THE JAKARTA
SECURITIES
EXCHANGE

A DESIGN FOR A MODERN SECURITIES MARKET

Price Waterhouse
International Consulting Services
Washington, D. C.
Financial Markets Project
September 1991

Price Waterhouse
OGS—WASHINGTON, D.C.–U.S.A.

INDONESIA FINANCIAL MARKETS PROJECT
MINISTRY OF FINANCE

September 1991

Bapak Marzuki Usman, SE
Ketua BAPEPAM
Jalan Medan Merdeka Selatan 14
Jakarta

Dear Bapak Marzuki,

We are submitting herewith, as per your request, our report entitled "The Jakarta Securities Exchange -- A Design for a Modern Securities Market". This report is a result of our task of providing technical assistance and support to the Ministry of Finance and BAPEPAM, as well as to securities exchange promoters and managers and broker-dealers, in the selection and design of an appropriate operational plan for securities markets in Indonesia. This task is a component of the Financial Markets Project, as contracted between the Ministry of Finance and the Price Waterhouse Office of Government Services in Washington, D.C., supported by a grant from the United States Agency for International Development.

Studies leading to this report began in July 1990. These studies have involved many consultations with a great number of people in Indonesia and abroad, as well as research activities in several countries. Persons consulted include BAPEPAM officials, broker-dealers, security systems specialists, legal experts, experts in international settlement, hardware and software vendors, operations and systems experts, bankers and financiers, and representatives of securities exchanges and depositories, both domestic and foreign.

A great volume of information and suggestions from many people regarding actual problems, constraints, customs, practices, and client needs have been discussed, analyzed, and incorporated in the evolving design. An automated trading system of the type described was set up and tested by a large number of brokers and traders currently operating on the Jakarta Exchange. During the design process we have, at your suggestion, constantly sought feedback from market participants.

Estimates regarding time and cost are based on discussions with a number of reputable vendors, but are contingent upon the details of the system acquired, the vendors selected, and skill in negotiating and managing the implementation contracts.

This report is intended to assist future members and managers of the Jakarta Securities Exchange, as well as members of a possible National Market System, in understanding the complex set of technical issues involved in modern securities market design. The report presents what we consider to be, after extensive consultation with market participants, an economic and practical means of achieving quality exchange services that will contribute to the growth of the Indonesian capital market.

This report is also intended to serve as an instrument in the process of obtaining consensus from exchange members, and in discussing implementation with vendors. Many of the details in this design could be modified without substantially affecting the outcome in terms of cost, implementation time, or efficiency. Other changes, however, could result in increased cost and implementation time.

Within the scope of the Financial Markets Project, we remain at the disposition of BAPEPAM and other government officials, exchange promoters, managers and members, and other market participants to receive additional feedback, as well as to provide further assistance and clarification regarding the content of this report.

As per your request, copies of this report will be made available to broker-dealers, exchange promoters and managers, and other market participants. We encourage market participants who wish to contact Price Waterhouse about this study to do so. Such feedback and discussions will be brought to your attention. Interested parties should contact the Financial Markets Project at the Department of Finance, Gedung Silawangi B, Room 804, Jl. Dr. Wahidin 1, Jakarta, to the attention of Mr. John Schroy of Price Waterhouse.

In closing, we would like to thank the many persons who have devoted their time, without remuneration, to advising us on highly technical matters, including eminent lawyers, systems specialists, and market participants. The design contained in this report focuses on creating and developing a strong capital market in Indonesia by forming an exchange system that builds on past success here, meets the highest world standards, makes commercial sense, and attends to the needs of investors.

Sincerely,

John Schroy

John Schroy
Securities Market Design Activity
International Consulting Services
Office of Government Services
Price Waterhouse, Washington D.C.

Contents

Contents

Summary

Development of the Indonesian capital market will be profoundly influenced by the operational methods chosen by securities exchanges and broker-dealers. This report describes an operational plan that is compatible with the rapid and safe growth of the market, and that requires only modest investment by individual brokers, while greatly reducing overhead expense. If properly managed, the recommended system can be fully operational in one year and allows access to all brokers who meet the capital requirements set in the Capital Market Decrees of 1990. This plan is primarily designed for the Jakarta Securities Exchange, but a similar operation could be adopted by regional exchanges by joining a National Market System. This plan may be summarized in the following eight recommendations:

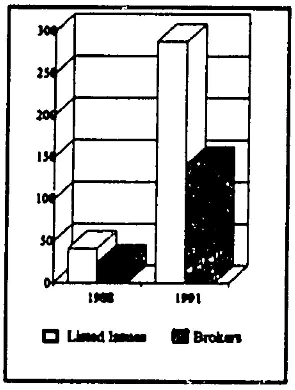
1. *Order-book based automated trading (OBBAT);*
2. *Automatic verification of funds and securities, prior to acceptance of orders;*
3. *Guaranteed, final settlement on Day T between brokers, in same day funds, with provisions for financing of flexible deferred settlement terms between clients and brokers;*
4. *Fully integrated, automated trading, settlement, and back-office services;*
5. *Free centralized custody for dematerialized securities, with book-entry settlement and automated security account administration, to be offered without charge to investors and market participants, financed by transaction fees;*
6. *Implementation and management of automated systems by a service company, under contract, with provisions for international technology transfer and performance guarantees;*
7. *Links with international markets through international bank-custodians, adopting the recommendations of the Group of Thirty, but without formal CSD links or cross-listing;*
8. *Settlement elsewhere within Indonesia through branches of custodian banks, with invitations to members of regional exchanges to join a National Market System.*

Although using advanced technology and modern exchange procedures, this system is actually simpler, quicker, and less expensive to implement than manual procedures or semi-integrated, partially-automated methods, if the entire market structure is considered. Centralization, automation, and simplification reduce capital requirements and overhead. Within one year from the start of correctly managed implementation, all brokers should be able to offer services that are internationally competitive.

This proposal takes into consideration the existing legal environment, communication and power facilities, and current broker skills in Indonesia, as well as the need to interface effectively with international markets. These improvements may be financed entirely by vendors, the sale of shares of the private Jakarta Securities Exchange, and income from transaction fees. Current brokers need not invest more than ten percent of the minimum capital required by the CMD in acquiring one share of the exchange capitalization, and in return should receive one terminal and full access to the system. Due to the elimination of settlement risks, there will be no need to place funds in guarantee with a clearing institution.

This design is intended to strengthen the competitive position of Indonesian broker-dealers, permitting even small firms to compete effectively and safely in the international market in a relatively short time and without excessive investment. At the same time, the system is sufficiently flexible to permit larger firms and international joint-ventures to offer more reliable and effective service with respect to Indonesian securities. The system also permits settlement and transaction credit procedures that are tailored to different customs in different markets. The primary goal of this design is to increase market liquidity by reducing transaction turn-around time and cost. It will do this by eliminating settlement risks that are outside the control of individual brokers and by encouraging the participation of many broker firms in the process of creating a strong domestic marketing network.

Introduction



The Jakarta Market grew six-fold between 1988 and 1991.

The explosive growth of the Indonesian capital market during 1989 and 1990 was indicative of increased internationalization of institutional portfolio investments during the eighties. A great volume of funds was drawn to Indonesia by opening the market to foreign institutions at a time when they were seeking investment opportunities in favorable economic and political climates.

A series of deregulatory actions during 1987 and 1988 triggered extremely fast growth. The number of companies listed on the Jakarta Securities Exchange increased from 24 in 1988 to 142 in 1991. The number of licensed broker-dealers jumped from 41 to 288 in the same period. The speed of market development overtook the capacity and preparedness of the institutions. By mid-1990, operational problems such as delayed settlement, illiquid markets, transfer backlogs, lost and stolen certificates, and broker defaults were evident.

In order to strengthen market institutions and protect investors, the government issued the Capital Market Decrees of 1990 (Presidential Decree No.53 and Minister of Finance Decree No. KMK/1548/90) establishing the Capital Market Supervisory Agency, defining its structure and responsibilities, and calling for the privatization of securities exchanges, self-regulation by market participants, and redefinition of the role of securities companies.

The Positive Legacy of 1989-1990

Despite problems of rapid growth, the period 1989-90 left a positive legacy. If utilized properly, these gains can lead to the Indonesian market becoming one of the most important in Southeast Asia. Gains from the 1989-90 period include:

- the distribution of enough investment grade securities on which to build a trading market,
- the entrance of talented individuals into the securities business;
- the establishment of a modern regulatory framework.

The immediate challenge is to eliminate accumulated settlement and transfer problems and to create an efficient and liquid market for securities now listed. Unless back-office problems are resolved and operational overhead reduced, brokers will leave the business and the gains of 1989-90 will slip away. Without liquidity, investor interest will diminish. Issuers will refrain from offering securities at prices which they believe are too low. Thus, an efficient exchange mechanism is essential for the Indonesian market to attain its potential.

The Jakarta Securities Exchange

The Jakarta Securities Exchange (the JSE) is an organized securities market that is currently managed by BAPEPAM, under the supervision of the Ministry of Finance of the Government of Indonesia. The staff of the exchange is made up of government employees. Management of operations is subject to government rules regarding budgeting, personnel, and finances.

Members of the current JSE are broker-dealers who have been licensed by the Ministry of Finance and who are allowed by BAPEPAM to have access to the trading floor. Members have no proprietary interest in the exchange administered by BAPEPAM, although they have contributed to the acquisition of certain equipment and installations.

The JSE generates a substantial cash flow from listing and transaction fees. These fees are now paid to the National Treasury, except for some listing fees granted to the Surabaya Securities Exchange as a subsidy. Members of the BAPEPAM administered exchange have no claim upon this income.

Reorganizing the Exchange

The Capital Market Decree of 1990 (the CMD) stipulates that BAPEPAM will continue to manage the Jakarta Exchange until a private securities exchange is organized in the city of Jakarta and until arrangements can be made for an orderly transfer of business and membership. Article 220 of the CMD requires issuers whose securities are now listed on the JSE to relist on a private exchange. There is no stipulation as to which private exchange such listing must be directed, nor the amount of transaction and listing fees. These fees may be set by the private exchanges, in open competition, subject to BAPEPAM approval.

The CMD does not limit the number of exchanges which may be licensed. The Decree implies that at least two exchange might be licensed (the JSE and the Bursa Parallel) in addition to regional exchanges. Modern securities market technology makes it feasible for private exchanges in Medan, Surabaya, Semarang, and other cities to compete with Jakarta on the basis of services provided, efficiency, liquidity, and cost. If there are multiple exchanges, issuers may choose what they believe to be the best market on which to list their securities.

On the other hand, it is possible and desirable that a single national marketplace develop. Current technology permits consolidation of regional exchanges, the Bursa Parallel, and the Jakarta Exchange into a single, efficient market, providing equal access to all broker-dealers throughout the country.

The First Step: A Business Plan

Licensing of the new private exchanges is conditioned upon submission of a three-year business plan (both financial and operational) that demonstrates:

- the integrity and competence of the applicants;
- the soundness of their plans;
- the prospects for a fair, broad, and orderly market; and
- the need for the proposed securities exchange.

This report presents an operational plan for a private securities exchange operating in the city of Jakarta. It assumes that a reasonable number of members will join as long as the required investment is less than ten percent of the capital required for broker-dealers under the CMD. This exchange could be called the Jakarta Securities Exchange or the Indonesian Securities Exchange, depending upon whether its membership is primarily local or national.

A modern exchange with competitive transaction costs should permit reasonable financial returns with respect to the capital required of broker-dealers.

The CMD requires private stock exchanges to have a minimum paid-up capital of Rp. 7.5 billion and to allow membership of at least 200 persons, each with one share (i.e., Rp. 37.5 million per share). (Private exchanges could be initially organized with only 25 members, in which case shares would need to be priced at Rp. 300 million each, but this would be contrary to the interest of developing an open exchange.) By referring to an "orderly transfer of membership" and by prohibiting an exchange from limiting its shares to fewer than two hundred, the CMD indicates the intention of encouraging current members to become licensed securities companies and to join the private exchange.

Early Automation: A Business Opportunity

A new securities exchange in an emerging market has an unusual opportunity to create a highly efficient, competitive market. However, unless this opportunity is seized quickly, brokerage firms will have to make substantial proprietary investments in decentralized systems in order to stay in business. Eventually, the vested interests of brokers in their own systems become so large that modernization of the market is impeded. This is the case in older markets such as the New York Stock Exchange.

Because the capital market in Indonesia is new and without substantial investments in computer hardware and software, it is possible to design an exchange that meets the needs of both domestic and foreign investors, and that presents a flexible interface to different intermediaries in a number of countries, while assuring settlement discipline and low transaction cost.

Exchange Membership: How Many Should Join?

In successful capital markets, the number of participants is usually determined by market forces. The number of brokers, dealers, and other institutions should not be arbitrarily restricted. A business strategy encouraging participation by many reputable broker-dealers is in the interest of all members since many intermediaries are required to develop a capital market in a country as large as Indonesia.

There are 6,148 broker-dealers in the United States (NASD membership), roughly one for every 40,000 persons, with 438,701 registered representatives and 29,235 branch offices (i.e., one office for every 8,600 persons). In comparison, there are more than 250 licensed broker-dealers in Indonesia, about one for every 780,000 persons. In Brazil, another developing country with demographics somewhat comparable to Indonesia, there are about 800,000 persons per broker-dealer. A membership of 200 or more brokers appears reasonable in the Indonesian environment, based on the current levels of participation, the size of the population, and the potential for growth. The exact number should be determined by the market.

In the interests of market development, reputable broker-dealers who can meet the capital and other requirements for securities companies should be encouraged to join the JSE. The market for broker-dealer services in Indonesia is growing and the appropriate size of the membership is not determined by today's volume but rather by the future market and the willingness of securities firms to invest in the business.

Exchange Membership and Market Growth

Exchanges that restrict membership often lose market share. Capital markets in Paris, Portugal, and Brazil were held back for decades by systems of "official brokers," which limited access to the exchange.

Securities exchanges have both domestic and foreign competitors. Competitors include other forms of investment as well as other exchanges. Exchanges in

- 6

New York have been slow to automate fully. Competing markets, such as NASDAQ, have captured an increasing percentage of their business. In 1976, volume on NASDAQ was only 31% of that of NYSE volume; by 1989 its relative position had grown to 76%. The New York market has also lost business to London, Japan, and Amsterdam.

In the early part of this century, limited membership on the NYSE encouraged the formation of the American Stock Exchange, which now has 25% of the combined listings.

How Exchanges Attract Membership

Broker-dealers often may choose whether to join a particular exchange or not. Membership is encouraged when:

- *operational overhead, variable costs, and broker-dealer capital requirements afford a reasonable return on investment;*
- brokerage systems are easily-learned, user-friendly, and error resistant;
- trading is demonstratively fair and efficient, without favoritism;
- broker-dealers are free to concentrate on trading, marketing, new product development, and investment research, rather than the back-office and settlement;
- there are no arbitrary barriers to membership (e.g., restrictions on the number, excessive capital requirements, exclusionary pricing of exchange "seats", and junior broker classes).

Because increased liquidity benefits all intermediaries by making investment products more attractive, and because open participation in the market promotes liquidity, it is in the interest of the exchange community, investors, and the Indonesian economy that enough qualified, reputable intermediaries enter the business and help build a strong, diversified market. The economic potential of Indonesia is so great that if exchange members focus on developing new markets and investment products and on increasing the investor population, it will take decades before the market for their services becomes saturated.

Competing for Exchange Business

A modern system, such as described in this report, may be installed in any one of several regional centers in Indonesia, besides Jakarta. The nature of modern securities markets and communication technology has changed the basis for competition for exchange business. The Jakarta Exchange should capitalize on its present opportunity to create a National Market System and proceed quickly to create an automated exchange, lest other exchanges fragment the market. Exchanges face various types of competition:

- competition from domestic exchanges for listings;
- competition from foreign securities exchanges for trading volume, by listing Indonesian securities;
- competition in the form of off-exchange trading in secondary markets overseas, among investors operating through nominee accounts.

The best strategy to meet such competition is to build a highly efficient marketplace that overcomes competitors in terms of liquidity and transaction cost.

Building a National Market System

Regional securities exchanges have often arisen primarily due to the lack of efficient communications systems or the need to create liquidity for regional issues. Today, as telecommunication becomes ever more effective, there is a worldwide trend for markets to become linked. In the United States, the Securities Acts Amendments of 1975 directed the SEC to "facilitate the establishment of a national market system for securities." Communication and automation technology is advancing so fast that exchanges which fail to modernize are losing business. It would be a reasonable business policy for the Jakarta Exchange to invite broker-dealers and issuers throughout the country to join a single national market system. Policies which serve this goal include:

- quick and effective implementation of an efficient trading, settlement, and back-office system;
- encouragement for all reputable broker-dealers to obtain membership by not setting the price of "seats" higher than economically justified;

9

- development of programs for regional exchanges to combine operations with the Jakarta exchange.

