

# Newsletter



Institute for International Monetary Affairs

(財)国際通貨研究所

## アジア地域の清算・決済、および証券管理について

～ 地域的展望について～

特別寄稿論考

アジア開発銀行 地域経済統合室  
シニアアドバイザー  
宮地正人

### (和文要約)

アジア経済の成長は著しく、金融市場の発展も目覚ましいものがある。1997年のアジア通貨危機を経て金融市場は強化され、サブプライム危機の影響も軽微に留まっている。資本流入も力強い増加が続いており、今後もその傾向は続くと予想される。投資家の信頼を獲得し、アジア金融市場をより一層発展させるために、各種のリスクを軽減させる証券取引の清算・決済および管理システムの整備が必要となっている。

アジア地域は、米国や欧州のような統一通貨を持たず、決済システムの発展度も各国まちまちである。各国とも決済システムを保有しているものの、それらはクロスボーダーの決済をカバーしておらず、また欧米との決済時差リスクも抱えている。ADBの行った市場調査レポートによると75パーセント以上の市場参加者が地域証券決済機関(RSI)の設立に賛同している。同レポートでは、(1) ASEAN+3地域内における各国間のASEAN+3通貨建て証券取引を決済するアジア中央証券預託機構(ACSD)の設立、(2) ASEAN+3のみならず、全アジア地域内のASEAN+3通貨建て証券取引をカバーする全アジア中央証券預託機構の設立、(3) 外為決済リスクに特に焦点を当てたアジア決済銀行の設立、の3つのオプションを提案する。これらが実現すれば、同時決済により外為決済リスクを削減する、決済の内部化により記帳決済を実現する、残高を統合管理してクロスボーダーの担保設定を簡易化し、地域レポ市場およびデリバティブ市場の発展を促進する、などのメリットを享受できるようになる。

2007年4月16日、ADB主催の債券決済会議がシンガポールで開催され、83の機関から20名の講演者と140名が参加し、決済システムの将来について議論がなされた。今後の発展が期待される。

(以下英文本文)

---

---

**Reviewing Clearing, Settlement & Custody in the Asian Region  
: Regional Perspective<sup>1</sup>**

**by: Masato Miyachi**

**Senior Advisor, Office of Regional Economic Integration**

**Asian Development Bank**

Clearing, settlement and custody Conference is a topic that is uppermost in the minds of capital market players in the region. The region's capital markets have been performing very well in recent months and the booming transaction volumes highlight the need to ensure that the region's clearing settlement and custody processes are functioning efficiently and effectively.

**A. Asian Development Outlook**

Asia is one of the fastest growing economic regions in the world. Growth in developing Asia is predicted to reach 8.3% for 2007 – up from an earlier prediction of 7.6%. The revised figure stems from the exceptionally strong performance of the People's Republic of China (PRC) and India. In the first half of 2007, China grew at 11.5%, faster than at any time since 1994 while India registered growth at 9.3% in the first quarter of 2007. Together China and India account for 55.3% of total GDP in developing Asia and thus exert a powerful influence on regional trends.

In addition to the robust growth of these two countries, a more general pattern of fast, and in some areas, accelerating growth, is also evident. The Philippines enjoyed its fastest growth in almost twenty years in the first half of 2007 and Indonesia's growth trend is steadily going up. Malaysia, Korea, Mongolia, and Taipei,China are all expected to grow faster than earlier predicted. Thailand, even if recent political uncertainties had somehow dampened private investment confidence, is expected to grow at 4% for 2007. GDP growth in Vietnam is expected to outpace the other ASEAN

---

<sup>1</sup> Based on presentation made at 2<sup>nd</sup> Clearing, Settlement and Custody Asia, Singapore 22 October 2007

countries at 8.3% for 2007. Central Asia continues to expand at double-digit pace and South Asia continues to build on the progress of recent years.

