[Preliminary]

Asian Bonds Market : Issues, Prospects and Tasks for Cooperation*

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Abstract

This paper aims to clarify some basic issues regarding desirability and feasibility of establishing a regional bond market in East Asia. In particular, we analyze what makes difficult the development of bond markets, domestic as well as international, in East Asia. Our preliminary analysis implies that determinants of bond market development do not differ much from those of bank credit market. In this sense, policy agenda for cooperation in East Asia should be focused on strengthening infrastructures for domestic bond market such as improvement of regulatory system and transparency in business environment. Regional financial cooperation should aim at facilitation and liberalization of cross-border investment, and issuance of regional bond denominated in regional currencies.

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I. Introduction

The 1997 financial crisis in East Asia reminded us that sudden sop of capital inflows could lead to costly output loss, social dislocations and political turmoil. In order to prevent recurrence of a crisis, East Asian countries have been promoting regional financial cooperation in many fronts. In particular, development of Asian bond markets has drawn attention as one of the most promising agenda for tangible result in the near future. The near absence of foreign investment in domestic bonds denominated in regional currencies has been pointed out as the original sin for financial instability. Foreign borrowing by the banking sector, which was used to finance domestic fixed investment, resulted in the so-called "double mismatch" of maturity and currency. Taking into account the high risk of short-term borrowing and equity investment, East Asian countries still remain uncovered from shocks to the global financial market. Foreign reserve holdings may augment this kind of risk, rather than diminish it, by aggravating foreign investment in high-risk financial assets.

In this context, building up Asian bond market has been a focal point in regional financial cooperation, particularly since the Chiang Mai Initiative. However, it is debatable what Asian bond market exactly means. For example, Ito (2003) defines Asian bonds as those issued by Asian institutions, denominated in an Asian currency, and sold, traded, and settled in an Asian financial center. By definition, there seems to be no active bond market satisfying all of the three conditions. However, it does not follow that there is no regional bond markets in East Asia. The Asia dollar bond market in Singapore would be a good example, if its definition were broadened to include bonds denominated in the U.S. dollar or the euro. It is not true that it is impossible to issue bonds denominated in regional currencies, even though foreign investing in these bonds remain inactive.

Asian bond market, if established, is expected to contribute to stabilization of the regional financial system by reducing heavy reliance on short-term external financing of Asian companies through the banking sector. In addition, vitalization of bond market may help reduce the risk of maturity and currency mismatch. It is no wonder that development of an Asian bond market have given priority in several regional cooperative forums. Asia Cooperation Dialogue (ACD) in its first meeting held in June 2002 agreed to set up a working group on financial cooperation in order to set guidelines to develop Asian bond markets. The second ACD meeting of June 2003 adopted Chiang Mai Declaration on Asian Bond Market and Asia Bond Fund Initiative. In June 2003, Executives' Meeting of East Asia-Pacific Central Banks (EMEAP) agreed to establish Asian Bond Fund (ABF) of 1 billion US dollars, which will be invested in government bonds issued by Asian countries. In March 2003, financial ministers of ASEAN + 3 agreed to operate working groups to promote Asian Bond Markets Initiative (ABMI) for development of regional bond markets.[1] In April, 2003, the APEC convened its first meeting for development of Asian bond market, and emphasized closer cooperation for better supervision and information sharing.

In spite of keen interest in establishment of the Asian Bond Market, its desirability and feasibility is still in need of thorough scrutiny. Proponents of Asian bond market insist that a regional bond market will enhance efficiency of financial intermediation and make both creditors and borrowers better-off. They believe that it will contribute to diversifying foreign investment to lower risk assets, and thus to greater stability of regional financial market. In particular, it is advocated as the viable option to solve double mismatch problem by stimulating intra-regional circulation of capital, which is made possible by mobilizing current account surplus of regional economies. On the other hand, those skeptical of the idea insist that development of the domestic

[1] There are six working groups to study measures to strengthen infrastructures: 1) creating new securitized debt instruments, 2) credit guarantee mechanisms, 3) foreign exchange transactions and settlements issues, 4) issuance of bonds denominated in local currency by multilateral development banks, foreign government agencies, and multinational Asian corporations, 5) local and regional rating agencies, and 6) technical assistance.

bond markets should come before cooperation for the regional bond market. They also have reservation toward the recent initiative of establishing the Asian Bond Fund, which aims at investment in dollar-denominated bonds issued by Asian issuers. Are dollar-denominated bonds truly Asian bonds? How can the Asian Bond Fund find eligible bonds issued by the private sector, which suffers from low credit ratings of their issuers? Will Asian bonds, if issued, be traded in the secondary market? Furthermore, it remains questionable why a regional bond market is preferred to a global bond market both for demand and supply sides.

This paper aims to clarify some basic issues regarding desirability and feasibility of establishing a regional bond market in East Asia. In particular, we analyze what makes difficult the development of bond markets, domestic as well as international, in East Asia. Our preliminary analysis implies that determinants of bond market development do not differ much from those of bank credit market. In this sense, priority for financial cooperation in East Asia should be given to strengthening infrastructures for bond market such as improvement of regulatory system and transparency in business environment.

The organization of the paper is as follows. In Chapter II, we review concepts and theoretical benefits of Asian bond market development. By doing so, we ask why establishment of the Asian bond market is desirable for the region. In Chapter III, we also examine the current structure of bond markets in East Asia. In particular, we ask if bonds are substitutes or compliments to bank loans, and if bond markets compete each other in the regional and global dimensions. In Chapter IV, we analyze what deters development of bond markets in Asia. In Chapter V, we discusses agenda of cooperation for China, Japan and Korea for development of bond markets in the region.

II. Rationale of a Regional Bond Market in East Asia

1. Concepts of Asian Bond Market

Asian bond is the regional bond that governments and corporations in Asia will issue and trade to capitalize funds. Generally speaking, Asian bond should satisfy the following three conditions, "By Asians, For Asians, and In Asian currencies." According to Ito (2003), Asian bonds are bonds issued by Asian institutions (government, corporations, and financial institutions), denominated in an Asian currency, and sold, traded, and settled in an Asian financial center (Tokyo, Singapore, and Hong Kong). Investors are expected to be mainly regional (Japan, Singapore, Hong Kong, in particular), but others are welcome.

