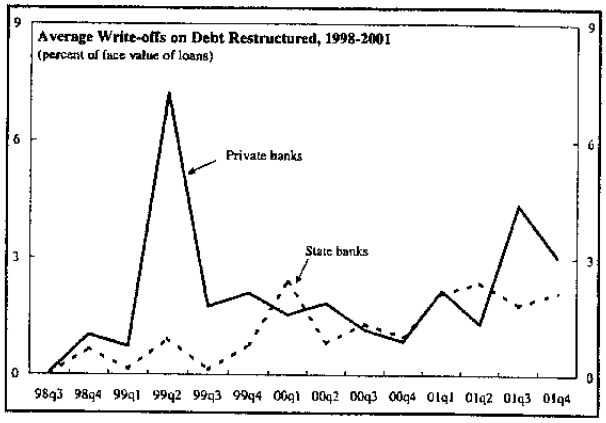
E. Progress on Corporate Debt Restructuring

21. **Financial institutions have reported restructuring a substantial volume of non-performing corporate debt**. Large portions of claims were negotiated under the auspices of the CDRAC process, with a completion rate of over 50 percent. But this has still left troubled debt worth about 25 percent of GDP to be dealt with in the over-burdened court system. Moreover, the sustainability of the debt restructuring achieved under the CDRAC process remains to be demonstrated. The continued re-entry of previously restructured NPLs is a testament to this concern.



22. **Still high corporate debt levels reflect that much debt restructuring has involved debt rescheduling and less debt reduction**. The difficulties in pursuing adversarial bankruptcy proceedings and slow pace of foreclosure have undermined the ability of creditors to convert debt into equity in the process of restructuring. While debt restructuring is an inherently iterative process, creditors also face incentives to stretch out the process of loss recognition and so conserve capital. As such, there has been little NPV reduction in the face value of debt, whether through debt-equity conversion, or debt and debt service reduction. Thus both corporate leverage and its financial sector counterpart, distressed assets, remain high. This is evinced by available data on the terms of completed debt restructurings shown in the following text charts.

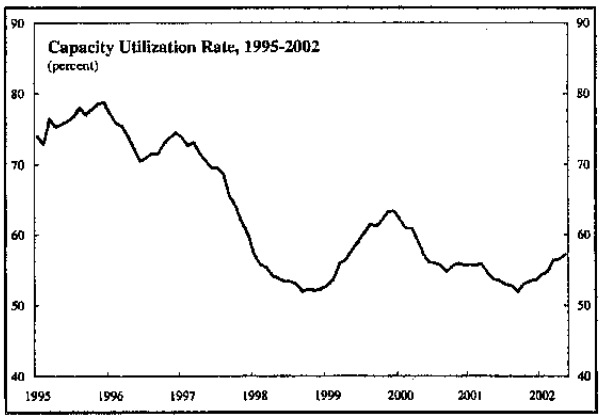




23. **Evidence on adjustment in the real sector is also mixed**. There has certainly been exit of listed companies, particularly in those sectors most clearly identified with the asset price bubble—the finance companies and real estate related businesses. Also employment in the industrial and service sectors has been reduced. Moreover, there has been substantial new capital raised in the banking sector resulting in significant dilution of existing owners, though in no case of the largest banks has there been any change in control. However, comparatively little equity has been raised in the broader corporate sector and corresponding anecdotal evidence suggests that ownership remains mostly unchanged.[15] Comparatively little exit has been reported in the manufacturing sector and, most tellingly, capacity utilization remains low when compared with pre-crisis levels.[16]

Exit of Listed Companies

	Jan. 1997	Feb. 2002	Change
Total Listed Companies	**454**	**380**	**-74**
Main sectors			
of which:			
Finance and securities	52	23	-29
Property development	44	24	-20
Building materials	35	12	-23
Agribusiness	29	20	-9
Food and beverage	29	22	-7



[15] The TPI bankruptcy case, the largest in Thailand, remains important, but an exception. Total new equity raised since the crisis by firms reporting to the SEC (Securities and Exchange Commission) amounts to about $14 billion, some 35 percent of average market capitalization. But of this, approximately $10 billion has been raised by private commercial banks. This leaves a much smaller share raised by the private non-financial sector. Moreover, merger and acquisition activity has been mostly absent. The value of mergers approved by the SEC since the crisis has amounted to less than 2 percent of market capitalization.

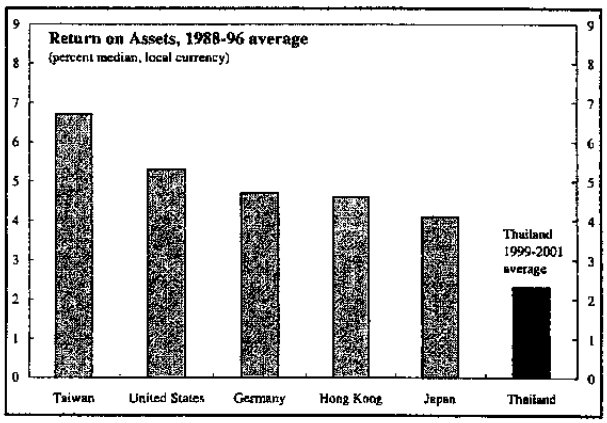
[16] The capacity utilization index must be interpreted with caution. Anecdotal evidence suggests that the installed capacity of plants that are no longer producing is still included in computation of the ratio. This would tend to bias downwards the utilization index. But it is unclear whether the financial losses associated with the implied economic depreciation of installed capital have been fully realized. In this context, the currently measured low level of capacity utilization could still provide useful information on the extent of losses yet to be realized to reflect the shutting down of defunct capital stock.

F. Conclusion

24. **The corporate sector, while recovering, appears fragile and vulnerable to potential adverse shocks in the future**. Performance has improved but remains somewhat volatile, debt levels are still high, and capacity utilization is weak. Many firms are still exposed to shocks from a slowdown in demand, higher interest rates and a weakening of the exchange rate, with adverse implications for macroeconomic and financial stability.

25. **While the aggregate listed company sector remains strained, many firms appear well on the road to recovery**. The preceding firm level analysis suggests that the problems in the Thai listed corporate sector are concentrated in some large troubled conglomerates that expanded too rapidly in the bubble years, many with a capital structure particularly exposed to foreign debt. Thus weakness in the aggregate corporate sector remains, and has substantial macro-economic implications. But the strength of a broad base of other firms (including many smaller companies) is encouraging and suggests that a targeted debt restructuring strategy could have large pay-offs. While the financial implications of dealing with big debtors are of course substantial, the coordination problems are much reduced.

26. **The true extent of the remaining need for a reduction in excess capacity can best be found through a market-based process**. It is hard to gauge the *full* extent of the remaining debt over-hang, the financial counterpart to excess capacity. Despite recent gains, the relatively low post-crisis rate of return on capital in Thailand compared with some international benchmarks is suggestive of unresolved problems.[17] But this is a fundamentally microeconomic restructuring process that must work its way through in time. The key is to set up an institutional framework and incentive structure that facilitates price discovery of assets and facilitates an efficient sharing of the costs associated with restructuring, whether through losses at banks or ownership changes and exit in the real sector.



[17] While an inherently difficult comparison, the figure attempts to present benchmarks in the form of longer run averages that smooth out cyclical effects. Thus, data on Thailand spanning the post-crisis recovery are compared with data from other countries over a time period spanning a global business cycle.

Table III.1: Composition of Corporate Balance Sheets Across Different Sample Splits

	Full sample	Healthy firms 1/				Weak firms 2/				High debt, healthy firms 3/				High debt, weak firms				Rehabco firms 4/			
	# (yr end)	Percent	Debt	Assets	Sales	Number	Debt	Assets	Sales	Percent	Debt	Assets	Sales	Percent	Debt	Assets	Sales	Percent	Debt	Assets	Sales
1992	337	78.0	82.2	81.3	84.8	22.0	17.8	18.7	15.2	17.2	47.7	35.7	34.7	7.7	9.0	5.5	5.6	—	---	---	---
1993	356	78.4	79.5	80.1	85.1	21.6	20.5	19.9	14.9	17.7	42.7	31.9	37.9	7.3	10.7	6.2	5.9	—	---	---	---
1994	360	78.1	77.2	78.2	83.9	21.9	22.8	21.8	16.1	15.8	38.4	28.4	27.8	9.2	11.6	10.3	9.2	---	---	---	---
1995	359	78.0	75.5	77.3	82.9	22.0	24.5	22.7	17.1	13.4	30.9	23.2	27.9	11.4	15.0	11.5	8.4	---	---	---	---
1996	366	78.4	73.3	76.6	83.3	21.6	26.7	23.4	16.7	13.1	31.6	25.2	28.2	11.7	14.4	11.1	9.6	—	---	---	---
1997	360	77.8	68.0	73.2	87.3	22.2	32.0	26.8	12.7	16.7	32.1	30.8	24.5	8.3	13.6	13.2	4.2	6.4	10.3	7.4	5.1
1998	346	80.1	70.6	78.4	88.4	19.9	29.4	21.6	11.6	17.9	42.1	37.2	32.9	6.9	8.3	7.2	2.1	13.0	14.0	7.5	3.3
1999	327	81.3	69.4	81.5	88.3	18.7	30.6	18.5	11.7	21.1	47.8	44.4	41.4	3.7	11.4	10.5	7.8	14.1	17.1	7.0	3.0
2000	323	82.4	70.5	86.1	88.1	17.6	29.5	13.9	11.9	22.9	49.0	46.9	39.0	1.9	0.5	0.5	0.8	13.0	16.3	5.7	2.5
2001	300	85.0	75.5	88.0	90.3	15.0	24.5	12.0	9.7	22.0	49.7	44.1	34.1	3.0	8.7	6.5	6.9	13.3	24.1	11.4	8.1

1/ Healthy firms are those that have never been in "rehabilitation", as defined by the SET.
2/ Weak firms are those that have been in "rehabilitation" at some point.
3/ High debt is defined as a debt-to-equity ratio in the upper 25th percentile of the sample.
4/ Companies that are currently in "rehabilitation".

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IV. AN ASSESSMENT OF THAILAND'S FISCAL VULNERABILITY[1]

A. Introduction

1. **After enjoying a decade of debt consolidation and fiscal surpluses, Thailand's fiscal trends reversed quickly during the 1997 crisis**, which caused a surge in public debt and a sizable widening of the fiscal deficit. The deterioration in the fiscal position was driven by a combination of cyclical and structural factors, including a severe output decline, the steep depreciation of the baht, and large financial sector losses absorbed by the government.

2. **The heavy debt burden inherited from the crisis is a source of vulnerability and a constraint on economic management**. High indebtedness limits the scope for policy flexibility in the face of a cyclical downturn. Also, aggressive measures to reduce indebtedness can delay a nascent economic recovery. Historical data from other emerging market economies uncover a general association between high public debt and weak economic performance. Moreover, recent crisis episodes corroborate the view that high public indebtedness, if not managed properly, may induce or propagate an external crisis.

3. **This paper offers a fresh look at Thailand's fiscal vulnerability in a cross country perspective**. Following Hemming and Petrie (2000), it begins with an assessment of the initial fiscal position and its sustainability, including estimates of contingent liabilities (see Section B). Central to the fiscal vulnerability assessment is the quantitative measurement of the impact of various macro shocks on the medium-term fiscal outlook (Section C). Risks from debt management and other structural fiscal risks are also explored below (Section D), while vulnerabilities arising from ongoing fiscal decentralization are covered in Chapter V.

4. **The main findings and policy implications of this paper are as follows**:

- *Thailand's main sources of fiscal vulnerability* relate to (i) the presence of sizable contingent liabilities; (ii) the high sensitivity of the debt dynamics to adverse economic scenarios; and (iii) the significant near-term gross financing requirements.

- *Policy efforts are needed to place the medium term debt path on a firmly declining path.* The ongoing economic recovery presents a timely opportunity to reorient fiscal policy from stimulus to debt consolidation. Asset recovery and privatization could also play a key role in containing the medium-term debt dynamics.

- *An orderly rollover of near-term maturing public liabilities* should be facilitated by Thailand's high private savings rate, high domestic liquidity, and low interest rates. Moreover, moderate public external indebtedness reduces the chance that domestic fiscal pressures may spill over into an external crisis.

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[1] Prepared by Lorenzo Giorgianni. Part of the data was kindly provided by Teresa Dabán.

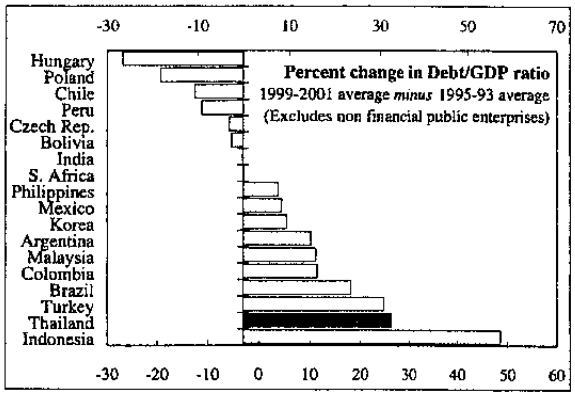
B. Current Fiscal Position

Thailand's current fiscal position is best described in an historical perspective and against the experience of other emerging market economies—with caveats about data comparability.[2]

Historical and Cross-country Perspective

5. **During the decade prior to the 1997 crisis, Thailand undertook a successful fiscal adjustment**. The primary balance rose by some 6 percent of GDP above its previous decade average; and the central government debt ratio was brought down to around 5 percent, from its earlier peak of 35 percent reached during the financial crisis of the mid-1980s. Thailand's successful fiscal consolidation was facilitated by high output growth (9½ percent a year), well in excess of the real interest rate (4½ percent). These achievements are striking, specially when compared to the broad fiscal trends of other emerging market economies (Figure 1).

6. **Thailand's fiscal position deteriorated rapidly in the wake of the 1997 crisis**. Headline public debt tripled in just two years—an increase of exceptional size and speed by Thailand's own history and that of other countries—and now hovers at around 60 percent of GDP (Text Chart). Over two-thirds of the increase in the headline debt was driven by structural factors, including large banking system losses, and the limited rebound from the initial sharp depreciation of the exchange rate. The cyclical income decline and an accommodative reorientation of fiscal policy also contributed to higher indebtedness. In fact, a comparison of the pre and post-crisis fiscal positions indicates that about 70 percent of the actual deterioration in the central government fiscal balance (excluding the *principal* costs of financial sector restructuring) was of a cyclical nature (Table 1).[3]



7. **The budget ending in September 2002 builds a temporary rise in expenditures**. The comprehensive public sector deficit is targeted to widen to 5½ percent of GDP (a 1½ of

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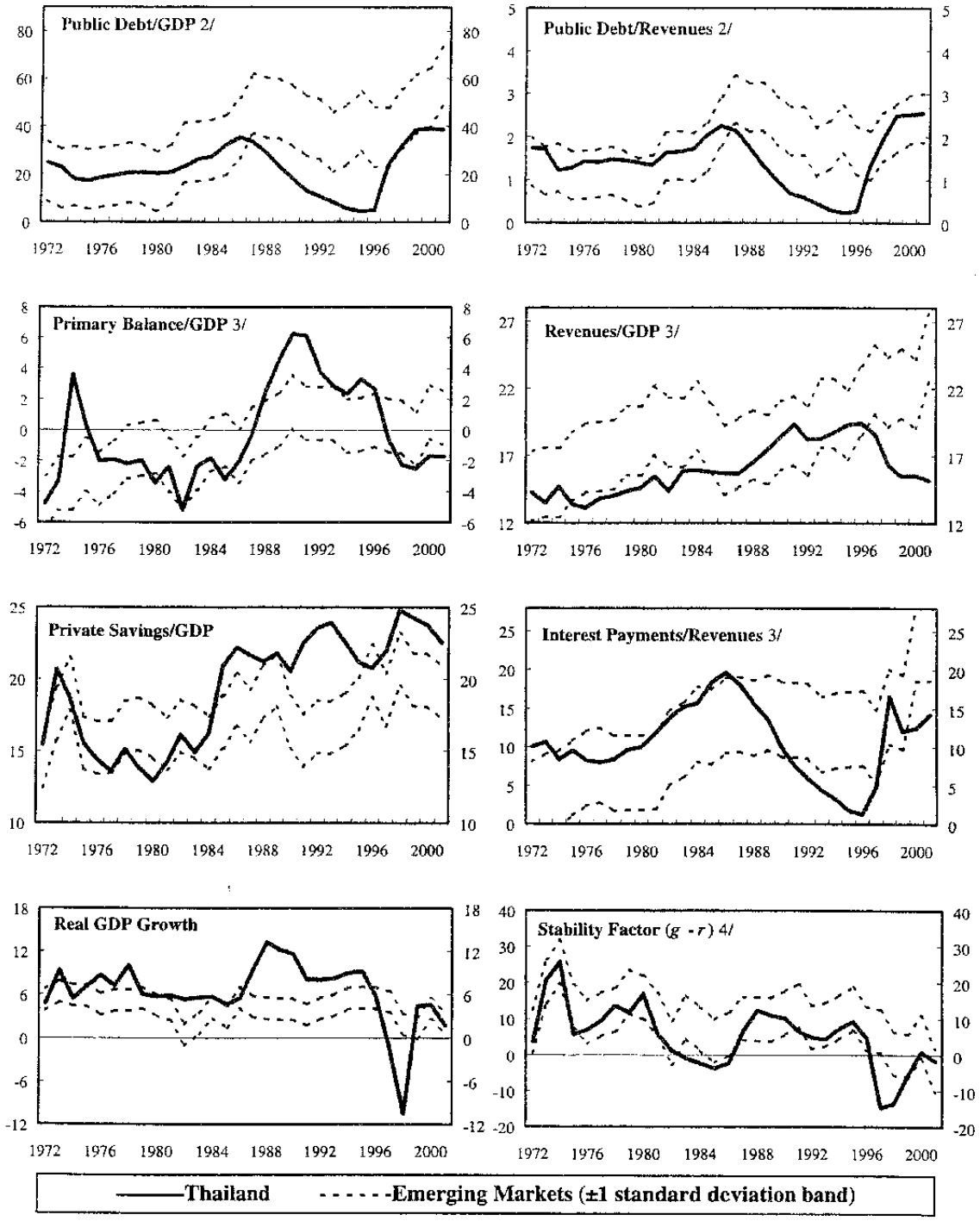
[2] The sample of emerging market economies comprises Argentina, Bolivia, Brazil, Chile, Colombia, Czech Republic, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Slovak Republic, South Africa, Thailand, Turkey, Uruguay, Venezuela. The fiscal data is not necessarily comparable, as country definitions vary. Thus, the cross country evidence presented in this paper is, at best, illustrative of general trends.

[3] The size of the structural deterioration broadly matched the observed increase in debt service, with increases in other current expenditures offset by declines in capital spending.

Figure 1
Fiscal Developments in Thailand and Other Emerging Markets (1972 - 2001) 1/



Source: IMF staff estimates based on GFS, IFS and country authorities' data.

1/ All variables in percent, except for public debt/revenues. The emerging markets sample includes 22 countries (see footnote 2 of main text).

2/ Excludes non financial public enterprises.

3/ Central Government *plus* FIDF.

4/ g = real GDP growth; r = average real borrowing cost.

Table 1. Thailand's Fiscal Accounts, in percent of GDP

	[1] FY 1996 Pre-crisis	[2] FY2000-FY2001 Post-crisis average	[2] - [1] Change	[3] FY 2002 Projections	[3] - [2] Change
I. Central Government balance 1/	**2.4**	**-3.7**	**-6.1**	**-4.8**	**-1.1**
Total revenues and grants	19.4	15.4	-4.1	15.5	0.2
Revenues	19.4	15.3	-4.1	15.5	0.2
Tax revenues	17.6	13.6	-4.0	13.5	0.0
Nontax revenues	1.8	1.7	-0.1	2.0	0.3
Grants	0.1	0.1	0.0	0.0	-0.1
Total expenditure and net lending	17.1	19.1	2.0	20.4	1.3
Current expenditure	10.8	14.8	4.0	15.0	0.3
Interest payments 1/	0.3	2.0	1.8	2.4	0.4
o/w, financial sector restructuring	0.0	1.6	1.6	1.7	0.1
o/w, unfiscalized portion (FIDF)	0.0	0.8	0.8	0.9	0.0
Capital expenditure	6.0	4.3	-1.7	5.3	1.0
Net lending	0.2	0.0	-0.2	0.0	0.0
II. Non Financial Public Enterprise balance	0.1	-0.5	-0.7	-0.6	-0.1
Retained earnings	3.2	2.8	-0.4	2.1	-0.7
Capital expenditures	3.0	3.3	0.2	2.6	-0.6
III. Fiscal balance (=I+II)	**2.5**	**-4.3**	**-6.8**	**-5.4**	**-1.2**
IV. Other fiscal activities	-0.2	0.3	0.5	0.0	-0.2
Extrabudgetary funds balance	0.0	0.5	0.5	0.7	0.2
Local government balance	-0.2	0.1	0.4	0.3	0.2
Quasi-fiscal activities 2/	0.0	-0.4	-0.4	-1.0	-0.6
V. Overall public sector balance (=III+IV)	**2.3**	**-4.0**	**-6.3**	**-5.4**	**-1.4**
Memorandum items:					
Structural revenues, central government	16.5	16.6	0.1	16.8	0.2
Structural balance, central government	-0.6	-2.5	-1.9	-3.6	-1.1
Primary balance, central government	2.6	-1.7	-4.3	-2.4	-0.7
Structural primary balance, central government	-0.3	-0.5	-0.2	-1.2	-0.7
Headline public debt	14.5	57.9	43.4	61.0	3.1
Central government	3.9	24.9	21.0	27.7	2.7
FIDF, financial sector restructuring	1.3	13.8	13.7	14.6	0.8
Non financial public enterprises	9.3	19.1	9.7	18.7	-0.4

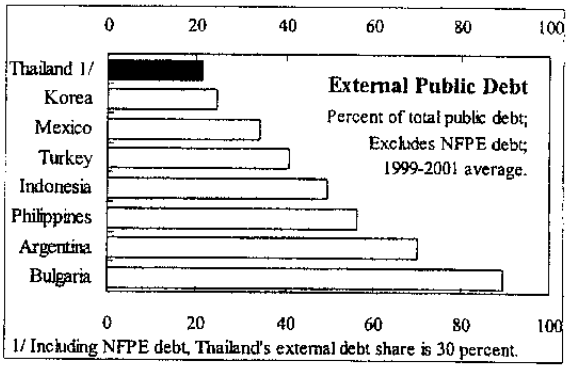
Source: IMF staff estimates based on authorities' data.

1/ Includes non-fiscalized portion of financial sector restructuring (FIDF) interest costs.

2/ Includes the non-fiscalized portion of the funding costs of the "village fund" and the debt suspension for farmers.

GDP deterioration—most of which is structural—compared to post-crisis average deficit), on account of a pick up in expenditures, including some undertaken outside of the budgetary framework (Box IV.1). The envisaged recourse to quasi-fiscal financing reflects, to some extent, difficulties in using budgetary spending flexibly to support economic activity.[4] Based on preliminary information, the budget draft for FY 2003 targets a reduction in the overall deficit of over 1¼ percent of GDP, and is underpinned by significant expenditure cuts.

8. **Despite its recent weakening, Thailand's fiscal position does not compare unfavorably with other emerging market economies** (Figure 1). A caveat is in order: cross-country comparisons are hampered by a different coverage of fiscal data in the sample considered. As a result, the evidence presented should be interpreted with caution. This said, a static cross-country comparison indicates that Thailand's public indebtedness (excluding Non Financial Public Enterprises (NFPE) debt for consistency with other countries debt data) is of the same order of magnitude as that of other emerging market economies (both as share of GDP and revenues). Thailand's share of external indebtedness—a potentially significant source of vulnerability—is generally smaller than in other countries (Text Chart). However, Thailand's revenue ratio is significantly lower than in other emerging market economies, and its primary balance weaker. As regards the macroeconomic environment for fiscal sustainability, Thailand enjoys higher private savings, but a less favorable growth-interest rate nexus—a key determinant of debt sustainability (see ¶11-12).



9. **In the sample of countries under consideration, higher indebtedness tends to be associated with weaker economic performance**. Based on data averaged over long time spans, debt ratios tend to be correlated negatively with real output growth and with private savings, and positively correlated with inflation (Figure 2). Moreover, high debt ratios have been historically associated with greater volatility in output, inflation, interest rates and private savings. More rigorous testing would be needed to uncover the causality of these relationships, but regardless of the direction of this causality, once large public debt exists it complicates economic management. Not surprisingly, countries with relatively higher debt ratios appear to receive less favorable long-term sovereign debt ratings.

Is the Current Fiscal Position *Sustainable*?

10. **One central question to the fiscal vulnerability assessment is whether the initial fiscal position is *sustainable*.** The theoretical notion of sustainability refers to a situation

[4] Thailand has a tradition of underachieving deficit targets. During 1999-2001, outturns for the comprehensive public sector undershot plans by between 2 and 2½ percent of GDP.

Box IV.1. Progress in the Implementation of the Government Fiscal Initiatives

Since coming to office in early 2001, the government has implemented a number of fiscal programs, which aim to boost the incomes of the rural population, increase the availability of financing for new enterprises and boost capital markets. For most of these programs, financing is provided, at least initially, outside of the budgetary framework. The eventual cost to the budget is in some cases uncertain, but given the non-recurring nature of the majority of these programs, their costs should be manageable. A description of each initiative is provided below.[1]

- **Village Fund**. Under this program, each of Thailand's roughly 75,000 villages and urban communities are provided with a revolving fund facility of B 1 million ($23,000) to finance working capital needs and micro–credit programs for small scale enterprises. Although, funding is initially provided by a government-owned specialized financial institution (the Government Savings Bank, GSB), principal and interest costs are reimbursed by the budget over an 8 year period. The interest rate charged to the budget is equivalent to the market deposit rate plus 175 basis points to cover GSB's operational expenses. The funds are managed independently by village-level committees, with only broad oversight exercised by a national-level committee.

  By February 2002, B 70.4 billion (1.4 percent of GDP) in funds—nearly the whole amount of funds allocated to the initiative—had been disbursed to the villages. Of this, about B 48.6 billion (0.9 percent of GDP) had been on-lent to individuals. Under the program, each borrower's credit limit is capped at B 20,000 ($460), and the average loan size is estimated at about half of that. Loans to individuals are on a short term basis (less than 1 year) and the interest rate charged ranges from 0 to 12 percent, with an estimated median of around 6 percent. According to a BOT survey, most of the loans (60 percent) are funding purchases of intermediate farm inputs (such as fertilizer), with the rest equally split between investment in small scale projects, and refinancing of high-cost debt. Since this initiative is at an early stage, no reliable information on default rates is yet available.

- **Debt Suspension for Farmers**. This program provides debt relief to farmers with outstanding credit from the Bank for Agriculture and Agricultural Cooperatives (BAAC) of less than B 100,000 ($2,300), comprising 84 percent of BAAC debtors. Eligible farmers were given the choice of a three–year suspension of all principal and interest payments, or a 3 percentage point reduction in the interest rate for three years. The total cost of this program is estimated at around B 20 billion (0.4 percent of GDP). Losses resulting to BAAC are compensated by the budget over a three year period (B8 billion has been allocated thus far). By February 2002, 98 percent of the almost 2½ million of eligible farmers, holding B 94 billion in debts, had adhered to the initiative, with broadly equal participation in the debt suspension and interest rate reduction programs.

- **Universal Health Care**. The objective of this plan is to make health care available at a fixed fee of 30 baht ($0.66) per visit to families not currently covered by other government–sponsored health insurance schemes. The authorities plan to phase this plan over a three–year period, after initial pilot programs are completed. Thailand has already a fairly extensive public health care system with a consolidated yearly budget of circa B 75 billion. The incremental cost of the universal health care program will ultimately depend on the precise details of the initiative and the cost savings achieved from the consolidation of existing programs. The incremental cost of this program is estimated to be in the order of B 25 billion (½ percent of GDP) yearly.

A number of other initiatives have been launched to stimulate credit and revive key economic sectors:

- **Measures to stimulate the domestic real estate market**. The MOF has assigned the Government Housing Bank (GHB) to extend loans to create demand for housing from state officials, state enterprise employees and members of the Government Pension Fund who have sound purchasing power. Under one scheme, the GHB allows eligible individuals to borrow up to the appraised value of the house at below-market interest rates (equivalent to 75 basis points above deposit rates). By April 2002, the GHB had approved B 12 billion in home loans for 1,732 out of 37,600 applications received for loans worth around B 29 billion. Under a second pilot scheme, the National Housing Authority has been charged to coordinate with the GHB, and Krung Thai Bank the funding of the development of stalled (NPL) housing projects for sale to civil servants, state enterprise employees and the general public. By end March 2002, 9 projects worth B 7 billion had been selected.

