Appendix A

# Asia Pacific Economic Cooperation

# Questionnaire Survey on Developing Domestic Bond Markets

## Summary of Responses

**APEC Collaborative Initiative on
Development of Domestic Bond Markets**

**Hong Kong Monetary Authority**

**10 December 1998**

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# I. INTRODUCTION

1. At the APEC Finance Ministers Meeting held on 23-24 May 1998 in Kananaskis, Canada, the Finance Ministers agreed to begin work on a new collaborative initiative on the development of domestic bond markets in the region. Hong Kong, China has agreed to co-ordinate this initiative.

2. A questionnaire (Annex 11) was sent to the 18 APEC member economies in August 1998 to review the state of domestic bond markets in APEC member economies, the potential for development and the areas of growth for domestic bond markets. It also surveys the need to enhance the financial infrastructure.

3. Sixteen returns were received from the APEC member economies (Papua New Guinea and the Philippines have not responded to the survey). In general, member economies have provided detailed information on their domestic bond markets and have given valuable opinions on the growth and development of the markets and measures to enhance the financial infrastructure. However, figures on bond holdings, and on the size of secondary markets were generally not available.

4. This report summarizes the responses from member economies. The major findings were discussed at the APEC Workshop on Development of Domestic Bond Markets held on 18 December 1998 in Hong Kong.

## II. EXECUTIVE SUMMARY

5. This Report consists of five sections. Detailed responses to the survey from APEC member economies are listed in the annexes in Part IV of this Report.

6. The first section gives an overview on the sizes of bond markets and the types of bonds issued. According to the figures provided by member economies, the total bond market capitalization of APEC was about US$16.3 trillion as at end-1997. It was noted that almost all of the 16 APEC member economies' debt markets have experienced steady growth in the past three years. However, in US$ terms, the bond market capitalization of the crisis-hit economies had contracted in 1997 due to the sharp depreciation of their currencies against the US dollar.

7. The second section discusses market infrastructure issues. It was found that the secondary markets for most APEC bond markets are under-developed. Moreover, securities clearing and custody systems need to be enhanced. Some economies are still issuing bearer bonds. On the other hand, nine APEC economies have already implemented Real Time Gross Settlement Systems, and another three economies indicated that they would implement RTGS in 1999 and 2000.

8. The third section looks at supply and demand of Asian bonds. Currently, bonds are mostly issued by the public sector, mainly governments. However, it was observed that the dominance of the public sector as bond issuers had shifted to the private sector recently in Australia and Malaysia, as government bond issues decreased over the years. Only eight member economies have issued bonds denominated in foreign currencies, but the amounts of the issues are small relative to bonds denominated in local currencies.

9. The fourth section discusses the yield curves in member countries. Most member countries have benchmark yield curves. However, some curves are not reliable, as secondary trading is limited. Member countries are aware of the importance of benchmark yield curves in promoting market developments. Accordingly, they are considering issuing government bonds on a regular basis to ensure the reliability and the accuracy of the curve.

10. The fifth section discusses the regulatory framework and the legal system protecting bond investors. Most economies have some form of legislation to protect the investors in case of default of bond issuers.

## III. FINDINGS AND RECOMMENDATIONS

### Structure of Domestic Bond Market

Market Capitalization

11. APEC bond markets have grown slowly relative to equity markets. At the end of 1997, the[1] size of the APEC local currency bond markets was around US$16,308 billion[2], compared with $15,540 billion as at end-1995. The compound annual growth rate was 2.4%. However, if bond markets in the US and Japan were excluded, the growth rate of bond markets in the period would increase to 3.8% per year, from US$1,102 billion to US$1,188 billion. The slower growth in market capitalization could be partly attributed to the depreciation of most Asian currencies against the US dollar in 1997, given that market capitalization is measured in US dollars. In fact, market capitalization measured in domestic currencies had experienced a steady and higher growth in most Asian economies during the period.

12. In terms of market capitalization, the US domestic bond market was the largest in APEC. The outstanding amount was US$11,437 billion as at end-1997. Japan was the second largest (US$3,691 billion), Canada was the third largest (US$462 billion) and Australia was the fourth largest (US$207 billion).