Among the above three conditions, the first seems to be the most important. In essence, the Asian bonds aim at easier financing of firms or governments of Asian countries. In this context, Yung-Chul Park (2004) defines the Asian bonds as those issued by Asian institutions. The differentiation of the Asian bond market from existing foreign bond markets will be highlighted by the market share of Asian institutions in the supply side. At present, there are international bonds issued and traded in Asian financial centers such as the Samurai bond (Tokyo). Mainly international institutions issue these bonds. Meanwhile, the eurobonds such as the Asian dollar bond (Singapore) or the Shogun bond (Tokyo) is not different much in this aspect.

Theoretically, not only the international bond market but also domestic bond market, if liberalized, can be used to boost issuance of bonds by Asian institutions. For example, the Singapore-dollar denominated bond issuance by foreigners began to grow substantially in the 1990s. Still, it is another matter whether how many Asian institutions can issue bonds in this market. The problem will be the most serious for small and medium sized corporations. In this sense, the Asian

bonds market would be helpful for corporation with the low credit rating from emerging market economies.

In a sense, the issue of denomination is more important in justifying a regional bond market. Eichengreen (2004), for example, emphasizes currency mismatch as the structural weakness of emerging market economies that experienced financial crises. Because international investors favor bonds denominated in selective international currencies, exchange rate fluctuation of major currencies may weaken balance sheet of corporations with high leverage in foreign currencies. Therefore, creation of credit market for lending and borrowing in a synthetic unit of account, a weighted basket of emerging-market currencies is prerequisite to cope with currency mismatch, and thus lower the risk of financial crises. The Asian bond denominated in Asian currencies can be considered as a special case of this new instrument. As a by-product, the Asian bond denominated in a basket of regional currencies may eventually lead to foreign exchange cooperation in East Asia.

2. Potential Benefits of an Asian Bond Market

Most proposals for Asian bond take desirability of the Asian bond market as given, and directly proceed to discuss how to construct infrastructures for its development. For example, Sakakibara (2001) begins his discussion by quoting a statement by Donald Tsang, Financial Secretary of Hong Kong, China, made in 1990: “What Asia lacks, and Europe and the US have is a deep, liquid and mature debt market where three things can occur. First, governments and corporations can borrow long to invest long, thus eliminating the maturity mismatch inherent in Asia. Second, corporations can issue paper in the US dollar, the Japanese yen or euro, with clearing and settlement in Asian times, thus eliminating currency mismatches and developing a truly deep Asian debt market along the lines of euro-dollar and euro-yen markets. Third, financial institutions

in Asian economies can foster a vibrant debt market with adequate risk management by investing their reserves in Asia."

He goes on to insist that the dominance of world bond market by Europe and the U.S. is possible with a large number of issuers in Asia avoiding the local bond markets in Asia. He notes that the key problem is not closeness of the local markets to bond issuance by non-residents, but inadequate infrastructure. Accordingly, if the regional authorities cooperate to cope with impediments such as inadequate settlement and clearing system, insufficient repo markets, or unfavorable tax system, the success of the Asian bond market would be self-guaranteed. During the initial stage of development, utilization of public credit enhancement would be effective in increasing demand for issuers of low ratings.

No one will deny desirability of development of bond market in East Asia, which would resolve the excessive reliance on short-term funds and increase financial self-reliance of Asian countries. However, critics of the idea of the Asian bond market development question its basic assumptions. First, it is unclear why Asian countries should decrease dependence on bank loans and to replace it with bond finance. Takagi (2002) insists that bank finance has advantage over capital market finance in mitigating adverse selection and moral hazard through closer monitoring. On the other hand, bond is better at inducing efficient resource allocation by providing price signals. Therefore, the choice of which to use will depend on the magnitude of the information problems it faces, and the informativeness of securities prices. In this context, development of the bond market should focus on improvement of accounting, disclosure rules and law enforcement. Also, it is more urgent to improve the quality of bank intermediation rather than creating a regional bond market.

Second, it is debatable whether bond markets in East Asia are actually underdeveloped. After reviewing recent activities of Singapore's domestic and offshore bond markets, Rhee (2003)

confirms that Asian borrowers rely on U.S. and European investment banks to tap global financial markets, but at least 40% of these bonds end up in Asian portfolios (McCauley et al (2002)). If Asian borrowers and investors use the global bond market efficiently, then we have to ask why a regional bond market is necessary.

Eichengreen and Luengnaruenmitchai (2004) argue that Asian bond markets are small compared with bond markets of OECD, and underdeveloped in the aspects of liquidity and all-in costs. They add that small size of the Asian bond market, part of the problem, can be addressed by the ABF, but also by capital account liberalization. It is another matter why it is difficult for Asian countries to issue bonds denominated in regional currencies. It also what should be done to develop regional bond market. Park and Park (2003) emphasize the priority of domestic financial reform for development of regional bond markets.

Third, it is questionable whether there is enough unrealized foreign demand for Asian bonds. As shown in Table 1, home country bias is evident in international investing. For example, holdings of foreign bonds account for only 3.3% of U.S. residents' overall bond portfolios. Germany and the United Kingdom have tended to allocate higher weights toward foreign bonds. Still, the weight of foreign bonds is low relative to a naïve allocation that assigns portfolio weights in proportion to market capitalization values (Levich (2001)). Asian bond markets will not be immune from this tendency toward home country bias, which reflects higher costs to investment and extra risks associated with foreign investing.

<Table 1> **Investment in Foreign Securities**

(unit: %)

Residence of Investor	1970	1975	1980	1985	1990	1995
Germany						
Overall Portfolio	4.9	2.4	2.7	5.8	10.2	--
Stocks	--	--	--	--	--	18.0
Bonds	--	--	--	--	--	6.0
Japan						
Overall Portfolio	--	1.3	2.0	6.9	10.7	--
Stocks	--	--	--	--	--	--
Bonds	--	--	--	--	--	--
United Kingdom						
Overall Portfolio	9.5	8.6	11.4	27.5	31.9	--
Stocks	--	--	16.9	24.8	23.5	23.0
Bonds	--	--	6.4	32.3	61.4	38.0
United States						
Overall Portfolio	--	2.3	2.2	2.2	2.7	--
Stocks	--	1.4	1.5	2.0	3.3	9.9
Bonds	2.6	3.0	2.8	2.4	2.4	3.3

Source: Levich (2001), p.521.

