Building infrastructure for Asian bond markets: settlement and credit rating

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1. Introduction

The development of bond markets in Asia has recently emerged as an important policy issue. During the Ninth APEC Finance Ministers Meeting in September 2002, it was agreed that a regional bond market would be developed through securitisation and credit guarantees. Since then, a number of meetings have been held on this and related issues.

The consensus for developing regional bond markets for Asian countries is a result of the 1997 Asian financial crisis, which the underdevelopment of the region's bond markets is thought to have greatly exacerbated. Firms that had long been dependent upon banks for funds could not find alternative sources of financing when the crisis erupted. The idea of creating regional bond markets is also promoted as a means of overcoming the double mismatch problem that most Asian borrowers face when depending on short-term foreign currency debt to fund long-term projects generating domestic currency revenues. This is also considered one of the root causes of the 1997 crisis.

Development of a regional bond market is also seen as a way to facilitate the mobilisation of East Asian savings within the region. The foreign exchange reserves of most Asian countries have increased significantly since the financial crisis, boosted by the huge current account surpluses triggered by the economic recession and sharp currency depreciations brought about by the financial crisis. By the end of 2002, the Asian economies together held more than half of the world's foreign exchange reserves, and the bulk of these were invested in safe and liquid assets such as US Treasury securities and supranational bonds. At the same time, until regional bond markets are fully established, East Asian borrowers have to rely on international financial markets for funding. East Asia as a whole can thus be considered an importer of safe assets and an exporter of risky assets. As has been pointed out by Oh et al (2003a), such a pattern of capital flows is not desirable in the sense that it deprives the region's financial markets and institutions of valuable opportunities to develop and could render the countries in the region more vulnerable to financial crises.

Under the Asian Bond Market Initiative, ASEAN+3 has launched six working groups to study various aspects of regional bond markets including securitisation, regional credit rating agencies, regional clearing and settlement systems, regional credit guarantee agencies and so on.[2] The paper focuses on the two topics that primarily address building institutional infrastructure for the Asian bond market: securities clearing and settlement systems and credit rating agencies.

Every financial transaction ultimately entails settlement of securities. In order for financial markets to function properly, reliable and efficient financial substructures, including clearing and settlement systems, must be established and supported by the legal and regulatory

[1] We thank Haeil Jang at the Korea Securities Depository (KSD) for helpful comments and discussions.

[2] EMEAP (Executives' Meeting of East Asia and Pacific Central Banks) has also set up the Asian Bond Fund (ABF) with contributions from the foreign reserves of each member bank. This fund is managed by the Bank for International Settlements under the mandate to invest in dollar-denominated bonds issued by qualified Asian issuers.

systems. An internationally compatible clearing and settlement system is required to promote active cross-border transactions of bonds among Asian countries. Section 2 of this paper discusses how a cross-border clearing and settlement system can be constructed for the development of Asian bond markets. The paper attempts to determine if it is necessary to establish a new Asian settlement system even though there are cross-border settlement systems operated by international central securities depositories (ICSDs) such as Euroclear and Clearstream.

The second financial infrastructure component that this paper addresses is the regional credit rating system. The Asian financial crisis in 1997 made East Asian countries recognise the importance of international credit rating agencies. These countries witnessed the influence of the judgments of credit rating agencies in shaking domestic economies and foreign markets to their foundations and in determining the direction and intensity of foreign capital flows. Credit rating agencies are expected to become more influential because capital adequacy for banks under the revised Basel Accord will take credit ratings into account (BIS (1999)).

Currently, local currency denominated bonds in Asian countries are independently rated by local credit rating agencies. Government bonds are given the highest credit ratings within each country regardless of the sovereign credit ratings, making credit rating comparisons among countries useless. To increase transaction volumes in Asian bond markets and cross-border bond issuance and investment, a common regional credit rating system is needed.

Let us consider, for example, the two-tier securitisation process, which is already under discussion as a strategy for creating the Asian bond market. In this process, each country aggregates and securitises local currency denominated bonds; the junior bonds are absorbed domestically, and the senior bonds are sold to the offshore special purpose vehicle (SPV). The SPV, in turn, repackages these senior bonds and issues asset-backed securities (ABSs).[3] For this two-tier securitisation process to work, the credit ratings of the bonds issued in the first and second stages must be based on a common standard, regardless of the country of issuance.[4]

Section 3 of this paper takes up the question of whether there is a need to establish a new regional credit rating institution in Asia. The alternative would be for the local or global credit rating agencies to continue to do the job.

This paper makes different recommendations regarding the settlement and clearing system and credit rating. We recommend that a new regional institution (a regional ICSD dubbed AsiaSettle) be created to serve as the regional clearing and settlement system. For the credit rating system, in contrast, we recommend that a common standard and methodology be established through coordination among the existing local credit rating agencies.

Establishment of a regional ICSD is recommended even though ICSDs such as Euroclear and Clearstream already handle cross-border settlements. Establishment of AsiaSettle would solve the third time zone problem, which the existing ICSDs cannot solve, and the process of establishing AsiaSettle with the support of the Asian governments itself would provide an opportunity for Asian countries to relax and harmonise financial regulations and open up their domestic markets.

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[3] For a discussion on the pros and cons of two-tier securitisation, please refer to Oh and Park (2003).

[4] The need for a common rating standard will become a more concrete problem when the New Basel Accord is adopted. This is because when capital adequacy regulations consider credit ratings, the financial supervisory institutions must clarify how the ratings of foreign bonds by foreign agencies will be rated by domestic standards. For example, when a Japanese financial institution holds a bond that a Korean agency has rated A, there is a question as to whether a Korean A-rated bond equals a Japanese A-rated bond when assessing the additional risk factor.

Conversely, it is unrealistic and not recommendable to establish a regional credit rating agency through government support. In the credit rating business, advanced scientific and analytic methods are important, but so are value judgments based on local knowledge. Thus, if the regional rating agency is to rate local bonds in each country, it must build up local databases, human resources and other infrastructure. The costs of building this infrastructure would not be negligible. In addition, for a credit rating business to be successful, the most important factor is its reputation for being impartial and accurate. It is questionable whether an agency established with government support and not exposed to market competition would be competitive and acknowledged by the market as impartial. Also, if a regional agency were established with government support, there would be the risk that the agency would crowd out private local credit rating agencies. Therefore, it is preferable for the governments to promote collaboration among local and global rating agencies in establishing a common rating system and meeting new business needs. The Association of Credit Rating Agencies in Asia (ACRAA) has already started to standardise the rating systems with a view to developing the Asian bond market.