## **B. Asian Financial Sector**

Asia is far better prepared to withstand financial shocks now than in 1997. So far the turbulence in the subprime credit markets has had minimal effect on the financial markets of developing Asia. Although it is not yet quite clear if the storm has blown over, developing Asia's defenses against external shocks appears to be more solid this time. The region has learned well from the previous 1997 Asian crisis and since then the region's financial systems have strengthened. A number of Asian economies now have large foreign reserves, stronger current account positions and more flexible exchange rate regimes. Strong growth and generally sound macroeconomic fundamentals are helping the region restore calm to financial markets with relative ease. Asian shares are already bouncing back after skidding for a while, limiting losses from the market sell-off.

However, it is still early days and events in the credit markets and the wider economy have become more difficult to predict. It would certainly be rash to assume that growth in developing Asia will remain unaffected by these unfolding processes. We therefore need to continue to closely monitor events in the global market in the next few months. Robust growth, along with continued capital flows, has lifted foreign reserves holdings of Asia's central banks. In the first half of 2007, reserve accumulation amounted to \$360 billion or almost 40% of world total. Led by the People's Republic of China, all major Asian central banks have reserve holdings that cover their country's short-term external obligations, even under the most stringent standards for reserve adequacy. Although the risk of repercussions from the subprime and credit turbulence seriously affecting growth cannot be ruled out, developing Asia's reduced external funding requirements and improved economic fundamentals are expected to buffer impacts. Price adjustments in these markets have been in line with ongoing corrections globally and have broadly tracked those in both mature and emerging markets. This resilience reflects robust growth, low inflation and sound fiscal and external positions.

We therefore expect the financial markets of Asia to continue to grow as investors seek better yields for their investments.

### **C. Clearing, Settlement and Custody**

The relatively invisible engine that supports the dynamics of the financial market system is the clearing, settlement and custody processes. As we all know, a well-functioning market infrastructure is a fundamental requisite upon which confidence in the securities market depends. Investors, both foreign and local, demand for efficient and, more importantly, safe and risk-free transactions. The lack of a well-functioning and secure clearing, settlement and custody system can significantly affect investors' confidence, and this in turn can hold back the development of domestic and regional financial markets.

Market globalization, the increasingly complex technical and regulatory environment of financial markets and the need to remain competitive have triggered efforts to transform clearing, settlement and custody systems all over the world. The US has a relatively homogenous clearing and settlement infrastructure mainly due to a single currency and harmonized tax and regulatory environment. Last year, the Depository Trust and Clearing Corp. (DTCC) became fully owned by DTCC participants who bought out the common shares of NYSE, NASDAQ and the American Stock Exchange. In 2006, DTCC settled more than \$1.5 quadrillion in securities transaction and due to such volume, its transactions fees are among the lowest worldwide.

In Europe, the lack of interoperability of the various processes in the clearing and settlement chain has prevented the creation of a European DTCC. The rapid integration of the euro area finally provided momentum to rationalize the Euro payment systems, securities clearing and settlement structures and collateral management systems.

The European Central Bank launched last March the enhanced Correspondent Central Banking Model 2 (CCBM2) which now provides a single set of procedures for all eligible collateral used for both domestic and cross-border basis. The ECB will be launching Target 2 (T2) on 19 November 2007 which in turn will provide a harmonized set of settlement services in central bank money for all kinds of ancillary system, money market systems, clearing houses and securities settlement systems. In conjunction, the Target 2 Securities (T2S) is now being planned which will be an integrated solution for the processing of securities and cash settlements on a single platform. These developments are welcome steps towards the realization of an integrated European market infrastructure.

The clearing, settlement and custody story in Asia is much more colorful. Asia does not

have a single currency unlike the US and Europe. Capital markets in the region are not unified and are at various stages of development and their clearing, settlement and custody systems follow suit. Clearing and settlement systems are national, that is, each country has its own clearing and settlement arrangements for different types of instruments and participation in these systems is generally limited to locally regulated participants.

