

IMPROVEMENT OF CLEARING AND
SETTLEMENT FOR
SOUND DEVELOPMENT OF
BOND MARKET

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1. SOUND DEVELOPMENT OF THE BOND MARKET

It is a consensus that there is a need to lessen dependency on commercial bank loans for providing funds to the overall economy in order to allow for the shift to a market-based economy. One where lenders and borrowers meet to share loss or profit in the capital market at any level of risk/return rate which satisfies them. As a result, authorities have implemented measures to make bond market become a more effective channel for intermediating flows of funds between borrowers and lenders.

The design of our development aims for the creation of deep and liquid bond market to ensure a sound financial system - a policy recommended by the Bank for International Settlements.

In addition to several efforts by authorities, below are several issues that we expect to encounter in the sound development towards the deep and liquid bond market where systemic risk is minimised with cost efficiency.

1.1 Larger size of bond market

Corporate bonds

As the financial systems are more integrated due to technology advance in remote access, regulatory reforms, and strong desire to cut costs from fragmentation; volatility in exchange rates has increased tremendously. This has made foreign currency loans that was once a popular alternative source for fund mobilisation, less attractive to borrowers in most Asian countries including Thailand. Consequently, corporate entities have turned to issuing bonds in domestic markets. This

shift of sources for fund mobilised by corporate entities ensures the increase amount of issues in corporate bond market.

Government issues

There has been a need to issue substantial amount of new issues to support the budget deficit and to revitalise the financial sector suffered from the mid 1997 economic crisis. When compared with ten years before 1997 of budget surplus that resulted in scarce supply of government bonds, we can expect huge growth in the size of government bond market.

1.2 More liquidity in the trading market

Self-fulfilling

From what I have mentioned earlier, there would be greater supply of bonds in the trading market. So, it should be easier to satisfy market demand. Seeing that sell and buy orders can be matched more often; players are more comfortable to trade and take positions for their market making activities. As market has become liquid, liquidity attracts more liquidity. More dealers will join in and spreads will be narrowed.

More players

Public policies to develop provident funds and insurance industry lead to the creation of more institutional players in the bond market with diverse appetites for risks. And if they and other types of institutional players such as mutual funds, can foresee that dealers are competing in a liquid market where the continuous price discovery is developed, they should not hesitate to sell when they find any bond does not match with their perceived risk/return, or buy when it does.

Risk and liquidity management tools

Another area of development that will enhance market liquidity is of the cost-efficient market for risk and liquidity management tools. When there are more new issues of government securities, there is a hope that we could have a yield-curve for pricing many financial assets that can be used as risk management tools.

Government issues are used to hedge interest rate risk and as collateral for repos to get their liquidity financing and for their positions in futures or options.

Larger supply of government securities also renders development of derivatives market as there will be more good quality assets for collateralisation - a requirement needed to secure positions in any derivatives market. In addition, there will be more trades and collateral will be changing hands more often as position changes. If risk and liquidity can be managed with cost-efficiency, market will be a safer place where players will be confident to rush in as a result.

1.3 Minimised systemic risk

With revolution in information technology that improves speed and variety of transactions, risk exposure can incur more swiftly. This phenomenon was known to us as the initial cause of the financial crises in our region. Our main objective is to develop a bond market to ensure the safe and efficient financial system.

2. TREND REGARDING CLEARING AND SETTLEMENT SYSTEMS

One of the most crucial components in the creation of a deep and liquid market where disturbances will not bring turmoil to the whole financial system is a safe and efficient clearing and settlement systems. Below are global trends regarding such systems that enhance the sound development of bond market:

2.1 Clearing and settlement systems are a critical component of the infrastructure of global financial markets due to the implications that disturbances in these systems may bring to financial and economic stability.

2.2 The increasing application of electronic devices in the clearing and settlement processes renders the one single trading interface with the least or none of human intervention in the whole process from front to back offices. This innovation shifts the focus of systems' security from exclusively on preventing fraud of certificates to enhancing financial stability, and risk minimisation. In addition, as cross-market linkages are developing, there is a rising demand for cross-margining and cross-market use of collateral.

2.3 Cost-cutting is one driving force to the cross-market integration of clearing and settlement systems to benefit from economy of scale

2.4 The design of clearing and settlement systems should be for a flexible ones oriented towards sudden changes in market and its uncertain

structure so as not to constrain desirable developments. Market structure that enhances market growth is usually the one that derived from market choice, which is dynamic in nature. Most of the time at the early stage of market development, the market structure is unclear.

