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The Indonesian Financial System: Its Contribution to Economic Performance, and Key Policy Issues[1]

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Abstract

The structure of the financial system in Indonesia is examined through the analytical lens of the system's contribution to the growth, stability, and efficiency of the Indonesian economy. The focus is on the banking system and securities markets, which are the primary mechanisms for mobilizing savings and allocating investment funds. Five key policy issues are highlighted: (1) the level of bank capitalization; (2) the supervision and regulation of banks; (3) the structure of banking markets; (4) the deepening of securities markets; and (5) the supervision and regulation of securities markets.

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Summary

This paper examines the structure and performance of the financial system in Indonesia and considers its past and prospective contribution to Indonesian economic performance. It reviews the considerable progress already achieved in establishing the regulatory system for the sector, and points to areas where improvements in implementation are under way.

The paper finds that the dominance of bank debt over other forms of finance facilitates monetary policy, although it may limit enterprises' financing choices (and could magnify the effect of a credit crunch on the economy). It points to the general experience in other countries with poorly capitalized banks, in particular, the increased risk that banks will make poor lending decisions were they to believe that they will be bailed out if the investments fail.

Five key policy issues are identified that should provide the focus for further improvement of the performance of financial markets and institutions; in many of these, substantial reform is already under way.

- Rapid resolution of the problem of undercapitalized banks;
- Continuing efforts to improve supervision and regulation of banks, in particular in the areas of compliance with capital adequacy ratios and legal lending limits, and vigilance in areas such as foreign exchange exposure and derivatives;
- Enhancement of the competitive structure of banking markets;
- Deepening of securities markets and expansion of the domestic investor base;
- Continued improvements in the supervision and regulation of securities markets.

INTRODUCTION

This paper examines the structure of the financial system in Indonesia and considers its past and prospective contribution to the country's economic performance. The focus is on the banking system and securities markets, which are the primary mechanisms for mobilizing savings and allocating investment funds. It examines the structure and performance of the financial system through the analytical lens of its contribution to growth, stability, and efficiency, using where possible the theory of financial markets.[2] It considers a wide variety of data, although the unavailability of sufficiently detailed, published material for the most part precludes formal econometric tests.

The analysis spotlights five key policy issues where, in the author's opinion, the authorities should further develop the generally well-conceived policy framework that has been put in place in recent years. In summary form, they are as follows:

- *The issue of undercapitalized banks should be resolved quickly.* A number of banks in Indonesia may operate with low net worth, relative to their assets. Balance sheets are generally not sufficiently transparent for outsiders to make a precise judgement of capital adequacy. The presence of undercapitalized banks reduces economic efficiency because, taking advantage of an implicit government safety net, these banks have incentives to undertake riskier lending and a larger volume of lending than is optimal from a social point of view.

- *Efforts to improve bank supervision and regulation should be continued.* Bank regulation has undergone a sea change in Indonesia since 1988. Prudential regulations are in place that, for the most part, ensure basic bank soundness. Nonetheless, vigilance must be maintained to make sure that regulation continues to adapt to new challenges, such as foreign exchange exposure and derivatives activities. Attention should now focus on strengthening supervisory capabilities to monitor bank compliance and to enforce sound banking practices.

- *The banking system should be structured to provide competitive and efficient services.* Capabilities should be developed to analyze market needs for different banking services, along geographic or product lines, and ensure adequate competition.

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[2]Previous analysis of the Indonesian financial system includes Hanna (1994), which considers the effects of the financial reform process between 1983 and 1991.

- *The deepening of securities markets should continue and the domestic investor base expanded.* The stock market has grown exponentially in recent years, but a substantial proportion of stock market capitalization consists of shares that are not actively traded. The bond market remains small, owing to a variety of legal and economic factors. Both markets are small by regional standards (Table 1), although this may be linked to differing levels of per capita income. The development of a domestic institutional investor base, particularly mutual funds and pension funds, would promote deeper markets and provide firms with a more viable alternative to bank finance.

Table 1. Size of Financial Sectors in Southeast Asia, 1989–94

(In percent of GDP)

	1989	1990	1991	1992	1993	1994
Bank assets						
Indonesia	49.3	60.5	64.2	63.0	58.8	57.3
Malaysia	92.4	96.0	101.9	95.0	92.9	99.9
Thailand	72.7	79.2	82.2	85.0	94.6	109.5
Bonds outstanding						
Indonesia	2.7	1.6	5.5	8.9	9.2	5.8
Malaysia	66.1	63.3	60.6	55.2	54.5	56.0
Thailand	11.5	9.9	8.1	7.6	8.2	9.8
Equity market capitalization						
Indonesia	2.4	7.6	5.8	9.4	22.8	30.2
Malaysia	105.0	113.6	124.4	162.1	342.1	282.7
Thailand	35.5	27.9	36.3	52.0	104.5	94.0

Sources: International Finance Corporation, *Emerging Stock Markets Factbook*; International Monetary Fund, *International Financial Statistics*; World Bank, *The Emerging Asian Bond Market.*

- *Further improvements in the supervision and regulation of securities markets should be made.* Indonesia has recently revamped the structure of its securities regulations. There has been important progress in the area of mutual funds and in the prohibition of insider trading. More effort should be made in the enforcement of regulations concerning insider trading and corporate disclosure, in order to promote securities markets that appear fair and transparent to investors. Until progress is made on implementation, it will be unclear if the current regulatory environment is sufficient.

The remainder of the paper is structured as follows. Section II examines the overall structure of the financial system, particularly the relative roles of banks and securities markets, and considers the economic implications of this structure. Section III provides an in-depth look at the banking system, including its structure, regulation, and condition and the effect of these attributes on economic performance. Section IV considers Indonesian securities markets, mainly the stock and bond markets, and the domestic institutional investor base. Section V concludes by noting key policy issues suggested by this analysis.