Government bonds, which are the dominant debt instruments in the region, are usually traded over-the-counter through active inter-bank markets and settled through central bank operated settlement systems. The systems, very often do not provide guarantees i.e they are not linked to a clearing company or a central counterparty but they do have a link for payment into real-time-gross-settlement system where they exist.

National central securities depositories (NCSDs) are often linked with international CSDs. This is more to enable international market participants to trade and settle local government bonds rather than to facilitate local market participants trading and settling international bonds. Securities listed and traded on the national stock exchange are settled through the central clearing and depository associated with that exchange.

Hong Kong is an exception. Hong Kong has adopted a multi-currency, multi-dimensional approach to infrastructure development. Way back in 2000, the HK Monetary Authority developed the US dollar clearing system that provided PVP settlement for HK dollar and US dollar foreign exchange transactions as well as delivery versus payment for US dollar denominated debt securities. There are currently about 67 direct participants in this clearing system which includes foreign banks with operations in Hong Kong and 162 indirect participants of which 116 are banks outside of Hong Kong. More recently, HKMA established a PVP link between its US dollar clearing system and Bank Negara Malaysia's ringgit system which eliminates the time lag between settlement of US dollar leg of a foreign exchange transaction and the Malaysian ringgit leg. HKMA hopes to establish similar links with other central banks in the region.

The pressure is on for other Asian markets to adopt the latest standards and technologies that would upgrade their clearing and settlement systems to allow for more efficient transactions processing.

- The Monetary Authority of Singapore has upgraded its electronic payment system to MEPS Plus (MEPS+) that has automated liquidity and flexible queue management features allowing banks to better manage their liquidity.

- Likewise the Philippines upgraded its MIPS payment system to an RTGS in 2006 enabling more securities transactions to be settled on a gross DvP basis. The Philippine system also allows PVP settlement for Philippine peso and US dollar foreign exchange transactions.
- The Central Bank of Sri Lanka has also implemented an RTGS payment system, a scripless securities settlement system and a securities depository system.
- The China Securities Depository, Trust and Clearing Corporation linked its Bulk Electronic Payment Systems (BEPS) into the Central Bond Integrated System for more efficient collateral management and also introduced securities lending last year.
- Indonesia introduced a scripless securities settlement system in 2004 to allow for straight through processing.
- Last year the Thailand Securities Depository expanded its services to act as the clearinghouse for the derivatives market in Thailand through its subsidiary, Thailand Clearing House Co., Ltd. (TCH). The system allows the TCH as direct central counterparty, to guarantee payment on any derivatives contracts traded, immediately after matching. The TCH, total turnover in 2006 was 198,737 contracts, having a total value of THB 97.90 billion. The TCH is developing services to support new products in 2007, such as SET50 Index Options, in addition to currently supporting SET50 Index Futures.

#### **D. A Regional Securities Intermediary<sup>2</sup>**

Over the past 10 years, most countries in the region have improved their clearing and settlement infrastructure. In general, national settlement systems now comply with accepted international standards. However, these are essentially domestic systems, serving domestic issuers and investors. Relatively little infrastructure has been put in place in the region to serve cross-border activity.

This is a most opportune time to discuss regional cooperative efforts to address cross-border settlement issues. Past efforts to establish an Asia-wide clearing and settlement system had not flourished mainly due to the fact that there was no business case to do so at that time. The volume of cross-border transactions then were so low. But with the growing volume of debt securities issuances and the increased intra-Asian cross-border transactions, the idea of establishing a regional securities intermediary is

---

<sup>2</sup> Minimizing Foreign Exchange Settlement Risk in ASEAN+3 Region, Draft consultants' report ADB 2007