In Thailand, it has been a controversial issue for a big while whether the bond market should be centralised to benefit from concentration of supply and demand in one trading place or be left as traditionally fragmented OTC markets between acquainted dealers and some institutional players. Now, there is another choice of an alternative trading system operated by inter-dealer brokers for the market players to decide for their own.

3. THAILAND:

CLEARING AND SETTLEMENT ARRANGEMENTS RELATING TO THAI BOND MARKET

In Thailand, there are 2 main securities settlement processes:

One which operated by the Thailand Securities and Depository Company Limited (TSD) the wholly owned subsidiary of the Stock Exchange of Thailand (SET) for stocks traded by the on-line automatching system on the SET, and corporate bonds. Another is for government-related bonds which settled at the Bank of Thailand (BoT).

TSD also operates as a central depository and registrar of traded stocks and corporate bonds which if dematerialised, are deposited through institution depository members at the TSD and ownership are transferred by electronic book-entry system.

Our securities law provides that all securities deposited with TSD are held on behalf of depositor members or their clients. Securities deposited through its depositor members are presumed to belong to the beneficial owners whose names appear on the records kept by such depositor members.

Settlement at the TSD is effected via electronic book-entry and clearing for stocks is multi-lateral netted among clearing members while payment is done on Bahtnet system, an electronic fund transfer scheme of the BoT. TSD's clearing members who are not participants of the Bahtnet system must use a settlement bank which is a participant of such system. The payment leg is settled on a net basis for each settlement bank over an account at the BoT held in the name of the TSD. Consequently, TSD provides its customers with automated DVP facility for the clearing and settlement arrangement.

BoT is the sole registrar of all government-related securities as required by law, and performing the functions of clearing and settlement for such securities.

Government-related bonds must be registered and deposited in the beneficial owner names. Only recently that all new issues are in dematerialised form, but investors have the right to ask for scrips upon purchasing the bonds. Apart from a mentality issue, reasons to request for issuance of physical securities include pledges, guarantees and collateralisation.

Trades are settled by electronic book-entry at the BoT. However, the completion of transfers of ownership in some issues of government-related bonds still need physical submission to the BoT on the settlement date of the letters of transfer as required by relevant laws of the government-related organisations who issue such bonds. In addition, in its existing DVP facility, the BoT has to manually match a seller's instruction to deliver bonds against a buyer's instruction to pay through Bahtnet. These obstacles have long been hindering the achievement of real-time automated delivery versus payment for government-related bonds clearing and settlement.

Anyway, we are proposing the amendment to our securities law and relevant others to remove legal impediments to enable the effectiveness of the transfers of ownership by book-entry either for buy/sell or pledging of securities deposited with the TSD, any licensed depository or the BoT.

**4. HOW SHOULD THE CLEARING AND SETTLEMENT SYSTEMS
BE IMPROVED FOR
THE DEVELOPMENT OF BOND MARKET AND INTERNATIONAL
TREND?**

I am not claiming that our existing systems comply with the international best practices for securities clearing and settlement arrangements. There are a lot of crucial tasks that the SEC and our counterpart - the Bank of Thailand need to accomplish before we can feel fine with our clearing and settlement systems.

The solution for us seems to be trying to comply with international minimum standards - if not the best practices, in order to take advantage of the valuable lessons shared to us by others. It must be addressed here that the CPSS (Committee on Payment and Settlement Systems)-IOSCO (International Organisation of Securities Commissions) recommendations for securities settlement systems have adequately addressed all the relevant topics and issues in the securities settlement systems and provide an accurate and precise principles and yet universal for the development of such systems in Asia.

I think any market players also have an interest in safety and efficiency but how could we manage to get these objectives be supported by market forces. It is important that we send the clear signal to the market of these objectives and reflect them in the relevant rules and regulations and the operation of the systems.

There are some conflicting issues between cost-efficiency and systemic stability, so the challenge in improving the design and operating

techniques of the systems, is to find the optimum balance between security and prompt final settlement versus costs of the services.

We have changes in market requirements namely; DVP facility which required enormous amount of capital to develop, greater need of liquidity facility to non-bank institutional players such as mutual and pension funds with credit risk unable to be assessed.

On the other side, we have TSD a wholly owned subsidiary of the SET who possesses a lot of cash as its capital; and a Bahtnet system for real-time electronic money transfer of the BoT.