III. Current Status of Bond Markets in East Asia

1. Domestic and External Bond Issues

It is a stylized fact that bond market is underdeveloped in developing countries (Demirguc-Kunt and Levine 2001). If that is true for the domestic bond market, underdevelopment of international bond markets for these countries comes as no surprise. As shown in Table 1, East Asian developing courtiers seem to lag behind the most advanced countries more apparently in issuing international bonds. However, it is difficult to generalize the market conditions of East Asian countries.

The domestic bond markets of East Asian developing countries are smaller than those of the most advanced countries such as the US, UK, Germany, or France. However, the domestic bond markets of relatively smaller advanced countries are not always larger than those of East Asian developing countries. For example, the domestic bond market of China or Korea is as large as those of Belgium and Denmark. In contrast, Malaysia and Thailand have relatively smaller domestic bond markets.

When the size of bond market is normalized with respect to the GDP, the picture does not change much. The average ratio of domestic market values divided by GDP for the whole sample is 0.96. The value for developed countries records 1.11, but it varies depending on countries: US (1.67), UK (.74), JPN (1.93), Germany (.97). Malaysia and Korea show the similar values, 0.97 and 0.90 respectively. However, other countries show much smaller values of .28 for Hong Kong, .38 for China, and .43 for Thailand.

The condition for external bond issues is quite different. It is a relatively new phenomenon that emerging market economies began to issue large amounts of bonds. However, developing

countries far lag behind advanced countries in utilization of international bond market for financing. The ratios of market value of external bond issues relative to GDP show substantial difference: .60 for developed countries and .18 for developing countries in Table 2. In particular, China, Indonesia, Thailand and Taiwan's values are less than 0.1.

To sum up, the East Asian developing countries except for Korea and Malaysia have smaller bond markets than advanced countries, particularly in external bond. However, underdevelopment of external bond issue is understandable, taking into account the fact that it began to be allowed only recently. Meanwhile, the structure of bond market according to issuers is not much different between developing and developed countries. In the case of the domestic bond market, the public sector takes the most important role in supplying bonds, followed by the financial sector and the corporate sectors. In the case of the international bond market, the financial sector is the most active, while both the public and the corporate sector is not so.

It is another issue in what currency international bonds would be denominated. As shown in Table 3, the dominance of the US dollar seems to be challenged by the euro. In the case of international bonds and notes, which have medium to long-term maturities, the share of the US dollar and the euro recorded 46.2% and 37.5% respectively. Meanwhile, the Japanese yen recorded only 5%. Except for Pound sterling, other currencies remain as peripheral. The oligopoly structure will remain the same, even if not strengthened. If so, it seems to be a difficult task to issue bonds in emerging market currencies in East Asia.

<Table 2> Domestic and External Bond Issues In East Asia (2003.9)

(unit: US B$)

Country		Domestic Debt Securities				External Debt Securities			
		Total	Public	Financial Institution	Corporate Sector	Total	Public	Financial Institution	Corporate Sector
United Kingdom		1167.8 (75)	466.3	362.9	338.6	1016.7 (65)	3.5	821.7	191.5
United States		17522.9 (168)	4894.6	10116.4	2512.0	2935.7(28)	3.0	2543.9	388.8
Japan		7714.9 (193)	5804.0	1173.8	737.0	254.1(6)	4.1	204.7	45.3
Euro Area	Austria	211.4 (104)	125.8	81.0	4.5	154.8(76)	63.7	84.7	14.6
	Belgium	411.9 (168)	295.2	88.4	28.3	224.5(91)	57.9	161.6	5.1
	Finland	99.0 (75)	61.4	27.2	10.5	70.7(54)	43.4	12.5	14.8
	France	1743.6 (123)	954.5	568.0	221.1	648.9(46)	14.2	407.0	227.7
	Germany	1933.2 (97)	922.1	917.9	93.3	1766.6(89)	121.3	1571.8	73.5
	Greece	156.2(118)	155.5	0.7	0.0	70.8(53)	53.5	10.5	6.8
	Ireland	61.1(50)	32.0	--	29.0	91.0(74)	5.0	5.0	9.0
	Italy	1942.0(164)	1298.2	489.2	154.6	466.0(39)	133.2	295.1	37.6
	Luxemburg	--	--	--	--	30.7(46)	--	28.2	2.5
	Netherlands	543.4(130)	237.5	244.8	61.1	522.7 (125)	1.2	460.7	60.8
	Portugal	109.2(90)	68.4	24.9	15.9	85.1(70)	26.1	55.3	3.7
	Spain	577.0(88)	369.1	113.6	94.3	335.5(51)	42.1	268.8	24.6
Denmark		343.6(200)	104.4	221.1	18.2	39.2(23)	10.4	19.5	9.3
Norway		91.2(48)	41.2	43.2	6.8	58.4(31)	--	40.8	17.5
Sweden		257.0(107)	127.8	105.5	23.7	145.3(60)	25.2	101.4	18.7
Switzerland		212.1(79)	89.7	95.0	27.5	138.4(52)	1.0	131.8	5.6
Canada		667.8(91)	486.4	97.2	84.2	258.0(35)	91.0	78.8	88.2
Australia		267.8(67)	6.1	109.6	77.6	171.5(43)	12.3	144.5	14.6
Hong Kong		45.5(28)	15.5	25.5	4.6	45.4(28)	--	30.5	15.0
Singapore		56.4(65)	35.8	18.0	2.5	19.8(23)	--	12.8	6.7
China		479.8(38)	243.0	224.5	12.2	17.1(1)	5.3	9.5	2.4
Indonesia		--	--	--	--	9.7(6)	0.9	8.7	0.2
Malaysia		92.5(97)	38.3	11.8	42.4	22.9(24)	5.1	9.1	8.7
Philippines		--	--	--	--	23.1(30)	13.6	4.3	5.3
Thailand		54.8(43)	31.6	15.4	7.8	10.4(8)	2.5	4.9	3.0
Korea		432.1(91)	113.3	158.3	160.5	61.6(13)	5.2	34.8	21.6
Taiwan		--	--	--	--	17.2(6)	0.1	3.7	13.4
Bahamas		--	--	--	--	0.7(--)	0.2	--	0.5
Panama		--	--	--	--	4.7(41)	4.2	0.3	0.2

Note: Numbers in parentheses denote percentage with respect to GDP.
Sources: BIS, *BIS Quarterly Review*, March 2004.