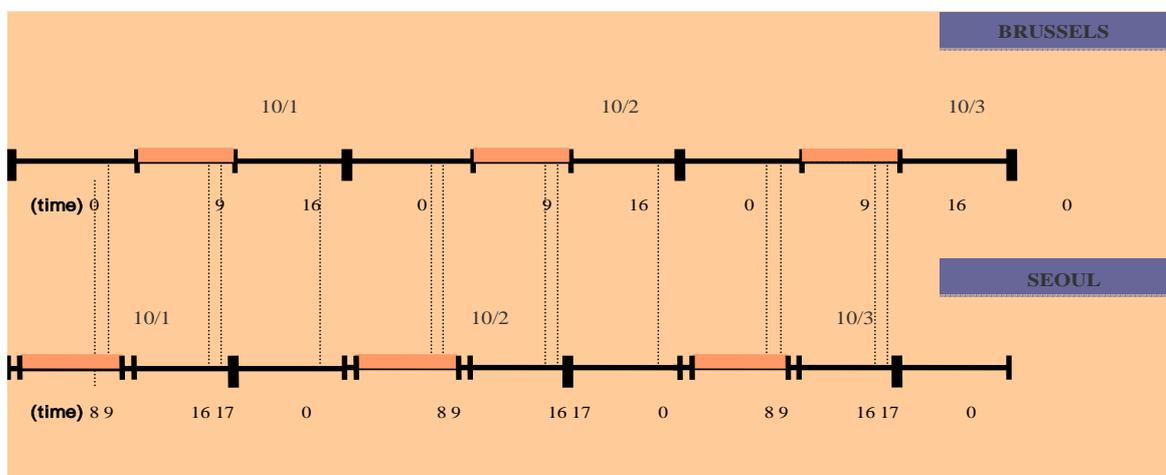
again being seriously considered.

The market consultation results of an ADB coordinated study done under the auspices of the ASEAN+3 Asian Bond Market Initiative revealed that over 75% of market participants were agreeable to setting up a regional securities intermediary. The study was undertaken to identify various options available for a regional settlement infrastructure to reduce foreign exchange settlement risks in cross-border bond transactions.

The report also highlights a particular problem for investors in the ASEAN+3 region, called the 'third time zone problem'. This problem arises from the settlement of securities and cash in different time zones. It increases the cost and risk of cross-border investment for investors in the region. (More detailed discussion in Appendix 1)

**Figure1: Third Time Zone Problem**

8 hours of time difference in Europe and Asia

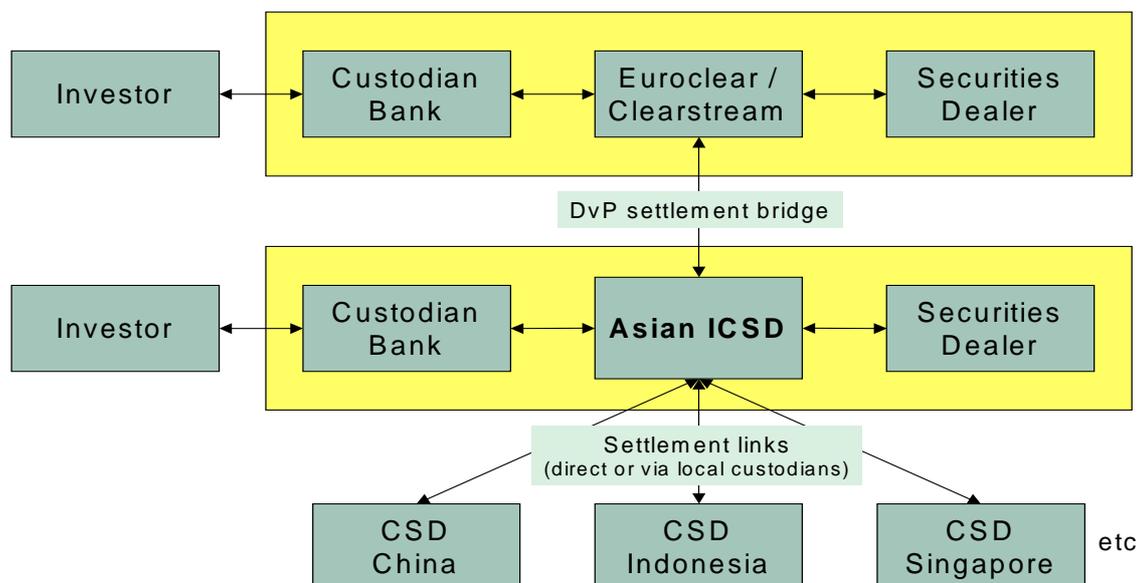


- \*Investors in Asia must deposit money or securities a day before the settlement date
- \*ICSDs & global custodians provides batch processing & intra-day line of credit
- \*Investors bear the opportunity cost of losing liquidity for a day