How can we use what we have to facilitate the sound development of the bond market? How can we keep the costs and risks involved to be as low as possible while having efficiency increased? I will address these questions in three parts: 4.1 Operational and Technical Efficiency, 4.2 Risk Management and Safety, and 4.3 Costs.

4.1 Operational and Technical Efficiency

4.1.1 Automation and Open Access for Accuracy and Timeliness

During the time when the law amendments to affect the transfer of ownership by book-entry for securities deposited with BoT have not been passed so physical forms of government bonds and transfer documents are still required, errors and delays in the settlement process still persist.

In addition, participants should have on-line access to the clearing and settlement systems for the purposes of trade confirmation and affirmation, instructions transfer, report generating, and real-time management of their own positions.

Furthermore, with the emergence of the alternative trading system where orders are matched by electronic automation, if settlement of government bond still need to be completed with manual matching process and physical forms, there will be a major bottleneck that may lead to paralysis of the system by settlement failures. Therefore, the front and back office capabilities should be developed in parallel to ensure that a potential flood of transactions will be handled efficiently and timely.

In Thailand, it may be too early to say that we hope for a system with end-to-end straight through process (STP). But in longer term, we hope that the development of STP in the clearing and settlement which is the infrastructure of the market will lead to the overall trading and settlement environment where a trade goes through its entire cycle without any human intervention. This means we will achieve a seamless flow of all information related to trade and settlement in an efficient and cost-effective way.

4.1.2 Efficient Use of Good Quality Assets as Collateral

As mentioned earlier that government bonds or some good quality corporate issues are used as collateral for positions in many financial markets. So, investors should be allowed to use their holdings of good quality assets as collateral without having to physically withdraw and re-deposit them with TSD or BoT. Consequently, a purchased security is eligible for using as collateral as soon as the settlement takes place and there will be no security left idle.

The BoT's systems are not set to be able to block bonds, and if TSD is not allowed to be central depository for the government bonds, BoT and TSD should have the on-line link to allow for instructions to block or release the bonds that are used for collateral.

The enhancement of efficiency in using these limited supply of good assets should be taken into account, especially, when we are in the process of developing the derivatives markets on interest rates and equity indices where good quality assets are required as collateral for open positions. Also, repos and securities lending markets will grow more rapidly, if this linkage is established.

4.1.3 Registration linked with Clearing and Settlement System

Currently, the government securities are registered in the names of beneficial owners. Though in many markets it is possible to hold securities in the name of a nominee or omnibus holding which eases the settlement efforts especially for institutional players engaging in cross-border transactions.

In case the clearing and settlement is performed elsewhere than the system of the registrar, it should be linked directly with the registration system and should be accessible for viewing by relevant parties on line.

In case of government bonds, government should have on-line access to view the ownership structure. This should be a useful surveillance tool for regulators in handling their supervision role.

4.2 Risk Management and Safety

4.2.1 Custody Risk Will it be wise if we migrate the clearing and settlement process of government-related securities from the BoT to TSD which is a private entity? There has been a quest on the custody risk if such migration from BoT to TSD occurs.

However, under our existing securities law, it is clear that creditors of TSD or anyone will not have a financial claim on securities deposited at the TSD in the situation of default of the TSD. It is written clearly that

those securities are entitled to depositors or their clients whose names are in the records kept by the depositors and are not assets of TSD.

4.2.2 Settlement Risk

It must be ensured that there is no undue settlement risk in the clearance of funds and settlement of securities.

The clearing and settlement of securities must be able to ensure a true simultaneous, delivery versus payment (DVP) in same day funds with an open platform system allowing for easy access among participants.

There must be a linkage between the payment leg and the securities transfer leg of the trades at the central depository centre where the transfer of ownership of securities can be completely effected by book-entry to achieve the automated DVP. If the two legs of CSD are integrated and the linkage is automated, settlement risk will be eliminated by DVP in a straight-through processing environment.

For Thai bond market, after the crisis, there has been a radical change of market requirement for DVP clearing and settlement of trades because the creditworthiness of most Thai players are downgraded.

In addition, there are increasing numbers of some types of institutional players whose credit risk are difficult to assessed or there is no market practice to be used for credit risk assessment of those players; such as mutual and pension funds.

It may look as if the BoT can provide clearing and settlement services for government-related bonds at minimum cost and high efficiency since it is developing the real time DVP system which eliminates principal risk by linking securities transfers to funds transfers. BoT is also the registrar for such bonds. When the law has been amended so that the ownership transfer can be completely effected by electronic book-entry system for government bonds deposited with the BoT, the clearing and settlement of

government-related securities trading between financial institutions who are members of the BoT payment system will be able to achieve the automated DVP within central bank payment system.