The exchange with the lowest transaction costs, reliable settlement, and the most liquid market will have a competitive advantage.

The Goal: Creating a Liquid Market

Liquidity refers to the ability of investors to buy and sell securities quickly, with minimum effect on prevailing, competitively established prices. Liquidity depends upon the number of active investors, their pattern of trading, the effectiveness of "market makers", and the operational efficiency of the market.

Liquidity may be as important to the investment merits of a security as the financial results of the issuer. Without liquidity, shareholders may pay far less for an issue or avoid it entirely. *Providing a liquid and efficient secondary market is the major function of a securities exchange.*

The primary requirement for liquidity is an adequate distribution of the issue among investors. The more investors, the more likely it is that someone will buy or sell the security at a given time. The type of investors holding the security is also important. A security held by 100,000 investors who change positions once every two years is likely to be traded by 200 persons per day. However, another security held by only 5,000 active traders might generate the same movement. The more varied and active the exchange membership, the more diverse their clientele and the more active the market. Exchange management can promote liquidity by policies which:

- increase the number of active investors, by making it economical for brokers to deal with retail clients;
- increase the diversity of investors by encouraging membership by many broker-dealers, each with a special market niche and clientele;
- reduce transaction turn-around time and cost by short settlement periods and automation;

The operational system of an exchange is a major factor in determining the liquidity of securities listed and the efficiency of the market. Traders who are able to buy and sell with same-day settlement and minimum transaction costs will develop a far more liquid market than traders on an exchange which offers settlement on day T+4, with numerous fails.

Making Markets Efficient

A market is "efficient" when investors' collective evaluation of the merits of an issue are quickly reflected in prices with minimum distortion caused by transaction costs and other factors. Efficient markets are fostered by "full disclosure"

10

of relevant information about each security, centralized matching of bids and offers, and low cost dissemination of market information.

Most securities are a reasonable investment at some price to some investor. To determine this price and to find the right investor, intermediaries are needed to identify opportunities and to get this information to buyers. Automated quotation systems and computerized order-matching help in this regard.

Market makers (i.e., professionals who make a business of buying and selling a particular security) exist in most active markets. Some are formally appointed, but most are simply in the business of dealing in a specific security. An open-book, automated trading system allows all brokers, large and small, to trade in the market on an equal basis. Any broker can specialize in trading for his own account by doing research on an issue, studying its market, and buying and selling to take advantage of gaps in liquidity.

Building an International Market

The rapid growth of the Indonesian market in the years 1989-90 was clearly a result of the activities of international institutional investors that followed government deregulation. However, as settlement difficulties and the lack of liquidity became evident, enthusiasm cooled. The long-term success of the market depends upon maintaining and increasing international interest while developing a domestic investment marketing network.

International portfolio investment in the Indonesian market is routed through different countries. Intermediaries that handle the transmission of orders to Jakarta are accustomed to a variety of trading and settlement procedures, often based on legal and business practices that are incompatible. When these different practices come together in an emerging market, problems arise. Some markets through which transactions are directed lack settlement discipline and transmit such attitudes to the Indonesian market.

In today's major financial centers, there is great interest in coordinating market interaction between countries. There is wide support for building international links such as the cooperative effort of the International Society of Securities Administrators (ISSA), the Group of Thirty, the Federation Internationale des Bourses de Valeurs (FIBV), and securities market working groups of the European Economic Community.

There are also exchanges which grow by attracting listings from other markets. Cross-listing of foreign shares is an important characteristic of exchange such as Singapore, Amsterdam, Frankfurt, Luxembourg, and Basle, all of which had more than 40% of listings from abroad in 1987. About one-fourth of the shares on the London and New Zealand markets were foreign cross-listings in the same year.

Special Needs of Foreign Clients

International participation is subject to restrictions on the percentage of the shares of Indonesian companies which may be owned by foreigners. This calls for effective administrative procedures to monitor compliance, while assuring investors that legitimate trades will not be rejected by the issuer.

Furthermore, new issues must be distributed to domestic investors as well as foreigners to maintain this balance. *This is a strong reason for emphasizing domestic retail marketing capabilities, since a point may be reached when the lack of domestic distribution capabilities could impede the underwriting of new issues.*

Relations with Foreign Intermediaries

A broker subject to professional rules and privileges in one market may be only an investor in another. Member brokers are responsible for the efficiency of the exchange to which they belong. Non-member brokers ~~transmit~~ orders from other markets without being subject to the same discipline as members and without commitment to the success of the domestic market.

If the formal settlement period is T+4 days for market professionals, non-member foreign brokers must settle *before* day T+4 for the market to operate properly. If foreign brokers wish to be subject to the same rules and enjoy the same privileges as members, they should join the exchange. Many of the difficulties in settling trades in 1989-90 were the result of poorly defined relationships between custodians, foreign non-member brokers, and members of the exchange.

This report considers the need for long-term, sound relationships between the Indonesian market and international investors. Special attention has been given to:

- legal restrictions on institutional investors in major industrial countries with respect to portfolio investment in foreign markets;
- the way institutional transactions are normally routed to the Indonesian market;
- the time difference, communication delays, and language barriers between major financial centers and Jakarta;
- credit risks, financing, and foreign exchange aspects of international transactions;
- recommendations of the Group of Thirty, ISSA, EEC, and the Federation Internationale des Bourses de Valeurs regarding international settlements;
- Indonesian legal requirements regarding settlement, share transfer and registry, ownership rights, taxation, and the use of securities as collateral.

Comparative Exchange Systems

In considering the design of a new securities exchange, it is natural to refer to the practices in other countries with long established markets. Many of the issues of market design are controversial since some views represent established business interests. We have been careful to consider alternatives.

In preparing these recommendations, we have consulted specialists with experience in many markets, including New York, Chicago, London, Singapore, Tokyo, Hong Kong, Rio de Janeiro, Manila, Nairobi, Sri Lanka, Thailand, Taiwan, Vancouver, Montreal, Sao Paulo, Caracas, Mexico, San Francisco, Frankfurt, Amsterdam, and Kuwait. We have considered recommendations of international associations concerned with improving settlement systems, representing the view of major exchanges, clearing houses, and securities market institutions.

Securities markets are different in each country. Before wide-scale cross-border portfolio investment in the 1980's, these contrasts were less important. International securities trading has been going on for over one hundred years, but markets have catered mainly to domestic investors. Each market has evolved along its own path. Market dissimilarities have become more apparent in the last decade, as exchange barriers have fallen and as countries have attempted to attract international portfolio investment on a large-scale.

This introduction is meant to place the recommendations of this report in context. The market organization recommended for Indonesia is unique. But then, *all* markets are unique. All the practices recommended can be found elsewhere, in the formal or informal systems of other markets. The combination, however, is uniquely designed to meet the needs of the Indonesian market, and to take advantage of technology now available.

Securities markets can be classified by the nature of their leading institutions. The position of banks, custodians, brokers, clearing-houses, and exchanges differs from country to country. Banks play a leading role in Germany, Denmark, the Netherlands, and Switzerland. Brokers dominate the markets of most exchanges, including the large markets of Japan, the United States, the United Kingdom and Canada. Custodians have a significant influence in Hong Kong. Commentaries from different countries reflect the position of the dominant institutions.

About 86% of the capitalization of world securities markets is concentrated in four countries: Japan, USA, Canada, and the United Kingdom (1987). Singapore and Hong Kong (1.2% of world market capitalization in 1987) are

14

important intermediaries in directing funds from larger markets to Indonesia. Brokers dominate the markets which are the principal sources of foreign portfolio investments in Indonesia. The expectations of investors and intermediaries in these client markets should be considered in marketing Indonesian brokerage services internationally. The proposed system strengthens the position of Indonesian broker-dealers substantially, with respect to other international intermediaries, without requiring substantial investment on the part of individual brokerage firms.

Market Regulations and Trade Customs

When comparing securities exchanges, it is important to distinguish between market practices of intermediaries and the formal regulations of exchanges and clearing houses. The contracts and customs which govern relations between clients and intermediaries are as important as the regulations of exchanges. When investors deal primarily with banks (e.g., Germany), each bank determines how it will deal with its clients. When investors deal directly with brokers (e.g., Japan, USA), the brokerage firm sets the rules.

Generally, market practices established by intermediaries are *stricter* than exchange rules. For example, in Japan the exchange requires that transactions be settled on day T+3, and that failed transactions be resolved by T+7. In practice, less than 1% of trades fail on T+3, and there have been *no* fails reported after Day T+7 for decades. This remarkable record is possible because the relationship between brokers and their clients is stricter than the rules of the exchange itself. Individual clients are often required by the broker to have cash or securities on deposit before an order is accepted.

There are two levels of rules that govern markets: rules set by individual intermediaries and rules set by organized groups of intermediaries or the government. In practice, it is not important whether rules are formal or informal, as long as the market operates with reasonable efficiency. In comparing market practices, however, the combined effect of both formal and informal rules must be evaluated. Therefore, it can be misleading to compare the official settlement period (T+4, T+6, etc.), without reference to the customs of intermediaries.

Design Criteria for an International Exchange

The Indonesian market has developed after the rapid growth of cross-border trading in the 1980's. International transactions account for roughly half of the volume on the Jakarta exchange. Most other exchanges started as local markets, with either relatively minor foreign trading or with the ability to establish international standards (e.g., the London market prior to 1918), and only later adapted to international requirements. Indonesia already has substantial foreign participation and must consider ways to meet conflicting expectations of clients from different countries.

To meet the needs of the international marketplace, the plan deals with two seemingly conflicting goals:

- strict, guaranteed short-term settlement, so that rapid turn-over is encouraged and failed trades are eliminated;
- flexible, deferred settlement, financed by intermediaries, so that brokers can respond to varying settlement needs of investors in different countries.

The system presented in this report, although unique and representing a design for a state-of-the-art exchange system, is fully compatible with internationally recommended standards. Furthermore, the systems components which make up this proposal are, in themselves, all well-developed and tested, representing state-of-the-art technology.

Design Assumptions

This proposal is based on these assumptions:

- the position of broker-dealers should be strengthened, without unreasonable investment by individual brokers. The capital requirements of the CMD should be sufficient for a broker-dealer to operate profitably, with international standards of performance;
- the role of custodians and securities administration agencies should be maintained and strengthened, but such institutions should adapt to the needs of the securities exchange;
- investors, both domestic and foreign, should be assured of safe, reliable services from every JSE broker-dealer;
- investors, whether from Jakarta, a distant city within Indonesia, or a foreign financial center, should receive services that are convenient, practical, and fair from their point of view;
- all brokers who meet the licensing requirements established for securities companies, including members of regional exchanges and the Bursa Parallel, should be encouraged to join the Jakarta Exchange; and, based on observations in other developing markets, such open access should not reduce the economic prospects for individual brokers, nor the quality of services provided by the market.

Level Of Specification

The system described in this report is specified at a general level. We are recommending that, in so far as is possible, existing software systems be acquired from international vendors and adopted by the Jakarta Securities Exchange. Several vendors with established credentials in exchange systems may offer ready-to-go modules and turn-key systems which meet these specifications. Specific vendors will offer systems with more features than described here.

Our purpose is to describe the critical aspects of a general system that meets the needs of this market, but not to over-specify so that only a particular vendor will be able to furnish the system. This report is intended to serve as a useful guide in developing the detailed specifications necessary to implement a modern exchange.

In the process of requesting bids, preparing specifications, and negotiating system acquisition, technical assistance may be required. Representatives of the private securities exchange and promoters of such exchanges requiring clarification of topics covered in this report may contact Mr. John Schroy at:

Price Waterhouse, Department of Finance, Gedung Siliwangi B, Jl. Dr. Wahidin 1, Jakarta.

Mail Address: P.O. Box 1316, Jakarta 10013

Tel: 3810162-6 Ext. 4831-4832

Tel./Fax: 366437

Automated Trading

Recommendation #1:

Order-Book Based Automated Trading

An automated trading system is perhaps the most visible feature of a modern electronic securities exchange. Such systems are available from reputable vendors and can be installed in a relatively short time. Many Jakarta brokers have had an opportunity to try out automated trading, and a survey has indicated that there is a general interest in acquiring this technology.

An order-book based automated trading system (OBBAT) is recommended for the Jakarta Securities Exchange. Such systems insure that investors are treated fairly and efficiently in the handling and execution of orders and are effective in maintaining and developing liquidity in new markets. Automated trading systems are important in reducing operating costs of brokerage firms.

Under OBBAT, orders are entered by brokers at a computer terminal and stored in a database. The same terminal is used to execute client orders and to trade for the broker's own account. All brokers' terminals are connected to the same database and central computer. Security measures identify brokerage firms and individual traders by password and terminal. Execution of trades is immediate, upon matching of buy and sell orders. The response time for the computer to register an order should be less than one second.

Once buy and sell orders are matched, the trade is "locked-in" and irreversible, unless it is cancelled by mutual agreement of the parties with approval of exchange officials, prior to the close of the trading session.

Entering Orders

Orders can be entered into the system only with respect to clients' or brokers' accounts which have been opened. In opening an account, information on the name, address, nationality, tax status, and commission rate, as well as standing instructions regarding the account, are entered into the central computer file. This computer file also has complete descriptions of all securities listed for trading. Therefore, when entering an order, brokers only need to input the following information at the computer terminal in order for the transaction to proceed directly from order-entry, to execution, to confirmation and settlement:

- buy or sell
- quantity
- security identification code
- price limit or "at the market"
- account number
- time limit ("immediate execution only", "today only", "good until canceled", "good until a specific date")
- special terms and conditions ("stop orders", "crossed trades", "unidentified client", "financed", "at the open"; "undisclosed quantities".)

Every order has a price limit and entry time. The highest offer to buy is automatically matched with the lowest offer to sell. If there are several orders at a price, they are matched according to time-priority. The orders which were entered first are executed first. Orders stay in the database until canceled or matched. Orders may be canceled or modified at any time prior to execution.

Orders are automatically rejected when a client does not have an account, when there are insufficient funds or securities in the account to settle the transaction, or when a particular broker or trader has been suspended. Orders from foreign-owned accounts regarding the purchase of securities which may be registered only in the name of Indonesians are also rejected.

All brokers may browse the entire order book on the screen of their computer terminal. The order book shows the quantity, price, broker code, and priority of all orders in the system, displayed for each security. Security codes identify precisely the rights of each issue, including the right of non-Indonesians to acquire and register the shares and the right to certain dividends and other entitlements. Information regarding orders of specific clients is available only at the terminal of the client's broker, upon entry of that broker's password. A typical **OBBAT** display might show the position of Stock ABC as shown on the next page.

20

The order-book appears as a table on the broker's screen. In the example, Stock ABC shows an "inside market" of Rp. 15,500 bid and Rp. 16,000 asked. The buying and selling order queues are listed with the highest priority orders at the top. In the example below, there are two orders to buy Stock ABC at Rp 15,000, of which the 5,000 share order belonging to Broker 34 has time-priority over the 7,000 share order belonging to Broker 90. If another broker, say Broker 105, enters a bid at Rp. 15,000, it would appear in the queue after the order of Broker 90.

Using the same example, should any broker enter an order to buy 1,000 shares at Rp. 16,000, such order would be executed immediately, moving the "inside market" to Rp. 15,500 bid and Rp. 16,300 asked. An order to buy 5,000 shares

Any broker may browse the open order book on his trading terminal. The shaded quotation indicates the current market spread (the Inside Market).

Stock ABC Order Book

Buying Broker Code	Quantity Bid	Bid Price	Asking Price	Asking Quantity	Selling Broker Code
95	4,000	**15,500**	**16,000**	1,000	15
26	10,000	15,200	16,300	4,000	35
34	5,000	15,000	16,500	12,000	82
90	7,000	15,000	16,700	3,000	60
73	4,000	14,800	17,000	4,000	53

at Rp. 16,300 would also be executed immediately, resulting in a purchase of 1,000 shares at Rp. 16,000 and 4,000 shares at Rp 16,300 with Brokers 15 and 35, respectively.

Efficient Order Management

A good **OBBAT** system is able to manage special types of orders so that the instructions of clients are handled precisely and automatically. Automated order management reduces the need for brokers to maintain a full order-management staff. The following paragraphs describe some special types of orders which the **OBBAT** system should be able to handle.

"Stop orders" are orders that are "away from the market" and that become market orders if the market price moves past the stop-order price limit. For example, in the order book of ABC Stock above, a broker might place a b stop order at Rp. 16,500. (If this were not a "stop order", it would automatically become a market order and would be executed at Rp. 16,000.) This stop order is held in a special computer file and becomes a market order only when the selling orders at Rp 16,000 and Rp. 16,300 are executed. With respect to other orders in the book, the stop-order will have the time-priority as of the time the market price moves past the stop-order price. Stop-orders are often used by traders and investors to limit losses and do not appear on the order book screen.

