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LIBERALIZATION OF CAPITAL MARKETS
AND SAVINGS MOBILIZATION IN INDONESIA

by

Peter Nunnenkamp

Institut für Weltwirtschaft an der Universität Kiel

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Kiel Institute of World Economics
Department IV
Düsternbrooker Weg 120, 2300 Kiel

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I. Introduction

It can hardly be disputed that there is an urgent need for developing countries to improve the mobilization of domestic savings. Especially economies with large foreign indebtedness are required to raise additional funds in order to service their liabilities. Moreover, the adjustment burden caused by various external shocks threatens further economic growth. Merely to tighten the belt seems to be an inadequate cure; cutting imports to the bone creates severe bottlenecks for economic development and other austerity measures may have serious drawbacks such as a slowdown of economic activities and increasing underemployment. The alternative is to adjust the economy to the changing international environment by promoting investment in new and profitable economic activities. Since continued lending on international capital markets to finance additional investment is largely ruled out because of the reluctance of creditor banks to increase their engagement in developing countries and since public aid by external donors is stagnating, the bulk of investment programmes has to be financed domestically.

It is controversial whether this describes a realistic option, though [for a more detailed elaboration of the following arguments, see Fischer et al., 1985, pp. 40 ff., and the literature given there]. In particular for low-income developing countries it is argued that a savings gap is due to a weak potential to save rather than to lacking incentives to do so. Consequently, savings are assumed to be inelastic to interest rate changes. On the other hand, conditions of financial repression in many economies (characterized by artificially reduced interest rates which in real terms are often negative) led others to hypothesize that inadequate financial and monetary policies must be blamed for an insufficient supply of loanable funds and the concentration on assets with extremely short maturities. According to this view, the potential is much greater than reflected by actual savings mobilization. This potential could be exploited if financial repression would be reduced.

There are some problems to test these arguments empirically. In cross-country studies differences in saving behaviour may be attributed to other factors rather than different degrees of financial repression. In country-specific time series analysis it is sometimes difficult to discriminate periods of financial liberalization from periods when policies were more restrictive. Indonesia represents one of the few examples where this separation issue can easily be solved. The reform of financial regulations introduced in June 1983 marked a major breakthrough towards liberalizing financial markets. Although the period since then may be too short to fully capture its effects on the amount and structure of Indonesian savings, the short-term consequences of this policy shift should be duly considered in the debate on the role of domestic incentives in raising national resources. If Indonesia succeeds to mobilize additional savings and to improve the term structure of savings, this may help other developing countries in a similar economic position to revise traditional policy responses to external shocks which proved to be inadequate in many cases. For example, Mexico, Venezuela and Nigeria heavily depend on oil exports as Indonesia does. Thus the economic prospects of all these countries were severely affected by falling oil prices in the early 1980's. However, whereas Indonesia reacted by reforming financial policies, the other oil economies postponed adjustments and instead stepped up foreign borrowing considerably, largely on a short-term basis. Together with other important areas of domestic economic policy the differences in the financial course may explain why Indonesia experienced an only temporary reduction in economic growth (1982) and remained creditworthy in international capital markets, whereas Mexico, Venezuela and Nigeria suffered from a prolonged decline in real GDP and had to face severe debt problems.

The Indonesian policy reform is portrayed in the next section after a short description of the financial conditions until June 1983. Section III presents an evaluation of the effects the policy change has had on savings behaviour. Finally, it is discussed which lessons other developing countries can draw from the Indonesian experience and whether the financial reform has to be complemented by other policy changes.

II. Financial Conditions before and after the Reform of 1983

Although Indonesia made great progress in terms of economic growth in the last decade (per capita income 1975: 220 US-\$; 1983: 560 US-\$) it was lagging behind with regard to the development of financial markets. This can be exemplified by the ratio between financial assets (defined as M2, i.e. currency outside banks plus private sector demand, time, and savings deposits) and GDP as an indicator of the degree of financial intermediation. Despite an increase from 14 per cent in 1970-75 to 20 per cent in 1981-83, the ratio was still among the lowest within a sample of twelve developing countries [Fischer et al., 1985, p. 7]. Even for low-income countries like Bangladesh and Kenya financial intermediation was more advanced. It was only in the most recent past that the composition of M2 in Indonesia changed significantly towards time and savings deposits (quasi-money). This shift may largely be attributed to the financial reform of June 1983, for in 1975-81 the ratio of highly liquid assets (M1) as well as the ratio of less liquid quasi-money to GDP remained relatively stable.

Those who stress the role of economic incentives in mobilizing domestic savings would attribute the poor financial intermediation at least partly to financial repression. According to this view, government regulations resulting in low or even negative real interest rates encourage potential savers to consume rather than to save and in particular to stay away from longer-term assets. Both the amount and structure of savings are assumed to be elastic to interest rate changes. The evidence from Indonesia fits into this explanation. According to Table 1 nominal deposit rates mostly were too low to match the rise in consumer prices¹, as were many lending rates of the highly diversified interest rate structure for credits.

¹ Only for time deposits with a maturity of 24 months, real rates of interest were significantly positive in some subperiods (1976-78 and 1981-82); both shorter-term time deposits and savings deposits were considerably eroded by inflation.