This paper is organised as follows. Section 2 describes the current cross-border clearing and settlement system in Asia and the role of the existing ICSDs. It evaluates the pros and cons of various possibilities for setting up a cross-border clearing and settlement system in Asia and proposes the establishment of AsiaSettle as a regional ICSD. A detailed explanation of the benefits of creating a new regional ICSD is offered.

Section 3 discusses the credit rating system. Like Section 2, it deals with the current status of credit rating agencies in Asia and the role of the global credit rating agencies. Section 3 goes on to take up the question of whether establishment of a new agency or collaboration among the existing local agencies would be more appropriate. This section also discusses how the collaboration should be arranged if this second option is considered more appropriate.

2. Building a settlement infrastructure for Asian bond markets

2.1 Cross-border securities settlement in Asia

Cross-border trades of securities can be settled through four different channels: (i) through a local agent, (ii) through a global custodian (GC), (iii) through an ICSD or (iv) through a national central securities depository (NCSD) that has a link with the NCSD in the country of issue.[5] All of these channels are utilised in varying degrees for cross-border settlement in Asia.[6]

Historically, local agents have been used most frequently in cross-border settlement, especially when securities settlement must be made in a country that has no linkage between its NCSD and other NCSDs or between its NCSD and ICSD. However, using a local custodian has one major disadvantage in that investors must designate a separate local custodian for each country where investments are made, and sometimes the fees charged by local custodians can be significant.

Due to this cost disadvantage, institutional investors have increasingly used global custodians (GCs) that provide settlement and custody services in multiple markets through a

[5] In addition to these channels, cross-border trades can be settled through direct membership in the NCSD of the country of issue. According to BIS (1995), however, this channel is seldom utilised since CSDs typically prohibit foreign residents from becoming participants.

[6] BIS (1995) and the Giovannini Group (2001) compare various methods of cross-border securities settlement.

single gateway by integrating services performed by a network of subcustodians, including its own local branches. GCs can offer cost advantages through economies of scale and scope. Another important advantage of using GCs is the availability of integrated multicurrency banking and cash management services since most GCs are large international commercial banks. Most settlements of Asian securities are made through GCs, not ICSDs, using international currencies such as the US dollar.

In fact, the business base of GCs lies in the inefficiency of the international financial market due to differences in the trading, clearing and settlement systems of each country. GCs provide investors with the convenience of a single interface for their international security transactions. The convenience of a single gateway, however, must come at a price since GCs also have to hire local agents themselves. In addition, the quality of their services differs widely by region depending upon the quality of service provided by the local agents.

Table 1

Countries with settlement linkages to Euroclear[1]

Region	Countries	Number
Asia Pacific	Australia, New Zealand, Hong Kong SAR, Indonesia, Japan, Malaysia, the Philippines, Singapore, Thailand	9
Europe	Belgium, Finland, France, Germany, Greece, Ireland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, Austria, Italy	16
America	United States, Argentina, Canada, Mexico	4
Others	Russia, South Africa	2
Total		**31**

[1] Includes all countries linked to Euroclear through specialised depositories, common depositories or clearing depositories.

Source: Korea Securities Depository.

Another way to conduct cross-border settlement is to use an ICSD. As a matter of fact, ICSDs are the natural channels of cross-border settlement for securities like eurobonds that use ICSDs as the central depository. However, even when Asian bonds are deposited in the NCSD of the country of issue and not in an ICSD, their settlement can still be executed through an ICSD. In this case, the ICSD should be linked to the NCSDs of individual countries or to the custodian banks that are members of the NCSDs. Countries that have these linkages with ICSDs are called clearing members. Table 1 shows the 31 clearing members of Euroclear. The table shows that the coverage of Asian countries by Euroclear is quite limited. As of 2002, only seven Asian countries were clearing members of Euroclear.

Cross-border settlement can also be conducted by using an NCSD that has a bilateral linkage with the NCSD of the country of issue. Currently, however, there are only a few bilateral linkages between Asian NCSDs. Some of these include the linkages between Australia and New Zealand, Hong Kong SAR and New Zealand, Korea and Hong Kong and Japan and Hong Kong. Except for the linkage between Australia and New Zealand, trading volumes are quite minimal.

2.2 The case for a regional clearing and settlement system in Asia

An informal working group has been organised under the Asian Bond Market Initiative of ASEAN+3 to review and propose the clearing and settlement system for Asian bond markets. Though this group has been in operation for some time, it has yet to make a concrete proposal for the clearing and settlement system, although there have been a few suggestions. These include utilising the existing ICSDs, establishing a regional settlement system by linking NCSDs and creating a new regional ICSD. In this subsection, we will review the pros and cons of using the existing ICSDs. In particular, we will discuss the third time zone problem that arises when investors use the existing ICSDs located in the European time zone to settle securities trades denominated in Asian currencies.

2.2.1 Limits of using an international central securities depository (ICSD)

Asian bonds will be issued in the offshore market or in the domestic market of the regional financial centres in Asia and will be denominated in the currencies other than the currency of the country of issue (Park and Park, 2003). As a result, Asian bonds are likely to be international bonds like eurobonds. Since securities traded in the eurobond markets are mostly deposited in and settled through ICSDs such as Euroclear or Clearstream, the same ICSDs may also serve as the depository for Asian bonds. Then, Asian bonds denominated in Asian currencies can be settled through the existing ICSDs in the same way eurobonds denominated in Asian currencies are currently settled through the ICSDs.

Currently, Euroclear offers investors a choice of the currency of settlement, but as shown in Table 2, the range of choices is very limited.[7] Only 32 currencies for 42 countries are available for settlement, and of these, only nine are Asian currencies. The currencies of Korea, China, India and Taiwan, China (hereinafter referred to as Taiwan) are not included, but this is not because they are not internationalised. The Malaysian ringgit and the Singapore dollar are settlement currencies in Euroclear even though they are not internationalised.