To address these problems, the report proposes an RSI in the ASEAN+3 region. The report presents three options for consideration. All options are aimed at reducing settlement risks and cost.

The first option is to form an Asian central securities depository (ACSD), which would clear and settle bonds denominated in ASEAN+3 currencies for cross-border investors in the region. This Asian CSD would also be a gateway, via links to the existing ICSDs<sup>3</sup>, for investors in the ASEAN+3 region who invest in Eurobonds and other major currency bonds. It would link to local settlement facilities in each participating ASEAN+3 market, either directly or via local custodian banks.

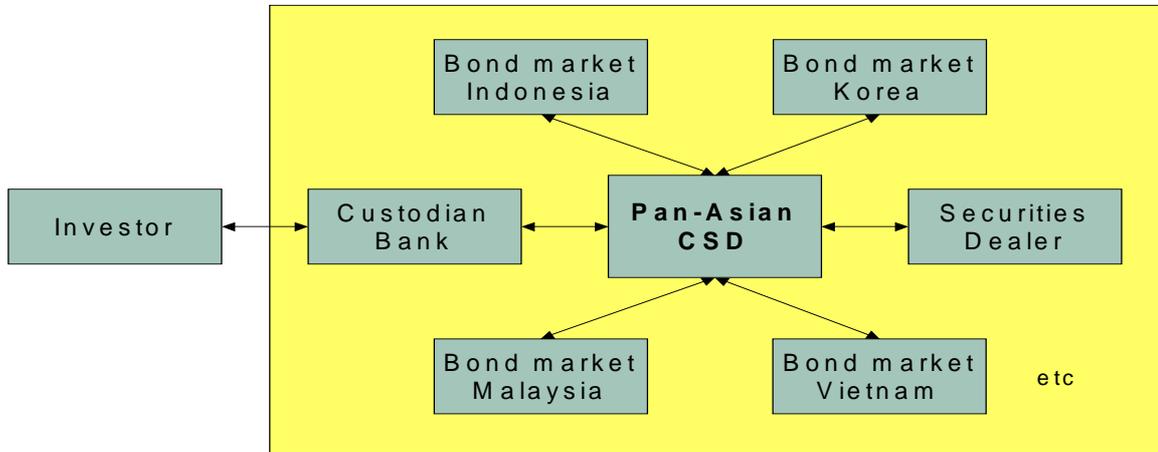
### Option 1: Asian ICSD



The next option is for a Pan-Asian central securities depository providing a CSD service for all local bonds issued in ASEAN+3 currencies. Such an institution would service all investors whether domestic or international, who invest in local currency bonds. It would be the central securities depository for all local currency bonds and other debt instruments in the region.

