Options for Developing Bond Markets – Lessons from Asian Financial Crisis

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Abstract

Asian efforts towards bond market development are driven by the 1997-98 financial crisis and the need for financial reforms; Central and Eastern European efforts by the transition towards EMU. The small size of most of the economies underlying these still "emerging" bond markets poses the question of minimum efficient scale and which options to pursue. We argue that the joint bond funds and regional bond market linkups that follow existing trade, FDI and bank ties will broaden the sources of finance, can improve market discipline and provide signals to the market; bond markets can play an important role as part of efficiently interlinked financial segments as is the case in South Korea or Taiwan in order to deal with financial market instabilities. Based upon bond market data and analysis of regional efforts like the Asian Bond Funds, we argue that bond market development should be given more attention to foster growth and stability.

JEL Classifications: E44, F33, G18

Key Words: debt markets, financial reform, financial market development, emerging markets, Southeast Asia (SE-Asia), Central and Eastern Europe (CEE), Economic and Monetary Union (EMU)

CONTENTS

1. Introduction

When some countries fared better than others in the 1997-98 Asian financial crisis, a major conclusion drawn was that developed bond markets made the difference (Herring and Chapusripitak, 2000; Batten and Kim, 2000; Cheung and Chan, 2002), because developed bond markets act as a complementary market to the banking system and therefore are able to handle a crisis-driven drop in bank loan supply. The number and efficiency of interlinked financial segments is also important for the ability to deal with financial market instabilities, as the case of Taiwan shows (Gray, 2002). In Asia efforts are already under way to jumpstart bond markets, including the Asian Bond Funds (Parsons, 2003; Phuvanatnaranubala, 2003). Meanwhile, emerging Europe (i.e. the new EU member states and EU accession countries) is also striving to develop bond markets in order to satisfy the interest rate criterion for full-fledged membership in Economic and Monetary Union of the EU (EMU; ECB, 2003a), to establish a further solid base for corporate finance (Thimann, 2002), and to fulfil the domestic investment needs of pension funds and other institutional investors (Davis, 2001; Davis, 2003).

One set of glaring similarities between these two regions lies in their underdeveloped bond markets. In both regions, economic growth and financial stability could be enhanced from better developed bond markets, and their development has deservedly gained great attention. This observation on Asia and Central Europe poses two central questions: what are the lessons for Central Europe from Asian efforts, and vice versa? Does it make sense to develop these small domestic bond markets, i.e. will they be efficient, or should other options for bond market development be pursued?

That eleven central banks in Asia currently run a project to build up domestic bond markets of similarly small countries suggests that a corresponding promotion of bond markets in the new EU member states may be beneficial. The authors are convinced that larger and more liquid bond markets in the new EU member states will support them in many fields, for example by broadening the financial vehicles available (in addition to bank loans and stock markets). Iakova and Wagner (2001) regard bond markets as the „missing link“ in new EU member states. Favara (2003) points out that along with the stock markets, developed bond markets possibly provide more information on the positive effects of financial deepening on economic

growth. Hawkins (2002) asserts that the bond market can lead to a healthier banking system by improving market discipline, and that corporate bond issuance can help central banks achieve steady economic growth. The establishment of a bond market leads to a more complete market interest rate by accurately reflecting opportunity cost of funds at each maturity, while a missing bond yield curve deprives the economy of a crucial source of information that helps co-ordinate decentralised decisions throughout an economy (Herring and Chatusripitak, 2000). The transition to the euro area will be smoother, and economies more resistant to financial crisis (for example, a crisis triggered by currency speculations upon EMU-entry). With regard to competition and profitability, however, the vital question is to what extent 25 domestic bond markets in the EU-25 will be efficient. It is similarly questionable whether it will be possible to achieve the critical mass by domestic transactions alone in the Asian context (Hirose, Murakami and Oku, 2004:7).

Given research efforts by institutions like the Asian Development Bank (ADB, 2001; Batten and Kim, 2001; Dalla, 2003; Harwood, 2000), the BIS (Hawkins, 2002; McCauley, 2003; Sándor, 2002), the ECB (de Bondt, 2001; ECB, 2003a; ECB, 2003b), the EIB (Köke and Schröder, 2002), the EU (EU 2003; London Economics, 2002), the IFC (Aylward and Glen, 1999, the IOSCO (IOSCO, 2002), the IMF (Davis, 2001; Schinasi and Todd-Smith, 1998), the OECD (Leahy et al, 2001), the Pacific Economic Cooperation Council (PECC, Ito and Park, 2004), the UN (Sharma, 2000), the World Bank (Dwor-Frecaut, Hallward-Driemeir and Colaco, 1999), and others, these questions should be of major interest to bank managers and capital market participants, central bankers, financial market supervisors and regulators and financial ministry authorities alike in order to depict the role of bond markets for macro-policy and financial stability implications.

A word of caution should be applied. In the large and growing body of literature on Asian integration and regionalism, the notion of potential lessons from the EU experience is a common refrain (e.g. Parsons and Richardson, 2004). While we will compare bond market development and the respective setting and chances across the two regions, we are aware that there is a danger of eurocentric perspectives or postcolonial misinterpretation (Taufik, 2003). We will try to balance that by using both Asian and European sources, and follow Jones and Plummer (2004) by taking contextual factors into consideration.

The remainder of the paper is organised as follows. *Section Two* will compare bond markets in Southeast Asia ("Emerging Asia") and Central and Eastern Europe ("Emerging Europe"), depicting differences and similarities and discussing ongoing efforts for strengthening these bond markets. While comparative data on bank and stock intermediation is readily available for emerging European markets, e.g. Bonin and Wachtel (2003), we will fill the gaps for this paper's respective bond markets. Against this comparative background, *Section Three* will discuss how to improve bond markets in Emerging Asia and Emerging Europe, with special attention to which lessons are transferable from the Asian experience. Based upon arguments of critical bond market size and for using existing trade, bank and foreign direct investment ties, we recommend establishing intra-regional bond markets. *Section Four* concludes.

2. The comparative view

When comparing Central and Eastern Europe (CEE) with Asia the question arises which countries to include in the sample. In our data sets we refer to CEE-5[2] and ASIA-8[3] although we also provide detailed data on other CEE country groups as well as the European Union (EU), USA and Japan. Table 1 provides an overview about the size and differences of CEE-5 and ASIA-8. Total financial intermediation[4] (TFA) in relation to GDP quite visibly shows a gap between economies, like the USA (TFA of 419%), with fully developed capital markets and economies, like CEE-5, where total financial intermediation roughly equals the GDP volume (105%); the figure for ASIA-8 is 258%. To illustrate the growth potential of the two regions, we put them into perspective with comparable European markets: the size of CEE-5 (166 bn EUR) is a bit smaller than the Austrian bond market (187 bn EUR); ASIA-8 (757 bn EUR) equals roughly the domestic bond markets of the Netherlands (464 bn EUR) plus Denmark (307 bn EUR).

[2] CEE-5 is comprised of Poland, Czech Republic, Slovak Republic, Hungary and Slovenia.

[3] ASIA-8 consists of Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan and Thailand.

[4] Total financial intermediation equals the sum of domestic shares market capitalization, outstanding volume of domestic bonds and volume of domestic credit.

Table 1: Financial intermediation for CEE-5 and ASIA-8 (2003)

	CEE-5[1)]		ASIA-8[2)]	
	in mn EUR	**in % of GDP**	**in mn EUR**	**in % of GDP**
Domestic shares[3)]	71,042	18%	1,502,966	100%
Domestic bonds[4)]	166,006	42%	757,279	50%
Domestic credit	168,145	44%	1,632,176	108%
Total financial intermediation[5)]	405,193	105%	3,892,421	258%
Bank assets[6)]	246,588	64%	2,394,095	159%
International bonds	26,445	7%	156,928	10%

[1)] CEE-5 = Poland, Czech Republic, Slovakia, Hungary and Slovenia;
[2)] ASIA-8 = Hong Kong SAR, Indonesia, South Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand;
[3)] stock market capitalization;
[4)] bonds outstanding, CEE-5 as of 2002;
[5)] total domestic financial intermediation;
[6)] total domestic and foreign bank assets

Data source: IFS (2004), BIS (2004), ECB (2003a) for data on domestic bonds for CEE-countries, FIBV (2003), Central Bank of China (2005), Jiang and McCauley (2004)

In order to understand the volume discrepancies between CEE-5 and ASIA-8, we have put them in relation to the euro area (EUR-12; see Table 2): In terms of GDP, CEE-5 only accounts for 5.3%, ASIA-8 for 20.8% (still not that much when comparing to population data). Total financial intermediation (TFA) of CEE-5 amounts to only 2.2% of the euro area TFA, while the figure for ASIA-8 is 21.3% (almost the same level as GDP). In terms of total bank assets (TBA), CEE-5 accounts for 1.7% and ASIA-8 for 16.6% of the euro area TBA. Judging from these figures, there is clearly upward potential for the financial and capital markets in the Central and Eastern European countries (CEEC), and West European banking groups positioned in the CEEC will profit from this development for many years to come. In the following section, we will compare the bond markets in more detail.