Most Asian currencies are not Euroclear settlement currencies because there are some limitations on their convertibility or substantial legal uncertainties regarding the application of regulations on foreign currency transactions. In Korea, for example, omnibus accounts (accounts for large groups of investors) are not permitted. This is a major reason that the Korean won is excluded from the list.[8] Non-resident investors in Korea are required to report their individual identities when opening Korean won-denominated accounts. This regulation prohibits ICSDs from opening omnibus accounts with the NCSD in Korea. If an ICSD has an omnibus account in its own name and manages all the internal transactions among its members, the government fears that it will be unable to monitor individual transactions. This regulation, however, subjects foreign investors to onerous procedural requirements and does not permit protection of investors' anonymity. For these reasons, Euroclear does not designate the Korean won as a currency of settlement.[9]

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7 Euroclear (2002) lists settlement currencies and cash correspondents.

8 Oh et al (2003b) present the reasons why ICSDs do not include the won among settlement currencies.

9 The Indonesian rupiah is a currency of settlement in Euroclear, but its use became somewhat restricted after the financial crisis in 1997. The restriction is not due to exchange rate or credit risk to Euroclear: as the settlement of Euroclear is done via the RTGS and DVP systems, Euroclear is not subject to any exchange rate or credit risk. The restriction was introduced due to increasing uncertainty with regard to regulation on capital transactions in Indonesia.

Table 2

Settlement currencies of Euroclear

Region	Country	
Asia	Australia (AUD), New Zealand (NZD), Hong Kong (HKD), Indonesia (IDR), Japan (JPY), Malaysia (MYR), Philippines (PHP), Singapore (SGD), Thailand (THB)	Nine currencies of nine countries
Europe	EUR (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Portugal, Spain, Luxembourg, the Netherlands), Norway (NOK), Sweden (SEK), Denmark (DKK), Switzerland (CHF), the United Kingdom (GBP),	15 currencies of 26 countries
	[Republic of Croatia (HRK), Czech (CZK), Republic of Iceland (ISK), Slovakia (SKK), Estonia (EEK), Hungary (HUF), Lithuania (LTL), Latvia (LVL), Poland (PLN)][1]	
North/South America	USA (USD), Argentina (ARS), Canada (CAD), Mexico (MXN)	Four currencies of four countries
Middle East and Africa	South Africa (ZAR), [Kuwait (KWD), Israel (ILS)][1]	Three currencies of three countries
Others	Gold (XAU)[2]	One currency
Total	32 currencies of 42 countries	

[1] Countries in [ ] are not clearing members of Euroclear, but their currencies are designated as currencies of settlement. Russia is a clearing member of Euroclear, but the Russian ruble is not a currency of settlement (payments are settled in US dollars). Gold is converted into one of the currencies of settlement and then settled according to its value in the currency in question.

Source: Korea Securities Depository.

In addition to the limitation on the currencies of settlement, there is also limitation on the countries of settlement. If we exclude Australia and New Zealand, only seven countries in Asia are directly or indirectly connected to Euroclear: Hong Kong, Japan, Singapore, Thailand, the Philippines, Malaysia and Indonesia, with some restriction on Malaysia and Indonesia. Other Asian countries such as Korea, China, Taiwan, India and Pakistan are not clearing members of Euroclear. The low coverage of Euroclear in the Asian region indicates that there is potential demand for a regional ICSD, and we will take this issue up in the next section.

The selection criteria for clearing members are not identical to those for currencies of settlement. All four cases are possible if we compare Table 1 and Table 2. First, countries such as Japan and Thailand are clearing members of Euroclear, and their currencies are designated currencies of settlement. Second, Russia is a clearing member of Euroclear, but its currency is not a settlement currency. Third, there are countries such as Korea that are not clearing members and whose currencies are not designated as currencies of settlement. Fourth, countries such as Croatia, the Czech Republic, Israel and Iceland are not clearing members, but their currencies are used for settlement.

2.2.2 The need to create a regional clearing and settlement system

The low coverage of the Asian countries and currencies by existing ICSDs provides a case for creating a regional ICSD for Asian bond markets. Besides the limited coverage, there is another reason for creating a regional ICSD; that is, the time zone problem.

Since most Asian currencies are not internationalised, the payment settlement of Asian bonds denominated in local currencies must be finalised in the local market, even though securities settlement can be done through ICSDs located in Europe. However, due to the difference in time zone between Europe and Asia, real-time settlement of Asian bonds is not possible, and there have been calls to establish a regional clearing and settlement system within Asia, the third time zone, in order to cover the non-business hours of the two other time zones, Europe and the Americas.

To illustrate the third time zone problem, consider the settlement process of an Asian bond denominated in Hong Kong dollars.[10] Hong Kong is seven hours ahead of Brussels, where Euroclear is located. Assume that the settlement date of the bond transaction is 2 October in Brussels. In order to finalise the settlement by that date, Euroclear currently mandates that the buyer and the seller deposit money and securities in the common depository of Euroclear in Hong Kong, HSBC Bank, by 1 October, which is a day before the settlement date. After receiving a notification from HSBC overnight, Euroclear Bank in Brussels completes the security settlement by 9 am on 2 October (4 pm in Hong Kong). Then, the seller in Hong Kong can withdraw Hong Kong dollars and the settlement can be finished by 2 October.

Instead of depositing money and securities a day before the settlement date, if the buyer and seller want to settle securities using the real-time gross settlement (RTGS) system on 2 October in Belgian time, the seller may not be able to withdraw money by 2 October. For example, by the time the RTGS settlement is completed by 3 pm on 2 October, it is already 10 pm in Hong Kong, and the bond seller has to wait until the next day to withdraw his money. This is one reason why Euroclear mandates that traders deposit money and securities a day in advance of the settlement date for bonds that are denominated in Asian currencies. If bonds are denominated in European currencies or the US dollar, securities and payment settlement can be completed on the same day through the RTGS system as there is no time zone difference, and the time difference between Europe and the Americas works favourably between security settlement and payment settlements. The time zone problem implies that investors have to bear the extra cost of losing liquidity for a day when trading Asian currency denominated bonds. If there were a regional ICSD within Asia, investors would not face this extra cost. The benefit of solving the third time zone problem can be significant considering that the major investors for Asian currency denominated bonds are institutional investors located in Asia.