13. It was noted that most of the ratios of market capitalization to GDP (which is an indicator of the stage of development of a market) of the APEC economies were below 60%. This indicates that bond markets in the region are generally under-developed and there is plenty of room for further improvement. In the developed APEC markets such as the US and Japan, the capitalization to GDP ratios were 141% and 95% respectively at end-1997. With a ratio of 89%, Malaysia's debt market is the most developed in Asia. In contrast, the ratios in China, Mexico and Thailand were low at around 12%.

Issuer and Investor Characteristics

14. About 70% of local currency bonds in APEC economies were issued by the public sector, and over 70% of the public sector bonds were issued by governments. This reflects the fact that bonds are issued mainly to finance budget deficits and infrastructure developments. The reason for the lower private sector bond issuance is that Asian corporations are usually assigned lower public credit ratings, which makes

[1] Papua New Guinea and the Philippines have not replied to the survey and they are not included in the total figure. Brunei Darussalam does not have a bond market.
[2] The market capitalization figures can be found in Annexes 1 and 2 of this report.

private sector bonds less attractive to international and local investors, and means a higher funding cost to corporations. It is therefore quite common that the private sector in Asia relies heavily on bank credit as the major source of financing. Economies where private sector bonds accounted for more than 50% of total bonds issued are Australia, Hong Kong and Malaysia. The bond market infrastructure in these economies is more developed, making the issuance of corporate bonds and bank CDs more efficient.

15. The foreign currency debt market is relatively smaller in size compared with local currency debt market. Only Canada, Chile, Japan, Korea, Malaysia, Mexico, Japan, Korea, Chinese Taipei, Thailand and Singapore had foreign currency debts. The largest foreign currency market is Canada, with a market capitalization of US$301 billion as at end-1997, followed by Chinese Taipei (US$42 billion).

16. The mix of local currency bondholders varies from market to market. In Australia, Japan, Korea, Mexico and the US, banks and financial institutions are the major holders. In Singapore and Malaysia, contractual savings institutions, such as the provident funds are the active buyers of bonds. There are two special cases: China and New Zealand, where individuals and foreigners are the major holders of bonds.

17. In general, foreign currency bonds markets are in a nascent stage in APEC economies. There are no meaningful statistics available on holders of foreign currency bonds. Only Chile and Korea provided some data, which indicated that banks are the major holders of bonds. The lack of development of the foreign currency bond markets might be due to the fact that there was a net inflow of foreign capital into Asia in the past years, and Asian economies did not need to borrow foreign currencies to finance their foreign currency liabilities. Also, because of the generally lower credit rating of Asian economies, foreign currency Asian bonds were not attractive to foreign institutional investors, and so the demand for foreign currency bonds has not been large.

Primary and Secondary Markets

18. The method of auction varies across countries. In Hong Kong, government bonds are issued in competitive auctions and so the issue prices are market determined. On the other hand, bonds in China are placed via an administrative allocation mechanism, so the yields are often below market.

19. Secondary markets provide liquidity to bondholders. Australia, Canada, Japan and Korea have relatively more active secondary markets as their market turnover are higher. Thailand has made good progress in promoting secondary trading through the bond dealers club. Turnover ratio (turnover/market capitalization) for Hong Kong dollar bills was also high at around 30%[3] in 1995.

[3] *Asian Bond Markets*, Financial Times, 1997.

Market Impediments

20. Comparing the turnover value to market capitalization, it was noticed that some Asian debt markets are rather illiquid. Inactive secondary markets are attributable to the following market impediments:

(a) *Lack of reliable benchmark yield curves*
Most yield curves are below 10 years. This has made pricing for corporate debt securities in the secondary markets difficult, especially for long-maturity bonds.

(b) *Lack of local institutional investors*
Contractual savings institutions tend to adopt a buy-and-hold strategy due to their long-term investment horizons. There are a small number of institutional investors who actively trade Asian debt.

(c) *Under-developed securities trading, clearing and settlement system*
In certain Asian countries, reliable and expeditious clearing and settlement systems are not available. Some bonds are still in bearer form, which makes settlement less efficient.

(d) *Lack of liquidity*
Asian bonds are often issued in small sizes. As investors of bonds are mostly adopting a buy and hold strategy, the supply of bonds in the secondary market is not sufficient. Due to low liquidity and inactive secondary market trading, the bid/offer spreads are often very wide, and this makes trading very costly.

(e) *Lack of committed market makers*
Committed market makers are important for active secondary trading. Due to the volatility of Asian debt relative to G7 bonds, financial institutions and securities houses are not very keen to make prices on debt securities.