Table 1 - Nominal and Real Interest Rates for Bank Deposits and Loans in Indonesia, 1972-83 (per cent)^a

		1972-75 ^b	1976	1977	1978	1979	1980	1981	1982	1983
Time deposits										
3 months	nominal	9.8	9.0	6.0	n.a. ^c	n.a. ^c	n.a. ^c	n.a. ^c	n.a. ^c	n.a. ^c
	real	-14.5	-11.0	-5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6 months	nominal	12.3	12.0	9.0	6.0	6.0	6.0	6.0	6.0	6.0 ^d
	real	-12.0	-8.0	-2.0	-2.2	-14.6	-12.5	-6.2	-3.5	n.a.
12 months	nominal	16.5	15.0	12.0	9.0	9.0	9.0	9.0	9.0	9.0 ^d
	real	-7.8	-5.0	1.0	0.8	-11.6	-9.5	-3.2	-0.5	n.a.
24 months	nominal	27.0 ^e	24.0	18.0	15.0 ^f	15.0 ^f	15.0 ^f	15.0 ^f	15.0 ^f	15.0 ^{d, f}
	real	-2.9 ^e	4.0	7.0	6.8	-5.6	-3.5	2.8	5.5	n.a.
Savings deposits										
TABANAS	nominal ^g	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	15.0 ^h
TASKA	nominal ⁱ	n.a.	n.a.	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Loans ^j	nominal	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	n.a.
	real	-12.3	-8.0	1.0	3.8	-8.6	-6.5	-0.2	2.5	n.a.

n.a. = not available. -^aNominal rates are deflated by the change in consumer prices. -^bPeriod averages. -^cIndividually determined by banks. -^dUntil mid-1983; individually determined by banks later on. -^e1974-75. -^f12 per cent for deposits exceeding Rupiah 2.5 million. -^g12 per cent for deposits exceeding Rupiah 1 million. -^hSince June 1983. -ⁱ6 per cent in case of withdrawal before maturity. -^jMedium-term investment credits of Rupiah 75-200 million (until 1978: Rupiah 25-100 million).

Source: Bank Indonesia, Weekly Report; Bank Indonesia, Indonesian Financial Statistics; IMF, International Financial Statistics.

Until the early eighties it was largely Bank Indonesia, i.e. the central bank, which determined the level and structure of interest rates [Nasution, 1983, pp. 86 ff.; Lee, Jao, 1982, pp. 126-147]. For deposits as well as for credits the administration left hardly any scope for commercial banks to influence the returns on capital¹. As the principal reason for this policy it was officially stated that national investments and economic growth would be encouraged by subsidizing the use of capital [Bank Indonesia, 1984, p. 1]². The determination of lending rates below equilibrium put a pressure on deposit rates, which in turn threatened to affect the mobilization of private funds for investment³. Additional incentives and various savings schemes did not help this situation significantly [for detailed information, see Bank Indonesia, 1985]⁴. Savings deposits continued to play a negligible role. In December 1984 they accounted for less than 5 per cent of overall financial savings (Table 2). Tax incentives proved to be insufficient to compensate for negative real interest rates⁵. Moreover, in the rural areas the poor financial

¹ Only as regards time deposits with maturities of up to three months the commercial banks were free to fix deposit rates since 1978.

² Arguments according to which extremely low or negative lending rates give rise to the waste of capital by fostering unproductive investments and inadequately capital-intensive productions were largely discounted in these times [Kim, 1982, p. 43].

³ As a counterbalance, commercial banks were required by the government to grant relatively high deposit rates which in the case of long-term deposits tended to exceed lending rates. Especially in the 1970's, Bank Indonesia provided considerable interest rate subsidies in order to allow the banks a profit margin; for time deposits with a maturity of 24 months subsidies reached 15 percentage points in 1974 and were reduced to 4.5 points later on. Notwithstanding subsidies, real deposit rates were, however, largely negative as shown above.

⁴ The National Development Savings Scheme (TABANAS) and the Insurance Savings Scheme (TASKA) as the most important instruments provided for tax-free interest income and promised lottery prizes. In both systems deposits could be used as collateral when applying for bank credits; especially for the poor and landless population that otherwise had no access to bank loans, this was thought to be an important incentive to save.

⁵ For low-income savers the favourable tax treatment was hardly relevant because of low overall tax payments. Savers with TABANAS-deposits in excess of Rupiah 1 million (about US-\$ 970 in 1984) were granted reduced interest rates only.

Table 2 - Financial Savings in Indonesia, 1976-85 (stocks in billions of Rupiah)

	Cash ^a	Rupiah demand deposits	Savings deposits ^b		total ^c	Rupiah time deposits 1-6 months	more than 6 months
1976 ^d	781	822	114	(6.9)	762	116	635
1980 ^d	2153	2842	314	(11.2)	1279	360	807
1981 ^d	2557	3929	419	(11.8)	1754	529	1065
1982							
June	2643	4528	490	(12.1)	1959	592	1191
December	2934	4187	490	(12.6)	2198	680	1288
1983							
March	3000	4379	539	(12.7)	2407	877	1285
June	3284	4221	591	(12.9)	3003	1424	1353
September	3307	4409	544	(13.1)	3748	1753	1584
December	3333	4236	584	(13.6)	4441	2204	1948
1984							
March	3554	4501	638	(14.0)	4912	2371	2211
June	4047	4136	688	(13.6)	5399	2792	2460
September	3641	4321	638	(14.7)	5516	2675	2675
December	3712	4869	754	(15.2)	6022	3001	2748
1985							
March	3758	4685	764	(15.5)	6477	3228	2955

^aCurrency outside banks. -^bIn parentheses: number of savings accounts (million). -^cDeposits not classified according to maturity are included. -^dEnd of year.