The time zone problem may also hinder efforts to reduce the settlement cycle. The recent movement to do so has been motivated by a report by the Group of Thirty (1988) that recommended that the settlement cycle be reduced to T+3 in order to reduce settlement risk. The settlement cycle and settlement amount are the key determinants of settlement risk. Accommodating the report's recommendation, major countries have reduced the settlement cycle to T+3. Some, including the United States, plan to reduce the settlement cycle further down to T+1.

If trades of Asian bonds denominated and settled in Asian currencies are settled through a regional settlement system, such as a regional ICSD located in Asia and operating in the Asian time zone, then investors would not have to deposit securities or money one day in advance of the settlement date. This would not only facilitate liquidity management by investors but would also make it possible to reduce the settlement cycle down to T+1.

[10] For the detailed settlement procedure, refer to Euroclear (2003).

2.3 Proposals for establishing a regional clearing and settlement system in Asia

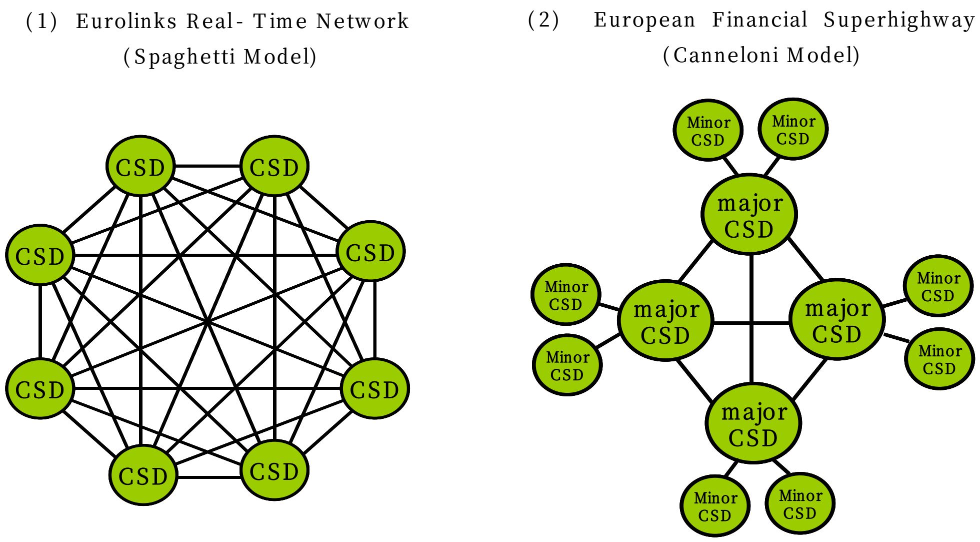
The previous subsection presented the reasons for creating a regional clearing and settlement system for Asian bond markets. There are a couple of proposals to create a regional clearing and settlement system: the bilateral linkage model and the regional ICSD model. In this subsection, we will review these two proposals.

2.3.1 Model I: Bilateral linkages between NCSDs for cross-border settlements

If bilateral linkages can be established among Asian NCSDs, cross-border settlement is possible without ICSDs. In fact, the European Central Securities Depositories Association (ECSDA) once proposed a bilateral linkage model for cross-border settlement in Europe. Figure 1 shows two pan-European bilateral linkage models that ECSDA has studied. One is the Eurolinks Real-time Network model (Spaghetti Model), and the other is the European Financial Superhighway (Cannelloni Model). The former connects all NCSDs with each other, while the latter uses major NCSDs as pivots to connect other small NCSDs. Both models emphasise the need to strengthen mutual linkages among NCSDs.

Figure1

Bilateral linkage models of ECSDA



Within Asia, Hong Kong has shown the greatest interest in bilateral linkage models. The Hong Kong Monetary Authority (HKMA) has proposed the establishment of AsiaClear, a regional settlement institution, by linking the clearing and settlement systems of member countries in Asia in the manner of the internet. That is, the HKMA defines AsiaClear not as a single hub institution, but as a common network among individual NCSDs in Asia. Thanks to advances in information technology, HKMA believes that linking NCSDs is now feasible in virtual space. For this reason, disagreement over where to locate AsiaClear can be finessed.[11] In fact, the HKMA has been actively pursuing linkages with other Asian countries; it now has links with Australia, New Zealand and Korea, and soon will have one with China.[12]

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[11] HKMA (1997a) researched the state of financial market and IT development in Hong Kong that might enable Hong Kong to function as a financial hub in Asia.

[12] See HKMA (1997b, 1997c, 1998, 1999, 2002) on the linkages between HKMA and other NCSDs in Asia.

However, there are a number of problems with applying bilateral linkage models to Asia. First, it is an inefficient method compared with settlement through ICSDs. Transaction costs in bilateral linkage models would likely be high as each NCSD has to open accounts in the NCSDs of all counterparties. Second, these models could only handle securities registered in both NCSDs being used for a transaction. Third, the initial setup costs of establishing bilateral linkages can be high if countries do not share standardised settlement platforms.[13] However, the most serious bottleneck in applying bilateral linkage models is that bond markets in Asian countries are at such greatly varying stages of development that they cannot be readily linked to each other. Among Asian NCSDs, only seven countries (Australia, Hong Kong, Japan, Korea, Malaysia, New Zealand and Singapore) are using RTGS and delivery versus payment (DVP) systems. Table 3 shows the wide difference among Asian NCSDs with regard to compliance with the recommendations of G30/ISSA, which renders the building of bilateral linkages among them difficult.[14]

Different legal systems are another factor. Unlike Europe, where the legal systems of each country are relatively similar, Asian countries have much more varied historical backgrounds, cultures and legal systems, which make it difficult to standardise linkages among Asian NCSDs.

2.3.2 Model II: Building a regional ICSD - AsiaSettle

Oh et al (2003b) propose that AsiaSettle, a regional ICSD, be established as a regional clearing and settlement system in Asia. According to this proposal, AsiaSettle will serve as the hub for the cross-border settlement of Asian bonds with NCSDs serving as the subdepositories. Unlike Euroclear, which is for the most part indirectly linked to NCSDs through custodian banks, AsiaSettle will be directly linked to NCSDs. The direct linkage model has the cost advantage over the indirect linkage model. For the cash settlement, AsiaSettle will be directly linked to the central banks of Asian countries rather than to custodian banks. The direct linkage to the central banks has the advantage of reducing the settlement cycle as well as the settlement cost. Oh et al (2003b) discuss in detail the pros and cons of alternative models of operation and governance structure for AsiaSettle.