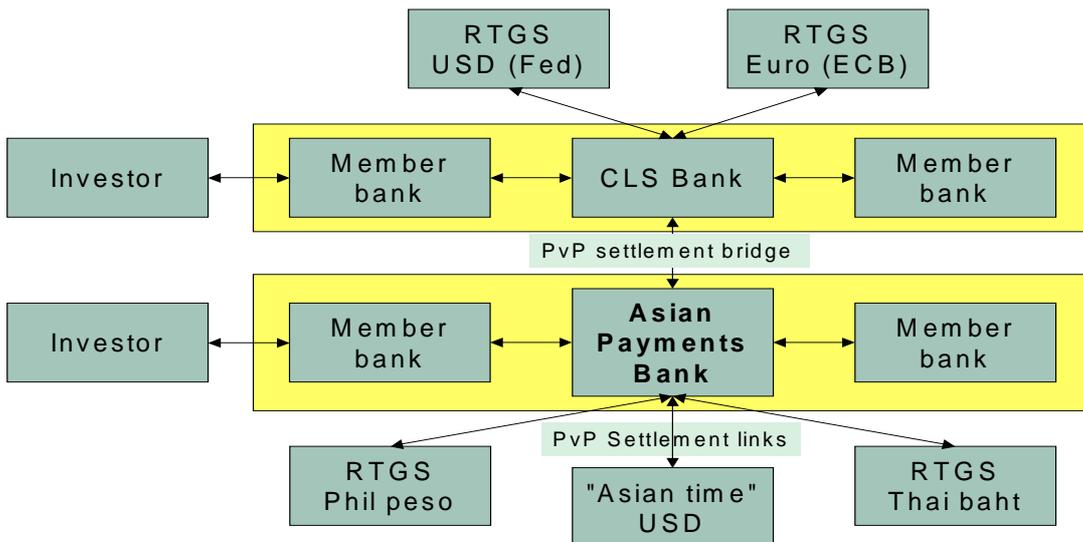
<sup>3</sup> Clearstream Luxembourg and Euroclear Bank.

### Option 2: Pan-Asian CSD



A further option is an Asian Payments Bank, which would focus on reducing FX settlement risk. This would provide similar functionality to the existing CLS Bank, but for trades involving local currencies in the ASEAN+3 region. It would need a special link to CLS Bank to enable counterparties in both systems to settle with each other. It would provide final assured settlement of USD and Euro payments in the ASEAN+3 time zone. Such a local settlement facility could thereby remove the 'third time zone' problem that currently increases cost and risk for investors in the ASEAN+3 region.

### Option 3: Asian Payments Bank



An RSI is not a pre-requisite for developing bond markets in the region. However, we believe there may be a number of benefits:

- By allowing security settlement to be carried out in the same time zone as the cash settlement, and on an assured payment versus payment basis, FX settlement risks for investors in the region could be reduced.
- An RSI could reduce the costs and risks of securities settlement by internalizing transactions. This is the main benefit of an ICSD, whereby transactions between participants are settled by book entry.
- An RSI could contribute to the development of regional repo and derivatives markets by consolidating securities holdings, thus making cross-border collateralization easier.

Finally, an Asian RSI could be a catalyst for change. As such, it could play a role in helping to harmonise standards in the different national markets. An RSI could be a conduit to international markets for issuers and investors in the less-developed parts of the region.

The current low cross-border transaction volumes of bonds denominated in ASEAN+3 currencies does not necessarily imply that an RSI would not be financially viable. The ASEAN+3 bond markets have high growth potential. The settlement of securities denominated in major currencies could also be a part of the business of an RSI when they are traded among investors in the region. The RSI could also build bridge settlement systems with existing ICSDs and thereby settle the transactions of investors in ASEAN+3 time zones, irrespective of currency denomination.

The success of establishing an RSI would depend on a number of factors. Our consultations indicate that some market participants are interested in the possibility of joint investments in establishing an RSI.

ASEAN+3 governments might use this opportunity to promote and foster private sector participation in expediting the establishment of an RSI given the interests of market participants in the idea of establishing one. With ASEAN+3 government incentives and political support, especially in the area of eliminating regulatory hurdles in setting up an RSI and allowing links with member countries, an RSI could be established by private participants without direct financial investment from the governments.

I would like to emphasize that infrastructure for Asia is infrastructure for the whole world. When we talk about infrastructure, we mean systems and links that not only connect the Asian markets with one another, but also connect them to the rest of the world. It is like a highway to make our world a truly global village.