"Crossed trades" are orders in which the same broker acts for the buyer and the seller, simultaneously. We recommend that crossed trades only be permitted when:

- priced "within the market" (i.e., between the best bid and asked prices) and in large blocks, as defined by the exchange;
- priced "out of the market", in large blocks, if approved by exchange officials. (Both buyer and seller must advise the exchange in writing, in advance, that they are aware of the discrepancy from market price, and the reason for the trade. A legitimate reason for a crossed-trade outside of the market would be a sale that also is made with the intent to transfer ownership to a specific person. However, excessive permissiveness with regards to "crossed-trades" encourages off-market trading.)

Trades for **"unidentified clients"** are transactions for the broker's account, which the broker may subsequently transfer to the account of a client. Such trades are executed in the regular market, but may be assigned later to the account of a client upon instructions of the broker. Upon such transfer, the trade is registered in the client's account. This facility is available principally for convenience in executing international trades through intermediaries. **"Unidentified"** orders will always be for **"deferred settlement"**, and the broker must enter the code of the intermediary to whom the advice should be sent, the **"deferred settlement"** date, the commission rate, and the interest to be charged in the case of late settlement. (See the chapter on Same Day Settlement for further discussion of financing.)

"Financed" trades are similar to trades for **"unidentified clients"**, except that the account number of the client is known and entered.

"At the opening" orders are those entered after trading hours which are intended to be executed at the opening price the next day.

22

"Undisclosed quantities" orders are orders for quantities larger than the broker wishes to disclose in the order book. Since all brokers can see the order book, a broker who has a very large order may wish to keep this confidential, so as not to influence the market price. For example, a broker may have an order to sell 100,000 shares at Rp. 10,000. So as not to reveal this position, he may enter the order as having **"undisclosed quantities"**, stipulating that an offer of only 1,000 shares appears on the screen. Once this 1,000 share order is executed, it will automatically be replaced by another order for 1,000 shares at Rp. 10,000, until the entire block of 100,000 shares is sold. Each partial order enters the queue with the time priority of the partial order, not the initial block. This facility is especially useful for brokers with institutional clients.

Querying the System for Information

The **OBBAT** system allows brokers to enter a query to see the following information, either on the screen, or in print-out form:

- the order-book for a particular security, by order;
- the order-book for a particular security, by price;
- open order status for the broker (all orders, orders for a particular security);
- executed trades for the broker for that day;
- the status of **"unidentified"** and **"financed"** trades, that have not been transferred out of the broker's account by the **"deferred settlement date"**.

The **OBBAT** system should also allow brokers to see a summary of market information for an individually selected group of securities. Such price information should be updated automatically.

Opening the Trading Session

The **OBBAT** system must provide for the daily opening of trading in each security, and for the reopening of trading in securities in which trading has been suspended. A good **OBBAT** system will allow brokers to enter orders after trading hours. This is particularly useful in the Jakarta market, where clients may send orders from locations with a twelve-hour time difference. At the opening of each session, orders received since the last close, along with orders held over from the previous session, are allocated by an automated opening procedure, as follows:

- The market will be allowed to open in a particular security when orders from the previous day, plus orders received after the close of trading, are matched so that no bid price is higher than any asking price, once all **"at the opening"** orders are allocated and resolved.

- The opening price is set automatically by an algorithm that determines the price at which the maximum number of **"at the opening"** and unbalanced limited orders will be matched.

- Once the opening price is set, matching orders are automatically filled in accordance with an allocation algorithm. Price limit orders are matched first, on the basis of price-time priority. **"At the opening"** orders are executed next, on the basis of time priority. Unmatched **"at the opening"** orders are canceled and a message sent to the broker's terminal.

- Securities should be opened in a random order each day. As each security is opened, a message is sent to all terminals and regular trading begins.

Since all opening procedures, surveillance, and order processing is done by the computer, there is no need for exchange officials to be on the trading floor, except, perhaps, to keep order and supervise messengers.

Automated Market Surveillance

The **OBBAT** system should include a surveillance facility that allows exchange and BAPEPAM officials to monitor trading so as to assure a fair and orderly market. Special surveillance terminals permit exchange officials to do the following:

- admit, suspend or re-admit any broker or trader, to the system;

- admit, suspend or re-initiate trading in any security;

- broadcast messages to all terminals;

- halt or re-initiate trading in any security when a match will result in a price varying from the previous price by more than a certain percentage, or when the quantity traded exceeds a certain number of shares;
- hold "crossed" orders that meet certain criteria requiring exchange approval;
- inhibit opening of a security when the opening price differs from the previous close by a certain percentage;
- cancel all outstanding orders for a given broker or trader.

The **OBBAT** system must provide exchange management and BAPEPAM with a comprehensive set of supervisory reports showing all orders entered, trades executed, brokers and securities authorized, messages relayed, and surveillance activities logged. Most of the job of supervising the market is handled automatically by the computer, so that only a few exchange officials need to be on duty to handle exceptions.

OBBAT facilitates market surveillance so as to prevent manipulation and other unfair practices. The system will automatically block large orders or prices that diverge greatly from the norm. Exchange officials can decide on a case by case basis whether to permit such transactions. The exchange and BAPEPAM can monitor transactions of a particular broker or in a specific security, when necessary.

Organizing Trading by "Boards"

An **OBBAT** system can handle trading in stocks, bonds, debentures, and short-term credit instruments, all from the same terminal. Quotation systems can be organized so as to group securities into "boards", in accordance with different listing requirements. For example, the Jakarta Exchange may have a "primary board" for the most active, blue-chip companies; a "secondary board" for less-active issues; a "parallel market board" for new companies; and regional boards, such as a "Surabaya board", a "Medan board", and a "Semarang board". Although all these "boards" would be traded on the same system, the prices published in the newspaper and on quotation terminals would be grouped by these classifications. This maintains an image of regional markets, although trades may actually be made on a National Market System.

Since this proposal calls for book-entry settlement of dematerialized securities, there is no need for a separate odd-lot market. However, if an **OBBAT** system does support such a market, this may be useful if trading services are offered for certain securities in certificate form, or if for marketing reasons, it is convenient to trade in round lots.

Installations Required: the Trading Floor

In cities with excellent telephone communication networks, there is no need for a trading floor once **OBBAT** is introduced. Exchanges such as Singapore and Vancouver have already abolished trading floors. In Jakarta, the public communications are presently inadequate to permit floorless trading. However, automated trading is so advantageous and economical, compared to manual systems, that it is recommended although an exchange floor may still be necessary. *The primary purpose of automated trading is not to eliminate the exchange floor.*

In Jakarta, it is recommended that the trading floor, the main computer, and a branch of the custodian bank that acts as the settlement depository, all be located in the same building. The present Gedung Bursa may be adequate for this purpose, although eventually a larger facility may be required, especially if communications continue to require that all brokers be in the same building.

The present trading floor at the Gedung Bursa has space for about 160 trading terminals under an **OBBAT** system. If there are more than 160 members of the Jakarta Exchange, additional rooms can be used for broker's terminals, since there is no need for all brokers to be in the same room. *The number of members admitted to the Jakarta Exchange should not be influenced by available floor space.*

The "white boards" and order boxes currently installed in the Jakarta Exchange as well as the circular desks for exchange officials, are no longer required under an **OBBAT** system. Instead, each broker will have a trading station with a terminal, printer, and telephone link to outside the trading floor.

The diagram on the next page shows the interconnection of facilities in an **OBBAT** system operated in a single building, with integrated settlement. The computer terminal at each trading station is connected directly to the main trading computer **in the same building**. By entering orders at the keyboard, the trader's bids and offers are instantly communicated to all other traders. Exchange officials monitor trading from terminals in a separate room. The central computer is also connected to terminals at the bank which handles central custody, located in the same building.

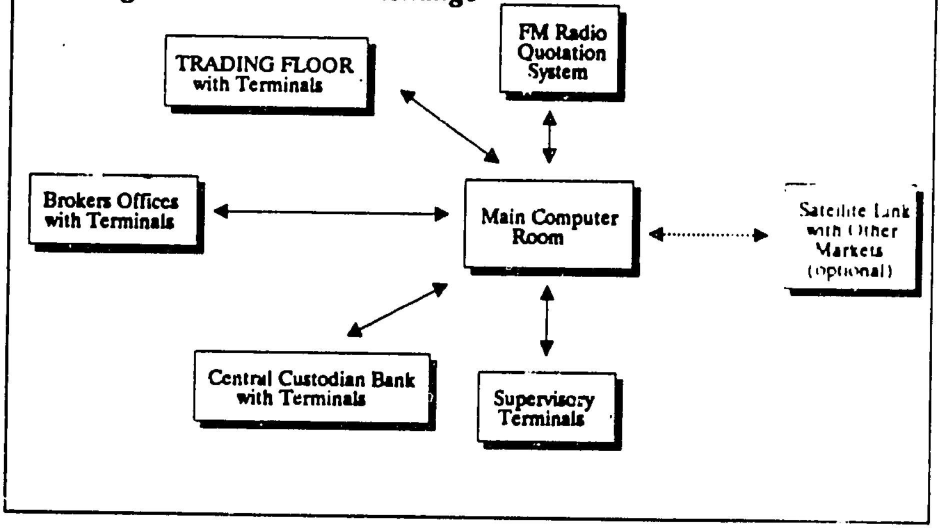
Communications with the Trading Floor

The **OBBAT** system should be linked with a price quotation system that automatically broadcasts trading information at the time of execution. This information should be widely disseminated immediately after each trade. Where telephone lines are available, these quotations may be displayed on terminals connected directly to the main computer. However, even without telephone lines, wide dissemination can be accomplished economically by means of FM radio. Technology is now available which takes electronic data directly from the **OBBAT** computer and transmits it instantly by FM radio. Special FM receivers pick up these signals and reconvert them to electronic data which can be displayed on terminals in brokers' offices, banks, or other public facilities. By using FM radio links, quotations from the Jakarta Securities Exchange can be instantly transmitted throughout Indonesia. Price quotations can also be projected on screens in the visitors' gallery and in public rooms within the exchange building.

Client's orders can reach the trader on the floor in four ways:

- by public telephone, if the broker has a line;
- by radio phone;
- by internal telephone, with clients in the visitors' gallery or public rooms in the exchange building;
- by written messages, hand-delivered.

An Integrated Automated Exchange



Foreign investors or domestic investors outside of Jakarta may communicate with the broker's office by telephone, telex, or telefax. These orders can then be verified by the broker and cleared for transmittal to the trader on the exchange floor. The transmittal between the broker's office and the floor trader may be by public telephone, radio phone, or messenger, depending on the broker's facilities.

Active domestic investors may transmit orders to their broker on the floor by using internal telephones installed in the visitors' gallery or public rooms in the exchange building.

Investors in Jakarta may visit the broker's office to give their orders, which will then be transmitted to the exchange by public telephone, radio phone, or messenger. Brokers can have quotation screens in their offices, running off the FM quotation system. Brokers may also receive from the computer facility, as of close of business the previous day, a diskette showing the position of each customer's account. This can be used to inspect the client's position at the broker's office, when communication lines with the main computer are not available.

Brokers with offices in the exchange building may have terminals installed in their offices that are connected directly to the **OBBAT** system. If the exchange is located in a sufficiently large building, all brokers may have offices with terminals on-line.

Brokers with offices outside the exchange building who are able to obtain direct telephone lines with the exchange may install a terminal in their office, in addition to their terminal on the exchange floor. Orders then may be entered directly from the broker's office. When the availability and quality of the telephone system in Jakarta improves sufficiently, all brokers may operate from their offices and eventually the exchange floor may be closed.

The Advantages of Automated Trading

The advantages of **OBBAT** for the Jakarta Securities Exchange include reduced costs, assured fair trading, efficient order management, and increased liquidity:

1. **Reduced Costs**: The same order information that is entered at the trader's terminal is automatically re-used for trade confirmations, settlement, financing, and transaction accounting. Typing, posting, security handling and similar clerical functions are reduced at least by 90%. This reduction in back-office work

cuts broker's overhead dramatically. *In practice, it is possible for a one-person broker-dealer firm to receive orders from clients in the visitor's gallery, execute them on the terminal, and go home at the end of the day, leaving settlement and the entire back-office processing to be handled automatically by the system.* There are no transaction notes or confirmations to type, no certificate endorsements, no transfer documents. Larger broker-dealers can focus on advising clients, securities research, and expanding their sales force and client base.

2. **Fair Trading:** An **OBBAT** system is rigorously fair in executing trades. Small investors are treated as favorably as large investors. Professional traders have no special advantage, since the order-book is open for all to see. This is important in establishing the status and prestige of the Jakarta market.

3. **Efficient Order Management:** An **OBBAT** system is efficient in managing client orders. Orders cannot be forgotten. There is no risk of offers being accidentally erased as may happen with a "white board" system. "Stop orders" can be efficiently managed by even the busiest trader. A broker can track orders from hundreds of clients without confusion. Orders, once entered into the system, will be executed whether or not the broker is on the exchange floor. Time limit orders will be automatically withdrawn upon expiration, without the intervention of the broker. While a broker is talking on the phone with a client, the system can automatically execute any number of orders which he had previously entered for clients.

4. **Increased Liquidity:** An **OBBAT** system will increase the liquidity of the market, as compared to current trading practices. An investor may instruct his broker to enter an offer into the system at any price, and the offer will stay on the system for all to see.

   Share trading usually starts with offers to sell. Many investors who purchased shares during 1989-1990 would like to sell them. Some may expect prices higher than they paid; others will settle for less. With **OBBAT**, investors register their asking price on the system. Since the queue of offers is visible to all, any seller who wants priority will set a lower price than offers already in the book.

The order book constitutes an inventory from which brokers can sell, but that does not incur carrying costs, as do dealers' inventories. Brokers who specialize in particular issues will spot attractive investments in the "open book" inventories and may publish technical analyses to draw investor attention. At some point, buyers appear and active trading commences.

The advantage of **OBBAT** is that even when there are relatively few shareholders, the system holds orders efficiently until a match can be made. In non-automated markets, opportunities to match transactions are lost because brokers cannot afford to be present in the market at all times. By the time a match appears, orders are often forgotten or a broker may be absent from the trading floor. With **OBBAT**, a broker can enter an order into the system and a match may be made hours, days or months later, even though the broker has turned his attention elsewhere.

An **OBBAT** system will ordinarily have many features besides those described here. Some systems employ color display terminals, single-key entry, entry defaults, special messages and system reports, and various special orders and reports. The complete technical description of a specific **OBBAT** system is considerably more complex than these specifications. These specifications, however, are adequate for planning purposes and to initiate discussions regarding system acquisition.

7p

Guaranteed Transactions

> *RECOMMENDATION #2:*
> AUTOMATIC CHECKING OF FUNDS/SECURITIES ON ORDER-ENTRY

On most securities exchanges, brokers guarantee correct and timely settlement of transactions. "*My word is my bond,*" is the tradition on many exchanges. Markets in which settlement is uncertain do not meet expectations of investors. Brokers (or other members of a clearing house) often collectively guarantee settlement of trades, including those of other brokers. Such guarantees may be formal or de facto.

All systems which guarantee settlement have associated costs. Traditional systems call for strict credit supervision by the broker, backed by formal guarantees which may be expensive. The system proposed in this study is non-traditional and takes advantage of modern technology to provide maximum guarantees at minimal cost. In order to adequately explain the alternatives, we first describe traditional guarantee systems.

Traditional Settlement Guarantees

A typical traditional transaction guarantee system works on two levels. First, there are the rules and procedures which govern relations between the client and the broker. Second, there are the rules which cover actions between brokers and a clearing institution.

Settlement guarantees begin with the relationship between the broker and the client:

- Before accepting an order, the broker verifies that the client has sufficient funds, securities, or credit to guarantee settlement;
- If the client does not settle promptly, the broker must make the settlement himself, borrowing money or securities when necessary.
- If the client still does not settle, the broker will sell the collateral held in the client's account to cover the broker's losses and expenses.

Ordinarily, the broker is able to assure that trades are settled properly. However, sometimes this does not occur and the broker fails to settle with the clearing house. The rate of brokers' failure to settle varies from market to market, from less than 1% to 50% or more. Exchanges and clearing institutions set up a second line of defense to assure the trade is settled when a broker fails:

- The exchange or the clearing house requires that members put up certain guarantees. This guarantee may be cash, securities, an exchange "seat", a bank line, or other assets.
- If an exchange/clearing member fails to settle a transaction, the exchange/clearing house will execute the trade for its own account and charge the delinquent member the difference.
- If a member goes bankrupt, leaving the exchange/clearing house with an uncovered debt, the other members, collectively, will be called upon to repay the exchange/clearing house.