Table 2: Aggregate Markets in EUR mn in 2003 (domestic bonds for CEE and new EU member states as of 2002), in mn

	USA	JPN	EUR-12	EU-15	EU-25	CEE-5	ASIA-8	BALTIC-3	CEE-8	CEE-10	NM-10	ENL-14
GDP	9,716,668	4,116,966	7,254,100	9,298,186	9,731,879	385,636	1,506,143	32,647	418,283	486,270	433,693	740,467
Domestic shares	11,295,347	2,338,162	3,918,841	6,192,196	6,306,266	71,042	1,502,966	29,231	100,273	103,737	114,070	388,741
Domestic bonds	14,196,912	6,448,931	6,679,968	8,213,064	8,390,821	166,006	757,279	3,589	169,596	179,546	177,757	279,107
Domestic credit	7,794,751	12,445,211	7,633,457	10,297,598	10,501,916	168,145	1,632,176	12,391	180,536	193,071	204,318	343,960
Total financial intermediation*	33,287,009	21,232,304	18,232,266	24,702,858	25,199,003	405,193	3,892,421	45,211	450,405	476,354	496,145	1,011,809
Bank assets**	8,270,063	13,373,180	14,460,306	19,624,531	19,934,087	246,588	2,394,095	19,740	266,327	287,459	309,556	470,309
Internat. bonds	2,459,937	95,645	3,578,781	4,751,306	4,784,165	26,445	156,928	3,167	29,612	34,283	32,858	63,658

In per cent of GDP

	USA	JPN	EUR-12	EU-15	EU-25	CEE-5	ASIA-8	BALTIC-3	CEE-8	CEE-10	NM-10	ENL-14
Domestic shares	116%	57%	54%	67%	65%	18%	100%	90%	24%	21%	26%	52%
Domestic bonds	146%	157%	92%	88%	86%	42%	50%	12%	40%	36%	40%	38%
Domestic credit	80%	283%	105%	111%	108%	44%	108%	38%	43%	40%	47%	46%
Total financial intermediation*	343%	516%	251%	266%	259%	105%	258%	138%	108%	98%	114%	137%
Bank assets	85%	304%	199%	211%	205%	64%	159%	60%	64%	59%	71%	64%
Internat. bonds	25%	2%	49%	51%	49%	7%	10%	10%	7%	7%	8%	9%

In per cent of EUR-12 (euro area)

	USA	JPN	EUR-12	EU-15	EU-25	CEE-5	ASIA-8	BALTIC-3	CEE-8	CEE-10	NM-10	ENL-14
GDP	134%	57%	100%	128%	134%	5.3%	20.8%	0.5%	5.8%	6.7%	6.0%	10.2%
Domestic shares	288%	60%	100%	158%	161%	1.8%	38.4%	0.7%	2.6%	2.6%	2.9%	9.9%
Domestic bonds	213%	97%	100%	123%	126%	2.4%	11.3%	0.1%	2.4%	2.5%	2.5%	4.0%
Domestic credit	102%	176%	100%	135%	138%	2.2%	21.4%	0.2%	2.4%	2.5%	2.7%	4.5%
Total financial intermediation*	183%	116%	100%	135%	138%	2.2%	21.3%	0.2%	2.5%	2.6%	2.7%	5.5%
Bank assets**	57%	92%	100%	136%	138%	1.7%	16.6%	0.1%	1.8%	2.0%	2.1%	3.3%
Internat. bonds	69%	3%	100%	133%	134%	0.7%	4.4%	0.1%	0.8%	1.0%	0.9%	1.8%

* total domestic financial intemediation, ** total domestic and foreign bank assets

Note: data for Asian countries as of 2003, domestic bond data for Indonesia as of 2002; domestic credit and bank assets for Japan as of 2002; domestic bond data for Central and Eastern European (CEE) and new European Union (EU) member countries as of 2002; bonds issued by financial institutions are not included in corporate bonds.

Data source: IFS (2004), BIS (2004), ECB (2003a) for data on domestic bonds for CEE-countries, FIBV (2003), Jiang and McCauley (2004) for Indonesian bond data, Central bank of China (2005), Croatian National Bank (2003:60), Pejkovic and Osvatic for Croatian corporate bond data

CEE-5	Poland, Czech Republic, Slovakia, Hungary, and Slovenia, which became EU-member on 1 May 2004.
CEE-8	CEE-5 plus the three Baltic countries Estonia, Latvia, Lithuania.
CEE-10	CEE-8 plus Bulgaria and Romania.
NM-10	The 10 new member states of the EU. Comprised of CEE-8 plus Cyprus and Malta.
ENL-14	NM-10 plus Bulgaria, Romania, Croatia and Turkey.
ASIA-8	Hong Kong SAR, Indonesia, South Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand.

2.1. Differences in development

With the fall of the Iron Curtain in 1989, one of the largest political and economic experiments came into being, as former Soviet Bloc countries sought to liberalise and reintegrate into the international community. “Transition”, “development” and “market-driven” became key terms, just as had been the case already for a while in Asian “emerging markets”. These regions have since then been grouped together under kinder terms, such as developing or emerging markets, and quite different recipes and policy recommendations have been applied to them. After the Asian Financial Crisis (1997-98), the interest has been particularly on financial structure and bond market development as a means of disintermediation, reducing the currency, interest rate, and funding exposures that precipitated the crisis (Harwood, 2000:1). In comparing the Central European and the Southeast Asian experience, this general need for developed bond markets is salient in both regions. In Central Europe, bond market integration is a byproduct of regional integration (into the EU). In Southeast Asia (SE-Asia in the following), bond market development is seen as a means to support general economic integration.

While we concentrate on the ASIA-8 in the following subsections, a few national distinctions are worth noting. Our analysis includes Singapore, although Singapore is markedly more developed and arguably not included in the emerging market category, because it represents a top tier bond market in a developing region. Malaysia is among the second tier bond market countries, and Thailand the third (Dalla, 2003), when excluding the large scale and developed Taiwanese and Korean bond market. These countries should be of particular interest to new and acceding EU-member states because their experience in the Asian financial crisis, which taught that the instability of capital structures turns a small shock into a big shock (Pettis, 2000:54). In terms of background, the two regions share some similarities with several years of liberalisation and transition towards open market economies behind them. Though the Asian countries have colonial legacies, all have experienced some form of nationalisation, and recently privatisation with economic liberalisation. The financial sector in both regions has grown at a faster pace than the real sector of the economy during the last years. The CEEC also share many of the same capital structure characteristics and risks as the Southeast Asian ones, and have experienced banking crisis in recent years with resulting fiscal cost: gross fiscal costs to 1995-2000 GDP average were at or above 15% in Bulgaria and the Czech

Republic, in the 10-15% range in Croatia, Slovakia and Turkey, amounted to 5-10% in Hungary, Lithuania, Romania and Slovenia, and were at or below 5% in Latvia and Poland (Sherif, 2003; Tang, Zoli and Klytchnikova, 2000). Fiscal and quasi-fiscal costs of banking crises amounted to 34% of GDP in Korea, 42% in Thailand and 50-55% in Indonesia in 1997 (Hoggarth, Reis and Saporta, 2002:830). The need to recapitalise banking systems and fund bank restructuring and, more so for the CEEC, growing government deficits are among the factors that spurred the impressive growth of CEEC and SE-Asian public bond markets (Jiang and McCauley, 2004:68; Kiang, 2003; Pejkovic and Osvatic, 2003). The 44% share of asset backed securities (ABS) in corporate issuance in Korea, for example, largely reflects the securitisation of nonperforming loans and credit card receivables (IMF, 2004a:73). The CEEC have had experience with governmental debt problems and similar issues, but not on that scale post-liberalisation. As such, they may be able to avoid the pitfalls that caused these crises in Asia, and also Mexico, and in their own proximity, Russia.

Though their economic development paths will not be closely looked at, it is important to note that the privatisation status of these countries had a substantial impact on their current development. In the instance of Hungary, the chosen method of privatisation was to attract foreign investment and expertise through auction, thereby leading to lower rates of equity and debt security financing now (Sándor 2002). Companies primarily rely on retained earnings and funds from the parent company to finance investment. In Asia, capital markets, which began to develop in the 1980s and 90s, were focused on equity with the issuance of initial public offerings (IPOs) and secondary trading on domestic markets; hence, domestic investors tend to focus on equity and are more familiar with it (Cheung and Chan, 2002:8).

2.2. Composition of capital structure

In terms of corporate capital structure, these countries all had or still have exhibit imbalances between credit, equity, and debt security sources when compared to the US and the EU (see Table 3). Bank finance was heavily relied on, as it is good for funding initial growth and also in environments with large information asymmetries. This may be problematic particularly in emerging markets because it exposes the system to greater risk and shock, and international fluctuations have

been primarily transmitted through their impact on domestic banks (Dwor-Frecaut, Hallward-Driemeier and Colaço, 1999:14).

Both regions show what Pettis (2002) calls an "inverted capital structure", i.e. depend on foreign capital inflows. Foreign direct investment (FDI) may act as a substitute for the development of domestic markets in corporate and financial bonds, as is the case for stock markets (Claessens, Lee and Zechner, 2003:13; Misun and Tomsik, 2002). Table 4 supports the hypothesis of crowding out of financial and corporate bond issuance by FDI inflows, as especially in CEE-5 and to a lesser extent also in ASIA-8: FDI inward stock is a multiple of outstanding volume of financial and corporate bonds (with the exception of South Korea and Taiwan). Firms thus are more prone to procyclical behaviour by investing more when things are looking good, increasing their liabilities, and thereby intensifying any kind of shock later. While in the CEEC former public bank ownership has been replaced by foreign and other mostly private owners (with notable exceptions in Slovenia, large players in Poland and Hungary, and privatisation still pending in Romania), in some SE-Asian countries the state still directly or indirectly plays an important role in the banking scene. In SE-Asia, financial markets and institutions have been used as instruments in pursuit of an industrial policy where exports of manufacturers have been promoted (Park, 1993:139; Claessens and Fan, 2002:93). Both regions are already moving towards a more diversified and deeper financial structure, away from overdependency on banks and FDI inflows. But it has to be noted that FDI – driven by close trade relationships with the U.S. – had a significant and positive impact on the swift recovery of the crisis-hit Asian countries (Wu, Chen and He, 2003).

Table 3: Sectoral makeup of total financial intermediation

= lowest figure of a line* = highest figure of a line*

	USA	JPN	EUR-12	EU-15	EU-25	CEE-5	ASIA-8	BALTIC-3	CEE-8	CEE-10	NM-10	ENL-14
Domestic shares	34%	11%	21%	25%	25%	18%	39%	65%	22%	22%	23%	38%
Domestic bonds	43%	30%	37%	33%	33%	41%	19%	8%	38%	38%	36%	28%
Domestic credit	23%	59%	42%	42%	42%	41%	42%	27%	40%	41%	41%	34%
Total financial intermediation**	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Bank assets***	25%	63%	79%	79%	79%	61%	62%	44%	59%	60%	62%	46%
Internat. bonds	7%	0.5%	20%	19%	19%	7%	4%	7%	7%	7%	7%	6%

* only USA, Japan, EUR-12, CEE-5 and ASIA-8 have been taken into account.

** total domestic financial intemediation

*** total domestic and foreign bank assets

Note: data for Asian countries as of 2003, domestic bond data for Indonesia as of 2002; domestic credit and bank assets for Japan as of 2002; domestic bond data for Central and Eastern European (CEE) and new European Union (EU) member countries as of 2002; bonds issued by financial institutions are not included in corporate bonds. Please be advised that domestic bond markets are largely dominated by public bonds, especially in CEE.