(f) *Long settlement periods*
Settlement periods are often long and not specific. Hong Kong, Indonesia, Malaysia and Thailand have specific settlement periods. Securities in Singapore and the Philippines are, however, settled on mutual agreement basis.

(g) *Absence of bond lending programmes*
There is no repo market for Asian bonds or the markets are not active. This makes collateralized lending and short covering difficult.

21. As reflected in the survey, member economies think that the key impediments to bond market development are: lack of reliable benchmark yield curve; lack of local institutional investors; under-developed securities trading, clearing and settlement systems; and lack of liquidity.

Recommendations

22. APEC member economies suggested the following steps to develop domestic bond markets:

(a) Governments or public bodies should issue longer-term maturity bonds to extend the benchmark yield curves, making the pricing of private sector bonds easier.

(b) Settlement systems should be enhanced. Settlement period should be standardized to reduce settlement risk and uncertainty. Payment systems should be strengthened to facilitate settlement of securities transactions.

(c) Mark-to-market system should be introduced to enhance risk management. This would attract more institutional investors.

(d) Governments should develop the repo market, such that investors can have more alternatives to finance their short-term capital needs.

(e) Governments should promote the development of bond futures markets to provide hedging tools for management of fixed-income portfolios.

(f) Exchanges and clearing houses should develop electronic and scripless custodian systems to reduce paperwork and improve efficiency of safekeeping of bonds. Transfer of titles should be clear and efficient. The use of computerized trading system for secondary markets should be encouraged.

(g) Governments should provide incentives to remove distortion in intermediation between bank financing and issuance of bonds, and to encourage holding and trading of bonds.

**Market Infrastructure**

Debt Settlement and Clearing System

23. A robust settlement system can ensure that the transfer of securities will take place efficiently such that settlement risk could be greatly reduced. Market players can then trade more actively, enhancing the liquidity of the debt market. Several Asian economies have adopted sophisticated settlement systems.

24. To assist the development of the debt market, the HKMA operates a clearing and custodian service called Central Moneymarkets Unit (CMU). This system enables settlement to take place electronically. It is linked with Euroclear and Cedel.

25. In Malaysia, Bank Negara operates the SPEEDS system, which includes the Interbank Funds Transfer System (IFTS) and the Scripless Securities Trading System (SSTS). A central depository system for private debts was also established in 1996. In Singapore, government securities are settled via book entry with the MAS. Chinese Taipei maintains a central depository system for securities trading and for clearing on the stock exchange, covering convertible bonds and government securities.

26. In Korea, the Korea Securities Depository system is established for clearing, settlement and custody of local debts listed in the Korea Stock Exchange. However, there is no clearing system for OTC transactions. In China, tradable T-bills are registered in the Shanghai Stock Exchange settlement system. However, the majority of bonds are in bearer form without standardized settlement procedures.

27. Australia, Canada, Chile, Indonesia, Japan, New Zealand, Thailand and the US also have settlement systems for domestic bonds.

Payment System

28. For interbank payments, Australia, Mexico, New Zealand, Hong Kong, Korea, Singapore, Chinese Taipei, Thailand and the US all have implemented Real Time Gross Settlement Systems (RTGS). For those economies which have not yet implemented RTGS, Canada, Chile, Malaysia and Japan plan to develop the system in the future.

29. Most interbank payment systems are not linked with other payment systems. Only Hong Kong has a unilateral link with Australia.

Recommendations

30. APEC member economies suggested the following steps to improve market infrastructure:

(a) APEC countries should develop bilateral or multilateral linkages between their securities settlement systems, with a view to promoting efficient clearing and securities settlement system, which can reduce transaction cost as well as settlement risk.

(b) APEC countries should establish bilateral or multilateral interbank payment linkages, with a view to reducing foreign exchange settlement risk (Herstatt risk). However, this could only be accomplished if the member economies implement RTGS.

**Supply and Demand for Asian Bonds**

31. With high savings rates, Asian investors have excess money to invest for higher returns. On the other hand, the public sector has enormous financing needs for infrastructure developments. A well-developed bond market could channel the excess savings from individuals to the public sector and corporates in a cost-effective manner.