4.2.3 Liquidity Risk

BoT provides banking institutions with the intra-day liquidity facility in the form of repurchase agreements (repos) with no interest charge. As securities settlement cycles are shortened to approach real-time, and DVP is required, there is greater need for liquidity facility.

Institutional investors or dealers who are non-banks and being active players in the market are allowed to be members of the Bahtnet but will not get such liquidity facility. Alternatives for them are maintaining an account in the Bahtnet payment system or paying cash by Bahtnet money transfer facility at the settlement bank. Either alternative in order to settle their trades by DVP increases their cost and their need for liquidity facility.

However, willing or not to pay more for DVP settlement, they seem to have no other choice. No dealers would like to trade when they cannot be sure that settlement will not be failed. And market liquidity can only be increased when there is such a confidence in the systems.

When looking at the present situation of intra-day liquidity demand and supply in securities trading market, there are increasing need to non-bank investors such as securities firms and various types of funds for the liquidity financing service, while there is excess liquidity at the banks. Thus, there should have been some banks who want to provide liquidity service by being settlement banks for those non-bank dealers such as for the payment leg of the stock and corporate bond clearing and settlement arranged for licensed securities firms who are clearing members of the TSD presently.

There are a lot of individual clients who still use cheques to settle payment for stocks trading through their broker firms while the broker firms are required by the exchange and TSD to clear trades by cash through each clearing member's account at any of the 2 settlement banks.

Each member is required to apply for liquidity financing facility at the settlement bank. TSD has an account at the 2 banks and a clearing account in the Bahtnet system. Balance in TSD accounts in the 2 banks will be transferred through the Bahtnet. TSD is to maintain the balance of its account in the Bahtnet at zero at the end of the day.

How about those mutual or pension funds? Will there be any banks who want to intermediate the intra-day liquidity needs by taking their counterparty risk even though it is still ambiguous to them on how to assess such risk of the funds? Given the present situation of NPL in the banking sector, will banks be comfortable enough to take this risk?

And at what price they think high enough to compensate for it? Will the price be too high to be cost-effective for the funds?

4.2.4 Real Time Gross Settlement versus Net Settlement

Currently, government bond market settles on a real-time gross basis which has served to mitigate counterparty risk. However, as volume rises and there is a market need for greater efficiencies, other settlement conventions may be considered.

RTGS tends to absorb liquidity in the market and often require intra-day liquidity funding facility for participants, which is an expensive alternative when market grows.

Multilateral netting with a central counterparty should be considered if volume is expected to grow larger because this arrangement maximise liquidity and reduce the cost of intra-day funding facility.

A central counterparty is one who responsible for receiving cash and securities on behalf of the deliverers and clearing transactions by sending delivery instructions to the central depository who manages the settlement operation. While in RTGS, individual movements are made to many different parties.

With these issues involved, the design of clearing and settlement arrangement has to be chosen by trading off between risk management, efficiency and costs in order to get the system that can be best for the potential growth of the market, either the volumes, participants, products and structure.

4.3 Costs

4.3.1 Costs analysis of the existing systems

The cost structure of clearing and settlement services related to government securities is difficult to figure out since most components are disguised and some are products of projects which partly financed by grants or subsidies. While services provided by the private entity are more market-driven therefore relevant costs are evidently identified to provide parties involved basis for their commercial decision.

We all know that market liquidity depends greatly on how convenient and economical that market participants can carry out transactions from pre-trading to after-execution process of getting the securities and money which are the heart of any trading. Moreover, many studies have shown that an inefficient clearing and settlement systems cause great loss to the

economy. Therefore, such systems that enable market players to carry out their transactions swiftly, safely and cheaply stimulates the economy and can bring substantive benefits to the entire population. Costs that we seek to reduce include those of sustaining the necessary infrastructure and for liquidity facility services. In our market, there is a high possibility that if these costs are high enough as to constitute an entry barrier, there will be fewer either direct participants or indirect participants to join the market. So, we try to examine thoroughly the current pricing of the clearing and settlement services offered for the government-related securities by the central bank and for corporate securities and derivatives by the private entity.

4.3.2 Will the bond market benefit from creation of a clearinghouse?

Currently, most bond trades are done in OTC market verbally through telephone lines. Dealers are in enclosed groups, which are difficult for, newcomers to break into.