The Ability to Reverse Transactions

Traditional settlement guarantees work well when it is possible to reverse trades without influencing the market price and when the broker or clearing house has adequate collateral and other guarantees to cover eventual losses

Intermediaries and exchanges must have an effective way to settle transactions when a client or member does not. For buy orders, there must be a way to quickly borrow the money needed to settle the transaction. For sell orders, there must be a way to immediately obtain the securities for delivery to the buyer. (This can be done by borrowing the securities from someone, or by "buying in" in a cash transaction market.) Even a small percentage of fails is intolerable, if resolution of such problems is not prompt. For example, even if only one-half of one percent of trades fail, this will result in accumulated fails equal to 20% of trading volume, if it takes 40 days to resolve each case. The situation is exacerbated when counterparty brokers rely on trades which have failed and are not resolved, thereby setting off a chain reaction.

2;2

Why Collateral is Necessary

Once a failed transaction is resolved by one of the methods mentioned (buying-in, selling-out, etc.), the intermediary (or clearing house) may be left with a claim against the delinquent client (or broker). For example, when a broker borrows money to settle a failed buy order, the shares received may be resold at a loss. Interest charges and commissions are also due. The broker must have collateral on hand to cover such a short-fall. He may sell collateralized shares or use cash balances in the client's account. Access to collateral must be immediate and not subject to approval by the courts. Since clients are more likely to renege on transactions when the market price has moved against them, brokers usually face losses on failed settlements. Such losses may be far greater than can be handled out of a reserve for bad debts based on the commission fee.

Settlement Guarantees in Indonesia

Due to inexperienced intermediaries, impediments in the commercial legal framework, and the high percentage of transactions from abroad, it is impractical to leave primary transaction credit controls at the discretion of each broker-dealer on the Jakarta Exchange. The environment is such that the opportunity for failed trades is extremely high, while quick recovery is often impossible:

> **Clients' inability to provide collateral:** Many foreign institutions are bound by regulations which may impede them from opening securities accounts with Indonesian brokers. Without such accounts, the broker is deprived of access to collateral for transaction credit. One such restriction is Regulation 270.17f-5 of the Securities and Exchange Commission of the United States, which limits depositories of assets of investment companies to banks and approved clearing institutions that meet stringent requirements. Even if Indonesian securities companies were considered to be custodians, the regulation further states that "the [security] company assets will not be subject to any claim in favor of the foreign custodian or its creditors except a claim for payment of their safe custody or administration." Indonesian law permits a customer's assets with a securities company to be claimed by the broker's creditors, in the case of bankruptcy.

- **Inadequacy of collateral:** Even if a client opens an account with the broker, endorsed nominative share certificates are not convenient collateral for securities transactions in Indonesia. The broker should register such collateral with the issuer in order to protect himself, but this is impractical in rapid trading or when orders come from overseas. Nor may brokers hold securities in "street names" since this leaves clients without protection, in the absence of legislation covering trust arrangements.

- **Difficult trade recovery:** Many securities listed on the Jakarta Exchange have markets that are too thin to permit transaction credit. Some securities go for weeks without trading. Immediate "buy-ins" or "sell-outs" of such securities may be impossible. Without the ability to quickly resolve failed transactions at a reasonable price (or sometimes at any price), the exchange cannot prevent failed trades from accumulating. Even a small percentage of failures may grow to such proportions as to create a negative image for the market. Transaction credit is dependent on the liquidity in each security. In the United States, margin transactions are permitted only for a *restricted list of highly negotiable securities* -- a great many over-the-counter securities are not on this list. Many securities listed on the Jakarta Securities Exchange are not sufficiently liquid to serve as sound collateral.

- **Non-member intermediaries:** Most international orders are channeled through brokers in other markets. These brokers may themselves be intermediaries for brokers in other markets. Although there is a twelve hour time difference between Jakarta and New York, this is not really the problem. Rather, the difficulty lies in the number of intermediaries that may stand between the Jakarta broker and the investor, and the fact that the investor does not have an account with the broker. The time it takes to pass information up and down the chain may exceed the settlement period. Orders reaching Jakarta through such channels may come from clients using "global custodians" and requesting settlement by cash-against-securities with such custodians. Jakarta brokers may be obliged to accept orders from foreign brokers in order to get the business, not knowing the client and without evidence of the existence or location of the cash or securities. A broker that

. , 14

accepts foreign orders without adequate guarantees makes it hard for others to refuse to do the same. Foreign intermediaries are not subject to Jakarta Securities Exchange rules or to the jurisdiction of Indonesian courts and are difficult to control, especially if Jakarta brokers do not require collateral. *When such non-exchange-members can enter unguaranteed orders into the system through any broker, serious settlement problems are assured.*

- **Excessive cost of guarantee funds**: If brokers are obliged to deposit guarantee funds with a clearing house (as required in many traditional clearing systems), capital requirements increase substantially, thereby decreasing brokers' return on investment. Even so, in thin markets, such deposits provide no assurance that transactions will be properly settled. *Large clearing guarantee deposits have the effect of reducing the number of brokers in the market and the potential for market expansion, while increasing transaction costs.*

- **Impracticality of enforcing settlement discipline**: Strict rules regarding settlement are inadequate if failed trades are common and standard recovery procedures (e.g., "buy-ins" or "sell-outs") are impractical or extremely costly. Disciplinary measures work best when rarely needed. In an environment in which failed trades are highly probable, and when strict recovery procedures would put many brokers out of business, such measures will rarely be enforced.

The Advantages of Pre-Settlement

These problems can be resolved by removing credit risks entirely from the formal exchange/settlement process. This is done simply by requiring that orders be accepted in the **OBBAT** system *only when the proper securities or cash are on deposit in the client's or broker's account.* Such coverage can be verified automatically by computer as each order is entered. Therefore, all matched trades can be settled with *almost no risk of failure.* (The exception would be operator-entry error by the central custodian, placing non-existent shares into an account. The system should have safeguards against such errors. Errors from computer fraud or operator mistake should be covered by insurance or guaranteed by the custodian.)

This procedure is not that different from practices in other countries when markets are considered in their entirety as a combination of formal and informal rules. In New York or Japan, for example, a broker will accept a client's order only after making a credit decision. In most cases, the broker will require retail customers to have cash or securities on deposit. If credit is granted, the broker has well-established procedures to quickly borrow funds or securities, if required, and does so when necessary to settle a failed trade. Although the formal rules of the exchange do not require cash or securities on deposit at the time orders are accepted, this procedure is followed by many brokerage houses in order to protect themselves, especially in the case of retail clients.

Transaction credit depends not only on the collateral, but on the size of the order and probable loss if recovery measures are taken. Large brokers in the U.S. and Japan have tens of thousands of clients. If any client defaults on settlement, the broker's risk may be small relative to overall daily volume. Brokers may relax credit for relatively small trades, in order to get business. However, if a transaction is relatively large, strict credit precautions are followed. In Indonesia, with a large number of big-ticket foreign institutional trades and relatively small broker-dealers, under the traditional settlement system failure of a single large transaction could bankrupt some exchange members if strict settlement discipline were imposed.

Strict verification of the availability of cash or securities in the client's account, prior to acceptance of an order in the system, is fundamental for the smooth operation of the Jakarta market and the protection of brokers and investors. Alternative solutions to the settlement problem will result in fewer broker-dealers, higher capitalizations and lower returns on investment, and will involve a greater need for exchange supervision, and will require modification of commercial laws.

Transaction Financing by Brokers

Requiring cash or securities to be on deposit before orders are accepted is not the same as prohibiting transaction credit. Such credit may still be granted by the broker, but *other members are not at risk because of credit decisions of one member.* Each broker may work out credit arrangements (assuming such are permitted by law) that are appropriate.

When a broker wishes to extend credit to a client, this may be done by executing the transaction *for the broker's account*, using the code "unidentified client" (in the case of an intermediary) or "financed". The broker himself finances the trade, or borrows the securities in the case of a sale. *(Procedures for securities lending are not discussed in this report, nor incorporated into the initial system design. However, such additional facilities may be added at any time.)* The cost of such financing arrangements are subject to negotiation between the broker and the client or intermediary. The cost of a transaction that is routed from New York and takes a week to settle will be different than a domestic deal in which the client deposits cash with the order. Methods of financing transactions are described in the next chapter in greater detail.

By allowing alternate means of transaction credit to be offered by brokers, the proposed system design meets the needs of both domestic and international clients, while giving the Jakarta market an outstanding reputation for prompt, reliable settlement that will attract business.

Same Day Settlement

RECOMMENDATION #3:
T+0 SETTLEMENT, WITH FINANCED SETTLEMENT FOR CLIENTS

This design for a modem Jakarta Securities Exchange calls for transactions to be executed only after cash or securities are deposited -- in good-delivery form -- at the central custodian. As such, there is no reason to delay settlement once orders are matched. Trades may be settled on the *same day* they are executed: *day T+0*. Same day settlement is possible because of the advanced, integrated design of the exchange system. Compressed settlement periods are compatible with international recommendations for improving securities markets.

Same day settlement already occurs on some specialized markets. Jakarta would be a leader in adopting same day settlement for a general stock exchange. The advantages of same day settlement are described in detail in this chapter. In addition to same day settlement on the regular market, the system design calls for "deferred settlement" facilities, that permit flexible settlement arrangements to meet the expectations of specific international clients.

Why Older Markets Need T+4 Settlement

In traditional securities markets, settlement periods of four or more days are still necessary because of the need to *clear* transactions and prepare for *physical delivery* of the securities:

- **Clearing Time**: In older markets, trades are executed on the exchange floor by "open outcry", often without any exchange of documents at the time of the transaction. Buyers and sellers record the deal in notebooks and later send "comparisons" to each other to check that their notes regarding the transactions are in agreement. This procedure leaves room for error and days may pass before getting agreement among brokers as to what had happened on the exchange floor. This process is called **clearing:**

> "*Clearing* is the process of confirming and matching (after the trade) the terms of the deal: how much is being bought and sold, at what price, on what date, from which seller, to which buyer."
> - "*Study of International Clearing and Settlement*", Administered by Bankers Trust Company under contract to the Office of Technology Assessment - Congress of the United States.

- **Physical Delivery:** In paper-based markets, once trades are *cleared*, settlement occurs by physical delivery of certificates and related documents. Since it takes time to prepare certificates, verify and register the numbers, process transfer documents, and arrange for delivery and inspection, a few days are usually needed to settle "cleared" transactions, even with a central clearing house.

Even today, clearing is not necessary on the Jakarta market, since all trades are "locked in" at the time the transaction notes are signed. Under the proposed automated system, because of verification of all orders upon entry and the "locked-in" and final status of all trades, there is automatic clearing at the moment of execution. Since the funds and securities are already on deposit, there is no reason that settlement cannot occur at the same time as the trade.

As described in the following chapters, the proposed automated exchange is integrated and settlement occurs by book-entry. There is no practical barrier to immediate settlement. There is no reason to wait until T+4, and there are various reasons to advance to same day settlement.

Advantages of Same Day Settlement

Same-day settlement is recommended for three reasons:

- **As the positive aspect of pre-settlement:** Some international clients may inquire as to the advantage of depositing cash at the time of placing a buy order. The answer is that same-day settlement provides clients faster turn-around, greater liquidity, and greater return on capital than T+4 settlement. Pre-settlement of selling transactions does not tie up resources, since investors already have the shares on deposit with a custodian and merely have to assure that they are held in the proper account awaiting execution of their order. Prior deposit of cash (when brokers do not offer "deferred settlement" facilities) can be controlled so as to tie-up funds for only a short time. Since the open order-book allows buyers to see exactly how many shares are available and at what price, there is no reason to make a cash deposit until selling offers begin to appear. With same-day settlement, clients can convert cash into shares immediately by entering orders "at the market" whenever a block of shares appears for sale at the right price. Under ordinary T+4 settlement rules, buyers usually deposit cash on day T+2 and withdraw the proceeds of a sale on day T+5. In other words, the client has cash tied-up in the settlement process for *seven* days in a buy and sell transaction with T+4 delivery. In contrast, same-day settlement will require cash to be immobilized for only one day on a "round-trip" transaction.

- **As a means of increasing liquidity**: Same-day settlement encourages traders to move in and out of the market and instantly take advantage of short-term price opportunities. With the same capital, a cash-basis trader can execute seven or eight times as many trades under same-day settlement rules, compared to T+4 settlement. Faster turnover permits traders to operate with narrower spreads, with higher returns. Same-day settlement increases commission income, because of the possibility of faster turnover of existing portfolios.

- **As a means of reducing the need for transaction credit:** Credit is needed to facilitate transactions in all markets. With same-day settlement, credit needs are dramatically reduced in line with the reduced turn-around time. The reduced demand for transaction credit increases potential trading volume, while reducing the costs of intermediation.

Same-day settlement, as proposed, occurs by "delivery against payment" in "same day funds", in accordance with the recommendations of the Group of Thirty. This means that transactions, as of the close of business on the day of the trade, are final and irreversible and that the proceeds or securities are posted to the clients account after the close of business on the day of the trade.

"Same day funds" means that the proceeds of a sale are immediately available to purchase other securities on the exchange. A trader can turn over a securities portfolio as many times as he is able to find matching orders in one day, since the system considers matched trades as the equivalent of cash or securities on deposit.

Deferred Settlement

The term "deferred settlement", as used in this report, refers to transactions which are financed by brokers for settlement with the client at any mutually agreed time. ***The settlement period for trades executed on the exchange always remains the same.*** All transactions on the exchange are pre-settled (i.e., cash or securities are deposited with the central custodian before the order is accepted.)

Brokers may execute certain transactions *for their own account*, while arranging that such transactions be settled *out of their account* with a client at a later date. In other words, all "deferred settlement" transactions are financed by brokers and have no effect upon the prompt, regular same day settlement on the exchange.

Most domestic transactions will be handled under pre-settlement rules with prior deposit of funds or securities directly in the client's account, without any need for financing. Almost all selling orders, domestic or foreign, can be handled without "deferred financing" since the securities will already be on deposit with a custodian and the client only need arrange for his custodian to transfer the shares in the proper account at the central custodian before the order is entered.

Foreign Institutional Purchases

The need for "deferred settlement" occurs primarily with purchase transactions from abroad when the client or foreign intermediary is unwilling or unable to deposit funds with the central custodian prior to execution of the order. These cases are resolved by the client placing the order through a broker or global custodian who is willing to finance the deal. Such financing involves prior arrangements between the investor, the foreign intermediary, the investor's global custodian, and the Jakarta broker. A typical financing arrangement would have a written agreement as part as the permanent account documentation, covering the following points:

- the format in which the orders are to be received by the broker. (e.g., ISO [International Standards Organization] standard, telex, telefax).
- the standard settlement period between that broker and that intermediary or client. (e.g., T+4, T+6, etc.)

- the regular commission between that broker and that intermediary (or client). Since "deferred settlement" transactions are all financed, the broker adjusts the commission rate to cover both his financing costs and regular commission up until the "deferred settlement date". For example, a broker might charge a commission of 0.75% to a New York intermediary who is able to settle on day T+4, while charging 1.25% to an intermediary in London who can only settle on T+8.

- the standard interest charged by the broker for deferred trades that are not settled by the "deferred settlement date". For example, a broker might quote a commission of 1% for settlement on day T+6, plus interest of 40% per year on delayed settlement after day T+6.

- the broker's right to liquidate a transaction if not settled by the agreed "deferred settlement date". Brokers cannot finance transactions indefinitely. Changes in market price may leave a broker with an exposed position, forcing him to sell-out a client who has not given adequate guarantees to cover the broker's risk.

- the promise to reimburse the broker for any loss which occurs if the broker is forced to liquidate a transaction not settled by the agreed date.

- the guarantee given the broker to cover risks involved with the transaction. The nature of this guarantee will vary. A typical guarantee would be a bank letter of credit.

In practice, "deferred settlement" will require prior arrangements between, say, a foreign intermediary and a Jakarta broker. Brokers who wish to develop this business will set up correspondent relationships with foreign brokerage firms in different markets. This example indicates one way how "deferred settlement" financing might work:

> Broker ABC, a member of the Jakarta Exchange, makes an agreement with Broker XYZ, an intermediary in Frankfurt who has clients who wish to trade on the Jakarta market. The Frankfurt intermediary arranges a bank letter of credit in favor of the Jakarta broker in the amount of US$50,000, to cover failures of "deferred settlement" transactions. (Note: Other acceptable guarantees might range from deposited collateral to simply a written guarantee of a reputable broker-dealer.)

46

The Jakarta broker agrees to handle purchase transactions for a 0.75% commission with T+4 settlement and with delayed settlement interest of 40% per year, as long as the value of such trades outstanding does not exceed US$100,000. The Jakarta broker then arranges a line of credit in Rupiahs with a domestic bank, backed up by this letter of credit.