32. Currently most issuers of bonds in APEC are governments and public sector entities. However, as fiscal discipline improves and budget deficits decline, there will be less government debt. In the US, although the public sector debt has increased during 1995-1997, private sector debt has increased at a faster speed. The proportion of public sector therefore declined from 72% at end-1995 to 70% at end-1997. In Asia, however, an opposite trend was observed. The proportion of public sector debt increased from 68% in end-1995 to 69% in end-1997. Both public and private sector debt declined, but private sector debt decreased at a faster pace than public sector debt.

33. Banks and financial institutions are the major buyers of Asian bonds. However, with increasing income and aging populations, most countries are in the process of establishing mandatory provident funds. Mutual fund companies are also expanding aggressively in Asia as people have more money to invest for their future. Therefore, the demand for Asian bonds is likely to increase in the coming years.

34. Australia, Canada, China, Korea, Malaysia, Mexico, New Zealand, Singapore, Chinese Taipei and Thailand all have plans to issue public sector debt in the near future. However, the amounts were not disclosed.

35. The survey revealed that most governments have restrictions on investment in Asian government bonds. They could only invest in bonds with public rating of single A or above. There are also maturity limits of up to 10 years. Only the US government can invest in credit-enhanced Asian bonds, while other economies are prohibited from

investing in such bonds. This might deter governments and central banks from holding debt securities issued by other governments.

36. No statistics are available for future financing needs of the corporate and private sectors. However, given the booming industrial and manufacturing sectors in Asia, there should be huge funding needs.

Recommendations

37. APEC member economies suggested the following steps to increase the supply and demand for Asian bonds:

(a) Disclosure requirements of debt issuers should be enhanced. More financial information would give more confidence to bond investors.

(b) Corporate debt could be "credit-guaranteed" by public or government entities to attract investors.

(c) Individuals should be educated on the concept of investing in debt securities such that the demand for bonds could be increased.

(d) Incentives should be provided to holders of debt securities to remove the distortion of intermediation between bank financing and issuance of bonds.

(e) Governments could consider allowing private companies to issue debt securities, provided that they can meet the disclosure and capital requirements. In this way, the supply of bonds could be increased and the private companies can have another alternative for financing.

**Benchmark Yield Curve**

38. Benchmark yield curves are crucial in the functioning of primary and secondary bond markets, by providing a reference for pricing private sector debt securities. The slope and curvature of the curve reflects the market perception of interest rate risk, liquidity risk and credit risk.

39. Most APEC economies have maintained government benchmark yield curves up to about 10 years. The only exceptions are Korea and Thailand, where corporate bonds are used as the yield curve benchmark.

40. It is difficult to maintain a reliable yield curve because of the buy-and-hold strategy of pension funds and long-term investors. Without an active secondary market, the yield curve would not be accurate or creditable.

41. In Singapore, Australia, Canada, the US, New Zealand and Mexico, government bonds are often issued to maintain the reliability and accuracy of the yield curves. However, most of the economies do not have the plan to extend the yield curve. Only Chinese Taipei, New Zealand and Mexico have such plans. Korea and Malaysia plan to build benchmark yield curves by issuing government or public sector bonds.

**Regulatory Framework**

42. A well-functioning bond market requires a regulatory system which prescribes a level playing field, clearly defined property rights, transparent information flow and a capable regulatory authority. This section discusses the existing regulatory framework and the main objectives of regulatory authorities in the region.

43. Regulatory bodies normally perform two functions: to promote market development, and to regulate the activities of market participants. Most Asian economies have established commissions to regulate and develop debt markets. Most of these commissions are under the control of finance ministries and are responsible for market surveillance, supervision and licensing of securities firms. Since 1992, regulatory authorities have been established in Thailand, Malaysia and China.

44. The following are the details of the regulatory systems of respective APEC member economies:

(a) Australia - The authority overseeing the issuance of bonds is the Australian Securities and Investment Commission. The authorities overseeing the investment of bonds are the Australian Securities & Investment Commission and the Australian Prudential Regulation Authority. The central bank (Reserve Bank of Australia) does not play a direct role on overseeing the issuance and investment of bonds.

(b) Canada - The authority overseeing the issuance and investment of bonds is the Department of Finance and the Bank of Canada. The Bank of Canada also acts as fiscal agent for the government in the issuance and investment of bonds.

(c) Chile - The authorities overseeing the issuance and investment in bonds are the Central Bank of Chile, Superintendency of Banks and the Securities and Insurance Commission.