Towards the development of the market, there should be more new players to join in and well-defined terms and conditions as market standards in clearing and settlement of trades should help those newcomers to blend with the old club without difficulties and avoidable disputes.

The clearinghouse rules, including confirmation and payment methods as well as default procedures will be set so that the public policy regarding risk control and efficiency be reflected in each process of the operations.

Those who are responsible for trades to the clearinghouse will be limited to only clearingmembers who have financial soundness while each clearingmember has to select who they will clear trades for. When in doubt or if they do not feel comfortable enough with the credit risk of

their clients, requirement for deposit of good quality collateral may be the answer. Risks involved in each link in the clearing chain should be assessed independently.

4.3.3 Should there be a central counterparty for clearing and settlement of bonds?

Since bond trading has grown better in the OTC market where players have to choose their counterparty. A central counterparty who stands as buyer to each seller and as seller to each buyer may not be useful. This is unlike the need of this function in the blind trading, which involves a lot of individual players in the public exchange.

Will the trendy automated bond trading platform need a central counterparty ?

If a market making system is used, the counterparty is known at the time of trade matching so players can mitigate their counterparty risk by choosing to trade with each one. This system is mostly used among large players.

However, if it is a centralised system with blind-trading which involves a lot of individual investors trading with anonymity, then there needs to be a central counterparty to guarantee the trades at the clearing level.

As trading volume and number of players increase, multi-lateral netting system in which central counterparty is necessary is probably more cost-efficient.

Counterparty risk in the market will be taken out from the settlement operator and absorbed by the central counterparty.

So, it is important that the clearing function operating by the central counterparty be equipped with efficient risk management tools and be a separate legal entity from the central depository which performs the settlement function of securities.

Risk management tools for central counterparty that guarantee trades are for managing liquidity financing and risks of the 2 legs: securities and cash to ensure the prompt settlement of securities delivery and payment.

If a participant failed to deliver securities, the central counterparty needs to access such securities with prompt settlement or shorter settlement cycle than the usual delivery. Common sources are securities lending programme, or buy-in arrangement that is especially for covering fails.

If there is a payment failure, usually there are several choices for the central counterparty to obtain same-day fund. First is cash collateral, which will be used when such participant fails to pay and replaced with other acceptable assets. This is very similar to repos available for intra-day liquidity at most central banks for their payment members. Second is a pre-arrangement required to be done by participants for credit line facility at several banks. Some use the combination of the two.

By centralising the risk management activities for the whole market, it may be more cost-efficient than fragmented. As the risk mitigation and liquidity facilities are usually crucial component in the costs of transactions since it involves high technology in know-how and automation and pools of good quality assets.

There has been an increase in the use of the central counterparty with guarantee principles for the equity and bond markets worldwide such as in London, Euronext, Deutsche Borse, and GSCC (US). This may be the trend that fits for the present environment since it allows for the multi-lateral netting to be possible and for the trade-off between the core objectives in clearing and settlement of safety, efficiency and cost-effectiveness.

4.3.4 What if we integrate or establish linkages among what we have for depository, clearing and settlement into one system for debt and equity securities and some basic derivative products?

First of all, we will get the benefit from the economy of scale from integrating all fragmented facilities into one. Standardisation of processes by clearinghouse rules will help players understand and learn how to mitigate risks more quickly.

DVP will be achieved for all securities, if government securities are dematerialised and deposited at a central depository such as for corporate debt and equity securities and there is a linkage from the central depository to the payment system for checking on the availability of funds.

Liquidity facility against collateral such as repo or cash/government bond as collateral against particular securities in securities lending can be achieved more cost-efficiently if securities can be put as collateral by book-entry in the central depository record rather than submittance of the scrips and physical documentation.

In addition, good quality assets deposited as collateral can be used crossed over markets, if positions can be calculated in a portfolio manner for one clearing member.

There will be centralisation of information regarding the systemically important system i.e. securities settlement, when government has the on-line access to the central depository systems without having to pay much for the cost of developing their own depository, clearing and settlement systems.

The central bank will have more time and effort available for their own core responsibility of regulating the operator of the systems rather than regulating the systems that they operate.

Bond dealers should prefer this scheme than invest more money, if they want - to intermediate in the clearing and settlement systems since risks of investment for the improvement of a central counterparty are diversified.

In this time of need we should try to manage limited amount of capital to cope up with the swift progress of technology and the automation of the systems to achieve cost-efficiency and stability which are the core objectives of the clearing and settlement systems.