The AsiaSettle model belongs to the hub and spoke model as far as settlement for Asian bonds is concerned. The advantage of this model lies with the low setup cost since it fully utilises the existing settlement infrastructure. The public characteristics of AsiaSettle may also serve as a positive factor in building the direct linkages to NCSDs, considering Asian governments' interest in promoting Asian bond markets.[15] AsiaSettle can be established as a private agency funded by the NCSDs and the central banks of Asian countries, or as a multilateral agency.

AsiaSettle's raison d'être has been set forth above in subsection 2.2: the limited coverage of settlement services in Asia by existing ICSDs such as Euroclear and the time zone problem. There are more reasons to create a regional ICSD for Asian bond markets: harmonisation of regulations and introduction of a central counterparty (CCP).

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[13] Park and Hong (2001) discuss the advantages and disadvantages of bilateral linkage models.

[14] For more details, see ISSA (2002).

[15] Direct linkage means that an ICSD has its own omnibus account in a local NCSD. Indirect linkage means that an ICSD is linked to a local NCSD through a third party such as a specialised or common depository. It is more common for Euroclear to have indirect linkages with NCSDs.

Table 3

NCSDs of Asian countries: compliance with G30/ISSA recommendations

	BA	CN	HK	IN	ID	JP	KR	MY	PA	PH	SG	TH	TW
Trade comparisons between direct market participants by T+0													
Matched trade details should be linked in the settlement system													
Indirect market participants to achieve affirmation by T+1													
Central depository, broadest possible participation													
Widest possible range of depository eligible instruments													
Immobilisation/ dematerialisation to the utmost extent possible													
Compatible rules and practices in case of municipal CSDs													
Real-time gross settlement system													
Trade netting system as per Lamfalussy recommendations													
Delivery vs payment (DVP) as defined by ISSA													
Same day funds for securities settlement													
Same day funds for the servicing of securities portfolios													
A rolling settlement system should be adopted by all markets													
Final settlement for all trades by T+3													
Securities lending and borrowing should by encouraged													
Existing regulatory and taxation barriers should be removed													
ISO Standard 7775 (Securities Messages)													
ISO Standard 6166 (ISIN Numbering System)													

BA: Bangladesh, CN: China, HK: Hong Kong SAR, IN: India, ID: Indonesia, JP: Japan, KR: Korea, MY: Malaysia, PA: Pakistan, PH: Philippines, SG: Singapore, TH: Thailand, TW: Taiwan, China.

Source: Korea Securities Depository.

As previously discussed, the low coverage of ICSDs in Asia is partly due to the existence of complex regulations and legal uncertainties involving cross-border trading of securities. Setting up AsiaSettle through the cooperation of Asian governments offers a great opportunity to open domestic markets and harmonise bond market regulations across Asia. The existing ICSDs are private entities, and Asian governments have had no incentive to ease regulations to increase business flows for the ICSDs unless it is very much in their national interest. However, if a regional ICSD were designed under the consent of Asian governments, the governments would face incentives to ease and harmonise regulations regarding cross-border trading and settlement of securities in order to promote Asian bond markets. Thus, AsiaSettle could be an effective catalyst for easing regulations and opening up local markets in Asia, and consequently in developing the Asian bond market.

Harmonisation of regulations, in turn, would enhance the cost efficiency of AsiaSettle. One of the criticisms of AsiaSettle is that it would entail the additional cost of creating a new institution. Contrary to the common belief, the cost of building the IT infrastructure for AsiaSettle would not be very high. Instead, a large portion of the cost would arise from the need to study the legal and regulatory environment for cross-border securities trading and settlement in each country. It goes without saying that harmonising the regulations would greatly reduce the need for research and consultation on legal and regulatory matters. Admittedly, harmonisation of regulations enhances the cost efficiency of the bilateral linkage model as well.

Creating a regional ICSD has the advantage of introducing central counterparty services in the clearing and settlement of Asian bonds. A CCP is a special financial institution that stands between the seller and buyer in each trade. It replaces the original contractual obligations to deliver and pay with equivalent obligations by the CCP.[16] As a result, a CCP replaces several counterparty exposures with a single one and reduces settlement risks.[17] A CCP can benefit the capital markets by offering standardised processing that translates into lower operating costs and anonymity among participants. Moreover, a CCP minimises the value and volume of settlements through multilateral netting. For example, the gross amount of securities settlement at the Depository Trust & Clearing Corporation (DTCC) in the United States in 2000 was about 722 billion US dollars, but after multilateral netting, the net amount of settlement shrank to only 22 billion US dollars.

Taking advantage of the benefits of a latecomer, the clearing and settlement system for Asian bond markets could be designed so that AsiaSettle provides CCP services itself or by setting up a subsidiary. By providing CCP services for bond settlement, AsiaSettle could enhance the efficiency of Asian bond markets and differentiate itself from existing ICSDs. In particular, the multilateral netting function of AsiaSettle could be expected to reduce foreign exchange (FX) transaction costs in settling Asian bonds denominated in Asian currencies. Since most Asian currencies are not internationalised and their exchange rates vary, it is more likely that the payment settlements for Asian bonds will be effected by international currencies such as the US dollar. However, if CCP services are provided, the volume of FX transactions could be reduced significantly through multilateral netting, and settlement costs could be significantly lowered.

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[16] This is known as “novation”. DTCC (2000) has an overview of the current development of the CCP industry.

[17] The DVP system can also reduce settlement risks, but it cannot effectively cover replacement risk. A CCP can cover principal as well as replacement risk.