Source: Bank Indonesia, Weekly Report.

infrastructure hampered the mobilization of savings¹.

It may be concluded that financial repression in the 1970's and early 1980's severely impeded the propensity to save. Furthermore, commercial banks were strongly discouraged to make efforts to mobilize private resources. It was much easier for them to make use of cheap refinancing facilities granted by Bank Indonesia. In June 1983 financial market conditions changed drastically, however². In order to overcome financial repression both deposit mobilization and lending activities of commercial banks were deregulated. Only for savings deposits, the government continued to fix interest rates administratively³. As regards time deposits income accruing from interest payments was exempted from income tax. Interest rate subsidies were phased out and banks were allowed to set their own interest rates so that more private funds could be mobilized. Measures were taken to reduce the banks' reliance on cheap refinancing from Bank Indonesia. In early 1984 new discount windows were introduced as last resort for banks encountering temporary shortages of liquidity [Bank Indonesia, 1984, p. 2]. However, in contrast to liquidity credits thus far extended, official assistance was provided at market rates of interest, so that banks were encouraged to resort to the interbank market first before approaching Bank Indonesia [World Bank, 1985, p. 29]. Moreover, the amount that banks might borrow

¹ The density of bank and post offices outside the cities was extremely low in Indonesia compared to other developing countries [Fischer et al., 1985, p. 79].

² The policy reorientation took place against the background of mounting balance of payments pressures. Due to falling export prices for oil, the worldwide recession and extremely high international interest rates Indonesia's current account deficits soared to US-\$ 5.3 billion and 6.3 billion in 1982 and 1983, respectively, after only US-\$ 0.5 billion in 1981 and a surplus of US-\$ 2.9 billion in 1980. In the absence of foreign exchange controls, capital could easily be transferred abroad as fears of a depreciation of the Rupiah were rising. In order to stop capital flight the authorities faced the choice either to regulate capital transfers by introducing foreign exchange controls or to liberalize domestic financial markets. It was decided to follow the latter course of action.

³ For TABANAS-savings the interest rate was raised to 15 per cent.

through discount windows was linked to the size of funds raised from the public¹.

During the liberalization most regulations were removed which had hindered commercial banks to follow their own credit policies². Most importantly, commercial banks were freed to set lending rates individually. Since market forces were allowed to coordinate the demand and supply of capital, quantity rationing could be abolished. Accordingly, Bank Indonesia stopped to fix credit ceilings³.

III. The Effects of Financial Liberalization on Savings Behaviour in Indonesia

The reform of financial policies was probably of major importance for both the formal and the informal financial markets. Commercial banks as well as money lenders, savings clubs etc. in the informal sector needed to adjust to the drastically changed environment. Nevertheless the following analysis is confined to the reaction of commercial banks and the effects on financial savings in the formal sector. Data limitations render it impossible to draw a fairly complete picture on savings generated outside the banking system.

¹ Another innovation, Bank Indonesia Certificates, could be used by commercial banks as a temporary outlet of excess liquidity, i.e. before mobilized funds were extended as loans to investors. The certificates carried interest rates determined on an auction basis.

² Bank Indonesia no longer insisted on numerous requirements, for example as regards the shares of financing from the implementing banks and self-financing from the borrowers, feasibility studies and financial reports to be delivered.

³ The liberalization was confined to lending to the non-priority sector, however. For the so-called high priority credits the authorities continued to provide subsidized refinancing (at an interest rate of only 3 per cent per annum) and to regulate the lending terms and conditions; for most of these credits interest rates were set at an annual rate of 12 per cent. Export financing, permanent working capital credits, production credits, lending by cooperatives, small-scale investment credits and house ownership credits were labelled as high priority credits, for example [for detailed information, see Bank Indonesia, 1984, p. 10]. Although the list of credits under this heading remained rather long, it was somewhat reduced.

Even if financial liberalization improves the savings performance in the formal sector, this not necessarily leads to a higher overall savings rate. The former may be rather due to substitution effects. Informal financial intermediaries that granted relatively favourable terms for deposits at times of tight official regulation of the commercial banks' activities lose in attractiveness when official markets are liberalized. Accordingly, depositors may shift their savings to the commercial banks which leaves total savings unchanged. The relevance of substitution effects should not be overemphasized, however. This holds even if one mistrusts national account figures according to which Indonesia's overall domestic savings rate increased from an average of 23 per cent in 1981-83 to 25 per cent in 1984 [World Bank, 1985, p. 4]. First of all, conditions of financial repression often do not prevail in the formal sector exclusively. In the case of Indonesia also informal savings and credit clubs followed the policy of very low or negative real interest rates prior to the reform of 1983. The direction and the degree of substitution then depends on the flexibility of adjustment to the new environment in both the formal and informal sector. Moreover, the assumed shift towards commercial banks is conditional to the availability of suitable infrastructural facilities. However, informal financial intermediaries are largely concentrated on the rural areas where commercial banks are hardly present. Thus savers frequently cannot switch their funds at tolerable transaction costs even if they would like to do so.