(d) China - The China Securities Regulatory Commission (CSRC) was established in October 1992 by the State Council. The CSRC administers and supervises the securities markets and industry, and formulates regulations.

(e) Hong Kong - The Securities and Futures Commission is responsible for regulating both the securities and futures markets in Hong Kong. The Stock Exchange of Hong Kong and the Hong Kong Futures exchange supervise its members.

(f) Indonesia - The Ministry of Finance regulates the issuance of bonds through the Bapepam and the Central Bank. The Bapepam is responsible for issuance of bonds of maturity more than 5 years. The Central Bank is responsible for issuance of short-term notes and regulates the amount and quality of bonds that can be held by commercial banks.

(g) Japan - The Securities Bureau of the Ministry of Finance is responsible for the supervision of the debt market. Self-regulation plays an important role in the supervision of market practitioners. The Securities Exchange Council provides market practitioners' views on securities regulations.

(h) Korea - The Ministry of Finance and Economy (MFE) and the Financial Supervisory Commission (FSC) are responsible for developing and regulating Korean markets. The MFE is responsible for enactment and revision of securities laws and approval of securities companies. The FSC is responsible for inspection and supervision work. In addition, the Korean Stock Exchange and the Korean Securities Dealers Association serve as self-regulatory bodies. The Bank of Korea is the MFE's agent for government bonds issuance.

(i) Malaysia - The Malaysia Securities Commission (MSC) is responsible for regulating securities markets. In addition, corporate bond issues require approval from both the MSC and the central bank, Bank Negara Malaysia.

(j) Mexico - The authorities overseeing the issuance of bonds are Banco de Mexico (BdM) and the National Banking Securities Commission (NBSC). The NBSC is responsible for approving new issues. Subordinated bonds issued by commercial banks require additional approval from BdM.

(k) New Zealand - The authority overseeing the issuance of bonds is the New Zealand Securities Commission. There is no special regulatory body to oversee the investment of bonds.

(l) Singapore - The Monetary Authority of Singapore (MAS) is responsible for the developing and regulating securities markets. Issuers of bonds do not need prior approval from the MAS before they can issue, except for certain foreign issuers planning to issue S$ bonds. In addition, the Stock Exchange of Singapore will be responsible for the regulation of its members on licensing, audit, financial reporting.

(m) Chinese Taipei - The Securities and Futures Commission and the Ministry of Finance are responsible for overseeing the issuance and investment of bonds. For issuance of bonds by commercial banks, the Central Bank will also be involved in the regulation. In addition, there is a ceiling on investment in bonds by foreign investors.

(n) Thailand - The Ministry of Finance is responsible for issuing government bonds and the Bank of Thailand acts as the distributor of bonds through the auction process. The Securities and Exchange Commission regulates issuance of bonds by securities companies.

(o) United States - The US has the oldest and the most experienced national regulatory body in the world. The Securities and Exchanges Commission (SEC) is responsible for administering federal securities laws, ensuring that markets are fair and honest, and market practitioners are complying with applicable laws and regulations. The SEC, however, does not have direct regulatory authority over the securities activities of commercial banks.

Self-regulation

45. In certain countries, such as Japan and Korea, much of the day-to-day regulation is carried out by self-regulatory organizations, under the oversight of a government regulatory body. In general, stock exchanges are responsible for the market surveillance, supervision of members and licensing. As markets become more sophisticated, self-regulation will assume a more important role than regulatory bodies in direct supervision of markets.

Protection of Property Rights

46. Clearly defined property rights and enforceable contracts are essential to give investors peace of mind to invest in a security. The survey revealed that all Asian economies have adequate laws to protect bondholders in case of default by bond issuers. The debt holders can sue the issuer in court through civil proceedings. If an issuer becomes insolvent, its assets will be liquidated and bondholders will receive the proceeds before the shareholders. If there is a guarantor, debt holders can demand that the guarantor repay the debt.

Recommendations

47. APEC member economies suggested the following steps to enhance regulatory standards:

(a) As some debt transactions are conducted over-the-counter, there is a clear need to define how such activities could be conducted such that investors' rights can be adequately protected.

(b) Governments should also define the conditions under which private placements will be permitted.

(c) As more sophisticated products, such as derivatives on bonds, are introduced to the markets, it is imperative that regulations and compliance standards be developed to protect the investors' interests.