Securities financing is usually dependent upon regulations of the monetary authorities, which will change from time to time. When bank financing of securities transactions is suspended, brokers can finance "deferred settlement" transactions with their own capital or non-bank borrowings. Provided adequate guarantees are in place, such financing can become an important source of revenue to brokerage firms with sufficient capital.

After the credit arrangement is set up, the Jakarta broker may receive a telex from Frankfurt in ISO format, ordering, say, the purchase of securities. The broker would execute this transaction for his own account, indicating the trade as being for an "unidentified client" and specifying a "deferred settlement date" of T+4, a commission of 0.75%, and interest of 40% per year on delayed payment. The broker would also indicate the address to which confirmations should be sent (probably, a "global custodian" indicated by the Frankfurt broker) and their format (such as, ISO standard telex).

Post Trade Activity for Deferred Settlement Trades

A "deferred settlement" transaction is executed exactly like any other transaction on the automated exchange and settled the *same day* for the account of the broker. A confirmation is sent by the central custodian to the address indicated by the broker, requesting settlement by the client before the "deferred settlement date" and reflecting the special commission rate. Standard "deferred settlement" conditions are printed on the confirmation. The interest on delayed settlement and the broker's right to close-out the transaction and to be reimbursed for any loss and expenses will also be indicated.

The important element and special feature of "deferred settlement" orders is that the central computer tracks the trade and makes adjustments for dividends and other distributions. For example, if the broker purchases 100 shares for deferred settlement on T+4, and the issuer distributes a 10% share bonus on T+2, the computer would automatically readjust the number of shares to be delivered on T+4 to 110. Similar adjustments would be made for cash dividends.

Each "deferred settlement" trade is treated as a "mini-account" in which rights and entitlements are accrued until the trade is settled or reversed. To protect investors, "deferred settlement" procedures are standardized by exchange rules.

Each time entitlements are distributed on shares related to "deferred settlement trades", the computer issues an adjusted confirmation. An advice is also sent to the address specified by the broker when a trade is not settled by the deferred settlement date.

Closing Out Deferred Settlement Trades

The broker financing the trade will decide when it is necessary to close out a late settlement, depending on:

- the reason the transaction has not been settled (e.g., delayed communications, disagreement about the initial order, difficulty in advising global custodians, etc.);
- the variation in the price since the day of the trade;
- the type of guarantee presented by the intermediary or client;
- the broker's need to repay financing;
- the transaction size, the broker's financial position, and the business relationship between the broker and the client or intermediary.

"Deferred settlement" transactions are closed out in three ways:

- The client deposits funds/securities in his account with the central custodian and orders that such be used to settle the transaction with the broker. (This is the case of "financed" trades, since reference to a specific client is made);
- The intermediary, through a global custodian, instructs that funds/securities on deposit with the central custodian be used to settle the transaction. (The "deferred settlement" transactions have a referral number, indicated on the confirmation).
- The broker closes out the "deferred settlement" trade and charges the client for the loss, by issuing an instruction to the central custodian. (The broker recovers the loss by resorting to his credit guarantees).

49

The central computer issues reports to the broker, the exchange, and BAPE-PAM, giving the status of trades which are for "deferred settlement".

A broker who uses the "deferred settlement" facility unwisely may be forced out of business. However, the failure of the brokerage house should not effect his clients (who have their accounts with the central custodian), nor other brokers (since all trades are already settled through the central custodian). In this way the financing risks assumed by individual brokers are isolated from the general market.

Brokers who do not wish to assume risk need not provide "deferred settlement" services or may arrange to have such financing handled in accounts of a foreign intermediary or a global custodian bank. The means of financing such transactions depends upon regulations of the monetary authorities at the time, the financial position of the broker, and needs of a broker's clientele.

The primary reason to include "deferred settlement" provisions in the design of an operational system for the exchange is to cater to the expectations of foreign institutional investors who are not accustomed to depositing cash prior to purchase.

Integrated Operations

> ***Recommendation #4:***
> **Integrated Trading, Settlement, and Back-Office Automation**

Traditional securities markets have evolved over many generations and are made up of a patch-work of institutions that are only imperfectly combined. Such systems are expensive to maintain and error-prone. The modern trend is to integrate and centralize market operations for greater efficiency. Singapore and Vancouver, for example, are two exchanges that already have automated trading systems and that perform some brokerage back-office operations.

Central Depositories

Central depositories make complete integration of markets possible, if linked with automated trading. Central depositories are recommended by international organizations concerned with improving operational efficiency of securities markets:

"Each country should have a central depository and clearing organization."
- Recommendation #1 of ISSA-4 (Fourth Conference of the International Society of Securities Administrators)

"Each country should have an effective and fully developed central securities depository, organized and managed to encourage the broadest possible industry participation (directly and indirectly), in place by 1992."
- Recommendation #3 of the Group of Thirty.

"A central depository system has a key role to play in ensuring high quality in the settlement of securities transactions in the individual countries. The Members States are therefore recommended to establish central depository systems."
- Recommendation #3 of the Task Force of the European Commission.

Central depositories are found in many countries, including Denmark, France, Germany, Japan, Sweden and the United States. By linking central depositories with automated trading and back-office systems, maximum efficiency is achieved.

Cost Reduction

Integrated markets make it possible to cut transaction costs dramatically by eliminating duplicated tasks and reducing opportunities for error. Securities markets are essentially information processing systems that deal in special property rights. This information can be held and accessed most efficiently in a single, centralized computer system. Such compact systems, although sophisticated, are actually far simpler and less expensive than traditional, decentralized, non-integrated markets. In the last decade, the rapid fall in the cost of on-line databases, smart terminals, and electronic information networks, have made such modern technology the best choice, even for emerging markets. At the same time, software modules for automated trading and brokerage account maintenance have fully matured and have been proven in the marketplace.

Fully integrated, automated exchange systems are more easily implemented in emerging markets than in established exchanges. Participants in older markets have made heavy investments in decentralized systems and are reluctant to abandon such major capital commitments. New markets, on the other hand, have not yet adopted a specific system architecture and can easily choose the less-expensive, state-of-the-art alternatives.

A Fully-Integrated System

The integrated market system recommended for Jakarta has the following features:

- a single, fault-tolerant computer (or interconnected computer complex), with automatic back-up facilities, and an uninterrupted power supply, should be connected on-line, *in real time* to both an automated trading system (**OBBAT**) and to a central custodian system in which accounts of all users are maintained.

- each user of the system (investors, brokers, custodians) maintains a securities account in the central computer. Information regarding the account name, address, tax status, nationality, assigned broker, commission schedule, and custodial instructions will be entered at a terminal by the custodian and stored in the central computer. All debits and credits, receipts and deliveries of cash or securities relative to each account (including dividends and other entitlements) are also entered by the custodian, and updated immediately in real-time. Each account is assigned to only one broker.

41

- orders entered at broker's terminals (**OBBAT**), when matched, provide all the information needed to settle transactions and, when combined with other information on file regarding the account, permit automatic issuance of confirmations and monthly and yearly statements. Such information can also be provided in machine readable form to other custodians that use the system.
- dividends and other entitlements relative to securities held by the central custodian are entered into the system by the custodian and automatically distributed to users' accounts, with proper tax deductions. The custodian also uses the same database to inform the issuer of the names of the beneficial owners of the securities (or of another custodian with access to such names) for purposes of voting at shareholder meetings or other management information. Such information can also be provided in machine readable form to the tax authorities.

Only by integrating the users' accounts with the central custodian to the **OBBAT** terminals is it possible to verify the deposits of cash or the proper securities before accepting orders into the system. At the same time, only an integrated system permits practical, same-day settlement.

A Centralized Back-Office

Major savings are obtained by eliminating the need for a full back-office administration at each brokerage firm. Instead, all client accounts are maintained by the central custodian with no liability or expense for the broker-dealer. The brokerage firm need only maintain administrative services with respect to its general ledgers, personnel administration, and marketing services. By automating brokers basic back-office activities, it is easier to expand the range of services offered to clients.

Broker-dealers who offer special services such as portfolio administration, securities lending, fund management, and underwriting would need to develop administrative offices for these functions, but much of this work can be done through the central custodian's account administration service. Brokers who prefer to maintain clients' accounts on their own books could do so, subject to exchange and BAPEPAM rules.

Dematerialized Securities

Recommendation #5:
Book-Entry Settlement of Dematerialized Securities in a Central Custodian

The greatest efficiency is achieved in securities market design by applying a combination of techniques. Redundant data entry is eliminated by integrating automated trading, settlement, and back-office services. Pre-settlement of trades reduces the cost of guarantees and margin surveillance. The greatest savings, however, are achieved by eliminating certificates representing securities. To explain how this is done, we must introduce three concepts: **centralized custody, dematerialized securities,** and **book-entry settlement.** The following citations indicate that these are essential elements of modern securities market design:

> *"Certificateless book-entry (dematerialization) systems should be further developed and expanded, with provision for certificates where the need exists."*
>
> - ISSA-4 Recommendation #7.

> *"Securities circulating in paperless form in individual countries should be accepted by the other Member States as securities."*
>
> - EEC Task Force Recommendation #20.

> *"A central securities depository's principal function is to immobilize or dematerialize securities, thereby assuring that the bulk of securities transactions are processed in 'book entry' form. The depository provides the basis for achieving efficient and low-risk transaction settlement."*
>
> -Group of Thirty Recommendations.

> *"**Immobilization** refers to the practice of storing securities certificates in a central depository to facilitate the legal transfer of title and eliminate the securities movement of the settlement process (through book-entry). **Dematerialization** refers to the elimination of actual paper securities certificates, instead switching to a system (book entry) in which computers track and record the ownership of securities. Both practices address the growing belief in the marketplace that the orderly operation of securities trading is best effected when securities are held in a central location, that is, in a depository institution."*
>
> -Study of International Clearing and Settlement. Administered by Bankers Trust Company under Contract to Office of Technology Assessment - Congress of the United States.

Fully integrated, automated exchange procedures are more easily implemented in emerging markets than on established exchanges. Participants in older markets have made heavy investments in decentralized systems and are reluctant to abandon major capital commitments. New markets, on the other hand, do not have expensive systems and can easily choose the least-costly, most-efficient means available.

The Concept of "Book Entry Settlement"

A legal basis is needed to change from trading in *certificates* to trading *book-entry rights to securities*. BAPEPAM rules now call for settlement by delivery of certificates. However, a private exchange can propose rules defining other types of settlement.

Book-entry settlement can be implemented in Indonesia by common agreement between securities exchanges, broker-dealers, issuers, and investors. To facilitate such agreement, a BAPEPAM regulation could be used to standardize the administrative details. A model rule creating fungible securities is shown in the Appendix in order to explain, in detail, one way in which such measures might be implemented.

Book-entry settlement means that performance under an exchange contract is effected by debiting and crediting accounts with a depository. The following example shows how it works:

Investors maintain accounts with a central custodian.

Securities Accounts with the Depository				
Explanation	Money Balances Rp.		Security Balances (Number of shares)	
	Debit	Credit	Debit	Credit
Client A's Account				
Cash Balance		1.000,00		
Position in Stock ABC				0
Client B's Account				
Cash Balance		0,00		
Position in Stock ABC				100

The table on the previous page indicates that Client A has Rp. 1.000,00 on deposit with the custodian. Client B has 100 shares of Stock ABC on deposit. They agree to trade 100 shares of Stock ABC at a price of Rp. 10,00 per share. Ignoring commissions, this transaction can be settled merely by making the following postings to the books of the custodian:

Shares are delivered against payment by debiting and crediting accounts at the central custodian. Transactions may be settled without handling securities.

Securities Accounts with the Depository				
Explanation	Money Balances Rp.		Security Balances (Number of shares)	
	Debit	Credit	Debit	Credit
Client A's Account				
Initial Position		1.000,00		0
Purchase of Stock ABC	1.000,00			100
Final Position		0,00		100
Client B's Account				
Initial Position		0,00		100
Sale of Stock ABC		1.000,00	100	
Final Position		1.000,00		0

After settlement, by these book-entries, Client B's account shows a zero balance in Stock ABC and a cash balance of Rp. 1.000,00. Client A's account shows a balance of 100 shares and no cash.

The advantage of book-entry settlement is that handling of cash and securities is not required. The cost of settling a transaction by debiting and crediting computer accounts is far less than the cost of settling by physical delivery of certificates between brokers or through a clearing house. There is also less risk.

The Concept of "Fungibility"

To make book-entry settlement possible, securities must be "fungible". This means that trading refers to the right to receive a certain number of securities, *not the right to receive specific certificates*. Book-entry settlement is not practical when trading is tied to specific certificates. There is no impediment to fungibility in Indonesian commercial law, because fungibility is merely a *market convention*. If all parties agree to deal in numbers of shares, rather than specific certificates, fungibility is achieved.

Fungible securities are held by depositories in a variety of forms, depending on the country:

- **Nominee Form:** Certificates may be registered in the name of the depository as trustee for the beneficial owners. The Depository Trust Corporation in the United States uses this method. This technique requires trust law and is not applicable in Indonesia.

- **Depository-Registrar:** A central depository may also be the company registrar. This is the case in Denmark, where shares are non-physical and registered in computer accounts with the Vaerdipapircentralen, a central *depository-registrar*. This technique could be used in Indonesia, but is not recommended since security risks are great. We recommend retaining the separate function of registrar (*securities administration agencies*). The issuer's books serve to check the activities of the central depository.

- **Collective Custody:** Securities may be held in *collective safe custody*, with the central custodian acting as the representative of a group of investors who own the shares in common. The custodian maintains accounts showing the beneficial owners of the shares, while the issuer's books indicate those blocks of shares whose owners are represented by the custodian. This system is used by the Kassenvereine in Germany and is recommended for Indonesia. Legal counsel has stated that collective custody is compatible with existing laws and allows dematerialization of certificates for trading. Investors may still have certificates issued in their own name upon request.

There are still other ways of achieving fungibility that are not recommended, including: bearer securities, jumbo nominee certificates, and "deferred printing" (e.g., Switzerland).

Collective Safe Custody in Indonesia

Legal experts have advised that *collective safe custody* is applicable in Indonesia under existing law. A BAPEPAM rule and an agreement between the Ministry of Justice, private exchanges, and issuers would establish a uniform practice. The recommended approach is that the exchange, *as a condition of listing*, require issuers to adjust their by-laws to provide that shares being held in common by a group of investors may be represented on the issuer's books by a single person, the custodian. The articles of association of most issuers already contain a similar provision.

The mechanisms for book-entry settlement which we recommend are the same as used in other countries with central depositary systems. Shareholders may be registered on the books of the company in their own names (in which case certificates would be issued), or their shares may be in the name of a custodian bank (as representative of the beneficial owners) and held collectively with other investors. Trading on the exchange should be limited to shares in *collective custody*. Such shares are deposited with the central custodian and registered as being held in common with other investors. Investors must deposit shares registered in their own names with the custodian and have these shares

Beneficial Owners are identified by account numbers on the books of the central custodian. Shareholders with certificates are listed on the books of the issuer. The custodian will inform the issuer as to the beneficial owners of the shares.

Central Custodian's Books - Shares of PT ABC		
Beneficial Owner	Account Number	Number of Shares
Mr. A.	*XX-00-AC2J97-Z-D0-1*	20,000
Mrs. B.	*YA-00-DN34K9-Y-A3-0*	10,000
OTHER CUSTODIAN (beneficial owner not divulged)	*ZA-34-BE231N-A-29-1*	50,000
Mr. C.	*CC-00-23FG45-1-43-0*	20,000
Total Shares of PT ABC In Collective Custody:		100,000

Books of PT ABC		
Shareholder	Certificate Number	Number of Shares
Mr. D.	*12312134-A*	500,000
Mr. E.	*12312134-B*	800,000
Mrs. F.	*12312135-A*	600,000
Central Custodian	*None*	100,000
	Total Shares Issued:	2,000,000

57

transferred to *collective form* before trading them on the exchange. (This is done automatically by the custodian under general instructions in all new account forms.) Shares in *collective form* are fungible and are available for book-entry settlement.

Shares that are purchased on the exchange will be delivered to the buyer in *collective form* by book-entry settlement. Buyers may leave them in a securities account with the central custodian or may request that the shares be transferred to their own name and that a certificate be issued. In practice, *collective custody* is similar to "street name shares". *Collective custody* is an acceptable way to achieve fungibility in countries without trust legislation.

The chart on the previous page shows how the books of the central custodian and the issuer (or a *securities administrative agency*) record shares held in *collective custody.*

In this example, PT ABC has issued 2,000,000 common shares, of which 1,900,000 are held by controlling shareholders (D,E,F) *who hold certificates.* There are 100,000 shares in *collective custody* represented by the central custodian, *with no certificates issued.*

The books of the central custodian reveal the names of the beneficial owners of the 100,000 shares of PT ABC. In one case (Other Custodian), the beneficial owner is unknown. This account represents shares deposited by another custodian. This other custodian knows the identity of the beneficial owners. The model *collective custody* rule in the Appendix requires that both the central custodian and the other custodian inform the issuer of the names of the beneficial owners whenever requested.