<Table 3> **International Debt Securities by Type and Currency**

(unit: US$ B, %)

Type	**1996**	**1998**	**2000**	**2002**
Short-Term	**171.3 (100.0)**	**194.3(100.0)**	**333.8(100.0)**	**437.7(100.0)**
US dollar	97.4(56.9)	111.4(57.3)	161.7(48.4)	145.3(33.2)
Euro(Euro Area)	30.3(17.7)	35.8(18.4)	107.9(32.3)	178.5(40.8)
Japanese Yen	6.3(3.7)	4.7(2.4)	8.0(5.3)	23.4(5.3)
Others	37.3(21.7)	42.5(21.8)	56.2(16.8)	90.5(20.7)
Austraian dollar	4.8(2.8)	6.3(3.2)	6.0(1.8)	6.8(1.6)
Canadian dollar	0.7(0.4)	0.9(0.5)	1.5(0.5)	1.0(0.2)
Hong Kong dollar	10.5(6.1)	10.4(5.4)	7.1(2.1)	8.1(1.9)
New Zealand dollar	0.0(0.0)	0.5(0.3)	0.5(0.1)	0.6(0.1)
Norwegian krona	0.0(0.0)	0.0(0.0)	0.1(0.0)	1.0(0.2)
Pound sterling	8.8(5.1)	15.5(8.0)	32.8(9.8)	56.2(12.8)
Singapore dollar	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.2(0.0)
Swedish krona	0.1(0.1)	0.0(0.0)	0.2(0.1)	0.7(0.2)
Swiss franc	9.9(5.8)	8.4(4.3)	7.9(2.4)	15.7(3.6)
Medium and Long-Term	**3054.1(100.0)**	**4103.4(100.0)**	**6049.7(100.0)**	**8757.6(100.0)**
US dollar	1148.1(37.6)	1854.6(45.2)	2971.0(49.1)	4047.1(46.2)
Euro(Euro Areas)	833.8(27.3)	1136.6(27.7)	1826.0(30.2)	3284.2(37.5)
Japanese Yen	511.2(16.7)	479.9(11.7)	501.9(8.3)	433.3 (4.9)
Others	561.0(18.4)	632.3(15.4)	750.8(12.4)	993.0(11.3)
Austraian dollar	53.6(1.8)	33.6(0.8)	30.6(0.5)	44.0(0.5)
Canadian dollar	76.3(2.5)	55.1(1.3)	51.0(0.8)	51.5(0.6)
Hong Kong dollar	6.4(0.2)	14.8(0.4)	25.1(0.4)	39.1(0.4)
New Zealand dollar	4.5(0.1)	10.3(0.3)	7.0(0.1)	7.1(0.1)
Norwegian krona	0.0(0.0)	1.6(0.0)	3.8(0.1)	18.7(0.2)
Pound sterling	228.6(7.5)	324.2(7.9)	458.2(7.6)	619.1(7.1)
Singapore dollar	0.0(0.0)	0.0(0.0)	3.9(0.1)	8.0(0.1)
Swedish krona	5.1(0.2)	5.1(0.2)	8.0(0.1)	11.1(0.1)
Swiss franc	155.7(5.1)	155.7(5.1)	133.0(2.2)	159.1(1.8)

Source: BIS, *BIS Quarterly Review*, various issues.

2. Bank Credit and Bond Financing

The emphasis of bond finance seems to be based on the assumption that bank financing and bond financing are close substitutes. If it is true, overdependence on bank finance will deter realization of net benefits from bond finance. Table 4 summarizes the current status of the banking sector in developed and East Asian developing countries.

The domestic banking sector in East Asia seems to be as active as the developed countries. The domestic deposit of banks in East Asian developing countries is almost comparable in its relative size to GDP to that of developed countries. In contrast, international banking service of East Asian developing countries, both in deposit and loan, lags far behind that of developed countries.

It is now orderly to compare domestic bank finance and domestic bond finance. The cross-sectional correlation coefficient between these two is near to one (.96), implying that development of bond market closely corresponds to that of banking sector. In this sense, it seems groundless to insist that domestic banking sector is too large in developing countries. Accordingly, it is questionable whether or not financial development of East Asian countries is biased toward bank finance.

Meanwhile, the correlation coefficient for the value of international bonds and the external deposits in the banking sector is .58, weaker than the case of domestic banking and domestic bond sectors. Still, the correlation coefficient for the value of international bonds and the domestic credit to the private sector stands at .86. In this sense, development of the domestic banking sector is a good indicator of feasibility of issuing international bonds.

<Table 4> Domestic and International Bank Finance

(unit: US B$)

Country		Domestic Banking (2002.12)		International Banking (2003.9)	
		Credit to Private Sector	Deposits	Loans	Deposits
United Kingdom		2347.2 (149)	1736.3 (111)	2226.8 (142)	2650.5 (169)
United States		8156.3 (78)	3325.5 (32)	1424.2 (14)	1707.4 (16)
Japan		4069.9 (102)	4736.2 (119)	510.6 (13)	532.9 (13)
Euro Area	Austria	217.0 (106)	179.7 (88)	115.7 (57)	90.6 (44)
	Belgium	187.2 (76)	258.7 (105)	266.4 (108)	365.3 (149)
	Finland	78.8 (60)	64.3 (49)	39.8 (30)	29.3 (22)
	France	1248.1 (88)	948.8 (67)	587.5 (41)	724.8 (51)
	Germany	2358.2 (118)	2000.5 (101)	1196.1 (60)	94.1 (5)
	Greece	89.1 (67)	119.4 (90)	--	- -
	Ireland	165.5 (135)	106.6 (87)	132.3 (108)	267.0 (219)
	Italy	1006.4 (85)	657.2 (55)	200.4 (17)	365.7 (31)
	Luxemburg	23.4 (112)	141.6 (75)	438.3 (2088)	412.7 (197)
	Netherlands	640.2 (153)	433.0 (104)	359.3 (86)	452.9 (108)
	Portugal	180.0 (148)	116.6 (96)	67.6 (56)	138.9 (114)
	Spain	725.5 (111)	578.7 (87)	122.7 (19)	361.1 (55)
Denmark		253.2 (147)	83.2 (48)	73.6 (43)	94.1 (55)
Norway		143.5 (75)	100.9 (53)	15.5 (8)	30.4 (16)
Sweden		215.5 (90)	84.3 (35)	67.2 (28)	108.7 (45)
Switzerland		425.3 (159)	334.2 (125)	776.2 (290)	723.7 (271)
Canada		587.0 (80)	456.9 (62)	113.1 (15)	130.0 (18)
Australia		348.0 (87)	260.0 (65)	35.8 (9)	71.0 (18)
Hong Kong		242.4 (149)	371.4 (228)	297.9 (183)	237.3 (146)
Singapore		93.5 (107)	93.8 (108)	338.8 (390)	372.0 (428)
China		1727.9 (135)	1608.1 (126)	--	--
Indonesia		38.5 (24)	86.1 (54)	--	--
Malaysia		100.8 (106)	88.0 (93)	--	--
Philippines		25.3 (32)	40.1 (51)	--	--
Thailand		130.1 (103)	113.4 (90)	--	--
Korea		509.5 (107)	398.9 (84)	--	--
Taiwan		130.5 (46)	60.2 (21)	38.7 (14)	41.0 (15)
Bahamas		3.9 (--)	3.6 (--)	233.5 (--)	232.2 (--)
Panama		12.0 (108)	8.9 (78)	--	--

Note: Numbers in parenthesis denote percentage with respect to GDP.
Sources: BIS, *BIS Quarterly Review*, March 2004; IMF, *International Financial Statistics*, various issues.

3. Onshore and Offshore Bond Markets

If a regional bond market will be created in East Asia, will it complement or compete with domestic bond markets? Is a regional bond market in East Asia likely to be complementary to foreign bond markets in Singapore or Hong Kong? The relationship among domestic, foreign and offshore bond markets in Europe may shed light on this question.

Table 5 shows recent development of bond markets, classified into domestic government bonds, domestic corporate bonds, foreign bonds and eurobonds, during 1990-2001. It is a general trend that government bonds denominated in local currencies take the lion's share in the world bond market, followed by domestic corporate bonds. Meanwhile, the share of eurobonds substantially varies depending on countries. United Kingdom is unique in the respect that its market size is greater than that of total domestic market.

Table 6 summarizes correlation coefficients for bond markets of major countries. First of all, bond markets around the world, domestic, foreign and euro, are closely interrelated each other. The US and UK bond markets appear to be closely integrated. Second, development of UK eurobond market does not have negative effects on European bond markets, except for the case of foreign bond market. However, competition between the eurobond market in UK and that in Europe appear to be substantial, as implied by the relatively smaller value for correlation coefficient value (.72). Third, Japanese corporate bond markets have a weak connection with other bond markets around the world. This fact seems to imply that Japanese firms mainly utilize domestic bond market.

In sum, domestic bond market and regional bond market represented here by eurobond markets appear to have a positive spillover effect on each other. In this sense, it is questionable to nurture a regional bond market without development of domestic bond market.

<Table 5> **Structure of Onshore and Offshore bond markets**

(unit: US$ B)

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
US												
govern.	4144	4536	4932	5432	5804	6113	6494	6779	7266	7756	8026	8589
corporate	1498	1690	1843	2106	2262	2549	2842	3168	3679	4129	4516	5475
foreign	115	130	147	230	242	292	348	395	420	422	495	487
Euro	524	548	570	577	612	680	933	1216	1439	1977	2380	2840
total	6282	6905	7492	8344	8926	9634	10576	11559	12804	14284	15418	17091
Japan												
govern	1171	1912	2013	2389	2944	3104	2971	2819	3400	4075	3996	3939
corporate	707	824	883	1016	1167	1149	1066	900	1015	1097	973	855
Foreign	43	50	52	66	81	90	106	93	88	82	73	61
Euro	116	144	150	198	304	363	368	359	381	416	508	451
Total	2577	2931	3099	3669	4496	4706	4510	4171	4884	5669	5549	5305
UK												
govern	241	229	201	235	318	350	433	469	469	466	417	391
corporate	0	1	2	5	9	14	20	27	30	40	71	56
foreign	1	1	4	7	9	11	17	32	66	90	122	145
Euro	111	129	115	139	156	173	222	264	327	343	456	490
Total	353	360	321	386	493	548	692	791	891	939	1065	1082
Euroland												
govern	1818	2070	2140	2308	2813	3269	3369	3104	3630	3200	3125	2962
corporate	1045	1199	1180	1246	1533	1783	1864	1789	2135	2469	2551	2690
Foreign	43	48	46	45	52	62	66	65	74	0	0	176
Euro	177	223	265	354	474	582	673	721	850	595	675	650
Total	3085	3542	3634	3954	4882	5721	6012	5687	6742	6145	6212	6467
World												
govern	8412	9295	9858	10976	12553	13617	14035	13926	15405	16238	16315	16572
corporate	3680	4177	4351	4822	5432	6002	6287	6363	7401	8268	8646	9313
foreign	286	313	326	427	474	565	642	689	767	712	815	818
Euro	1012	1140	1191	1380	1679	1943	2353	2709	3131	3479	4153	4550
total	13393	14926	15729	17697	20148	22151	23352	23689	26858	28574	29804	31349

Source: Merrill Lynch (2002)

<Table 6> Correlation Coefficients between Major Onshore and Offshore bond markets

		US				JPN				UK				EU			
		T	C	F	E	T	C	F	E	T	C	F	E	T	C	F	E
US	T	1.0															
	C	.99	1.0														
	F	.96	.94	1.0													
	E	.97	.98	.88	1.0												
JPN	T	.88	.87	.91	.78	1.0											
	C	.15	.15	.32	-.01	.60	1.0										
	F	.34	.30	.56	.12	.60	.74	1.0									
	E	.91	.89	.96	.81	.96	.47	.63	1.0								
UK	T	.99	.97	.97	.94	.88	.18	.43	.93	1.0							
	C	.97	.95	.93	.95	.84	.12	.28	.90	.95	1.0						
	F	.96	.97	.86	.99	.78	.00	.08	.80	.92	.95	1.0					
	E	.99	.99	.94	.98	.83	.06	.24	.88	.97	.97	.98	1.0				
EU	T	.86	.85	.94	.73	.92	.50	.73	.95	.90	.79	.72	.81	1.0			
	C	.98	.97	.96	.93	.94	.30	.43	.95	.98	.94	.94	.96	.91	1.0		
	F	.28	.35	.21	.30	.08	-.21	-.02	.15	.22	.12	.28	.29	.25	.22	1.0	
	E	.78	.75	.90	.61	.83	.48	.80	.89	.83	.70	.59	.72	.96	.80	.22	1.0

Note: T=total, C=corporate, F=foreign, E=euro

Source: Same as in Table 4

4. Portfolio Investment in East Asian countries

The rapid increase in capital inflows into emerging market economies in the 1990s was unprecedented, reaching a record high of $224 billion in 1996. The largest shares of net private capital flows have gone to East Asia and Latin America. The surge in capital inflows into emerging market economies in the 1990s occurred in the private sector, characterized by the increase in portfolio investment. In particular, An increasing importance of the stock market is an interesting feature of recent capital inflows in East Asia. As shown in Table 7, the total private capital inflow into the financial crisis countries (Indonesia, Korea, Malaysia, Philippines and Thailand) increased from 21 billion U.S. dollars in 1990 to 78 billion U.S. dollars in 1996. The ratio of the portfolio investment increased from virtually zero percent to 37% during the same period, while that of direct investment decreased from 28% to 14%. Meanwhile, the ratio of other private investments, consisting mostly of borrowing by banks, decreased from 70% to 49%.

After the 1997 crisis, East Asian developing countries experienced a rapid growth of domestic bond markets, with a clear overall shift in government financing that favors bond market development.[2] Expansionary fiscal policies played a key role in driving government debt market's growth. East Asia's outstanding local currency debt totaled over $ 623 billion as of end of 2001. However, external, particularly, corporate bonds substantially declined (Merrill Lynch (2002)).

The slowdown of growth of international bond market in East Asia, combined with foreign investors' lack of interest in domestic bond market, remain to be solved for development of regional bond market in East Asia.

[2] The promotion of bond market is based on the assumption that excessive dependence on short term bank loans was a key source of vulnerability of the financial sector. The recent policy measures include establishing benchmark issues, extending the term structure to fifteen years (in the case of China and Singarpore), strengthening the regulatory infrastructure and enhancing liquidity in the secondary markets.

<Table 7> Net Private Capital Inflows in Selected East Asian Economies

(unit: Billion US$)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Indonesia	4.02	4.40	5.27	5.08	3.70	10.25	11.51	-034	-13.85	-9.92
Direct	1.09	1.48	1.78	1.65	1.50	3.74	5.59	4.50	-.40	-2.82
Portfolio	-.09	-.01	-.09	1.81	3.88	4.10	5.01	-2.63	-1.88	-1.79
Equity	.00	.00	.00	1.81	1.90	1.49	1.82	-4.99	-4.37	-.78
Debt	-.09	-.09	.00	.00	1.98	2.61	3.17	2.36	2.49	-1.01
Others	3.02	2.93	3.58	1.63	-1.68	2.41	.91	-2.21	-11.57	-5.31
Korea	3.67	7.82	7.92	5.71	11.44	18.07	24.99	-13.65	-13.01	9.58
Direct	-.26	-.31	-.43	-.75	-1.65	-1.78	-2.34	-1.61	.62	5.13
Portfolio	.08	3.05	5.8	10.01	6.12	11.59	15.18	14.3	-1.88	9.19
Equity	.31	.21	2.49	6.41	3.23	3.98	5.3	2.21	3.90	11.49
Debt	.01	2.84	3.31	3.6	2.89	7.61	9.88	12.09	-5.78	-2.67
Others	3.85	5.07	2.55	-3.55	6.397	8.25	12.15	-26.34	-11.75	-4..23
Malaysia	1.82	5.77	8.91	11.37	1.51	7.85	10.04	3.09	.14	-6.56
Direct	2.33	4.00	5.18	5.01	4.34	4.18	5.08	5.11	2.16	1.55
Portfolio	-.25	.17	-1.12	-.71	-1.65	-.44	-.27	-.25	.28	.80
Equity	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Debt	-.26	.17	-1.12	-.71	-1.65	-.44	-.27	-.25	.28	.80
Others	-.26	1.60	4.85	7.07	-1.19	4.11	5.23	-1.77	-2.31	-8.92
Philippines	1.18	2.55	.48	2.2	6.24	5.72	11.89	6.81	.99	-1.19
Direct	.53	.54	.23	.86	1.29	1.08	1.34	1.09	1.55	.63
Portfolio	-.05	.11	.04	-.05	.27	1.19	5.32	.59	-.88	4.82
Equity	.0	.0	.0	.0	.0	.0	2.12	-.38	.08	.46
Debt	.01	.11	.04	-.05	.27	1.19	3.2	.97	-1.01	4.36
Others	.7	1.9	.21	1.39	4.68	3.45	5.23	5.14	.32	-6.64
Thailand	10.32	11.5	10.09	10.96	12.87	21.86	19.54	-7.92	-15.26	-13.73
Direct	2.3	1.85	1.97	1.57	.87	1.18	1.4	3.36	6.81	5.87
Portfolio	-.04	-.08	.92	5.46	2.48	4.08	3.54	3.86	-.04	.08
Equity	.44	.04	.46	2.68	-.44	2.12	1.12	3.0	.15	.95
Debt	-.48	-.12	.46	2.78	2.92	1.96	2.42	.86	-.19	-.87
Others	8.05	9.74	7.19	3.94	9.52	16.6	14.59	-15.63	-22.03	-19.68

Source: IMF, *International Financial Statistics*, various issues

IV. Impediments to Development of Bond Markets

1. Determinants of Financial Development

If East Asian countries agree on establishing a regional bond market, what would be the urgent agenda for cooperation? We have already accumulated a number of literatures on determinants of financial development. Drawing on Choo (2003), we focus on a few key variables to explain cross-country difference in financial development: level of economic development represented initial level of GDP (initial), macroeconomic stability represented by initial rate of inflation (pii), openness of the economy to trade (trade) and capital flow (CAL), and institutional factors guaranteeing transparency and certainty in financial transactions.

Table 8 summarizes average values of these variables during 1980-95 for developed countries and East Asian countries. At the first glance, East Asian developing countries are notably weak in the aspects of policy and institutional factors. For example, capital account was not liberalization at all in East Asia by 1980. Moreover, East Asian countries show serious problems in transparency of the accounting system, strength of law and order, burden of regulation in business, and degree of corruption. Shareholder's right or creditor's right, however, is not much different.

The simple comparison of variables does not tell us causality between financial development and these institutional variables. Furthermore, we do not know relative importance of explanatory variables. Accordingly, our next task is to examine how much these variables can explain actual difference in development of bond markets by using regressional analysis. If the institutional factors turn out to be statistically significant, East Asian countries should make specific efforts for institution building.

<Table 8> Indicators related to Financial Development (1980-95)

Country		Initial	Pii	Trade	CAL	Account	Srights	Law	Regul	Corrupt	Bureau	Crights
United Kingdom		9.136	5.26	53.25	1.8102	78	4	5.14	4	5.4642	6	4
United States		9.701	3.87	20.83	2.6566	71	5	6	4	5.1785	6	1
Japan		9.326	1.72	19.24	1.8102	65	4	5.39	4	5.1071	5.8928	2
Euro Area	Austria	9.296	3.08	74.48	1.2460	54	4	6	3	5.1428	5.6428	3
	Belgium	9.399	3.40	137.17	0.6497	61	0	6	3	5.2857	6	2
	Finland	9.409	4.93	54.20	1.2460	77	3	6	3	6	6	1
	France	9.466	4.27	43.54	-0.0569	69	3	5.39	4	5.2485	6	0
	Germany	9.520	2.53	55.78		62	1	5.53	3	5.3571	5.9642	3
	Greece	8.680	16.06	44.93	-1.0887	55	2	3.71	3	4.3571	3.3571	1
	Ireland	8.779	4.81	106.69	-0.0569		4	4.67	4	5.1071	5.4642	1
	Italy	9.134	7.08	40.62	-1.7926	62	1	5	3	3.6785	4.4285	2
	Luxemburg	9.531	3.31	181.27				6	4	6	6	
	Netherlands	9.382	2.04	99.28		64	2	6	4	6	6	2
	Portugal	8.206	12.78	72.36	-1.0887	36	3	5.21	3	4.4285	3.6964	1
	Spain	8.635	7.21	40.81	-0.0569	64	4	4.67	3	4.4285	4.1071	2
Denmark		9.544	4.12	64.12	-0.0569	62	2	6	4	6	6	3
Norway		9.698	5.50	71.18	-0.0569	74	4	6	3	6	5.3214	2
Sweden		9.681	6.22	63.77	1.2460	83.3	3	6	3	6	6	2
Switzerland		9.733	3.13	70.29		68	2	6	3	6	6	1
Canada		9.595	4.31	56.20	2.6566	68	5	6	4	6	6	1
Australia		9.428	6.07	38.03	-0.0569	75	4	6	3	5.1071	6	1
Hong Kong		8.752	7.68	261.36		69	5	4.93	5	5.1071	4.1428	4
Singapore		8.805	1.92	355.71	2.0923	78	4	6	3	5.1071	6	4
Indonesia		5.982	7.93	47.23	1.3536		2	2.39	2	1.2857	1.5	4
Malaysia		7.564	2.89	134.58	1.3536	76	4	4.07	4	4.4285	3.5357	4
Philippines		6.676	12.15	57.34	-1.0887	65	3	1.64	3	1.75	1.4642	0
Thailand		6.727	3.92	66.36	-0.0569	64	2	3.75	3	3.1071	4.3928	3
Korea		7.521	5.43	71.38	-0.0569	62	2	3.21	3	3.1785	4.1785	3
Taiwan		7.973	2.50	92.40		65	3	5.10		4.1071	4.3571	2
Bahamas		9.157	4.82	114.34	-0.7608			4	5	1	4	
Panama		7.718	1.16	78.81	2.6566			2.10	3	2.1071	1.1071	

Note: Initial = initial GDP in 1980 (in logarithmic transformation)

Pii = initial Inflation rate in 1980

Trade = real exports and imports as share of real GDP average over 1980-95

CAL = capital account liberalization index for 1980 (Chinn and Ito (2002))

Account = Index created by examining and rating companies' 1990 annual reports on their inclusion and omission of 90 items in balance sheets and income statements (maximum 90, and minimum 0).

Sright = anti-director rights of shareholders (0 to 6). Higher scores denote stronger rights of shareholders.

Law = law and order (from 10, strong law and order tradition to 1). Average over 1982-95.

Regul = regulation related to opening and keeping open a business, from 0 to 5. Higher scores mean that regulations are straightforward and less burdensome.

Corrupt = the level of corruption from 0 (high degree of corruption) to 10.

Bureau = quality of bureaucracy, with high scores indicating autonomy from political pressures

Cright = creditor rights, ranged from 0 to 4. Higher scored means stronger guarantee of right of creditors.

Source: Demirguc-Kunt and Levine (2001), unless specified.

2. Empirical Analysis

Table 8 reports empirical evidence for determinants of financial development. The dependent variable is the index of financial development measured as the outstanding values of bonds in logarithmic transformation. We estimate four equations for bond market development, and one for domestic bank credit market. The explanatory variables are all the same, as shown in Table 8.

First, development of domestic bond market, which is measured as value of the total outstanding domestic bonds, appears to be mainly explained by initial GDP level, and the degree of corruption. Interestingly enough, the degree of openness to trade has a negative effect on bond market, probably reflecting the high trade openness of East Asian developing countries. Openness of capital account has a positive, but statistically insignificant effect on bond market.

Second, domestic bond market and international bond market do not differ much in the regression results. International bond market development can be explained similarly by initial GDP level and degree of corruption. Meanwhile, regulation related to business opening and operation appears to be important in the case of international corporate bonds.

Third, development of bond market and bank credit market appear to be determined by similar factors. As for bank credit, regulation turns out to be statistically significant as in the case of international corporate bond. In this sense, cooperation agenda for bond market would be similar to that of domestic banking sector; improvement of regulation and coping with corruption.

Finally, a dummy variable for East Asian countries is added to test the structural difference between East Asian countries (Japan, Hong Kong, Singapore, Indonesia, Malaysia, Philippines, Thailand, Korea and Taiwan) and Western hemisphere countries. As shown in Table 9, the dummy variable takes a notably negative value in the case of total value of international bond.

<Table 8> Determinants of Bond market development : Benchmark Case

Dependent Variable	Total domestic bonds	Domestic corporate bonds	Total International bonds	International Corporate bonds	Bank credit to private sector
Constant	-4.63 (-1.30)	-5.39 (-1.30)	- 7.65(-2.29)	-10.75(-2.96)	- 3.51(-1.02)
Initial	2.12 (3.18)	1.80 (2.26)	1.94 (3.02)	1.16 (1.67)	1.22 (1.87)
Pii	-.10 (-.92)	-.01 (-.07)	.01 (.10)	.01 (.13)	-.02 (.11)
Trade	-.01 (-3.21)	-.01 (-3.38)	-.01 (-2.15)	-.01 (-2.02)	-.01 (-2.65)
CAL	.38 (1.52)	.37 (1.28)	.20 (.86)	.01 (.03)	.28 (1.16)
Account	-.00 (-.16)	.01 (.42)	-.01 (- .53)	.03 (1.14)	-.01 (- .33)
Law	-.01 (-.02)	-.68 (-.81)	-.28 (-.49)	-.09 (-.15)	.11 (.19)
Regulation	.66 (1.49)	.98 (1.89)	.48 (1.14)	1.28 (2.81)	.95 (2.21)
Corrupt	-1.97(-3.65)	-1.74(-2.85)	-1.74(-2.85)	-1.00(-1.77)	-1.49(-2.79)
Bureau	.13 (.26)	.39 (.67)	.39 (.67)	.53 (1.04)	.60 (1.25)
Observations	23	24	29	29	29
R^2	.80	.75	.75	.67	.67

<Table 9> Determinants of Bond market development : East Asian Dummy

Dependent Variable	Total domestic bonds	Domestic corporate bonds	Total International bonds	International Corporate bonds	Bank credit to private sector
Constant	-5.45 (-1.24)	-4.39 (- .84)	- 4.38(-1.19)	-11.36(-2.63)	- 5.03(-1.25)
Initial	2.16 (3.09)	1.74 (2.06)	1.67 (2.67)	1.21 (1.65)	1.35 (1.97)
Pii	-.08 (-.71)	-.03 (-.18)	-.04 (- .43)	.02 (.20)	.01(.05)
Trade	-.01 (-2.85)	-.01 (-2.74)	-.00 (-1.21)	-.01 (-1.89)	-.01 (-2.67)
CAL	.35 (1.27)	.41 (1.28)	.29 (1.27)	-.01 (- .04)	.24 (.95)
Account	-.01 (-.21)	.01 (.48)	-.01 (- .21)	.03 (1.04)	-.01 (- .46)
Law	.01 (.02)	-.69 (-.80)	-.34 (-.63)	-.08 (-.13)	.14 (.23)
Regulation	.62 (1.39)	1.02 (1.86)	.65 (1.60)	1.25 (2.59)	.86 (1.93)
Corrupt	-1.91(-3.22)	-1.82(-2.72)	-1.40(-2.73)	-.96(-1.61)	-1.40(-2.51)
Bureau	.15 (.29)	.36 (.59)	.36 (.80)	.55 (1.03)	.63 (1.29)
Dummy	.33 (.33)	-.39 (-.34)	-1.46(-1.74)	.27 (.27)	.67 (.74)
Observations	23	24	29	29	29
R^2	.80	.75	.75	.67	.68

V. Tasks for Financial Cooperation and Future Prospects

Development of bond markets in East Asia is provides a clear common goal for financial cooperation. Asian Bond Markets Initiative has evoked strong enthusiasm from East Asian countries, particularly from China, Japan and Korea participating in the ASEAN + 3 process. While it remains debatable whether it is desirable and feasible to establish a regional bond market, the ABMI will provide an impetus for domestic financial reform and regional financial cooperation. However, it has a long way to go before a regional bond market is to be established and vitalized. Tasks for monetary authorities in the region may be summarized as follows:

Domestic bond market reform

Domestic bond market development is prerequisite for development of a regional bond market. Development of domestic bond markets requires the building up of infrastructures for sound and efficient financial system, which include improvement of regulation and transparent business environment. In order to increase demand for bonds, the accounting system, disclosure rules and law enforcement should be reformed according to the global standards. A deep and liquid government bond market should be a part of the reform package; it should provide a yield curve that would serve as benchmark for corporate bonds.

Facilitation of market-driven investment in local bonds

ADF initiative may be a meaning first-step to boost demand for regional bonds. However, investment of pooled foreign reserves would have a limited effect on a regional bond market. Therefore, regional countries should make efforts to induce market-driven investment in local bonds by providing credit rating and credit guarantee service, and improving clearing and

settlement system. In particular, credit enhancing program can be effectively promoted at the regional dimension, thus differentiating regional bond market from the global bond market from the viewpoint of issuers (Rhee (2002)).

Issuance of a regional bond denominated in Asian currency unit

A regional bond market will be effective as an instrument to mechanism of defense against recurrence of financial crises in East Asia, only if a regional bond denominated in a basket of regional currencies is issued and traded. In this context, Asian monetary authorities should introduce a common currency unit, namely Asian currency unit (ACU), following the example of ECU in European financial cooperation. At the same time, they should promote monetary cooperation with a view to promoting stability of exchange rates between regional currencies. A common basket currency peg would be a realistic alternative for East Asian countries which have adopted floating exchange rate regime, but fears excessive volatility of exchange rates.

Liberalization of cross-border portfolio investment

In spite of acceleration of capital account liberalization after the financial crisis of 1997, there still remain substantial restrictions on capital transactions in East Asian developing countries. In particular, many countries still restrict foreign investment in local bond market. As a result, foreign investor participation in local bond markets is almost nil, in stark contrast to local equity markets (Takeuchi (2004)). In order to nurture local as well as regional bond markets, it is required to liberalize portfolio investment by non-residents. Meanwhile, it is noteworthy that issuance by non-residents in local bond markets is minimal, in spite of no formal restriction. A consorted effort for lowering all-in costs for bond issuance by non-residents in local bond market is necessary, in order to promote bond financing not only at the regional dimension but also at the global dimension.

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