Table 4

Local credit agencies in Asian countries

Country	Rating agencies	Affiliation (operation, capital)	Major stockholders
Korea	KR	Fitch	Hanil Cement, Korea Development Bank, Fitch
	KIS	Moody's	Moody's
	NICE	R&I	Domestic bank
	SCI	JCR	SB Partners
Japan	R&I		Nikkei 56.5%
	JCR		
	Moody's Japan KK	Moody's	Moody's
	S&P Japan	S&P	S&P
	Fitch Japan Branch	Fitch	Fitch
China	China Chengxin International Credit Rating Co Ltd	Fitch 30% with-drawal	
	Fitch Ratings Hong Kong Limited	Fitch	Fitch subsidiary
	Dagong Global Credit Rating Co Ltd	Moody's	Moody's
	S&P office	S&P	S&P
	China Lianhe Credit Rating Co Ltd		
India	The Credit Rating Information Services of India Ltd (CRISIL)	S&P	9.68% acquired by S&P in 1997
	Investment Information & Credit Rating Agency Ltd (ICRA)	Moody's	Moody's, Central Bank, public financial institutions
	Credit Analysis and Research Limited (CARE)		IDBI, Canara Bank, UTI
	Fitch Ratings India Pvt Ltd	Fitch	Fitch subsidiary
Indonesia	PEFINDO	S&P	S&P
	PT Kasnic Credit Rating Indonesia		
Singapore	Moody's Singapore Pte Ltd	Moody's	Moody's
	S&P office	S&P	S&P
	Fitch Ratings Singapore Pte Ltd	Fitch	Fitch
Bangladesh	Credit Rating Information & Services Ltd (CRISL)	JCR-VIS, RAM	Join venture between JCR-VIS and RAM
Malaysia	Rating Agency Malaysia Berhad (RAM)	Fitch	Fitch 4.9%, minor shares held by other banks
	Malaysian Rating Corp Berhad	Fitch	Affiliate, but Fitch does not seem to hold any shares
Pakistan	JCR-VIS Credit Rating Co Ltd	IIRA, CRISL	JCR 15%, VIS 67.5%, KSE 12.5% ISE 5.0%
	The Pakistan Credit Rating Agency (Private) Ltd, (PACRA)	No longer affiliated with Fitch	

Table 4 (cont)

Local credit agencies in Asian countries

Country	Rating agencies	Affiliation (operation, capital)	Major stockholders
Philippines	Philippine Rating Services Corp (PhilRatings)	S&P	
	Fitch Ratings Manila Representative Office	Fitch	Fitch affiliate
Taiwan, China	Taiwan Ratings Corp (TRC)	S&P	Domestic banks and financial institutions
	Fitch Ratings Taipei Representative Office	Fitch	Fitch subsidiary
	Moody's Chinese Taipei branch	Moody's	Moody's
Thailand	Thai Rating & Information Services Co Ltd (TRIS)		
	Fitch Ratings (Thailand) Ltd	Fitch	Fitch affiliate
Sri Lanka	Fitch Ratings Lanka Ltd	Fitch	Fitch affiliate

3. Building a common credit rating system for the Asian bond market

3.1 Credit rating agencies in East Asia

3.1.1 Local credit rating agencies

As seen in Table 4, most East Asian countries have their own local credit rating agencies, which are responsible for rating bonds or examining the credit ratings of bank loans. In Korea, for example, there are three credit rating agencies that are allowed to rate all types of bonds, and one agency that rates only commercial paper (CP) and asset backed-securities (ABSs). In Japan, two local agencies, R&I and JCR, are currently in business and global credit rating agencies such as Moody's, S&P and Fitch have also established themselves in the Japanese market. Both R&I and JCR represent themselves as global credit rating agencies and provide ratings for samurai and sovereign bonds. With the exception of Japan, the credit rating agencies of East Asian countries are primarily focused on rating domestic bonds, and most of them are linked to global credit rating agencies through capital investment or operational collaboration. The last two columns of Table 4 indicate the collaborative ties between local and global rating agencies and their major shareholders.

3.1.2 Global credit rating agencies in Asia

In response to the rapid expansion of the financial markets in Asia, global credit rating agencies such as Moody's, S&P and Fitch have branched out into Asia. Table 5 shows the number of employees at the global credit rating agencies in Asia as of 2001. S&P has 234 employees, Moody's 99 and Fitch 66.

Table 5

Number of employees at global credit rating agencies in Asia, 2001

	S&P	Moody's	Fitch
Japan	80	70	33
Hong Kong SAR	30	13	17
Singapore	24	10	4
Australia	100	6	12
Total	234	99	66

Source: Korea Investors Service.

Table 6 shows the number of issuers that have been directly rated by global credit rating agencies in Asia. In 2001, Moody's rated the highest number of issuing companies, followed by S&P. However, ratings have been highly concentrated only in those countries where the bond markets are relatively more developed, such as Japan, Australia, Korea and Hong Kong.

Table 6

Number of issuers rated in 2001

	S&P	Moody's	Fitch	Total
Japan	297	504	71	872
Hong Kong SAR	227	226	178	631
Singapore	53	89	6	148
Australia	47	38	3	88
Total	624	857	258	1,739

Source: Korea Investors Service.

3.1.3 Association of Credit Rating Agencies in Asia (ACRAA)

The Association of Credit Rating Agencies in Asia (ACRAA) is an organisation whose members currently consist of 20 rating agencies in 11 Asian countries for mutual cooperation and joint research. Currently, Japan's JCR chairs the ACRAA, and PhilRatings of the Philippines is the executive director. Every credit rating agency in Asia is eligible for ACRAA membership. To join, an agency must receive the Executive Committee's recommendation and then the Board of Directors' approval. The ACRAA holds a meeting every year at which member credit rating agencies discuss various issues concerning mutual collaboration. The ACRAA also offers educational programs to member agencies biannually.

Table 7

ACRAA members

As of February 2006

Country	Credit rating agency	Notes
Bangladesh	Credit Rating Information & Services Credit Rating Agency of Bangladesh (CRAB)	
China	Dagong Global Credit Rating Shanghai Far East Credit Rating	
India	Credit Rating Information Services of India Limited (CRISIL) Investment Information & Credit Rating Agency (ICRA) Credit Analysis and Research	Board of directors Board of directors (Vice Chairman)
Indonesia	PEFINDO Credit Rating Indonesia PT Kasnic Credit Rating Indonesia	
Japan	Japan Credit Rating Agency (JCR)	Board of directors (Chairman)
Korea	Seoul Credit Rating & Information Korea Investors Service Korea Ratings	
Malaysia	Rating Agency Malaysia Berhad Malaysian Rating Corporation Berhard (MARC)	Board of directors
Pakistan	JCR-VIS Credit Rating The Pakistan Credit Rating Agency (PACRA)	
Philippines	Philippine Rating Services Corporation (PhilRatings)	Board of directors
Taiwan	Taiwan Ratings	
Thailand	TRIS Rating	

Source: ACRAA.