[1] A number of tax measures were also implemented in 2001. These measures aimed at promoting the listing of companies in the Thai stock market (by lowering the corporate income tax rate for listed companies from 30 percent to 25 percent), encouraging home purchases (by exempting down-payments from the calculation of the personal income tax), mobilizing revenues and discouraging imports of consumption goods (by increasing selected excise taxes).

Box IV.1. PROGRESS IN THE IMPLEMENTATION OF THE GOVERNMENT FISCAL INITIATIVES (END)

- **Micro lending under the People's Bank**. The government has entrusted the GSB to establish the People's Bank program to provide small scale financing (mostly to retail businesses). Funding for this initiative comes from the GSB with no explicit guarantees by the budget. Under the initiative, uncollateralized loans are capped at B 50,000 ($1,200), though the loan size could be higher if collateral is pledged. Interest charges are set at 1 percent per *month*, with the repayment period not exceeding 3 years. To instill credit discipline, members of the People's Bank must open a deposit account, and loan repayments are automatically deducted from their savings. The GSB expects to lend over B 8½ billion of funds to 600,000 individuals by 2003. By end 2001, loans for about B 3.8 billion baht had been extended to 280,000 individuals, of which less than 1 percent had turned non-performing. Complementing the People's Bank project, the BAAC is preparing to extend B 100 million in non-farm micro credits (of up to B 15,000 per applicant). The terms of the loans are similar to those offered by the GSB under the People's Bank. To encourage good credit discipline, under this initiative borrowers who make repayments on time for six months qualify for reduced interest payments.

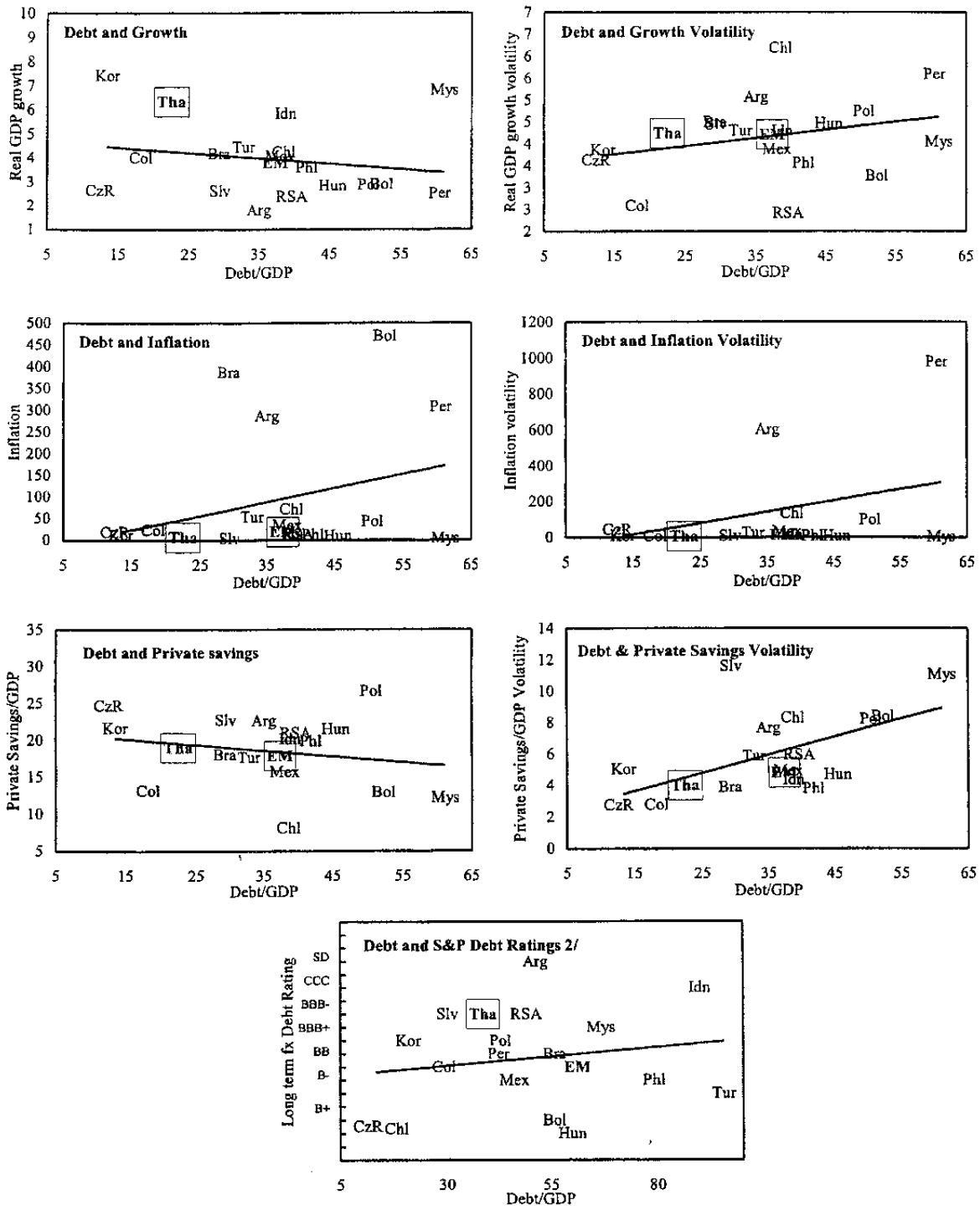
Table. Cost of Government Fiscal Initiatives
(Estimated Cumulative Financing Need over 2001-2003)

	B billions	% GDP
Village Fund	77	1.5
Debt Suspension for Farmers	20	0.4
Universal Health Care 1/	75	1.5
Equity Funds 2/	18	0.4
Peoples' Bank	4	0.1
SME Bank 3/	10	0.2
Real estate lending 4/	19	0.4
Lending by SFIs/state banks 3/	22	0.4
Total	**245**	**4.8**

Source: IMF staff estimates on authorities' data.
1/ Three-year incremental cost of initiative (annual incremental cost is B 25 million).
2/ Portion financed by state-run entities (additional B29 billion provided by private investors).
3/ Planned credit extension for year 2002.
4/ Estimated subsidized home loans extended by April 2002.

- **Lending by state banks and Specialized Financial Institutions (SFIs)**. The MOF has assigned state banks and SFIs to spearhead credit extensions to key economic sectors and SMEs.
  - The Small Industry Credit Guarantee Corporation (SICGC) established a B 10 billion credit guarantee program covering up to 50 percent of SME loans extended by state financial institutions (the guarantee covers also forgone interest payments). Fees levied by the SICGC range between 1 and 1.8 percent.
  - The EXIM bank and the Small Industry Finance Corporation (SIFC) established a credit program to promote and support exports, with an operating budget of B 12 billion.
  - The role of the SIFC was expanded to allow it to become a special-purpose "SME Bank" with the mandate to extend up to B 10 billion in soft loans and provide financial services to SMEs. Although details are still being worked out, the proposed SME Bank will be allowed to accept deposits from its borrowers, but is not expected to be supervised by the Bank of Thailand.
- **Equity funds**. In an effort to support the capital markets and foster corporate restructuring, the government has recently launched four special funds to purchase securities in listed companies. Altogether, these funds can mobilize equity investments for up to $1.1 billion, of which less than 40 percent is funded from government-run entities. The investment pool corresponds to less than 3 percent of Thailand's 2001 stock market capitalization.
  - The *Thai Matching Fund* will invest $500 million mainly in ailing companies under restructuring with the TAMC, and is contributed for 80 percent by a US-based fund (Cerberus), with the rest provided by state-owned financial institutions (Krung Thai Bank, IFCT and the SET).
  - The smaller *Thai Opportunity Fund* ($250 million) is instead contributed entirely by state-owned financial institutions and the Government Pension Fund, and will focus its investments on listed companies which are undergoing restructurings.
  - The *Thai Equity Fund* expects to invest $250 million in medium to large companies in high-growth industries (manufacturing and services). Most of the funding comes from private investors and the International Finance Corporation, with only a small share from the MOF and state-owned banks.
  - The smaller *Thai Recovery Fund* is fully privately owned (including contributions from ADB, JBIC, and US-based State Street Corp.) and was established to invest $100 million in small and medium sized enterprises and start-up companies.

Figure 2
Public Debt and Long-run Macroeconomic Performance 1/

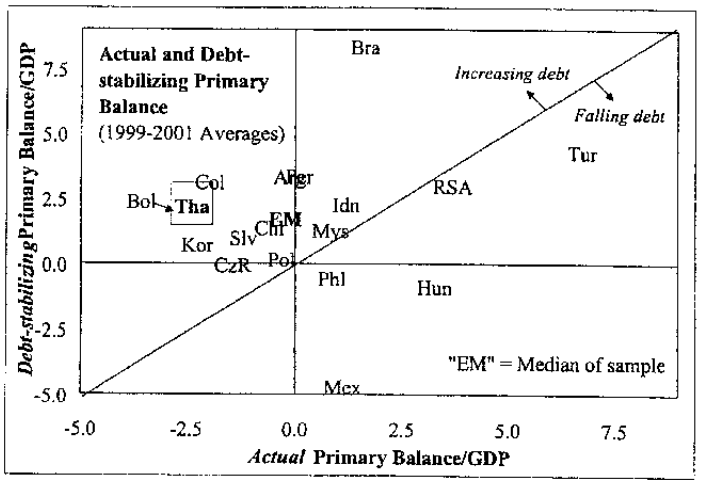


Source: Based on GFS, IFS, and national authorities' data.
1/ Available data is averaged over long time spans (1970-2001). "EM" refers to the median of 22 emerging market countries.
2/ End-2001, or earlier available observation.

where the debt stock does not exceed the present value of all future primary surpluses (a condition for solvency). This notion, however, does not always have immediate policy implications—e.g., it does not rule out large persistent primary deficits, so long as these are reversed in the distant future. The tests of sustainability offered in the literature have instead focused on the requirement that the change in the debt ratio is zero (see Chalk and Hemming, 2000). Three such tests, which are derived from the approximated accounting relation $\Delta d_t = -(g_t - r_t)*d_{t-1} - pb_t$ (where d, pb, g, and r indicate, respectively, the debt ratio, the primary balance ratio to GDP, real growth, and the real interest rate at time t), are used here:

- The ***primary gap indicator*** computes the permanent adjustment in the primary balance needed to stabilize the debt ratio at its current level: $pb^{gap} = pb_t - (g_t - r_t)*d_{t-1}$
- The ***debt-stabilizing revenue ratio*** is closely related to the primary gap indicator. It computes the revenue ratio needed for a stable debt: $T^* = nie_t - (g_t - r_t)*d_{t-1}$, where T and nie are, respectively, the revenue and the non-interest expenditure ratios to GDP.
- The ***debt-stabilizing growth rate*** computes the real growth rate necessary to stabilize the debt ratio at its current level for an unchanged primary balance: $g^* = r_t - (pb_t/d_{t-1})$.

11. **Based on these sustainability indicators, Thailand's achievement of a stable debt path depends on a stronger fiscal position and more favorable macroeconomic environment**. Over the past three years, Thailand's sizable primary deficits, in the face of a real interest rate in excess of the growth rate, have kept the debt ratio on a rising path. In fact, during the same period, other emerging market countries were running fiscal policies leading to higher debt (see Text Chart). However, as suggested by the intertemporal budget constraint, the increase in the debt ratio can be reversed provided offsetting primary surpluses are achieved in the future.



12. **The sustainability indicators presented here provide a rough measure of the needed fiscal offset** (Table 2). For example, assuming 2002 growth and interest rates are held constant in the future, the adjustment in the primary balance (or the revenue increase, for unchanged non-interest expenditures) needed to stabilize the debt ratio ranges between 3 percent to 4 percent of GDP. Conversely, if the projected (FY2002) primary deficit of 2½ percent of GDP at the central government level is not reduced in the future, the economy's growth rate will have to increase to over 5½ percent to stabilize the debt ratio at its current level. The degree of fiscal adjustment needed to ensuring a stable debt dynamics would therefore be smaller in the event growth picks up and interest rates edge lower, as shown in the alternative "long-run" scenario shown in Table 2 below.

Table 2. Indicators of Debt Sustainability, in percent of GDP

	Level of Government			
	Central 1/		Overall 2/	
	FY2002	Long run 3/	FY2002	Long run 3/
I. Debt-stabilizing primary balance	0.5	-0.3	1.3	-0.7
Actual primary balance	-2.4	-2.4	-3.0	-3.0
Primary balance gap (fiscal effort)	-3.0	-2.1	-4.3	-2.3
II. Debt-stabilizing revenue ratio	18.5	17.7	20.7	18.7
Actual revenues/GDP	15.5	15.5	17.6	17.6
Revenue gap (fiscal effort)	-3.0	-2.1	-3.1	-1.2
III. Debt-stabilizing real growth	5.7	3.5	5.6	3.4
Memorandum items				
Real growth, in percent	3.4	4.5	3.4	4.5
Real interest rates, in percent	5.6	3.4	5.6	3.4
Debt/GDP, central government, end-FY01	24.9	...	24.9	...
Debt/GDP, headline, end-FY01	57.8	...	57.8	...

1/ Excludes non-fiscalized FIDF interest costs.
2/ Includes non-fiscalized FIDF interest costs and NFPEs.
3/ Indicators based on FY2005 - FY2010 average growth and interest rates as per IMF baseline.

13. **The policy prescriptions emerging from the sustainability indicators need to be interpreted with care**. First, albeit "sustainable," an unchanged, but high, debt ratio may not necessarily be desirable, if the ability to mobilize savings and to raise revenues is limited. Moreover, sustainability indicators are not useful in the event the deficit differs from (i.e., is lower than) the change in debt—which has been the case in Thailand, due to the presence of large *principal* costs of financial sector restructuring which were not recorded under the headlined deficit figures. Finally, the usefulness of the sustainability indicators is limited in the event the fiscal accounts do not capture the full range of the government's fiscal activities. Under any of the above circumstances, the size of the fiscal adjustment required to stabilize the debt to GDP ratio would be higher than that computed by the simple sustainability indicators (see Section C for a further discussion on sustainability).

Coverage of Fiscal Statistics—Contingent Liabilities

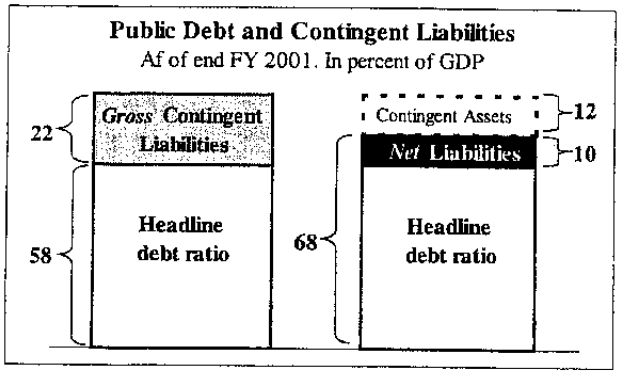
14. **The coverage of Thailand's debt statistics is broad**. The headline debt covers not only the direct liabilities of the central government, but also the debt of NFPEs and the on-balance sheet liabilities of the Financial Institutions Development Fund (FIDF)—the arm of the Bank of Thailand, which has financed the bulk of the bank restructuring costs.[5] The

[5] The definition of government debt under the 1986 Government Finance Statistics manual excludes FIDF liabilities since they are considered to be part of the financial public sector.

(continued)

headline debt figures are consistent with a notion of *gross* indebtedness, so that neither the assets of NFPEs nor those of the FIDF are netted out from outstanding liabilities.

15. **Some analysts and rating agencies contend that, despite their broad coverage, headline debt statistics underestimate the full extent of the government indebtedness,** since they exclude a large stock of unfunded contingent liabilities.[6] Thailand's *gross* contingent liabilities are estimated to be around 22 percent of GDP, with the bulk (19 percent of GDP) connected with the *gross* costs of financial sector restructuring (Box IV.2 and Text Chart). Including the total stock of contingent liabilities, *gross* public debt is estimated at around 80 percent of GDP, of which more than half is accounted for by the gross costs of bank restructuring. The *net* indebtedness is, however, smaller, since most state enterprises have positive net worth, and the FIDF controls a sizable pool of assets, including equity holdings in financial institutions and contingent claims on recoveries from NPLs. After deducting prospective asset recoveries (mostly, FIDF's contingent claims on NPLs), the *net* public debt is estimated at around 68 percent of GDP, and could be even lower including privatization receipts—here conservatively neglected.



16. **The presence of contingent liabilities clouds the assessment of the fiscal stance and the timing of its impact on the economy**. From an economic standpoint, the contraction of a contingent liability (i.e., not its later payout) may impact private agents' behaviors by, inter alia, affecting actual or perceived private wealth and expectations about future taxation (Lane, 1996). The provision of timely information on the scope of contingent liabilities is therefore key to enable a fuller assessment of their impact on the fiscal stance and, in turn, on the economy. Greater transparency would also reduce uncertainty over the medium-term fiscal sustainability, and could bolster the credibility of the government's commitment to control the debt dynamics. Finally, transparent reporting of contingent liabilities (as advocated in the IMF *Manual on Fiscal Transparency*) would improve the cross-country comparability of debt statistics (Box IV.3).

The Thai authorities have, however, included such liabilities in the headline definition of public debt, recognizing that the financial sector restructuring activity by the FIDF is of a fiscal nature, and that its liabilities are conceptually interchangeable with government paper—indeed around 14 percent of GDP in FIDF losses have already been fiscalized.

[6] Fiscal accounting practices typically neglect contingent liabilities, including those that explicitly commit the government to *future* cash outlays.

Box IV.2. Contingent Liabilities and Financial Sector Restructuring Costs

The bulk of the government's gross contingent liabilities is linked to the costs of financial sector restructuring, which are recorded as *off-balance sheet* liabilities of the FIDF—in fact, its *on-balance sheet* liabilities (which were incurred to fund depositor payouts to honor the general guarantee) are already included in the headline debt figures. The FIDF's *off-balance sheet* liabilities, which are estimated at about 19 percent of GDP, have arisen from the issuance of guarantees against losses from (i) NPLs transferred to state-owned AMCs, (ii) NPLs placed under, so-called, Covered Asset Pool (CAP) arrangements, and (iii) private bank NPLs acquired by the Thai Asset Management Corporation (Table A). Additional contingent liabilities, roughly estimated at 4 percent of GDP, are linked to the government's quasi-fiscal activities (Box IV.1), including spending programs funded outside of the budgetary framework (such as the village fund and the debt suspension for farmers), investments in joint-venture equity funds, and guarantees on loans extended by specialized financial institutions.

The impact of FIDF bank restructuring activities on its balance sheet is best gauged by way of an example. *The state-owned Krung Thai Bank (KTB) was initially recapitalized by converting FIDF-provided liquidity support into equity, amounting to about 3.7 percent of GDP. Both the initial liquidity injection and its conversion into equity are on-balance sheet items of the FIDF, and therefore increase the headline public debt statistics. At a second stage, KTB was indirectly recapitalized through the transfer of its NPLs to SAM, a newly-established AMC owned by the FIDF. SAM acquired the NPLs by issuing a promissory note to KTB which was, in turn, guaranteed by the FIDF. This explicit guarantee—amounting to about 5.4 percent of GDP—is an off-balance sheet liability of the FIDF, and therefore does not increase the headline public debt statistics. Over time, however, losses from the NPLs acquired by SAM will eventually be absorbed on-balance sheet by the FIDF and, thus, increase headline public debt. In the same vein, annual interest payments on the promissory notes issued by SAM are borne by the FIDF, affecting its profitability and, indirectly, worsening the government debt position.*

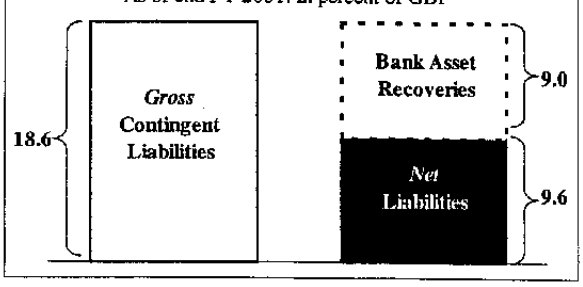
Table A. Thailand: Public Debt and Contingent Liabilities
As of end of FY 2001, in percent of GDP

A. Gross contingent liabilities (=A.1+A.2)	22.5
1. Fiscal initiatives 1/	3.9
a. Village Fund	0.3
b. Debt suspension for farmers	0.2
c. Peoples' bank	0.1
d. Equity Funds (portion financed by state-run entities)	0.4
e. Guarantees on SFI borrowings	2.9
2. Bank restructuring	18.6
a. State-owned AMCs	12.7
b. Covered Asset Pools	3.6
c. Thai Asset Management Corporation (TAMC) 2/	1.3
d. Planned recapitalization of SFIs	0.3
f. Other FIDF off-balance sheet liabilities	0.6
B. Headline public debt (end FY 2001)	57.8
1. Central Government	24.9
a. Of which: related to bank restructuring	11.5
2. Non-Financial Public Enterprises	19.1
3. Financial Institution Development Fund	13.8
C. Gross public debt, inclusive of contingent liabilities (=A+B)	80.3
D. Estimated contingent assets 3/	12.3
E. Net public debt, inclusive of contingent liabilities (=C-D)	68.0
Memorandum Item	
Gross bank restructuring costs (=A.2+B.1.a+B.3)	43.8
- Estimated bank asset recoveries	9.0
= *Net* bank restructuring costs	34.8
Nominal GDP, FY 2000/01 (billions of baht)	5069

Source: IMF staff estimates on authorities data.
1/ Excludes future projected funding costs for the SME Bank (0.2 percent of GDP), subsidized real estate and other credits by state financial institutions (0.8 percent of GDP), and the incremental costs of the universal health insurance scheme (0.5 percent of GDP yearly).
2/ Transfer value of NPLs acquired from private financial institutions.
3/ It assumes a 40-45 percent average recovery rate from NPLs guaranteed by the FIDF, no losses from SFI loans or investments in equity funds guaranteed by the government. Also, it conservatively neglects receipts from bank privatizations.

The extent to which existing contingent liabilities may give raise to future cash outlays is uncertain. This largely depends on the likelihood that implicit claims (such as guarantees on loans) are called, but also on the success of NPL recovery efforts, and bank privatizations. Assuming a 40-45 percent average recovery rate on NPLs, and conservatively neglecting privatization receipts, the expected future losses from contingent liabilities linked to bank restructuring is estimated at around 10 percent of GDP (Text Chart).

Contingent Liabilities from Bank Restructuring
As of end FY 2001. In percent of GDP

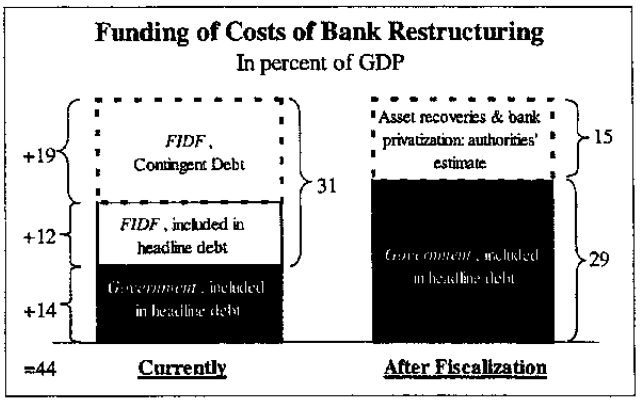


BOX IV.3. CONTINGENT LIABILITIES COMPLICATE CROSS-COUNTRY COMPARABILITY OF GOVERNMENT DEBT STATISTICS

By way of example, at end-2001, headline *public debt stood at 90 percent of GDP in Indonesia, and at 58 percent in Thailand. The different funding structure of the large costs of bank restructuring makes however the two debt ratios not directly comparable. In Indonesia, financing of these costs was largely met by issuing straight government bonds (e.g., the largest state-owned bank was recapitalized through the placement of about 12 percent of GDP in government bonds), resulting in a one-to-one increase in headline public debt. In Thailand, instead, a sizable portion of bank restructuring costs was funded through the issuance of guarantees and promissory notes by quasi-fiscal entities (e.g., state AMCs) and, as such, have not contributed to an increase in headline debt.*

17. **The recently announced plan to fiscalize the FIDF's losses offers a transparent and viable solution to finance the bulk of the government contingent liabilities**. So far, just less than one-third of the total *gross* costs of financial sector restructuring (amounting to 44 percent of GDP) have been fully fiscalized through the issuance of government bonds (Text Chart). The residual *gross* costs (31 percent of GDP) are funded by the FIDF, either explicitly on its balance sheet (12 percent of GDP), or implicitly, in the form of off-balance sheet (contingent) liabilities. The announced fiscalization plan calls for the issuance of about 15½ percent of GDP in government bonds, which after factoring in prospective recoveries from NPLs and bank privatization receipts should provide assurances that the bulk of these costs will eventually be funded directly by the government.

18. **The first phase of the fiscalization plan entails the floatation of 5½ percent of GDP in savings bonds to retail investors**. (At the time of writing, a large share of these bonds had been successfully underwritten). The interest cost on the bonds will be borne by the budget, while principal repayments will be funded by earmarking Bank of Thailand's prospective cumulated profits. It is unlikely that the initial bond issuance will have a disruptive impact on financial markets or the banking system, since some of the FIDF liabilities to be refinanced with the savings bonds are already held by retail investors.[7] Also, ample bank liquidity should facilitate a switch from deposits to bonds. Moreover, the presence of a large output gap and scant bank lending implies that, in the short term, fiscalization of the FIDF liabilities is unlikely to crowd out private credit. The plan envisages additional bond



[7] Market reception of the plan was positive, and the yield curve flattened on its disclosure.

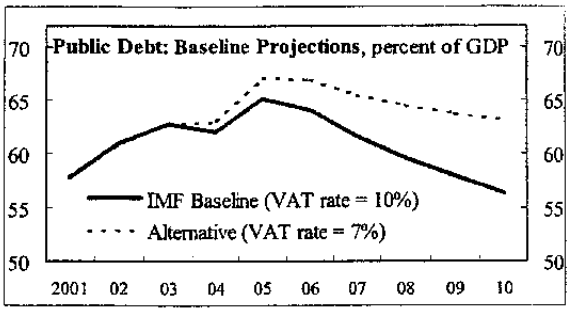
issuances in the coming years to meet the FIDF's future financing needs (see ¶20 for a discussion of how these will impact debt dynamics).

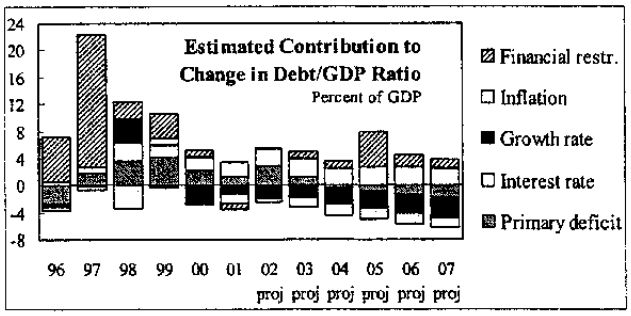
C. Sensitivity of Fiscal Outlook to Economic Environment

Uncertainty over the future path of public debt, and its sensitivity to macroeconomic shocks are key sources of fiscal vulnerability.

Medium-term Debt Projections

19. **Thailand's headline debt ratio is expected to continue to rise in the near term,** driven by prospective deficits and the realization of contingent costs from financial sector restructuring (Text Charts). In the baseline scenario, headline debt is expected to peak in FY 2005 at roughly 65 percent of GDP, and to be brought down to its current level by the end of the projection period, or 8 years from now. The medium-term consolidation is expected to be driven both by a gradually increasing growth rate (averaging 4½ percent) in excess of the real interest rate, and a steady fiscal adjustment which closes the central government deficit gap by FY 2008.[8] Underpinning the fiscal adjustment in the baseline scenario is the assumption that the VAT rate will be increased back to 10 percent by the beginning of FY 2004—a measure which is projected to yield about 1¼ percent of GDP in additional revenues a year.[9]





20. **These medium-term debt projections incorporate the financing requirements stemming from the FIDF's contingent costs of bank restructuring.** Following the traditional cash-based accounting framework—according to which the contraction of a contingent liability is not debt-creating insofar as it does not trigger a cash outlay—debt is

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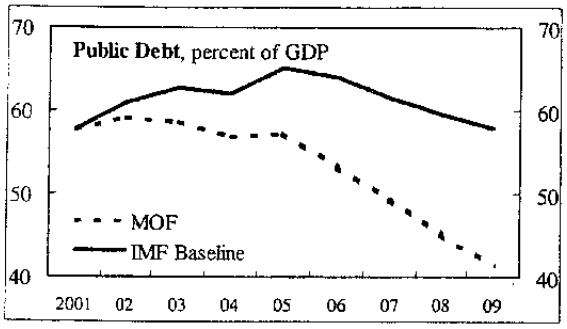
[8] The baseline projections assume a more conservative medium-term macroeconomic framework than what suggested by Thailand's own long-run history (e.g., growth is assumed at 4½ percent in the baseline, while it averaged 6¼ percent over the last 30 years).

[9] In the model, consolidation is also helped by the presence of a modest buoyancy in revenues as the output gap is gradually eliminated. Detailed information on the forecasting model for revenues, expenditures and financial sector costs which underpins the IMF staff debt projections can be found in Barnett and Haksar (2001).

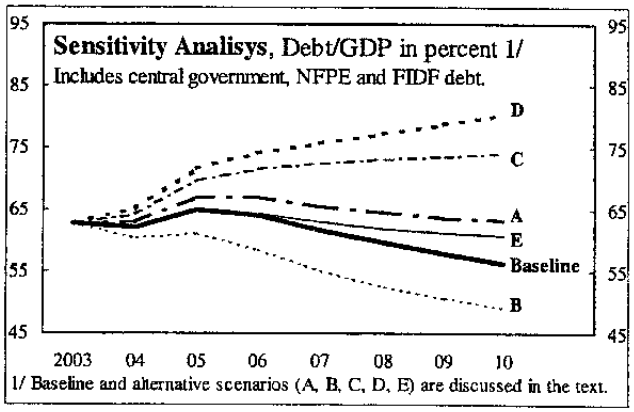
increased when prospective losses from contingent liabilities are realized. The interest cost of FIDF's contingent liabilities are made explicit in the projections, since these are added to the comprehensive public sector deficit. These projections are actuarially equivalent to those produced by some analysts, whereby public debt is augmented up-front by the *gross* stock of contingent liabilities, and reduced over time as assets are recovered.

21. **The authorities' medium-term fiscal framework builds a faster reduction in the debt ratio**. Compared with the baseline projections presented above, the Ministry of Finance model assumes (i) higher growth, reaching 7 percent by FY 2008; (ii) slightly lower central government deficits, including by allowing for some compression in the nominal wage bill growth; (iii) significantly lower NFPE yearly borrowing requirements (by about 0.5 percent of GDP); (iv) somewhat lower borrowing requirements to finance the financial sector restructuring costs (Text Chart). Consistent with the IMF baseline projections presented above, in the authorities' framework the VAT rate is raised in FY 2004.



Sensitivity Analysis to Public Debt Projections

22. **The medium-term debt projections are highly sensitive to the underlying macroeconomic assumptions and the size of the fiscal effort**. The sensitivity analysis presented below (see Text Chart and Table 3 below) is illustrative of the likely evolution of the debt ratio under various shocks to the macroeconomic variables (growth, inflation and interest rates).[10] To provide a structure to the sensitivity analysis, the size of the shocks was calibrated drawing from Thailand's own historical data and that of other emerging market economies (Table 4 below). This should preserve the inherent co-movements among macro variables (particularly with respect to growth and interest rates) in the simulated values.



A. **Unchanged policies**. The first alternative scenario shows the impact on the debt ratio of the failure from raising the VAT rate to 10 percent, with all other variables kept at their baseline values. Lack of fiscal adjustment is expected to slow down the pace of debt

[10] The sensitivity analysis takes the end-FY2003 projected debt ratio as starting point.

Table 3. Public Debt Sensitivity Analysis, in percent

	Historical values			Projected values					
					Alternative Scenarios 2/				
	Average 1970-2001	Average 1997-2001	FY2001	**Baseline**	A	B	C	D	E
Debt/GDP, end FY 2010	31.7 1/	50.6	57.8	**56.3**	63.1	49.2	74.2	80.3	60.8
Peak Debt/GDP	...	...	...	**65.1**	67.0	62.8	74.2	80.3	65.1
Change in Debt/GDP, FY10 *minus* FY01	...	...	...	**-1.5**	5.3	-8.6	16.3	22.5	3.0
Assumptions:				(FY 2004 - FY 2010 averages)					
1. Real GDP growth	6.3	-0.2	2.2	**4.5**	4.5	6.3	2.1	2.1	2.5
2. Real interest rate (avg. borrowing cost)	1.4	6.6	3.7	**3.9**	3.9	1.4	2.9	4.9	0.8
3. Inflation (GDP deflator growth)	6.4	2.3	2.6	**2.5**	2.5	6.4	0.7	0.7	7.0
4. Stability condition (=1-2)	4.9	-6.8	-1.6	**0.6**	0.6	4.9	-0.8	-2.8	1.7
5. VAT rate	...	...	7.0	**10.0**	7.0	7.0	10.0	10.0	10.0
6. Primary balance, central government	-0.2	-1.7	-1.7	**0.8**	-0.2	-0.5	-0.3	-0.3	-0.7

Source: IMF staff estimates based on authorities' data.

1/ Average over 1991-2001. 2/ Alternative scenarios as follows:

A. Same as baseline, except that the VAT rate is not raised to 10 percent.

B. Growth, interest rates, and inflation at Thailand's long-run average values (see first column of the table). The VAT rate is not raised.

C. As in B, except that growth and inflation are reduced by 1 standard deviation, and the real interest rate is increased by 25% of 1 standard deviation. The VAT rate is increased to 10 percent as in the baseline.

D. Thailand's 1990-2001 average growth, inflation and interest rates are perturbed by 1 standard deviation computed as the median of the growth, inflation and interest rates standard deviations of a group of emerging market economies. The VAT rate is raised as in the baseline.

E. Uses the median of emerging markets' 1997-2001 average growth, inflation and interest rates. The VAT rate is raised as in the baseline.

consolidation, with the debt ratio projected to be some 7 percent of GDP above baseline by the end of the projection period.

B. **Thailand's long-run growth**. This optimistic scenario mimics the pace of consolidation which would be achieved if all key macroeconomic variables took on their 1970-2001 average values. Here discretionary fiscal measures are not required (i.e., the VAT rate is not raised) to achieve a steady reduction in the debt ratio to below 50 percent of GDP.

C. **Thailand's low growth**. This scenario shows the impact on the debt ratio of a 1 standard deviation reduction in Thailand's long-run growth. The real interest rate is concurrently raised from its long-run average to preserve the observed historical negative correlation with GDP growth.[11] A fiscal adjustment of the magnitude achieved by raising the VAT rate would not be enough to prevent the emergence of a divergent path for the debt ratio.

D. **Emerging market low-growth shock**. A uniform negative shock is applied to Thailand's 1990-2001 average growth, inflation and interest rates. The shock is calibrated to mimic the "median" volatility observed since the Asian crisis among the sampled emerging market countries. As in C, the real interest rate is raised concurrently.[12] Despite the

[11] The size of the shock to real interest rates is equal to one standard deviation *times* a weight of *minus* 25 percent (equivalent to the historical correlation between growth and interest rates).

[12] As in footnote 11, using a *minus* 37 percent median emerging market correlation between growth and interest rates.

increase in the VAT, the debt ratio follows an explosive path reaching over 80 percent by end of the projection period.

E. **Emerging market median growth**. This scenario envisages Thailand's macroeconomic performance to match that exhibited by the "median" emerging market country during the last five years. Lower growth compared to the baseline scenario (2½ percent viz. 4½ percent in the baseline) is partly compensated by lower real interest rates (1 percent viz. 3½ in the baseline) allowing for a stable debt dynamics. Despite the built in increase in the VAT rate, the result is a slowly decreasing debt path, above the baseline scenario.

23. **The debt projections are also sensitive to financial sector restructuring costs**. For example, if recovery rates on NPLs under state management are as low as 20 percent, or half of what assumed in the baseline, resulting losses would cause the FY 2010 debt ratio to rise by about 5 percent of GDP above baseline. By converse, a faster reduction in the debt ratio is achievable provided asset recoveries exceed those assumed in the baseline scenario, or bank privatization proceeds, which are conservatively neglected in the IMF baseline projections, are realized. In fact, the FIDF expects that the sale of shares in state-owned banks could generate over time around 4 percent of GDP in revenues.

Table 4. Macroeconomic Variables in Thailand and Other Emerging Market Countries

	1970-2001		1990-2001		1990-96		1997-2001	
	Average	St. Dev.	Average	St. Dev.	Average	St. Dev.	Average	St. Dev.
Real Output Growth (g)								
Thailand	6.3	4.2	4.9	6.0	8.6	1.7	-0.2	6.3
Emerging Markets median 1/	3.8	4.2	3.2	4.5	4.0	3.2	2.5	2.8
Inflation (p)								
Thailand	6.4	5.7	4.0	3.3	5.3	1.1	2.3	4.6
Emerging Markets median 1/	19.3	11.5	13.7	8.5	15.8	7.7	7.0	3.3
Real Interest Rate (r)								
Thailand	1.4	5.9	3.8	3.9	1.8	1.3	6.6	4.7
Emerging Markets median 1/	-4.1	7.3	-3.7	5.7	-5.1	3.4	0.8	3.0
Stability Factor (g - r)								
Thailand	5.2	8.8	1.1	8.4	6.7	2.3	-6.9	7.0
Emerging Markets median 1/	9.9	9.7	8.5	8.4	10.9	4.6	3.0	5.3
Private Savings/GDP								
Thailand	19.0	4.0	22.7	1.4	22.2	1.3	23.5	1.2
Emerging Markets median 1/	17.9	4.8	18.7	2.7	17.5	1.8	20.2	1.6
Correlation (g, r)*100								
Thailand	-25.4	...	-36.8	...	-15.6	...	26.3	...
Emerging Markets median 1/	-10.7	...	-6.1	...	15.1	...	-37.3	...

Source: IMF staff estimates based on IFS and country authorities data.

1/ The sample of emerging market economies consists of Argentina, Bolivia, Brazil, Chile, Colombia, Czech Republic, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Slovak Republic, South Africa, Thailand, Turkey, Uruguay, Venezuela. Data was not uniformly available for all countries.

D. Structural Fiscal Vulnerability

Additional sources of potential vulnerability stem from the financial management of public liabilities and other institutional constraints.

Debt Management Risks

24. **A key source of fiscal vulnerability stems from the significant near-term gross financing requirement.** Despite successful efforts to lengthen the maturity structure of the central government and state enterprise debt, the overall near-term refinancing need, inclusive of FIDF's explicit and contingent liabilities, remains substantial (Figure 3).[13] It is estimated that about 16 percent of GDP in domestic and external public liabilities fall due during 2002 (equivalent to over 40 percent of issued *domestic* securities) and that roughly half of this amount will fall due next year. Similarly, the gross financing requirement, which is a more comprehensive measure of the government borrowing needs (i.e., it includes borrowings to cover prospective deficits) is estimated at over 20 percent of GDP in 2002 or, equivalently, 100 percent of 2002 public sector revenues.

25. **Despite the large nominal amount of debt falling due, an orderly rollover of the near-term maturing debt should be manageable.** Various considerations support this statement. First, over 50 percent of the (16 percent in GDP of) debt falling due in 2002 represents very short-term market borrowings by the government and the FIDF (T-bills and repurchase agreements, respectively), which have been successfully rolled over during the last few years (e.g., T-bill auctions are typically fully subscribed). Second, another 20 percent of the debt falling due represents non-market based financing held by FIDF-owned entities, which could be conceivably rolled over on the same terms. Third, about half of the remaining 4½ percent of GDP in debt falling due is financed externally, and has good prospects for being refinanced abroad. Therefore, a market-based rollover of the residual maturing debt (2¼ percent of GDP, equivalent to less than 15 percent of central government revenues), which is currently held domestically, should be manageable.[14]

26. **Another risk comes from the large costs of servicing an increasing debt burden.** Despite historically low interest rates (currently the yield on a 10-year government bond is below 6 percent), interest payments, including the imputed servicing cost of outstanding contingent liabilities, are estimated at just below 4 percent of GDP in 2002 and 2003

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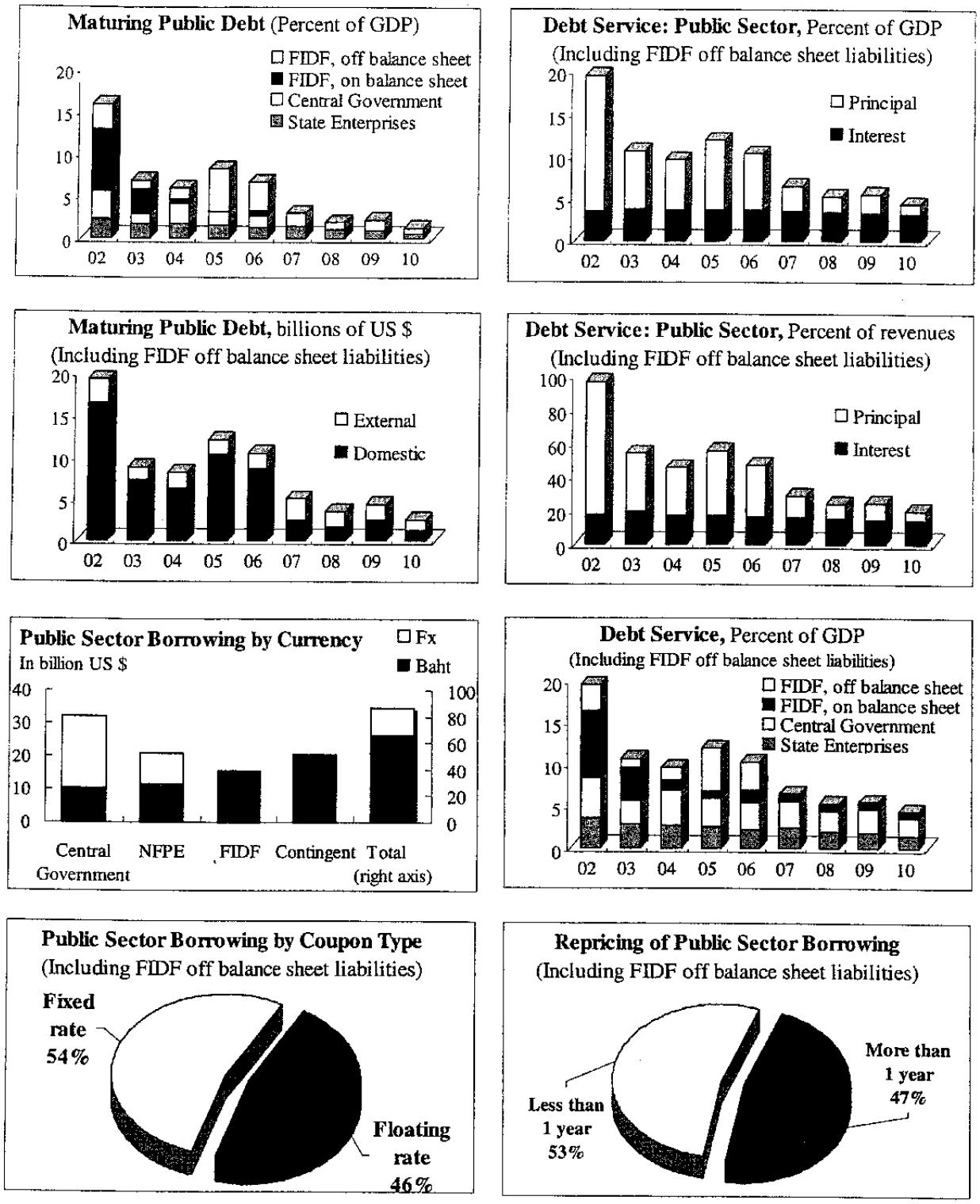
[13] The weighted average maturity of central government *domestic* debt is just over 5 years. However, including NFPE and FIDF (on- and off-balance sheet) *domestic* liabilities, the weighted average maturity drops to around 3.3 years.

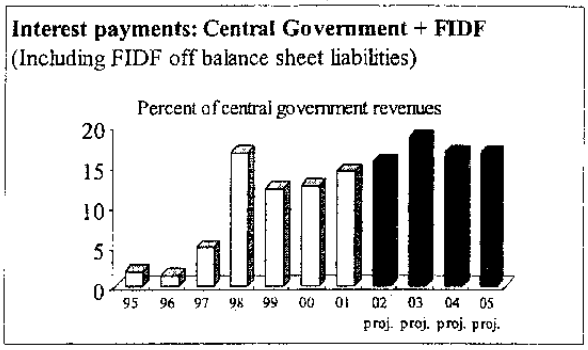
[14] The treasury cash reserves, which are maintained at around ½ percent of GDP, provide an additional, albeit limited, buffer.

Figure 3
Thailand: Financing Structure of Public Debt 1/



Source: IMF staff estimates based on country authorities' data.
1/ Debt service figures include the interest component on projected newly-contracted debt.

(Text Chart). Although their magnitude does not compare unfavorably to other countries, it is high when measured against the public sector's ability to generate revenues (total interest payments are roughly equivalent to 1/5 of public sector revenues). In fact, the interest burden of the public sector could have been higher were it not for the fact that a significant share of indebtedness is funded short-term or at below market yields. For example, the FIDF's liabilities pay on average a 3 percent interest rate, since most of them are currently funded either in the short-term money markets, or at a small premium over deposit rates.[15] The interest burden on external debt is also contained (about ¾ percent of GDP) since it is funded at an average rate of 4½ percent.[16]



27. **Market risks could be another important source of vulnerability.** Movements in interest rates are a potential source of vulnerability, since just less than half of the gross debt (including contingent debt) is financed at variable rates (the ratio is slightly higher if prospective refinancing commitments are included). By way of example, each 100 basis point increase in government borrowing costs (currently averaging 6½ percent for market-based placements of government securities) is estimated to raise up-front the debt servicing costs by about 0.4 percent of GDP (and twice as much after the repricing cycle of the outstanding borrowing is completed). Risks stemming from a depreciation of the baht are lower, in light of the relatively smaller share and longer-term nature of external public debt, and Thailand's limited recourse to international capital markets as a source of borrowing.[17,18]

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[15] The recently announced fiscalization plans would allow some refinancing of the FIDF's short-term borrowings with longer-term government bonds. As a result, the average borrowing cost is expected to increase, though the rollover risk would be eased.

[16] Currently, over ¾ of *gross* public indebtedness (including contingent liabilities) is financed domestically, with the rest (roughly $21 billion) externally—of which, about half is in U.S. dollars and the other half in yen. The low borrowing costs on external debt reflects, by and large, the current low interest rates on yen-denominated debt.

[17] Specifically, a 10 percent depreciation of the baht increases external interest payments roughly by 0.1 percent of GDP, and raises the domestic currency value of external debt by around 2 percent of GDP.

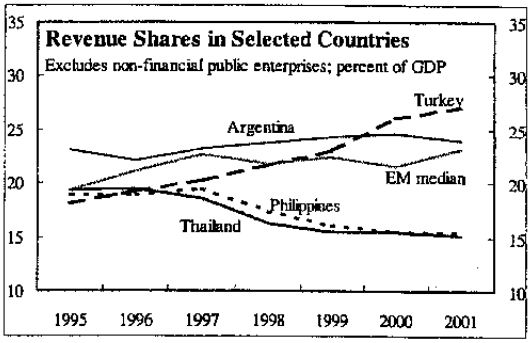
[18] The share of external borrowing from international capital markets is around 14 percent.

Other Structural Sources of Fiscal Vulnerability

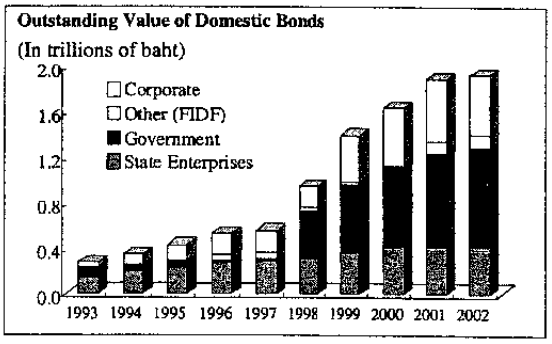
28. **Fiscal decentralization, the revenue erosion since the crisis, and institutional constraints for debt management are additional latent sources of fiscal vulnerability.**

- *The constitutionally-mandated fiscal decentralization could be another potential risk* (see the paper on *Fiscal Decentralization in Thailand*). The main challenge, as shown by international experience, is to ensure that decentralization is implemented in a fiscally neutral way. This risk is tangible in the Thai context, since the transfer of expenditure responsibility has so far lagged behind the devolution of revenues.

- *The erosion of central government revenues observed since the crisis could constrain future policy action.* Thailand's revenue ratio is low by its own recent history and also compared to other emerging market countries (Text Chart). Although the revenue decline during the crisis was for the most part driven by cyclical factors, tax revenues have been slow in responding to the economic recovery (an experience similar to that of the Philippines). One factor at play has been the shrinking contribution of trade taxes (currently accounting for about 12 percent of revenues) as a result of ongoing trade liberalization. Looking forward, increasing budgetary debt servicing costs and further revenue erosion from the ongoing fiscal decentralization process—in the face of only a limited offset by a natural cyclical rebound in revenues—could constrain the government's ability to adjust its fiscal position in the absence of discretionary measures aiming at broadening tax collections.



- *Institutional constraints for debt management expose the government to additional fiscal risks.* Despite the recent establishment of the Public Debt Management Office, the government debt management activity is still fragmented across a number of institutions and lacks the ability to monitor effectively contingent liabilities. Further development of the domestic bond market infrastructure—which was basically non-existent prior to the crisis (Text Chart)—would also facilitate the government's debt management activities. Despite measures taken so far, investor participation (especially by foreigners) is limited, and liquidity in the secondary bond market remains low. Priority measures in these areas should aim at promoting derivatives trading and hedging, issuance of asset-backed securities, and the establishment of a modern settlement system.



E. Concluding Remarks

29. **Thailand's main source of fiscal vulnerability arises in connection with the management of the large stock of public liabilities**. Three related risks are (i) the presence of sizable unfunded contingent liabilities linked to the costs of financial sector restructuring; (ii) the high sensitivity of the debt dynamics to adverse economic scenarios; and (iii) the significant near-term gross financing requirements. Curbing these risks, and managing effectively the ongoing fiscal decentralization process, would lay the basis for extending the recovery currently underway in the periods ahead. In a worst-case scenario, increasing interest rate risk premia driven by large rollover requirements, and higher than expected prospective losses from contingent liabilities (induced by slow progress in NPL recovery) may increase indebtedness, reduce the government's ability to meet its gross financing requirements, upset confidence and, ultimately, reduce growth.

30. **However, favorable external conditions should allow Thailand to contain the near-term fiscal risks**. Thailand's high private savings rate (22 percent of GDP), high domestic liquidity (estimated at over 10 percent of GDP), and current low interest rates should allow an orderly rollover of near-term maturing public liabilities. Moreover, moderate public external indebtedness makes it less likely that domestic fiscal pressures may spill over into a full blown external crisis—as seen in other emerging markets. In fact, Thailand's external vulnerability has been much reduced in recent years, and the flexibility of the exchange rate is an important safety valve against unforeseen shocks.

31. **Policy efforts are needed to place the medium term debt path on a firmly declining path**. The ongoing economic recovery presents a timely opportunity to reorient fiscal policy from stimulus to debt consolidation. In the short term, fiscal adjustment can be supported by spending cuts (as envisaged in the draft FY 2003 budget). However, given the limited room for further expenditure compression, sustainable fiscal adjustment may require a structural increase in revenues. Additional efforts are needed in other areas: for example, recovering value from NPLs under state control is paramount to minimizing the ultimate cost of the banking crisis to taxpayers and containing the medium-term debt dynamics. Accelerating privatization of state owned enterprises would also support debt consolidation. Finally, further development of the bond market, greater transparency of budgetary operations, and enhanced institutional capacity for public debt management would increase confidence in the fiscal framework and reduce lingering fiscal risks.

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V. Fiscal Decentralization in Thailand[1]

A. Introduction

1. **Since the enactment of the 1997 Constitution, Thailand has embarked upon a decentralization process that is expected to be fully implemented by 2009/10.** As discussed in the literature of fiscal federalism, if appropriately designed and implemented, decentralization can improve the quality and cost-effectiveness of public services.[2] This paper takes stock of the ongoing decentralization process in Thailand, pointing out to some shortcomings, discusses future perspectives and provides some recommendations.

2. **The main findings of this paper are**:

- **The limited decentralization to date points to weaknesses in implementation.** Devolution of revenues is preceding the devolution of functions. In addition, limited information on the decentralization process has been disseminated among the concerned agencies.

- **The efficiency gains from decentralization can be significantly reduced by institutional constraints.** Four issues stand out. The lack of clarity in expenditure assignments could interrupt the delivery of essential services. Local governments do not have the administrative capacity to meet their responsibilities. Jurisdictions are not large enough to benefit from the economies of scale in the provision of some public services. Finally, there is only limited accountability for local governments.

- **Decentralization is likely to entail a bias in the budget towards higher deficit, jeopardizing national fiscal policy objectives.** Decentralization makes budgeting a more fragmented process, so less fiscal discipline and accountability may be expected. Since a large share of local financing takes the form of transfers from the central government, local governments have incentives to overspend and to minimize local tax collection. An inadequate fiscal reporting system and the absence of a legal framework to promote responsible local borrowing could increase these risks.

3. **This paper is organized as follows.** Section B presents an overview of the institutional framework and reports on the recent decentralization experience. Section C

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[1] Prepared by Teresa Dabán.

[2] Drummond and Mansoor (2002), Oates (1999), Fornasari, Webb and Heng-fu Zou (2000) Pisauro (2001), Tanzi (1995) and Ter-Minassian (1997) present excellent surveys on the advantages and drawbacks of fiscal decentralization.

describes local government financing (local taxes, revenue shares, grants, non-tax revenue and borrowing). Section D discusses the transfer of expenditure responsibilities. Section E discusses issues of local budgeting, accountability and fiscal reporting. The final section sums up and makes some recommendations.

B. Background[3]

4. **From a fiscal standpoint, Thailand is a highly centralized country**. Out of the consolidated government spending amounting to 19 percent of GDP in 2000/01, local governments spend only 14 percent, accounting for 2.8 percent of GDP (Table 1).[4] In addition, local governments have very limited administrative and legal autonomy.

Table V.1. Thailand: Revenues and Expenditures by Levels of Govenrment
(As a percentage of GDP)

					Proj.	Budget
	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
Local Governments						
Revenues	2.0	2.1	2.1	2.9	3.2	3.4
*Of which: S*ubsidies	0.7	0.8	0.7	1.2	1.4	1.2
Expenditures	2.1	2.2	1.8	2.8	2.9	3.3
Central Government						
Revenues	16.2	15.5	15.5	15.2	15.5	14.6
Expenditures	18.7	19.0	18.4	18.1	19.5	17.7
Consolidated government 1/						
Revenues	17.6	16.8	16.9	16.9	17.4	16.8
Expenditures	20.1	20.4	19.6	19.4	20.8	19.8

Sources: Thai authorities; and Fund staff estimates.
1/ Refers to the consolidation between central and local governments. Social Security and extrabudgetry funds are not included.

[3] For the institutional background and legal framework, this paper draws on Weist (2002), Wegelin (2002), and World Bank (2000).

[4] The consolidation examined here refers only to central and local governments. Social security and extrabudgetary funds are not included. In Indonesia and the Philippines, which also implemented a decentralization process during the 1990s, local governments spend about 17–18 percent of the general government expenditure, representing 3.9 percent of GDP in Indonesia and 3.4 percent of GDP in Philippines. See Ahmad and others (1999) for Indonesia.

5. **Most of the local government entities in Thailand are very small in term of financial resources, population served and area.**[5] Local governments exist in three forms: Tambon Administrative Organizations (TAOs) (6,745) or Sub-districts; Municipalities (1,129); and Provincial Administrative Organizations (PAOs) (75), which are divided into Districts (811). TAOs are usually based around small villages in rural areas in charge of basic public works (such as potable water supply, flood protection and rural roads), school milk and lunch provision, and community health awareness issues. As regards municipalities, many of the functions currently considered for transfer have been performed by the biggest municipalities for some time.[6] These include the provision of primary health care and basic education, traffic management, urban planning, and building control. Decentralized functions currently handled by the small municipalities are similar to that of the TAOs, and are limited to basic municipal services. As deconcentrated bodies of the central government, PAOs are in charge of supervision over the provincial field units of central government departments (public health, education and public works), coordination among local governments, and the provision of major public works across boundaries of local entities within a province.[7]

6. **The 1997 Constitution calls for decentralization of powers to local governments.** Objectives envisioned in the 1997 Constitution include increasing the share of local government expenditures; assigning more revenue sources to local governments; revising the system of intergovernmental transfers to provide grants in a more transparent and predictable way; and promoting local accountability. The Constitution mandates the enactment of a decentralization act and a local personnel act, and the creation of a decentralization committee, among other legal reforms.

7. **The National Decentralization Act (NDA), which was approved in 1999, is the pivotal decentralization legislation to put the constitutional mandate into practice.**[8] The

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[5] A more detailed description of the structure of governance in Thailand can be found in Suwanmala (2002).

[6] Municipalities in Thailand are of four types: the Bangkok Metropolitan Administration and Pattaya city, that have special status; the 20 Tesaban Nakorn, which have population of over 50,000 and have metropolitan status; the 86 Tesaban Muang, which have population of over 10,000, and generally are provincial capitals; and the Tesaban Tambons, which are small towns or peri-urban areas on the periphery of larger municipalities.

[7] Deconcentration refers to the delegation of central government responsibilities to its own branch offices located in provinces or districts, with the functions remaining the responsibility of the central government. Decentralization refers to the transfer of a significant degree of administrative and legal autonomy for public expenditure and revenue from the center to lower levels of government.

[8] *Act Determining Planning and Staging of Decentralization B.E. 2542 (1999).*

NDA establishes that: (1) local governments shall be entitled to at least 20 percent of the government's total revenue in the year 2000/01, growing to at least 35 percent by 2005/06;[9] (2) transfers of function to local governments will include infrastructure and planning, education, health and social welfare, social order, promotion of investment, commerce and tourism, environment, and local culture; and (3) transfers of functions to local governments must in principle be made within four years from the enactment of the NDA, with allowance for a transition period of six years, as a maximum, to enable local governments to improve their administrative capability. Another important law is the Local Personnel Administration Act (LPAA) establishing that transfers of central government's staff to local governments: (1) will be flexible and should contain incentives for staff to be transferred; (2) will, in the first instance, be based on a voluntary mechanism; and (3) will not imply a worsening in labor conditions for any official.

8. **The National Decentralization Committee (NDC) is in charge of the implementation and the monitoring of the decentralization process.**[10] The Committee operates through four Sub-Committees and nine Working Groups. As established in the NDA, the NDC produced the Master Plan[11] to decentralize administrative powers to local governments, and prepared seven detailed operational action plans[12] for the transfer of specific functions. These plans were completed in January 2001. However, the new government that took office following national elections revised the action plans, which were finally approved by parliament in February 2002.

9. **In practice, decentralization to date has been limited.** Some functions, such as public works and other delivery functions, have been decentralized through conditional grants. However, the disbursement rate of these has been very low, as local authorities have only limited discretion to make use of the funds. Also, although local governments' share in the VAT and excise proceeds and grants from the central government were increased significantly in 2000/01 and 2001/02, as prescribed by the NDA, no additional devolution of

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[9] This ratio was 14 percent in 1999/00.

[10] The NDC, chaired by the Deputy Prime Minister, is composed of officials from the local and central governments. The Office of the National Decentralization Committee (ONDC) serves as the Secretariat of the NDC. The ONDC currently is understaffed (it has 35 professionals), given the magnitude of the task assigned to the NDC. In addition, the staff skills and experience levels are not fully consonant with the responsibilities of the office. In particular, the ONDC is ill equipped to disseminate and explain the decentralization action plans to the almost 8,000 local governments (and the central government line departments). See Wegelin (2002).

[11] *Plan to Decentralize Administrative Power of Local Administrative Organizations (1999).*

[12] *Operations Plan Staging of Decentralization to Local Government Organization, (2002).*

mandated functions has taken place. Consequently, significant gaps between local revenue and expenditure occurred in 2000/01, and are expected for 2001/02, resulting in large local reserve funds. Finally, although about 2000 officials from the central governments were transferred in 2000/01 for a one-year period on a secondment basis, considerable disincentives should be removed there is still significant opposition from central government officials to being transferred.

C. Local Government Financing

Local Revenues

10. **Local expenditure- and revenue-raising responsibilities of local governments present a considerable vertical imbalance** (Table 2).[13] The most important local taxes are the Building and Land Tax, the Land Development Tax and the Signboard Tax.[14] This is consistent with the principle that lower-tier governments should be assigned taxes from relatively immobile tax bases. However, these local taxes in 2000/01 represented only 8 percent of total local revenues, amounting to 0.2 percent of GDP (Table 3). Since other local nontax revenues (such as license fees and fines) account for only 5 percent of total local revenues, this imbalance must be covered by revenue sharing arrangements[15] or surcharges on national taxes, and by grants or subsidies from the central government. These two sources of revenues represented in 2000/01 47 percent and 41 percent respectively of total local revenues (Table 3).

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[13] Revenue and expenditure assignment among different levels of government give rise to vertical imbalances (that is pre-transfer fiscal balances) when the own revenues and expenditures of various levels of government are unequal.

[14] The Building and Land Tax and the Land Development Tax accounts for half of locally collected revenues. The central government determines the rate and base of these local taxes.

[15] Shared taxes included the VAT, liquor, excise, gambling, mineral and petroleum, motor vehicle and specific business taxes. Their structure is determined and revenues are collected centrally.

Table V.2. Thailand: Vertical Imbalances
(Ratio between own revenues and own expenditures, transfers excluded)

	1997/98	1998/99	1999/00	2000/01	Proj. 2001/02	Budget 2002/03
Local governments	67.2	60.7	73.4	60.1	64.5	66.1
Central government	98.9	95.9	104.2	105.8	100.5	100.8

Sources: Thai authorities; and Fund staff estimates.

Table V.3. Thailand: Structure of Local Revenues
(percentages of total local revenues)

	1997/98	1998/99	1999/00	2000/01	Proj. 2001/02	Budget 2002/03
Own Local Revenues	67.9	61.6	65.4	58.7	58.0	64.8
Locally collected	16.9	17.9	20.0	12.2	12.3	11.8
Taxes 1/	9.3	9.6	10.6	7.6	7.3	7.6
Nontax reveneus	7.6	8.4	9.4	4.6	4.0	4.2
Collected by the central government 2/	51.0	43.7	45.3	46.5	45.7	53.0
Subsidies/Grants	32.1	38.4	34.6	41.3	42.0	35.2

Sources: Thai authorities; and Fund staff estimates.
1/ Include the Building and Land Tax, the Land Development Tax, the Signboard Tax, the Slaugther Tax, Tobacco, Gasoline, and Hotel Taxes and the Swalow's Nest Tax.
2/ Shared taxes include the VAT, liquor, excise, gambling, and motor vehicle taxes.

11. **The central government exerts exerts considerable influence over how local government revenues are spent**. About three-fourths of local grants[16] in 2000/01 and 2001/02 were allocated for specific purposes, according to *ad hoc* criteria, without considering any equalization mechanism or any performance-based incentive (World Bank, 2000). This makes it very difficult to predict local revenues at the beginning of the fiscal year, undercuts incentives for responsible fiscal decision-making, and gives rise to a very low

[16] Currently three types of subsidies are used: (1) general-purpose subsidies, which are distributed according to local expenditures needs and revenue capacity (30 percent of total subsidies); (2) specific project subsidies (40 percent of total), and (3) subsidies with transfers of responsibility, allocated only to TAOs, and used as a transitional tool to meet the 20 percent target for local revenues as prescribed by the NDA (30 percent of total).

execution rate, since disbursements sometime depend on local government's ex-post capacity to plan and procure investment projects.

Local borrowing

12. **The NDA grants local governments, under certain conditions and with the permission from the Cabinet, the right to issue bonds and to borrow from the markets domestically or externally**. However, local government borrowing is relatively unimportant in Thailand, since most local infrastructure projects are funded through transfers from the central government or through local government saving.[17] Although they are allowed to do so, local governments rarely borrow from the markets due to their limited experience, and cumbersome approval processes. Nonetheless, as decentralization progresses and local governments assume more responsibilities, especially in infrastructure, local borrowing may become an increasingly important source of financing.

13. **Legislation to promote a responsible borrowing framework is still being prepared**. The forthcoming Public Debt Management Law (PDML) establishes that the ceiling for total annual external borrowing of the country includes local borrowing. In addition, the PDML states that the central government will not bail out local governments—e.g. the central government will let bankrupt local governments. However, further issues may need to be addressed, including aggregate limits on local indebtedness, local bankruptcy regulations, bank provisions for local debts, and other mechanisms for promoting responsible local borrowing.

D. Transfer of Expenditure Responsibilities

14. **Decentralization of revenue has run ahead of the devolution of expenditure responsibilities**. The current expectation is that the decentralization of functions will proceed in stages in tandem with the devolution of revenues. However, the need to modify legislation covering each expenditure function will probably delay the full implementation of the decentralization action plans. In addition, technical difficulties may arise in the transfer of some functions such as education or health, and the local delivery of public works, as well as in the transfer of staff. If by 2005/06 the central government has devolved to local governments a considerable amount of revenues (to meet the 35 percent level required by the NDA), but expenditure responsibilities are not devolved, the central government will face the risk of assuming the resulting deficit. On the assumption that the devolution of expenditure assignments to local governments does not occur in tandem with the devolution of revenues, the debt-to-GDP ratio would peak at over 67 percent of GDP in 2004/05 and would remain at that level for the rest of the projection period.

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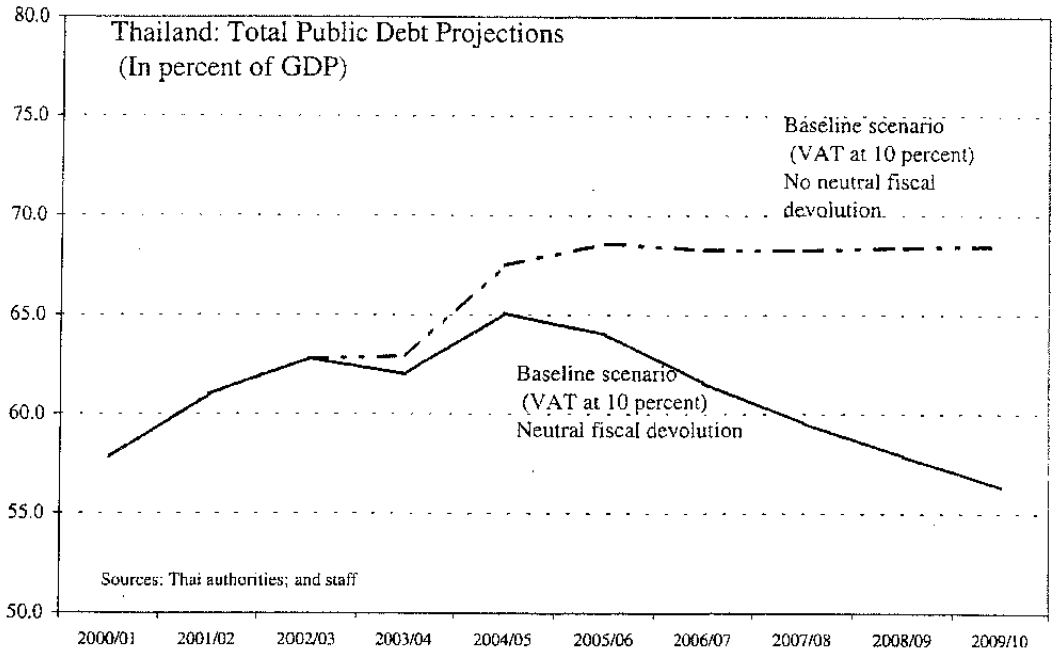
[17] Given that local governments have under spent significantly in the last few years, they have built up large reserve funds. Local governments must submit 10 percent of their funds to the Local Development Fund at the Ministry of Interior.



15. **Given the impracticality of decentralizing health and education delivery to small jurisdictions, the authorities are applying a board model as an interim arrangement.** The Ministries of Education and Public Health are testing decentralization service delivery models through special intermediary agencies at provincial and sub-provincial levels through Local Education Area Boards (LEABs) and the Area Health Boards (AHBs).[18] Local governments will be represented on these, but they will not necessarily be coterminous with local government geographical boundaries or responsibilities.[19] The purpose of this approach is to maintain the integrity of service delivery, as well as ensuring adequate conditions of employment for health care and basic education personnel. These boards will deliver health and basic education until local governments are ready to assume these responsibilities. As a pilot program, AHBs have been established in 17 provinces and the experiment may be expanded to the rest of the PAOs.

[18] Transfer of education will comprise primary and secondary education. Transfers of health care services will comprise promotional/preventive and curative health care provided through three layers of support: primary health care centers (at the Tambon level), secondary health care center (at district hospitals), and tertiary health care centers (at provincial hospitals).

[19] This follows practice on other countries. For example, the United States and Canada have formed boards to deliver services ranging from education to fire fighting and wastewater management.

16. **The transfer of central government staff along with functions has proved difficult.**[20] The NDC is preparing an action plan for transferring personnel from central to local governments to adjust the manpower balance between central and local administrations. Since conditions of service for central government staff are much more favorable than for local government staff, in terms of remuneration, allowances, career path opportunities and pension benefits, the transfer of central government staff on a voluntary basis will be difficult to achieve unless strong incentives are put in to place.

17. **Transferring responsibility for delivery of public works to local governments may result in a forfeiting of the benefits that arise from economies of scale**. It is highly unlikely that small local governments will be able to handle the technical delivery of public works in an efficient way. This could lead to a significant waste of resources. In this context, it is notable that the public works functions transferred de-facto in 2001/02 had a very low disbursement rate. Thus, there is a strong case to be made for implementing measures that stimulate the coordination of neighboring local governments.

E. Local Budgeting, Reporting, and Accountability

18. **The current set of regulations governing local budgeting, procurement, governance, and reporting make it difficult for local governments to fulfill their responsibilities in a planned, pro-active and accountable manner**. Since local governments are not given sufficient advance notice of future transfers and of functions to be devolved,[21] they usually are reluctant to expand their budgets in anticipation of higher transfers, resulting in a buildup of unplanned reserve funds. These carry-over funds are subject to less scrutiny, transparency and accountability and are often used for one off projects, giving rise to a public works bias in local expenditure (Wegelin, 2002). In addition, current budgeting regulations for local governments impose a maximum of 40 percent of budgetary outlays for staff costs, which prevents the staff expansion needed to handle new functions and reinforces the public works bias.

19. **There are serious information problems that weaken local accountability**. It has been reported that local officials are not fully aware of their responsibilities and functions. In addition, the central government is unable to assess the progress of fiscal decentralization. Fiscal data from local authorities are reported 18 months after the end of the fiscal year. Comprehensive local data are not collected centrally and must be pieced together from

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[20] The NDC is preparing an action plan for transferring personnel from central to local governments to adjust the manpower balance between central and local administrations.

[21] Webster (2002) points out to some deeper norms, such as the passive culture of local governance in Thailand. That is the opposite of other East Asian countries, such as the Philippines, in which local governments are very aggressive in taking on new functions under conditions of decentralization.

various agencies. In part as a result from the great diversity and large number of local governments, there is a great disparity in terms of the quality of data submitted from one local authority to another.

F. Conclusions and Recommendations

20. **Overall, the decentralization plans in Thailand are ambitious, but are quite rigid in terms of timing, and risk being undermined by flawed implementation**. Several institutional reforms are needed to ensure that Thailand will benefit from the efficiency gains from decentralization. In addition, reform of the fiscal relations between the central and the local governments is needed urgently to reduce the vertical imbalance and to assure the fiscal neutrality of the decentralization process.

21. **The recommendations on the institutional front are as follows**:

- **The discretion of local government to tailor the provision of public services to the needs of local populations should be strengthened**. A capacity-building program should be implemented to improve local governments' ability to deliver social services and to break the public works bias. A system of incentives should be put in place to encourage the transfer of skilled central government officials to local governments. The budgeting and accounting guidelines need to be simplified and the specific-project grants should be replaced by general-purpose grants so that local governments have more control over their own spending.[22] Subsidies should be allocated according to a transparent and predictable formula to facilitate local government budgeting.

- **The potential for smaller local governments to consolidate to benefit from economies of scale in the joint delivery of public services should be explored**. Many analysts have pointed out that decentralization is not feasible in Thailand unless the building block is larger, at least at the size of current Districts or preferable PAOs.[23] Comparative international experience also seems to suggest that most

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[22] In 2002/03 and beyond direct and unconditional grants for local authorities will replace most of the indirect specific grants, granting local governments more autonomy than previously. However, it is envisaged that local governments will only be able to receive their grants directly from the central government from 2005 onwards as this requires a change in the Budget Act, which at present does not recognize local governments as being eligible to be budgeting heads.

[23] See Webster (2002) and Wegelin (2002). The current building blocks of Thailand's decentralization effort are TAOs. Webster points out that the problems with basing decentralization on so many small and rural units of government are: (1) TAOs are too small to be efficient, viable as autonomous cost-effective local government units in their own right (for instance, TAOs can afford to pay only lower-level, less experienced, and more junior

(continued)

countries in which decentralization is implemented focus on a much more manageable number of larger units.[24] Consolidation could be achieved through voluntary cooperation that leads to the formation of associations of neighboring local governments.[25] The government could institute an incentive grant for associations of local governments serving a certain amount of population. Another way of encouraging the cooperation would be through a gradual and asymmetric assignment of fiscal responsibilities among local governments, devolving responsibilities only to associations of local governments that fulfill a minimum set of requirements (economic size, population, land) and shifting them to the superior level of government otherwise.[26]

- **Local accountability should be enhanced**. Local governments should be better informed about their responsibilities. Fiscal reporting by local governments should be improved.

22. **As regards intergovernmental fiscal relations, actions along the following lines would be useful**:

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staff, ensuring that the most needy rural groups are governed by the least experienced people); (2) TAOs are too fragmented as to be accountable units of local government in terms of meeting their responsibilities; (3) municipalities are not taking advantage of the decentralization process although urban areas are expected to grow considerably in the near term.

[24] In Indonesia, for instance, with a population of more than 200 million, decentralization focuses on the Kabupaten (District), in the Philippines the Municipal level is the key building block, and in Japan the Prefecture level.

[25] Consolidation could also be achieved through formal mergers into larger local government units, although it may be politically difficult. This has been done in other countries such as Japan, China and Canada. The *Tambon Act* states that TAOs that share the same boundary within the District can be merged into one TAO with the consent of the citizens. The Ministry of Interior also has a right to merge small TAOs with population of less than 2,000 into one bigger TAO. However, mergers have to be based on the consent of the residents in the local governments concerned.

[26] However, in spite of the attractiveness of this idea, some risks exist. The existence of local government units with very different fiscal power can make the decentralization process very complex. In addition, the asymmetric approach can introduce notorious differences in the political influence of the local governments in national policy. In any case, the public services affected by this asymmetric process of decentralization should be valued in order to guarantee that the quality of the public services does not depend on the level of government in charge of the provision.

- **Devolution of revenues to local governments should be linked more closely with devolution of expenditure functions**. Given the technical difficulties in the devolution of some expenditures, an escape clause in the time set for the devolution of revenues could be introduced in order to ensure that financing is not preceding the devolution of functions.

- **Local revenue mobilization should be increased** either through improved administration of existing revenue sources, restructuring existing taxes,[27] or developing new sources of revenues, since many local authorities have room to increase local tax efforts.[28] As an incentive, the allocation of grants could include a matching element related to the generation of local revenues.

- **Debt ceilings and bankruptcy procedures for local governments should be introduced, a no-bail-out policy should be strictly observed**. In terms of borrowing policy, there are problems with both the current administrative controls on local borrowing, which reduce the scope of local governments to exercise discretion, and the approach of relying on financial markets to impose the necessary discipline over local borrowing.[29] An alternative approach, used by many countries, is to put in place

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[27] For instance, the planned Property Tax that will replace the Land and Building Tax is welcome, but there is typically more potential for such tax in urban than in rural areas. The characteristics of the new Property Tax are as follows: (1) the base will be defined as the capital value and not as the rental value, as it is now. That will increase tax collection since rental values reflects mainly the current use of the property, while capital value, generally based upon market values, is said to reflect the value of the property in the best alternative use and, (2) some exemptions will be phased out, such the exemption of residential property.

[28] It is generally acknowledged in the literature that the most obvious candidates as "good" local taxes are land or property taxes and, to some extent personal income taxes. Unless the local jurisdictions are large such as in Canada, Brazil, United States, or India, consumption taxes, as well taxes on capital income, in particular corporate income taxes, are generally considered less appropriate at the local level because of the mobility of the corresponding bases. See Norregaard (1997) and Bird (1999) for a discussion.

[29] The preconditions for purely financial market discipline to work are very demanding (Ter-Minassian, 1997). First, adequate information on the local government's outstanding debt and repayment capacity should be available to potential lenders. Second, bank provisions for local debts should not treat governments as privileged borrowers and bankruptcy procedures should be clearly established. Finally, and perhaps the most important, there should be no perceived chance of a bailout. On this last point, it should be noted that in the recent international history of intergovernmental fiscal relations, there are no examples of local governments allowed to go bankrupt (which would involve default on their debt) in the more advanced federal states. On the contrary, there have been many cases, both in developed and developing countries, where local government financial crises have been

(continued)

rules that "mimic" market discipline (Ter-Miniassian, 1997), by linking limits on the indebtedness of local governments to their debt service capacity, and by rules that limit local borrowing to investment (golden rules), or that establish that short-term borrowing for liquidity purposes has to be repaid by the end of each fiscal year. To be effective, a rules-based approach would need to be supported by clear and uniform accounting standards and fiscal reporting. It is also recommended that current constraints on local governments should remain in place at least until 2006, i.e., at least during the first phase of the decentralization process.

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resolved through the intervention of the central government. Examples are the bailout of New York City in 1975, and of the bailout of Bremen and Saarland in Germany in 1992. See Pisauro (2001).

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INTERNATIONAL MONETARY FUND

THAILAND

Statistical Appendix[1]

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Approved by the Asia and Pacific Department

July 19, 2002

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Table 1. Thailand: Basic Data

I. Social and Demographic Indicators

Area (thousand sq. km.) 1/	513,199.5
Population (2001) 1/	
Total (million)	62.3
Annual rate of population increase (percent)	0.7
Density (per sq. kilometer)	121.4
Urban population in percent of total population	28.6
Rural population in percent of total population	71.4
Population aged 12 and over (million)	51.4
Population characteristics (2001) 2/	
Life expectancy at birth, in years 3/	70.2
Crude birth rate (per thousand)	16.8
Crude death rate (per thousand)	8.0
Infant mortality (per thousand live births)	28.6
Under 5 mortality rate (per thousand)	
Income distribution (2001)	
Percent of private income received	
by highest 10 percent of households	
by lowest 20 percent of households	
Average minimum wage (in baht/day) 4/	165.0

Labor force distribution (2001) 5/	
Percent of labor force in	
Agriculture	41.8
Industry	16.1
Services	42.1
Education (2001)	
Adult literacy rate, in percent 6/	92.7
Enrollment rates, in percent 7/	
Primary education	43.0
Secondary education	28.8
Tertiary education	13.3
Health (2001) 8/	
Population per physician	3,395
Population per hospital bed	445
Population with access to safe water, percent	
of which: rural population	
GDP (2001)	
In billions of baht	5,099.6
In millions of U.S. dollars	114,658
Per capita, in U.S. dollars	1,822

1/ Department of local administration, Minister of Interior
2/ Population projection for Thailand 1990 - 2020 NESDB
3/ Expectation of life at birth, projected for 2000 - 2005, Human Resource Planning Division, NESDB
4/ Rate of minimum wages in Bangkok and 5 provinces around Bangkok, Ministry of Labour and Social Welfare
5/ The Labour force survey, National Statistical Office
6/ The 2000 Population and housing census, National Statistical Office
7/ Office of the Permanent Secretary, Ministry of Education
8/ Health Information Division, Bureau of Health Policy and Planning

II. Economic Indicators

	1995	1996	1997	1998	1999	2000	2001
				(In percent of GDP)			
Origin of GDP							
Agriculture, forestry and fishing	9.5	9.5	9.4	10.8	9.3	8.8	8.6
Manufacturing	29.9	29.7	30.2	30.9	32.7	33.6	33.5
Construction	7.2	7.4	5.7	3.9	3.6	3.1	2.9
Commerce	16.9	16.5	17.2	17.0	17.3	17.3	17.2
Transport and communication	7.2	7.4	7.8	7.8	8.1	8.1	8.1
Financial services	7.1	7.1	6.5	5.1	3.4	3.0	3.0
Other services	22.1	22.3	23.1	24.6	25.6	26.2	26.8
Expenditure on GDP, Savings and Investment							
Private consumption	53.2	53.8	54.7	54.2	55.9	56.1	56.9
Private investment	32.2	30.8	22.2	12.7	11.6	13.9	15.7
Exports of goods and nonfactor services	41.8	39.3	48.0	58.9	58.4	67.1	66.3
Imports of goods and nonfactor services	48.6	45.5	46.6	43.0	45.8	58.4	60.2
Current account of the balance of payments	-8.0	-8.0	-0.8	12.9	10.2	7.6	5.4
Gross national savings	32.4	31.6	30.3	29.9	28.0	28.8	...
Gross domestic investment	42.1	41.8	33.7	20.4	20.5	22.7	24.0
of which: public investment	8.9	10.2	11.6	9.7	9.3	8.1	7.6

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Public Finances 1/						
Central government overall balance	2.4	-2.1	-7.6	-10.5	-3.2	-2.8
Revenues	19.5	18.6	16.2	16.2	16.4	17.8
Expenditures	17.1	20.6	23.8	26.7	19.7	20.6
Of which: Interest expenditures	0.2	0.3	0.2	1.0	3.8	1.4
Nonfinancial public sector overall balance 2/	2.8	-3.2	-8.4	-12.3	-4.1	-2.5
Nonfinancial public sector primary balance 3/	3.0	-2.9	-8.3	-11.4	-0.3	-1.1
Debt						
Total public debt (end of year)	14.5	36.3	45.2	55.9	57.3	57.9
Central government (including FIDF debt)	5.2	24.1	31.8	38.7	38.8	38.8
Nonfinancial Public Enterprises	9.3	12.1	13.4	17.2	18.5	19.2

Table 1. Thailand: Basic Data (concluded)

	1995	1996	1997	1998	1999	2000	2001
Total external debt (end of year) 4/	60.0	59.7	70.1	93.2	77.6	65.1	58.6
Of which: public debt	9.8	9.2	15.4	28.0	29.6	27.7	24.6
	(Annual percentage change, unless otherwise indicated)						
National Accounts and Prices							
Real GDP per capita	8.0	4.8	-2.3	-11.4	3.4	3.6	1.0
Real GDP	9.2	5.9	-1.4	-10.5	4.4	4.6	1.8
Nominal GDP	15.3	10.1	2.6	-2.2	0.1	5.9	4.0
Nominal GDP (in billions of baht)	4,186.2	4,611.0	4,732.6	4,626.4	4,632.1	4,904.7	5,099.6
GDP deflator	5.6	4.0	4.1	9.2	-4.1	1.2	2.1
Consumer prices (average)	5.8	5.9	5.5	8.1	0.3	1.6	1.6
Consumer prices (end of period)	7.4	4.8	7.6	4.3	0.7	1.3	0.8
Core inflation	5.3	5.1	4.7	7.2	1.8	0.7	1.3
Unemployment rate	1.7	1.5	1.5	4.4	4.2	3.6	3.3

	1995	1996	1997	1998	1999	2000	2001
	(Annual percentage change, unless otherwise indicated)						
Money and Credit 5/							
Private sector (adjusted, end of period) 6/	...	14.2	23.4	-9.7	-3.2	-0.1	0.7
Money and quasi-money (M2a) (end of period)	18.1	12.7	2.0	2.1	1.3	3.5	4.7
Stock in percent of GDP	1.0	1.0	1.0	1.1	1.1	1.1	1.1
Money (M0) (end of period)	17.4	7.1	9.8	-4.7	48.4	-13.9	8.4
Real M2a (end of period)	12.3	6.8	-3.6	-6.0	1.0	1.9	3.1
Net domestic credit	24.3	14.2	15.4	-12.9	-7.9	-14.2	-7.5
Credit to private sector	14.6	17.4	12.6	-4.4	6.6	-13.2	5.4
Credit to non financial public sector (net)	25.6	14.5	13.8	-18.5	-9.6	-15.7	-9.2
Interest Rates and Exchange Rates							
Overnight interbank rate	10.3	12.1	21.7	2.6	1.2	1.7	2.1
Minimum Lending Rate (average of five largest banks)	13.8	13.1	15.3	11.8	8.4	7.9	7.3
Baht/dollar (average of period)	24.9	25.3	31.4	41.4	37.8	40.2	44.5
Nominal effective exchange rate (1994=100)	87.9	98.6	88.1	72.0	75.2	72.0	68.2
Real effective exchange rate (1994=100)	91.4	104.7	96.5	83.7	86.8	83.4	79.5
Terms of trade (deterioration -)	n/a	n/a	0.5	-5.9	1.3	-8.9	-9.4
	(In billions of U.S. dollars)						
Balance of payments							
Current account balance	-13.2	-14.3	-3.1	14.3	12.5	9.3	6.2
Merchandise Trade balance	-7.6	-9.1	1.5	16.3	14.0	11.7	8.6
Exports (f.o.b.)	55.7	54.7	56.7	52.9	56.8	67.9	63.2
Annual growth in percent	24.8	-1.9	3.8	-6.8	7.4	19.5	-6.9
Imports (f.o.b.)	63.3	63.8	55.2	36.6	42.8	56.2	54.6
Annual growth in percent	31.9	0.7	-13.3	-33.8	16.9	31.3	-2.8
Factor services and transfers (net)	-5.6	-5.2	-4.6	-2.0	-1.5	-2.4	-2.4
Capital and financial account balance	20.4	16.5	-15.5	-17.5	-10.3	-11.0	-2.0
Direct investment	1.2	1.7	3.3	7.2	5.9	3.2	2.9
Other private capital (including errors and omissions)	18.1	13.5	-14.1	-25.5	-19.4	-13.6	-6.8
Public sector 7/	1.1	1.3	-4.7	0.8	3.2	-0.6	1.9
Net official reserve change (increase -)	-7.2	-2.2	18.6	3.2	-2.2	1.7	-4.2
International reserves and external debt 8/							
Central bank (net)							
Central bank (gross)	37.0	38.7	27.0	29.5	34.8	32.7	33.0
In months of imports	6.3	6.6	5.3	8.7	8.8	6.3	6.5
Outstanding external debt	100.8	108.7	109.3	105.1	95.0	79.7	67.3
Of which: public debt	16.4	16.8	24.1	31.6	36.2	33.9	28.3
Of which: private, short-term	52.3	47.7	38.3	28.3	19.4	14.7	13.2
Ratio of gross reserves to private short-term debt (in percent)	70.8	81.2	70.5	104.5	179.2	222.7	249.9

Sources: Information provided by the Thai authorities; and Fund staff estimates.

1/ On a cash (GFS) and fiscal year basis (October through September). Central government includes extra-budgetary funds, social security funds, and the fiscalization of financial sector restructuring costs. Data from MOF sources.
2/ Includes extrabudgetary funds, local governments and nonfinancial public enterprises.
3/ Primary Balance is Overall Balance plus interest payments of central government.
4/ Data provided by the BOT.
5/ Excludes data from 56 closed finance companies.
6/ Adjusted for bad debt transfers to Asset Management Companies and write-offs.
7/ Includes offshore forward and swap transactions by monetary authorities.
8/ End of period.

Table 2. Thailand: Construction and the Property Market, 1995–2002

	1995	1996	1997	1998	1999	2000	2001	2002 1/
Area permitted for construction in Bangkok (thousand square metres)								
Total	25,380	15,844	12,849	4,268	3,884	4,020	5,066	484
Housing	17,263	10,944	7,636	2,844	2,181	2,920	4,011	337
Commercial	6,411	4,191	4,742	1,064	1,432	807	718	87
Industrial	85	49	116	4	0	4	12	35
Services and transportation	410	264	205	259	102	138	175	21
Other	1,211	396	150	97	169	151	150	4

Source: Data provided by the Thai authorities.

1/ First two months of year.

Table 3. Thailand: Promotional Activities of the Board of Investment, 1995–2002 1/

(In millions of baht; except where otherwise indicated)

	1995	1996	1997	1998	1999	2000	2001	2002 2/
Number of applications received	1,407	1,198	808	691	902	1,030	891	166
Value of investment	901,400	834,700	380,100	242,400	189,300	355,300	190,700	35,700
Number of applications approved	1,205	974	868	648	680	1,111	820	178
Value of investment	584,700	529,400	468,600	287,500	162,200	279,200	266,300	42,200
Number of promotion certificates issued	978	942	792	569	554	784	766	218
Value of investment	328,300	427,100	404,700	244,500	139,500	290,300	183,400	59,000
Number of firms starting operations	322	611	465	697	526	625	611	168
Value of investment	132,500	230,300	267,400	283,800	205,300	304,900	267,900	68,300
Number of Thai employees	93,563	171,711	133,882	160,086	100,073	141,376	129,529	40,759
Value of approved investments by sector								
Agriculture and agricultural products	20,429	17,984	19,000	18,400	15,800	37,300	29,600	7,800
Minerals, metals, and ceramics	150,248	99,124	30,600	1,300	1,000	11,000	6,000	500
Light industry	10,656	6,737	7,600	10,800	10,600	36,700	14,800	6,100
Metal products, machinery, and transport equipment	53,044	53,303	33,200	10,800	13,300	31,000	27,100	9,000
Electronics and electrical products	44,303	85,311	31,600	61,200	58,800	77,200	54,000	11,200
Chemical products, paper, and plastics	227,110	126,015	171,200	54,400	43,900	72,800	72,700	3,700
Services and public utilities	77,668	140,949	175,400	130,600	18,800	13,200	62,000	4,000
Direction of approved investments								
Export-oriented production (over 80 percent exported)	67,490	98,700	94,900	111,200	120,600	171,400	123,700	27,100
Ownership of approved investments								
Total	584,700	529,400	468,600	287,500	162,200	279,200	266,300	42,200
Domestic	174,200	173,500	147,800	29,900	17,900	61,300	52,100	11,500
Foreign	35,200	75,800	36,000	80,000	82,900	123,200	106,700	22,000
Joint venture	375,300	280,100	284,800	177,600	61,400	94,700	107,400	8,700

Source: Data provided by the Office of the Board of Investment.

1/ From June 1999 onward statistics do not include applications submitted for (a) relocation; (b) BOI privileges tranferred; and (c) existing projects applying for nontax incentives.

2/ January-March 2002.

Table 4. Thailand: Population, Labor Force, and Employment by Major Economic Sectors, 1996–2001 1/

	1996	1997	1998	1999	2000	2001
			(In millions of persons)			
Population	59.90	60.50	61.17	61.78	62.40	62.94
Labor force 1/	32.12	32.57	32.46	32.72	33.22	33.92
Open unemployed 2/	0.11	0.14	0.46	0.39	0.32	0.29
Passive unemployed 3/	0.38	0.35	0.96	0.98	0.88	0.81
Employment 1/	30.98	31.52	30.10	30.66	31.29	32.17
Agriculture	14.03	14.20	13.45	13.88	13.89	13.59
Non-agriculture	16.95	17.33	16.65	16.79	17.40	18.59
Mining	0.53	0.52	0.45	0.64	0.45	0.47
Manufacturing	4.63	4.62	4.56	4.60	4.99	5.68
Construction	2.63	2.49	1.63	1.40	1.50	1.58
Electricity & water supplies	0.15	0.18	0.20	0.16	0.17	0.17
Commerce and banking	4.37	4.58	4.61	4.76	4.89	4.49
Transportation	1.00	1.04	0.99	1.01	0.97	1.02
Services and others	4.11	4.37	4.61	4.79	4.83	5.60
			(Changes in percent, except otherwise indicated)			
Participation rate (labor force in percent of population 15 years of age and over)	73.9	73.5	72.1	71.6	71.5	72.1
Rate of unemployment (as percent of labor force)	1.5	1.5	4.4	4.2	3.6	3.2
Population	n.a.	1.0	1.1	1.0	1.0	0.9
Labor force 1/	n.a.	1.4	-0.4	0.8	1.5	2.1
Open unemployed 2/	n.a.	20.0	234.6	-15.1	-17.8	-9.8
Passive unemployed 3/	n.a.	-7.1	172.2	2.7	-10.9	-7.7
Employment 1/	n.a.	1.8	-4.5	1.9	2.1	2.8
Agriculture	n.a.	1.2	-5.2	3.1	0.1	-2.2
Non-agriculture	n.a.	2.2	-3.9	0.8	3.7	6.8
Mining	n.a.	-2.4	-14.6	44.3	-30.8	5.4
Manufacturing	n.a.	-0.1	-1.3	0.7	8.6	13.7
Construction	n.a.	-5.4	-34.5	-14.2	7.4	5.2
Electricity & water supplies	n.a.	16.3	10.9	-19.7	5.6	5.1
Commerce and banking	n.a.	4.6	0.8	3.3	2.6	-8.1
Transportation	n.a.	4.4	-4.8	1.9	-3.9	4.7
Services and others	n.a.	6.2	5.6	3.8	0.9	15.8

Source: Data provided by the National Economic & Social Development Board (NESDB).

1/ Since 1996, covers fifteen years of age and above.
2/ Includes persons 15 years of age and above who were available for work but did not work at all and were looking for work.
3/ Includes persons 15 years of age and above who were available for work but did not work at all and were *not* looking for work.

Table 5. Thailand: Average Earnings, Classified by Manufacturing Categories, 1995–2001 1/

	1995	1996	1997	1998	1999	2000	2001
				(In baht per month)			
Manufacturing (whole Kingdom)	**5,733**	**5,950**	**6,589**	**6,504**	**6,524**	**6,496**	**7,103**
Food, beverages, and tobacco	5,178	5,263	5,779	5,917	5,701	6,014	6,512
Textiles, wearing apparel, leather, and leather products	4,230	4,540	5,159	5,136	5,440	5,195	4,983
Wood and wood products including furniture	3,421	3,570	3,862	4,698	4,890	4,033	4,217
Paper and paper products, printing and publishing	7,418	6,991	9,916	7,074	7,765	6,976	12,531
Chemicals and chemical, petroleum, coal, rubber and plastic products	10,680	10,679	8,004	7,994	8,488	8,962	11,118
Non-metallic mineral products, except products of petroleum and coal	5,613	5,861	6,390	7,370	6,959	7,748	6,508
Basic metal industries	6,721	6,606	6,585	8,599	7,013	7,106	7,240
Fabricated metal products, machinery and equipment	4,929	6,676	6,782	7,275	6,031	6,363	6,544
Other manufacturing industries	6,079	6,028	7,630	7,355	7,346	7,079	8,720
Construction	5,775	5,528	7,572	5,512	5,528	7,498	11,808
				(Percent change from year earlier)			
Manufacturing (whole Kingdom)	14.9	3.8	10.7	-1.3	0.3	-0.4	9.3
Food, beverages, and tobacco	4.0	1.6	9.8	2.4	-3.7	5.5	8.3
Textiles, wearing apparel leather, and leather products	13.0	7.3	13.6	-0.4	5.9	-4.5	-4.1
Wood and wood products including furniture	37.1	4.4	8.2	21.6	4.1	-17.5	4.6
Paper and paper products, printing and publishing	23.0	-5.8	41.8	-28.7	9.8	-10.2	79.6
Chemicals and chemical, petroleum, coal, rubber and plastic products	61.0	0.0	-25.0	-0.1	6.2	5.6	24.1
Non-metallic mineral products, except products of petroleum and coal	24.7	4.4	9.0	15.3	-5.6	11.3	-16.0
Basic metal industries	19.3	-1.7	-0.3	30.6	-18.4	1.3	1.9
Fabricated metal products, machinery and equipment	-6.2	35.4	1.6	7.3	-17.1	5.5	2.8
Other manufacturing industries	2.0	-0.8	26.6	-3.6	-0.1	-3.6	23.2
Construction	-13.1	-4.3	37.0	-27.2	0.3	35.6	57.5

Source: Data provided by the National Economic & Social Development Board (NESDB)

1/ Earnings are in the form of monetary value (daily, weekly, and monthly wages together with overtime, bonus and other remunerations).

Table 6. Thailand: Selected Energy Prices, 1995–2002 1/

	1995	1996	1997	1998	1999	2000	2001	2002 5/
Average import price of crude oil (baht/barrel)	17.51	20.71	19.97	13.21	17.42	28.59	24.48	21.27
Index (1994 = 100)	108.4	128.2	123.6	81.7	107.8	176.90	151.5	131.62
Electricity (baht/kwh) 2/	1.93	2.00	1.99	2.16	2.09	2.34	2.51	...
Index (1994 = 100)	106.4	110.1	109.4	118.9	114.9	128.8	138.7	...
Premium gasoline (baht/liter) 3/	8.87	9.23	10.48	11.86	11.98	15.63	15.48	14.15
Index (1994 = 100)	105.7	110.0	124.9	141.4	136.7	186.10	184.3	168.45
Tax (baht/liter)	2.59	2.68	2.84	3.94	4.05	4.05	4.05	4.05
High-speed diesel (baht/liter) 3/	7.60	8.62	9.49	9.19	8.96	12.95	13.51	11.88
Index (1994 = 100)	102.8	116.4	128.4	124.4	114.7	175.00	182.6	160.54
Tax (baht/liter)	2.20	2.28	2.44	2.44	2.07	2.54	2.54	2.54
Fuel oil (baht/liter) 3/	4.05	4.52	5.34	6.86	6.29	9.22	9.30	8.40
Index (1994 = 100)	96.9	108.1	127.8	153.6	137.8	263.40	265.7	240.00
Tax (baht/liter) 4/	0.43	0.49	0.59	0.55	0.19	0.29	0.29	0.37
Kerosene (baht per liter)	8.70	10.02	11.17	11.70	11.63	15.10	16.03	14.79

Source: Data provided by the National Energy Policy Office (NEPO).
1/ Annual average of monthly prices.
2/ Average price of electricity sold (MEA, PEA) including VAT.
3/ Retail price for Bangkok; 1995 column reports the price of fuel oil grade 2 (1,500).
4/ In 1992-97, tax rate of fuel oil was 17 percent of ex-refinery value, in 1997-98, tax rate of fuel oil was 17.5 percent of ex-refinery value. Since 1999, tax rate of fuel oil is 5 percent of ex-refinery value.
5/ Through February.

Table 7. Thailand: Central Government Fiscal Accounts, 1995/96–2000/01 1/

(In billions of baht)

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Total revenue and grant	876.1	873.4	757.8	743.1	795.0	900.4
Revenue	873.0	870.4	753.3	739.1	790.8	896.6
Tax	792.4	777.5	665.7	641.0	691.0	741.1
Nontax	80.6	92.9	87.6	98.1	99.8	155.5
Grants	3.1	3.0	4.5	4.0	4.2	3.8
Total expenditure and net lending	767.9	971.4	1114.3	1225.2	947.2	1090.9
Current expenditure	485.3	530.6	532.2	596.5	655.4	838.7
Capital expenditure	272.7	427.1	519.5	563.7	227.8	223.9
Net lending	9.9	13.7	62.6	65.0	64.0	28.3
Overall balance	108.2	-98.0	-356.5	-482.1	-152.3	-190.5
Financing	-108.2	97.9	356.3	482.1	152.1	140.9
External	2.9	10.2	71.4	52.7	33.0	32.3
Domestic	-111.1	87.7	284.9	429.4	119.1	108.6
Bank 2/	-120.4	89.8	204.6	260.7	89.6	100.9
Nonbank	-3.8	-2.1	116.6	93.4	29.5	7.7
Float	13.1	0.0	-36.3	75.3	0.0	0.0
			(In percent of fiscal year GDP)			
Total revenue and grant	19.5	18.6	16.2	16.2	16.5	17.8
Revenue	19.4	18.5	16.1	16.1	16.4	17.7
Tax	17.6	16.5	14.2	14.0	14.3	14.6
Nontax	1.8	2.0	1.9	2.1	2.1	3.1
Grants	0.1	0.1	0.1	0.1	0.1	0.1
Total expenditure and net lending	17.1	20.6	23.8	26.7	19.6	21.5
Current expenditure	10.8	11.3	11.4	13.0	13.6	16.6
Capital expenditure	6.1	9.1	11.1	12.3	4.7	4.4
Net lending	0.2	0.3	1.3	1.4	1.3	0.6
Overall balance	2.4	-2.1	-7.6	-10.5	-3.2	-3.8
Financing	-2.4	2.1	7.6	10.5	3.1	2.8
External	0.1	0.2	1.5	1.1	0.7	0.6
Domestic	-2.5	1.9	6.1	9.4	2.5	2.1
Bank 2/	-2.7	1.9	4.4	5.7	1.9	2.0
Nonbank	-0.1	0.0	2.5	2.0	0.6	0.2
Float	0.3	-0.3	-0.8	1.6	0.0	0.0
Memorandum item:						
Fiscal year GDP	4,503.0	4,705.9	4,673.5	4,587.8	4,831.3	5,064.6

Source : Data provided by the Thai authorities.

1/ The fiscal year runs from October to September. Data are based on GFS definitions and the coverage corresponds to the consolidatated central government, which includes extra-budgetary funds, social security funds, and the fiscalization of financial-sector restructuring costs.

2/ As recorded in the monetary survey.

Table 8. Thailand: Central Government Revenue and Grants, 1995/96–2000/01

(In billions of baht)

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Total revenue and grants	876.1	873.4	757.8	743.1	795.0	900.4
Total revenue	873.0	870.4	753.3	739.1	790.8	896.6
Tax revenue	792.4	777.5	665.7	641.0	691.0	741.1
Taxes on income and profits	277.7	276.2	214.8	213.7	235.4	253.6
Personal	105.3	111.5	118.9	101.2	87.4	97.0
Corporate	169.0	159.4	90.7	101.3	137.4	139.6
Petroleum income tax	3.4	5.3	5.3	11.2	10.6	16.9
Taxes on property	13.5	9.5	5.1	4.4	3.6	0.3
Taxes on consumption	349.2	353.1	354.1	319.4	322.0	341.5
Business tax/VAT	148.4	139.0	162.7	132.1	138.0	144.2
Specific business tax	32.6	33.0	34.0	20.8	16.6	12.6
Excise taxes	168.2	181.1	157.4	166.5	167.4	184.6
Beer and spirits	38.5	43.7	39.4	48.6	31.4	33.7
Tobacco	23.8	29.5	25.5	26.1	23.1	25.5
Petroleum products	60.4	66.3	68.1	69.0	65.7	62.8
Motor cars	37.0	32.0	8.9	14.2	24.1	0.9
Other	8.5	9.6	15.5	8.6	23.1	61.7
Profits on tobacco monopoly	0.0	7.1	1.9	7.7	5.3	5.2
Taxes on international trade	127.7	105.2	67.8	68.1	87.1	93.1
Import duties	126.2	103.6	66.1	66.4	84.9	91.0
Export duties	1.5	1.6	1.7	1.7	2.2	2.1
License fees and other taxes	24.3	26.4	21.9	27.7	37.6	47.5
Nontax revenue	80.6	92.9	87.6	98.1	99.8	155.5
Profits	45.9	56.9	44.3	46.4	38.5	53.3
State lottery	4.0	4.7	7.3	7.3	9.4	4.9
Bank of Thailand	10.4	14.5	0.0	0.0	0.0	0.0
State enterprises	31.5	37.7	37.0	39.1	29.1	48.4
Other	34.7	36.0	43.3	51.7	61.3	102.3
Grants	3.1	3.0	4.5	4.0	4.2	3.8

Source: Data provided by the Thai authorities.

Table 9. Thailand: Central Government Expenditure by Economic Classification, 1995/96–2000/01

(In billions of baht)

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Total expenditure and net lending	767.9	971.4	1,114.3	1225.2	947.3	1,090.9
Total expenditure	758.0	957.4	1,051.7	1,160.2	883.2	1,062.6
Current expenditure	485.3	530.3	532.2	596.5	655.4	838.7
Wages and salaries 1/	241.6	262.3	281.1	298.3	298.9	302.3
Interest	10.2	15.3	8.7	44.7	58.3	73.3
Other goods and services	179.5	192.8	179.3	173.7	183.2	243.4
Subsidies and current transfers	54.0	59.9	63.1	79.8	115.0	219.8
Local government	6.0	6.3	6.8	12.9	13.3	15.1
Public enterprises	7.8	8.6	11.8	11.2	18.4	26.4
Households and others 2/	40.2	45.0	44.5	55.7	83.3	178.3
Capital expenditure	272.7	427.1	519.5	563.7	227.8	223.9
Acquisition of fixed assets	239.1	334.5	278.4	223.8	200.8	171.5
Capital transfers	33.6	92.6	241.1	339.9	27.0	52.4
Local government	19.6	23.6	24.4	32.8	17.8	40.4
Public enterprises	9.3	9.8	12.8	5.8	8.0	11.2
Households and others	4.7	59.2	203.9	301.3	1.3	0.8
Net lending	9.9	13.7	62.6	65.0	64.0	28.3

Source: Data provided by the Thai authorities.

1/ Includes remuneration, annual salary adjustments, overtime, and travel expenses.
2/ Includes pensions.

Table 10. Thailand: Central Government Expenditure, Classified by Purpose, 1995/96–2000/01

(In billions of baht)

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Total expenditure	758.0	957.7	1,051.7	1,160.2	883.3	1,013.0
Current expenditure	485.3	530.6	532.2	596.5	655.5	789.1
General public services	32.2	32.7	31.1	35.6	39.3	83.0
Defense	91.6	98.3	84.3	73.1	71.5	73.0
Public order and safety	39.3	40.7	41.6	44.4	47.7	51.8
Education	133.1	146.4	154.7	170.9	171.7	181.3
Health	48.4	51.7	55.5	63.4	61.5	65.8
Social security and welfare	28.2	33.3	34.8	37.0	56.4	60.2
Housing and community amenities	6.6	6.3	6.0	9.4	14.1	18.8
Recreational, cultural, and religious	4.8	5.0	5.8	5.9	5.3	5.3
Economic services	61.2	62.7	61.5	72.4	91.4	140.4
Fuel and energy	2.3	2.4	3.4	1.7	9.1	8.4
Agriculture, forestry, and fisheries	37.9	39.1	30.7	40.7	44.1	43.4
Mining and mineral	2.6	3.0	3.3	4.6	4.6	11.5
Transportation and communication	9.6	9.7	14.0	10.4	13.3	14.1
Road transport	5.1	5.3	9.3	4.8	6.8	12.2
Water transport	0.4	0.3	0.4	0.7	0.4	0.0
Railway and other transport	2.1	1.8	1.9	2.4	3.4	1.9
Communication	2.0	2.3	2.4	2.5	2.6	0.0
Other	8.8	8.5	10.1	15.0	20.5	63.0
Other	39.9	53.5	56.9	84.4	96.5	109.5
Interest payments	10.2	15.3	8.7	44.7	56.6	63.7
Domestic	6.2	11.4	1.7	35.1	46.1	n.a
External	4.0	3.9	7.0	9.6	10.5	n.a
Unclassified	29.7	38.2	48.2	39.7	39.9	45.8
Capital expenditure	272.7	427.1	519.5	563.7	227.8	223.9
General public services	10.1	11.5	8.9	5.1	7.0	3.9
Defense	n.a	n.a	n.a	n.a	2.2	1.9
Public order and safety	7.4	10.2	10.7	9.5	7.2	7.4
Education	25.9	48.5	41.8	29.8	23.9	19.8
Health	13.4	25.6	22.4	12.2	7.9	6.5
Social security and welfare	n.a	n.a	n.a	n.a	0.1	0.1
Housing and community amenities	34.2	45.5	34.6	38.3	31.1	32.5
Recreational, cultural, and religious	2.9	7.7	7.7	4.2	2.2	1.6
Economic services	167.2	266.2	380.0	454.6	139.3	129.9
Fuel and energy	0.7	1.0	1.4	0.8	0.8	1.3
Agriculture, forestry, and fisheries	40.5	44.2	33.0	30.4	26.9	33.4
Mining and mineral	1.0	1.4	0.9	3.7	1.6	1.8
Transportation and communication	100.1	133.4	121.8	94.7	92.2	71.2
Road transport	95.5	123.6	109.0	87.8	86.1	71.1
Water transport	0.8	2.2	3.8	2.6	3.3	0.0
Railway and other transport	3.1	6.4	8.3	4.1	2.5	0.0
Communication	0.7	1.2	0.7	0.2	0.4	0.0
Other	24.9	86.2	222.9	325.0	17.7	22.2
Other	11.6	11.9	13.4	10	6.9	20.5

Source: Data provided by the Thai authorities.

Table 11. Thailand: Nonfinancial Public Sector Debt, 1995/96–2000/01

(In billions of baht)

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
			(In billions of baht)			
Total public sector debt	652.6	1706.1	2114.5	2562.6	2770.3	2931.7
Central government	175.4	241.9	500.1	958.5	1093.0	1263.7
Domestic	50.3	35.5	227.2	598.7	697.8	814.1
Bank of Thailand	2.5	3.6	54.5	113.4	78.8	133.0
Commercial banks	12.5	8.1	96.0	226.8	325.5	316.0
Government Savings Bank	29.2	20.0	27.5	129.5	124.4	107.1
Other financial institutions	5.1	2.9	37.8	68.5	73.4	103.2
Other	1.0	0.9	11.4	60.5	95.7	154.8
External	125.1	206.4	272.9	359.8	395.2	449.6
Non-financial public enterprises	420.0	571.1	627.7	789.5	895.9	970.6
Domestic	195.3	231.7	253.1	308.7	424.8	510.9
Guaranteed	167.4	194.0	215.4	259.7	345.1	411.6
Non-guaranteed	27.9	37.7	37.7	49.0	79.8	99.2
External	224.7	339.4	374.6	480.8	471.1	459.7
Guaranteed	224.7	302.2	339.5	442.7	422.6	384.8
Non-guaranteed	0.0	37.2	35.1	38.1	48.5	74.9
FIDF 1/	57.2	893.1	986.7	814.6	781.4	697.5
			(In percent of fiscal year GDP)			
Total public sector debt	14.5	36.3	45.2	55.9	57.3	57.9
Central government	3.9	5.1	10.7	20.9	22.6	25.0
Domestic	1.1	0.8	4.9	13.0	14.4	16.1
Bank of Thailand	0.1	0.1	1.2	2.5	1.6	2.6
Commercial banks	0.3	0.2	2.1	4.9	6.7	6.2
Government Savings Bank	0.6	0.4	0.6	2.8	2.6	2.1
Other financial institutions	0.1	0.1	0.8	1.5	1.5	2.0
Other	0.0	0.0	0.2	1.3	2.0	3.1
External	2.8	4.4	5.8	7.8	8.2	8.9
Non-financial public enterprises	9.3	12.1	13.4	17.2	18.5	19.2
Domestic	4.3	4.9	5.4	6.7	8.8	10.1
Guaranteed	3.7	4.1	4.6	5.7	7.1	8.1
Non-guaranteed	0.6	0.8	0.8	1.1	1.7	2.0
External	5.0	7.2	8.0	10.5	9.8	9.1
Guaranteed	5.0	6.4	7.3	9.6	8.7	7.6
Non-guaranteed	0.0	0.8	0.8	0.8	1.0	1.5
FIDF 1/	1.3	19.0	21.1	17.8	16.2	13.8
Memorandum items:						
Exchange rate (eop) Baht/US$	25.5	36.9	39.5	41.0	42.4	44.5
Nominal GDP (fiscal year)	4,503	4,706	4,673	4,588	4,831	5,065
External debt (US$ billions)	13.7	14.8	16.4	20.5	20.5	20
Central government	4.9	5.6	6.9	8.8	9.3	10.1
Non-financial public enterprises	8.8	9.2	9.5	11.7	11.2	10.3
Guaranteed	8.8	8.2	8.6	10.8	10.0	8.6
Non-Guaranteed	0.0	1.0	0.9	0.9	1.2	1.7

Sources: Data provided by the Thai authorities; and Fund staff estimates.

1/ Although included in this table, GFS classifies Financial Institutions Development Fund (FIDF) liabilities as part of the financial public sector.

Table 12. Thailand: Operating Profits/Losses of Nonfinancial State Enterprises, 1995/96–2000/01 1/

(In billions of baht)

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Total	103.4	66.5	65.6	-35.4	74.4	77.7
Power	53.7	16.0	49.3	-28.7	43.5	41.8
Electricity Generating Authority	27.1	12.8	18.5	-24.3	22.7	15.3
Metropolitan Electricity Authority	4.8	4.1	2.7	-0.9	2.5	4.8
Provincial Electricity Authority	12.0	9.1	10.5	-7.4	9.0	5.8
Petroleum Authority	7.7	-3.2	11.6	5.6	9.3	18.9
Other	2.1	-6.8	6	-1.7	0.0	-3.0
Transport and Communication	37.1	38.4	10.2	-15.4	18.2	27.0
Thai Airways International	3.4	2.8	3.9	5.3	7.4	1.9
Expressway and Rapid Transit Authority	0.6	0.6	-0.1	-4.2	-0.7	0.2
State Railways of Thailand	-1.6	-1.8	-3.2	-7.3	-5.4	-3.8
Bangkok Mass Transit Authority	-2.1	-2.5	-2.8	-6.0	-2.7	-3.7
Port Authority of Thailand	2.9	2.3	1.6	-0.2	1.2	1.6
Telephone Organization	21.0	22.2	-2.7	-9.9	7.2	13.2
Communication Authority of Thailand	7.5	9.2	7.4	3.7	4.8	7.1
Others 2/	5.4	5.6	6.1	3.2	6.4	10.5
Manufacturing	5.7	6.3	6	5.2	5.8	6.6
Tobacco Monopoly	4.7	5.5	5.2	5.5	5.2	5.6
Others	1.0	0.8	0.8	-0.3	0.6	1.0
Agriculture	-0.1	-0.3	-0.1	-0.1	0.0	0.0
Government Lottery Bureau	4.8	4.8	5.3	4.9	5.2	0.5
Others	2.2	1.3	-5.1	-1.3	1.7	1.8

Source: Data provided by the Thai authorities.

1/ After corporate income tax.
2/ Includes Airport Authority of Thailand.

Table 13. Thailand: Summary of Local Government Operations, 1995/96–2000/01

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
			(In billions of baht)			
Total revenue and grants	83.7	94.5	100.4	107.0	97.1	144.2
Taxes and other revenue	58.1	64.6	69.2	61.3	60.4	85.0
Transfers from central government	25.6	29.9	31.2	45.7	36.7	55.5
Total expenditure	77.8	89.1	74.5	99.2	95.2	141.7
Current expenditure	31.5	35.4	30.7	53.1	41.6	63.0
Capital expenditure	46.3	53.7	43.8	46.2	53.6	78.7
Overall balance	5.9	5.4	25.9	7.8	1.9	2.5
Overall balance excluding transfers from the central government	-19.7	-24.5	-5.3	-37.9	-34.8	-56.7
			(In percent of fiscal year GDP)			
Total revenue and grants	1.9	2.0	2.1	2.3	2.0	2.8
Taxes and other revenue	1.3	1.4	1.5	1.3	1.3	1.7
Transfers from central government	0.6	0.6	0.7	1.0	0.8	1.1
Total expenditure	1.7	1.9	1.6	2.2	2.0	2.8
Current expenditure	0.7	0.8	0.7	1.2	0.9	1.2
Capital expenditure	1.0	1.1	0.9	1.0	1.1	1.6
Overall balance	0.1	0.1	0.6	0.2	0.0	0.0
Overall balance excluding transfers from the central government	-0.4	-0.5	-0.1	-0.8	-0.7	-1.1

Source: Data provided by the Thai authorities.

Table 14. Thailand: Consolidated Nonfinancial Public Sector Operations, 1995/96–2000/01

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
			(In billions of baht)			
Overall Balance	126.3	-152.2	-394.8	-565.9	-198.9	-127.5
Total revenue and grants	1,060.7	1,036.7	936.0	888.5	966.5	1,115.3
Total revenue	1,057.6	1,033.7	931.5	884.5	962.0	1,110.8
Of which: Central government	873.0	870.4	753.3	739.1	790.8	896.6
Local government	58.1	64.6	69.2	61.3	60.4	85.0
Public enterprises	126.5	98.7	109.0	84.1	110.6	129.2
Grants to central government	3.1	3.0	4.5	4.0	4.5	4.5
Total expenditure and net lending	934.4	1,188.9	1,330.8	1,454.4	1,165.4	1,242.8
Current expenditure	503.0	551.1	544.3	625.5	666.0	810.6
Central government	471.5	515.7	513.6	572.4	624.4	747.6
Local government	31.5	35.4	30.7	53.1	41.6	63.0
Capital expenditure	427.2	626.1	723.9	764.0	435.4	403.9
Of which: Central government	243.8	393.7	482.3	525.1	210.8	172.4
Local government	46.3	53.7	43.8	46.2	53.6	78.7
Public enterprises	137.1	178.7	197.8	192.7.	171.0	152.8
Net lending	4.2	11.7	62.6	65.0	64.0	28.3
Financing (net)	-126.3	152.2	394.8	565.9	198.9	127.5
External	15.8	14.8	63.2	106.0	40.5	8.4
Domestic	-142.1	137.4	331.6	459.9	158.4	119.1
Banking system	-143.9	166.4	238.8	247.0	61.4	91.8
Other	1.8	-29.0	92.8	212.9	97.0	27.3
			(In percent of GDP)			
Public sector overall balance	2.8	-3.2	-8.4	-12.3	-4.1	-2.5
Total revenue and grants	23.6	22.0	20.0	19.4	20.0	22.0
Total revenue	23.5	22.0	19.9	19.3	19.9	21.9
Of which: Central government	19.4	18.5	16.1	16.1	16.4	17.7
Local government	1.3	1.4	1.5	1.3	1.3	1.7
Public enterprises	2.8	2.1	2.3	1.8	2.3	2.6
Grants to central government	0.1	0.1	0.1	0.1	0.1	0.1
Total expenditure and net lending	20.8	25.3	28.5	31.7	24.1	24.5
Current expenditure	11.2	11.7	11.6	13.6	13.8	16.0
Central government	10.5	11.0	11.0	12.5	12.9	14.8
Local government	0.7	0.8	0.7	1.2	0.9	1.2
Capital expenditure	9.5	13.3	15.5	16.7	9.0	8.0
Of which: Central government	5.4	8.4	10.3	11.4	4.4	3.4
Local government	1.0	1.1	0.9	1.0	1.1	1.6
Public enterprises	3.0	3.8	4.2	4.2	3.5	3.0
Net lending	0.1	0.2	1.3	1.4	1.3	0.6
Financing (net)	-2.8	3.2	8.4	12.3	4.1	2.5
External	0.4	0.3	1.4	2.3	0.8	0.2
Domestic	-3.2	2.9	7.1	10.0	3.3	2.4
Banking system	-3.2	3.5	5.1	5.4	1.3	1.8
Other	0.0	-0.6	2.0	4.6	2.0	0.5

Sources: Derived from data provided by the Thai authorities; and Fund staff estimates.

Table 15. Thailand: Summary of the Central Government Tax System

Tax	Nature of Tax	Exemptions and Deduction	Rates
1. Taxes on income and profits 1.1 Taxes on companies (Revenue Code Act of 1938, last amended in 1999)	1.1 Taxes on companies are taxed based on the resiling principle.	a. Taxable net profits are determined after business expenses and depreciation allowances, ranging from 5% to 20% of original cost for most types of assets. For the purpose of encouraging investment, an initial depreciation of 40% of cost value for machinery and accessories is allowed. The depreciation may take up to the whole residual value at the final year. Net losses may be carried forward to five consecutive years. No allowance for carrying back losses to previous years. 50% of intercorporate dividends are exempt. For holding companies and companies listed in SET, dividends are completely exempted, provided the shares are held 3 months prior to and after the receipt of dividends. Providing SMEs with preliminary depreciation deduction at special rate for - Computer and its equipment - Plant - Machinery	a. General 30%. - For BIBFs: 10%. - For newly registered company or partnership in Stock Exchange of Thailand: 25% (for 5 accounting periods) - For newly registered company or partnership in Market for Alternative Investment (MAI): 20% (for 5 accounting periods) - For existing company or partnership in Stock Exchange of Thailand: 25% on net profit not over 300 million baht (for 5 accounting periods) - For small entrepreneurs with registered capital not over 5 million baht Net Profit — Tax Rate 1 - 1,000,000 baht — 20% 1,000,001 - 3,000,000 baht — 25% more than 3,000,001 baht — 30%
	b. Companies incorporated abroad are also subject to a withholding tax on income from Thailand in the form of dividends, property rights, rentals, interest, and fees for certain services.	b. Withholding tax is calculated on gross income.	b. Withholding tax is 15% except on dividends which are taxed at 10%, same as interest paid to the financial institutions in the treaty countries.
	c. Foreign companies in the transportation sector.		c. 3% on passenger and freight transport.
	d. Nonprofit foundations and associations		d. A tax of 10% is levied on gross revenue before deduction of any expenses. The computation of gross revenue does not include registration or subscription fees or any money or property received by way of donation
1.2.1. Wages and salaries (Revenue Code Act of 1938, amended in 1997)	Residents are subject to tax on income Non-residents are subject to tax only on income from sources within Thailand. All tax payers file income tax return.	The following types of income are exempted: superannuation and insurance policies; gifts and bequests; proceeds from sales of movable property acquired through inheritance or for a purpose other than profit; income received from companies operating under the Promotion of Investment Act; prizes, awards, and lottery winnings; workers' compensation, insurance claims, medical benefits; income from rice farming; profits received from business already subject to individual income tax. Tax Allowances: Personal allowance B 30,000 Spouse allowance B 30,000 Child allowance B 15,000 (per child, not exceeding B 45,000 per family) Education allowance B 2,000 (per child) Contributions to life insurance Provident fund Mortgage interest Social Security Charitable contributions up to 10% of taxable income	Net income bracket — Tax Rate 0 - B50,000 — 0% 50,001- B100,000 — 5% B100,001-B500,000 — 10% B500,001-B1,000,000 — 20% B1,000,001-B4,000,000 — 30% over B4,000,000 — 37% Gross income (for minimum tax) B60,000 or more — 0.5%

Table 15. Thailand: Summary of the Central Government Tax System

Tax	Nature of Tax	Exemptions and Deduction	Rates
		Down payment for real estate - B 200,000 (cash) - B 100,000 (installment payment)	
1.2.2. Business income	Tax on employment and business income is imposed at progressive rates on net income (after deductions and allowances). But it cannot be less than the minimum tax on gross income.	Rental income: 40% of gross income or actual expenses Lawyers, doctors, etc.: 40% of or actual expenses All other business income: 40%-85% of gross income or actual expenses	Same as above.
1.2.3. Interest income		Exemptions are given on: a. Demand deposits with Government Savings Bank and savings deposits with cooperatives and the Bank for Agriculture and Agricultural Cooperatives.	Final withholding tax at a rate of 15%
1.2.3. Interest income (continued)		b. Savings deposit with any banks in Thailand not exceeding B20,000. c. Two-year contractual saving deposits which are not exceeding B 600,000	
		Tax on dividends or share of profit received from domestic companies and mutual funds when the income earner does not claim a tax refund or tax credit.	Withholding tax at the rate of 10%. Full imputation system with personal income tax according to formula: (Dividends paid out) * (Corporate income tax rate) / (1 - Corporate income tax rate)
1.2.4. Tax on income from the sale of real estate	Tax on income from sale or transfer of immovable property, other than exempt.		Final withholding tax of a graduated rate structure with a maximum of 20% of sale price after deductions granted in accordance with the nature of the transfer and years of ownership.
2. Social Security Contributions			
Payroll tax	Taxes on wages of employees. Mandatory for employees in private firms with 10 or more workers.	A maximum of B15,000 per month is subject to tax.	Social security -employee: 1.0 percent -employer: 1.0 percent Pension and child allowance -employee: 2.0 percent -employer: 2.0 percent
3. Employers' Payroll or Manpower Taxes			
None			
4. Taxes on property			
4.1 Real estate transfer tax (Land Code Act of 1954, amended in 1973).	Transfer (whether by sale, gift, or succession at death) of real estate is taxed on the basis of the assessed value of the property.		2% of the assessed value; 0.5% if the transfer is made to parents, spouses, or children. (Temporarily reduce from 2% to 0.01% effective from July 11, 2000-Dec. 31,2002)

Table 15. Thailand: Summary of the Central Government Tax System

Tax	Nature of Tax	Exemptions and Deduction	Rates
5. Taxes on goods and services			
5.1 Value-Added Tax (Revenue Code Act of 1938, amended in 1991)	VAT replaced Business Tax on January 1, 1992. Ad valorem tax on goods and services are subject to VAT.	Exemptions include: - Business with annual turnover not more than B1,200,000 - Agricultural products and related inputs e.g., fertilizer, animal feed, medicine and chemicals - Newspaper magazines, textbooks - Education - Arts and crafts - Medical practices, auditing, legal practices and other professional services - Hospitals - Research or technical services - Library, museum, zoo - Labor contract - Sports (non professional) - Acting, performance - Domestic transport - International transport (excluding air and sea transport) - etc.	Temporarily reduced from 10% to 7% effective from April 1, 1999-Sept 30, 2002 For export: 0%
5.2 Specific business tax	Specific business tax is imposed in lieu of VAT on the following businesses: - Banks - Finance companies -Life insurance companies - Pawn shops - Other business with similar operations as commercial banking - Sales of real estate - Stock exchange transactions - Other as decreed (e.g., Factoring)	Following businesses are exempted: - Bank of Thailand, Government Savings Bank, Government Housing Bank, BAAC, - International Finance Corporation of Thailand Saving Cooperatives - Provident Fund - National Housing Authority - Exim Bank - Environmental Fund - Sale of stocks in SET - Others as decreed (e.g., securitization and real estate mutual fund)	- Banking and financial institutions = interest 3% earning = profit 3% - Life insurance = interest 2.5% = premiums 3% - Pawnshops 2.5% - Sale of commercial real estate 3% (temporarily reduced from 3% to 0.1% effective from July 5, 2000-Dec 31, 2002)
5.3 Selective excises on goods (Liquor Act of 1950, Tobacco Act of 1966, Playing Cards Act of 1943, and Excise Tax Act of 1984)	Excises are levied on selected locally produced and imported goods, petroleum products, cigarettes, alcoholic beverages, non-alcoholic beverages, playing cards, electrical appliances, automobiles, crystal wares, yacht, perfumes, wool carpets, motor cycle, batteries, marble, horse racing course, and golf. The value of domestic goods is based on ex-factory price plus excise duty but sometimes the value is based on the price which Director General has published in the Royal Gazette from time to time. In the case of imported goods the value is based on CIF price plus import duty and excise duty.	- Diplomatic sales and sales of fuel to ships and international airlines are exempted. - Tax is refunded when an excisable item is exported. - Unfermented Vegetable or fruit juices with their content are met by the Departmental Regulation - Marble is exempted. - Diesel sold in the connected territory area is exempted. - Diesel remained in regular tank of register fishing ships is exempted. - absolute alcohol blened for fuel	Specific rates. Most excisable goods are subject to specific or ad valorem rates, *whichever is higher*. 1. Petroleum and petroleum products 1.1 Gasoline a) Unleaded gasoline 3.6850 baht/litre b) Other gasoline 4.6850 baht/litre c) Gasohol with ethanol content not less than 10% 3.3165 baht/litre 1.2 Kerosene 3.055 baht/litre 1.3 Fuel for jet aircraft a) used directly in jet aircraft 1% or 0.20 baht/litre b) used for others 23% or 3 baht/litre 1.4 Diesel a) Diesel (sulfuric acid over 0.25%) 2.4050 baht/litre b) Diesel (sulfuric acid not over 0.25%) 2.3050 baht/litre 1.5 Liquefied Petroleum Gas (LPG) 2.17 baht/ kg. 1.6 Natural Gas Liquid (NGL) 36% or 3.15 baht/litre 1.7 Fuel oil 5% 1.8 Petrument product 12% 1.9 Hydrocarbon solvent 30%

Table 15. Thailand: Summary of the Central Government Tax System

Tax	Nature of Tax	Exemptions and Deduction	Rates
			2. Spirits 2.1 Fermented spirits a) Beer 55% or 100 baht/litre of pure alcohol b) Wine and Champagne 60% or 100 baht/litre of pure alcohol c) Other fermented liquors 25% or 100 baht/litre of pure alcohol 2.2 Distilled spirits a) Whiskey 45% or 240 baht/litre of pure alcohol b) Brandy 30% or 190 baht/litre of pure alcohol c) Other Spirits 45% or 240 baht/litre of pure alcohol 2.3 Absolute alcohol (over 80%) a) in general 10% or 6 baht/litre b) used for industries 2% or 1 baht/litre of pure alcohol c) used for medicine, phrmacy, science 0.1% or 0.05 baht/litre of pure alcohol 2.4 White spirit 28% or 100 baht/litre of pure alcohol 2.5 Blended spirit 45% or 240 baht/litre of pure alcohol 2.6 Special blended spirit 45% or 240 baht/litre of pure alcohol
			3. Tobacco 3.1 Shredded Tobacco 0.1% or 0.01 baht/10 gramme 3.2 Tobacco a) Cigarettes 75% b) Cigar 10% or 0.50 baht/gramme c) Other Rolled Tobacco 0.1% or 0.02 baht/5gramme d) Blended Shredded Tobacco 10% or 0.50 baht/gramme e) Chewing Tobacco 0.1% or 0.09 baht/gramme 4. Non alcoholic beverages 4.1 Soda water 25% or 0.77 baht/440 c.c. 4.2 Soft drink 20% or 0.37 baht/440 c.c. 4.3 Unfermented vegetable, or fruit juices 20% or 0.37 baht/440 c.c. 5. Electrical Appliances 5.1 Air conditioners (capacity not over 72,000 BTU/hour) 15% 5.2 Chandellers 15% 6. Automobile 6.1 Passenger cars with the engine a) not over 2,400 c.c. 35% b) between 2,401 - 3,000 c.c. or having the power not over 220 H.P. 41% c) over 3,000 c.c. or having the power over 220 H.P. 48% 6.2 Off - Road Passenger Vehicle (OPV) 29% 6.3 Pick up Passenger Vehicle (PPV) 18% 6.4 Double cab 12% 6.5 Modified pickup 20% of modified value 6.6 Public transport cars seated not more than 10 person a) not over 2,400 c.c. 35% b) over 2,400 c.c. 41% 6.4 Pick- up a) specified characteristic by Director-General 3% b) others 18%

Table 15. Thailand: Summary of the Central Government Tax System

Tax	Nature of Tax	Exemptions and Deduction	Rates
			7. Lead crystals 15% 8. Yachts 5% 9. Perfumes 15% 10. Wool carpets 20% 11. Motor cycle 2 strokes engine 5% 4 strokes engine 3% 12. Batteries 12.1 Batteries 10% 12.2 recycle 5% 13. Halogenated derivertives of acyclic hydrocarbons - from Feb 14 - Dec 31, 2002 is 15% - from Jan 1, 2003 increased to 30% 14. Cards 14.1 Poker cards 30 baht/100 cards 14.2 Others 2 baht/100 cards 15. Service Places 15.1 Horse racing courses (from ticket fee for the horse-racing spectators and gain from horse-racing) 20% 15.2 Golf (from member fee and green fee) 10%
5.4 Profits of fiscal monopolies	Central Government is recipient of the profits of the following fiscal monopolies: the Thai Tobacco Monopoly, the State Lottery, and the production of playing cards by the Excise Department.	None	Rates are negotiated between the Ministry of Finance and individual monopolies.
6. Taxes on international trade and transactions			
6.1 Import duties (Customs Tariff Act of 1935, amended in 1987)	Ad valorem (on c.i.f. value) and/or specific duties are imposed on imports, classified according to the Harmonized System. In additions, special duties are levied on certain commodities.	Exemption is granted to personnel of United Nations Organizations and of accredited diplomatic missions. Companies operating under the Promotion of Investment Act (#1301) are exempted on machinery, parts, accessories based on the Promotional zone and also there are other exemptions by granting the exemption on the import duty for machinery of those 61 promoted activities that the board considered as priority activities located in zone 1 and zone 2, and items to be re-exported. Also, they are granted reduction	The current tariff structure is undergoing a reform aiming to lower tariff barriers and reduce number of rates to 3 basic rates and having protected rate for some goods as follows: - Raw material 1% - Intermediate goods 5% - Finished goods 10% - Protected goods 20% - Inputs cannot produce in domestic 1%
6.1 Import duties (continued) (Customs Tariff Act of 1935, amended in 1987)		of up to 90 percent of the duty on raw materials for not more than one year. Re-exports of goods that have been imported within the preceding two years and have not undergone change in character or form are exempted. Companies operating under the Petroleum Act, and Industrial Authority of Thailand Act (bonded warehouses and export processing zones) are exempted. Crude oil, fertilizers, jewelry, munitions of war, are zero rated. Duties on inputs used in the production of exports are refunded.	

Table 15. Thailand: Summary of the Central Government Tax System

Tax	Nature of Tax	Exemptions and Deduction	Rates
6.2 Export taxes (Customs Tariff Act of 1935, amended in 1987)	Ad valorem or specific duties on exports.	Because of exporting promotion, most export taxes are exempted, except raw hides, and wood.	- Raw hides: B0.40/kg - Wood 3-10%
7. Other taxes			
7.1 Stamp duties (Revenue Code Act of 1938, amended in 1973)	Stamp duties are imposed on documents (government forms, legal contracts, and other instruments), on an ad valorem basis or per transaction.		Rates range from B1.0 per B1,000 (on lease of property, contractor's services, insurance policy, transfer of securities, arbitrator's award) to B100 (on articles of association of a limited company).
B. Local Governments			
1. Municipality (Municipal Income Act of 1954), 2. Provincial Administrative Organization (Provincial Administration Organization Act of 1997), 3. Tambon Council and Tambon Administrative Organization. (Tambon Council and Tambon Administration Organization Act of 1994), and 4. the special cities which are Bangkok Metropolitan Administration and City of Pataya (Bangkok Metropolitan Administration Act of 1985 and City of Pataya Administration Act of 1980)			

Table 16. Thailand: Summary of the Local Government Tax System 1/

Tax	Nature of Tax	Exemptions and Deduction	Rates
1. Taxes on property			
1.1 Real estate taxes			
1.1.1 House and rent tax (House and Land Tax Act of 1932)	The house and rent tax is levied annually on buildings rented or used for other commercial purposes. The tax is allocated to all levels of local government.	Owner-occupied dwellings are exempted. Also exempted are buildings used by government agencies, public hospitals,	12.5 % of annual rent
1.1.2 Land development tax (Land Development Act of 1965)	The land development tax is levied annually on the value of unimproved land not subject to the house and rent tax. The tax is allocated to all levels of local government.	Land occupied by owner or used for annual crops is fully or partially exempted. A person who owns land in several provinces is allowed exemption only on land in one province, although his land holdings are taxed separately in each province. Land owned by government agencies, public hospitals, schools, public utilities, and religious organizations are also exempted.	34 different rates ranging from B0.50 per rai with an assessed value of under B200 to B70 per rai with an assessed value of over B30,000 and B25 per rai for each additional B10,000 (one rai is equivalent to 0.16 hectare).
1.1.3 Real estate transfer tax (For Tambon Administration Organization)	Transfer (whether by sale, gift, or succession at death) of real estate is taxed on the basis of the assessed value of the property.		2% of the assessed value; 0.5% if the transfer is made to parents, spouses, or children.
2. Taxes on goods and services			
2.1 VAT surcharge	Surcharge on the VAT imposed by the Central Government (see A.5.1). The surcharge is collected by the Revenue Department and allocated to all levels of local government.		10 % of the total VAT. (Temporary VAT rate of 7% is inclusive of the local surcharge of 0.7%) 5% of the total VAT collection in all of the provincial jurisdictions except for Bangkok
2.2 Specific Business Tax surcharge	Surcharge on specific business tax imposed by the Central Government. The surcharge is collected by the Revenue Department and allocated to all levels of local government.		10% of the specific business tax

1/ Local governments include: 1. Municipality (Municipal Income Act of 1954), 2. Provincial Administrative Organization (Provincial Administration Organization Act of1997), 3. Tambon Council and Tambon Administrative Organization (Tambon Council and Tambon Administration Organization Act of 1994), and 4. the special cities which are Bangkok Metropolitan Administration and City of Pataya (Bangkok Metropolitan Administration Act of 1985 and City of Pataya Administration Act of 1980).

Table 16. Thailand: Summary of the Local Government Tax System (continued) 1/

Tax	Nature of Tax	Exemptions and Deduction	Rates
5.3 Surcharge on selected excises			
1. Alcoholic and non-alcoholic beverages 2. Petroleum and petroleum products 3. Electrical appliances 4. Crystals 5. Automobiles 6. Yachts 7. Horse Racing courses	Surcharge on selected excises imposed by the Central Government (See A.5.3). The surcharge is collected by the Excise Department and allocated to local governments.		10% of excise tax.
5.4 Profits of fiscal monopolies			
None			
5.5 Taxes on specific services			
None			
5.6 Taxes on use of goods and property, and permission to perform activities			
5.6.1 Licenses and fees	- Slaughtering, positing signboards, and various other activities, are subject to taxes and license fees, which are allocated to all levels of local government. - Bird nest, ground water, fishery, forestry, petroleum and mineral resources (For Tambon Administration Organization)		Multiple
5.6.2 Motor vehicle tax (Motor Vehicle Act of 1979 Inland Transport Act of 1979)	Motor vehicle (passenger cars, motorcycles and special vehicles; buses and trucks) are subject to an annual tax. The tax is collected by the Central Government (Inland Transport Department) and allocated to Bangkok Metropolitan Authority (BMA) for the amount collected in BMA area. The amount collected in other provinces are allocated to the local government in the following proportions: 25% to provinces; 50% to municipalities; and 25% to municipalities upgraded from sanitary districts.	Automobiles belonging to government departments and local authorities are exempted. Tractors used in agriculture, ambulances and automobiles belonging to Red Cross are also exempted.	For passenger cars carrying 7 passengers or less, the tax is based on cylinder capacity: B0.50 per cc for portion of the cylinder capacity under 600 cc. B1.50 per cc for the portion between 600 cc - 1,800 cc. B4.00 per cc for the portion over 1,800 cc. For passenger cars carrying more than 7 passengers, the fee is based on weight ranging from B150 to B3,600.

Table 16. Thailand: Summary of the Local Government Tax System 1/

Tax	Nature of Tax	Exemptions and Deduction	Rates
			For motorcycles, the fee is B100 per unit For passenger cars registered for more than 5 years, the fee is reduced at a rate of 10% increments per year, e.g., 10% reduction is given on the 6th year, 20% reduction on the 7th year to 50% reduction after the 9th year.
	50% to municipalities; and 25% to municipalities upgraded from sanitary districts.		B4.00 per cc for the portion over 1,800 cc. For passenger cars carrying more than 7 passengers, the fee is based on weight ranging from B150 to B3,600. For motorcycles, the fee is B100 per unit. For passenger cars registered for more than 5 years, the fee is reduced at a rate of 10% increments per year, e.g., 10% reduction is given on the 6th year, 20% reduction on the 7th year to 50% reduction after the 9th year.

Table 17. Thailand: Financial Survey, 1996–2001 1/

(In billions of baht)

	1996	1997	1998	1999				2000				2001			
	Dec.	Dec.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Net foreign assets	-301.3	-884.3	-121.1	124.2	281.5	432.6	520.6	552.8	604.3	735.7	887.7	1035.5	1088.7	1184.1	1215.5
Net domestic assets	5309.3	6054.0	5750.9	5483.1	5327.0	5211.1	5198.1	5170.7	5121.8	5096.5	5084.7	5022.3	4976.7	4993.1	5095.7
Domestic credit	6496.6	7643.7	7483.2	7359.3	7145.2	6858.4	6588.5	6595.3	6358.3	5920.4	5889.9	5951.0	5655.8	5760.8	5635.1
Government (net)	-515.1	-467.1	0.6	40.0	55.8	108.7	144.1	173.0	170.7	216.8	211.7	244.5	220.6	262.0	284.3
Claims on government	83.8	66.9	431.1	527.7	550.0	551.7	573.6	559.7	581.2	639.2	593.7	636.9	612.6	681.9	680.9
Government deposits	598.9	534.0	430.5	487.7	494.2	443.0	429.5	386.7	410.5	422.4	382.0	392.4	392.0	419.9	396.6
Nonfinancial public enterprises	222.9	265.4	280.4	290.5	297.2	317.7	315.6	339.8	341.4	356.9	344.3	344.7	353.1	363.0	368.7
Businesses and households	6788.8	7845.4	7202.2	7028.8	6792.2	6432.0	6128.8	6082.5	5846.2	5346.7	5333.9	5361.8	5082.1	5135.8	4982.1
Capital and other items	-1187.3	-1589.7	-1732.3	-1876.2	-1818.2	-1647.3	-1390.4	-1424.6	-1236.5	-823.9	-805.2	-928.7	-679.1	-767.7	-539.4
Capital accounts	-1275.9	-1772.3	-2135.9	-2297.9	-2263.5	-2222.7	-1972.8	-1896.6	-1738.5	-1607.6	-1619.7	-1660.1	-1580.8	-1602.3	-1518.8
Other borrowings	-192.3	-211.2	-221.4	-201.6	-202.0	-201.8	-217.0	-215.1	-217.2	-220.3	-224.7	-222.3	-224.9	-223.5	-225.3
Other items net	280.9	393.8	625.0	623.3	647.3	777.2	799.4	687.1	719.2	1004.0	1039.2	953.7	1126.6	1058.1	1204.7
Liquid liabilities (M3)	5008.0	5169.7	5629.8	5607.3	5608.5	5643.7	5718.7	5723.5	5726.1	5832.2	5972.4	6057.8	6065.4	6177.2	6311.2
Currency	302.3	331.7	315.7	310.8	302.6	319.3	466.1	369.6	350.1	358.3	401.7	396.5	382.6	392.7	436.4
Demand deposits	91.2	77.0	85.8	83.5	85.2	94.8	89.8	105.4	100.6	110.9	105.5	120.0	119.0	128.5	128.3
Saving, time, and other deposits	3574.4	4298.0	4772.0	4793.4	4811.6	4837.5	4807.4	4897.2	4921.8	5042.5	5161.7	5234.0	5255.3	5331.0	5422.2
Promissory notes	1040.1	463.0	456.3	419.6	409.1	392.1	355.4	351.3	353.6	320.5	303.5	307.3	308.5	325.0	324.3

Source: Data provided by the Thai authorities.

1/ Consolidated balance sheets of the Bank of Thailand, commercial banks, finance companies and other state-owned financial institutions.

Table 18. Thailand: Bank and Finance Company Survey, 1996–2001 1/

(In billions of baht)

	1996	1997	1998	1999				2000				2001			
	Dec.	Dec.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Net foreign assets	-210.4	-681.6	26.1	262.6	414.9	575.2	646.2	675.1	719.7	851.1	1,002.6	1144.8	1,197.1	1283.2	1,300.5
Net domestic assets	4,935.6	5,503.4	5,092.0	4,863.6	4,659.2	4,526.5	4,536.3	4,468.9	4,416.3	4,352.0	4,294.4	4,237.4	4,195.3	4,160.9	4,237.9
Domestic credit	5,957.8	6,877.6	6,675.4	6,525.4	6,253.8	5,938.7	5,653.8	5,642.4	5,381.6	4,879.1	4,843.1	4,889.0	4,586.8	4,644.2	4,486.0
Government (net)	-462.1	-424.9	30.3	54.6	20.9	62.7	88.3	117.3	124.3	144.5	153.2	182.4	177.4	185.3	195.2
Claims on government	57.7	48.9	356.7	438.8	398.1	397.5	412.2	395.4	421.2	467.8	438.6	474.2	468.8	506.8	486.1
Government deposits	519.8	473.8	326.4	384.2	377.2	334.8	323.9	278.1	296.9	323.3	285.4	291.8	291.4	321.5	290.9
Nonfinancial public enterprises	175.6	197.8	192.3	196.8	198.8	203.8	201.8	209.7	198.4	199.3	175.3	175.1	176.9	181.4	184.4
Businesses and households	6,244.3	7,104.7	6,452.8	6,274.0	6,034.1	5,672.2	5,363.7	5,315.4	5,058.9	4,535.3	4,514.6	4,531.5	4,232.5	4,277.5	4,106.4
Capital and other items	-1,022.2	-1,374.2	-1,583.4	-1,661.8	-1,594.6	-1,412.2	-1,117.5	-1,173.5	-965.3	-527.1	-548.7	-651.6	-391.5	-483.3	-248.1
Capital accounts	-1,204.1	-1,691.3	-2,031.3	-2,177.1	-2,134.0	-2,090.6	-1,822.3	-1,742.8	-1,578.6	-1,448.0	-1,457.6	-1,488.6	-1,415.9	-1,430.3	-1,330.6
Other borrowings	-41.0	-44.2	-37.7	-28.5	-26.4	-27.8	-28.2	-31.1	-32.1	-32.2	-35.4	-33.5	-33.3	-32.2	-32.1
Other items net	222.9	361.3	485.6	543.8	565.8	706.2	733.0	600.4	645.4	953.1	944.3	870.5	1057.7	979.2	1114.6
Liabilities (M2A)	4,725.2	4,821.8	5,118.1	5,126.2	5,074.1	5,101.7	5,182.5	5,143.9	5,136.0	5,203.1	5,297.0	5,382.2	5,392.4	5,444.1	5,538.4
Currency	304.2	333.9	318.3	313.4	305.0	322	472.4	372.8	353.9	362.4	406.8	399.4	386.5	397.4	440.9
Demand deposits	102.6	85.2	91.5	121.7	91.5	98.4	93.6	108	102.6	112.8	107.5	122	121.1	129.3	130
Saving, time, and other deposits	3,278.3	3,897.1	4,251.9	4,271.6	4,268.5	4,289.3	4,261.1	4,311.8	4,325.9	4,407.3	4,479.1	4,553.5	4,576.3	4,592.3	4,643.2
Promissory notes	1,040.1	505.6	456.4	419.5	409.1	392.0	355.4	351.3	353.6	320.6	303.6	307.3	308.5	325.1	324.3

Source: Data provided by the Thai authorities.

1/ Consolidated balance sheet of the Bank of Thailand, commercial banks (including local lending by BIBFs), finance companies, and finance and securities companies.

Table 19. Thailand: Monetary Survey, 1996-2002

(In billions of baht)

	1996	1997	1998	1999				2000				2001				2002
	Dec.	Dec.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Net foreign assets	-78.7	-559.1	68.7	293.6	440.3	602.9	672.7	700.6	745.8	878.9	1,030.1	1,173.5	1,226.2	1,311.6	1,326.3	1,410.5
Assets	1,170.7	1,683.7	1,545.9	1,720.0	1,744.0	1,963.3	1,871.2	1,834.6	1,892.9	2,030.6	2,133.2	2,262.6	2,267.7	2,247.2	2,227.5	2,211.7
Liabilities	1,249.4	2,242.8	1,477.2	1,426.4	1,303.7	1,360.4	1,198.5	1,134.0	1,147.1	1,151.7	1,103.1	1,089.1	1,041.5	935.6	901.2	801.2
Net domestic assets	3,805.3	4,898.4	4,684.7	4,495.5	4,323.8	4,183.7	4,182.0	4,123.9	4,055.5	4,028.6	4,002.6	3,940.0	3,896.2	3,854.1	3,917.3	3,958.6
Domestic credit	4,638.6	6,237.4	6,163.4	6,054.4	5,949.1	6,026.9	5,905.2	5,917.6	5,644.9	5,496.2	5,466.3	5,489.6	5,429.3	5,333.7	5,135.0	5,234.6
Government (net)	-466.1	-426.4	-1.0	-2.0	3.5	45.3	65.1	94.0	99.1	118.4	130.0	159.2	154.9	162.9	173.7	205.9
Claims on government	53.7	47.4	325.4	382.2	380.7	380.1	389.0	372.1	396.0	441.8	415.4	451	446.3	484.4	464.7	528.1
Government deposits	519.8	473.8	326.4	384.2	377.2	334.8	323.9	278.1	296.9	323.4	285.4	291.8	291.4	321.5	291	322.2
Nonfinancial public enterprises	130.7	171.3	183.5	185.1	189.5	200.8	199.1	206.1	195.5	195.1	172.1	172.9	175.1	180.4	183.4	178.0
Businesses and households	4,689.6	5,730.9	5,301.1	5,338.9	5,246.9	5,176.5	5,016.0	4,991.1	4,755.6	4,223.2	4,213.2	4,223.2	3,933.1	3,952.8	3,776.4	4,240.6
Other financial institutions	284.4	761.6	679.8	532.4	509.2	604.3	625.0	626.4	594.7	959.5	951.0	934.3	1166.2	1037.6	1001.5	610.1
Capital and other items	-833.3	-1,339.0	-1,478.7	-1,558.9	-1,625.3	-1,843.2	-1,723.2	-1,793.7	-1,589.4	-1,467.6	-1,463.7	-1,549.6	-1,533.1	-1,479.6	-1,217.7	-1,276.0
Capital accounts	-977.9	-1,493.9	-1881.7	-2080.6	-2173.2	-2364.0	-2175.5	-2129.0	-1987.0	-1856.5	-1876.4	-1895.2	-1824.9	-1838.7	-1736.4	-1828.7
Borrowing from other financial institutions	-96.1	-195.9	-251.4	-266.9	-292.8	-350.2	-394.9	-453.4	-412.4	-408.1	-363.2	-364.2	-331.5	-327.9	-276.1	-233.5
Other items net	240.7	350.8	654.4	788.6	840.7	871.0	847.2	788.7	810.0	797.0	775.9	709.8	623.3	687.0	794.8	786.2
Broad money (M2)	3,726.6	4,339.3	4,753.4	4,789.1	4,764.1	4,786.6	4,854.7	4,824.5	4,801.3	4,907.5	5,032.7	5,113.5	5,122.4	5,165.7	5,243.6	5,369.1
Narrow money (M1)	423.7	428.8	441.8	458.1	429.2	431.9	575.0	495.0	463.1	483.5	525.7	533.3	517.7	538.2	579.4	600.2
Currency	304.3	334.0	318.3	313.4	305.1	322.0	472.4	372.8	353.9	362.4	406.8	399.4	386.6	397.4	440.8	443.7
Deposits	119.4	94.8	123.5	144.7	124.1	109.9	102.6	122.2	109.2	121.1	118.9	133.9	131.1	140.8	138.6	156.5
Quasi-money	3,302.9	3,910.5	4,311.6	4,331.0	4,334.9	4,354.7	4,279.7	4,329.5	4,338.2	4,424.0	4,507.0	4,580.2	4,604.7	4,627.5	4,664.2	4,768.9
Savings deposits	743.7	755.2	851	928.1	972.9	1049.7	995.3	1,085.9	1,070.6	1,155.3	1,219.5	1,320.1	1,348.2	1,400.5	3,139.1	3,142.6
Time deposits	2,546.4	3,102.1	3412.5	3344.1	3299.8	3247.5	3223.0	3179.3	3207.1	3204.5	3220.4	3191.7	3187.8	3156.6	1461	1564.1
Other deposits	12.8	53.2	48.1	58.8	62.2	57.5	61.4	64.3	60.5	64.2	67.1	68.4	68.7	70.4	64.1	62.2

Source: Data provided by the Thai authorities.

Table 20. Thailand: Accounts of the Bank of Thailand, 1996–2002 1/

(In billions of baht, end of period)

	1996	1997	1998	1999				2000				2001				2002
	Dec.	Dec.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Net foreign assets	990.6	935.9	672.3	701.5	719.2	805.4	822.9	739.1	764.9	837.4	875.6	932.4	942.1	1,005.0	1,039.6	1,125.2
Assets	990.7	1,274.3	1,083.4	1,126.2	1,157.9	1,326.1	1,303.3	1,220.5	1,257.4	1,361.4	1,413.2	1,445.9	1,429.1	1,448.4	1,479.2	1,474.2
Liabilities	-0.1	-338.4	-411.1	-424.7	-438.7	-520.7	-480.4	-481.4	-492.5	-524.0	-537.6	-513.5	-487	-443.4	-439.6	-349
Net domestic assets	-537.7	-461.8	-197.0	-212.4	-286.9	-378.8	-201.1	-241.4	-315.0	-358.5	-348.4	-420.0	-457.4	-491.7	-483.3	-560.4
Government (net)	-308.2	-251.5	74.1	81.1	69.1	63.0	58.2	57.5	52.4	24.4	63.2	74.4	107.5	86.5	108.3	120.3
Claims on government	17.2	14.5	152.9	217.5	174.3	132.9	120.7	95.1	88.6	93.2	88.3	106.7	138.8	153.9	124.4	142.1
Government deposits	-348.0	-296.5	-108.0	-171.9	-134.7	-99.8	-110.7	-71.5	-67.9	-100.2	-53.9	-66.8	-65	-99.5	-47.8	-56.5
Government currency holdings	6.3	13.2	11.4	17.5	11.1	11.2	29.2	13.9	11.6	11.0	8.1	13.4	12.1	10.2	9.5	12.1
Treasury coin issue	16.3	17.3	17.8	18.0	18.4	18.7	19.0	20.0	20.1	20.4	20.7	21.1	21.6	21.9	22.2	22.6
Claims on nonfinancial public enterprises	17.2	71.4	75.0	73.7	70.3	65.7	64.0	60.9	58.9	55.6	48.3	42.6	41	39.9	33.4	29.2
Claims on commercial banks (net)	26.5	276.3	139.6	242.1	140.4	60.7	78.9	71.7	69.3	91.5	58.8	9.5	-47.8	-20.7	-56.2	-46.1
Claims on other financial institutions (net)	36.7	42.5	-66.8	-60.9	-54.1	-67.2	54.3	13.3	3.0	22.7	63.5	67.9	69.4	61.4	48.7	-30.2
Capital and other items	-309.9	-600.5	-418.9	-548.4	-512.6	-501.0	-456.5	-444.8	-498.6	-552.7	-582.2	-614.4	-627.5	-658.8	-617.5	-633.6
Other assets	54.6	164.4	419.2	402.1	439.2	555.6	544.6	535.1	539.2	547.4	557.2	535.1	537.5	544.1	500.7	482.9
Capital accounts	-377.8	-803.2	-814.0	-944.8	-933.9	-1,115.0	-1,013.2	-974.2	-1,044.6	-1,129.4	-1,159.7	-1159.9	-1,154.1	-1,191.8	-1,092.4	-1102.9
Other liabilities	13.3	38.3	-24.1	-5.7	-17.9	58.4	12.1	-5.7	6.8	29.3	20.3	10.4	-10.9	-11.1	-25.8	-13.6
Reserve money	452.9	474.1	475.3	489.1	432.3	426.6	621.8	497.7	449.9	478.9	527.2	512.4	484.7	513.3	556.3	564.8
Currency	365.6	387.7	365.4	351.8	344.1	361.0	558.2	413.9	394.5	405.5	467.0	446.8	434.3	447.0	502.9	497.8
Held by commercial banks	61.3	53.8	47.1	38.4	39.0	39.0	85.7	41.1	40.6	43.1	60.1	47.4	47.8	49.5	61.8	54.1
Held by businesses and households	302.3	331.6	315.7	310.8	302.4	319.3	467.4	369	350.2	358.9	401.6	394.8	382.6	392.8	436.6	437.9
Held by other financial institutions	2.0	2.3	2.6	2.6	2.7	2.7	5.1	3.8	3.7	3.5	5.3	4.6	3.9	4.7	4.5	5.8
Deposits	87.3	86.4	109.9	137.3	88.2	65.6	63.6	83.8	55.4	73.4	60.2	65.6	50.4	66.3	53.4	67.0
Held by commercial banks	74.0	78.2	80.3	114.7	55.8	54.5	55.3	71.4	50.1	66.9	54.1	60	43.8	58.2	47.7	59.9
Held by other financial institutions	10.7	5.4	28.8	21.7	31.4	9.2	6.7	11.5	4	4.7	4.5	4.2	5.1	5.2	3.3	5.6
Held by other domestic sectors	2.6	2.8	0.8	0.9	1.0	1.9	1.6	0.9	1.3	1.8	1.6	1.4	1.5	2.9	2.4	1.5

Source: Data provided by the Thai authorities.

1/ At current exchange rates.

Table 21. Thailand: Assets and Liabilities of Commercial Banks, 1996-2002

(In billions of baht)

	1996	1997	1998	1999				2000				2001				2002
	Dec.	Dec.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Total assets	5,717	7,428	7,165	7,334	7,200	7,301	6,973	6,996	6,752	6,684	6,640	6,880	6,762	6,715	6,616	6,887
Cash and claims on the Bank of Thailand	183	466	502	453	394	369	238	232	206	271	268	321	315	340	316	421
Claims on commercial banks	41	36	15	36	30	56	46	70	54	65	53	69	62	78	47	58
Claims on other financial institutions	214	331	173	137	117	201	234	224	208	527	512	511	759	673	673	309
Foreign assets	180	409	463	594	586	637	568	614	635	669	720	817	839	799	748	738
Claims on Government 1/	20	16	155	147	188	229	249	257	287	328	306	323	286	309	318	363
Claims on nonfinancial public enterprises	113	100	109	112	119	135	135	145	137	140	124	130	134	141	150	149
Claims on businesses and households	4,688	5,730	5,300	5,337	5,245	5,175	5,015	4,990	4,754	4,222	4,212	4,222	3,931	3,951	3,775	4,239
Other	278	340	450	518	521	500	489	465	471	462	445	487	435	426	590	610
Total liabilities	5,717	7,428	7,165	7,334	7,200	7,301	6,973	6,996	6,752	6,684	6,640	6,880	6,762	6,714	6,616	6,887
Credit from the Bank of Thailand	54	313	155	158	54	29	48	39	39	63	26	34	18	51	17	27
Liabilities to commercial banks	37	31	27	42	27	54	39	56	37	52	37	62	49	65	37	55
Liabilities to other financial institutions	192	229	229	323	306	303	264	292	245	270	246	284	258	291	226	232
Total deposits of nongovernment sector	3,270	3,860	4,201	4,209	4,213	4,260	4,233	4,303	4,311	4,400	4,491	4,576	4,585	4,614	4,667	4,775
Demand deposits	87	73	84	81	83	90	87	103	98	106	102	117	116	123	124	139
Savings deposits	716	730	789	858	904	963	948	1,040	1,030	1,106	1,169	1,265	1,281	1,329	1,398	1,486
Time deposits	2,455	3,005	3,281	3,211	3,168	3,149	3,137	3,097	3,124	3,125	3,154	3,127	3,121	3,093	3,081	3,088
Foreign currency deposits	12	50	45	57	58	57	60	62	59	62	65	66	66	68	62	60
Marginal deposits	1	2	3	1	1	1	1	1	1	1	1	1	1	2	1	2
Foreign liabilities	1,249	1,904	1,066	1,002	865	840	718	653	655	628	566	576	555	492	462	452
Liabilities to government	178	191	230	230	254	246	242	221	241	234	240	238	239	232	253	278
Local government deposits	33	27	32	33	39	35	30	31	32	30	26	25	30	34	30	40
Capital account	604	691	1,068	1,136	1,239	1,249	1,162	1,155	942	727	717	735	671	647	644	726
Other	101	183	158	202	203	285	237	248	251	280	293	351	359	288	281	301

Source: Data provided by the Thai authorities.

1/ Includes claims on local government, which were zero, except for September 1996 (B 0.5 billion).

Table 22. Thailand: BIBF Out-In Operations, 1996–2002 1/

	1996	1997	1998	1999	2000	2001	2002 2/
			(In billions of baht)				
Thai banks							
Sources of funds	331.1	508.2	149.1	109.4	64.0	38.7	19.4
Maturities of less than one year	0.0	51.8	34.2	11.0	16.5	17.2	17.3
Maturities of one year or more	331.1	456.4	114.9	98.4	47.5	21.5	2.1
Memo item: Inter-office borrowing	327.9	528.2	149.1	109.2	63.5	38.7	19.4
Uses of funds	330.0	513.2	213.5	100.1	62.2	34.6	33.6
Maturities of less than one year	101.9	96.7	11.1	10.1	3.2	0.7	0.6
Maturities of one year or more	228.1	416.5	202.4	90	59	33.9	33.0
Foreign bank branches							
Sources of funds	223.7	670.9	421.2	314.8	239.5	201.6	196.5
Maturities of less than one year	104.3	320.1	145.4	66.7	53.6	90.9	79.1
Maturities of one year or more	119.4	350.8	275.8	248.1	185.9	110.7	117.4
Memo item: Inter-office borrowing	112.4	359.4	280.7	282.0	213.8	176.8	179.0
Uses of funds	222.8	691.5	431.9	304.2	253.1	194.8	189.2
Maturities of less than one year	138.3	254.1	190.7	128.6	105.3	69.9	61.4
Maturities of one year or more	84.5	437.4	241.2	175.6	147.8	124.9	127.8
Other BIBF units							
Sources of funds	252.0	201.1	119.3	77.7	61.1	42.1	34.3
Maturities of less than one year	150.9	102.3	42.5	33.2	0.0	3.8	2.4
Maturities of one year or more	101.1	98.8	76.8	44.5	61.1	38.3	31.9
Memo item: Inter-office borrowing	59.0	86.0	57.7	68.9	60.9	41.7	33.9
Uses of funds	254.6	206.9	121.6	82.8	71.7	47.5	38.5
Maturities of less than one year	143.1	94.5	46.6	31.4	21.9	17.9	14.6
Maturities of one year or more	111.5	112.4	75.0	51.4	49.8	29.6	23.9
Purpose of lending							
Agriculture	6.2	9.3	4.2	2.5	1.3	0.8	0.8
Mining	9.9	21.5	12.4	10.3	5.6	2.6	2.6
Manufacturing	390.5	735.3	459	287.9	220.5	147.4	140.3
Exports	18.7	28.3	15.6	10.3	7.4	4.0	3.9
Wholesale trade in agricultural products	2.3	4.0	0.6	0.7	0.7	0.6	0.6
Services for entertainments	3.2	4.1	1.5	1.4	0.8	0.8	0.8
Import of luxury goods	2.5	4.9	2.2	0.1	0.0	0.0	0.0
Personal consumption	2.2	0.8	0.4	0.5	1.2	1.1	1.2
Luxury resident condominium	17.6	20.0	8.1	4.2	2.4	1.0	1.0
Construction	21.5	33.9	14.7	10.4	8.5	4.7	3.9
Commerce	92.0	161.0	80.6	50.6	33.4	22.5	23.9
Banking and finance business	119.6	160.2	57.9	28.1	26.2	25.5	22.8
Real estate business	23.7	33.1	11.2	7.5	5.8	3.4	3.3
Public utility	39.8	82.9	55.8	50.9	61.5	54.4	54.3
Hotel and restaurant	32.3	54.1	16.3	5.6	2.9	1.8	2.3
General housing finance	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Others	25.2	58.1	25.1	16.1	8.8	7.0	6.3
Total	807.4	1,411.4	765.6	487.1	387.0	277.6	268.0

Source: Data provided by the Thai authorities.

1/ Total foreign borrowings, on-lent to residents.

2/ Data on maturities are through March; data on purpose of lending are through February.

Table 23. Thailand: Flow of Credit from the Monetary System and Net Capital Inflow to Private and Public Enterprises, 1996–2002
(In billions of baht)

	1996	1997	1998	1999	2000				2000	2001				2001
					I	II	III	IV		I	II	III	IV	
Total credit	992.7	1,510.6	-583.1	-416.3	-58.1	-346.5	-161.3	-76.2	-642.1	-19.0	-35.7	-134.9	-298.0	-487.6
Private businesses	955.5	1,463.3	-616.0	-452.7	-85.7	-299.9	-167.1	-31.1	-583.8	-15.6	-26.9	-128.5	-289.3	-460.3
Public enterprises	37.2	47.3	32.9	36.4	27.6	-46.6	5.8	-45.1	-58.3	-3.4	-8.8	-6.4	-8.7	-27.3
Financial	20.9	6.8	13.1	-14.3	3.4	-20.0	0.0	-7.6	-24.2	-2.9	-1.1	-9.6	-19.6	-33.2
Nonfinancial	16.3	40.5	19.8	50.7	24.2	-26.6	5.8	-37.5	-34.1	-0.5	-7.7	3.2	10.9	5.9
Credit from banking system (increase)	642.6	1,561.5	-503.3	-326.2	-16.8	-278.1	-169.2	-41.4	-505.5	-0.9	-51.7	-103.3	-209.6	-365.5
Private businesses	621.7	1,515.9	-495.5	-344.6	-29.7	-247.9	-170.3	-15.4	-463.3	1.1	-53.1	-113.6	-200.9	-366.5
Public enterprises	20.9	45.6	-7.8	18.4	12.9	-30.2	1.1	-26.0	-42.2	-2.0	1.4	10.3	-8.7	1.0
Financial	7.0	5.1	-19.9	2.7	5.8	-19.5	1.5	-3.0	-15.2	-2.8	-0.9	5.1	-11.6	-10.2
Nonfinancial	13.9	40.5	12.1	15.7	7.1	-10.7	-0.4	-23.0	-27.0	0.8	2.3	5.2	2.9	11.2
Foreign credit (net inflow)	350.1	-50.9	-79.8	-90.1	-41.3	-68.4	7.9	-34.8	-136.6	-18.1	16.0	-31.6	-88.4	-122.1
Private businesses	333.8	-52.6	-120.5	-108.1	-56	-52.0	3.2	-15.7	-120.5	-16.7	26.2	-14.9	-88.4	-93.8
Public enterprises	16.3	1.7	40.7	18.0	14.7	-16.4	4.7	-19.1	-16.1	-1.4	-10.2	-16.7	0.0	-28.3
Financial	13.9	1.7	33.0	-17.0	-2.4	-0.5	-1.5	-4.6	-9.0	-0.1	-0.2	-14.7	-8.0	-23.0
Nonfinancial	2.4	0.0	7.7	35.0	17.1	-15.9	6.2	-14.5	-7.1	-1.3	-10.0	-2.0	8.0	-5.3

Source: Data provided by the Thai authorities.

Table 24. Thailand: Foreign Investor Participation in the Securities Exchange of Thailand, 1996–2002

	1996	1997	1998	1999	2000				2000	2001				2001	2002
					I	II	III	IV		I	II	III	IV		I
Turnover involving foreign investors															
In billions of baht	900.9	804.2	592.1	946.9	292.2	127.0	108.4	97.0	594.6	187.3	123.7	134.8	141.7	587.6	301.5
In percent of total turnover	34.6	43.3	34.6	29.4	32.8	36.8	36.0	24.2	32.2	18.2	19.2	18.1	19.3	18.6	20.3
Net purchases by foreign investors	12.3	55.4	30.2	-3.1	-17.1	-11.0	-3.8	-1.2	-33.1	-1.4	-0.1	2.3	-7.1	-6.4	18.6
Purchases (in billions of baht)	456.6	429.8	311.1	471.9	122.6	58.0	52.3	47.9	280.8	93.0	61.8	68.5	67.3	290.6	160.0
Sales (in billions of baht)	444.3	374.4	280.9	475.0	139.6	69.0	56.1	49.1	313.9	94.4	61.9	66.3	74.4	297.0	141.4

Source: Data provided by the Stock Exchange of Thailand.

Table 25. Thailand: Stock Market Indicators, 1996–2002

	1996	1997	1998	1999	2000	2001	2002 1/
Number of quoted companies	454	431	418	392	381	382	381
Capitalization (billions of baht) 2/	2,559.6	1,133.3	1,268.2	2,193.1	1,279.2	1,607.3	1,979.2
Percent of GDP	55.5	23.9	27.4	47.3	26.1	31.5	...
New capital raisings (billions of baht) 2/	117.9	63.3	330.0	465.7	119.8	99.2	0.9
Trading value (billions of baht)	1,303.1	929.6	855.2	1,609.8	923.7	1,577.8	741.2
Percent of capitalization	50.9	82.0	67.4	73.4	72.2	98.2	37.4
Foreign/total turnover (percent) 3/	34.6	43.3	34.6	29.4	32.2	18.6	20.3
SET index (1975 = 100)	831.6	372.7	355.8	481.9	269.2	303.9	374.0
Percent change	-35.1	-55.2	-4.5	35.4	-44.1	12.9	28.1
Average dividend yield (percent)	3.5	6.0	1.4	0.6	1.8	2.1	2.5
Average price/earnings ratio	12.0	6.6	10.0	14.7	5.5	4.9	6.2

Source: Data provided by the Thai authorities.

1/ Through March 2002.
2/ At market prices.
3/ Including transactions through sub-brokers.

Table 26. Thailand: Net Medium- and Long-Term Nonmonetary Capital Flows by Borrower, 1995–2001

(In millions of U.S. dollars)

	1995	1996	1997	1998	1999	2000	2001 Prel.
Total	9,470	11,270	11,454	5,976	2,032	-2,245	-3,884
Private sector	8,278	9,941	10,522	5,743	1,474	-1,696	-2,933
Direct investment	1,232	1,658	3,347	7,173	5,892	3,199	2,894
Foreign direct investment	2,118	2,591	3,931	7,305	6,241	3,177	3,056
Equity capital	1,963	2,453	3,743	6,868	6,080	3,389	2,625
Bank	66	68	255	2349	2,529	537	55
Nonbank	1,897	2,385	3,488	4519	3551	2,852	2,570
Loans	155	138	188	437	161	-212	431
Thai investment abroad	-886	-933	-584	-132	-349	22	-162
Bank	-51	-117	-137	-8	-5	74	9
Nonbank	-835	-816	-447	-124	-344	-52	-171
Portfolio investment	3,286	1,359	4,299	457	444	290	-1,157
Bank	741	-604	-179	-70	106	-240	-287
Nonbank	2,545	1,963	4,478	527	338	530	-870
Equity securities	2,254	1,123	3,987	265	946	897	17
Inflow	7,162	7,261	21,376	6,761	5,114	4,766	1,492
Outflow	4,908	6,138	17,389	6,496	4,168	3,869	1,475
Debt securities	291	840	491	262	-608	-367	-887
Inflow	300	909	543	375	0	189	519
Outflow	9	69	52	113	608	556	1,406
Long-term loans	3,817	6,899	2,630	-2,110	-4,978	-4,897	-4,277
Bank	1,081	1,707	1,773	-2,219	-2,973	-1,194	-1,786
BIBF	830	1,528	769	-2,348	-1,960	-757	-994
Non-BIBF	251	179	1,004	129	-1,013	-437	-792
Nonbank	2,736	5,192	857	109	-2,005	-3,703	-2,491
Drawings	5,255	7,478	4,271	4,198	3,347	2,430	2,436
Trade credits	1	0	65	328	22	6	37
Other	5,254	7,478	4,206	3,870	3,325	2,424	2,399
Repayments	2,519	2,286	3,414	4,089	5,352	6,133	4,927
Trade credits	149	82	45	152	191	123	80
Other	2,370	2,204	3,369	3,937	5,161	6,010	4,847
Others (net)	-57	25	246	223	116	-288	-393
Bank	0	0	0	0	0	0	0
Nonbank	-57	25	246	223	116	-288	-393
Public enterprises	810	878	-188	356	236	-349	-881
Long-term loans	847	246	117	109	294	-216	-416
Drawings	1,632	1,075	837	828	1,531	1,618	1,195
Trade credits	5	2	0	0	0	0	0
Other	1,627	1,073	837	828	1,531	1,618	1,195
Repayments	785	829	720	719	1,237	1,834	1,611
Trade credits	53	39	26	24	27	27	43
Other	732	790	694	695	1,210	1,807	1,568
Portfolio investment (net) 1/	52	600	-131	196	-140	-228	-242
Others (net)	-89	32	-174	51	82	95	-223
Central government 2/	382	451	1,120	-123	322	-200	-70
Long-term loans	180	586	630	-67	472	-77	-35
Drawings	674	869	1,034	295	1,118	671	700
Repayments	494	283	404	362	646	748	735
Other (net)	202	-135	490	-56	-150	-123	-35

Source: Data provided by the Thai authorities.

1/ Includes bonds issued in Thailand and held by nonresidents.

2/ Excludes structural adjustment loans from the AsDB and the World Bank disbursed as part of the original financing package.

Table 27. Thailand: Net Short-Term Nonmonetary Capital Flows by Borrowers, 1995–2001

(In millions of U.S. dollars)

	1995	1996	1997	1998	1999	2000	2001 Prel.
Total	9,073	5,310	-12,365	-16,796	-12,126	-7,759	229
Private sector (net)	9,165	5,336	-12,333	-16,926	-12,106	-7,661	90
Borrowings	11,904	459	-9,672	-13,600	-10,422	-5,492	-153
Banks	12,141	-928	-4,768	-9,449	-8,590	-3,614	-286
BIBF	8,562	2,156	-947	-7,040	-7,678	-3,410	-457
Non-BIBF	3,579	-3,084	-3,821	-2,409	-912	-204	171
Nonbanks	-237	1,387	-4,904	-4,151	-1,832	-1,878	133
Trade credits	302	-63	-402	-587	788	-704	-428
Loans	-1,414	-75	-4,574	-3,459	-2,673	-750	428
Debt securities	875	1,525	72	-105	53	-424	133
Bank assets	-2,739	4,877	-2,661	-3,326	-1,684	-2,169	243
Public enterprises (net)	0	20	0	130	-20	-130	0
Trade credits	0	0	0	0	0	0	0
Others	0	20	0	130	-20	-130	0
Central government (net)	-92	-46	-32	0	0	32	139
Memorandum item:							
Nonresident baht accounts 1/	3,406	2,924	-5,812	-4,300	-2,909	-413	-1,376

Source: Data provided by the Thai authorities.

1/ Consists mostly of unidentified portfolio flows.

Table 28. Thailand: Gross External Borrowing by Nonbank Sector, 1995–2001 1/

(In millions of U.S. dollars)

	1995		1996		1997		1998		1999		2000		2001	
	Short-Term	Total	Short-Term	Total	Short-Term	Total	Short-Term	Total	Short-Term	Total	Short-Term	Total	Short-Term Prel.	Total Prel.
Total	16,606	22,064	18,228	25,943	14,548	19,008	7,638	12,156	4,225	8,233	3,798	7,251	6,246	10,174
Financial institutions	8,528	9,685	7,338	8,745	3,690	3,865	876	1,235	678	693	425	929	571	1,658
Trade	3,147	3,460	3,806	4,148	4,944	5,625	2,398	3,630	851	1,605	771	1,241	1,612	2,574
Construction	110	145	200	791	44	331	17	19	21	31	72	116	10	17
Industry	3,331	6,174	4,178	6,216	4,618	6,538	3,770	5,877	2,335	3,701	2,101	3,981	2,316	3,603
Food	87	352	84	414	191	382	180	232	42	81	21	69	28	39
Textiles	145	282	125	252	209	309	164	248	66	90	26	61	38	72
Metal based and non-metallic	316	523	235	492	309	641	268	858	120	448	131	240	116	204
Electrical appliances	1,101	1,402	1,172	1,548	1,439	1,703	1,351	1,580	853	1,244	725	1,531	1,037	1,511
Machinery and transport equipment	937	1,079	1,990	2,015	1,955	2,133	1,250	1,908	1,082	1,298	933	1,483	613	782
Chemicals	237	922	264	906	208	722	233	681	55	367	104	289	114	435
Petroleum products	219	562	107	292	253	402	156	242	52	55	32	58	338	448
Others	289	1,052	201	297	54	246	168	128	65	118	129	250	32	112
Services 2/	157	504	294	623	317	632	217	284	71	170	104	167	117	190
Others	1,333	2,096	2,412	5,420	935	2,017	360	1,111	269	2,033	325	817	1,620	2,132

Source: Data provided by the Thai authorities.

1/ Includes borrowing from affiliates; excludes commercial banks and BIBFs.
2/ Excludes real estate.

Table 29. Thailand: Borrowing Terms of Private External Loans, 1995–2001 1/

(In millions of U.S. dollars)

	1995 Amount of Borrowing		1996 Amount of Borrowing		1997 Amount of Borrowing		1998 Amount of Borrowing		1999 Amount of Borrowing		2000 Amount of Borrowing		2001 Amount of Borrowing	
	Millions of U.S. Dollars	Percent of Total	Millions of U.S. Dollars	Percent of Total	Millions of U.S. Dollars	Percent of Total	Millions of U.S. Dollars	Percent of Total	Millions of U.S. Dollars	Percent of Total	Millions of U.S. Dollars	Percent of Total	Millions of U.S. Dollars Prel.	Percent of Total Prel.
Total	22,064	100.0	25,943	100.0	19,008	100.0	12,156	100.0	8,233	100.0	7,251	100.0	10,174	100.0
Short-term	16,606	75.3	18,228	70.3	14,548	76.5	7,638	62.8	4,225	51.3	3,798	52.4	6,246	61.4
On demand and less than one month	4,486	20.3	4,546	17.5	3,930	20.7	1,943	16.0	1,145	13.9	1086	15.0	3252	32.0
1-3 months	8,495	38.5	9,604	37.0	7,060	37.1	2,552	21.0	1,705	20.7	1232	17.0	1906	18.7
4-6 months	1,980	9.0	2,522	9.7	2,764	14.5	1,982	16.3	916	11.1	1011	13.9	507	5.0
7-11 months	61	0.3	216	0.8	241	1.3	1,031	8.5	364	4.4	396	5.5	216	2.1
12 months	1,584	7.2	1,340	5.2	553	2.9	130	1.1	95	1.2	73	1.0	365	3.6
Long-term	5,458	24.7	7,715	29.7	4,460	23.5	4,518	37.2	4,008	48.7	3,453	47.6	3,928	38.6
No age	621	2.8	892	3.4	687	3.6	329	2.7	454	5.5	1059	14.6	915	9.0
More than 1-3 years	1,893	8.6	2,994	11.5	1,534	8.1	794	6.5	1,613	19.6	671	9.3	936	9.2
More than 3-5 years	1,461	6.6	1,994	7.7	859	4.5	943	7.8	555	6.7	1122	15.5	1580	15.5
More than 5-10 years	1,002	4.5	1,243	4.8	954	5.0	1,939	16.0	1,149	14.0	459	6.3	448	4.4
More than 10 years	481	2.2	592	2.3	426	2.2	513	4.2	237	2.9	142	2.0	49	0.5

Source: Data provided by the Thai authorities.

1/ Includes borrowings from affiliates; excludes commercial banks and BIBFs.

Table 30. Thailand: External Debt and Debt Service, 1995–2001

(In millions of U.S. dollars; end-of-period data)

	1995	1996	1997	1998	1999	2000	2001 Prel.
Total outstanding debt 1/	100,832	108,742	109,276	105,062	95,051	79,715	67,350
Outstanding medium- and long-term debt 2/	48,434	60,999	70,982	76,641	75,512	65,021	53,980
Public sector	16,317	16,747	24,062	31,428	36,098	33,887	28,161
By lender	16,317	16,747	24,062	31,428	36,098	33,887	28,161
IMF	0	0	2,429	3,239	3,431	3,062	1,679
Other international institutions	2,477	2,713	3,585	4,458	5,444	5,355	5,481
Foreign governments	8,387	8,005	9,038	12,580	16,354	14,805	12,815
Foreign banks	5,099	5,748	8,785	10,922	10,641	10,488	8,072
Suppliers' credits	354	281	225	229	228	177	114
By borrower	16,317	16,747	24,062	31,428	36,098	33,887	28,161
Bank of Thailand	0	0	7,157	11,204	12,817	12,019	8,325
Central government	4,791	5,118	6,051	6,947	8,888	8,860	8,588
Public enterprises	11,526	11,629	10,854	13,277	14,393	13,008	11,248
Nonbank private sector	23,875	31,241	32,102	34,328	31,178	24,403	21,485
Loans	19,938	25,172	25,695	27,244	24,473	19,116	17,407
Suppliers' credits	87	183	206	437	277	162	117
Debt securities	3,850	5,886	6,201	6,647	6,428	5,125	3,961
Commercial banks	8,242	13,011	14,818	10,885	8,236	6,731	4,334
BIBF	3,799	10,697	10,895	6,945	5,269	4,151	2,569
Non-BIBF	4,443	2,314	3,923	3,940	2,967	2,580	1,765
Outstanding short-term debt (disbursed)	52,398	47,743	38,294	28,421	19,539	14,694	13,370
Public sector	85	54	20	150	130	26	147
Nonbank private sector	18,616	18,831	13,871	10,834	9,943	9,242	8,203
Commercial banks	33,697	28,858	24,403	17,437	9,466	5,426	5,020
BIBF	23,704	20,490	19,185	14,891	7,837	4,085	3,523
Non-BIBF	9,993	8,368	5,218	2,546	1,629	1,341	1,497
Total debt service payments	8,253	9,024	11,629	14,430	14,136	12,893	15,817
Amortization, medium- and long-term debt	4,059	3,822	6,071	8,951	9,623	8,811	12,710
Public sector 3/	1,125	987	1,077	906	1,373	1,682	4,752
Of which: IMF	0	0	0	0	0	193	1289
Nonbank private sector	1,915	2,288	3,078	3,730	4,676	4,707	4,892
Commercial banks	1,019	547	1,916	4,315	3,574	2,422	3,066
BIBF	1,019	547	1,916	4,315	2,648	1,709	2,309
Non-BIBF	...	...	...	...	926	713	757
Interest, medium- and long-term debt	2,651	3,095	3,447	3,701	3,410	3,286	2,514
Public sector	900	858	881	1,277	1,496	1,668	1,464
Of which: IMF	0	0	15	122	129	175	124
Private sector	1,751	2,237	2,566	2,424	1,914	1,618	1,050
Nonbank	1,751	2,237	2,566	1,700	1,408	1,211	809
Banks	0	0	0	725	506	408	241
Interest, short-term debt	1,543	2,107	2,111	1,778	1,103	796	593
Of which: Commercial banks	1,539	2,107	2,110	1,232	646	332	275
BIBF	1,248	1,646	1,745	1,093	583	255	187
Non-BIBF	291	461	365	139	63	77	88
Average maturity of medium- and long-term debt contracted (years)							
Public sector 4/	20.3	19.6	19.2	20.1	19.5	19.3	19.1
Private sector	5.1	5.0	4.8	5.5	7.0	7.6	7.6
Average interest rate on medium- and long-term debt contracted (percent)							
Public sector 4/	4.9	4.5	4.6	4.5	4.9	4.6	3.6
Private sector	6.7	7.3	6.7	5.6	5.8	6.6	4.4
Total debt service ratio 5/	11.4	12.3	15.7	21.4	19.4	15.4	20.4
Memorandum item:							
Nonresident baht deposits	395	669	370	527	583	381.0	269.0

Sources: Data provided by the Thai authorities; and Fund staff estimates.

1/ Nonbank debt is based on BOT's external debt survey result as of end-2001. Historical series have been adjusted back to 1995 using flow data obtained through ITRS.

2/ Debt with original maturity of more than one year.

3/ Includes repayments of bonds locally issued by the Thai Government that are held by nonresidents.

4/ Excludes borrowing from the IMF and official bilateral creditors under the financing package.

5/ Percent of exports of goods and services (including workers' remittances).

Table 31. Thailand: Average Effective Rates of Import Duties, 1995–2001 1/

(In percent)

	1995	1996	1997	1998	1999	2000	2001
Total	7.1	7.0	4.7	3.3	3.6	3.5	3.4
Consumer goods	12.3	11.8	9.3	7.2	7.7	7.7	8.3
Nondurable	16.1	16.1	13.4	11.8	12.1	12.3	11.7
Durable	10.2	9.2	6.6	4.3	4.8	4.9	5.7
Capital goods	4.4	4.8	3.5	2.3	2.4	2.3	2.3
Intermediate goods	6.1	5.8	4.5	3.7	3.7	3.1	2.8
For consumer goods	6.6	6.2	5.0	3.9	3.8	3.1	2.7
For capital goods	5.0	4.9	3.4	3.2	3.7	3.2	3.2
Other	16.5	14.5	12.4	7.8	4.4	5.1	4.1
Motor vehicles and parts	25.0	24.4	22.9	23.7	21.6	24.6	20.7
Fuels, lubricants 2/	4.1	3.8	5.4	5.9	3.7	2.6	1.4
Others	0.4	0.3	0.3	0.3	0.3	0.1	0.1

Source: Data provided by the Thai authorities.

1/ Calculated as import duties in percent of import value.
2/ Excluding crude oil.

Table 32. Thailand: Changes in the Trade System During 1995–2001

A. Exports and Export Proceeds

June 22, 1999

Regulations of exporting durian, logan and orchid to foreign countries took effect. The exporters of these three fruits have to register at the Department of Agriculture, the Ministry of Agriculture and Cooperatives.

B. Imports and Import Payments

January 1, 1995

Thailand opened its markets for 23 agricultural products, a measure that included the removal of surcharges on soya been cake imports. Tariff reductions on almost 4,000 products were begun, which reduced the average tariff from about 30 percent to 17 percent by January 1, 1997. Tariff reductions for ASEAN members on over 8,000 products were also initiated and scheduled for completion by January 1, 2000.

March 1, 1995

Copyright Act took effect to better safeguard intellectual property rights. This Act covers the protection of computer software as literary work.

May 18, 1999

Thailand set the regulation to implement the protection measures on foreign products based on WTO's Agreements on Protectionism Measures.

Specific Tariff Changes in 1995

January 27, 1995

Dumpers designed for off-highway use (reduced from 40 percent to 5 percent).

March 1, 1995

Cement clinker (reduced from 10 percent to zero percent).

April 21, 1995

Raw materials imported for the production and assemble for export (reduced import duty or bank guarantee by 50 percent.

June 2, 1995

Catalytic converters imported for the production or assemble of automobile (exempted from import duty).

Oxygen sensor used with catalytic converters (reduced from 5 percent to zero percent). Instrument and apparatus for automatically controlling fuel-flow

Instrument and apparatus for automatically controlling fuel-flow system and spark-ignition system of automobile engine used with catalytic converter (reduced from 5 percent to zero percent)

Table 32. Thailand: Changes in the Trade System During 1995–2001 (Continued)

Specific Tariff Changes in 1996

May 2, 1996

Suit-cases, executive-cases, similar containers (reduced from 100 percent to 20 percent).
Belts (reduced from 100 percent to 10 percent, 20 percent).
Objective lenses (reduced from 35 percent to 5 percent).
Sunglasses, corrective, protective or other (reduced from 60 percent to B5 each to B1-1.75).
Photographic cameras, photographic flashlight, apparatus (reduced from 40 percent to 5 percent).
Watches (reduced from 40 percent to 5 percent).
Pens (reduced from 40 percent to 5 percent).
Cigarette and other lighter (reduced from 50 percent to 5 percent)

June 20, 1996

Certain chemicals, skin leather articles of base metal (reduced from 40 percent to 10-20 percent).

September 10, 1996

Green cabbage in brine, bamboo shoot in brine (reduced from 60 percent to 20 percent).
Ginger and ginger in brine (reduced from 30 percent to 20 percent or from B4.20 per kilogram to B2.50 per kilogram).
Cruise ships, excursion boats and similar vessels principally designed for the transport of persons, ferry-boats of all kinds, fishing vessels,factory ship, tugs and pusher craft (reduced from 35 percent to 0-20 percent).
Nuts (educed from 60 percent to 10 percent, or from B50 per kilogram to B8.50 per kilogram).
Certain inorganic chemicals (reduced from 30 percent to 1-10 percent).
Unwrought aluminum, aluminum waste, and scrap (reduced from 6 percent to 1 percent).
Parts and accessories of the motor (reduced from 60 percent to 17-42 percent).

Specific Tariff Changes in 1997

March 8, 1997

Certain electronics components used in electronics industry such as electric motors, microphones, and printed circuits (reduced from 20-30 percent to 1 percent)

May 27, 1997

School buses and their CKD (exempted from duty)

August 22, 1997

Duty rates on all imported goods used as raw materials for exports were reduced by
--50 percent for companies meeting certain requirements
--95 percent for companies classified as "customs special exporter"

Table 32. Thailand: Changes in the Trade System During 1995–2001 (Continued)

September 5, 1997

Sodium dichromate (reduced from 10 percent to 5 percent)
Artificial ornament (reduced from 45 percent to 20 percent)
Paper used for printing postal and excise stamps (reduced from 45 percent to 20 percent)

September 15, 1997

Unrefillable gas lighter and matches (raised from 5 percent to 20 percent)
Components for lighter (raised from 5 percent to 10 percent)

October 15, 1997

Completely built passenger cars (raised from 42 -68.5 percent to 80 percent)
Perfume, cosmetic, leather products (bag, belt, and shoes), sneaker, glassware and crystal accessory, and costume jewelry (raised from 20 percent to 30 percent)
Lens, eye glasses and frame, camera, watch, pen, and lighter (raised from 5 percent to 30 percent)
A 10 percent surcharge all imports with the exception of the above products and those subject to import duties of less than 5 percent, raw materials, items with special duties, items specified in accordance to international law or international agreements.

Specific Tariff Changes in 1998

January 1, 1998

Downstream petrochemical products which are locally produced (reduced from 27 percent to 23.5 percent)
Plastic products (reduced from 40.5 percent to 35.3 percent)

February 25, 1998

Clothes, ties, underwear, and crystal accessories (raised from 30 percent to 60 percent)
Perfume, cosmetic, leather bag and shoes, and sneaker (raised from 30 percent to 40 percent).
Crystal ware (raised from 30 percent to 35 percent)
Jewelry, clothes, and tobacco (raised from 30 percent to 60 percent).
Wool cloths (raised from 10 percent to 40 percent)

March 12, 1998

All machinery, electrical machinery and equipment used in garment industries (reduced from 20-30 percent to 5 percent)

March 28, 1998

All machinery and parts used in bonded warehouse (duty exemption)

Table 32. Thailand: Changes in the Trade System During 1995–2001 (Continued)

Specific Tariff Changes in 1999

January 26, 1999

Opening market of import soybean with non limited quality and timing within 5% for under quota and 119% for those out of quota.

Corn for animal feed within 20% for under quota of 53,253tons

February 23, 1999

Autoparts for passenger cars and small truck (increased from 22% to 33%)

Autoparts for not exceeding 150 cc. motorcycles (set to 33%)

Passenger cars (reduced from 32-50% to 29-48%)

Small truck (reduced from 5% to 3%)

April 20, 1999

Vitamins used as ingredient in instant noodle (duty exemption)

July 5, 1999

Palm fruit (Look Chid) only imported from the People's Democratic Republic of Laos (reduced from over 5% to 5%)

August 10, 1999

Machinery and mechanical appliances and parts (Chapter 84) 155 items (reduced 153 items from 5% to 3% and 2 items from 20% to 3%)

Electrical machinery and equipment, electro-magnets, electro-mechanical appliance and parts (Chapter 85) 105 items (reduced 104 items from 5% to 3% and 1 item from 20% to 3%)

Measuring, checking, precision instruments, microscope parts and accessories (Chapter 90) 66 items (reduced from 5% to 3 %)

Fish or crustaceans, mollusc or other aquatic invertebrates, for breeding (All breeding items in Chapter 03) (Exempt tarriff, which is currently imposed at 60%)

Lanolin, jojoba oil, dried glands and other organs for organo therapeutic uses 5 items (reduced from 10% and 30% to 1%)

Essential oil, mixtures of odoriferous substances 17 items (reduced from 10% to 5 %)

Artificial waxes and prepared waxed 3 items (reduced from 20% to 10%)

Vitamin premix (reduced from 30% to 1 %)

Lupins seeds and dehulled lupins (reduced from 40% and 30% to 5 %)

Alfalfa (reduced from 10% and 30% to 5 %)

Canola meal (reduced from 10% to 5 %)

Inorganic chemicals (Chapter 28) and organic chemicals (Chapter 29) 148 items (reduced from 5 % and 10% to 1%)

Fertilizers (Chapter 31) and miscellaneous chemical products (Chapter 38) (reduced 69 items from 10% to 5 % and exempt tarriff of 4 items which is currently imposed at 5 %)

Table 32. Thailand: Changes in the Trade System During 1995–2001 (Continued)

August 10, 1999 (Continued)

Plastic (reduced 11 items from 20% to 10%)
Cotton (exempted tariff on 5 items of cotton, which are currently imposed at 5% or not exceeding 1 baht per kilogram)
Precious metal comprising pearl, silver and platinum 21 itmes (exempted tariff which are currently imposed at 1, 5, 10%)
Precious metal 2 items (reduced from 30% and 60% to 20%)
TMBP iron (reduced from 2% to 1% but valid until 31 December 2003, then increasing to 10%)
Hi-carbon iron 10 items (reduced from 10-12% to 1% valid until 31 Dec 2003)
Copper cathode (reduced from 6% to 1%, valid until 31 December 2000)
Skin and other parts of birds 4 items (reduced from 20% and 35% to 10%)
Waste and scrap of glass (reduced from 5% to 1%)
Rods of glass (reduced from 10% to 5%)
Plywood, veneered, panels, and similar laminted wood (reduced from 60% to 20%)
Analogue or hybrid automatic and data processing machine (reduced from 40% to 3%)
Wood or wooden parts for producing pipes (reduced from 60% to 5%)
All commodities, from which import duty surcharge has been collected since 15 October 1997 (cancelled of 10% surcharge imposed on top of the import duties)

Specific Tariff Changes in 2000

January 1, 2000

IT products from Information Technology Agreement-I (duty exemption on 153 items of ITA-I products)

February 3, 2000

Tomatoes, Young corn, Ground-nuts, Plywood, Veneered, Panels and similar laminated wood only imported from the People's Democratic Republic of Laos (reduced from over 15% to 5%)

July 4, 2000

Inorganic chemical (Chapter 28) 141 items reduced from 5% and 10% to 1% and 14 items reduced from 10% to 5 %
Organic chemical (Chapter 29) 160 itmes reduced from 5% and 10% to 1% and 1 item reduced from 20% to 10%
Pharmarceutical products (Chapter 30) 2 items reduced from 10% to 1%; 5 itmes reduced from 15% to 10% and 17 items reduced from 20% to 10%
Tanning or dyeing extracts (Chapter 32) 4 items reduced from 10% to 5%
Soap; organic surface-active agents, washing productions (Charpter 34) 6 items reduced from 10% to 5%
Albuminoidal substances; modified starches; glues; enzymes (Chapter 35) 2 items reduced from 10% to 5%
Miscellaneous chemical products (Chapter38) 2 items reduced from 10% to 5%
Folding cartons, boxes and cases, of non-corrugated paper or paperboard (reduced from 10%, 20% and 30% to 5%

Table 32. Thailand: Changes in the Trade System During 1995–2001 (Continued)

July 4, 2000 (Continued)

Paper and paperboard coated, impregnated or covered with wax, paraffin wax, stearin, oil or glycerol (reduced from 20% to 5%)
Paper and paperboard of a kind used for writing, printing or other graphic purposes (reduced from 20% to 1%)
Polyethylene having a specific gravity of less than 0.94 (reduced from 20% to 1%)
Aluminium foil (reduced from 10% to 1%)
Aseptic PM bag (reduced from 30% to 1%) and Aluminium pouch (reduced from 30% to 15%)
Aluminium plates, made of alloys (reduced from 10% to 1%)
Coniferous (reduced from 5% to 1%)
Textile products and articles, for technical uses (reduced from 10% to 1%)
Chemical in rubber industry 4 items (reduced from 5% and 10% to 1%)
Synthetic rubber in plates, sheets or strip excluding SBR and BR 18 items (reduced from 20% to 10%)
Aluminium oxide, other than artificial corundum and Barium carbonate (reduced from 105% to 1%)
Vitrifiable enamels and glazes (reduced from 10% to 5%)
Ceramic wares for laboratory 3 items (reduced from 30% to 5%)
Flat-rolled products of iron non-alloy steel (TMBP type) 2items (reduced from 10% to 1%)
Bars and rods, hot-rolled, in irregularly wound coils, of stainless steel 1 item (reduced from 10% to 1%)
Other bars and rods of other alloy steel (reduced from 12% to 1%)
Woven fabrics of carded wool or of cared fine animal hair and woven fabrics of combed wool or of combed fine animal hair 10 items (reduced from 40% to 10%)
Air or vacunm pump 3 items (reduced from 20% to 3%)
Appliance safety valves 13 items (reduced from 5% to 3%)
Motor 7 items (reduced from 10% to 3%)
Factors of auto motive part production 59 items (imposed at 10%); 21 items (imposed at 5%) and safety seat belt and accessories 2 items (reduced from 30%, 35% and 42% to 10%)
Carboxipolymethelyn (reduced from 20% to 5%)
Flours, meals and pellets, of meat or meat offal (reduced from 10% to 1%)
Walking-sticks, seat-sticks, whips, riding-crops (reduced from 30% to 0%)
Wood sawn or chipped lengthwise, sliced or peeled planed, sanded or finger-joited (reduced from 5% to 1%)
Chocolate and other food preparation containing cocoa 5 items (reduced from 30 % and 10%)

Table 32. Thailand: Changes in the Trade System During 1995–2001 (Concluded)

November 1, 2000

Raw materials of goods under Information Technology Agreement including computer parts, rubber gaskets, washer and other rubber seals, optical fibers, rosin and resin acids, non-ionic organic surface-active agents, self-adhesive paper, 8 items (exempted from 3%, 5% and 30%)

Plastic in primary forms (polymers), 22 items (reduced from 10%, 20% to 5%)

Plastic articles including artificial guts (sausage casings), plastic sheets, spools, cops and bobbins, 11 items (reduced from 30% to 5%)

Plastic sheets used to produced telephone or electrical wire industries only, 3 items (reduced from 10 to 5%)

Synthetic organic coloring matter (reduced from 10% to 1% for 4 items and reduced from 10% to 5% for 6 items)

Titanium dioxide, 2 items (reduced from 5%, 10% to 1-5%)

Cyclohexane (reduced from 5% to 1%)

High tenacity yarn of nylon (reduced from 10% to 5%)

Nylon, polyester and other tyre cord, 4 items (reduced from 20% to 10-15%)

Silicon-electrical steel, 8 items (reduced from 10%, 12% to 1%)

Alpha Olefin (reduced from 20% to 1%)

Glass beads, imitation pearls, imitation precious or semi-precious stones and similar glass small wares (reduced from 10% to 1%)

Aluminium sheet (reduced to 1% that was announced on 4 July 2000 will be applied to only the paper for packaging with the size of sheet wider than 1,200 millimeters and longer than 28,000 meters)

Copper cathodes (extending the tariff reduced to 1% on copper cathodes for three years which would be ended on 31 December 2000, will be extended to 31 December 2003)

Specific Tariff Changes in 2001

September 27, 2001

Reduced and exempted tariff on mechanical appliances and equipments, used for Natural Gas for Vehicle (NGV). (10 items).

December 28, 2001

Increased tariff on fish and crustaceans, molluscs and other aquatic invertebrates (Chapter 3) excluding frozen albacore or long-finned tunas, yellowfin tunas, skipjack or strip-bellied bonito, sardines, sardinella, brisling or sprats and others, from exempted to 5%.