The central custodian can verify that the number of shares held in custody is correct by simply looking at the total on its books and checking this with the issuer's total. Discrepancies are resolved by examining the debits and credits in the same way a depositor verifies a current account with his banker.

The Account Number Code

Each account with the central custodian has an account number. This number must be entered at the broker's terminal when putting an order into the system. The account number contains the following encoded information:

- the number of the account;
- the nationality of the account holder;

54

- the tax status of the account holder;
- the broker with powers to operate the account;
- the code of another custodian that handles the account (e.g., Other Custodian in the previous example).

Payment of Dividends

When PT ABC pays dividends to shareholders who have shares deposited in collective custody, it issues a check to the central custodian for the total amount of the dividend. In the above example, if a dividend of Rp. 1,000 per share were declared, PT ABC would issue a check for Rp. 100,000,000 to the central custodian with respect to the 100,000 shares it holds, *less an amount withheld for taxes*. The tax deduction is based on information provided by the central custodian regarding the tax status of each beneficial owner.

When the central custodian receives the dividend check, the amount is entered at a computer terminal. The program automatically distributes the dividend to the beneficial owners, posting each account with the proper amount, less tax. Dividends are then available for immediate investment or withdrawal and appear on the monthly statement sent to each account owner. A similar procedure is used for stock bonuses, with a special convention for handling fractional shares (see Appendix).

Statements and confirmations related to the accounts of other custodians are delivered on magnetic disk or tape, so that each custodian may merge the name and address of the beneficial owners and distribute this information on its own forms and stationery.

Collective Custody and the Issuer

In order to achieve fungibility and book-entry settlement, there can be but one central custodian, since a single bank should be registered on the issuer's books. With all traded shares held in one custodian, representing both buyers and sellers, settlement occurs merely by postings on that bank's books.

To further explain this process, let us imagine that Mr. A, in our example, decides to sell 20,000 shares of PT ABC to Mr. C. Since these shares are held in collective custody, the transaction will be registered on the books of the central custodian, but not those of the issuer. The issuer will become aware of the change in beneficial ownership at the next reporting period, which would

Central Custodian's Books - Shares of PT ABC		
Beneficial Owner	Account Number	Number of Shares
Mr. A.	*XX-00-AC2J97-Z-D0-1*	0
Mrs. B.	*XA-00-DN34K9-Y-A3-0*	10,000
OTHER CUSTODIAN (beneficial owner not divulged)	*ZA-34-BE231N-A-29-1*	50,000
Mr. C.	*CC-00-23FG45-1-43-0*	0
Total Shares of PT ABC in Collective Custody:		60,000

Books of PT ABC		
Shareholder	Certificate Number	Number of Shares
Mr. D.	*12312134-A*	500,000
Mr. E.	*12312134-B*	800,000
Mrs. F.	*12312135-A*	600,000
Mr. C.	*12312236-D*	40,000
Central Custodian	*None*	60,000
Total Shares Issued:		2,000,000

usually be prior to the next meeting of shareholders or dividend payment. The issuer can also request that all custodians provide the names of the beneficial owners at any time.

Mr. C votes his shares at the meeting of PT ABC simply by appearing and identifying himself. The issuer will have a updated list of beneficial owners supplied by the custodians.

In the above example, we indicated the postings which occur when Mr. C prefers to have his 40,000 shares of PT ABC in certificate form. To achieve this, he requests the central custodian to instruct the issuer to issue a certificate for 40,000 shares in his name. The issuer may charge the shareholder for this service. After Mr. C converts his holdings to certificate form, the books of the custodian and issuer appear as shown on the above example.

Is a CSD Institution Necessary?

The Capital Market Decree of 1990 allows exchanges to handle clearing and settlement in a variety of ways. *Clearing, Settlement, and Depository Institutions* (CSDs) are authorized in the CMD (Chapter III, Section II), but it is not necessary that exchanges use such institutions to handle settlements. Article 17(g) indicates that use of CSDs is optional.

Since a CSD requires a minimum capitalization of Rp. 15 billion, and since the same practical result can be achieved by a *contractual arrangement between the Jakarta Securities Exchange and an approved custodian bank*, without a similar capital requirement, there is no economic or operational justification for organizing a CSD at this time. Instead, it is proposed that the management of the private Jakarta Securities Exchange negotiate an agreement with an established custodian bank to act as *central custodian* for settlement of exchange transactions.

The Role of the Central Custodian

The central custodian occupies a very important position in this securities market design and performs what is, in effect, a public service. It may be appropriate that a publicly-owned bank be selected for this role. A contract should be negotiated between the Jakarta Securities Exchange and the central custodian that will provide that:

- the central custodian will receive a percentage of the transaction fee as remuneration for its services;
- *the central custodian will not charge a separate fee for opening and maintaining individual accounts for securities held in collective custody;*
- the central custodian will operate such accounts in accordance with rules established by the exchange;
- the central custodian, subject to certain limitations, will receive the benefit of the float on the cash deposits in the accounts.

51

- in exchange of a percentage of the transaction fee, the central custodian would perform the following securities administrative services without charges:
    1. collection and distribution of dividends and other entitlements;
    2. book-entry settlement of transactions executed on the exchange;
    3. listing of beneficial owners of shares held in collective custody;
    4. distribution of shareholder reports, statements, and other communications from issuers to security holders;
    5. exercise control of tax status, broker authorization, and proof of nationality documentation for account holders;
    6. issue confirmations and account statements, in accordance with exchange rules;
    7. administer "deferred settlement" transactions;
    8. administer accounts of other custodians;
    9. report tax status and tax withholdings to issuers, account holders, and the government;
    10. provide off-site storage of duplicate records for recovery in the case of disaster;
    11. cooperate with periodic, independent audits of accounts.
- the central custodian will not refuse accounts from the public on the basis of size or minimum balance. Accounts may be closed, subject to approval by the exchange, in the case of moral or credit risk, or unreasonable use.

The Broker-Custodian Link

Investors must have an account with the central custodian, either directly, or indirectly through another custodian or broker. Each account is linked to one and only one broker with whom the investor has a client relationship. If the investor wishes to deal through two brokers, he must have two accounts, one for each broker.

Brokers can inspect the accounts of their clients from their trading terminals. Account information is available only to the investor's broker and the custodian. Brokers have the same access to the same information regarding a client's position as the broker would have if the client had opened the account directly with his firm.

56

In some markets with similar systems, the investor's account with the central custodian can be used to settle transactions with any member of the exchange.

The design for the Jakarta market specifically rejects this approach, in order to strengthen the client-broker link. Allowing investors to deal with many brokers from a single account with the central custodian has several disadvantages:

- *general access accounts* present security risks, both with regards to authorizing movement in the account as well as granting access to customer information.
- *general access accounts* make it easy for clients to obtain services from one broker and go to another with a lower commission to make the trade. This is detrimental to the development of technical support services.

Investors who wish to switch brokers must make an agreement with the new broker and submit a copy of the contract to the central custodian, requesting a new account number. The account number code identifies the broker in charge of that account. Investors may deal with any number of brokers, but they must have an account for each broker through whom they wish to trade.

System Implementation

Recommendation #6:
System Acquisition Through a Service Company Contract

The design and implementation of automated systems for securities exchanges, clearing and settlement institutions, and brokerage back-office operations is a highly specialized field. Persons who design such systems must not only be expert in computer technology, but also must have practical knowledge of procedures and customs of securities markets. However, it is possible to purchase all the technology and management skills needed to implement the system, and the projected funds and cash flow of the Jakarta Securities Exchange are adequate for this purpose.

No two securities markets are the same. Therefore, every automated system must be tailored for a particular market. However, this does not mean that the software for such systems need be entirely rewritten for each exchange. *Most of the software needed for the Jakarta system already exists as tested application modules, database systems, and operating systems that can be modified and combined to meet the specifications for the Jakarta exchange.* Because of the availability of these modules and the existence of specialized system implementors, the system proposed in this report can be acquired in a *relatively short time.*

Since there are no automated securities exchanges in Indonesia, the technical know-how must be acquired from abroad. *In fact, there is no justification for purchasing anything less than the best systems available.* Acquisition of automated systems for financial markets is normally done on the international market. For example: Amsterdam and Bangkok purchased their systems from the Midwest Stock Exchange (Chicago); Mexico City and Caracas purchased VCT software from Vancouver (Canada); Paris and Sao Paulo (Brazil) purchased the CATS system from Toronto; Vancouver and Kuwait purchased systems from TCAM in New York.

Suppliers of Exchange Systems

There are essentially two sources of software modules for securities exchanges: *automated exchanges* and *specialized system implementors*. Exchanges which have already sold their systems to other markets include: The Midwest Stock Exchange (MSE); The Toronto Stock Exchange (CATS); The Vancouver Stock Exchange (VCT); and OM International (Sweden). The Australian exchange has also expressed an interest in selling its system. Many software developers offer products related to securities markets. Some of these specialize in writing programs for specific hardware, while others focus on certain types of securities market activities. Some exchanges offer limited technological assistance without charge, but we know of no such offer that is a practical, economical way to acquire the high-quality, modern systems that the Jakarta Exchange needs.

Although most of the software modules for the proposed Jakarta system exist, these programs must be adapted and linked together to fit the design specifications for this market. The design has been developed so as to require a minimum of such modifications, with respect to standard procedures in other markets. The modification and adaptation which is necessary can best be done by the specialists who wrote the original modules and who also have experience in adapting their systems for different exchanges. Some stock exchanges develop their own systems by using in-house programmers (e.g., Singapore). However, even in countries with an adequate supply of programming talent, exchanges have purchased their systems from other exchanges or software vendors in the international market.

Implementation by Contract

We recommend that the private Jakarta Exchange acquire a system of the type described in this report by means of a purchase-and-service contract with a qualified vendor. In order to simplify contract management, such vendor should be a consortium of software and hardware firms, along with experts in custodial services. Invitations for bids should call for a team that has the combined know-how and ability to deliver the system within a specific time period, with adequate performance guarantees. The contract should also require the vendor to train the brokers, the central custodian, and the exchange officials in its use.

An important element in the acquisition of these systems is *technology transfer*. Such transfer requires the vendor to train Indonesian personnel in all aspects of running, maintaining, and programming the system. This transfer will provide the exchange with the ability to run and maintain the system without outside assistance. Technology transfer is needed so that the Jakarta Exchange will be able to adapt the system for new products and services, as well as to upgrade capacity to handle more listings, investors, and trading volume.

The contract should provide that, for a percentage of the transaction fee, the service company will operate the system after installation, making necessary adjustments and further adaptations, assuring a full transfer of the technology to the exchange. Therefore, the service company should purchase and install the equipment, manage the computer facilities, provide financing, deliver managerial and technical assistance to the central custodian, and operate the system. After three years, the need for a service company to manage the installation should be reduced, although there may be business reasons for continuing with such an arrangement.

The use of a service company to manage exchange automation facilities is a common practice. In the United States, the Securities Industry Automation Corp. (SIAC) processes trade price information for the New York Stock Exchange, the American Stock Exchange, five regional exchanges, and the National Association of Securities Dealers. In many countries, central depositories provide automation services to the market.

Contract Management Procedure

The specification and negotiation of the contract for the automation of the Jakarta Securities Exchange is in itself a highly technical task and requires that the exchange management be assisted by competent independent specialists in the field, as well as legal counsel. However, expert assistance can and should be acquired to facilitate this process.

The recommended procedure for implementing this proposal is as follows:

- **Establish an Operational Strategy**: An operational plan should be determined by the organizers of the private Jakarta Securities Exchange and included in the operational proposal submitted to the Minister of Finance, through the Chairman of BAPEPAM, when requesting approval in principle of the exchange license. Preliminary agreement should be obtained from a bank to act as central custodian;

- **Select an Operational Vice President**: Once the promoters obtain approval in principle to organize the exchange, management should be hired and a Vice President of Operations should be given the responsibility to implement the plan, subject to approval of the Board of Directors. The Operational Vice President should chair a special management committee that is assigned to monitor the modernization process;

- **Manage Bidding and Contracting**: The Operational VP should obtain technical assistance regarding the process of requesting bids and contracting for the implementation of the plan. The responsibilities of the central custodian should be determined in detail and a contract negotiated. With technical assistance, the following tasks should be accomplished:

1. **Design Bid:** Design the bidding process (qualifications of bidders, specify the tasks of the service company, draft requests for proposals, set technical specifications for bidding and criteria for examining and evaluating bids.)

2. **Request Bids:** Request proposals for implementation of the operational plan of the Jakarta Securities Exchange;

3. **Award the Bid:** Select the winning bidder and negotiate final contractual details;

4. **Contract the Tasks:** Sign the contract with the service company (the consortium) and implement the operational plan.

- **Monitor Contract Implementation:** The Operational VP should establish a permanent operation, with specialized technical assistance, to monitor and oversee the implementation of the contract, reporting regularly to the Board of Directors. There should be a public relations function to keep the exchange membership and the public informed of progress. Three months before the system is set to go on line, training of brokers, the central custodian, other custodians, transfer agents, and exchange officials should begin.

- **Supervise the Facilities Management Contract:** After the system is delivered and accepted, the service company and the central custodian should begin to perform under the long term service contracts with the Jakarta Securities Exchange. The Operational VP should monitor and report on these contracts to the Board of Directors, on a regular basis. The Operational VP should be responsible for taking corrective measures when performance under the service contracts is inadequate.

Managing the Transition Period

Current operational difficulties of the Jakarta Securities Exchange and its members can be resolved either by implementing traditional, manually-operated securities exchange procedures, or by adopting a modern automated system design as described in this report. We estimate that it could take *three or more years* for the exchange and all current broker-dealers to set up and become proficient in traditional, certificate-based, manual brokerage operations. The following would need to be accomplished to improve certificate-based trading without automation or central custody:

- all brokers would have to implement the complex dual money-securities accounting systems, with interlocks and daily closing of books, as in traditional markets;
- transfer agents and issuers would need to substantially improve the speed with which they process transactions, to attain a turn-around time of under two days;
- commercial legislation may need to be modified to facilitate the use of share certificates as collateral;
- brokers would have to make investments in office equipment and systems, as well as in training of operational staff.

In contrast, a modern, certificateless exchange could be implemented within one year and at far less expense, if properly managed. We do not believe it is possible to correct current problems with certificate-based trading faster than it will take to install an automated, certificateless system. *Therefore, the basis transition strategy which we recommend is to proceed as fast as possible to full automation so as to keep the transition period to a minimum. It is also important to disclose the plan fully to brokers, custodians, issuers, and transfer agents so that all can plan and organize their businesses accordingly.* The critical responsibility of the securities exchange during the transition period is to assure that the modernization process is supervised by competent, experienced business managers.

International Links

Recommendation #7:

Settle International Trades through Custodians

Because of the substantial participation of foreign investors in the Indonesian market, the Jakarta Securities Exchange needs an operational system that takes into account the needs of international clients. Exchange services should be designed to strengthen the competitive position of local brokers. The exchange system should help Indonesian brokers to be in a better position to compete for international business.

The image of the Jakarta Securities Exchange is important. Foreign brokers, global custodians, and other non-member intermediaries should consider the Jakarta Exchange as providing a practical and cost-effective means of investing and trading in Indonesian securities. In the interest of creating an efficient, uniform market, the exchange should attempt to be so efficient that fragmentary secondary markets in Indonesian securities will not develop.

In designing relationships with international markets, we have specifically avoided the cross-listing of JSE securities on foreign exchanges. The system is not intended to stimulate international arbitrage in JSE listed securities. Techniques associated with international arbitrage, such as 24-hour trading, cross-margining, cross-netting, and on-line connections between central depositories are not recommended.

The exchange system should attempt to provide each Jakarta broker with the means to deliver services to international institutional investors that meet standards at least as high as those in the investors own market with respect to:

- precision and care in order execution;
- speed and accuracy of trade confirmations;
- reliability of account statements;
- safety and efficiency of securities administration services;
- assurance of timely, final settlement, in same day funds.

Specifications for Effective International Links

The primary goal of linking the Jakarta market with other world markets should be to encourage foreign investment in Indonesia. To a large degree this depends upon the investment merits of the securities listed. However, the liquidity and efficiency of the secondary market is also extremely important. The Group of Thirty recommends that each exchange's first priority should be to provide the highest quality services with respect to *domestic settlements* and *securities account administration*. Sophisticated links between the JSE central custodian and CSDs in other countries may be left for a later date.

Recommended guidelines for effective international linkage are as follows:

1. All quotations, trading, confirmations and statements should be in *Rupiah*. All dates and times should be *Jakarta time* (WIB). Confirmations to foreign addresses may also indicate equivalent dates and times in the clients country. Confirmations and statements from the central custodian should have text in *Bahasa Indonesia* and *English*. Confirmations and statements issued by other custodians may be in any language. All trades should be confirmed immediately at the broker's terminal. Written confirmations of deferred trades should be sent by the central custodian on day T+1. This meets Group of Thirty recommendations #1 and #2.

2. International communications by telex or other electronic communication should conform to *International Standard ISO 7775/1* and *ISO 7775/2*. (These are standards for message types -- Receipt/Delivery and Order to Buy/Sell). The codes for securities traded on the exchange should conform to the *ISIN* numbering system (International Securities Identification System), which should be administered by the Jakarta Securities Exchange, subject to BAPEPAM approval and oversight. This meets the Group of Thirty Recommendation # 9 on ISO Standards.

3. All settlements on the Jakarta Securities Exchange should be by *book-entry* at the *central custodian*, with *delivery against payment* after the close of business on the day of the trade. This fulfills the Group of Thirty Recommendation #5 -- DVP.

4. Postings of settlements of deferred transactions on the Jakarta Securities Exchange between brokers and clients should be by book-entry at the central custodian, with delivery against payment on the day on

which the settlement is *so instructed by both the broker and the client.* This also fulfills the Group of Thirty Recommendation #5 -- DVP.

5. Settlement of transactions on the Jakarta Securities Exchange should be in *same day funds*. This fulfills the Group of Thirty Recommendation #6 -- SDF.

   Same day funds means in this context that:

   - The proceeds of a sale may be used to purchase other securities listed on the exchange *on the same day as the trade;*
   - All trades that are matched on the system are *guaranteed* to have *final settlement* after the close of business on the day of trade. In practical terms, the transaction is virtually settled once matched, since the trade can be reversed only by approval of the buyer, the seller, and the exchange;
   - All money credits to securities accounts by the central custodian with respect to settlements of trades are *irreversible*;
   - All settlements are *final* as of the close of business on the day of the trade. Postings of settlements of deferred trades are also final and irreversible;
   - Checks deposited to securities accounts with the central custodian will be valued only when cleared, according to rules established by the custodian with the approval of the securities exchange;
   - All money balances in accounts with the central custodian represent immediately available credit with the central custodian;
   - Money balances in sub-depository accounts of other custodians with the central custodian will be offset by equal deposits in those banks.

6. Securities which may be owned by foreigners (i.e. securities without restriction of ownership by nationality) shall be identified with a *different ISIN number from securities which can be owned only by Indonesians.* This classification shall be made by the issuer or his agent at the time the securities are converted from certificate to collective custody format. Securities accounts of the central custodian and other custodians shall

reflect these different ISIN numbers. Trading in securities on the exchange shall have separate quotes for each ISIN number identification. Orders to purchase securities which may be owned only by Indonesians may *not* be entered for accounts that are owned by foreigners. Custodians should be responsible for correctly indicating the nationality of all accounts.

7. Orders are accepted on the Exchange only for accounts which have the proper securities in collective custody form or free credit balances in account with the central custodian, and settlement is made in the same way. *Collective custody form means that the issuer has guaranteed that there are no liens or encumbrances on the securities on the books of the issuer, and that the security is authorized and genuine.*

8. All international "deferred" trades should be subject to a prior contractual arrangement between a foreign intermediary or investor and a member of the Jakarta Securities Exchange or a custodian bank with deposit accounts with the central custodian. This contract should follow a standard format; approved by the exchange and BAPEPAM. Most of the terms of the contract (e.g., interest rates, commissions, collateral, legal jurisdiction, communication expenses, etc.) should be freely negotiable between the parties. All such contracts should require that settlement of deferred trades and related correspondence be processed through a custodian bank in Indonesia. Confirmations of such trades should be delivered by the central custodian to the investor's custodian in Indonesia by the close of business of Day T+1, both in paper and electronic form. This fulfills Recommendation #2 of the Group of Thirty.

Using Foreign Custodians as the Linking Institution

In most markets, institutions investing abroad prefer to do so through a broker in their home market or through a global custodian. Such institutional investors usually leave portfolio assets in custody with a bank, rather than with a broker-dealer. Arranging delivery-against-payment settlement between custodians of both buyers and sellers requires a dual comparison system involving custodians, brokers, and institutional investors. Most such systems require settlement periods that vary from two to five days.

The recommended link between the foreign institutional investor and the Jakarta market is a *securities account* maintained in a custodian bank in Indonesia either by the investor's home-market broker or by the investor's global custodian. These custodial accounts should be, in turn, reflected in matching securities accounts with the central custodian. Each account should be linked with the *specific JSE broker* who set up the relationship.

An effective method that foreign institutional investors could use to trade on the modern JSE is described below.

Sale of Securities by Foreign Investors

The securities to be sold should already be on deposit in Jakarta with a sub-depository of the investor's global custodian in an account linked to a specific member of the JSE. To sell these securities, the institutional investor may proceed in one of three ways:

1. **Trade through a Custodian**: The investor would send a sell-order to his global custodian, who transmits it to the Jakarta sub-custodian, who transmits it to the JSE member for execution. The order is entered directly for the account of the investor and settled automatically upon execution.

2. **Trade through a Home Broker**: The investor would send a sell-order to his broker in the home country, who then transmits it to the Jakarta broker, who enters the order for automatic settlement upon execution.

3. **Trade through a Jakarta Broker**: The investor would send a sell-order directly to a broker who is a member of the JSE and who is indicated on the investor's account with the sub-custodian. The broker enters the order for automatic settlement upon execution.

As long as the investor has securities on deposit with the sub-custodian and has a client relationship established with the JSE broker, such selling transactions will be executed quickly, without the need to issue separate instructions to the domestic custodian. Commissions will be paid automatically into the account of the JSE broker, who pays the foreign broker, if required. A sell-order sent from New York at 10 AM, New York time, could be executed at the opening of trading on the Jakarta exchange (10 PM, New York time) with immediate availability of funds for reinvestment. Confirmation of execution could be available either immediately by fax or phone from the broker on the night of the day of the initial order (NY time), or by telex from the central custodian by 10 AM (NY time) of the day following the initial order.

Because investors would normally have securities on deposit with the global custodian, there may be no need to establish facilities for lending securities (unless there is interest in financing short selling). Such additional financial facilities could also be implemented at a later date

A selling transaction of this type meets strict operational requirements for institutional investors because: (1) settlement always involves *delivery against payment;* (2) settlement is *final* and in *same-day-funds*; (3) settlement is *guaranteed.* The sell order should be in writing (telex or fax) and follow ISO standards, so that misunderstanding the investor's intentions is avoided.

The investor's sub-custodian should receive a written advice from the central custodian as of the day following the trade. The Jakarta broker should confirm the trade to the custodian immediately upon execution, if instructed to do so. When Rupiah proceeds are to be remitted abroad, the foreign exchange and transfer transaction should be handled by the sub-custodian upon instructions of the investor.

Purchase of Securities by Foreign Investors

If the foreign institutional investor already has sufficient Rupiah funds on deposit in his securities account or can arrange to have such deposited by agreement with the global custodian, the purchase of securities on the JSE would proceed exactly as in the case of a sale, as indicated above.

If the foreign institutional investor can not arrange to have funds on deposit with the sub-custodian prior to entering the order, *the transactions must be financed,* either by the foreign broker, the custodian, or by the JSE broker. There are many ways in which such may operate.

70

For purposes of illustration, financing through the foreign broker might proceed as follows:

1. The foreign broker would establish a securities account with the domestic custodian and a Rupiah line of credit. The foreign broker must have established a correspondent relationship with a JSE member firm and made an agreement regarding commissions.

2. Upon receiving a purchase order from a foreign investor, the foreign broker, having decided that the investor merits credit, telephones the JSE member to determine current market prices. If it appears that a trade can be executed immediately, the foreign broker sends a telex to the custodian in Jakarta requesting the line of credit be used to transfer funds to his account.

3. With the necessary funds in the custody account, the foreign broker requests the JSE member to enter the purchase order for his account as "financed" with "deferred settlement" terms, interest, and commissions as agreed between the foreign broker and the institutional investor. (e.g., settlement by T+4, commission of 1.25%, late interest of 40% per year)

4. The JSE member enters the order on his terminal. Upon execution, he advises the foreign broker. The central custodian sends a telex confirmation to both the foreign broker and the foreign investor. The commission on the regular trade is credited to the account of the JSE broker on the day of execution. The purchased securities are credited to the account of the foreign broker with the custodian, which is debited the purchase price, regular commission, and other normal transaction costs.

5. The foreign investor receives the deferred settlement confirmation. This confirmation has a trade ID number and indicates how the financed trade is to be settled. The foreign investor instructs his global custodian to transfer sufficient funds in Rupiah to the sub-custodian with instructions to settle the trade. The custodian executes the foreign exchange transaction and credits the account of the foreign investor, advising the central custodian to settle the deferred trade, referring to the transaction number. Upon instructions from the sub-custodian, the central custodian settles the trade by debiting and crediting the accounts of the foreign broker and the foreign investor. There is no additional charge for closing out a "deferred settlement" trade.

6. After deferred settlement, the foreign broker repays the loan from the custodian and may convert and remit his net commission on the transaction.

A financed purchase transaction might yield a profit for the foreign correspondent who finances the trade and the JSE broker, as follows:

Value of trade:	Rp. 10,000,000.00
Commission:	150,000.00
Less	
JSE Broker's Commission	50,000.00
Interest on loan	32,876.00
Net Profit for the Financing Broker	67,124.00

The above example is merely illustrative, and assumes that the foreign broker charges his client a commission of 1.5% in order to cover financing and transaction costs. The Jakarta broker charges him a 0.5% commission to execute the trade on the exchange. The custodian bank charges the foreign broker interest of 30% per year on four-day financing. Before communication and incidental cost, the foreign broker earns a profit of Rp. 67,124.00 on the trade.

This transaction could be financed by the JSE broker in the same way, although it may be easier for the foreign broker to arrange adequate guarantees or collateral in the home country of the institutional investor.

JSE members develop international business by establishing correspondent relationships with foreign brokers, global custodians, and large foreign institutional investors. Since *all* JSE members would provide equivalent services in terms of settlement, members would compete for this business on the basis of marketing skills; information services and analysis of securities on the JSE; quality of order management and trade execution services; investment advice; and the ability to finance settlement.

12

A National Market System

Recommendation #8:

UNIFY INDONESIA BY A NATIONAL MARKET SYSTEM

To maximize liquidity of shares listed on the Jakarta Securities Exchange, investors throughout Indonesia should be able to easily place orders and settle transactions. This goal is served when major cities throughout Indonesia have offices of members of the Jakarta Exchange. Branches of custodian banks that are linked to the central custodian should also be in these cities.

A National Market System

By *National Market System*, we mean a single marketplace for trading securities of any company with a public issue in Indonesia. Whether Stock ABC is traded in Jakarta, Surabaya, or Medan, the bids and offers should be centralized in a *single order book*, so as to assure the best market. Regional stocks should be as easily purchased as stocks of nationwide interest. An investor should be able to sell a stock in Semarang and immediately, on the same day, use the proceeds to purchase another stock on the Over-The-Counter market in Jakarta. Brokers in Medan should be able to see an open order book that will show all the offers for every stock traded in Indonesia, from every broker in the country.

There are important advantages of a National Market System:

- by listing all securities in Indonesia in a single market, the number of issues that a broker may buy and sell is maximized, thereby increasing the options available to investors;
- a centralized single market can take advantage of economies of scale and provide more efficient services;
- the concentration of orders from all of Indonesia in a single order-book increases the liquidity of listed securities;

A well-designed National Market System can also satisfy the special needs of regional issuers and brokers, as well as provide markets for different types of securities.

The Concept of Listing on Different "Boards"

One of the functions of securities exchanges is to provide investors with the service of pre-selecting securities through the listing process. Different exchanges set different listing standards and some are more rigorous than others. For example, listing on the Over-The-Counter market has less strict requirements than listing on the Jakarta Securities Exchange. Regional markets usually list securities of local interest.

There is a way for a single National Exchange System to operate a unified market, with different listing requirements for different groups of securities. This is done by establishing separate listing committees and rules for separate trading "boards". A "board" is simply a group of securities which meet a certain listing classification and which are quoted separately from securities on other "boards". The public is aware of the different boards, because the securities on each board are printed in a different table in the newspaper. Each board also maintains a separate quotation service. However, from the broker's point of view, there is little practical difference, because all securities are traded on the same terminal, irrespective of "board."

Linking Regional Markets by Satellite

Indonesia is fortunate to have a satellite system which can be used by regional brokers to trade on a central market located in Jakarta. The system available for this is VSAT offered by P.T. Citra Sari Makmur under license from the Telecommunications Authority of Indonesia (Perumtel). The term VSAT stands for Very Small Aperture Terminal. VSAT systems require very small antennas which are transportable, economical and reliable. By using satellite communications to connect a regional trading floor and a branch of the central custodian to their counterparts in Jakarta, a National Market System can be created.

Direct linkage of terminals from regional cities to Jakarta by satellite will work adequately for a light volume of trading. Because of the technology used, there is a delay of a few seconds between sending and receiving messages by satellite. The systems recommended in this report do not take into consideration the redesign of communication software to improve response time for regional markets, as this is not expected to present significant problems at first. Direct hook-up of a regional terminal to the Jakarta Exchange should provide adequate service for up to 1,000 trades per day.

As the market develops, additional investment will be necessary to provide efficient communications for heavier traffic from regional markets.

14

The Role of Domestic Custodians

Like global custodians and international investors, domestic branch banks can provide a similar link between regional investors and brokers and the central custodian of the Jakarta Securities Exchange. For example, an investor in Medan might deposit shares in a securities account of a custodian bank in that city, linked to the central custodian in Jakarta and to a member of the JSE with an office in Medan. Once the securities were in "collective custody" form, the investor's broker in Medan would enter the order to sell on his terminal. The order, transmitted by satellite to Jakarta, would be executed and settled on the same day in the investor's sub-account with the central custodian. If the investor wishes to reinvest the proceeds, the order to purchase other securities can also be entered immediately, executed, and settled by satellite.

Domestic custodians may handle the transport of securities certificates between their regional branches and the central custodian. The central custodian would convert these certificates into "collective custody" form by sending them to the issuer. From the point of view of the investor, the certificates would have been deposited with a local custodian and will be registered on an account statement presented by that custodian. If the investor wishes to withdraw the certificate, he instructs his local custodian, who transmits the order through the central custodian to the issuer.

Joining Forces with Regional Exchanges

We recommend that the private Jakarta Securities Exchange invite regional exchanges and brokers to join the JSE as members, with the following special conditions:

- regional brokers would be full members of the JSE and would be eligible to elect members of a regional listing committee to choose securities to be listed on their respective regional "boards", as well as regional operational committee members to supervise the management of exchange facilities in their region;
- regional brokers would have the right to a place on a regional trading floor, instead of the Jakarta trading floor;
- regional brokers could convert a "regional seat" into a "Jakarta seat" or any other "regional seat", upon request, at any time, without paying a fee;

- all members, regional or otherwise, would pay the same dues to the JSE and would have access to the same automated trading, settlement, and back-office facilities;
- all members, regional or otherwise, would be able to set up an unlimited number of terminals from their offices, provided they can arrange the communication links, and subject to reimbursement of installation and equipment costs.

Under the National Market System, brokers throughout Indonesia could be members of the Jakarta Securities Exchange, or an alternate Indonesian Securities Exchange. Those from certain regions could maintain a regional identity and have access to a special trading floor and communication link in their city. The regional brokers would be able to establish listing requirements for regional listings and to manage regional installations. Regional brokers could also have offices in other cities, including Jakarta, and these offices could be linked to the central Jakarta computer, if communication facilities are available.

The improvement of communication facilities in Indonesia is obviously a key determinant in the expansion of the capital market. However, even with existing communications, it is possible for brokers to gather together on exchange floors in different cities and to link these floors by satellite to a central computer, thereby achieving a far more efficient market than at present. As time goes on, it is expected that the general communication infrastructure will improve. The basic system recommended here will serve as a basis for rapid expansion of the market.

16

Appendix

Securities may be made fungible by using the mechanism of ***collective custody.*** *A legal basis for* ***collective custody*** *already exists in Indonesian law. However, in order to clarify relationships among market participants, a BAPEPAM rule could serve as a useful standard. In the same rule, certain issues regarding tax collection, responsibility for verification of the nationality of shareholders, and other matters could be settled. As a means of defining the nature of* ***collective custody*** *and the responsibilities of the Central Custodian, a model rule is presented in this Appendix.*

Model Rule on Central Collective Custody

1. **DEFINITIONS:**
For the purpose of this rule, *collective custody* refers to **securities** that are owned jointly by more than one **person**, when such collective owners are represented by a **custodian bank** who is not a ***beneficial owner***, and when such securities are so registered on the books of the **issuer**.

For the purpose of this rule, *nominative form* refers to **securities** that the issuer may presume to be owned by the persons or persons in whose name they are registered on the books of the issuer and which may or may not be represented by certificates.

The central custodian is selected by the securities exchange.

a. **RESTRICTIONS ON THE RIGHT TO ACT AS *CENTRAL COLLECTIVE CUSTODIAN:***
A bank may act as the representative of securities held in *central collective custody* only when:

1> the bank is a **custodian** approved by BAPEPAM;

2> the bank has been selected by a licensed securities exchange to provide *central collective custody* services with respect to securities listed on that exchange;

A9'

3> the bank is in compliance with BAPEPAM Rules with respect to approved custodians;

4> the *central collective custodian* is not the ***beneficial owner*** of any security held in *collective custody*, nor does the *central collective custodian* have such securities in guarantee of any obligation; and

5> the *central collective custodial arrangement* is covered by standard contracts, established by an exchange and approved by BAPEPAM, such contracts to be between the bank and the securities exchange, the bank and the ***beneficial owners*** of the securities, the ***beneficial owners*** of the securities and members of the securities exchange, the bank and the issuer, and the securities exchange and the issuer. In these contracts, the ***beneficial owner*** may be represented by another custodian bank.

b. **OBLIGATION OF A *CENTRAL COLLECTIVE CUSTODIAN* TO PROVIDE SERVICES TO THE PUBLIC:**
Banks authorized to hold securities in *central collective custody* must accept such custodial accounts from any person that so requests, subject to the standard contracts indicated in article 1.a.5>, above.

The central custodian may not charge the public to open securities accounts. Other custodians may, however.

1> The *central collective custodian* may not charge the account holder any initial or periodic fee, nor any fee for the collection of dividends or entitlements with reference to securities in *collective custody*, conversion of securities from *nominative form* into *collective custody*, settlement of transactions on a securities exchange, blocking of funds or securities relative to transactions on a securities exchange, or delivery or receipt of funds or securities, free of payment. Fees also may not be charged to the account holder for any service which the *central collective custodian* must provide the issuer as stipulated in this rule or the rules of the related securities exchange, including the furnishing of information regarding names and nationalities of ***beneficial owners***;

2> The *central collective custodian* shall receive remuneration for its services directly from a securities exchange which has approved the *collective custody arrangement*, and may also charge the account holder in the following cases:

78

The central custodian must provide services for investors, large and small, without charge.

a> conversion of securities held in *collective custody* into securities in *nominative form* at the request of the ***beneficial owner***, when more than one certificate is requested at one time with respect to a specific issue;

b> collection of entitlements, or any other services relative to securities held in *nominative form* ;

c> transfer of funds to other banks, foreign exchange services, and other banking services related to funds held in an account;

d> reimbursement of direct costs charged by the issuer or the **securities administration agent** of the issuer, relative to administration of securities in *collective custody*;

e> safekeeping of securities in *nominative form* or bearer certificates;

3> A *central collective custodian* may close, or refuse to open, a custody account for any person that would otherwise not be permitted to maintain a regular account with the bank, except that such closure or refusal may not be based on the failure to maintain minimum balances. Any such decision by the *central collective custodian* may be appealed to the securities exchange which has authorized the relationship with the *central collective custodian*. Decisions of the exchange regarding relationships between clients and the *central collective custodian* may be appealed to BAPEPAM.

4> Complaints of persons with regard to services of *central collective custodians* shall be made to the related securities exchange. Such complaints shall be kept on file at the exchange and made available to BAPEPAM upon request.

c. *COLLECTIVE CUSTODIAN* CONTRACTS:

A custodian bank that performs the service of *collective custody* must have a written contract with all custodial clients that:

1> authorizes the bank to transfer all security certificates deposited or received for the account of the client into securities in *collective custody*, unless instructions to the contrary are given in specific cases;

There is a standard agreement between each investor and the central custodian.

2> authorizes the bank to inform the issuer regarding the identity, nationality, and tax status of the ***beneficial owner***;

3> requires the *central collective custodian* to maintain securities accounts in the name of each ***beneficial owner***, or of a custodian bank representing each ***beneficial owner***, and to post debits and credits to such accounts, showing the quantity and type of securities owned;

4> requires the bank to provide a monthly statement showing the movement and balances of all securities and funds held for the account of each client;

5> requires the bank to credit the account of the client within one day of receipt of dividends, interest, stock bonuses, or other entitlements of the ***beneficial owner*** of the securities;

6> authorizes the bank to block the withdrawal of funds or securities in an account, with regards to an order to buy or sell securities, on the instructions of a particular member of the securities exchange named by the client, according to procedures approved by the securities exchange;

7> authorizes the bank to deliver securities from the account, against payment, in settlement of transactions on a securities exchange, according to procedures approved by the securities exchange;

8> authorizes the bank to deliver funds from the account, against receipt of securities, in settlement of transactions on an exchange, according to procedures approved by the securities exchange;

9> authorizes the bank to pay funds or deliver securities from the account, with or without payment, upon written instructions of the client;

10> authorizes the bank to sell, in accordance with procedures approved by the securities exchange, any rights to fractional parts of a security that should be received into the account of the *beneficial owner* as the result of any distribution of entitlements, and to credit the account with the proceeds of such sale; and

11> authorizes the bank to provide a specific member of the exchange with all information relative to the account.

Fungibility is defined by this rule

d. ***Beneficial owners*** of securities held in *collective custody*, or their heirs or successors, shall not own securities identified by specific serial numbers, but only a specified number of securities of a certain type and class;

e. Claims regarding registry of ***beneficial ownership*** of securities held in *collective custody* shall be against the *collective custodian*, not the issuer;

f. When rights, entitlements or other corporate actions which are related to securities in *collective custody*, and when such rights are assigned only to certain securities specified by serial number, then such rights shall be divided by the *collective custodian* among all ***beneficial owners*** of such securities, in proportion to their collective holdings of that particular security with that custodian, and the position of beneficial owners adjusted accordingly.

Securities are dematerialized

g. Securities held in *collective custody* may not be represented by certificates.

Global custodians and other domestic custodians maintain accounts with the central custodian.

h. **CENTRAL COLLECTIVE CUSTODY FOR OTHER CUSTODIANS:** A bank that provides services of *central collective custody* may provide such services for other custodian banks, subject to the rules of the exchange and any or all of these special conditions:

1> The ***beneficial owner*** of the account with the *central collective custodian* may be known only to the other custodian bank which has a client relationship with the ***beneficial owner***, as long as that bank informs the *central collective custodian* of the nationality and tax status of the ***beneficial owner***, and any other information specified in the rules of the securities exchange;

2> The custodian bank that has the account relationship with the ***beneficial owner*** must agree to inform the issuer, or its agent, of the name of the *beneficial owner*, as required in this rule;

Other custodians may retain the "float" on investor's deposits

3> The *central collective custodian* may agree to maintain a deposit account with the custodian bank which has a relationship with the ***beneficial owner***, in an amount equal to the money credit balances in the related securities account with the *central collective custodian* ;

97

91

4> The custodian bank which has the account of the ***beneficial owner*** may agree to receive all statements, confirmations, and other communications related to the account, in electronic, magnetic, or other format, as long as such custodian also agrees to prepare and send paper copies of such documents to the ***beneficial owner***. Such documentation may bear the heading and name of the custodian bank with which the ***beneficial owner*** maintains a relationship, as long as such documents carry the following text: SECURITIES OR FUNDS IN THIS ACCOUNT MAY BE HELD IN *CENTRAL COLLECTIVE CUSTODY* WITH AN APPROVED BANK;

5> Each security account that a custodian bank maintains with a *central collective custodian* may relate to securities and assets of only one ***beneficial owner***, unless such account is regulated under special BAPEPAM rules.

2. **RIGHT OF A LICENSED SECURITIES EXCHANGE TO DEFINE TERMS OF SETTLEMENT:**

Any securities exchange, subject to approval of BAPEPAM, may stipulate that any or all transactions on the exchange shall refer to securities in *collective custody* form and that settlement of transactions in such securities may be by debit and credit to the accounts of the ***beneficial owners*** with the *central collective custodian*. Such settlement must simultaneously account for the exchange of funds and securities in the correct amounts needed to settle the transaction.

a. **RIGHT OF A LICENSED SECURITIES EXCHANGE TO REQUIRE *CENTRAL COLLECTIVE CUSTODY* ARRANGEMENTS:**

Licensed **securities exchanges** may, as a condition of listing, require that issuers of securities traded on the exchange modify their articles of association and administrative procedures to allow that such securities be held in *central collective custody*.

1> Issuers of securities on exchanges requiring *central collective custody* arrangements must process requests received from the central custodian bank to register securities in *collective custody* within the time stipulated by the exchange;

2> Issuers referred to in the preceding item must deliver to the custodian bank annual reports and other communications with

87

security-holders, in quantities sufficient that each ***beneficial owner*** may receive a copy;

3> The issuer, exchange, and central custodian bank must agree upon standard procedures regarding the declaration and payment of dividends and other entitlements. Such procedures must be coordinated with trading of the securities on the exchange and must be fair to security holders. Such procedures must also be incorporated in the rules of the securities exchange and approved by BAPEPAM.

b. **FORMALITIES FOR TRANSFER OF *BENEFICIAL OWNERSHIP* OF SECURITIES HELD IN *COLLECTIVE CUSTODY*:**
Transfer of ***beneficial ownership*** of securities held in *collective custody* shall be recorded by debit and credit to securities accounts maintained with the *collective custodian*. Such debits and credits may occur either as a result of a securities transaction on a securities exchange, or by an instruction to the *collective custodian* from the ***beneficial owner***. Evidence of such transfer shall be in the form of **confirmations** and statements issued by the *collective custodian*, or the custodian with which the ***beneficial owner*** maintains the account relationship, or any other documentation regarding the transaction. Custodians shall be responsible for losses caused clients due to delays, errors or omissions in recording such transfers of ***beneficial ownership***.

Book-entry settlement is defined here

3. **RELATIONS BETWEEN *COLLECTIVE CUSTODIANS* AND ISSUERS:**
Securities held in *collective custody* must be registered on the books of the **issuer** in the name of a custodian bank, with an indication that the custodian bank is merely the representative of the ***beneficial owners***;

a. Upon receipt of instructions from the custodian bank, securities held in *collective custody* must be transferred out of *collective custody* by the issuer into the name of whatever person is indicated by the custodian bank, provided that such registration in *nominative form* is permitted by the articles of association and by law.

b. Dividends, interest, or other entitlements with respect to securities held in *collective custody* must be paid by the issuer to the custodian bank, as the representative of the ***beneficial owners***.

Share are converted from nominative to collective custody form, by request of the investor

The issuer guarantees good title to shares in collective custody

c. **INSTRUCTIONS FOR TRANSFER OF SECURITIES FROM *NOMINATIVE FORM* TO *COLLECTIVE CUSTODY FORM*:**

An issuer shall transfer securities from *nominative form* to *collective custody form* only upon instruction from the person who is registered as the owner of the securities on the issuer's books, or the legitimate heir, successor, or assignee of such person. The issuer shall refuse such transfer in the case of securities which have been reported stolen, lost, or destroyed, unless guarantees are provided that are satisfactory to the issuer. Securities in *nominative form* which are pledged in guarantee of a contract or a loan, or which are subject to any judicial restriction, may not be transferred to *collective custody*. Instructions for transfer of securities from *nominative form* to *central collective custody* must be transmitted to the issuer, or the issuer's agent, by the *central collective custodian* as agent of the registered owner of the securities. Such instructions shall be in the form approved by BAPEPAM and by the securities exchange on which the securities are listed. The *collective custodian* shall guarantee the issuer and all other parties that he is the legitimate agent of the registered owner, directly, or indirectly through another custodian with a client relationship with the registered owner, and that he has on file a valid, signed power-of-attorney or other enabling document needed to effect such transfer, and that he will hold all parties harmless from loss if he is not authorized as represented. Issuers who act in good faith on the basis of such guarantees shall not be responsible for any loss related to any matter covered by such guarantees. Instructions of the custodian bank for transfer of securities from *nominative form* to *collective custody form* must request the issuer to:

1> receive certificates representing certain securities, if such certificates exist, and withdraw such certificates from circulation, stating the serial numbers of the securities to which the instruction refers;

2> register the securities as being owned collectively with other persons who are unnamed and represented by the *collective custodian*;

3> reissue the certificates only in the name of a person indicated by the *collective custodian*, when such reissuance is permitted by the articles of association of the issuer and by law;

4> pay dividends and all other entitlements on the securities to the *collective custodian*;

84

5> permit the *collective custodian* or any person indicated by him to exercise any voting rights which may be associated with the securities;

6> accept instructions from the *collective custodian* regarding the exercising of any rights associated with the securities; and

7> send all communications regarding the securities to the *collective custodian.*

d. **CONFIRMATION OF TRANSFERAL OF SECURITIES INTO *COLLECTIVE CUSTODY* FORM:**
The issuer or its agent must confirm to the *central collective custodian* the transfer of securities from *nominative form* to *collective custody* form. Such confirmation may be in any form approved by BAPEPAM, the related securities exchange, and mutually agreed upon by the *collective custodian* and the issuer. The confirmation shall state specifically that:

1> the issuer has received instructions to carry out such transfer as indicated in article 3.c. above;

The process of dematerialization

2> the issuer has examined its records regarding the ownership of such securities in *nominative form* ;

3> the issuer has accepted the instructions, without reservation;

4> the issuer has withdrawn from circulation the certificates relative to such securities, if any; and

The issuer classifies all shares in collective custody in accordance with transfer restrictions based on nationality

5> the issuer will reissue the certificates only upon instructions of the *collective custodian*, while indicating whether such reissuance instructions may be in favor of persons of any nationality, or only of Indonesian nationals;

e. **REQUIRED REPORTING BETWEEN THE *COLLECTIVE CUSTODIAN* AND THE ISSUER:**
The *collective custodian* and the issuer of the securities in *collective custody* must provide each other with the following reports and confirmations:

1> The issuer must provide to the *central collective custodian* monthly, or upon request, a statement showing the quantity of each type of the issuer's securities which are held in *collective custody* by the bank, broken down by any limitation on the nationality of persons to whom certificates may be re-issued;

a> such report shall indicate an opening balance, a closing balance, and the debits and credits to the securities account of the *collective custodian* ;

b> debits and credits to the securities account of the *collective custodian* shall be referenced to the instructions which authorized the conversion of securities to or from *collective custody* form;

c> on request of the *collective custodian,* the issuer must provide documentation to justify the debits and credits to the account, mentioned in item b> above;

d> the *collective custodian* must report to the issuer, to the exchange, and to BAPEPAM, before the close of the next business day, any discrepancy in the number of securities shown on their books and the books of the issuer. The *collective custodian* must provide follow-up reports on such discrepancies on a daily basis, until the matter is resolved;

2> The *collective custodian,* or any other custodian with a direct relationship with the *beneficial owners* of securities held in *collective custody,* must furnish the issuer yearly, or upon request, a report in a mutually agreed format, giving the name, address, nationality, identification number, and quantity of securities of each ***beneficial owner*** of the securities of that issuer held in *collective custody;*

a> An abbreviated form of this report may be supplied as of the date indicated for the payment of dividends or other entitlements;

b> The abbreviated report mentioned in item a>, above, shall indicate the number of securities held in *collective custody,* broken down by nationality and tax status of the ***beneficial owners;***

c> An abbreviated form of this report may be supplied, as of a date specified, for purposes of voting in a meeting of securities holders, indicating only the name, address, nationality, quantity of securities owned, and identification number of each ***beneficial owner***;

f. **VOTING OF SHARES HELD IN *COLLECTIVE CUSTODY*:**
Issuers shall permit ***beneficial owners*** of securities held in *collective custody* to vote at meetings of security-holders in accordance with the report supplied by the *collective custodian* as indicated in article 3.e.2>c>. If the *beneficial owner* indicated on such report does not appear in person at the meeting, he may be represented by the *collective custodian*, in accordance with written instructions received from the *beneficial owner*, a copy of which is filed with the issuer.

g. **VALIDITY OF *COLLECTIVE CUSTODIAN'S* DECLARATIONS REGARDING TAX STATUS FOR DIVIDENDS, INTEREST, AND OTHER ENTITLEMENTS.**
Issuers may rely upon written information and declarations received from *collective custodians* regarding the nationality, identity, and other information effecting the tax status of dividends, interest or other payments on securities in *collective custody*. The *collective custodian* must maintain on file adequate proof to support such declarations.