3.2 The need for a regional credit rating agency

As the number of international bond investors increases in Asia, the need for common regional credit rating standards becomes greater. The simplest means to meet this need would be to utilise the global credit rating agencies, rather than establish a new regional institution. Considering the fact that cross-border bond investment in Asia is still quite small, utilising global agencies would be more cost effective. However, there are some limitations to using the global credit rating agencies if Asian countries want to promote cross-border bond investment in local currency denominated bonds.

The number of local currency denominated bonds in Asia being rated by global credit rating agencies is very limited. This number may increase in the future as the Asian bond market becomes larger, but the rating standards of global agencies, which are designed mainly for developed countries, may not be adequate to differentiate the credit ratings of the Asian bonds that are highly concentrated in low credit ratings.

Table 8 shows the current sovereign credit ratings for foreign currency debt assigned by a global credit rating agency. Major developed countries in North America and Europe have ratings of AAA, other European countries and Japan have AA ratings, and emerging economies have ratings varying from A to B. Because there is little possibility of corporate bonds being rated above the sovereign, most Asian bonds will likely be rated lower than BBB. Therefore, unless the global rating system's lower credit ratings are broken down into more specific levels, the ratings of Asian bonds will have a very concentrated distribution, providing limited if any differentiation.

Table 8

Sovereign foreign currency credit ratings of Standard & Poor's, June 2004

Credit rating	Country
AAA	Australia, Austria, Canada, Denmark, Finland, France, Germany, Ireland, Isle of Man, Liechtenstein, Luxembourg, Netherlands, Norway, Singapore, Sweden, Switzerland, United Kingdom, United States
AA+	Belgium, New Zealand, Spain
AA	Bermuda, Italy, Portugal
AA–	Andorra, Japan, Slovenia, Taiwan
A+	Hellenic Republic, Hong Kong SAR, Iceland, Kuwait, Qatar,
A	Botswana, Chile, Cyprus, Malta, Saudi Arabia
A–	The Bahamas, Bahrain, Barbados, Czech Republic, Estonia, Hungary, Korea, Lithuania, Malaysia
BBB+	China, Latvia, Poland, Slovak Republic, Trinidad & Tobago
BBB	Oman, South Africa, Thailand, Tunisia
BBB–	Bulgaria, Croatia, Kazakhstan, Mexico
BB+	Egypt, El Salvador, Russia
BB	Colombia, Costa Rica, India, Jordan, Morocco, Panama, Peru, Philippines, Romania
BB–	Grenada, Guatemala, Vietnam
B+	Belize, Benin, Brazil, Cook Islands, Ghana, Senegal, Turkey
B	Burkina Faso, Cameroon, Indonesia, Jamaica, Mali, Mongolia, Pakistan, Papua New Guinea, Ukraine
B–	Bolivia, Lebanon, Suriname, Uruguay, Venezuela
CC	Dominican Republic
CCC+	Ecuador
D	Argentina, Paraguay

Source: S&P homepage, www.standardandpoors.com.

In order to solve this concentration problem, the global agencies could adopt a regional rating system separate from the global rating system. However, it is doubtful whether they will develop such a new system for a market that is relatively small. It might create the unwanted impression that the agencies are adopting a double standard. In addition, the credibility and accuracy of credit ratings depend on a detailed awareness of local knowledge along with scientific methodology. If global rating agencies plan to expand into rating local bonds, they must establish a database and build up local human resources, which would entail significant infrastructure building costs. Because of these limitations, direct involvement of the global agencies in the local rating business has not been extended beyond the collaboration stage with local agents except in Japan.

Another problem with utilising the global rating agencies is that they are often criticised for their lack of impartiality. In 2003, S&P lowered the ratings of major German companies. Germany protested the decision and thereafter started to discuss the possibility of establishing its own domestic credit rating agency.[18] Ferri and Liu (1999) also argue that companies in developing countries are more conservatively rated than companies in developed countries. Together with the criticism that the global credit rating agencies lack awareness of each country's specific economic situation, this argument is reinforced by the fact that there are many black boxes in their credit rating methodology.

An alternative to utilising global rating agencies in adopting a common credit rating system is for local agencies to jointly establish a regional credit rating agency. If the New Basel Accord, which mandates that the credit risk adjusted capital adequacy is to be adopted in the future, and the financial supervisory institutions of each country were to encourage domestic financial institutions to use the credit ratings of this new institution, the regional agency would have a good business outlook, as well.

However, there are serious drawbacks in establishing a new regional credit rating agency through the sponsorship of each country's government. As is the case with the global rating agencies, the regional rating agency must build up the infrastructure, including a database and human resources, if it is to rate local bonds in each country, and the costs of building this infrastructure would not be negligible. In addition, the agency must build a reputation for impartiality and accuracy to compete with global agencies. But it is doubtful whether a government-supported agency, which would not be exposed to competition, would be acknowledged by the market as impartial and efficiently run. Also, if a regional agency were established through government support, it would definitely crowd out the private business of local credit rating agencies.

As seen in Section 2, the establishment of a regional clearing and settlement system with government support is justifiable in that it addresses problems associated with market failure; it would increase efficiency by concentrating transaction volumes and alleviate the third time zone problem. However, establishing a regional credit rating agency is a different problem, even if the need for a new common credit rating system in Asia, which can effectively differentiate Asian bonds concentrated in low credit ratings, is accepted. Considering the drawback of establishing a new regional agency, it would be better for the governments to promote cooperation among local and global rating agencies in establishing a common rating system and meeting the new business needs. The ACRAA has already started standardising the rating systems in anticipation of the development of the Asian bond market.