#### **E. Next Steps**

At the first Bond Clearing and Settlement Conference held here in Singapore last 16 April, wherein 20 speakers and 140 participants from 83 institutions attended, there was general agreement on a number of pressing issues relevant to the future of clearing and settlement systems in Asia:

- There is need for developing region-wide payment versus payment services, that can service all foreign exchange (FX) settlements, not just FX settlement arising from bond transactions.
- Further study is needed to assess the business feasibility of establishing a regional settlement intermediary (RSI) and to define the major functions of such RSI.
- The convening of a Group of Experts who would provide guidance and direction for the next steps to take in exploring further the possibility of establishing the RSI will be highly beneficial.
- Even though the establishment of an RSI should be market-driven, it is important that the public sector take the lead in the discussions, neutralizing the conflicts of interests among private sector participants. Any resulting regional infrastructure should be a utility and not a profit oriented entity.

The challenges and issues that confront regulators and market participants in building an efficient and well-functioning market infrastructure for the Asian region are many and complex. The fragmented nature of the clearing, settlement and custody systems in the region presents very challenging tasks ahead. A comforting sign is the apparent speed of reforms being introduced and adopted by the countries and their enthusiasm in setting-up the frameworks to hasten the convergence of the Asian financial sector.

This conference provides an encouraging venue to continue with the discussions on the trends and future of clearing settlement and custody systems in Asia and I hope you will all enthusiastically participate in trying to shape an efficient market infrastructure most suited for the needs of the region.

## References:

1. Asian development Outlook 2007 Update, Asian Development Bank September 2007
2. DTCC Announces Unprecedented Boost In Daily Processing Capacity, Ted Davis August 2007.
3. The Depository Trust and Clearing Corporation, Jill Considine Joint Conference of the ECB and the FRBC on the role of Central Counterparties (CCPs) Frankfurt am Main, 03 - 04 April 2006
4. A Single Currency – An Integrated Market Infrastructure, European Central Bank September 2007
5. Asia's growing global infrastructure. Dialogue quarter 1 2006
6. China Government Securities depository Trust and Clearing Co. Ltd.
7. Clearing and Settlement Systems in Hong Kong, Hong Kong Monetary Authority
8. Minimizing Foreign Exchange Settlement Risk in ASEAN+3 Region, Draft Report, Changyong Rhee and Alan Taylor, ADB 2007

### The third time zone problem for investors in Korea

Figure 1 illustrates the third time zone problem. The numbers below each bar indicate local times in Brussels and Seoul. The business hours in the two cities are marked with thick lines. Consider a transaction of an international bond denominated in Korean won and deposited in the ICSD in Brussels. A Korean securities house in Seoul is the seller of this bond, and an investor in Europe is the buyer. We assume that the settlement date is October 2 and the business hours of all banks are 9:00 AM through 4:00 PM local time. Assume that the Korean securities house has the bond in International Clearing and Settlement Depository's security account so that settlement can be done at any time when the investor in the Europe transfers the cash payment to purchase the bond. The buyer can make the cash payment as early as 9:00 AM Brussels time (5:00 PM Seoul time) or as late as 4:00 PM Brussels time on October 2 (12:00 AM Seoul time next day). Even if the buyer deposits the cash payment as early as 9:00 AM Brussels time and the settlement can be executed on a real time basis, the Korean securities house cannot avail its own money on October 2 as its correspondent bank in Seoul has already closed. Therefore, investors in Korea must wait until the next day to avail their money.

Copyright 2007 Institute for International Monetary Affairs (財団法人 国際通貨研究所)  
All rights reserved. Except for brief quotations embodied in articles and reviews, no part of this publication may be reproduced in any form or by any means, including photocopy, without permission from the Institute for International Monetary Affairs.  
Address: 3-2, Nihonbashi Hongokucho 1-chome, Chuo-ku, Tokyo 103-0021, Japan  
Telephone: 81-3-3245-6934, Facsimile: 81-3-3231-5422  
〒103-0021 東京都中央区日本橋本石町 1-3-2  
電話 : 03-3235-6934 (代) ファックス : 03-3231-5422  
e-mail: [admin@iima.or.jp](mailto:admin@iima.or.jp)  
URL: <http://www.iima.or.jp>