II. Structure of the Financial System

A. Data on Indonesian Financial Structure

Indonesian finance has historically been dominated by banks. Flow of funds accounts presented show that approximately 40 percent of savings by the private sector flows into bank deposits (Table 2). Most of the rest of these savings remain within the private nonbanking sector, on which data exist only in aggregate form. It seems probable that much of the residual savings is retained by the original savers and a substantial part of capital formation is self-financed. The flow of funds accounts indicate that 30-45 percent of private capital formation is financed by bank credit and most of the rest is financed within the domestic private, nonbanking sector. According to these accounts, finance provided directly by the government and foreigners declined during 1991–94.

Available data (Table 3) indicate that the bond market provides a very small part of commercial finance, while the stock market provides just over one-third and banks provide just under two-thirds of the total. However, this substantially overstates the role of the stock market, because capitalization includes shares which have never been sold on the stock market. A reported 70 percent of total shares are held by company founders, including those held by the government after partial privatizations. If a rough adjustment is made for these unissued shares, the stock market has provided about one–seventh of total business finance, and banks have provided a little under six–sevenths.

The role of financial intermediaries including insurance companies and nonbank finance companies in Indonesian markets is small compared with that of banks. Banks own over 85 percent of the total assets of this group of intermediaries, which excludes pension funds because of a lack of consistent data (Table 4). The first domestic mutual fund in Indonesia began operations only in late 1995.

B. Economic Implications of Indonesian Financial Structure

The key link between the financial system and economic growth is the mobilization of savings and the channeling of them into productive investment. Indonesia has high savings and investment rates relative to most other countries in the world, although not relative to some of its neighbors. Prima facie, this suggests that the financial system, by intermediating a large share of savings and investment, has successfully fostered growth. However, it is possible that

Table 2. Indonesia: Role of Banks in Private Finance, 1991–94

	1991	1992	1993	1994
		(In trillions of rupiah)		
Domestic private nonbank sector				
Gross savings	39.1	49.0	58.8	67.5
Gross capital formation	51.2	53.2	67.5	86.2
Bank deposits and currency	14.5	20.2	26.3	29.5
Credit from domestic banks	19.3	15.7	31.0	37.5
Credit from Bank Indonesia and central government	7.9	4.9	2.7	1.3
Credit from foreign sources	8.7	8.5	1.2	2.8
		(In percent)		
Private nonbank savings intermediated by banks	37.1	41.2	44.8	43.7
Private nonbank investment				
Intermediated by banks	37.7	29.5	45.9	43.6
Financed by government	15.4	9.2	4.0	1.5
Financed abroad	16.9	16.0	1.8	3.2
Financed within sector	30.0	45.3	48.3	51.7

Source: Bank Indonesia, Indonesia's Flow of Funds Account Matrix, 1991–94.

Table 3. Indonesia: Role of Bank and Securities Finance, 1994–95[1]

	(In trillions of rupiah)		(In percent of total business finance)	
	1994	1995	1994	1995
Bank credit (commercial credits only)	142.2	176.4	65.7	62.4
Total securities market capitalization	74.2	106.1	34.3	37.6
Stock market	67.7	98.8	31.3	35.0
Bond market	6.5	7.2	3.0	2.5

Source: Bank Indonesia, *Report for the Financial Year 1994/95.*

[1]End-March.

with a different financial structure, Indonesian growth could be higher and the savings and investment rates could be larger.

At least two aspects of Indonesian financial structure have potential effects on macroeconomic stability. First, the dominance of bank debt over other forms of finance can facilitate the operation of monetary policy, by raising the importance of the banking system relative to other parts of the financial system. This makes the transmission from Bank Indonesia's monetary policy to economic activity more direct and potentially more precise and predictable. Second, the dominance of banks also has negative implications, in that enterprises have fewer alternative sources of finance than in some other countries. Recent efforts to tighten regulation of the commercial paper market may exacerbate this effect, although the close links between that market and banks or bank affiliates reduce the degree to which it truly represents an alternative source of finance. The dependence of firms on bank finance increases the risk of a credit crunch that could magnify the effects of an economic downturn.

The financing of investment projects by internal corporate funds, or at least by funds internal to a conglomerate group, appears to play a major role in Indonesia. The literature suggests that this is an effective means to finance capital formation, because there tend to be fewer informational asymmetries in such arrangements than in more arms-length transactions. Nonetheless, the prevalence of self-finance may indicate that other channels of finance are not working well, which may inhibit growth. There is also the agency-theoretic concern that heavy use of self-finance indicates a high level of free cash-flow that is being inefficiently deployed by enterprise managers. More data would be needed to evaluate these questions. However, evidence on the effects of the 1983 liberalization of interest rates and bank credit on enterprise finance (Goeltom, 1995) shows that enterprise borrowing costs increased, but the reliance on

Table 4. Indonesia: Size of Selected Financial Intermediaries, 1992–94[1]

	1992	1993	1994
	(In trillions of rupiah)		
Commercial banks (total credit)	115.7	124.2	153.9
Of which,			
State banks	61.8	69.1	73.7
Private national banks	42.3	42.5	64.6
Local government-owned banks	2.6	2.9	3.5
Foreign and joint banks	9.1	9.7	12.1
Insurance companies (assets)	7.9	9.0	11.3
Of which,			
Life insurance	1.6	1.9	5.6
Social insurance	3.6	4.3	2.3
Indemnity insurance and reinsurance	2.6	2.8	3.3
Finance companies (assets)	8.4	10.1	11.9
	(In percent of bank credit and assets of other companies)		
Commercial banks	87.7	86.7	86.9
State banks	46.8	48.2	41.6
Private national banks	32.0	29.6	36.5
Insurance companies	6.0	6.3	6.4
Finance companies	6.3	7.1	6.7

Source: Bank Indonesia, *Report for the Financial Year 1993/94 and 1994/95*.

[1]Bank data as of end-March; insurance and finance company as of end-December of preceding year. Pension funds are excluded because of a lack of consistent data; Leechor (1996), indicates these controlled assets totaled Rp 18.6 trillion at end-1994.

internal finance by smaller firms and by firms not connected to a conglomerate decreased. Goeltom also finds that after the interest rate increase that accompanied liberalization, firms that were not entirely self-financed were more efficient, suggesting that the liberalization increased the efficiency of the allocation of investment.