3.3 Standardisation for introducing a regional credit rating system

The bond markets of Asian countries differ in size and degree of development, as do their credit rating systems and agencies. Clearly, adopting common credit rating standards

[18] In February 2003, when S&P lowered the rating of three major companies in Germany (Thyssen Krupp, Linde and Deutsche Post), Europe questioned the fairness of the decision. In August 2003, even though the capital of Munich Re, an international reinsurance company based in Germany, had been raised, its credit ratings were lowered from AA– to A+. Germany questioned the credit rating capabilities of the global credit rating agencies, which led to discussion about establishing a new credit rating agency. Gerke and Pellens (2003) argue that the global agencies failed to reflect the difference in pension reserve methods in Germany.

through mutual cooperation among these agencies will not be an easy task. Despite the difficulties, the ACRAA recently announced a plan for mutual cooperation. There is an ongoing effort to improve the expertise of analysts of member agencies through mutual education programs as well as exchanges on rating standards. Furthermore, a best practices committee was set up to determine the common standards for credit ratings, and members are actively working on standardising credit rating concepts and sharing credit rating methodologies.

The process of standardising the credit rating systems in Asia that the ACRAA is promoting will occur in several stages. The most basic stage involves sharing basic rating concepts and offering mutual training through which the member agencies share rating definitions, default concepts and other basic credit rating concepts.

In a more advanced stage of standardisation, agencies could share rating methodologies and a joint committee for a common rating system could be considered. At that stage, if needed, a regional credit rating agency could be established to rate offshore bonds issued in Asia. Instead of governments taking the initiative and financing it, such an agency would draw on the voluntary participation of local credit rating agencies from each country. This would prevent disagreements between the regional and local agencies because the roles of each could be determined beforehand. Moreover, a great deal of overlap in infrastructure investment could be avoided by building an information hub that contained each country's database.

It is expected that actually establishing a common credit rating system for Asia or a regional credit agency will require a considerable amount of time. It is imperative in the meantime that the local credit rating agencies cooperate with each other in order to develop the Asian bond market. For example, if Indonesian bonds were to be pooled together and issued as Korean won-denominated CDOs in Korea, a structure should be set up such that the Korean and Indonesian credit rating agencies could trust the quality of the each other's ratings, even if there is no regional credit rating system. In other words, there must be a certain degree of standardisation between the two countries' credit ratings. The current effort of the Asian governments to develop the Asian bond markets is a valuable opportunity to promote joint cooperation among the local credit rating agencies.

4. Conclusion

This paper discussed the issues involved in a building infrastructure for Asian bond markets, namely establishing a regional security settlement system and credit rating agencies. As for a clearing and settlement institution for the Asian bond market, we propose establishing a regional ICSD dubbed AsiaSettle by linking the central banks and NCSDs of each country. At the initial stage, AsiaSettle would perform as the clearing and settlement system for local currency-denominated government bonds of Asian countries. The focus in the early stages on government bonds is extremely important; because the supply of high-quality bonds in the private sector is low, high-quality government bonds would be an indispensable catalyst for the development of the Asian bond market. We also discussed the necessity that AsiaSettle also function as the central counterparty for the exchange of government bonds and possess Electronic Communication Networks (ECN) platform capabilities. Furthermore, we discussed the desirable governance structure of AsiaSettle and proposed that AsiaSettle be established as an institution owned by each country's NCSD and central bank, or as a new multilateral agency for Asia.

As for a regional credit rating system, there is a great need for a common credit rating system amongst the Asian countries to develop the Asian bond market. However, unlike the clearing and settlement system, it is not recommended that the regional credit rating agency be established through government support. This recommendation recognises the high costs of building a centralised agency equipped with an extensive database and specialised local human resources to handle the credit rating of local bonds. Moreover, it is questionable whether an agency established through government support could compete with private agencies in acquiring and retaining a reputation for impartiality. Therefore, this paper opts for harmonisation, in which local credit rating agencies and global credit rating agencies coordinate in building a common credit rating system. The ACRAA, an organisation of Asia's credit rating agencies, is currently undertaking such a harmonisation process.

Whether a credit rating or a settlement agency, the argument for building a regional institution is mistakenly seen as one of market protection. However, building regional infrastructure must be seen not as an attempt at protectionism, but rather as a catalyst for opening the underdeveloped Asian bond markets and removing local restrictions on developing an international bond market in Asia.

There is no denying that the best way to begin developing the Asian bond market is to develop each country's domestic bond market and open it up to foreign investors. In other words, the optimal method of developing cross-border trading in Asia is for Asian countries to open up their domestic bond markets to enable Asian issuers to issue bonds in any country of their choice and to enable investors to invest in bonds in the domestic market of any country. However, the bond markets of East Asian countries are at greatly varying stages of development. Some are much more liberalised than others, and different kinds of capital controls are imposed. Some Asian countries do not even have the economies of scale to support all the components of the bond market infrastructure, such as a settlement and depository system, a primary dealer system, credit rating agencies, bond pricing agencies and credit guarantee agencies, which are needed to develop domestic bond markets. It is, therefore, very unrealistic to expect every Asian country to develop and open up its domestic bond markets in the near future, unless there is political pressure to develop the Asian bond market.

The failure to develop the Asian bond market in the 1990s is a good example. To many, the recent discussion on Asian bond markets seems to be a repetition of the old bond market idea from the early 1990s. The launching of the dragon bond initiatives in the early 1990s sparked discussion in Asia on the development of the Asian bond market which continued through the end of the decade.

In retrospect, however, the Asian bond market initiatives of the 1990s were merely talk without action. Their proponents failed to establish a consensus on their benefits. There was skepticism about the growth potential of the Asian bond market due to the reluctance of Asian countries to liberalise and open up their domestic capital markets for fear of creating market distortions and making themselves vulnerable to speculative attacks. The skeptics also did not believe that the Asian bond market would attract much attention because there were already well established, efficient international bond markets such as the eurobond market.

The situation changed greatly during the Asian financial crisis, and we are finally seeing some meaningful action towards establishing Asian bond markets at least on the government level. A consensus among Asian economies has emerged that regional bond markets should be promoted in order to facilitate the recycling of regional savings and to prevent the recurrence of financial crises as explained in the introduction. For these reasons, Asian countries finally agree on the importance of developing the Asian bond market, and this is a great opportunity for each country to ease government regulations and open domestic markets to international investors. The attempt to build regional infrastructure for the Asian bond markets should not be interpreted as an effort to close off and protect the Asian market, but rather as an opportunity to open and develop it through harmonisation of regulations, policy coordination and improvements in legal structures.

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