Furthermore, the country's economic benefit may be raised even if financial liberalization only induces a restructuring of savings without affecting the overall savings rate. Efficiency gains may result from a greater mobility of funds for investment, for example, when these are withdrawn from informal financial systems whose operations are narrowly restricted in regional terms and/or in terms of the scope of lending operations. This argument also applies to a second form of savings restructuring, namely the shift from real assets (precious metals etc.) to financial savings, which may be induced by fighting against financial repression. Although overall savings may remain constant, the economic

Table 3 - Rupiah Time Deposits by Bank Group, 1981-85
(billions of Rupiah)

	Total	State banks	Private banks national	Private banks foreign	Development banks
December 1981	1 754	1 093	382	260	19
December 1982	2 198	1 231	572	360	35
June 1983	3 003	1 682	783	493	45
December 1983	4 441	2 831	1 078	476	56
June 1984	5 399	3 276	1 429	626	68
December 1984	6 022	3 497	1 750	696	79
April 1985	6 707	4 044	1 843	736	84

Source: Bank Indonesia, Weekly Report.

benefit of this substitution is evident since the supply of loanable funds increases. Thus the following analysis of the effects of the financial reform on savings in the formal sector captures important aspects of financial liberalization.

The financial sector in Indonesia is dominated by five large state banks; in April 1985 they accounted for 60 per cent of total Rupiah time deposits and more than 80 per cent of total savings deposits [Table 3; see also Arief, 1978, pp. 18 ff.; Nasution, 1983, pp. 50 ff.]. Traditionally these banks were run like government agencies. Because they enjoyed preferential treatment by the government and had never been subjected to market competition to any significant extent, state banks had lived an easy life and bureaucratism prevailed. In light of their inflexibility, scepticism seemed justified whether these banks would be able to promptly adjust to the new financial conditions, which suddenly asked for flexible response to market changes. However, the resoluteness of government policy left hardly any choice rather than to learn the lesson without delay¹.

¹ Whereas formerly cheap refinancing had led to excess liquidity in the banking system, market conditions tightened drastically after the reform. Since liquidity credits had to be paid back to Bank Indonesia, the demand for funds in the interbank market increased sharply [World Bank, 1985, pp. 27-29]. In the second half of 1984 short-term interbank rates reached 80 - 90 per cent per annum.

Thus the incentives for commercial banks to rigorously engage in mobilizing deposits of potential savers were very strong. Shortly after the new policy was announced the banks started comprehensive advertising campaigns. Interest rates for time deposits were raised significantly. The shift was most pronounced in the case of the state banks (Table 4). Within a year interest rates for time deposits with maturities of six and twelve months jumped from 6 and 9 per cent, respectively, to 16 - 18 per cent and 18 - 19 per cent. The increase in rates granted by private banks was relatively modest; comparing the bottom levels of the spreads given in Table 4, the margin averaged 2 percentage points between March 1983 and March 1984. For the private banks financial conditions did not change as fundamentally as they did for the state banks. Since private financial institutions were severely discriminated with respect to official refinancing until 1983, they had to rely on funds raised from the public already prior to the reform. The determination of interest rates by Bank Indonesia did not apply to private banks, so that they could attract deposits by offering favourable terms. However, they were not allowed to play a major role in mobilizing savings (share of national and foreign private banks in total time and savings deposits in early 1985: 37 per cent; see also Table 3). Their operations were restricted to Jakarta¹. Furthermore, the latter were not authorized to accept savings deposits except from their own employees.

Not only the commercial banks but also the public quickly responded to the new situation. Parallel to rising interest rates, total bank deposits increased faster than experienced before. Demand, savings and time deposits increased by 31 per cent in the period March 1983 to March 1984 as compared to 23 per cent in the year before. Offshore dollar accounts were partly transferred to domestic dollar accounts [Sherwell, 1985]. Table 2 presents some interesting changes in the structure of financial savings:

¹ This regulation was relaxed for private national banks recently, but retained for foreign banks.

Table 4 - Nominal Interest Rates for Rupiah Time Deposits, March 1983 and March 1984 (per cent)

Bank group/Maturity	March 1983	March 1984
State banks		
1 month	n.a.	15.00-15.25
3 months	n.a.	15.50-16.50
6 months	6.00	16.00-18.00
12 months	9.00	18.00-18.75
24 months	15.00 ^a	16.00-18.75
National private banks		
1 month	14.50-17.00	15.00-18.00
3 months	14.50-17.00	15.50-19.50
6 months	15.00-18.00	16.50-20.00
12 months	16.00-18.00	18.00-20.00
24 months	16.50-18.00	18.00-20.00
Foreign private banks		
1 month	15.00-18.50	16.00-18.00
3 months	15.00-18.50	16.50-18.00
6 months	14.00-18.00	16.00-18.00
12 months	14.00-17.00	17.50-18.50
24 months	-	-
n.a. = not available. - ^a 12 per cent for deposits exceeding Rupiah 2.5 million.		