Data source: IFS (2004), BIS (2004), ECB (2003a) for data on domestic bonds for CEE-countries, FIBV (2003), Jiang and McCauley (2004) for Indonesian bond data, Central bank of China (2005), Croatian National Bank (2003:60), Pejkovic and Osvatic (2003) for Croatian corporate bond data

CEE-5: Poland, Czech Republic, Slovakia, Hungary, and Slovenia, which became EU-member on 1 May 2004.
CEE-8: CEE-5 plus the three Baltic countries Estonia, Latvia, Lithuania.
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ENL-14: NM-10 plus Bulgaria, Romania, Croatia and Turkey.
ASIA-8: Hong Kong SAR, Indonesia, South Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand.

Table 4: FDI inward stock vs. outstanding financial and corporate bonds, 2002, in mn EUR

	FDI 1995	FDI 1996	FDI 1997	FDI 1998	FDI 1999	FDI 2000	FDI 2001	FDI 2002	Financial and Corporate bonds 2002
Hong Kong	NA	NA	NA	NA	NA	NA	NA	NA	28,798
Indonesia	38,503	45,373	55,699	58,614	64,890	65,167	65,085	53,244	1,907
S. Korea	7,191	9,150	12,769	16,366	28,417	39,877	46,258	41,660	271,956
Malaysia	21,862	28,782	38,372	38,584	48,735	56,687	60,480	53,881	47,964
Philippines	4,631	5,885	7,629	7,967	11,360	9,759	11,878	11,041	1,049
Singapore	49,950	59,934	68,756	74,742	100,879	121,903	132,109	118,320	19,548
Taiwan	11,974	14,061	17,983	17,184	22,891	30,010	36,347	31,923	68,847
Thailand	13,280	15,506	11,790	19,244	25,484	26,295	33,085	28,822	17,546
Poland	5,968	9,158	13,217	19,247	25,956	36,783	46,557	43,053	12,185
Czech Republic	5,593	6,848	8,366	12,308	17,472	23,261	30,741	36,664	27,558
Slovakia	616	1,102	1,394	1,941	2,855	4,980	7,050	9,750	169
Hungary	9,069	11,952	14,575	15,854	19,211	21,283	26,736	23,282	6,418
Slovenia	1,342	1,596	2,000	2,368	2,645	3,019	3,641	4,838	4,564
Estonia	524	669	1,040	1,560	2,456	2,843	3,586	4,030	119
Latvia	468	748	1,152	1,334	1,787	2,240	2,646	2,597	105
Lithuania	268	559	943	1,391	2,054	2,508	3,025	3,796	103
Cyprus	1,201	1,305	1,925	2,045	3,059	4,168	5,140	4,603	797
Malta	702	958	1,159	1,330	2,356	3,194	3,706	2,757	369
Bulgaria	339	443	960	1,367	2,392	2,919	3,869	3,708	32
Romania	625	876	2,131	3,783	5,444	6,964	8,667	8,378	NA
Croatia	364	789	1,935	1,629	2,506	3,826	5,729	5,749	29
Turkey	11,396	12,542	14,953	14,936	18,144	20,644	19,881	17,696	NA
USA	407,513	477,756	617,781	666,481	951,350	1,304,948	1,498,994	1,288,350	11,404,882
Japan	25,497	24,146	24,189	22,453	35,595	54,082	57,097	56,876	1,743,873
EUR-12	742,683	835,185	950,533	1,137,361	1,469,599	1,960,850	2,159,560	1,913,471	2,704,968
EU-15	864,701	973,247	1,125,258	1,386,381	1,787,303	2,407,851	2,743,828	2,502,053	3,605,607
EU-25	890,451	1,008,143	1,171,030	1,445,759	1,867,152	2,512,130	2,876,656	2,637,424	3,657,994
CEE-5	22,588	30,656	39,552	51,718	68,138	89,326	114,725	117,588	50,894
ASIA-8 (without H.K.)	147,391	170,198	178,880	206,806	231,356	247,600	258,344	270,428	428,816
ASIA-8 (without H.K, S. Korea, Taiwan)	128,226	148,091	153,054	176,989	192,135	198,117	202,949	211,710	88,014

Data source: UNCTAD (2004), IFS (2004), BIS (2004), ECB (2003a) for data on domestic bonds for CEE-countries, FIBV (2003), Jiang and McCauley (2004) for Indonesian bond data, Croatian National Bank (2003:60), Pejkovic and Osvatic (2003) for Croatian corporate bond data

A major difference between the two regions lies in the "financialisation" of the economies, i.e. the relative size of total financial intermediation (measured as sum of domestic credit, bonds outstanding volume and stock market capitalisation relative to GDP), which is more than twice as high in ASIA-8 (258%) than in CEE-5 (105%).[5] This large gap may be easily explained since the former planned economy systems in the CEEC were only opened some 15 years ago. These markets do exhibit the same trends with their reliance on bank lending, domestic and foreign, though there has been improvement in recent years in terms of diversifying financial structures (see Kokoszczyński, Łyziak and Wróbel, 2002:10). Ratios of outstanding volume of securities to GDP are an indicator of the stage of development, and the numbers for most of the countries are fairly low, meaning that markets are under-developed and can still improve (Backé and Thimann, 2004; Caviglia, Krause and Thimann, 2000; ECB, 2004a). In the CEE region, Hungary and the Czech Republic show the highest figure for volume of outstanding bonds in percent of GDP, 56% and 54% respectively (see Table 5). Although the Polish domestic bond market is by far the largest in terms of volume, bonds outstanding are only 33% of the GDP. The other CEEC range from as low as 3% (Estonia) to 69% (Malta), with 33% for Slovakia and 47% for Slovenia. The figure for CEE-5 in total is at 42% of GDP. Compared with the 92% of the euro area, the need for more developed bond markets is obvious (Bonin and Wachtel, 2002:32; ECB, 2003a:12; Haiss and Marin, 2002; Iakova and Wagner, 2001:10; Köke and Schröder, 2002:120). When comparing the figures in Table 3, bear in mind that the domestic markets, especially in CEEC, are dominated by public bonds and the non-financial corporate sector is rather small (Haiss and Marin, 2003; see column sectoral makeup in Table 5).

[5] As secondary bond markets largely depend on the size of the primary market, the emphasis here is on primary markets. With regard to secondary markets, it needs to be noted that bonds in both Asia and CEE tend to be traded over-the-counter (OTC), making actual trading difficult to gauge because OTC trading usually is not included in statistics (Iakova and Wagner, 2001). Thus secondary markets may seem smaller than they actually are, though OTC trading cannot substitute a full-fledged exchange.

Table 5: Size and sectoral makeup of domestic bond markets in 2003 (2002 for CEE and new EU member countries)

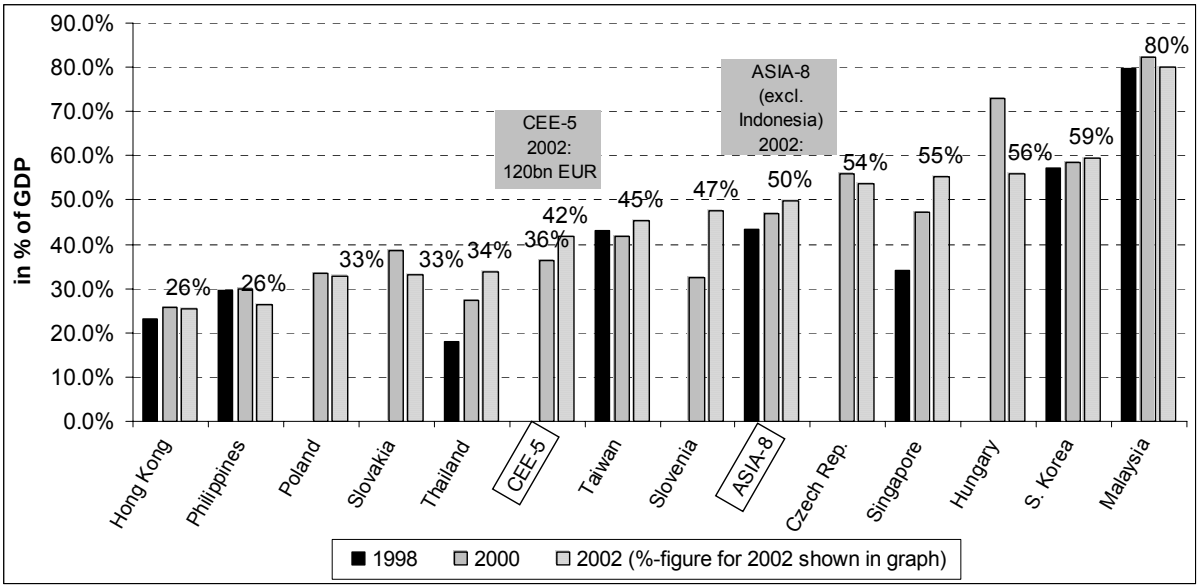
Country	Total domestic		Government		Financial Institutions		Corporate (Non-fin.)		Sectoral makeup			Internat'l Bonds		Country
	in mn EUR	in % of GDP	in mn EUR	in % of GDP	in mn EUR	in % of GDP	in mn EUR	in % of GDP	Gov.	Fin.	Corp.	in mn EUR	in % of GDP	
Hong Kong	35,550	26%	12,272	9%	18,211	13%	5,067	4%	35%	51%	14%	34,600	25%	Hong Kong
Indonesia	53,399	28%	51,492	26%	NA	-	1,907	1%	96%	-	4%	2,534	1%	Indonesia
S. Korea	351,940	66%	98,496	18%	129,058	24%	124,386	23%	28%	37%	35%	44,101	8%	Korea
Malaysia	78,147	86%	31,987	35%	10,610	12%	35,550	39%	41%	14%	45%	16,865	18%	Malaysia
Philippines	19,794	29%	19,002	28%	NA	-	792	1%	96%	-	4%	18,448	27%	Philippines
Singapore	45,527	52%	28,979	33%	14,489	16%	2,059	2%	64%	32%	5%	18,131	21%	Singapore
Taiwan	127,949	50%	61,679	24%	20,032	8%	46,239	18%	48%	16%	36%	15,044	6%	Taiwan
Thailand	44,972	34%	24,307	18%	13,143	10%	7,522	6%	54%	29%	17%	7,205	5%	Thailand
Poland	65,899	33%	53,714	27%	4,792	2%	7,393	4%	82%	7%	11%	9,660	5%	Poland
Czech Rep.	41,956	54%	14,398	18%	25,034	32%	2,524	3%	34%	60%	6%	2,217	3%	Czech Rep.
Slovakia	8,538	33%	8,369	33%	36	0%	133	1%	98%	0%	2%	2,613	9%	Slovakia
Hungary	38,556	56%	32,138	47%	5,653	8%	765	1%	83%	15%	2%	9,897	13%	Hungary
Slovenia	11,058	47%	6,494	28%	4,404	19%	160	1%	59%	40%	1%	2,059	8%	Slovenia
Estonia	235	3%	117	2%	76	1%	42	1%	50%	33%	18%	1,029	14%	Estonia
Latvia	1,010	11%	905	10%	103	1%	2	0%	90%	10%	0%	475	5%	Latvia
Lithuania	2,344	16%	2,241	15%	0	0%	103	1%	96%	0%	4%	1,663	10%	Lithuania
Cyprus	5,325	49%	4,528	42%	739	7%	59	1%	85%	14%	1%	3,009	26%	Cyprus
Malta	2,836	69%	2,467	60%	131	3%	239	6%	87%	5%	8%	238	6%	Malta
Bulgaria	5,832	35%	5,799	35%	29	0%	3	0%	99%	1%	0%	1,504	9%	Bulgaria
Romania	4,118	8%	4,118	8%	0	0%	0	0%	100%	0%	0%	3,167	6%	Romania
Croatia	3,863	16%	3,834	16%	0	0%	29	0%	99%	0%	1%	5,622	22%	Croatia
Turkey	87,537	45%	87,537	45%	NA		NA		100%	NA	NA	20,507	10%	Turkey
USA	14,196,912	146%	3,976,247	41%	8,242,914	85%	1,977,751	20%	28%	58%	14%	2,459,937	25%	USA
Japan	6,448,931	157%	4,869,438	118%	969,834	24%	609,660	15%	76%	15%	9%	95,645	2%	Japan
EUR-12	6,679,652	92%	3,857,165	53%	2,173,317	30%	649,169	9%	58%	33%	10%	3,578,781	49%	EUR-12
EU-15	8,213,064	88%	4,455,424	48%	2,772,367	30%	985,273	11%	54%	34%	12%	4,751,306	51%	EU-15
EU-25	8,390,822	86%	4,580,794	47%	2,813,335	29%	996,693	10%	55%	34%	12%	4,784,165	49%	EU-25
CEE-5	166,007	42%	115,113	29%	39,919	10%	10,975	3%	69%	24%	7%	26,445	7%	CEE-5
ASIA-8	757,279	61%	328,214	26%	205,542	16%	223,522	18%	43%	27%	30%	156,928	13%	ASIA-8

Note: data for Asian countries as of 2003, domestic bond data for Indonesia as of 2002; domestic credit and bank assets for Japan as of 2002; domestic bond data for Central and Eastern European (CEE) and new European Union (EU) member countries as of 2002; bonds issued by financial institutions are not included in corporate bonds.
Data source: IFS (2004), BIS (2004), ECB (2003a) for data on domestic bonds for CEE-countries, FIBV (2003), Jiang and McCauley (2004) for Indonesian bond data, Central bank of China (2005), Croatian National Bank (2003:60), Pejkovic and Osvatic (2003) for Croatian corporate bond data

The comparative figures for ASIA-8 are more homogenous: all countries show at least double digit domestic bond volume outstanding as a percentage of GDP: from 26% in Hong Kong to 86% in the quite well developed Malaysian domestic bond market. Whereas there is no particularly dominant domestic bond market in the CEEC in terms of volume, Korea accounts with 352 bn EUR almost for half (46%) of the total domestic bond volume outstanding of ASIA-8, followed by Taiwan with 128b bn EUR (share of 17%) and Malaysia with 78 bn EUR (share of 10%).

Among the Asian countries, Malaysia has made the most marked growth, and is considered one of the more highly developed in the region with a ratio of about 80% (from 70% in 1990) for volume of outstanding domestic bonds as a percent of GDP (see Figure 1). Thailand (34%) remains fairly underdeveloped and bank-credit dependent. To provide some comparison with more advanced countries, using 2003 statistics on the US and Japan had debt volume outstanding to GDP ratios of 146% and 157% respectively.

Figure 1: Total domestic bond markets in % of GDP: 1998 / 2000 / 2002



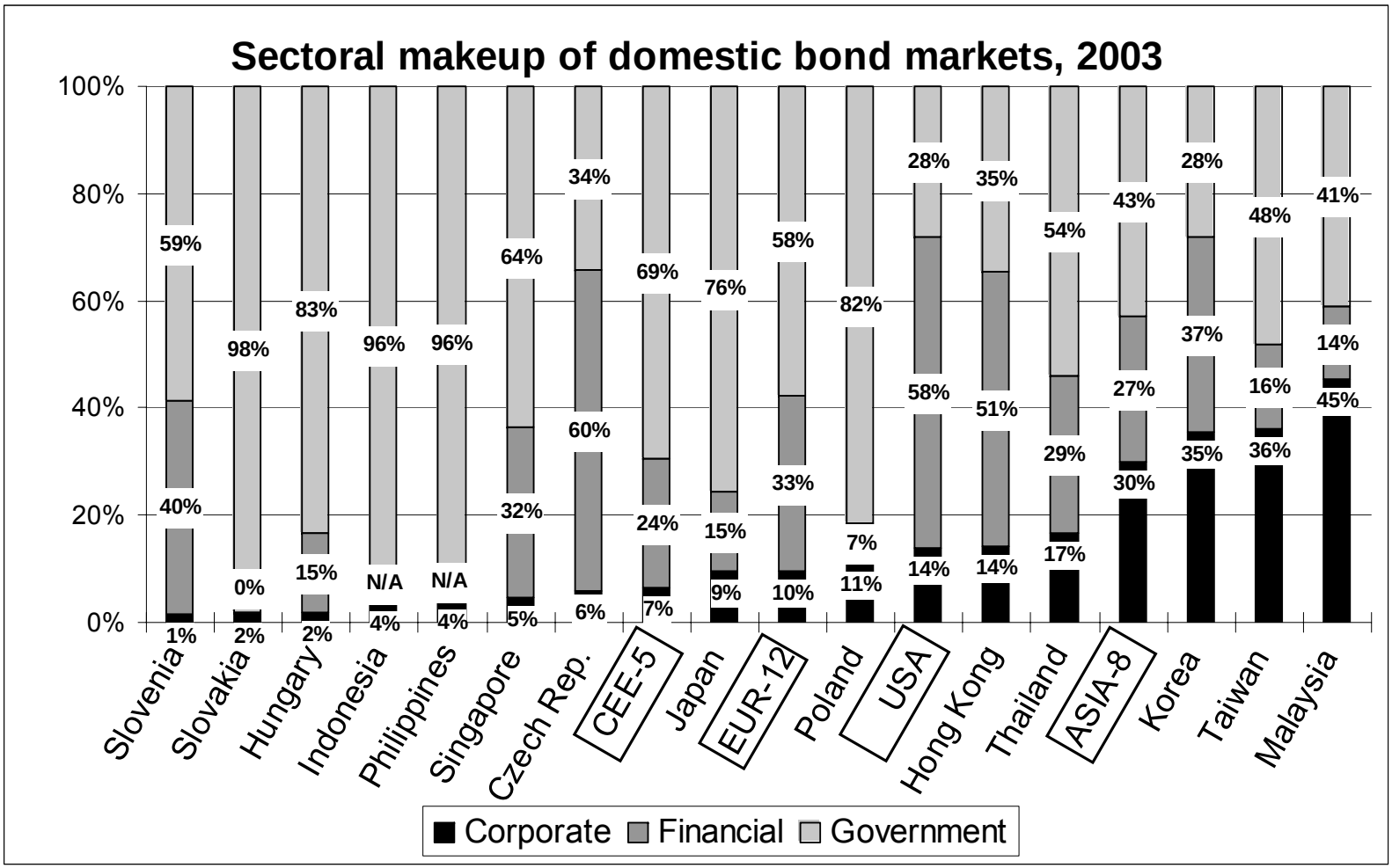
Note: Total amount outstanding of domestic bond market; Indonesia not included because of insufficient data.
Data source: IFS (2004), BIS (2004), ECB (2003a) for data on bonds for CEE-countries

Growth in SE-Asian bond markets is not without ups and downs. Since the 1997-98 Asian crisis, the Korean bond market went through three consecutive crises, caused by sudden rating shocks of private firms (e.g. Daewoo, Hyundai), a run on bondholding investment trust companies, distress sale of bonds (mostly government), illiquidity and possibly government intervention (Jiang and McCauley, 2004:75).[6] After a surge in issues in early 2004, several Asian borrowers delayed bond issues thereafter, given the environment of increased investor caution and rising bond spreads (IMF, 2004b:1, 11). Countries affected by the 1997-98 Asian crisis also experienced a large swing from net inflows in the pre-crisis period to net outflows in the post-crisis period (Kawai, 2004:5). FDI inflows remained a vigilant source of investment for the CEEC during that period (Pudschedl, 2004:23).

There are further differences between the CEEC and Southeast Asia. Henning (2002) argues that heavy exchange rate management in Asia to keep the currencies down is forcing an excessive share of the exchange rate adjustment onto Europe. Public issues are slightly less important in SE-Asia than in the CEEC, reflecting the stronger fiscal position of governments, while corporate non-financial and financial institutions are somewhat more important. While 69% of the whole domestic bond market in CEE-5 is made up of government bonds, the share in ASIA-8 is only 43% – compared with 28% for the USA, 58% for the euro area and 76% for Japan. Bonds issued by financial institutions account for 24% in CEE-5 (27% in ASIA-8) of the domestic bond market. The big difference lies in the non-financial corporate bond segment: while 30% of the bond market in ASIA-8 is made up of corporate bonds, the figure for CEE-5 is at a low 7% (see Figure 2). The existence and the size of corporate bond market of a country is a major indicator for how well developed a bond market is (Herring and Chatusripitak, 2000; de Bondt, 2002). Governments or financial institutions enjoy usually a better credit standing with investors than corporates.

[6] For a detailed examination of the financial crisis in South Korea see Oh and Park (1999) and Choi, Jen and Shin (2000).

Figure 2: Sectoral makeup of domestic bond markets, 2003

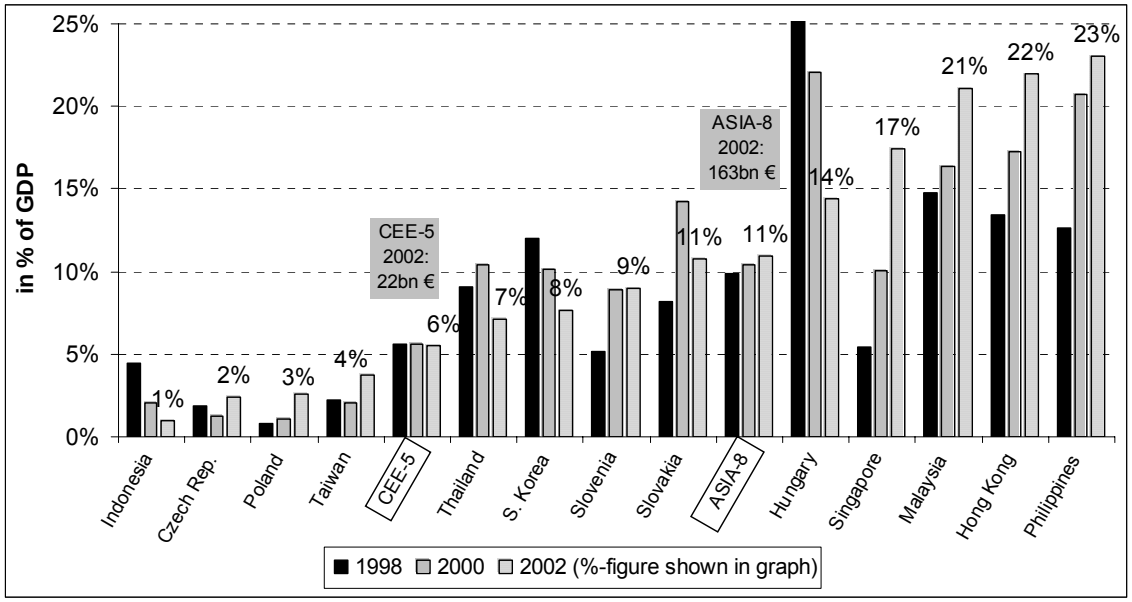


Note: data for Indonesia as of 2002; data for CEEC as of 2002; bonds issued by financial institutions are not included in corporate bonds.
Data source: IFS (2004), BIS (2004), ECB (2003a) for data on bonds for CEE-countries, Jiang and McCauley (2004) for Indonesian bond data

The hurdles for corporate issuers to tap into the capital market with bonds are much higher. The share of corporate bonds as a percentage of total bond market capitalization is 14% for the USA, followed by EU-15 (12%) and the euro area (10%). Five of the eight Asian countries actually trump both the US and EU-15 with even a bigger share of corporate bonds of the total domestic bond market: Korea with 35% (volume 124 bn EUR), Taiwan with 36% (volume 46 bn EUR), Malaysia with 45% (36 bn EUR), Thailand (17%) and Hong Kong. The total of the three biggest corporate bond markets (South Korea, Taiwan and Malaysia) account for more than 90% of the volume of all ASIA-8 domestic corporate bond markets and still more than a quarter of the euro area corporate bond volume of 650 bn EUR

In contrast to Asian economies, international bonds do not play a major role in CEEC, as Figure 3 shows. This is not necessarily a bad thing, since the heavy issuance of bonds on international bond markets is similar to foreign credit, and carries foreign exchange risk. Based on year-end data for 2002, total volume outstanding for international bonds in percent of GDP is only 6% for CEE-5 countries, ranging from 2% for the Czech Republic to 14% for Hungary. The figure for ASIA-8 is 11% and shows a complete heterogeneous picture: from a ratio of 1% for Indonesia, 4% for Taiwan, 21% for Malaysia to the maximum of 23% for the Philippines. But this is still low compared to a ratio of 24% for the USA or 43% for the euro area. Calari (2003) identifies three factors that might explain a “lag” in CEEC bond issuance and market development: the influence of the continental European system; a fast-growing corporate sector but from a negligible level; and a need for improved transparency, disclosure, and infrastructure. Whether CEEC markets should look to international bond issuance, as the Asian countries have done, is questionable, since the Asian experience suggests some substitutability between intermediate finance with international bond issuance, but with primarily sovereign, and not private, bonds. Moreover, the increase in international bond issues has not been accompanied by corresponding adequate reductions in levels of international bank lending (Batten and Kim, 2001:17).

Figure 3: International bonds in % of GDP: 1998 / 2000 / 2002



Note: Bond data based on year-end outstanding volume of international Bonds and international money market instruments.
Data source: IFS (2004), BIS (2004)

It is also critical to note that public bonds have been issued out of a unique situation in Asia. To support the export-led growth strategy, Asia's central banks exchange the dollars earned by their exporters with their own currencies. To keep local currencies weak, central banks also increased the supply of local currency in circulation, risking higher inflation. Asian central banks responded to this increased inflation risk by issuing domestic bonds and bills to the banking system in exchange for the currency, effectively removing (i.e. sterilising) currency from the system (Leahy, 2004; McCauley, 2003).[7] Instead of lending into the local economy to increase capital investment and domestic consumption, it is less risky for Asian banks to simply purchase the local currency bills issued by the government's sterilisation efforts, effectively lending the money back to the government and indirectly back to the US. Greater financial integration, for example via bond markets, would make the Asian region more self-sufficient and channel funds into much needed infrastructure projects.

[7] In Korea, the volume of monetary stabilisation bonds of maturities of up to two years is about equivalent to government bond volumes. Similar central bank liabilities of shorter maturity arefound in Indonesia, Malaysia and Thailand (Jiang, 2004:68).

2.3. Lessons from the Asian financial crisis

"Many Asian nations had unsound economic structures and financial systems" (Lee, 2001:10): there is now a wide agreement that a large mixture of factors, including "double mismatches" in currency and maturity, overreliance on banks, quick reversal of large foreign inflows, weak corporate governance, misleading or weak regulatory standards and poor regulatory quality, and market participants' exuberant expectations and reactions were among the major causes for the 1997-98 Asian financial crisis.[8] The crisis is largely attributed to financial panic, which was exacerbated by the capital structure of these countries, the maturity mismatch of assets and liabilities being the key issue (Ungson, 1998). Short-term (international) liabilities were greater than short-term assets, and corporations relied heavily on short-term debt to finance long-term projects that, though foreseen to be profitable in the future, "were costly to liquidate in the short term" (Chang, 1999:2). Asia's high dependence on banks increased the weight of political and economic ties in allocating resources (Claessens and Fan, 2002:93). Domestic banks borrowed excessively abroad and lent excessively to cronies at home. The moral hazard associated with this lack of owner and regulator accountability has shown up in non-performing loans that have threatened the respective banks solvency and led to the wide spread bank failures in parts of Asia (Huang and Xu, 1999). Under the 1988 Basle I accord, short-term bank lending to the emerging markets has been encouraged by a relatively low 20% risk weight. This has stimulated cross-border short-term interbank lending (Llewellyn, 2002). As long as foreign creditors were willing to lend against future implicit bailout revenue assumed to come from the governments or the International Monetary Fund (IMF), unprofitable projects could be financed (Sbracia & Zaghini, 2001:252).

This lending may not have been a problem so long as creditors remain confident, but with such an arrangment any change in the macroeconomic outlook or other factors might lead creditors to panic. Despite the region's higher sophistication, Asia's long-term debt share was low, ranking below much of developing Europe and Latin America (Claessens, 1998:11). Long-term debt share is a significant indicator as it is more telling than short-term; short-term debt share tends to underestimate the amount of liabilities since, for one, it excludes trade credits (Claessens, 1998:11).

[8] See Komulainen (2001:13ff) for a review of empirical studies on the Asian crises.

The system was further hit with a "currency mismatch", with a too great amount of foreign exchange risk involved in the loans (Batten and Kim, 2001:6). Panic became compounded in a system so reliant on short-term and also foreign credit, and the crisis essentially was self-fulfilling. Basically, the crisis was characterised by massive attempts from all sides to liquidate claims. This in turn pressured banks, which were also engaged in risky practices, and ultimately the central bank and government. The illiquidity of these emerging markets has also been credited with some of the blame for panic and its results (Chang, 1999:12).

Miles (2003) argues that non-bank financial Intermediaries (NBFIs), which includes enterprises such as insurance, pension and consumer finance companies, may have played a key role in propagating the crisis. According to Miles (2003:61), NBFI credit may be more volatile than bank lending, at least in the case of Korea. In contrasting Taiwan and Thailand, Gray (2002) argues that the quality of a countries´ financial infrastructure (including the number and efficiency of interlinked financial segments) played a pivotal role in Taiwan´s its ability to deal with financial market instabilities.[9] Hwa (2000) attributes Taiwan´s ability to cope with the East Asian financial crisis more successfully than other countries to its competitive industrial sector. Fock and Wong (2001:512) argue that rather than overly relying on banks, capital markets should be examined as a feasible alternative source of funding in Singapore.

The Asian crisis essentially demonstrated the systemic risk of an unbalanced financial structure, particularly with regard to an overreliance on bank credit and a lack of deep and liquid bond markets to supplement the banking system (Eichengreen and Luengnaruemitchai, 2004:2). Because of the demonstrated need to prop up currency reserves (Eichengreen, 2004; McCauley, 2003) and foster regional cooperation (Kuroda and Masahiro, 2002), bond market development have been thought to be a major cure to the above mentioned causes of the Asian 1997-98 crisis. More highly diversified financial markets are less fragile, less susceptible to interference, and more efficient in capital allocation. Broader and deeper domestic bond markets would reduce the susceptibility of banks and firms to sudden shifts of risk perception by global investors, and reporting standards would improve under market pressure (McCauley, 2003; Hirose, Murakami and Oku, 2004:2; IMF,

[9] See Lee (2001:16) and Chiu (2000) for an analysis of Taiwans way during the Asian Financial Crisis.

2004a:70). Longer-term debt would limit corporate maturity mismatches, and the provision of liquidity through organised exchanges would encourage investors to transfer their surpluses from short-term assets to the long-term capital market. This increased and reallocated funding would grant firms access to permanent capital for large projects that may enjoy scale economies (Thiel, 2001:18; Wachtel, 2001:350).

Bond valuation and interest rates provide important signals to economic agents and serve to adjust their individual plans to be consistent with the equilibrium in the aggregate. Bilateral (privately placed) loans provide less information to the market than public bond issuance on interest rates and underlying probabilities of default. Capital market structures are therefore very relevant to the development of interest rates (ECB, 2002:11). Hence, after the crisis of the 1990s, the preventative and risk managing benefits of bonds received renewed attention by investors and issuers. Risk management tends to be their unique feature, long-term local currency bonds in particular. Though it is recognized that bond markets, like financial institutions, can be subject to runs (Jiang and McCauley, 2004:74),[10] they are argued to be "probably the most stable type of borrowing that a country of corporation can engage in" (Harwood, 2000:58). Unfortunately, this is also the type of issuance actually least prevalent in emerging markets.

2.4. Asia: Regional cooperation via the Bond Market

The current efforts towards developing domestic bond markets in Asia are not the first. An early effort was the Lehman Brothers-marketed and Asian Development Bank-(ADB)-promoted dragon bond market of the early 1990s, though less successful (Parsons, 2003). Already prior to the Asian crisis, Dalla et al (1995) in a World Bank study recommended that Asian countries should accelerate bond market development. The difference is that initiatives have moved from rhetoric to action. Efforts towards bond market development are now importantly embedded in broader initiatives to strengthen regional financial cooperation in East Asia in three broad areas: (1) regional policy dialogue and surveillance mechanisms; (2) regional financing facilities; and (3) regional exchange rate arrangements (Kuroda and Kawai, 2002).

[10] Eichengreen (2004:9) warns that there is a trade-off between tightening up the capital account and developing bond markets in the sense that creating regional bond markets will naturally encourage cross-border capital flows.

Table 6: Asian regional forums for finance ministries and central banks

	Finance ministries and/or central banks					Central banks		
	ASEAN	ASEAN+3	MFG[1)]	APEC	ASEM[2)]	SEANZA	SEACEN	EMEAP
Year established	1967	1999	1997	1994	1997	1956	1966	1991
Japan		●	●	●	●	●		●
China		●	●	●	●	●		●
South Korea		●	●	●	●	●	●	●
Hong Kong			●	●		●		●
Taiwan				●			●	
Singapore	●	●	●	●	●	●	●	●
Brunei	●	●	●	●	●			
Cambodia	●	●						
Indonesia	●	●	●	●	●	●	●	●
Laos	●	●						
Malaysia	●	●	●	●	●	●	●	●
Myanmar	●	●					●	
Philippines	●	●	●	●	●	●	●	●
Thailand	●	●	●	●	●	●	●	●
Vietnam	●	●		●	●			
Mongolia						●	●	
Macao						●		
Papua New Guinea				●		●		
Australia, New Zealand			●	●		●		●
Nepal, Sri Lanka						●	●	
Bangladesh, India, Iran, Pakistan							●	
USA, Canada			●	●				
Chile, Mexico, Peru				●				
Russia				●				
EU-15					●			

Notes: ASEAN = Association of Southeast Asian Nations; MFG = Manila Framework Group;
APEC = Asia-Pacific Economic Cooperation; ASEM = Asia-Europe Meeting
SEANZA = South East Asia, New Zealand, Australia; SEACEN = South East Asian Central Banks;
EMEAP = Executives Meeting of East Asia-Pacific Central Banks

[1)] Includes the International Monetary Fund, the World Bank, the Asian Development Bank and and the Bank for International Settlements

[2)] Includes the European Commission

Source: Kuroda and Kawai, 2002:16

To support these various initiatives, a variety of institutions (e.g. APEC, ASEAN, ASEAN+3 and EMEAP)[11], dialoge fora like the Pacific Economic Cooperation Council (PECC, Ito and Park, 2004), and working bodies (e.g. the ASEAN Surveillance Coordinating Unit, ASCU) have been set up. Table 6 provides an overview on these manifold and overlapping initiatives.[12]

Broadening from the initial goal of promoting trade and investment in the region, ASEAN countries signed „terms of understanding" for regional cooperation that led to joint monitoring (of macroeconomic developments, capital flows, exchange rates, structural and social policies etc.) and a peer review mechanism (including provisions for capacity building, institutional strengthening, information sharing) to induce appropriate policy responses in 1998 (Kuroda and Kawai, (2002:17). In October of 2003, a „framework agreement" was signed on regional trade and investment, including a schedule for negotiations on reducing tariffs in goods and services towards a free trade agreement (Dwor-Frécaut, 2004; Jones and Plummer, 2004). The ASEAN+3 Economic Review and Policy Dialogue (ERPD) and the Manila Framework Group (MFG) provide additional mechanisms for regional surveillance. Successful monetary and economic integration within the EU certainly gave an encouragement to these endeavours. The Eurosystem and EMEAP governors also regularly exchange views on economic and financial developments, including experience on creating EMU and on the Asian Bond Funds (EMEAP, 2004a).

However, not that much progress has been made in the area of exchange rate co-ordination in the region, though an ASEAN Task force on ASEAN Currency and Exchange Rate Mechanisms was established in 2001 (Kuroda and Kawai, 2002:25). Relative to Western Europe, Asian economies are more heterogeneous in basic structural conditions, vary considerably in levels of openness and regulation, and follow potentially divergent exchange-rate strategies (Eichengreen and Bayoumi, 1996; Jones and Plummer, 2004).

[11] APEC = Asia-Pacific Economic Cooperation, ASEAN = Association of Southeast Asian Nations, EMEAP = Executives' Meeting of East Asia-Pacific Central Banks, see table 6 on regional forums for finance ministers and central banks; ASEAN+3 = ASEAN + Japan, China and South Korea.

[12] It should be noted that various international initiatives were started in the aftermath of the 1997-98 Asian economic crises, for example the Asia-Europe-Meeting (ASEM). The ASEM Trust fund provided and helped finance rebuilding the financial sector. Studying the potential of an Asian and Eurobond bond markets was on the agenda at an ASEM meeting in 2002. See EU External Relations, 2003, for details.

Table 7: Exchange rate regimes in Asia and CEEC

Country	Exchange Rate Arrangement
Hong Kong	Currency Board Arrangement with a peg to the US dollar
Indonesia	Managed floating with no pre-announced path for exchange rate
S. Korea	Independently floating
Malaysia	Conventional fixed peg to the US dollar
Philippines	Independently floating
Singapore	Managed floating with no pre-announced path for exchange rate
Taiwan	Managed floating
Thailand	Managed floating with no pre-announced path for exchange rate
Poland	Independently floating
Czech Republic	Managed floating
Slovakia	Managed floating
Hungary	Fixed exchange rate
Slovenia	Member of Exchange Rate Mechanism II from 28 June 2004 on, central rate of 1 Euro = 239.640 tolar (+/- 15%)
Estonia	Member of Exchange Rate Mechanism II from 28 June 2004 on, central rate of 1 Euro = 15.6466 kroon (+/- 15%)
Latvia	Fixed exchange rate with a peg to SDR
Lithuania	Member of Exchange Rate Mechanism II from 28 June 2004 on, central rate of 1 Euro = 3.45280 litas (+/- 15%)
Bulgaria	Currency Board Arrangement with a peg to the Euro
Romania	Managed floating

Data Source: Kawai (2004:27f.), Fahrholz (2003:11), ECB (2004c)

Most East Asian countries moved from de facto US dollar pegged exchange rate regimes prior the crisis,[13] to more flexible exchange rate regimes post crisis (see Table 7): Indonesia and the Philippines floated the exchange rates and tightened both monetary and fiscal policies; South Korea shifted to a currency basket type arrangement; Malaysia restored a US dollar peg and imposed sweeping controls on capital outflows, lowered the interest rate, and revalued the Ringgit upward (Marwah and Tavakoli, 2004:405; Ogawa and Shimizu, 2004; Kuroda and Kawai, 2002).

While the question of joint exchange rate policies in Asia has been studied already prior to the 1997-98 crisis (see Parsons and Richardson, 2004:904), whether the monetary authorities in East Asia should move towards regional cooperation in exchange rate regimes and create a common currency basket in order to prevent another currency crisis in the future has been a heavily discussed issue more recently (Bayoumi, Eichengreen and Mauro, 2000; Ogawa and Ito, 2002; Ogawa and Shimizu, 2004:2; Tan Nuo Ing, 2003). Kuroda and Kawai (2002:26), for example, proposed a so called Asian Currency Unit (ACU). Based on the ECU (European Currency Unit) role model, the ACU should serve as a regional common unit of account that could be a basket of regional currencies in the future.[14] However, no initiative emerged beyond commitment to „study" the issues yet (Amyx, 2004).

On regional financing facilities, a regional network of *bilateral swap arrangements* (BSAs) has been set up under the Chiang Mei Initiative in an effort to provide short-term liquidity support in time of crises (Baer, 2004; Henning, 2002; Kuroda and Kawai, 2002). However, amounts involved are small and 90% of funds are tied to IMF programs (Amyx, 2004). Rapid efforts with regard to *bond market development* have been made, but there remains a long way to go. These initiatives use peer pressure and knowledge sharing to facilitate the upgrading of financial infrastructure (Eichengreen, 2004:6). There is a certain division of labour amongst organizations in working towards creating a regional Asian bond market, supplemented by individual country efforts (Amyx, 2004):

[13] This de-facto USD-peg of Asian currencies is regarded as one of the causes of the 1997-98 Asia crises; see for example Ogawa and Ito, 2002.

[14] Bayoumi, Eichengreen and Mauro (2000) conclude that the ASEAN region is less suitable for a regional monetary arrangement than the euro area was before the Maastricht Treaty, but that the differences are not large and that a firm political commitment would be key. According to Kuroda and Kawai (2002:10), regional integration through trade in East Asia is already high and comparable to levels of the EU-15. However, Schwarz and Villinger (2004:3) argue that intraregional trade as a proportion of total trade among ASEAN countries fell by 19 percent in the 1994 to 2002 period.

- Supply side: ASEAN+3 with the Asian Bond Market Initiative (ABMI); the Asia-Pacific Economic Cooperation (APEC)
- Demand side: Executives' Meeting of East Asia-Pacific Central Banks (EMEAP) with the Asian Bond Fond-1 (ABF-1) and ABF-2
- Political support: Asia Cooperation Dialogue (ACD)

On the *supply side*, the various initiatives seek to upgrade the existing bond market infrastructure and to reach convergence in rules and regulations on cross-border flows so that local issuers can raise funds across the region as if it was a single market (IMF, 2004a:71). Under the umbrella of the Asian Bond Market Initiative (ABMI), six elements of market infrastructure are receiving special attention: the creation of new securitised instruments, credit enhancement mechanisms, domestic currency bonds issuance by foreign issuers, trading house establishment, rating agencies, and technical assistance coordination (Hirose, Murakami and Oku, 2004:8; IMF, 2004a:71). The ASEAN+3 Finance Ministers have established a Study Group on Capital Market Development and Cooperation, and considered the creation of an Asian guarantee institution and an Asian credit rating agency. The Japan Bank for International Cooperation has discussed acting as a guarantee institution (Amyx, 2004). Ideas to set up a structure providing guarantees for bonds issued in local currencies by Japanese companies operating abroad in Asia were put forward. Further ideas on how to create credit enhancement agencies were presented by research institutions (e.g. Lejot, Arner and Qiao, 2004:31). Whether public credit enhancements to encourage bond market usage is a good thing, however, is ambiguous (Eichengreen and Luengnaruemitchai, 2004; Molinas and Bales, 2004:65).

On the *demand side*, the aim is to (1) move away from U.S. dollar financing as well as (2) from bank financing and (3) to develop domestic, local currency bond markets as a funding alternative (IMF, 2004a:71). In June 2003, a group of Asia-Pacific central banks (EMEAP)[15] announced to invest about USD 1 bn in dollar bonds issues by governments and quasi-governments from eight economies in the region. That move was followed by the launch of USD 2bn funds to be invested in domestic Asian currency bonds in December 2004 (EMEAP, 2004c).[16] Based on the observation of growing foreign exchange reserves and the traditionally strong fiscal position of Asian governments (Eichengreen and Luengnaruetmitchai, 2004:6), additional ideas have been formed. With the aim of raising the size of government

[15] Executives´ Meeting of East Asia-Pacific Central Banks; see table 6 on regional forums for finance ministers and central banks.
[16] For details on the Asian Bond Fund 1 (ABF-1) and ABF-2, see the following section.

bond markets and of liquidity in the secondary markets, it was proposed to consolidate all public debt (central bank and government). Essentially this implies a swap of claims on the central bank for claims on the government. The goal would be to thereby unify the domestic bond market and provide a broader-based benchmark at a lower interest rate. The transformation of central bank liabilities into government debt would further allow the central bank to engage in reversed transactions against government bonds, which might help in developing the bond market. „If they were lumped together in a single instrument, it might rate at a yield lower than either one." (McCauley, 2003:94). Such a transformation of central bank debt into government debt would certainly not fit the set of rules governing EMU, so the question of applying this concept in the CEEC to prop up bond markets does not arise. It was further proposed that the government can „overfund" its own financial needs in order to replace debt issued by the central bank to the market by government bonds (McCauley, 2003:90; Eichengreen and Luengnaruemitchai, 2004:14). Accordingly, the Singapore government more than doubled the volume of its outstanding securities, despite fiscal surpluses, as a measure to foster the bond market (Lian, 2002:184). Given the fact that the CEEC fiscal positions are less favourable with the budget deficits to GDP and the debt criteria enshrined in the Stability and Growth Pact, overfunding is not an option for CEEC bond market development either.

There is an ample amount of the requisite *political support* in Asia for such initiatives. For example, guidelines for the development of Asian bond markets have been set down in the Asia Cooperation Dialogue by the 17 Asian governments participating (ACD; Amyx, 2004). APEC (led by Hong Kong, Korea and Thailand) is examining capital market development, and considers debt securitisation a continuous fundraising mechanism for the region and means to recycle non-performing loans (Lejot, Arner and Qiuao, 2004:2). ASEAN+3 is conducting similar research into the advancement of securitisation. The Hong Kong Institute for Monetary Research brought forward a proposal for a collaborative regional public debt market for domestic and major currency issues, to be monitored by confederal regional regulation in an established Asian financial centre (Lejot, Arner and Quiao, 2004:18); this regulated offshore market is thought to be open to regional, domestic and non-Asian participants. Joining forces and linking national markets has also been discussed for stock exchanges in the CEEC (Köke and Schröder, 2002), an option elaborated on in section 2.5 below.

2.5. The Asian Bond Funds

At the World Economic Forum's annual East Asia Economic Summit in October 2002, Thailand's prime minister, Shinawatra Thaksin, proposed the estabilishment of an Asian Bond Fund, an idea based in work done earlier by the Hong Kong Monetary Authority (Amyx, 2004; Thaksin, 2002; Rajan, 2003).[17] The basic idea was that (1) regional governments voluntarily contribute about one per cent of their reserves to a fund dedicated to purchasing regional bonds and (2) to establish an Asian credit agency that should offer impartial analysis and information to both issuers and subscribers of the regional bonds. After a great degree of interest by media and analysts and further political discussion, 11 central banks and monetary authorities in the East Asia and Pacific region announced the launch of the USD 1 bn Asian Bond Fund (ABF-1) in June 2003 (EMEAP, 2003). ABF-1 is now fully invested in a basket of USD denominated bonds issued by Asian sovereign and quasi-sovereign issuers in EMEAP[18] economies other than Japan, Australia and New Zealand. The fund is passively managed by the Bank of International Settlement (BIS) with a specific guiding benchmark. An EMEAP Oversight Committee monitors overall management and performance. The USD 1 bn fund is tiny beside the combined EMEAP central bank reserves of USD 1.3 trillion, or the USD 700 bn invested outside the region, at the launch of ABF (Parsons, 2003:35).[19]

Nonetheless, ABF-1 has fast become one of the main players in the Asian dollar bond market, and definitely is a high symbolic manifestation of the political will of regional monetary authorities. It is the first concrete step in Asian financial cooperation, and has had real impact. ABF-1 has increased the general liquidity of the market. By buying up bonds from existing buy-and-hold investors, these investors are freed to purchase other Asian bonds (Parsons, 2003); Europe examplifies the benefits that can be derived from pooling country liquidity (Dwor-Frécaut, 2003). Additional economic and political objectives have been mentioned in various times in relation to the Asian Bond Fund, including (Amyx, 2004; EMEAP, 2003; Kiang, 2003; Leahy, 2004; Rajan, 2003):

[17] Thaksin (2002) in his keynote address also mentioned efforts by the EU to offer Eurocurrency and Eurobonds to Asia, while also posing the question whether Asia should offer Asian bonds to European partners.

[18] Executives´ Meeting of East Asia-Pacific Central Banks, see Table 6.

[19] By March 2004, Asian economies had accumulated USD 2.1 trillion (Benink / Rhee, 2004).

- Diversifying debt financing from bank lending to bond financing and promote the efficiency of financial intermediation in the Asian region;
- Providing a useful means for the Asian central banks to diversify their investments beyond the traditional reserve assets and to enhance returns;
- Reducing the region's vulnerability to „fickle" international investors and to uncovered US dollar borrowing and help to alleviate exchange rate risk;
- Promoting bond markets in the region, broaden and deepen them and buoy investor interest in Asian bonds;
- Enhancing regional liquidity by mobilising the forex reserves in Asia for Asian bond issues, rather than invest outside the region; channelling back some of the sizeable official reserves held by the Asian economies back into the region;
- Enhancing regional cooperation, intra-Asian financial and economic integration, reduce dependence on export-led growth and develop domestic consumption.

In December 2004, EMEAP (2004c) launched the Asian Bond Fund 2 (ABF-2). While the inclusion of corporate bonds in the fund was considered upon suggestion by the Hong Kong and Thailand monetary authorities (Eichengreen and Luengaruemitchai, 2004; Parsons, 2003), ABF-2 again will invest solely into bonds issued by sovereign and quasi-sovereign issuers in the EMEAP countries. It differs from ABF-1 in size (USD 2bn instead of USD 1bn), qualifying assets (bonds denominated in regional EMEAP currencies instead of USD) and structure (EMEAP, 2004c; see Figure 4):

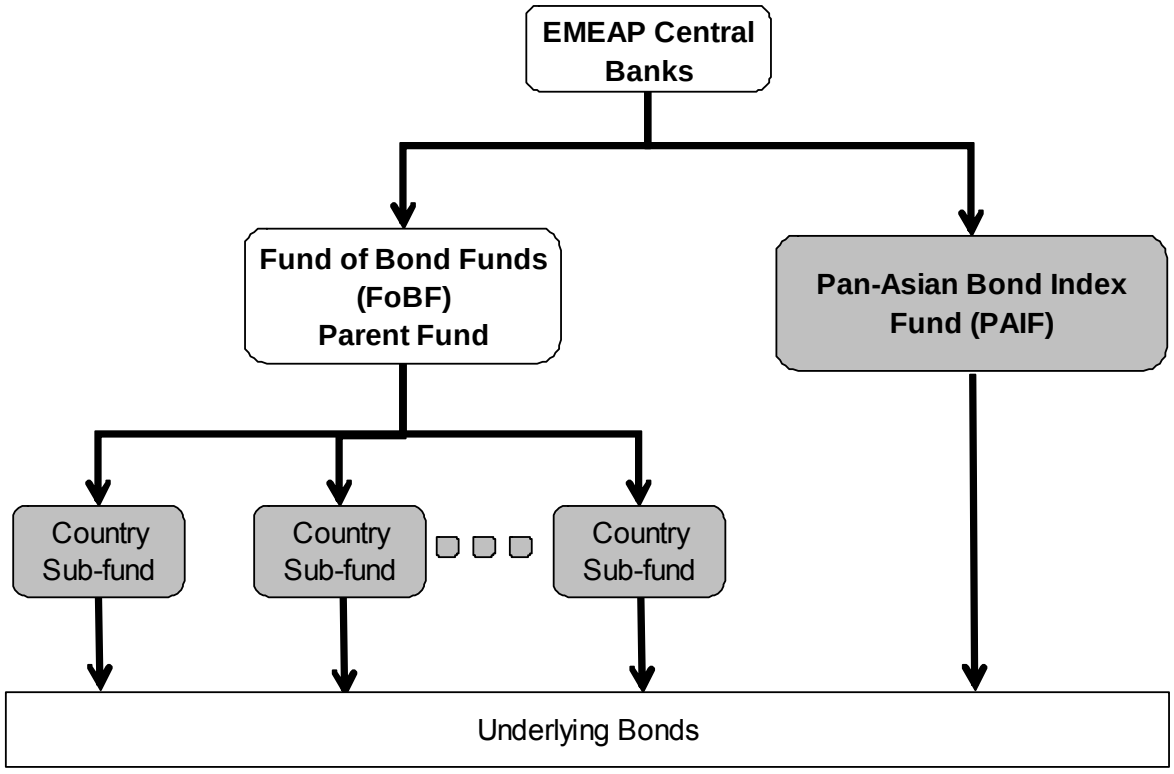
- The *Pan-Asian Bond Index Fund* (PAIF, USD 1bn) invests in local currency denominated bonds in EMEAP countries. It is intended to function as a cost effective investment fund for regional and international investors looking for a diversified exposure to Asian bond markets. PAIF is an open-ended, USD-denominated fund. In phase 1, it will remain unlisted with EMEAP central banks as the only investors. In a second phase it will be opened to other public and private sector investors and listed in Hong Kong; additional listings may follow.
- *The Fund of Bond Funds* (FoBF, USD 1bn) as a two layered structure with a parent fund investing in a number of country Sub-funds comprising of local currency denominated bonds issued in eight EMEAP economies. These national Sub-funds[20] are thought to provide local investors with low-cost and index-driven investment vehicles while at the same time providing regional and international investors with the flexibility to invest in country bond markets of their choice. The eight open-ended Sub-funds are denominated in the domestic currency of the respective markets, will be domiciled and – in phase 2 – listed in the respective jurisdictions.

The central concept behind a regional focused fund is to mobilise forex reserves in Asia to be invested into local bond issues, rather than have such funds flow outside the region. Such a fund is thought to reduce currency vulnerability

[20] China, Hongkong SAR, Indonesia, South Korea, Malysia, Philippines, Singapore, Thailand

(Leahy, 2004). ABF-2 is intented to promote the development of index bond funds in the regional markets, and simultaneously enhance the domestic as well as regional bond market infrastructure (EMEAP, 2004c). Similar to ABF-1, the PAIF and eight Sub-funds will be passively managed by private sector fund managers against a Pan-Asian bond index and domestic bond indices for the respective markets (EMEAP, 2004c). These indices are thought to be used as benchmark indices by private sector fund managers for their fixed income products and to facilitate structuring derivative products. With regard to volume considerations, EMEAP (2004b) announced that its members will be careful to limit the volume of the total investment in order to prevent any crowding out effect on private investors.

Figure 4: Framework of Asian Bond Fund 2 (ABF-2)



Components that will be open (in Phase 2) to the investment by other public and private sector investors.

Source: EMEAP (2004c)

The move towards a domestic-currency denominated bond fund is not unchallenged. Ogawa and Shimizu (2004) argue that in order to activate regional bond markets and establish a more solid base for intra-regional capital flows in East

Asia, efforts should concentrate on bonds denominated in a common currency basket (USD, EUR and JPY). EMEAP did address in ABF-2 some of the concerns from market participants that ABF-1 had not added liquidity to the market, though the organization also simply absorbed much of the criticism (Parsons, 2003). ABF-2 now also carries an individualistic national flavour, and a kind of „variable geometry": countries ready to open their bond markets to foreign investment can participate, while those maintaining restrictive practices (e.g. with regard to withholding taxes, capital account and others) have further time to eliminate these hurdles (IMF, 2004a:72). Individual EMEAP economies thus can leverage the interest and momentum generated by the collective investment in ABF-2 to further develop their domestic bond markets as appropriate; EMEAP (2004b) also notes that improvements in market infrastructure and minimising the legal, regulatory and tax hurdles are necessary on the national level. Most SE-Asian countries´ bond settlement and clearing systems do not yet conform to international standards, and national rating agencies have links with their respective governments, putting their independence at limbo. Notable exceptions to these two generalizations are Hong Kong SAR and Singapore (IMF, 2004a:72). However, withholding taxes, regulatory and legal factors, and deficiencies in infrastructure remain among the major causes segmenting Asian bond markets from global fixed income markets and from each other (Jiang and McCauley, 2004:69). Similar issues are also to be resolved in the case of the CEEC, as discussed in the following section.

2.6. CEEC: Regional cooperation via extended EMU

There are two primary differences facing the CEEC in comparison to Asia. First, the *process of implementing the Copenhagen EU-entry criteria*[21] in CEEC has highly improved regulation, enhanced transparency and institutions, provided stronger investor protection, and laid the ground for competitive banking sectors and stable macroeconomic policies (Backé and Thimann, 2004; ECB, 2004) – issues that are central to the development of bond markets (Eichengreen and Luengnaruemitchai, 2004). Capital accounts have been liberalised, so that the free flow of capital necessary for cross-border investments into bonds, among others, has already been achieved – a major difference compared to SE-Asia where this remains

[21] These include that the financial sector is sufficiently developed to channel savings towards productive investment and the availability of a sufficient amount of capital at an appropriate cost for all types of economic agents; see Breuss, Fink and Haiss (2004) for an overview.

a major hindrance to bond market development (Eichengreen, 2004:12). Developing bond markets in Asia primarily helps large corporates to broaden their financial base. Transition and cohesion processes in CEEC also included manifold measures to improve the access of small and medium sized enterprises (SMEs) to finance. Further efforts for implementing internationally recognised accounting standards by converting to the new International Financial Reporting Standards (IFRS) and enhancing the reliability of regulation and contract enforcement (through continuous monitoring by the European Commission) are under way. The size of the EU internal market itself should provide support, as liquid, deep, and larger securities markets have a certain minimum efficient scale that is difficult for small single countries to achieve. Being part of a large market also implies that internationally recognised rating agencies (and not national ones, as in certain Asian countries) are most active. The extension of the Internal Market to the New Members also brought about a bank market restructuring and bank balance sheet cleaning. On average roughly 70% of the banking market in the New Member States is under control of foreign banks, mostly from the EU-15 – far above the 16% foreign bank assets in the Euro area (Breuss, Fink and Haiss, 2004). Two thirds of the Baltic bank assets are in Swedish hands. Greek and Italian banks are most active in South Eastern Europe, and Austrian and German banks are strongly involved in the neighbouring CEE5-markets. This “neighbourly” component in the New Member States’ banking systems seems to be a sound way of stabilising and modernising financial intermediation, while at the same time ensuring long-term commitment of foreign bank owners to the host country.

The second distinctive feature is the *existence of a regional monetary union*, which all new EU member states and EU accession countries are legally bound to join. Given the heavy economic integration with the euro area economies and their euro-related exchange rate regimes, these countries already can be regarded as an extended euro area (Breuss, Fink and Haiss, 2004); SE-Asian currencies, on the other hand, are mostly related to the US Dollar. Slovenia, Estonia and Lithuania already entered the Exchange Rate Mechanism II (ERM II), with further countries sharing the EMU ambitions to fully join soon. This is the one driver that the CEE countries indisputably have that the Southeast Asian countries do not. One of the CEEC’s primary economic goals at this time is further EU convergence and EMU entry, though each country at a different pace (see Kokoszczyński, 2002). Asia, on

the other hand, has only discussed a common Asian market and even currency, but has yet to realise one as concrete as the EU and EMU (see also Kuroda and Kawai, 2002).

The making of the euro area brought about a number of changes for the EUR-12 bond markets (Baele et al, 2004:47). It removed the currency risk component of bonds, broadened and deepened access to funds, and facilitated corporate restructuring. Investors have started to focus more on credit and liquidity risk, and bond portfolios have become increasingly nationally diversified, particularly in the smaller euro area countries. Adjaouté and Danthine (2003) even estimate that euro area governments could reduce the cost of servicing their debt by an additional EUR 5 bn per year through further integration. Similar benefits will naturally be extended to new euro area members.

It is also likely that the adoption of the euro in the new EU member states and later in the EU accession countries will also lead, in some sense, to the import of the Euro's financial markets and exchanges. These already well-developed debt markets would be able to address financial needs, though they would not be a perfect substitute for domestic bond markets at present (Szilagyi, Batten and Fetherston, 2003:80). By directing efforts towards utilising Euro-denominated bonds and beginning to prepare for ERM II, these countries could take advantage of fast-growing and large Euro-bond denominated region early. The question for the CEEC is then whether it makes sense for each country at the present to try and build an individual domestic bond market altogether. Building all the components necessary for a well-developed bond market is costly and time-consuming, and consequently many small emerging markets are caught in a "vicious circle of low liquidity and underdeveloped markets" (Mohanty, 2002:52). Although regional market cooperation is discussed on various levels, the Central European countries have not made moves towards a CEEC bond market.

Bond markets, more precisely the long-term-interest rates that they provide the economy, are at stake when the readiness of CEEC economies for EMU entry will be assessed. Establishing a benchmark 10-year bond for comparison with the euro area benchmark is one of the formal prerequisites for EMU membership; this implies a supply-side increase in terms of both size and depth and increasing liquidity further out on the yield curve as sovereign issues move towards longer maturity

bonds (Hultgren and Hencsey, 2001:15). The ECB therefore started to conduct and publish a variety of research on the CEEC´s bond markets, e. g. to support market development by providing data (ECB, 2003a); the European Commission publishes monthly notes on the euro-denominated bond markets (EU, 2004). Still, the question remains – at least for the smaller countries – if it makes sense to develop separate markets just to merge them, in effect, at a later stage? Do the costs of seperate domestic bond markets outweigh the benefits, particularly when these markets will probably be integrated upon EMU entry?

A solid government bond market would furnish the government with additional tools for monetary policy, which is desirable in light of the Maastricht criteria demands. These countries do well to prime their economies for the current trend towards a more market-driven financial system, particularly because of their greater need to deepen institutions, and address remaining “residual legacies of the past”, while simultaneously bolstering a more competitive environment (Iakova and Wagner, 2001:3). A domestic bond market would ameliorate all these areas, as the argument is made for SE-Asia.

The removal of capital account restrictions within the EU may help for domestic bond market development by relaxing the constraint of small markets; capital account liberalisation prior to domestic market development, however, also poses risks (Eichengreen and Luengnaruemitchai, 2004:21). Iakova and Wagner (2001:37) argue that with EU accession and corporate restructuring, capital inflow and outflow volatility will increase, making sound domestic financial structure imperative as a buffer against such fluctuations. