IMF WORKING PAPER

WP/96/112

INTERNATIONAL MONETARY FUND

Central Asia Department

Macroeconomic Experiences of the Transition Economies in Indochina 1/

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October 1996

Abstract

This paper examines stabilization policies in Vietnam, Cambodia, and Laos since the late 1980s. Compared with other transition economies, the Indochinese countries avoided an output collapse and moved quickly to strong GDP growth and low inflation. Each adopted a similar mix of policies centered on flexible exchange rates, high real interest rates, fiscal adjustment through expenditure cuts, and the imposition of hard budget constraints on public enterprises. In none of the countries was an exchange rate anchor considered feasible, and money-based stabilization proved effective, despite evident instability in the demand for money.

1/ The Appendix was prepared by Mr. G. Jonsson. The authors thank Messrs. David Goldsbrough, Gérard Bélanger, Henri Lorie, Michael Bell, Eduardo R. Borensztein, Jeremy Carter, Robert P. Hagemann, Thiet T. Luu, Marc Quintyn, Wayne Camard, Wensheng Peng (all IMF), Professors James Riedel (John Hopkins University) and David Begg (Birkbeck College, London), Mr. Hiroshi Haruta (OECF, Japan), and Mr. David Dollar and Ms. Daniela Gressani (World Bank) for helpful comments on earlier drafts of this paper, but remain responsible for any errors and omissions.

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Summary

This paper examines the stabilization policies of Cambodia, Laos, and Vietnam. One notable feature of their experiences, compared with several transition economies in Eastern Europe, the Baltic countries, Russia, and other countries of the former Soviet Union, has been the achievement of financial stability within a relatively short period while sustaining output growth. The three Indochinese countries implemented similar macroeconomic policies in difficult environments of extensive parallel markets, high "dollarization," and underdeveloped institutional frameworks.

There were two distinct phases of stabilization policy. In the initial phase, policies to reduce inflation from very high levels were based on flexible exchange rate regimes combined with drastic reductions in government expenditure and high real interest rates. At the beginning of the reforms, the adoption of a nominal exchange rate anchor was not considered a viable option, and in each of the countries the authorities chose a flexible regime based on the premise that the parallel rate provided a useful guide for the official rate. Since the attainment of relative macroeconomic stability (from 1992-93 onward), a second stage has featured policies to achieve exchange rate stability, with emphasis on revenue mobilization and rebuilding public outlays, especially in the social sectors.

Despite successful moderation of inflation, however, dollarization is difficult to reverse and continues to complicate the formulation of stabilization policies. The study concludes that future policy has to come to grips with a new environment, including the overheating problems that accompany strong growth, substantial inflows of external assistance and foreign investment, uncertainties over de-dollarization, and increasing integration with the world economy.

I. Introduction and Initial Conditions

During the past decade, there has been a radical transformation of the formerly centrally planned economies of Indochina. One aspect of notable success has been the achievement of relative macroeconomic stability. Not only have market reforms led to an impressive and quick supply response, as evidenced by strong GDP growth, but inflation--which soared to triple-digit levels at the outset of the transition--was quickly lowered, and there was a gradual strengthening of the countries' external positions. As indicated in Chart 1, these trends are in contrast to the stabilization profile in the Eastern Europe and Baltic transition economies (see Fischer, Sahay, and Vegh (1996), and Bruno (1992)). Macroeconomic developments in Indochina prompt a number of questions. Of particular interest was the absence of an initial output collapse. The policy mix underlying the rapid disinflation was also unorthodox in that it relied on parallel market movements as a guide for the official exchange rate and as a signal where financial policy required tightening. The case study, therefore, has relevance to the ongoing debate on exchange versus money-based stabilization.

As in all cross-country comparison studies, there are serious methodological problems in adequately controlling for differing initial conditions and in disentangling the impact of economic policies from other exogenous causes. The good stabilization results obtained in the Indochina countries, as compared with other transition economies, reflect, in part, structural factors that were conducive to a quick supply response. The most important of these factors were:

(i) Differences in economic structure. In comparison with Eastern European and Former Soviet Union (FSU) countries, the Indochina countries had larger and more family-based agricultural sectors with labor surplus. They also had relatively small state-owned industrial sectors (Table 1).

(ii) The Indochina countries were less integrated with the Soviet-bloc in terms of both aid and trade. The impact of the CMEA collapse in 1991 was thus less significant than in Eastern Europe.

(iii) Geographical location may have been important. The Indochina countries benefitted from being close to rapidly expanding Asian economies which had capital surpluses and were willing to invest in neighboring low-wage economies.

(iv) In contrast to many countries in Eastern Europe, the private sector continued to play a role in Indochina even prior to the reforms and central planning was, in practice, not fully entrenched. In Vietnam, particularly in the South, there remained a strong market legacy that subsequently facilitated the introduction of market-based reforms. The influence on output response of differing economic structures, external environments, and the role played by structural reforms, is not the primary purpose of this paper, but the principal messages that appear to emerge from earlier work on this issue are summarized in Section III.

This is not to argue that all of the initial conditions were favorable. On the contrary, the Indochina countries were all emerging from extended periods of war and isolation. Each of the countries was also faced with extreme poverty, rudimentary infrastructure, and weak administrative capacity. At the outset, the countries attracted very limited international aid and had negligible foreign reserves.

Against this background, the Indochina countries implemented tough macroeconomic policies that were basically similar in nature. 1/ Initially, stabilization policies in all three countries comprised a mix of flexible exchange rates, high interest rates, limitations on state enterprise credit, and government expenditure reduction.

One reason for the combination of policies chosen was the extensive nature of informal markets, which coexisted with the machinery of central planning and which became increasingly important as reforms took hold. In all three Indochina countries, the authorities were unable to fully implement controls, and the price distortions and supply restrictions typical of central planning regimes resulted in significant parallel markets for foreign currency, merchandise trade, and credit. These parallel markets were, to a varying extent, tolerated by the authorities. Prior to and during the transition period, the informal sector was fed by remittances from expatriates abroad and by diverted export proceeds. 2/ These foreign exchange receipts not only financed border trade and a black market in imported goods, but also facilitated the use of foreign currency for savings and transactions purposes.

As experiences of the countries indicate, informal markets have both advantages and disadvantages: initially they act as a safety valve for excess demand pressures and help mitigate supply shortages caused by unrealistically low official prices. As reforms proceed, however, the existence of such markets tends to hamper the development of a taxable base and the establishment of a viable banking system. Similarly, currency substitution avoids driving intermediation offshore, but tends to complicate (and in the extreme negates) the effectiveness of monetary policy,

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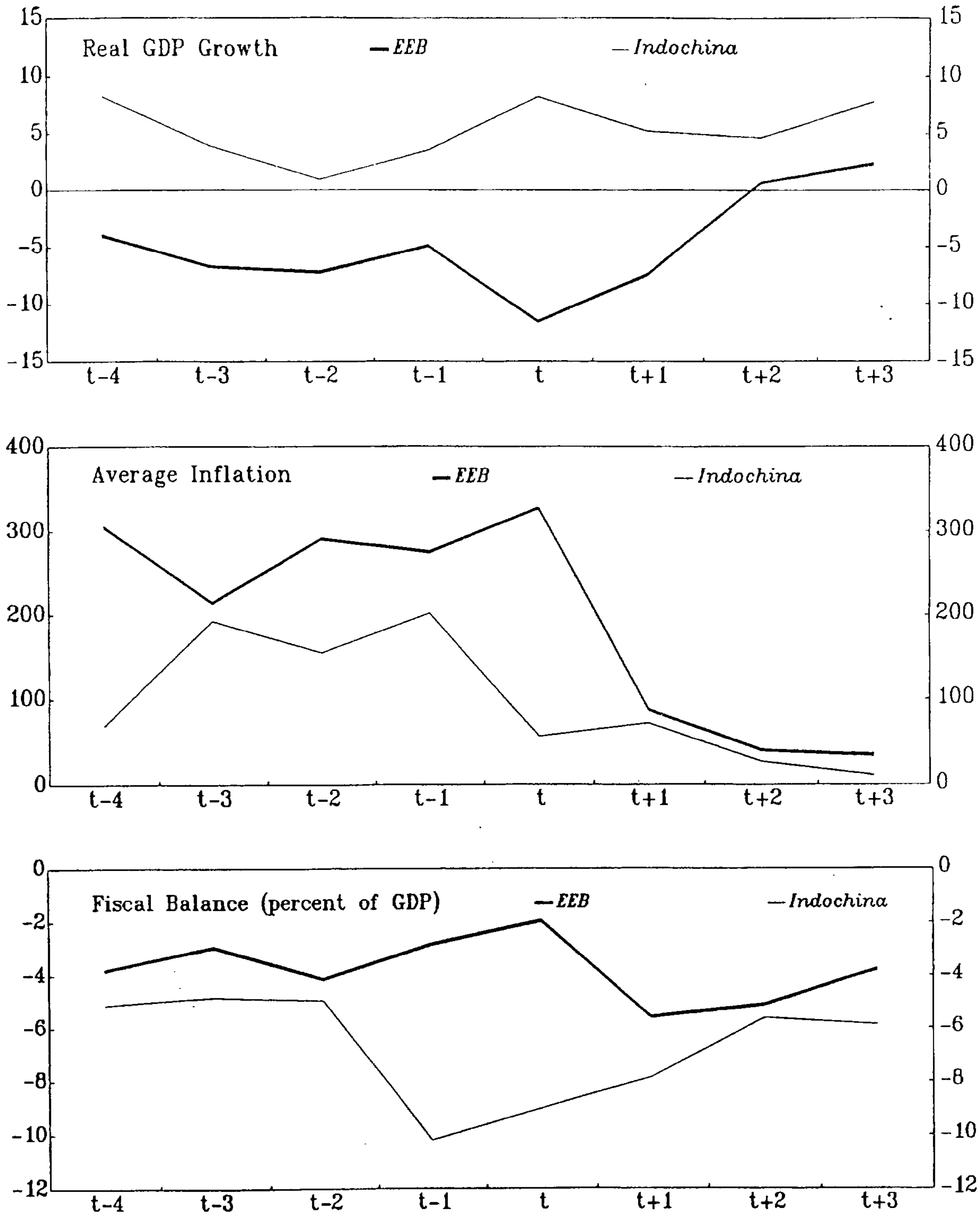
1/ Reforms in the different countries advanced at different speeds and at different times. Laos adopted some partial price and trade reforms as early as 1979, and Vietnam began price liberalization in the agricultural sector in 1985, after the sixth party congress. However, comprehensive policy measures did not get underway until 1989. Cambodia, still struggling with armed internal conflicts and with foreign intervention lasting until the implementation of a U.N. sponsored peace plan, did not begin a comprehensive adjustment program until mid-1993.

2/ Although accurate information is not available, some rough estimates indicate that Vietnam received about $6-8 billion during 1975-90 from overseas Vietnamese.

CHART 1

INDOCHINA

GROWTH, INFLATION AND FISCAL BALANCE PROFILES 1/



1/ Period t is the starting year for comprehensive stabilization programs. This year is 1989 for Vietnam and Lao PDR, whereas it is 1992 for Cambodia. Initial price liberalization measures were actually carried out in these countries before period t. EEB stands for the unweighted average of the countries in the Eastern Europe and the Baltics, as calculated in Fischer, Sahay, and Vegh, Stabilization and Growth in Transition Economies: The Early Exprience, IMF Working Paper, April 1996.

particularly when it takes the form of large (and unmeasurable) holdings of foreign currency bank notes.

Prior to the reforms, the three countries faced major fiscal imbalances similar to (or even larger than) those in other transition countries. The full magnitude of public sector deficits were not transparent, as government revenues consisted largely of transfers from state enterprises that benefitted from direct and indirect subsidies, while expenditures were understated by the use of overvalued official exchange rates, arbitrarily low accounting prices, and distribution of consumer goods in lieu of public sector wages. Most of the early reform efforts--including price liberalization, exchange rate devaluation, and monetization of in-kind payments--raised measured budgetary expenditures and increased deficits drastically. The situation was also exacerbated initially by the adjustment of wages along with movements of prices without attention to the size of fiscal gaps. The government wage bill rose rapidly as a share of GDP in Vietnam and Laos until 1989, and in Cambodia well into the 1990s. At the same time, on the revenue side, tax systems as such were very rudimentary, and initial reforms led to a deterioration in the financial performance of the state enterprises, reducing their budgetary transfers.

With the withdrawal and eventual termination of external assistance from CMEA countries, the resulting large deficits were monetized and inflation escalated to triple digit levels in each of the countries (Chart 2). 1/ The high inflation gave further impetus to informal market activity and worsened the situation in the official sectors. The monobanking systems that existed in each of the countries had never been well established and the lack of trust in domestic currency was reflected in further flight to foreign currency and gold, and minimal use of commercial bank accounts. The domestic money (M2)-to-GDP ratio fell to as low as 3 percent in Cambodia and Laos, and to less than 10 percent in Vietnam (Chart 3). Where domestic money was used, it mainly resulted from government payments and was largely cash-based. In the early stages of reforms, currency-to-domestic deposit ratios rose sharply to over 100 percent in Vietnam and to over 200 percent in Laos. In Cambodia, there were virtually no bank deposits in domestic currency.

II. Initial Stabilization Policies and Outcomes

There are two distinct phases of stabilization policies in the Indochina experience. The immediate policies to bring down inflation from very high levels were based on flexible exchange rate regimes combined with drastic reductions in government outlays and high real interest rates.

1/ Inflation in Vietnam reached 500 percent in 1986 and continued above 300 percent in 1987 and 1988. In Laos, the inflation rate peaked at over 100 percent in mid-1989; and in Cambodia inflation rose from 90 percent to over 250 percent in mid-1992.

Following initial success in moderating inflation, each country has now entered a second stage with policies aimed at achieving exchange rate stability, although none of the three has yet adopted a pegged exchange rate. In this second stage, greater emphasis has been placed on revenue mobilization, allowing a rebuilding of government current and capital outlays, and measures are being taken to develop the banking system and encourage the use of domestic currency.

1. Early stabilization policy response

The initial conditions of high inflation, increasing dollarization, low international reserves, and limited international assistance severely constrained the authorities' scope for action. The marked shift toward currency substitution progressively narrowed the base of the inflation tax and thereby exacerbated the inflationary impact of the growing fiscal deficits. Inflation, in turn, contributed to further overvaluation of official exchange rates, and there was an increased diversion of foreign exchange receipts into the parallel foreign exchange market. With weak administrative structures, foreign exchange controls could not be enforced and both public and private sector firms and agencies met the bulk of their foreign exchange needs from the parallel market. While fiscal measures were clearly needed, there was no dependable tax base, and budgetary adjustment was necessarily focused on cuts in expenditure, including curtailment of subsidies to state enterprises and reduction in real public sector wages. These actions were supplemented by curbs on public services and capital spending.

The literature on transition economies has tended to stress that in the initial period of high inflation, an exchange rate anchor becomes more desirable in promoting stabilization, reversing expectations, and halting currency substitution. 1/ This approach was, however, not considered a feasible option in the Indochina countries. The parallel market exchange rate was recognized as the main operational rate within the economy and the authorities--still facing strong demand pressures and with negligible foreign exchange reserves--could not hope to establish a credible fixed exchange rate that would eliminate parallel market premia and anchor their policies. Indeed, any attempt to fix the official exchange rate was thought likely to have an immediate adverse impact on official market foreign exchange receipts, in part because it would raise expectations of renewed foreign exchange restrictions. Without adequate reserves, the authorities would be unable to defend the official rate and would lose policy credibility once the parallel market premium re-emerged. Instead, the authorities adopted flexible exchange rate policies which accepted the parallel rate as the dominant rate in the economy and linked the official exchange rate to the parallel rate. The rate of depreciation of the parallel exchange rate was, in turn, taken as the main indicator of whether

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1/ See Hansson and Sachs (1994); Schadler, et. al. (1995); and Fischer, Sahay, and Vegh (1996).

CHART 2

INDOCHINA

INFLATION AND OFFICIAL EXCHANGE RATES

(12-month percent change)

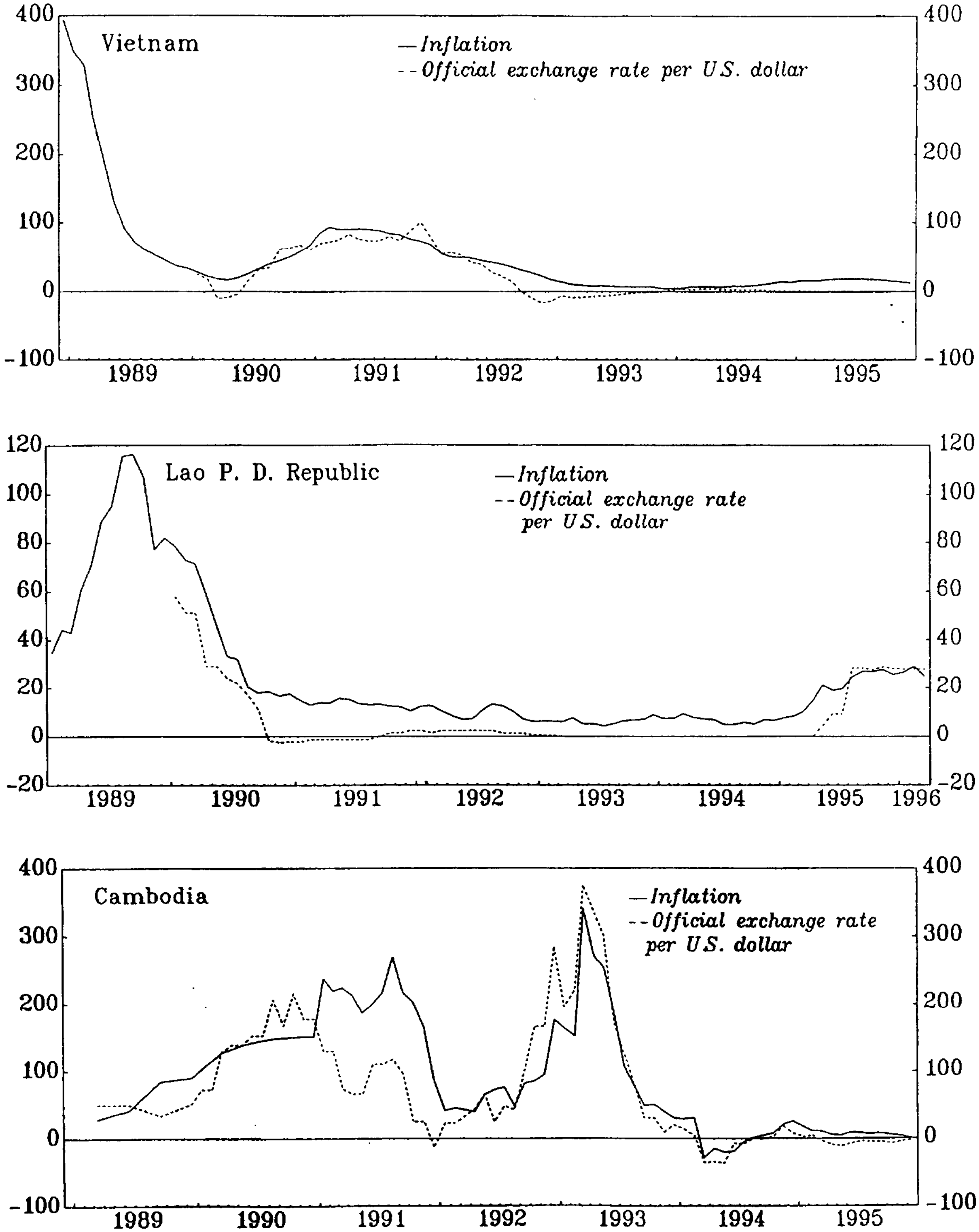
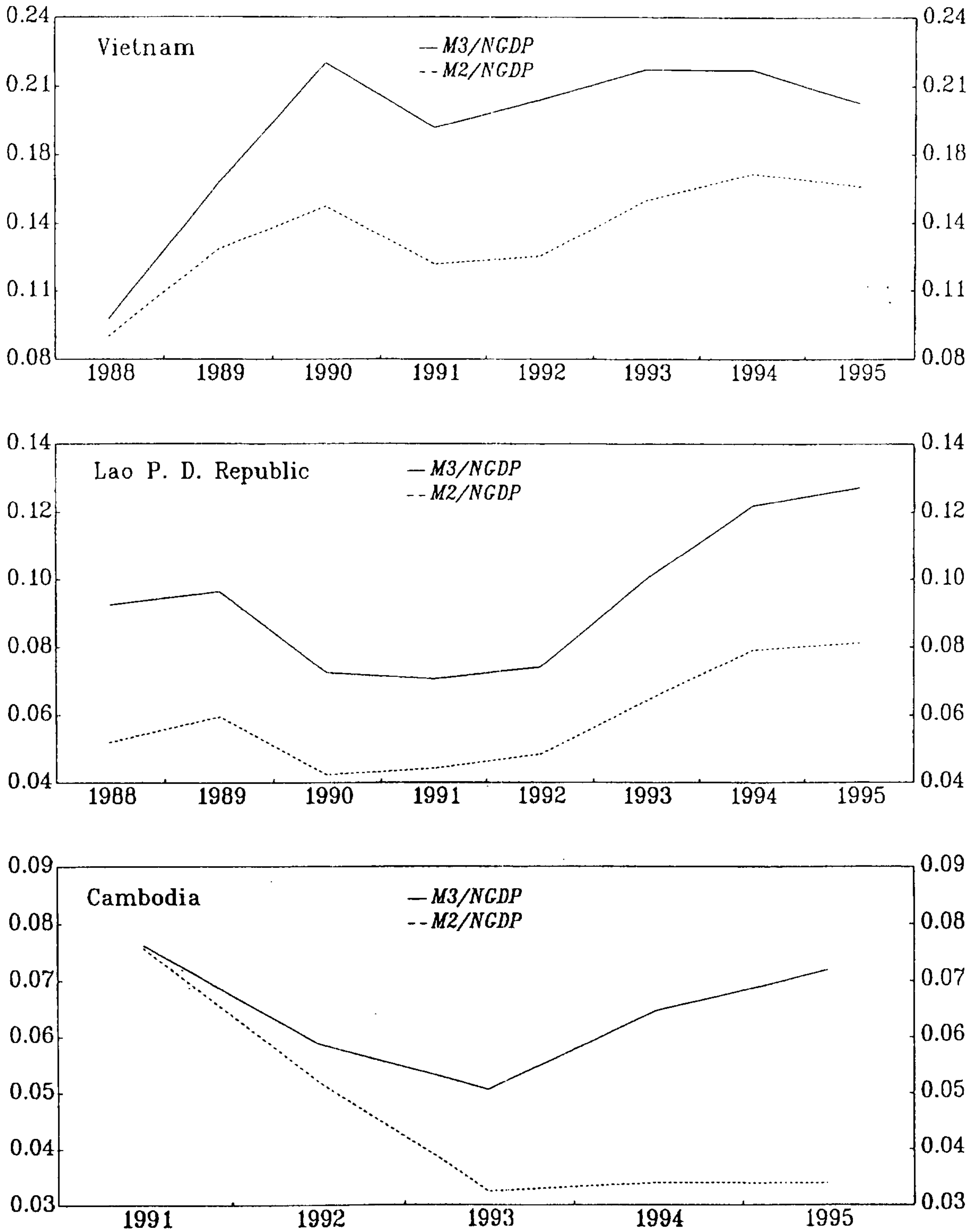


CHART 3

INDOCHINA

RATIO OF MONEY TO GDP 1/



1/ **NGDP: Nominal GDP.**
M2 : Broad domestic money, defined as currency plus demand deposits plus domestic quasi-money.
M3 : Broad money, defined as M2 plus foreign currency time deposits.

financial policies were sufficiently tight. In the early stages of stabilization, despite the evident instability in money demand caused by dollarization, the stabilization effort was largely money-based. The main burden of inflation reduction rested on fiscal and public enterprise adjustment, which allowed a sharp reduction in deficit financing and hence monetary expansion. At the same time, there were few, if any, indexation mechanisms working in the Indochina economies and, by holding in check the public sector wage bill, the authorities (particularly in Vietnam) were able to effect an overall decline in real wages. 1/

2. Exchange rate policy, foreign exchange controls, and interest rates

As noted, the adoption of flexible exchange rate policies in Indochina reflected: (i) the existence of extensive parallel markets and (ii) substantial parallel market premia that signalled the overvaluation of domestic currency at the official exchange rates. 2/ The exchange rate policy pursued by the three countries focussed initially on narrowing the gap between the official and parallel exchange rates by devaluing the official rate in response to depreciation in the parallel market. In both Laos and Vietnam, the authorities adopted "rules" which formally linked the two rates within certain margins--the margins being gradually reduced with the objective of "unifying" the parallel and official rates (Chart 4). The experience of the three countries is described in Box 1.

The policy of following the parallel market was one of the few practical alternatives available given the limited institutional capabilities, negligible reserve levels, and the tremendous changes taking place as these countries moved to more market oriented systems. Underlying the policy was the assumption that the parallel market rate would provide a reasonable guide to a real equilibrium rate for the economy and would not itself be a source of additional inflationary shocks. Where the parallel market is narrow, catering to illegal capital transactions, such an assumption would not be valid. As pointed out elsewhere (for example, Montiel and Ostry (1994)), parallel market premia may reflect mainly a risk factor and penalties, and may be subject to considerable volatility which would make the parallel market rate an inappropriate guide for exchange rate policy. In the Indochina countries, however, once initial stabilization policies took hold, the parallel market exchange rate tended to be relatively stable reflecting the extensive nature of the market. An

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1/ As would be expected, the inclusion of Indochina countries in cross-country samples of transition economies tends to increase the significance of fiscal variables and reduce the significance of exchange rates in explaining both disinflation and growth.

2/ For example, in Vietnam, the parallel market exchange rate was over 50 percent more depreciated than the official rate at the beginning of 1989. In Cambodia, the divergence between the parallel and official exchange rates averaged 20 percent during 1989-92.

Box 1. Unification of Foreign Exchange Markets in Indochina

The various official exchange rates in Vietnam were unified in March 1989 and the dong was devalued by about 30 percent to a level close to the parallel market rate. Following the unification of official exchange rates, the authorities adjusted this rate at irregular intervals with the explicit objective of maintaining the official rate within a range of 10-20 percent of the parallel market rate. By April 1992, the parallel market premia had fallen to less than 1 percent.

In Laos, the existing system of multiple exchange rates was eliminated at the beginning of 1988, with the new unified official rate set close to the rate prevailing in the parallel market, thus representing a devaluation of nearly 400 percent for transactions of state enterprises, and a lesser devaluation for private remittances and certain commercial transactions. Following the unification of official rates, the central bank adjusted the rate broadly in line with the parallel market rate, and the difference between the two rates for the U.S. dollar generally remained below 10 percent during 1988-89.

From November 1992 the central bank in Cambodia began maintaining the official rate within a 5 percent margin of the average parallel market rate over the previous two week period. The spread between the two rates was subsequently narrowed further, so that from March 1994 the official exchange rate was generally maintained in the vicinity of 1 percent of the parallel market rate on a daily basis.

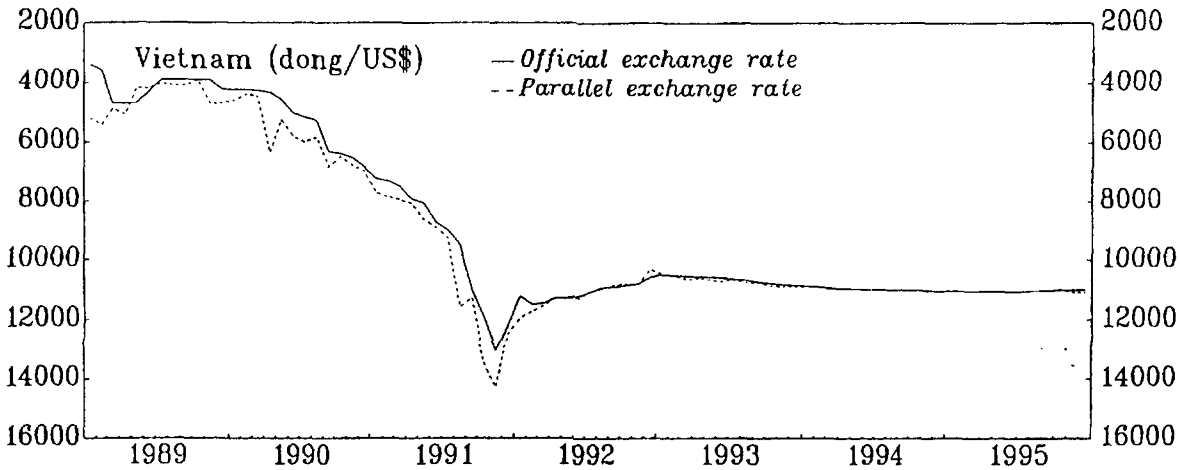
important complementary measure in this respect was that the authorities acted early in the reform process to relax foreign exchange controls, which made transactions easier and reduced the distortive effects of risk premia.

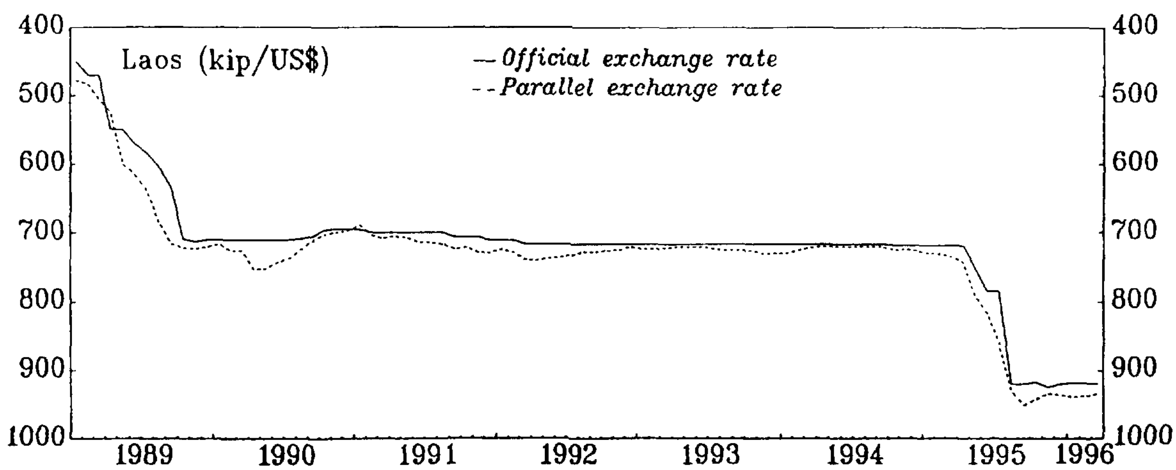
In Vietnam and Laos, many of the strict administrative controls on the holding and use of foreign exchange that had originally driven large amounts of foreign exchange into the parallel market were substantially liberalized at an early stage. As part of the liberalization in Vietnam, companies and individuals were allowed to open foreign currency accounts in banks, and individuals were also allowed to hold foreign currency notes. In Laos, the authorities freed virtually all current account transactions in 1988, and exporting firms were allowed to retain their foreign exchange. Further exchange market reforms were undertaken in late 1990, when the government authorized the establishment of nonbank foreign exchange dealers and lifted restrictions on residents holding bank accounts denominated in foreign currency. When foreign currency deposits were first allowed, they expanded rapidly, rising to 60 percent of total deposits in Vietnam by 1991 and 70 percent of total deposits in Laos in 1990. In the case of Cambodia,

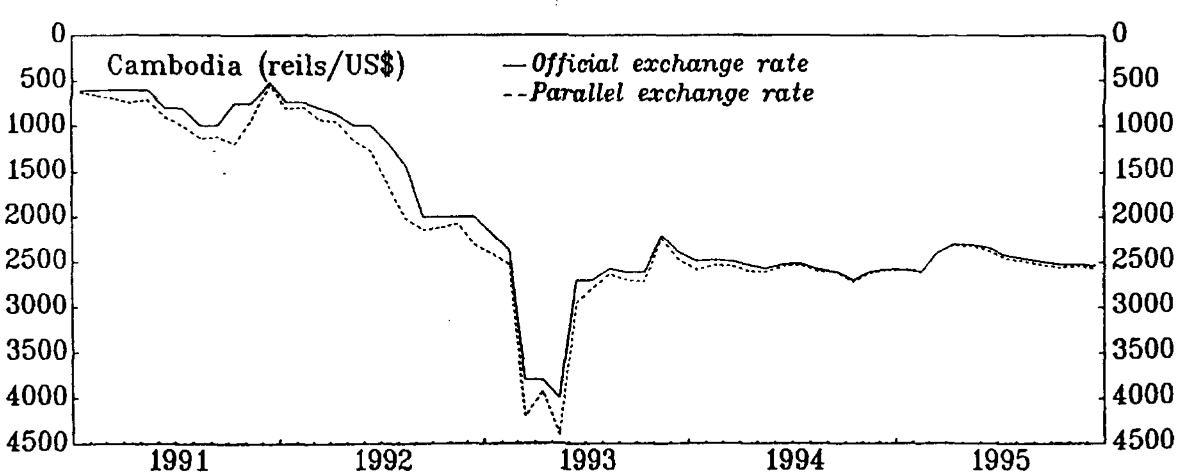
CHART 4

INDOCHINA

EXCHANGE RATE DEVELOPMENTS







although the exchange regulations included a number of restrictive features, the de jure and de facto systems were not well aligned, and, in practice, the Cambodian exchange system also operated in a liberal manner. 1/ In all of the countries, foreign exchange became freely available through the parallel market, even where de jure restrictions remained on payments to be made abroad through the banking system.

A further crucial element in the authorities' policies during the first stage of stabilization was the adoption of positive real interest rates during the periods of high inflation. In Vietnam and Laos, 2/ this policy was important in curbing further currency substitution (Box 2). With high domestic interest rates, time and savings deposits denominated in domestic currency increased rapidly. 3/ The use of a high interest rate policy, together with the introduction of popular Treasury savings certificates, also facilitated a switch from bank to nonbank financing of the budget deficit. 4/ As inflation began to subside, the authorities reacted relatively quickly in reducing nominal interest rates. In this way, the adverse impact of excessively high real rates on enterprise profitability was moderated. The countries also avoided any massive build-up of unrecoverable debts in the banking system, though profitability of the state-owned banks did suffer from the combined effect of high lending rates and enterprise closures. Nevertheless, the policy of steadily reducing nominal rates as inflation fell generally served the countries well.

1/ For example, although the law specifies that foreign currency may not be used to settle domestic transactions, in practice foreign currencies (primarily the U.S. dollar, and to a lesser extent, the Thai baht) are widely used in the economy and transfers can take place through foreign currency bank accounts.

2/ The policy was not relevant in Cambodia where domestic currency was almost entirely used for cash transactions and no domestic deposit base developed.

3/ In Vietnam, the share of time and savings deposits to total deposits rose from 20 percent in 1991 to 25 percent in 1992. At the same time, the share of foreign currency deposits in total deposit declined to 50 percent (Chart 5). In Laos, the share of time and savings deposits amounted to only 3 percent of total deposits in 1990 but rose significantly to 18 percent in 1992. Meanwhile, the share of foreign currency deposits in total deposits declined to 59 percent in 1992.

4/ In Laos, savings certificates issued in 1990-91 carried a monthly rate of interest of 4-5 percent per month.

Box 2. Domestic Interest Rate Policies in Vietnam and Laos, 1989-92

One key policy instrument used to reduce aggregate demand in both Vietnam and Laos during 1989-92 was high interest rates, supported by tightened credit conditions for state enterprises.

In Vietnam, in March 1989 interest rates on three-month saving deposits of households were doubled from 6 percent to 12 percent a month, rewarding deposits with positive real rates (defined as nominal rate of interest minus past rate of inflation), compared with the negative real rates that prevailed before that time. During late 1990-91, however, the monetary policy stance was temporarily relaxed when the economy suffered the collapse of its commercial and financial relationship with the CMEA; nominal interest rates were lowered and real rates became negative. Starting in 1992, as inflation was sharply curtailed, real interest rates have turned again positive although nominal rates were gradually reduced:

	1988	1989		1990	1991	1992
	Dec.	Mar.	Dec.	Dec.	Dec.	Dec.
Three-month savings rate for households (In percent per month)	6.0	12.0	7.0	4.0	3.5	2.0
Inflation rate (Monthly average during the quarter)	7.2	7.3	2.7	7.7	4.8	1.1
Real three-month savings rate for households (In percent per month)	-1.2	4.7	4.3	-3.7	-1.3	0.9

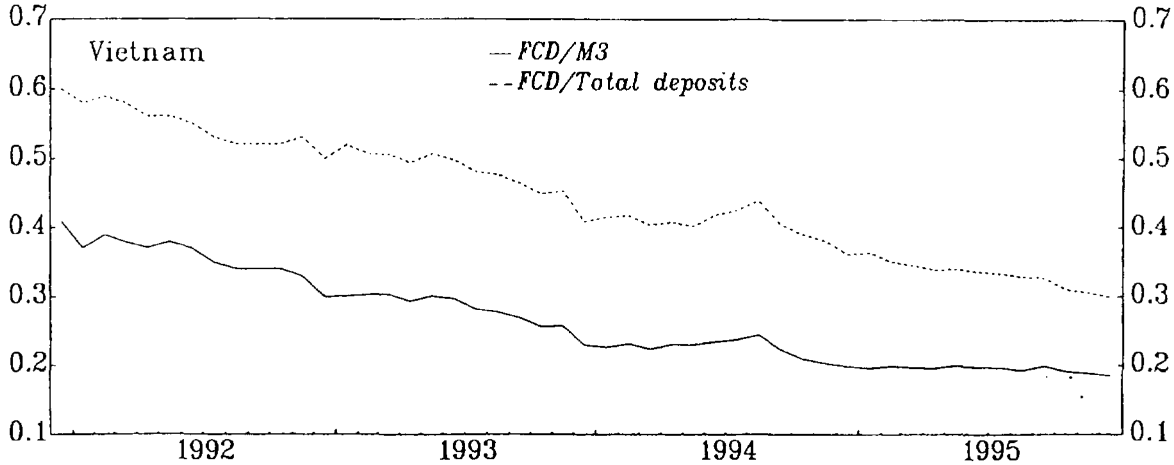
In Laos, since 1989 commercial banks were given greater autonomy in setting their own lending and deposit rates within bands established by the central bank. All interest rate ceilings for lending rates (except the ones for the agricultural sector) were removed, but the minimum rate guidelines for deposit rates were retained for a period to ensure that rates remain positive in real terms. Thus, in July 1989 the rate on one-year time deposits was increased sharply from 14 percent to 36 percent per annum. As inflation fell sharply in the following three years, real interest rates turned positive in 1990 and remained at highly positive levels during 1991-92.

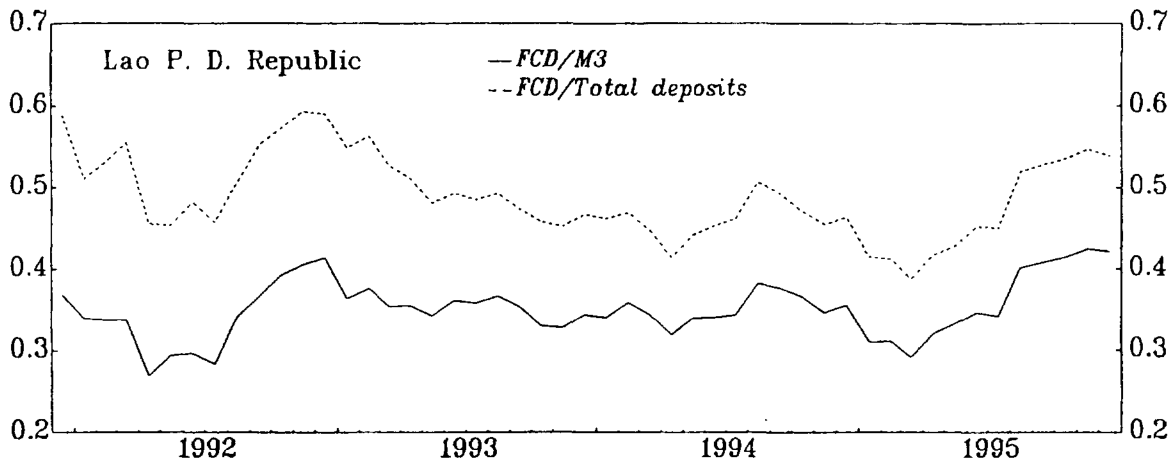
	1988	1989	1990	1991	1992
		(In percent; at end-year)			
One-year deposit rate (Per annum)	10.7	36.0	36.0	21.0	18.0
Inflation rate (Average rate)	14.4	59.5	35.7	13.5	9.9

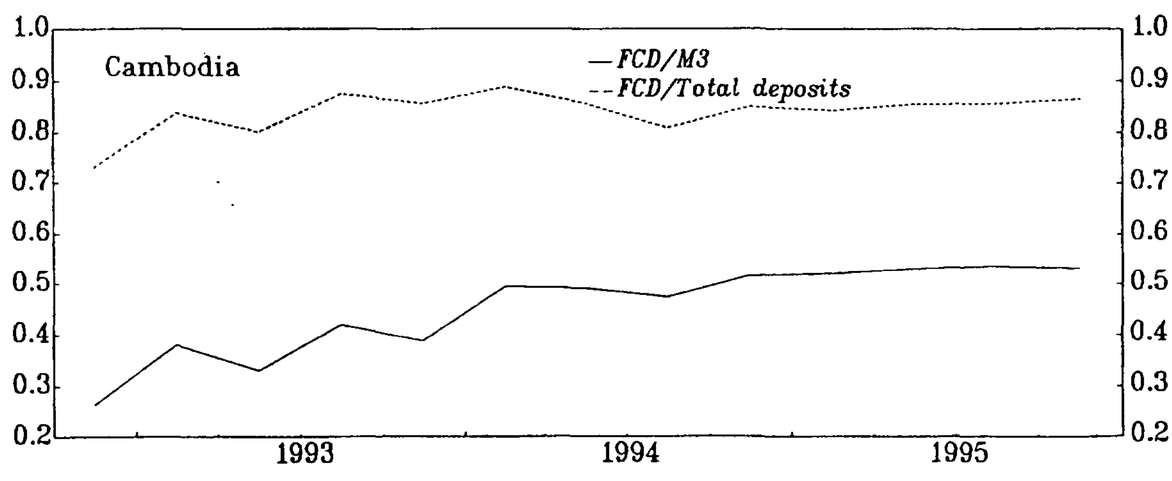
CHART 5

INDOCHINA

FOREIGN CURRENCY DEPOSITS







3. Fiscal adjustment and credit control

As in other transition economies, government revenues declined at the outset of reforms as the countries moved toward a modern tax system instead of relying on transfers from state enterprises. The countries were, however, able to achieve fiscal adjustment by cutting expenditures. As shown in Chart 6, between 1989 and 1992, the overall budget deficit (including grants) fell from 16 percent of GDP to 6 percent in Laos and from 8 percent of GDP to 3 percent in Vietnam. The adjustment was more moderate in Cambodia, but nevertheless the deficit was kept to less than 4 percent of GDP during 1991-92. 1/ In each of the countries, the objective of avoiding, or at least strictly limiting, recourse to domestic bank financing of the budget was given considerable prominence. Expenditure reduction was mainly achieved by: (i) lowering real labor costs; (ii) eliminating subsidies for consumers and state enterprises; and (iii) reducing capital outlays. Fiscal adjustment was supported by stricter control of bank credit to the state enterprises. This approach included allowing nonprofitable enterprises to shed labor, close down, or merge with more profitable ones.

The largest reduction in the real wage bill occurred in Vietnam. Following a substantial upward adjustment of public sector wages in 1989 (which included monetization of many fringe benefits), further increases in nominal wage rates were kept below inflation. In addition, between 1988 and 1991, overall public sector employment was reduced from four million to three million, and central government staff was reduced by 20 percent during the same period. In Laos, similar efforts were made to cap the overall wage bill and almost one quarter of central government employees were retrenched. Although these policies gave rise to initially higher unemployment, they were implemented without political upheaval or large budgetary cost primarily because the nonstate sector was growing rapidly in both countries, thus helping the absorption of retrenched workers. In addition, even though the retrenchment was significant, the budgetary impact of severance packages was limited as autonomous state enterprises carried out most of the retrenchment (notably in the case of Vietnam), and unlike European transition economies, neither the Government nor state enterprises offered social services on any substantial scale.

The second means of expenditure control was lowering or eliminating the majority of subsidies. In Vietnam, practically all subsidies for consumers and exporters (about 5 percent of GDP) were eliminated in 1989 in the context of price and exchange rate liberalization. Between 1989 and 1991, current transfers to state enterprises were also cut from about 5 percent of

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1/ Defense and security spending in Cambodia have exerted substantial budgetary pressures since the outset of the transition. Although some reductions were achieved from 1989-91, there were substantial increases in spending thereafter. However, owing to large budgetary external assistance, there have been drastic reductions since 1994 in bank financing of budget deficits.

GDP to less than 1 percent. 1/ A similar policy was adopted in Laos, where all current budgetary subsidies were eliminated from March 1988 (Box 3). In the initial stages, these policies met with varied success as the newly autonomous enterprises reacted to the cuts in subsidies by obtaining additional bank credit both to cover losses and raise workers' wages. In response, attempts were made to implement stricter controls over state enterprise credit. In Vietnam, state banks were instructed to terminate lending to loss-making enterprises. While there was slippage in this policy (particularly in 1991), the annual growth in the stock of bank credit to state enterprises in Vietnam fell from near 10 percent of GDP in 1987-88 to about 2 percent since 1993. In Cambodia and Laos, where privatization programs were more successful, credit extension to state enterprises has been minimal between 1991 and 1995.

The policy of fiscal stringency in all these economies initially had a significant adverse impact on public investment and social services. Government capital expenditures fell to extremely low levels (1-3 percent of GDP) in both Vietnam and Cambodia. In Laos, however, although there was also a decline, assistance from OECD countries had begun at an earlier stage and capital outlays were maintained at 5-6 percent of GDP. Social services--including basic education and health care--also suffered from the expenditure reduction. For example, annual spending per capita on health and education in Vietnam was suppressed to about 5,000 dong in 1989 prices (about one dollar) during the late 1980s until 1991. The quantity and quality of services thus regrettably deteriorated, undoing a good part of impressive progress Vietnam had made previously. Reflecting the deterioration, indicators of utilization of education (particularly at secondary levels) and health care facilities worsened significantly. 2/

III. Sustaining Macroeconomic Stability

As inflation was gradually brought under control and parallel market premia were eliminated, the authorities moved toward a different combination of policies aimed at maintaining financial stability--especially keeping inflation low--while sustaining rapid economic growth. Price stability was much enhanced during this second stage--dating approximately from 1993--while average growth in 1994-95 rose to some 6 percent in Cambodia, 8 percent in Laos, and 9 percent in Vietnam (Table 2). Besides the favorable initial conditions as briefly discussed above, the key distinction

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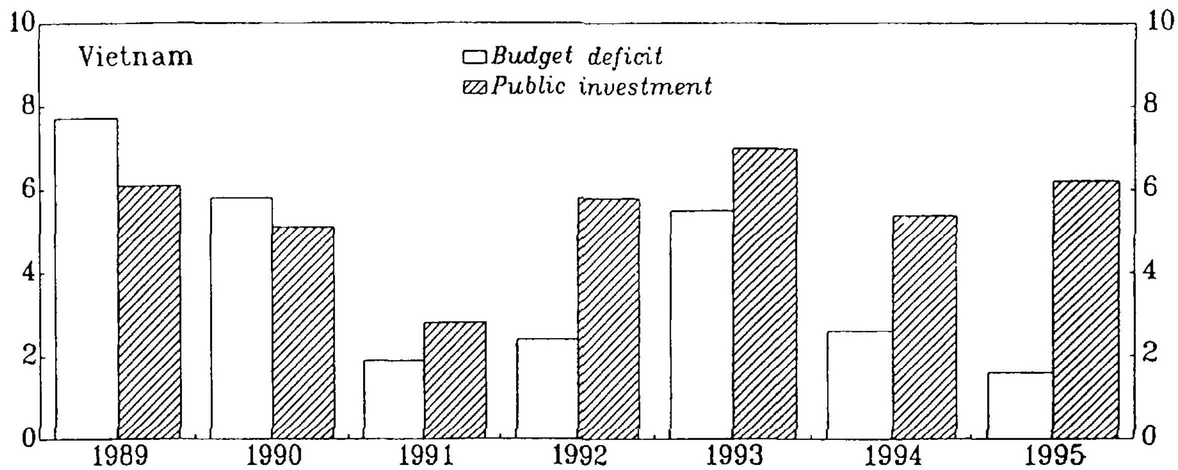
1/ See Dodsworth, et. al. (1996), Chapter III.

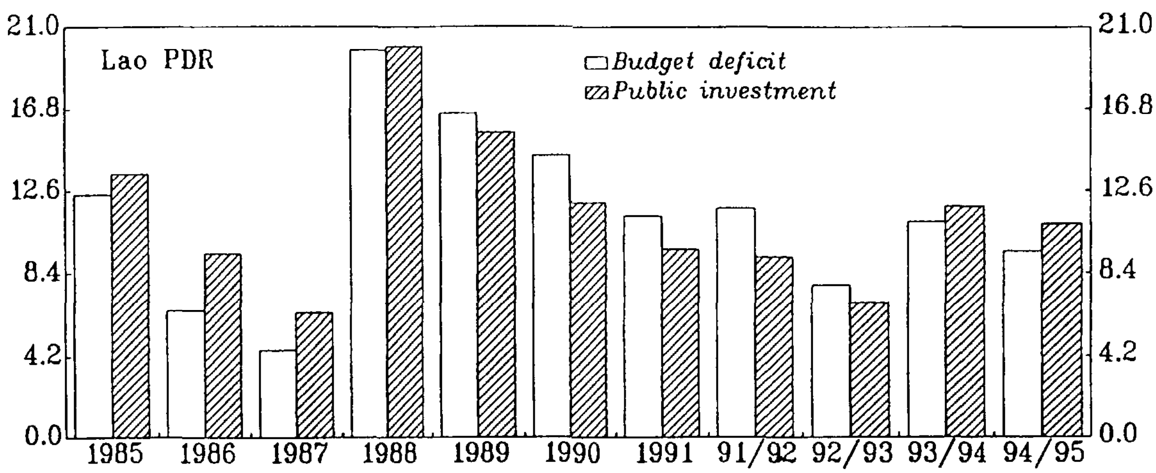
2/ This deterioration was, however, short-lived. In subsequent years, the Vietnamese Government has sought to reverse this trend by increasing expenditures on education and health services, accommodated by sharp improvements in revenue performance, as well as by raising users' fees. Some evidence of improvements in education and delivery of health care, after a "1990-92 shock", is observed even at the grass roots level (in a commune that was tracked through this period) in an OXFAM (1996) study.

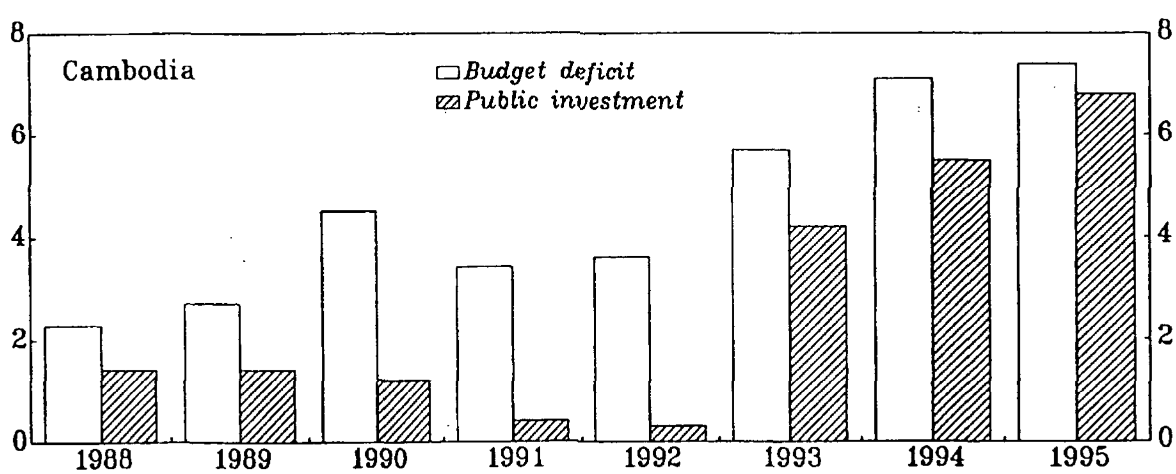
CHART 6

INDOCHINA

BUDGET DEFICIT AND PUBLIC INVESTMENT







Box 3. Public Finance and State Enterprise Reform

In Vietnam, the reform to harden enterprises' budget constraints in an environment of monetary restraint improved enterprises' financial performance dramatically and increased their budgetary contribution. State enterprises were given substantial management autonomy in 1988-89 in product mixes, output prices, and retrenchment of workers according to agreed guidelines and procedures. At the same time, the authorities adopted policies to increase competition that the enterprise faced, and harden their budget constraints. Competition, both domestic and foreign, was enhanced by supporting non-state sector activities through legal reforms, liberalizing imports and domestic trade, and encouraging foreign direct investment. The budget constraints were hardened through eliminating most direct subsidies to state enterprises, abolishing preferential interest rates for the state sector, and, having banks base their credit to state enterprises purely on their profitability. In addition, tax reforms subjected all enterprises to uniform rule of taxation and limited possibilities for *ex post* negotiation of tax liabilities, which used to be prevalent. As a result of credible implementation of policies to increase competition and harden the budget constraints, many state enterprises have been transformed into commercially operated companies with increasing foreign participation. (The fact that state enterprises had an easy access to land use rights was a factor that encouraged foreign investors to choose them as joint venture partners.) The budgetary contribution of state enterprises rose from being negative in 1988 to 4 percent of GDP in 1989 and to over 10 percent in 1994-95. About one third of the improvement came from the increased revenue from the oil sector.

In Laos and in Cambodia, similar efforts were made to increase the autonomy of state enterprises with mixed results. In Laos, state enterprises' budgetary contributions declined during the 1980s because limited management autonomy under controlled prices worsened their financial performance. Many enterprises borrowed to help finance the mandatory transfers to the budget thereby increasing implicit bank financing of the budget till 1988. Improvements started in 1988-89 with the price liberalization. Furthermore, efforts towards privatization started, and the bulk of centrally run enterprises were privatized/leased by the end of 1994. In Cambodia, the reform process began in 1989 with the separation of enterprise accounts from the central budget although substantial state control remained. As in Laos, this caused the net budgetary contribution to fall--from about 2 percent of GDP in 1988/89 to 0.5 percent in 1990. Since 1990, their net budgetary contribution has recovered. The significance of the state enterprise sector in the economy has been reduced as the bulk of the state-owned enterprises were privatized, leased, or closed down by late 1994.

in the Indochina cases was the phasing of reform measures to avoid major disruptions to production activities. Thus, these reforms sought to strengthen the informal private sector characterized by new, dynamic profit-oriented enterprises, while improving the operations of most "old" state enterprises left in place in key sectors. (Box 4). As regards macroeconomic policy, the emphasis in the second stage has been on achieving exchange rate stability with the support of appropriately tight financial policies. Fiscal policies, while still emphasizing avoidance of domestic bank financing, have focused on increasing revenues in order to allow a rebuilding of social services and expansion of capital outlays. Monetary conditions have generally been kept tight and policies have increasingly focused on promoting the use of domestic currency, particularly in Vietnam and Laos. In many respects, the experience of the countries during this stage has become more disparate, reflecting varying degrees of success in fiscal adjustment and in moving away from parallel market activities. At one extreme, in Cambodia, the development of a tax base is still in its early stages and little headway has been made in reducing currency substitution. In Laos, the conduct of monetary policy also continues to be complicated by the impact of dollarization on the stability of (measured) demand for money; furthermore, the foreign exchange market is less formalized than in Vietnam, where an interbank foreign exchange market has developed rapidly in the past two years. Although Vietnam has made the most progress in moving toward formal markets, informal activity is still strong--there is still a large parallel foreign exchange market, foreign currency bank notes are still widely used, smuggling and border trade adversely affect tax collections, and there is a thriving informal credit network.

1. Unifying and stabilizing foreign exchange markets

After the initial period of "following" the parallel market, the official and parallel markets have subsequently been unified in all three Indochina countries. Official rates have generally been kept within 1 percent of the parallel market exchange rate, and liberalization of controls on the use of foreign exchange had significantly reduced the incentive to channel foreign exchange into the parallel market. Moreover, all three countries have generally been able to maintain a remarkably stable nominal exchange rate vis-à-vis the U.S. dollar in both the parallel and official markets. Thus, although the exchange rate was not used as an explicit anchor during 1992-95 in Indochina, stable rates have been used as a guide for gauging the effectiveness of (and recalibrating) financial policies. Exchange rate stability has been achieved primarily through pursuit of tight fiscal and credit policies, and there has generally been limited intervention in the foreign exchange markets beyond the needs of meeting reserves objectives. Where an increase in the demand for foreign exchange at the existing exchange rate has been encountered, there has generally been a tightening of financial policies. When this adjustment has been delayed--as in the case of Laos during 1995 when there was a re-emergence of a divergence between the rates in the official and parallel

Box 4. How did Indochina Avoid an Initial Output Collapse?

The absence of an output collapse was a notable feature of economic reforms in the three Indochina countries as compared with several Eastern Europe and FSU countries. Although there are inevitable methodological problems in adequately accounting for differing initial conditions and in disentangling the impact of economic policies from other exogenous causes, a number of earlier studies do cast light on the factors underlying the favorable supply response in Indochina: 1/

- Differences in economic structure appear important. Unlike the European transition economies, the three economies of Indochina were dominated by private, family-based agriculture. Furthermore, the public enterprise sector was relatively small, and in the informal private sector the market legacy prevailed even before the reforms. These conditions facilitated a quick output response, notably from the agricultural sector, to supply-side measures and structural reforms (see below) and limited the possible adverse impact of the state enterprise reform.

- Although the "shock" of the disruption in 1991 in aid from and trade with the Soviet bloc was quite significant for Vietnam and Cambodia, 2/ its impact was mitigated by the introduction of important reforms even before Soviet aid was cut or the CMEA began to collapse.

- The implementation of a decisive, comprehensive liberalization and stabilization program. The key policy measures were, first, to provide production incentives (notably by price liberalization) and exploit the potential for significant growth in the dominant private agricultural sector and, second, to promote new, private enterprises while drastically restructuring the state enterprises still left in operation in the industrial sector. The reforms included both supply-side policies and some important systemic measures such as the adoption of liberal foreign investment laws, a treasury system, a two-tier banking sector, and an improved regulatory framework.

- The early and strong supply response in the agricultural sector made subsequent steps of reform much easier. In addition, employment in the private industrial and service sectors rose rapidly during the early transition period and helped absorb workers retrenched from the public sector. 3/ The adjustment was further facilitated by the absence of significant price and wage rigidities.

- In the particular case of Vietnam, the coming-on-stream of domestic oil production and strong influxes of direct foreign investment facilitated the reforms. 4/

- Although reforms are far from complete, Indochina's experiences should not be interpreted as supporting a "gradualist approach". On the contrary, the above studies point to the fact that the countries adopted comprehensive adjustment policies which helped achieve both favorable growth and disinflation results within a relatively short period, thus challenging the view that gradual liberalization is necessary to avoid an output collapse.

1/ See, e.g., Bourdet (1990); Dodsworth, et. al. (1996); Otani and Pham (1996); IMF Economic Reviews: Cambodia (1994); Ljunggren (1993); and Riedel and Comer (1996).

2/ The shares to GDP of total external trade with the former Soviet Union were 74 percent, 60 percent, and 18 percent for Vietnam, Cambodia, and Laos, respectively.

3/ The public sector in Vietnam shed about 1 million people during 1988-92, or about one fourth of its work force. Private sector employment, in contrast, increased by some 1.8 million people in industrial and service sectors (or about 45 percent).

4/ Dodsworth, et. al. (1996).

foreign exchange markets--the tightening of financial policies has been ultimately accompanied by a discrete depreciation of the official exchange rate. 1/

New institutional arrangements have also been important in promoting the use of the official foreign exchange market. Specifically, the exchange system in Vietnam moved closer to a market regime with the introduction of trading floors for foreign exchange in November 1991, followed by the establishment of an interbank foreign exchange market in October 1994. As the official market expanded and captured a greater proportion of foreign exchange receipts, the official rate has more closely reflected underlying market conditions. This has also permitted more demands for foreign exchange to be met through the official market, diminishing the importance of the parallel market. In Laos, a rising number of banks and foreign exchange bureaus authorized to deal in foreign exchange also helped bring a larger share of transactions into the official market. Despite these reforms, however, the parallel market still attracts the bulk of remittances and some export receipts, making it difficult to formally peg the exchange rate. Indeed, the attempt to peg the exchange rate in Laos in 1995 led to increased diversion of foreign exchange receipts to the parallel market and forced an eventual devaluation of the official rate.

2. Fiscal consolidation and revenue mobilization

During the second phase of macroeconomic stabilization, fiscal adjustment has led to surpluses in current government operations in Vietnam and Laos, which, along with increased foreign financing, supported an expansion in capital spending. In Cambodia, although military spending has pushed up current expenditures, the authorities have continued to avoid

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1/ The nominal exchange rate policies followed have not adversely affected competitiveness as measured through real effective exchange rates (REER). The REER of the dong in Vietnam has been fairly stable since early 1992 at a level somewhat more appreciated than the levels prevailing during the preceding three years. In Laos, between 1992 and 1994 when its nominal exchange rate against the dollar was stable, the REER of the kip rose by about 8 percent. However, it depreciated sharply in the second half of 1995 and since September 1995-- with the introduction of the floating rate regime--has come back to the level prevailing during 1992-94. The REER of the riel in Cambodia has also remained broadly stable since 1994.

domestic bank financing. 1/ In contrast with the first phase of adjustment, the emphasis in the second phase has been on strong revenue performance while containing current expenditure (in the case of Laos and Cambodia), or even increasing spending for social purposes (in the case of Vietnam) (Chart 7). The share of revenue to GDP rose sharply in all three countries--in Vietnam from 18 percent in 1992 to 23 percent in 1995, in Cambodia from 4-6 percent during 1988-93 to 10 percent in 1994-95, and in Laos from 10 1/2 percent to 12 1/2 percent during 1991/92-1994/95. The buoyant revenue performance reflects mainly sustained efforts to install modern tax systems and improve tax administration, coupled with the resilience in output growth, the rapid expansion of foreign trade, and financial improvement of the public enterprise sector (Box 5).

3. Credit policy, the banking system, and currency substitution

The Indochina countries have generally maintained a tight monetary stance during the second stabilization phase. Moderate growth rates of broad money have been achieved mainly through the virtual cessation of government budget financing, continued hard budget constraints on state enterprises, and by keeping real interest rates at positive levels. 2/ However, all three countries continue to face problems arising from the effects of currency substitution on the stability of the measured demand for money, 3/ and a general lack of monetary policy instruments with which to control increasingly sophisticated banking systems.

The rapid expansion of commercial banks--evidenced by the opening of a large number of joint venture banks and branches of foreign banks--together with increased public confidence in the banking system, has led to a significant degree of financial deepening. The share of broad money to GDP has risen significantly in Vietnam and Laos since 1991. The beginning of a similar trend may be observed in Cambodia since 1993. As has been emphasized in recent literature, however, currency substitution, once it has

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1/ In Vietnam, the fiscal current account on a cash basis turned from negative 1 1/2 percent of GDP in 1989 to positive 3 1/2 percent in 1992 and further to positive 4 3/4 percent in 1995. This helped reduce the overall budget deficit from 3 percent of GDP in 1992 to 1 1/2 percent in 1995. In Laos, a current surplus has been maintained since 1992/93, contributing to a reduction of the overall deficit (including grants) from 7 1/2 percent of GDP in 1991/92 to 4 percent in 1994/95. The fiscal situation in Cambodia has also improved with the containment of nondefense current expenditures; however, defense expenditures have been difficult to control and the overall deficit rose to 7 1/2 percent of GDP in 1995.

2/ In Laos, the ex post real one-year deposit rate had been in the range of 7-9 percent during 1993-94, but declined to a negative 4 percent in 1995, due to a surge of inflation. Positive rates have been resumed from early 1996. In Vietnam, the real three-month savings rate for households has remained positive within the range of 0.4-1.0 percent per month.

3/ Measured demand for money refers to holdings of domestic currency and bank deposits, including foreign currency deposits. It thus excludes holdings of foreign currency notes which cannot be measured.

Box 5. Implementation of Tax Reforms

Fiscal revenues were strengthened in the three countries, although in all cases it took a few years before the new systems became effective.

In Vietnam, revenues recovered from about 15 percent of GDP in 1989-91 to above 22 percent in 1993 as the tax reforms of 1988-89 started to have positive revenue effects. With these reforms, state enterprises had to pay the same profit, turnover, and excises taxes as the private sector, and pay capital user fees to remunerate the Government's past capital contribution (in lieu of interest/dividend payments). Together with improved financial performance of state enterprises, these reforms helped raise net budgetary contributions of the state enterprises further during 1991-94--a key to achieving fiscal stability in Vietnam. Furthermore, many import quotas were converted into tariffs and customs administration was strengthened. These tax efforts were complemented by increased revenues from crude oil production.

In Laos, revenues followed a declining trend from 1985 when the New Economic Mechanism (NEM) was announced. This trend started to be reversed in 1990, reflecting tax reforms introduced in 1988 and 1989; by 1994/95, revenues had increased to 12 ½ percent of GDP. In 1988, the mandatory state enterprise transfers were discontinued and profit and turnover taxes were instituted. At the same time, import tariffs were lowered as customs administration improved and the exchange rate depreciated. In 1989, multiple profit tax rates were unified at 45 percent, the number of turnover tax rates were reduced, and its base was enlarged to include services and trades. Personal income taxes were extended to all wage earners, and export taxes were abolished except on electricity and natural resources (e.g., timber). In 1991, furthermore, the tax system was centralized to improve fiscal coordination with the provinces.

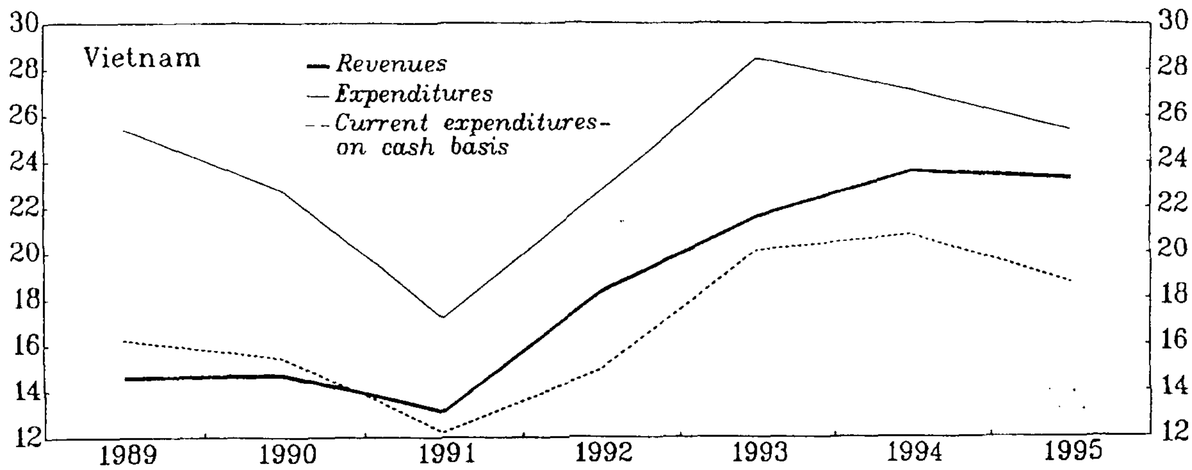
In Cambodia, revenue efforts also started during the 1980s with the replacement of state enterprise transfers with a new tax system. But the reform failed to strengthen revenues as financial performance of state enterprises deteriorated. The situation was aggravated by discontinued agricultural taxes and widespread tax exemptions. Some improvements have been made since, but the revenue to GDP ratio remains very low (less than ten percent) and there continues to be excessive reliance on import taxes.

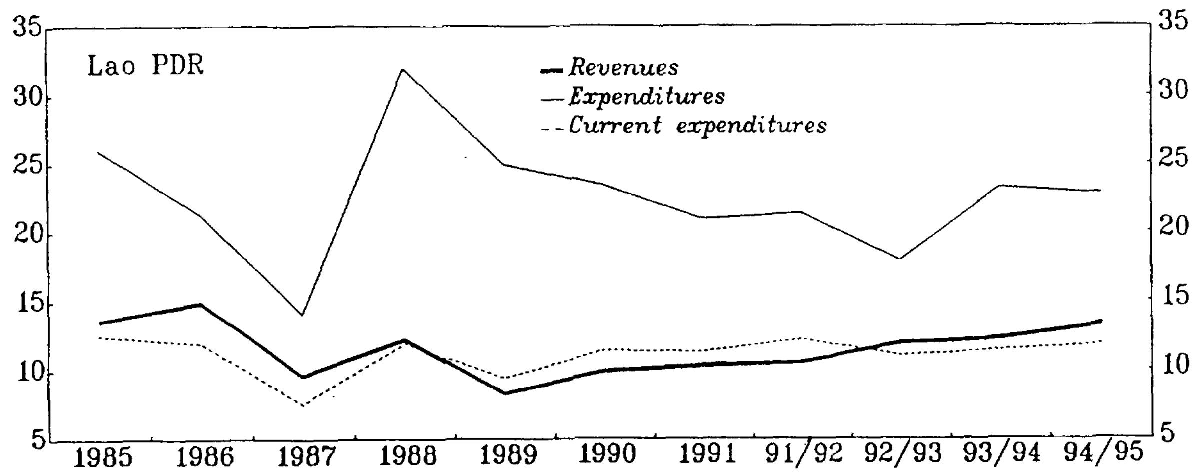
CHART 7

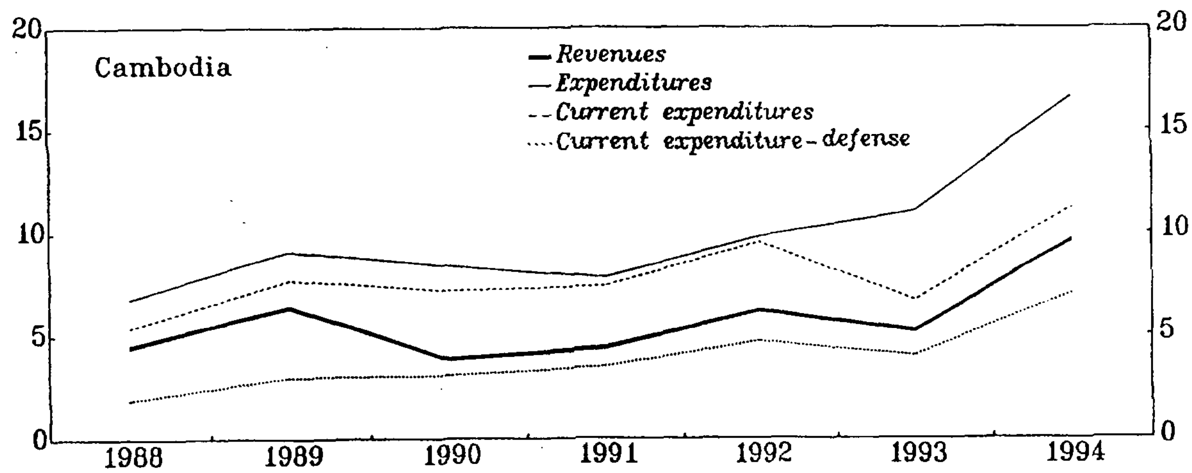
INDOCHINA

REVENUES AND EXPENDITURES

(In percent of GDP)







taken place, is extremely difficult to reverse. 1/ Thus, despite the moderation of inflation, continued positive real interest rates, and stable exchange rates, only partial inroads have been made toward de-dollarization of the economies.

The future pace of de-dollarization is of critical importance for the formulation of stabilization policies. This reflects the fact that, while the overall demand for money may be expected to change only gradually over time, sharp changes may be experienced in measured demand for money as domestic money replaces dollar currency holdings. This process of de-dollarization is difficult to project and shows up only indirectly as an increase in the foreign assets of the banking system and an increase in measured broad money. This is akin to the effects of an unsterilized capital inflow, although the shift from dollar notes to domestic money (including to foreign currency deposits formally held in the banking system) would not affect the balance of overall money demand and supply. From a practical viewpoint, this means that a planned money supply increase (based on reserve accumulation and credit targets) can become tighter than anticipated if de-dollarization from currency notes occurs. On the other hand, if there is a re-emergence of dollarization (i.e., in the form of a reverse shift from domestic money to dollar currency holdings)--which may have been the case in Laos in 1995--then the monetary program becomes looser than originally intended (Box 6).

This has practical implications for exchange rate policies. As indicated above, the Indochina countries retain market-based exchange rate systems, with financial policies aimed at relative stability of the exchange rate. In this context, different policy responses may be appropriate if, for instance, international reserves are accumulating at the current exchange rate at a faster pace than planned. If the increase is assumed to result from de-dollarization (i.e., a shift in money demand), then the recommendation would be to accumulate additional reserves and allow additional monetary expansion as this would not have inflationary consequences. This appears to have been the situation that developed in Cambodia in 1995 when international reserves rose strongly, causing measured broad money to increase by 45 percent while prices rose by only 3-4 percent. 2/ If, however, the reserves increase is believed to result not from a shift in money demand, but from a sustainable increase in foreign exchange inflows through the balance of payments, then an appreciation of the exchange rate may be the more appropriate response.

Of the three countries, only in Vietnam does there appear to be a reasonably firm relationship between measured broad money and prices. 3/ In the other two countries, substantial shifts from dollar currency holdings to domestic money (or in the reverse direction) can be expected to take place. The empirical tests for Laos show that neither money growth nor exchange rate movements can be used as predictors for future inflation rates

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1/ See, e.g., Savastano (1992)

2/ This may also have been the case in Laos in 1993. See Otani and Pham (1996), Chapter IV.

3/ See Dodsworth, et. al. (1996), Chapters V and VI.

Box 6. Laos: Turmoil in Foreign Exchange Market and Policy Response in 1995

In Laos, the broad stability in the exchange rate from mid-1991 to end-1994 was followed by a period of volatility in 1995. In particular, a lax monetary stance in late 1994 and early 1995, combined with some import liberalization, led to strong import demand. As the official exchange rate was held fixed through April 1995, excess demand for foreign exchange shifted transactions to the parallel market and began to widen the spread between the parallel and official rates. The authorities responded initially to the pressures on exchange rates by depreciating the official rate by a small amount and applying administrative controls, including limitations on the allocation of foreign exchange by commercial banks and on the activities of exchange bureaus. These restrictions served only to perpetuate the crisis as they further limited the supply of foreign exchange and widened the premium between the official and parallel market rates. In June 1995, the authorities tightened monetary policy through open market operations, by issuing a sizeable amount of central bank bills to the non-bank public, and implemented strong revenue measures. In September 1995, they set bank-specific credit ceilings, removed the temporary exchange restrictions, abolished the official exchange rate, and allowed commercial banks to set the rate. Since then, the commercial banks' exchange rate stabilized and inflationary pressure subsided.

in the very short-run (1-6 months ahead). In Vietnam, by contrast, both monthly growth rates in measured money and parallel exchange rate movements seem to be fairly good indicators of the future inflation rate a couple of months ahead. 1/

In addition to the complications of formulating and quantifying monetary policy, mention should also be made of the need to develop new policy instruments. With private sector credit becoming increasingly important, and with banking systems becoming more extensive and diversified, reliance on instruments such as central bank refinancing and moral suasion proved insufficient to control overall credit expansion. For this reason, explicit bank-by-bank credit ceilings were officially adopted by Vietnam in early 1994 and by Laos in June 1995. The use of such direct instruments, however, has led to a build-up of excess reserves in the commercial banks and spurred fresh disintermediation from the banking system. Efforts to put in place more efficient indirect instruments of monetary management have therefore been given priority. In each of these countries, initiatives are under way to strengthen government securities markets and to relax administrative controls over interest rates.

1/ See the Appendix for a study of this issue.

IV. Conclusions

The transition countries in Indochina differ from those in Eastern Europe and FUS in that initial moves to market reform and stabilization were not accompanied by an output collapse. Although it is difficult to disentangle the various influences of policies and dissimilar starting conditions, differences in economic structure appear important--particularly the dominance of family-based agriculture (which allowed a quick supply response to price liberalization)--as well as other favorable initial conditions, including dynamic growth in neighboring countries and a quick pick-up in foreign investment. Nevertheless, the adjustment was by no means painless, resulting in increased unemployment and a sharp deterioration in the quality of major social services such as education and health care in the initial transition period. These problems were, however, relatively short-lived. The overall growth led by the revival of the rural sector made the social cost of the initial employment disruptions more manageable. Moreover, the good initial supply response, which eased the task of mobilizing additional revenue sources for the budget, made possible a reversal of the earlier cuts in social spending. Thus, the maintenance of strong overall output growth meant that stabilization and growth were mutually reinforcing and the necessary disinflation was achieved within a relatively short period.

The combination of policies used during the period of disinflation reflected both a lack of institutional development and the prevalence of informal markets, particularly the importance of the parallel foreign exchange market. The adoption of a nominal exchange rate anchor was not considered a viable option, and in each of the countries the authorities adopted a flexible exchange rate policy that was based on the premise that the parallel exchange rate provided a guide for the official exchange rate.

In recognition of the fact that exchange controls would only worsen the situation in the formal sectors, the authorities also allowed a de facto exchange system liberalization. Notwithstanding the lack of an exchange rate peg, rapid disinflation was achieved, parallel market premia were eliminated, and exchange rates were stabilized. It is noteworthy that in the case of Vietnam, in particular, these goals were realized initially in the absence of large-scale external assistance.

As in other transition countries, the burden of stabilization rested primarily on fiscal adjustment. The efforts in this direction necessarily centered on expenditure reductions in order to offset existing fiscal imbalances and the ensuing revenue collapse. The adjustment efforts were successful because of the countries' ability to (i) reduce public sector wages in real terms; (ii) cut both current and capital outlays so as to eliminate domestic bank financing; and (iii) establish hard budget constraints on state enterprises to ensure that real adjustments were made within the enterprises (including retrenchment of workers) and that the budget was not indirectly financed through bank credit to the enterprises.

The fiscal adjustment was supported by high real interest rates that were helpful in Vietnam and Laos in maintaining tight monetary conditions, limiting the spread of currency substitution in the banking system, and allowing some access to domestic nonbank financing. However, as indicated in other studies, the reversal of currency substitution tends to be a lengthy process. In the case of the Indochina countries, increasing the efficiency (and trust in) the banking system will be important along with continued macroeconomic stability.

Since the initial periods of rapid disinflation, each of the countries has done well in further moderating inflation and maintaining relatively stable exchange rates within market-based systems. Tight financial policies have been helped by successful efforts toward revenue mobilization through revamped tax systems, and fiscal deficits have been mainly covered by external assistance and nonbank domestic sources. Monetary policies have also been restrained, with the notable exception of Laos in 1995 when attempts to expand credit and hold the exchange rate stable immediately gave rise to the re-emergence of dollarization and a parallel market premium.

For the future, stabilization policies in the Indochina countries have to come to grips with a new environment that will require different policy responses and the development of more efficient and sophisticated policy tools. In particular, the countries have to deal with the overheating problems that accompany strong growth; at the same time, they have to take into account substantial inflows of external assistance and foreign capital, uncertainties over de-dollarization, and increasing integration with the world economy.

Table 1. Indochina Countries: Some Initial Conditions

	Cambodia	Laos	Vietnam
Population			
(1989, in millions)	8-9	4	65
GDP per capita			
(1990, in US$)	150-200	200-220	170-210
Percentage share in GDP (1990)			
Agriculture	45	62	40
Manufacturing	12	10	15
Administered prices			
(In percent of total)	...	67 1/	74 2/
State ownership of enterprises			
(In percent)	...	15 3/	25 4/
External debt/GDP			
(1989, in percent)	11 5/	32	122 6/
Share of total external			
trade with Soviet Union (percent)	60 7/	18 7/	74 8/

Source: Data are based principally on various IMF Recent Economic Developments reports for Cambodia, Laos, and Vietnam.

1/ Consisting of food items (62 percent of the CPI) and public utilities such as electricity and water (5 percent of the CPI); the food prices were freed in 1988 while utilities' prices have been gradually adjusted since then.
2/ Share in value of retail sales, 1987.
3/ There were about 260 large industrial state-owned enterprises (accounting for about 10 percent of GDP) and some 380 smaller nonindustrial SOE's (accounting for an estimated 5 percent of GDP).
4/ Excluding cooperatives, as a share of output; including cooperatives, this constitutes 75 percent of output.
5/ Indicative estimates.
6/ Amount due, including debt to the non-convertible area.
7/ For 1989.
8/ For 1986.

Table 2. Indochina Countries: Macroeconomic Performance:
Initial Conditions and Recent Outcomes (1994-95)

	Cambodia		Laos		Vietnam	
	Initial Conditions	Recent Outcome (1994-95)	Initial Conditions	Recent Outcome (1994-95)	Initial Conditions	Recent Outcome (1994-95)
			(In percent)			
Real GDP growth	2.4 1/	5.8	-1.8 2/	7.6	4.2 2/	9.2
Inflation (end of period)	106 3/	13	37 3/	16	157 3/	14
Money (M2)/GDP	6	7	10	13	26	22
Velocity of money (M2)	16.7	14.3	10.0	7.7	3.8	4.5
Overall budget deficit (excluding grants)/GDP	1.3 4/	7.3 5/	16.6 4/	10.4	8.7 4/	2.2
External current account deficit (excluding official transfers)/GDP	8.6 4/	14.3 5/	15.8 4/	13.7	7.7 4/	7.8
External debt service ratio	23 4/	9 6/	16 4/	4	42 4/	15 6/
Official reserves (in weeks of imports)	Insignificant	7 7/	Insignificant	8 7/	Insignificant	10 7/
Foreign direct investment/GDP	...	...	0.7 8/	5.0 9/	1.5 3/	8.2 9/

Source: Data are based principally on various IMF Recent Economic Developments reports for Cambodia, Laos, and Vietnam.

1/ Average 1989-90.
2/ Average 1987-88.
3/ Average 1988-90.
4/ For 1989.
5/ For 1994.
6/ Amount due.
7/ By end-1995.
8/ During 1991.
9/ During 1995

Statistical Evidence on the Relationship Between Inflation and Money in Vietnam and Laos 1/

This appendix examines the relationship between inflation and various monetary aggregates in Vietnam and Laos. 2/ Its specific purpose is to study whether money growth and exchange rate movements lead or lag inflation in the short-run. In order to disentangle the dynamic relationships between these variables, bivariate regressions are run over inflation on lagged inflation and lagged money growth, or over inflation on lagged inflation and lagged exchange rate movements, and vice versa. 3/

The data set consists of monthly observations for the period December 1990 - December 1995; for consumer price index (P), domestic currency (M0), domestic money (M2), broad money (M3), and the parallel nominal exchange rate (EX). 4/ All series are expressed in natural logarithms, implying that the first differences measure month-to-month percentage changes.

Table 1 reports the results for Vietnam. All four monetary aggregates are significantly related to future inflation rates 1-6 months ahead. However, inflation does not affect money growth, nor changes in the exchange rate in the short-run. 5/ Based on the estimated coefficients, the effects from the monetary aggregates to inflation are found to be positive, indicating that higher money growth or exchange rate depreciations indeed lead to higher inflation rates in the short-run. The estimated coefficients also reveal that money growth has the strongest predictive power for inflation 1-2 months ahead, whereas the nominal exchange rate has a better predictive power for inflation 3-4 months ahead.

1/ This appendix is a shorter version of Jonsson (1996).

2/ Cambodia was excluded from the study due to a lack of an adequate sample of monthly observations for money.

3/ Formally, in order to statistically address the question of whether certain variables lead or lag other variables, Granger-causality tests are conducted in non-structural bivariate VAR-models, including 1-6 lags. It should be noted that the concept of Granger-causality has a somewhat different interpretation than what is usually meant by causation. The intuition behind Granger-causality is simply that if y is the cause of x, then past observations of y should help forecast x, but past observations of x should not help forecast y. Hence, although Granger-causality tests might not tell us much about the structural relationship between two variables, they nevertheless provide information about whether a variable can be used as a leading indicator for another variable. See, for example, Hamilton (1994) for a description of different Granger-causality tests.

4/ M0 is defined as "domestic currency", M2 is defined as M0 plus "domestic demand deposits" and "domestic savings deposits", whereas M3 is defined as M2 plus "foreign currency deposits". The parallel exchange rate closely follows the official exchange rate.

5/ Hence, the monetary aggregates "Granger-cause" inflation in a strict sense.

The results for Laos are reported in Table 2. Although there seems to be a weak effect from money growth lagged 4 months to inflation, the general result is that no significant relationship exists between the studied variables. Hence, in the short-run it is difficult to predict inflation in Laos based on observations over recent money growth or exchange rate movements.

To summarize, the main result in this study is that money growth and exchange rate movements affect future inflation rates (i.e., the former variables cause inflation in the Granger sense) in Vietnam but not in Laos. It should, however, be noted that these tests focus on very short-term fluctuations in the variables (monthly growth rates), and it is likely that money, prices and the nominal exchange rate move together in the long-run as well in Laos, despite an absence of significant short-run correlations. In fact, conventional cointegration tests reveal that there exists a stable relationship between money and inflation in the long run in both Vietnam and Laos (see Jonsson (1996)).

Table 1. Vietnam: Inflation and Monetary Indicators,
Results from bivariate Granger Causality tests in the VAR-model

$$\Delta \ln Y_t = \alpha + \sum_{i=1}^{k} \delta_i \Delta \ln Y_{t-i} + \sum_{i=1}^{k} \beta_i \Delta \ln X_{t-i} + \varepsilon_t$$

lags included (k)	1	2	3	4	5	6
$Y = P$ and $X = M0$						
p-value 1/	--*	--*	--*	--*	--*	--*
$Y = M0$ and $X = P$						
p-value	0.71	0.47	0.53	0.34	0.46	0.33
$Y = P$ and $X = M2$						
p-value	0.01*	0.03*	0.01*	--*	0.01*	0.01*
$Y = M2$ and $X = P$						
p-value	0.48	0.44	0.49	0.93	0.79	0.91
$Y = P$ and $X = M3$						
p-value	0.01*	--*	--*	--*	0.01*	--*
$Y = M3$ and $X = P$						
p-value	0.97	0.19	0.15	0.68	0.61	0.24
$Y = P$ and $X = EX$						
p-value	0.04*	0.19	--*	--*	--*	--*
$Y = EX$ and $X = P$						
p-value	0.98	0.81	0.54	0.45	0.92	0.02

1/ The p-values are the marginal significance levels for a Wald-test ($\chi^2(k)$) of $\beta_1 = \beta_2 = \ldots = 0$. An asterisk indicates rejection of the null hypothesis of non-Granger causality of a monetary indicator at the 5-percent level.

Table 2. Laos: Inflation and Monetary Indicators,
Results from bivariate Granger Causality tests in the VAR-model

$$\Delta \ln Y_t = \alpha + \sum_{i=1}^{k} \delta_i \Delta \ln Y_{t-i} + \sum_{i=1}^{k} \beta_i \Delta \ln X_{t-i} + \varepsilon_t$$

lags included (k)	1	2	3	4	5	6
$Y = P$ and $X = M0$						
p-value 1/	0.35	0.52	0.73	0.33	0.43	0.60
$Y = M0$ and $X = P$						
p-value	0.74	0.79	0.93	0.91	0.68	0.86
$Y = P$ and $X = M2$						
p-value	0.47	0.56	0.82	0.10	0.21	0.39
$Y = M2$ and $X = P$						
p-value	0.42	0.48	0.38	0.44	0.13	0.25
$Y = P$ and $X = M3$						
p-value	0.98	0.99	0.99	0.06	0.13	0.17
$Y = M3$ and $X = P$						
p-value	0.96	0.78	0.68	0.80	0.56	0.71
$Y = P$ and $X = EX$						
p-value	0.93	0.91	0.92	0.63	0.66	0.54
$Y = EX$ and $X = P$						
p-value	0.71	0.78	0.37	0.37	0.23	0.14

1/ The p-values are the marginal significance levels for a Wald-test ($\chi^2(k)$) of $\beta_1 = \beta_2 = \ldots = 0$. An asterisk indicates rejection of the null hypothesis of non-Granger causality of a monetary indicator at the 5-percent level.

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