Source: Bank Indonesia, Report for the Financial Year 1983/1984.

- The increase in cash holdings (March 1983 - March 1984: 18 per cent; March 1984 - March 1985: 6 per cent) was considerably below the increase in total financial savings.
- The share of demand deposits (foreign currency deposits included) in total deposits dwindled from 58 per cent (March 1983) to 48 per cent (March 1984). The decline continued later on; in early 1985 the respective share amounted to less than 40 per cent.
- Savings deposits increased by 18 per cent (March 1983 - March 1984) and 20 per cent (March 1984 - March 1985), but their

share in total deposits declined by one percentage point to 6.4 per cent in 1984 and 1985.

- On the other hand, time deposits gained significantly in importance. Deposits in foreign currency included, the growth rate amounted to 70 per cent in the period March 1983 - March 1984; Rupiah time deposits even doubled. Although the increase of the latter slackened to 32 per cent in the following twelve months, it again exceeded by far the corresponding rate for all bank deposits (19 per cent).

Further insights into the rearrangement of financial savings can be gained by the following trend estimates. Applying quarterly data for different types of financial savings (DEP) in the period from first quarter 1980 to first quarter 1985 the trend equation can be written as:

$$\text{DEP} = \text{Const.} + aD + bT + cDT$$

Since DEP is defined in logarithmic form, the coefficients of the trend variable T represent growth rates. In addition dummy variables account for the change in financial conditions in June 1983. The reform may have resulted in an once-and-for-all shift in the level of savings, captured by the shift dummy (D), and/or may have influenced the growth in savings, denoted by the slope dummy (DT).

The estimation results presented in Table 5 provide some evidence that savers gave preference to short-term assets in immediate response to the financial reform. This is indicated by the positive parameters of D for cash holdings, demand deposits and time deposits with maturities of one month and three months, whereas for time deposits with twelve months maturity the shift dummy was significantly negative¹. Perhaps this preference was due to uncertainties of savers as regards the willingness and firmness of public authorities to reduce financial repression. Moreover, the consequences of the reform were difficult to foresee. Banks needed some time to adjust and coming interest rate developments

¹ Only the positive parameter of D for time deposits with 24 months maturity conflicts with this interpretation.

Table 5 - The Development of Different Types of Financial Savings in Indonesia before and after the Financial Reform of June 1983: Trend Estimation Results^a

	Const.	a	b	c	R ²	D.W.	D.F.
Time deposits	6.90	-0.19	0.068***	0.033***	0.99	1.23	17
Total		(-1.45)	(19.13)	(3.97)			
By group of banks ^b :							
State banks	6.64	-0.43**	0.042***	0.058***	0.98	1.33	17
		(-2.14)	(7.90)	(4.71)			
Private national banks	4.85	0.18	0.128***	-0.007	0.99	0.91	17
		(0.89)	(23.93)	(-0.60)			
Private foreign banks	4.72	0.43	0.103***	-0.031*	0.97	1.89	17
		(1.62)	(14.73)	(-1.94)			
By maturity:							
1 month	3.86	1.02**	0.137***	-0.037	0.98	2.09	17
		(2.53)	(12.83)	(-1.49)			
3 months	4.05	0.76**	0.114***	-0.016	0.99	1.94	17
		(2.74)	(15.45)	(-0.91)			
6 months	4.98	-0.37	0.055***	0.070***	0.98	0.94	17
		(-1.24)	(6.93)	(3.80)			
12 months	4.56	-1.30***	0.104***	0.126***	0.98	0.92	17
		(-3.11)	(9.34)	(4.90)			
24 months	6.38	2.10***	0.040***	-0.164***	0.95	1.18	17
		(12.68)	(9.14)	(-16.08)			
Savings deposits	5.58	0.11	0.055***	-0.011	0.94	2.45	17
Total		(0.51)	(10.05)	(-0.83)			
By group of banks ^b :							
State banks	5.49	0.08	0.050***	-0.009	0.92	2.53	17
		(0.35)	(8.10)	(-0.62)			
Private national banks	2.70	0.44**	0.102***	-0.036***	0.98	0.83	17
		(2.31)	(20.03)	(-3.04)			
Demand deposits ^c	7.64	0.50**	0.069***	-0.055***	0.91	1.05	17
		(2.35)	(12.16)	(-4.17)			
Cash holdings	7.50	0.28**	0.040***	-0.017**	0.97	1.62	17
		(2.58)	(13.99)	(-2.59)			

^aUsing quarterly data of I/1980-I/1985, the following trend equation was estimated: $DEP = Const. + aD + bT + cDT$,

where: DEP = dependent variable, i.e. different types of financial savings in logarithmic form;

Const. = constant term;

D = shift dummy (I/1980-I/1983:0; II/1983-I/1985:1);

T = time (I/1980-I/1985);

DT = slope dummy (I/1980-I/1983: 0·T; II/1983-I/1985: 1·T);

t-values in parentheses; ***significant at 1 per cent level of confidence; **5 per cent level; *10 per cent level (two-tailed t-test).