The development of the stock market has positive implications for growth in Indonesia. A stock market is a necessary component of the development of sources of finance for risky investments in growing sectors of the economy. While venture capital so far plays a small role, the development of a larger venture capital sector could help channel initial finance to small firms, which could access the stock market later in their life cycle. Without that, self-finance augmented by bank loans is likely to be the primary source of finance to risky firms.

The financial structure has other impacts on economic efficiency. For example, Indonesian residents benefit as the set of available savings and financing vehicles becomes larger. The benefits result from financial markets' becoming more complete, which standard microeconomic theory shows increases welfare. There has been much progress in recent years on expanding the range of financial products, with the development of the stock market and pension funds, as well as money market instruments and, most recently, stock warrants. Indonesia lacks an exchange for financial futures and options. Although such derivatives products could enhance efficiency, it will be argued later in this paper that the supervision of the financial system should be improved before such an innovation is contemplated.

While positive real interest rates have helped encourage short-term personal savings, there is a dearth of vehicles for long-term savings. Reform of the pension system, including efforts to make employer-sponsored plans more attractive (Leechor, 1996), could help attract more savings, and also channel the savings more to long-term investments such as stocks and bonds. Development of the life insurance industry could make a similar contribution.

Growth depends on the efficiency of investment, particularly the extent to which funds are allocated to high-return projects. One factor that influences efficiency is the enforceability of investment contracts and related agreements. The World Bank (1996) recently examined this issue and concluded that there are substantial legal impediments to financial contracting. Action to alleviate these impediments, which hinder both bank lending and bond finance, would ensure that the allocation of funds by intermediaries is done more according to the criteria of economic risk and return, and less according to the availability of other means to enforce contracts, such as social relations between counterparties.

III. The Banking System

A. An Overview of the Banking System

The number of commercial banks grew rapidly from 111 in 1989 to approximately 240 in 1994, when the authorities placed stricter limits on the issuance of new bank licenses. Large state-owned banks and regional government-owned development banks coexist with a rapidly growing sector of privately owned banks and partly or fully foreign-owned banks (Table 5). The large state-owned banks and the private national banks together accounted for 87 percent of total banking assets at the end of 1995. Although distinctions have diminished in recent years, the seven state-owned banks consist of five that began as sectoral lending banks, a former development bank, and a former savings bank. During 1991–95, assets of the private national sector grew at an annual rate of 26 percent, while the state bank sector grew at a 12 percent annual rate. By 1994, the assets of the private national sector had surpassed those of the state bank sector. Foreign-owned banks consist of joint ventures between foreign banks and domestic investors, and branches of foreign banks. Indonesia does not permit wholly owned subsidiaries of foreign banks in Indonesia, and only foreign banks with existing branches may open new branches. Foreign banks without a preexisting presence must enter through a joint venture.

The process of liberalization of the banking system began in 1983 (Binhadi, 1995, and IBCA, 1995) with a liberalization of interest rates, the elimination of credit ceilings, and the introduction of indirect monetary instruments. A package of deregulatory measures passed in 1988 included a reduction in reserve requirements from 15 percent to 2 percent, the reopening of licensing for new private banks and foreign joint-venture banks, and the granting of permission to state-owned firms to deposit 50 percent of their short-term funds with private banks, instead of only with state-owned banks. The number of privately owned banks exploded after this measure. Further deregulation the following year eliminated the need for Bank Indonesia (BI) approval for medium- and long-term loans and removed ceilings on offshore loans. Regulators also enacted a restriction on bank lending to related parties, a limit on net foreign exchange open positions, and limits on equity activities of banks.

The authorities have strengthened the regulation of the banking system in the 1990s. They introduced a risk-weighted capital adequacy ratio, effective end-1993, which mirrored that adopted by the Group of Ten countries through the Basle Committee on Banking Supervision, and enacted minimum loan-loss provisions. In the face of slowing activity in 1993, the authorities relaxed regulations somewhat, although they tightened the legal lending limit, which governs bank exposures to single borrowers and to parties affiliated with the

Table 5. Indonesia: Composition of the Banking Sector, 1991–95

	1991	1992	1993	1994	1995
Number of banks					
State commercial banks	7	7	7	7	7
Local government-owned banks	27	27	27	27	27
Private national banks	129	144	161	166	165
Joint banks	19	20	29	30	31
Foreign banks	10	10	10	10	10
Total	192	208	234	240	240
Number of offices					
State commercial banks	1,395	1,434	1,455	1,490	1,635
Local government-owned banks	580	613	639	645	705
Private national banks	3,260	3,385	3,601	3,806	4,160
Joint banks	24	31	45	50	52
Foreign banks	99	94	98	100	103
Total	5,358	5,557	5,838	6,090	6,655
Assets (in trillions of rupiah)					
State commercial banks	78.0	93.3	100.6	104.5	122.6
Local government-owned banks	4.7	5.3	6.5	7.9	9.8
Private national banks	58.5	66.3	88.2	113.8	147.5
Joint banks	5.6	7.5	11.8	14.3	17.9
Foreign banks	7.4	7.5	7.9	9.2	12.3
Total	154.2	180.0	215.1	249.8	310.0

Sources: Bank Indonesia, *Indonesian Financial Statistics*, January 1996; *Report for the Financial Year 1993/94, 1994/95, and 1995/96.*

bank.[3] Banking Act No. 7 of 1992 converted state banks to limited liability companies and permitted them to lend to nonpriority sectors. Despite the imposition of limited liability, which in principle limits the amount of state support available, the Ministry of Finance announced in 1994 that it would not permit a state bank to default on its obligations (Chan, 1995a). In 1995, reserve requirements were raised from 2 percent to 3 percent, effective February 1996. In addition, the minimum capital required for banks with foreign exchange licenses was tripled, and the capital adequacy ratio for these banks was raised from the 8 percent that currently applies to all banks to 12 percent, with both of these measures to be phased in over a five year period ending in 2001. BI has developed a supervisory system patterned on the U.S. CAMEL system (Capital, Asset Quality, Management, Earnings, Liquidity), and undertakes annual on-site examinations of banks. BI remains responsible for bank supervision and regulation, while the Ministry of Finance has authority to grant and revoke bank licenses.

The substantial asset quality problems experienced by banks in the early 1990s were part of the impetus for the tightening of supervision and regulation. These problems appear to have been due to lax lending controls, exacerbated by the effects of a tightening in monetary policy in 1991. The problems of state banks culminated in the rescue in 1995 of Bapindo, which had built-up an overwhelming percentage of nonperforming loans. Earlier, a government program had been set up with the support of the World Bank to recapitalize and restructure the five state commercial banks. Problems among private banks led to the first bank failure in Indonesia in over twenty years, that of Bank Summa in 1992.

Some Indonesian banks continue to be adversely affected by problem loans and reported asset quality continues to be worse at state banks than at private banks. Official figures indicate that classified credits for the banking system as a whole declined from a peak of 14 percent of total loans at end-1993 to 10 percent at end-1995. However, the improving trend of this ratio appears largely due to the continued fast expansion of bank credit. Nonperforming loans comprised about 17 percent of total credits extended by state banks at end-1995, but only 5 percent of private bank credits (Table 6). Private foreign exchange banks (which tend to be the larger private banks) had substantially better asset quality than the smaller, private non-foreign exchange banks (Chan, 1995b; World Bank, 1996).

There are indications that a significant number of banks are undercapitalized and have not yet complied with some important prudential rules, although compliance appears to be improving. According to BI, 15 banks did not meet the required 8 percent capital adequacy ratio in April 1996, down from 21 banks in December 1995, while 41 banks did not comply with the legal lending limit; this was an improvement from the 70 banks in December 1995. Twelve out of the 77 licensed foreign exchange banks did not meet the rules on net open foreign exchange exposure. Private banks have accounted for most violations (Table 7).

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[3]The rule currently limits exposure to an individual borrower to 20 percent of capital and to a single company to 35 percent (20 percent by March 1997). The sum of exposures to all affiliated entities must not exceed 12.5 percent of capital (10 percent after March 1997).

Table 6. Indonesia: Commercial Bank Nonperforming Loans, 1993–95[1]

	1993	1994	1995
	(In percent of total credits)		
All banks			
Nonperforming	14.2	12.1	10.4
Bad[2]	3.3	4.0	3.3
State banks[3]			
Nonperforming	19.8	18.6	16.6
Bad	4.2	5.9	5.3
Private banks			
Total credits	100.0	100.0	100.0
Nonperforming	7.3	5.4	4.9
Bad	2.1	1.9	1.4
	(In trillions of rupiah)		
Memorandum items:			
Total credits	177.5	217.0	267.8
State banks	99.1	104.1	120.9
Private banks	79.8	108.5	141.3

Source: Bank Indonesia, in World Bank (1996b)

[1]End–December.
[2]Bad loans are the lowest quality of three categories of nonperforming loans.
[3]Includes the five state commercial banks, Bapindo, and BTN.

B. The Impact of the Structure of the Banking System on Growth and Efficiency

Poorly capitalized banks tend to make economically suboptimal lending decisions. In the theory of banking, a poorly capitalized bank has an incentive to make riskier loans, if depositors and shareholders expect to get bailed out if the bank fails. Bank shareholders in essence own a put option. If the loan portfolio does well, they gain the proceeds, but if the portfolio does poorly, their losses are limited by the willingness of the authorities to bail out the bank. Without the possibility of a bailout, creditors would demand a higher payout, and market pressure would operate on bank owners to reduce risks. On the other hand, if creditors

Table 7. Indonesia: Number of Banks Not in Compliance with Prudential Rules, 1995

	Total number in category[1]	Capital adequacy ratio[2]	Legal lending limit[2]	Loan-deposit ratio[2]
State banks	7	0	2	1
Private banks	166	18	56	11
Local development banks	27	2	3	0
Foreign and joint-venture banks	40	1	9	6
Total	240	21	70	18

Source: Bank Indonesia, reported in "Banks Suffer US$4.5 Billion in Bad Loans," *Indonesian Observer*, January 26, 1996; and *Report of the Financial Year 1994/95*.

[1]End–March.
[2]End–October.

expect to get bailed out, bank owners do not face this market pressure. Bank owners maximize the expected value in their put option by choosing a portfolio with high risk.

The consequence of a system with a number of banks that operate with low capital is that the economy will end up selecting production technologies that are riskier than optimal, given the expected returns of those projects, and taxpayers consequently bear more risk than optimal. The level of problem loans suggests that not only undercapitalized banks may have been making poor lending decisions. The ownership structure of Indonesian banks also influences the efficiency of asset allocation. State banks may not be required to make lending decisions on a commercial basis and, although direct information on this does not seem to be available, it is clear that problem loan ratios are much higher at state banks. In addition, many private banks are owned by affiliates of large corporate groups. There is a risk that they will make lending decisions in the interest of the owners of these groups, rather than those that maximize returns for the banks, and that the legal lending limit is not observed.

Problems in the legal system may also influence bank lending, and steer lending to areas with fewer legal risks rather than towards the highest economic return. The World Bank (1996) has cited difficulties in the use of collateral in Indonesia. Lenders have limited recourse

if a borrower fails to make payments. The bankruptcy law is said to be inadequate, and there is also no adequate framework for restructuring corporations (IBCA, 1995).

A second, broader question regarding efficiency is whether banks are operating as competitive entities. Competition induces marginal cost pricing in both lending and deposit market, and also efficient use of resources to produce banking services. Direct evidence on this issue is absent in Indonesia. In general, however, there appears to be less focus by the authorities on ensuring a level of competition among banks adequate to produce competitive pricing on loans and deposits. The often expressed concern that Indonesia is overbanked presumes that the entire country can be considered a single and frictionless market, but this is not correct for many banking services. For small and medium-sized business lending and for some consumer finance, the local municipal market is the relevant market. These markets often have a small number of players, and relatively high informational barriers to entry on the lending side. For other products, the relevant geographic market is larger, perhaps national or even international, and the likely level of competition is higher. In addition, the current policy curtailing the issue of new banking licenses probably reduces efficiency by restraining entry by new banks that may have more efficient means of producing services. This is especially true of the restrictions on banks with foreign ties. These barriers to entry reduce incentives for existing banks to improve the efficiency of their operations.

C. The Impact of the Structure of the Banking System on Stability

There are two types of actual or potential events that may affect stability. First, destabilizing shocks can originate within the banking system, such as from a bank failure or a credit crunch. Second, the banking system can be part of the propagation mechanism for macroeconomic effects that originate elsewhere, such as aggregate demand or supply shocks, or changes in the exchange rate or international interest rates.

1. Problems originating within the banking system

The insolvency and subsequent failure of an individual bank can have implications both on other banks and on the economy more widely. The systemic risk is that failure of an insolvent bank could create pressure on solvent banks, leading to liquidity problems as deposits are withdrawn. In many countries such generalized problems do not occur because of the presumption that the central bank would act decisively as a lender of last resort to supply liquidity to banks under pressure. This presumption exists in Indonesia. Nonetheless, it is useful to analyze three different factors contributing to such an event: first, the likelihood of banks becoming insolvent; second, the likelihood of a bank, insolvent or not, defaulting on its liabilities; third, the possibility that a bank default would cause other banks to default on their liabilities. In the Indonesian context, there is also the risk that the current measures of bank solvency may be inaccurate, due to inaccurate accounting or reporting of asset quality.

One particular area of recent concern has been the extent of property lending, which grew at an annual rate of 37 percent during 1992–95, compared with 22 percent for total bank

credit. According to BI, bank credits to property developers had reached 17 percent of total credit by September 1995, when the property market in Jakarta was reported facing a glut of unoccupied apartments and to a lesser extent hotels and offices. The risk of banks' indirect exposure through loans to industries related to the property sector, such as those producing construction materials, or loans to other borrowers whose creditworthiness depends on assets that included real estate, has also been cited (Chan, 1995b, and Marriott, 1996). Risk is further created by problems in the legal system that make it difficult for banks to enforce loan contracts, so that borrowers who purchase real estate or other assets may walk away from the loan if their equity value turns negative (Sinclair, 1996).

Another concern is the lack of transparency of balance sheets, meaning the value of bank assets may actually be less than stated. This problem has been raised by international credit agencies (Chan, 1995b), which have stated that the adequacy of bank loan-loss provisioning is difficult to assess. The possibility also exists that some nonperforming loans have been restructured into performing loans, but that these technical restructurings may hide poor quality assets.

The second bank stability issue is the likelihood that banks will default, which depends, in part, on government policy and on the legal system. The support given Lippo Bank also suggests that it depends on the decisions made by other participants in the financial system to maintain stability.[4] To help prevent bank failures, the authorities encourage mergers of weak banks into strong ones, offering a variety of inducements including favorable tax treatments and foreign exchange licenses. Although this policy helps prevent defaults, it implies that some undercapitalized banks remain in business. When coupled with the unreliability of financial reports, this decreases the certainty among creditors that they are dealing with a solvent bank. If confidence in the system were to fall for some exogenous reason, this uncertainty would make the impact greater. In such an event, the authorities would face the decision whether to aid a larger number of banks than would otherwise be the case.

The third risk, that a bank failure could prove contagious and induce runs on other banks, remains hypothetical for Indonesia. Bank failures so far, including that of Bank Summa, did not result in runs on other banks. The response to the risk of such a situation, which could have damaging economic consequences, is to maintain confidence in banks, through strong capitalization and a high level of transparency of bank balance sheets. In addition, one of BI's justifications for its policy of merging troubled banks has been the potential effect of a bank failure on other banks.

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[4]In late 1995, Bank Lippo was hit by rumors of real estate losses in the Lippo corporate group. Although the bank reportedly was well capitalized, investors withdrew deposits and the bank entered technical default for one day. A group of private banks cooperated to inject liquidity into the bank so that it could meet its obligations (Sinclair, 1996).

2. Problems originating outside the banking system

Macroeconomic shocks, including exchange rate or interest rate shocks, can increase the instability of the banking system, and initial problems can magnify their effects. In principle, BI regulations control bank sensitivity to exchange rate fluctuations by limiting bank net foreign exchange exposure to 25 percent of bank capital. This rule is applied to net on- and off-balance sheet exposures combined and separately to net off-balance sheet exposures. The exposure level specified by the regulation would appear to be low enough to prevent bank insolvency from occurring, but two concerns remain. First, it can be difficult to value bank exposures, especially those related to exchange rate options written by banks. There is little information available on how these derivatives are valued, so exposure may be larger than stated. Second, low net exposures may mask large gross exposures. Many banks have made substantial foreign currency loans, financed by foreign currency deposits. If the rupiah were to depreciate substantially, the rupiah-equivalent obligations of borrowers from the banks could soar, and if this were not offset by an increase in the foreign-currency resources available to these borrowers, defaults could occur.

Aggregate foreign exchange liabilities of Indonesian banks have grown rapidly in recent years and were 271 percent of total commercial bank equity capital by the end of 1994/95 (Table 8). Although total regulatory capital includes debt-based capital in addition to equity capital, the amount of equity capital alone determines a bank's solvency level. Foreign exchange credits of banks were 169 percent of equity capital, so that net on-balance sheet foreign exchange liabilities were 102 percent of equity capital. Any large default on foreign currency loans could therefore quickly begin to erode equity capital. In addition, the separate net open exposure rule for off-balance sheet instruments prevents banks from hedging these exposures through forwards and options.

The degree to which interest rate shocks can harm banks depends on several factors. First, a typical bank borrows on a shorter-term basis than it lends, so that an increase in interest rates squeezes bank margins. BI statistics suggest that a substantial part of bank liabilities are extremely short-term. Second, the degree to which longer term loans are at variable rate affects bank exposure. It is not clear, however, to what extent interest rates on loans are variable in Indonesia. Finally, an increase in interest rates tends to increase nonperforming loans, which creates a negative bank exposure to interest rate increases. Borrowers at variable rates face higher interest payments, while interest rate increases also slow aggregate demand, reducing business profitability and the ability of borrowers—at both fixed and variable rates—to repay loans.

Banks' sensitivity to exchange rate and interest rate shocks can be greater than their assets and liabilities indicate if they have significant off-balance sheet derivative exposures. (It can also be less, if derivatives are used to hedge balance sheet exposures.) BI recently recognized off-balance sheet risks and enacted a regulation that limits bank derivative exposures only to interest rate and exchange rate derivatives, except for case-by-case

Table 8. Indonesia: On-Balance-Sheet Bank Foreign Exchange Exposure, 1990/91–1994/95[1]

	1990/91	1991/92	1992/93	1993/94	1994/95
			(In trillions of rupiah)		
Current foreign exchange liabilities[2]	29.2	31.4	44.7	57.3	62.5
Outstanding foreign exchange credits	12.3	19.3	23.2	30.4	38.9
Equity capital	11.9	10.9	13.4	19.8	23.0
			(In percent)		
Foreign exchange liabilities/ equity capital	246	288	334	289	271
Foreign exchange credits/ equity capital	104	177	173	153	169
Net foreign exchange liabilities/ equity capital	143	111	161	136	102

Source: Calculations by author using data from Bank Indonesia, *Indonesian Financial Statistics*, 1996.

[1]End-March.

[2]Current liabilities comprised 88 percent of total commercial bank liabilities at end-March 1995.

2/ Current liabilities comprised 88 percent of total commercial bank liabililities at end–March 1995.

exceptions granted by BI for equity derivatives, and requires that potential losses from derivatives not exceed 10 percent of bank capital. Such a modest limit would appear appropriate for a banking system that is still in process of developing a reliable supervisory infrastructure. A potential weakness of the rule, however, its that it appears to offer little guidance on how these exposures should be computed. The valuation of derivatives, particularly options, can be difficult and this area requires careful supervision.

IV. Securities Markets

Indonesian securities markets have rapidly developed in recent years as alternatives to bank finance, although the bond market remains relatively small. The main issues in the development of a securities market are the deepening of the markets, including the continued development of market infrastructure, the expansion of the domestic investor base, and the ongoing improvement of regulation and supervision of securities markets.

A. The Continued Development of the Stock Market

Continued progress in the development of market infrastructure and of supervision and regulation will probably contribute to the creation of a vigorous equity market in Indonesia. This is particularly likely if the supply of funds to the market also increases, through development of institutional investors and mutual funds, and if demand from growing enterprises for equity finance persists. The Jakarta Stock Exchange introduced a centralized settlement system for all listed securities in June 1994 (International Finance Corporation, 1995). It introduced the computerized Jakarta Automated Trading System in May 1995, which has already led to much larger trading volumes.

Recent years have seen great progress in stock market regulation, with a new capital markets law and a set of implementing regulations promulgated by Bapepam. The key area for further efforts appears to be in enforcement of these regulations, particularly in areas promoting transparency and fairness, such as insider trading. A transparent and fair market can make a far larger contribution to market liquidity than even large investments in infrastructure. If traders can be assured that their counterparties do not possess privileged information on the value of the security traded, these traders will more readily supply the counterparties with bids or offers at a narrow spread.

Better disclosure by corporations of their financial condition also promotes market transparency. In an important move, Bapepam (the capital market supervisory agency) and the Indonesian Accounting Institute implemented new accounting standards at the end of 1994, bringing financial accounting close to international standards, which helps international investors to evaluate their Indonesian exposures. Nonetheless, concerns remain among investors about the fairness of corporate disclosure, with poor auditing controls and with information leaking out to some parties before it reaches others (Montagnon, 1996). Continued monitoring of the production and release of financial information by enterprises is

important to ensure that it is compiled promptly and accurately and disclosed publicly and fairly.

A deeper and more transparent stock market is, other things being equal, likely also to be a less volatile stock market. However, to the extent that a deeper market depends on international investors, volatility may actually increase as spillovers from other markets intensify. Volatility of stock prices on the Jakarta Stock Exchange (Table 9) was low until December 1988, when the market was opened to international investors, who soon dominated trading.[5] The market was also less volatile relative to the U.S. market, chiefly because the crash in U.S. stock prices in October 1987 did not spillover into Indonesia. Since the opening of the Indonesian market in December 1988, it has been somewhat more volatile than the U.S. market. However, the growing liquidity of the Indonesian market in recent years helps explain why its absolute and relative volatility fell in 1993–96.

Table 9. Indonesia and the United States: Daily Market Index Return Volatility, April 1986–July 1996

Period	Absolute Volatility[1]	Relative Volatility[2]
April 1986–December 1988	**2.58**	**1.77**
April 1986–November 1988	0.72	0.49
December 1988	13.11	23.41
January 1989–July 1996	**1.30**	**1.78**
January 1989–December 1992	1.58	1.86
January 1993–July 1996	0.84	1.47

Source: Bloomberg.

[1]Standard deviation of daily returns of Jakarta Composite Index (in rupiah).
[2]Absolute volatility divided by standard deviations of daily returns of Standard and Poor's 500 Index (in dollars).

[5]This is the same measure used by Folkerts-Landau et al. (1995) to analyze volatility in Hong Kong, Korea, Thailand, and Mexico.

The flow of foreign investment in the stock market has expanded over time. For example, available data on net investment by U.S.-based investors in the Indonesian stock market show that there was almost no foreign investment before 1990. Investment then increased rapidly and reached a peak in 1994. Thus foreign portfolio investment was associated first with an increase in stock price volatility, in the early 1990s, and then a fall in volatility from 1993 onward. The finding that volatility fell from 1993 on calls into question the finding by Roll (1995), based on data running only through 1992, that foreign investment contributed to an increase in Indonesian stock market volatility.

In order to examine the linkages between international and Indonesian stock market volatility, following Folkerts-Landau et al. (1995), squared Indonesian daily stock returns were regressed on the previous day's squared U.S. stock return (Table 10). The results of this analysis are striking. U.S. volatility has no effect on Indonesian volatility before 1993. For the period 1993–96, there is a strong linkage. Taken together, these results suggest that although internationalization has had mixed effects on the volatility of the stock market, foreign portfolio investment has increased the linkages in price movements between Indonesian and foreign stock markets.

Table 10. Indonesia and the United States: Volatility Spillover Analysis, April 1986–July 1996

Period	Spillover Coefficient[1]
April 1986-December 1988	**-0.04**
April 1986-November 1988	0.00
January 1989-July 1996	**0.17**
January 1989-December 1992	0.02
January 1993-July 1996	0.71*

Source: Bloomberg.

[1]Coefficient represents regression coefficient of squared daily return of Jakarta Composite Index (in rupiah) on squared daily return on the preceding day of the Standard and Poor's 500 Index (in dollars). A constant was also included in the regression. * denotes significance at the 1 percent level. Other coefficients are insignificant at the 10 percent level. Data are from Bloomberg.

Two other issues will be important for the Indonesian stock market. First, with the rapid development of Southeast Asian economies, it will remain in competition with other stock markets in the region, including those in Malaysia, Singapore, and Thailand. As the technology and regulatory environment of these markets advance, the role for offshore trading will increase. On economic efficiency grounds, it is not desirable in the medium-term to force trading in Indonesian securities to remain solely in Jakarta. Instead, the creation of a market that is appealing to international investors will also benefit domestic investors, whom the authorities wish to attract to the market. Increased supervisory cooperation with financial regulators in neighboring countries will also be necessary.

Secondly, the development of stock market derivative products, such as futures and options, can help provide liquidity and aid in the process by which new information is incorporated into stock prices. However, such markets require assurances that brokerage firms and investors have the capability to deal with the risk inherent in these instruments. While derivatives merely repackage risk, they make it easier for investors to take leveraged and potentially explosive risk positions. The supervision and regulation of Indonesian financial markets do not appear to have reached the stage where many such products can be handled safely. This applies to the development of both exchange-traded and over-the-counter products, although with Bapepam's approval of the first warrant issue in mid-1995 (Yu, 1995), one equity derivative market has been initiated.

B. The Development of a Domestic Bond Market

The small size of the bond market in Indonesia relative to other countries appears to be due to two factors. First, the legal environment for enforcing debt contracts is relatively weak. Secondly, there is a paucity of institutional investors, which reduces demand.

Difficulties with the legal system result in a bond market in which most issues are over-collateralized. Firms cannot issue bonds for general uses, but must earmark them for particular projects. The weakness of laws protecting collateral and governing corporate bankruptcy make even collateralized bonds risky and costly. To the extent that bonds are not collateralized, they are de facto required to have a guarantor, usually a state bank. Bonds therefore are indirectly obligations of a bank as well. Banks are more likely than a diffuse set of bondholders to succeed in collecting problem debts and to be in a position to evaluate the risk, although a new rule requiring bonds to be rated by the domestic credit rating agency Pefindo may reduce this advantage. For the bond market to grow, the legal system must reach the point where the abilities of creditors to protect their claims are strengthened.

Inflation also inhibits the issuance of long-term bonds. International evidence suggests that higher inflation tends to accompany more variable inflation, which in turn inhibits the issuance of long-term fixed rate bonds, because their real value is subject to great uncertainty. In fact, in recent years, almost all bond issues have carried floating interest rates, which reduce exposure to inflation down to a level similar to the exposure of short-term debt instruments.

The popularity of fixed-rate bonds in some countries suggests that such bonds could be useful in Indonesian finance.

The Indonesian government currently issues no bonds in the domestic market because of its balanced budget rule. For the government to issue bonds of sufficiently large size to serve as liquid benchmarks, the amount of borrowing would have to be relatively large. Since this would raise domestic real interest rates and crowd out private borrowers, the development of a government bond market is therefore probably not desirable as a means to foster a corporate bond market. Instead, as suggested in IPAF (1995), state enterprise bonds, which currently dominate the bond market, could be used as benchmarks. Indonesia could borrow a technique used for government bond markets in other countries (see International Monetary Fund, 1994) and concentrate state enterprise bond issues into a smaller number of large issues, which could help to develop a secondary market.

Current developments are likely to augment the liquidity of the secondary market in bonds, which now suffers from low trading volume (PT Sigma Batara, 1995). The introduction of a centralized clearing and settlement agency for stocks, due to be extended to listed bonds, may reduce the cost of settling secondary market trades. Bond trades currently require the risky and costly physical delivery of bearer bonds. In addition, the Over-the-Counter Exchange has developed an on-line information system to disseminate bid and offer prices to all market participants. Plans exist to extend this to screen-based trading.

C. The Development of Nonbank Financial Intermediaries

A key contributor to the growth of securities markets is the development of institutional investors—mutual funds, insurance companies, and pension funds—to channel individual savings into them. These institutions can be efficient mechanisms for individuals to pool and repackage the risks of securities markets and to reduce transaction costs, thereby assisting in the provision of equity and long-term debt finance to the economy.

The role of domestic institutional investors remains small. Mutual funds have been introduced only very recently, with the first closed-end fund starting operation in October 1995.[6] Other closed-end and open-ended funds have applied to Bapepam for approval. A new set of regulations drawn up by Bapepam in May 1996 permits funds to invest a maximum of 85 percent of net assets in the stock market, and also specifies procedures for portfolio valuation and financial reporting by funds. Regulations were also changed to eliminate the double taxation of mutual funds. For funds to operate properly and to provide

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[6]A closed-end fund has a fixed number of shares and is funded by a one-time offer of shares to the public. In contrast, an open-end fund has a variable number of shares, and permits new share purchases and redemptions at the current net asset value of the fund, which normally is computed daily. Shares in closed-end funds are traded on a stock exchange at a price that may be either a premium or a discount to the net asset value of the fund.

income to investors that is equivalent to income received from direct securities holdings, funds must be able to pass through all income to shareholders on a before-tax basis.

Although Indonesia has made some progress in developing pension funds, existing funds now invest 85 percent of their assets in bank deposits (Yu, 1995). Pension funds can be separated into those sponsored by employers and those linked to the government, including a fund for civil-service pensions. A previous regulatory limit on the investment of employer-sponsored plans in securities markets has been lifted, although there continue to be ceilings on property investment, individual exposure limits, and limits on self-investment. A key issue for pension funds is the encouragement of investment in securities markets. The high real returns and relative security available in rupiah-denominated bank deposits have been cited as a reason for the low investment in securities.

V. Conclusion

This paper has examined policy issues raised by the continued development of Indonesian financial markets. In the banking area, key issues are the resolution of problem banks, continued improvement of supervision and regulation, and maintenance of a competitive and efficient market structure. In securities markets, the main issues are the deepening of markets and the development of a domestic investor base, and the further enhancement of supervision and regulation of markets.

The resolution of problem banks remains a crucial priority. The efficiency losses and the risks to stability of permitting undercapitalized banks to continue operation are both clear and potentially large. The present policy of encouraging mergers does not seem to be solving the problem fast enough. While there are risks in liquidation, these can be minimized if liquidation is undertaken in an environment of predictability and certainty. To create such an environment, shortcomings in the regulatory framework for closing banks would have to be overcome. A credible liquidation policy could also induce banks to undertake efforts to improve their capital adequacy by making closure a more credible threat.

The second important issue is the improvement of the supervision and regulation of banks. This remains critical despite considerable progress in this area during the 1990s. Despite some exceptions noted above, bank supervision is now more of a concern than regulation. In other words, it is important to ensure that the regulations are enforced. The rapid expansion of bank real estate exposure is an example of an area that brings attention to the need for adequate raises concerns over bank supervision. A related issue is the adequacy of information flowing from banks to bank supervisors and to the public; it is not clear how reliable are reported figures on bank capital adequacy and asset quality.

The third major banking issue is the structure of banking markets. First, it is important that a sufficient degree of competition among banks is encouraged, through the identification and analysis of banking markets. Second, the eventual privatization of state banks may reduce inefficiencies, and the authorities have indicated their intention to begin the partial

privatization of a state bank in the near future. They have not, however, announced any intent to renounce state majority ownership in state banks.

In securities markets, and particularly in the stock market, much progress has been made in a short span of time. Nevertheless, a clear next step on the agenda should be to deepen these markets. There is both a demand side and a supply side to this deepening. The demand for securities can most effectively be expanded by increasing the size and number of domestic institutional investors, and in the case of insurance companies and pension funds, by creating the conditions under which they shift the allocation of assets more toward securities markets. The supply of securities can be increased if entrepreneurs can be convinced of the benefits in terms of access to new capital of surrendering majority control of their firms by selling more of their stock on public issues. The continued privatization of state enterprises would also increase supply. In addition to these measures, the bond market could benefit from improvements in the legal environment for debt contracts.

As a final issue, the improvement of supervision and regulation of securities markets is clearly underway. In order for securities finance to provide a reliable alternative to bank and self finance, it is essential that this process continue. In particular, the development of methods to enforce already existing regulations, particularly regarding disclosure and insider trading, will help ensure that markets become more transparent and liquid.

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bank.[3] Banking Act No. 7 of 1992 converted state banks to limited liability companies and permitted them to lend to nonpriority sectors. Despite the imposition of limited liability, which in principle limits the amount of state support available, the Ministry of Finance announced in 1994 that it would not permit a state bank to default on its obligations (Chan, 1995a). In 1995, reserve requirements were raised from 2 percent to 3 percent, effective February 1996. In addition, the minimum capital required for banks with foreign exchange licenses was tripled, and the capital adequacy ratio for these banks was raised from the 8 percent that currently applies to all banks to 12 percent, with both of these measures to be phased in over a five year period ending in 2001. BI has developed a supervisory system patterned on the U.S. CAMEL system (Capital, Asset Quality, Management, Earnings, Liquidity), and undertakes annual on-site examinations of banks. BI remains responsible for bank supervision and regulation, while the Ministry of Finance has authority to grant and revoke bank licenses.

The substantial asset quality problems experienced by banks in the early 1990s were part of the impetus for the tightening of supervision and regulation. These problems appear to have been due to lax lending controls, exacerbated by the effects of a tightening in monetary policy in 1991. The problems of state banks culminated in the rescue in 1995 of Bapindo, which had built-up an overwhelming percentage of nonperforming loans. Earlier, a government program had been set up with the support of the World Bank to recapitalize and restructure the five state commercial banks. Problems among private banks led to the first bank failure in Indonesia in over twenty years, that of Bank Summa in 1992.

Some Indonesian banks continue to be adversely affected by problem loans and reported asset quality continues to be worse at state banks than at private banks. Official figures indicate that classified credits for the banking system as a whole declined from a peak of 14 percent of total loans at end-1993 to 10 percent at end-1995. However, the improving trend of this ratio appears largely due to the continued fast expansion of bank credit. Nonperforming loans comprised about 17 percent of total credits extended by state banks at end-1995, but only 5 percent of private bank credits (Table 6). Private foreign exchange banks (which tend to be the larger private banks) had substantially better asset quality than the smaller, private non-foreign exchange banks (Chan, 1995b; World Bank, 1996).

There are indications that a significant number of banks are undercapitalized and have not yet complied with some important prudential rules, although compliance appears to be improving. According to BI, 15 banks did not meet the required 8 percent capital adequacy ratio in April 1996, down from 21 banks in December 1995, while 41 banks did not comply with the legal lending limit; this was an improvement from the 70 banks in December 1995. Twelve out of the 77 licensed foreign exchange banks did not meet the rules on net open foreign exchange exposure. Private banks have accounted for most violations (Table 7).

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[3]The rule currently limits exposure to an individual borrower to 20 percent of capital and to a single company to 35 percent (20 percent by March 1997). The sum of exposures to all affiliated entities must not exceed 12.5 percent of capital (10 percent after March 1997).