^bNo separate estimates were run for local development banks because of only marginal time and savings deposits placed there. In the case of savings deposits, private foreign banks were neglected since they were not allowed to mobilize savings deposits except from their own employees.

^cFor demand deposits a breakdown by group of banks was not available.

were also influenced by the removal of interest rate subsidies. This interpretation is consistent with the significantly negative parameter of D for time deposits placed at state banks. Since these banks faced the strongest adjustment burden, uncertainties were most pronounced for their depositors.

However, the positive once-and-for-all shift was rather small for the most important short-term assets, i.e. cash holdings and demand deposits. It was clearly dominated by the remarkable reduction in growth rates, indicated by the negative parameters of the slope dummy (DT). The growth rate of cash holdings was nearly halved in the period II/1983 - I/1985; the respective rate for demand deposits dwindled to 1.4 per cent (from 6.9 per cent in I/1980 - I/1983). Accounting for both the shift and the slope effect, Table 6 shows that the latter outweighed the former already in the second quarter 1983 in the case of demand deposits. The predicted savings in this category (row B) were considerably below hypothetical figures (row A) calculated on the assumption that structural breaks would not have occurred and the trend of I/1980 - I/1983 would have continued. For cash holdings the same applies after three quarters only.

As regards time deposits the growth rate accelerated by roughly 50 per cent to 10.1 per cent on an overall level. Again the slope effect dominated the shift effect from the beginning (Table 6). A disaggregation by maturities provides further interesting insights which stress the positive role of interest rate incentives:

- The slope dummy remains insignificant in the case of short-term time deposits. In this area, the deregulation of interest rates started in 1978 already, when banks were allowed to fix rates for deposits with maturities up to three months. Consequently, no dramatic changes in short-term deposits were to be expected by the reform of 1983 in the medium run.
- Growth rates more than doubled for time deposits with maturities of six and twelve months. Predicted savings in these categories exceeded hypothetical figures by 200 and 280 per

Table 6 - The Development of Financial Savings in Indonesia with and without Structural Breaks, First Quarter 1983 - First Quarter 1985

		I/1983	II/1983	III/1983	IV/1983	I/1984	II/1984	III/1984	IV/1984	I/1985
Time deposits										
Total	A	2402	2571	2752	2945	3153	3374	3612	3866	4138
	B	-	3374	3733	4130	4569	5054	5591	6186	6843
	C	-	31.2	35.6	40.2	44.9	49.8	54.8	60.0	65.4
By group of banks:										
State banks	A	1321	1377	1437	1498	1562	1629	1699	1772	1848
	B	-	2018	2231	2465	2724	3011	3328	3678	4064
	C	-	46.6	55.3	64.6	74.4	84.8	95.9	107.6	119.9
Private national banks	A	675	767	871	990	1126	1279	1454	1652	1878
	B	-	832	939	1060	1196	1350	1524	1720	1941
	C	-	8.5	7.8	7.1	6.2	5.6	4.8	4.1	3.4
Private foreign banks	A	428	474	526	583	646	716	794	880	976
	B	-	472	508	546	586	630	677	728	782
	C	-	-0.4	-3.4	-6.3	-9.3	-12.0	-14.7	-17.3	-19.9
By maturity:										
1 month	A	282	323	371	425	487	559	641	735	843
	B	-	534	590	652	721	796	880	973	1075
	C	-	65.3	59.0	53.4	48.0	42.4	37.3	32.4	27.5
3 months	A	253	283	317	356	399	447	501	561	629
	B	-	484	534	589	649	716	790	871	961
	C	-	71.0	68.5	65.4	62.7	60.2	57.7	55.3	52.8
6 months	A	297	314	332	351	371	392	414	437	461
	B	-	578	655	742	841	953	1080	1224	1387
	C	-	84.1	97.3	111.4	116.7	143.1	160.9	180.1	200.9
12 months	A	369	410	455	505	560	621	690	765	849
	B	-	652	821	1033	1300	1636	2059	2592	3262
	C	-	59.0	80.4	104.6	132.1	163.4	198.4	238.8	284.2
24 months	A	992	1033	1075	1119	1164	1212	1261	1313	1366
	B	-	849	750	656	585	517	457	403	356
	C	-	-17.8	-30.2	-41.4	-49.7	-57.3	-63.8	-69.3	-73.9
Savings deposits										
Total	A	542	572	605	639	675	713	754	796	841
	B	-	548	572	598	625	653	683	713	745
	C	-	-4.2	-5.5	-6.4	-7.4	-8.4	-9.4	-10.4	-11.4
By group of banks:										
State banks	A	464	488	513	539	567	596	626	659	692
	B	-	466	485	506	527	549	572	596	621
	C	-	-4.5	-5.5	-6.1	-7.1	-7.9	-8.6	-9.6	-10.3
Private national banks	A	56	62	69	76	84	93	103	114	127
	B	-	58	62	66	71	76	81	86	92
	C	-	-6.5	-10.1	-13.2	-15.5	-18.3	-21.4	-24.6	-27.6
Demand deposits										
	A	5100	5464	5855	6273	6721	7201	7716	8267	8857
	B	-	4171	4230	4290	4350	4412	4474	4537	4601
	C	-	-23.7	-27.8	-31.6	-35.3	-38.7	-42.0	-45.1	-48.1
Cash holdings										
	A	3041	3165	3294	3429	3569	3715	3866	4024	4188
	B	-	3301	3378	3456	3537	3619	3703	3790	3878
	C	-	4.3	2.6	0.8	-0.9	-2.6	-4.2	-5.8	-7.4

A: hypothetical savings in billions of Rupiah; projections on the basis of the trend equation $DEP = \text{Const.} + bT$ for the period I/1980 - I/1983, i.e. assuming that structural breaks would not have occurred;

B: predicted savings in billions of Rupiah; calculated on the basis of the trend equation $DEP = \text{Const.} + aD + bT + cDT$ for the period I/1980 - I/1985 (D = 0 for I/1980 - I/1983; D = 1 for II/1983 - I/1985), i.e. allowing for structural breaks in June 1983;

C: B-A/A in per cent.

Source: Table 6 - Own calculations.

cent, respectively, in early 1985. This corresponds to the observation that the rise in interest rates was most pronounced for these deposits (Table 4).

- As regards time deposits with a maturity of 24 months, the modest growth rates experienced in I/1980 - I/1983 turned around to significantly negative values later on. Interest rate subsidies, which formerly were strongly concentrated on long-term time deposits, were abolished and the interest rate increased considerably less than for deposits in the aforementioned categories.

The flexibility of savers in adjusting to changed conditions in financial markets is also evident when considering the development in deposits placed at different groups of banks. Since the state banks responded quickly to the deregulation of interest rates, their competitiveness improved. They succeeded in mobilizing additional savings, as indicated by the jump in the growth of time deposits acquired (from 4.2 per cent before to 10 per cent after the reform of June 1983). Private banks were put under pressure from the state banks' competition. Since interest rate increases were comparatively small in the private sector, the expansion in savings deposited at the state banks was at least partly to the detriment of private banks, especially the foreign banks. Whereas time deposits placed at the state banks outpaced the hypothetical trend values by 120 per cent in early 1985, private national banks did not participate in the accelerated generation of time deposits (for them the growth path remained virtually unchanged compared to the pre-reform period) and foreign banks even suffered a relative decline (Table 6).

Overall savings deposits were hardly influenced, notwithstanding that in this area interest rates remained officially regulated (though at a somewhat higher level). This may be explained by the minor role savings deposits played before 1983 already. Moreover, this form of financial savings was probably favoured by those, whose savings were rather small in absolute amount. The hypothesis of interest inelastic savings in developing countries may be adequate for small-savers. Especially for the rural poor it is

sometimes stated that they do not know the prevailing interest rates altogether.

For the bulk of savers the results presented above point to a rather flexible adjustment to interest rate changes. However, depositors reacted mainly by restructuring their savings. The financial reform's effects are considerably less encouraging as regards the development of overall financial savings. Applying the same estimation procedure as before, both the shift and the slope dummy remain insignificant (Table 7). If real savings are considered, i.e. deflating nominal values by the rise in consumer prices, the picture is still more disappointing. The shift dummy D is skipped by the regression programme because of an insufficient tolerance level. The negative parameter of the slope dummy DT even indicates a slight decline (by 0.4 percentage points) in the growth of overall financial savings after the reform. Thus expectations that the financial liberalization would induce additional savings were not met until early 1985.

Notwithstanding this result, a positive assessment of the reform is justified. Its structural effects on savings improved the re-funding of commercial banks. The shift towards longer-term time deposits increased the supply of funds available for investment credits. The sharp discrepancy between the depositors' preference for highly liquid assets and the demand for loans with longer maturities was reduced, though more needs to be done in this respect (see the recommendations for complementary measures in Section IV).

Moreover, the failure to mobilize additional savings may be attributed to the rather short period of less than two years the estimation of the parameters of the dummy variables is based on. Whereas a given amount of funds could be easily restructured immediately after the reform, it apparently takes a longer time to raise more funds. The savings potential not yet exploited is probably concentrated on the rural areas. The lack of an adequate financial infrastructure renders the mobilization of rural savings virtually impossible in the short run. However, commercial

Table 7 - The Development of Overall Financial Savings in Indonesia before and after the Financial Reform of June 1983: Trend Estimation Results^a

	Const.	a	b	c	R ²	D.W.	D.F.
Total financial savings							
nominal	8.55	0.12 (1.11)	0.059*** (20.08)	-0.011 (-1.63)	0.99	0.84	17
real ^b	8.15	i.t. ^c	0.034*** (13.83)	-0.004** (-2.50)	0.97	1.08	18

^aUsing quarterly data of I/1980-I/1985, the following trend equation was estimated: $DEP = Const. + aD + bT + cDT$,

where: DEP = the sum of demand, time and savings deposits and cash holdings in logarithmic form;

Const. = constant term;

D = shift dummy (I/1980-I/1983:0; II/1983-I/1985:1);

T = time (I/1980-I/1985);

DT = slope dummy (I/1980-I/1983: 0·T; II/1983-I/1985: 1·T);

t-values in parentheses; ***significant at 1 per cent level of confidence; **5 per cent level (two-tailed t-test).

^bDeflated by the consumer price index (April 1977 - March 1978=1) for 17 Indonesian cities.

^cSkipped by the SPSS-programme applied because of an insufficient tolerance level.

Source: Bank Indonesia, Weekly Report - Own calculations.

banks have begun to engage in the long-term process of overcoming this deficiency. The Rural Savings Scheme (SIMPEDES) initiated by the Bank Rakyat Indonesia, a state bank, in cooperation with about 3500 village banks represents an important step in this direction. Traditionally, the operations of the village banks were largely restricted to channelling credits to the rural areas. By SIMPEDES it is attempted to extend their activities to savings mobilization. According to informations provided by US consultants of the Center for Policy and Implementation Studies (Harvard Institute for International Development) the pilot project produced encouraging results already. Thus a broader attack on the deep-rooted dualism in Indonesia's financial markets by complementing the reform of 1983 is likely to help the mobilization of additional savings in the longer run.

IV. Conclusions and Recommendations for Complementary Measures

It has been shown that the reform of 1983 has reduced financial repression in Indonesia significantly. Contrary to a widely held belief, savers were well prepared to respond to higher interest rates. However, until recently they restructured their financial savings rather than adding to them. Though considerable efficiency gains could be achieved by these structural effects, the liberalization needs to be complemented in several respects in order to succeed in mobilizing additional funds. First of all, commercial banks must take steps to improve their efficiency in addition to short-term adjustment. Especially the state banks have considerable administrative overheads resulting in high intermediation costs. The World Bank [1985, pp. 73-74] estimates these costs at 7-8 percentage points of the lending rates charged and concludes: "There is considerable scope for reducing intermediation costs through improvements in the organizational structure and operating procedures of the state banks and reducing write-offs. In general, organizational restructuring, improving management controls, rationalizing personnel use, and improving credit review procedures could lead to a significant reduction in the banks' costs".

Moreover, financial markets in Indonesia remain highly fragmented and dualistic which renders the further mobilization of savings difficult. In order to overcome this situation, banks should be encouraged to strengthen the country's financial infrastructure, especially in the so far neglected rural areas. The Rural Savings Scheme (SIMPEDES) can serve as an example in this respect. As a condition of success, bank procedures must be adapted to the rural needs. A simplification of formal requirements would help to attract savings from people, who so far kept out of the financial system because of illiteracy, for example. Furthermore, the connection between saving and the provision of credits should be intensified. The access to bank loans seems to be an important incentive to save for those who cannot provide other collateral.

Indonesia's financial infrastructure can be further improved if

the government would abolish the remaining discriminations in financial markets. This applies to the activities of private foreign banks in particular. They should be allowed to extend their operations beyond Jakarta (as private national banks were authorized to do recently) and to accept savings deposits. Because of the managerial experience of foreign bankers they can play an innovative role and raise additional savings by applying new instruments and procedures. The relaxation of restrictions as regards foreign banks' business would also help their refunding. Presently, Bank Indonesia limits each private bank's borrowing from the interbank market to 7.5 per cent of deposit liabilities. It is mainly the foreign banks that are affected by this regulation. A more liquid and flexible interbank market is required, i.e. a transmission mechanism between the surplus of term-Rupiah in the local banks and the scarcity in the foreign banks [Winder, 1985].

The government should also avoid to discriminate informal activities, such as self-help savings and credit unions. Since cooperatives outside the official cooperative sector are concentrated in areas so far neglected by the organized financial intermediaries, the former can play an important complementary role. Although aggregate data are not available, considerable savings are probably raised by informal activities. The government should not comply with tendencies to regulate these activities and should not press them to join the rather bureaucratic official cooperative system. Otherwise their initiative threatens to get lost. The role of informal savings and credit unions may also be undermined if they fail to consider carefully the consequences of the changed overall financial conditions and to take adequate adjustment measures. The cooperatives continuously tend to charge lending rates which are negative in real terms. Correspondingly, the interest rates members receive for their deposits are below market levels. A substantial revision of this approach seems to be urgently needed. Otherwise the attractiveness of self-help saving activities will be eroded. Moreover, members would be inclined to meet minimum savings requirements in order to apply for credits and then place the borrowed funds at commercial

banks, since deposit rates in the formal sector exceed informal lending rates.

Finally, the reform of 1983 has to be supplemented by a fresh impetus to the formation of efficient capital markets [see also Sherwell, 1985]. This would help the long-term funding of banks. For example, a more widespread use of secondary markets in bank certificates of deposit should be encouraged. Existing limits concerning the amount of such issues should be abolished in order to give banks the chance to reduce their funding in international capital markets. The stock exchange in Jakarta which presently is beset with many constraints to expand should be revitalized. The procedures for new listings must be simplified and price movements should no longer be narrowly restricted so that prices can fulfill their allocative function. This requires to reduce the great influence and privileges of the dominant state investment company in the share market. In one sense, the financial reform of 1983 has even impeded the development of capital markets. The favourable tax treatment given to time deposits represents a significant discrimination against interest and dividend income from equity shares and other long-term assets. In order to avoid distortions, the unbalanced incentive structure must be removed, either by extending the tax exemption to income from capital market instruments or by phasing-out the concessions for income from time deposits.

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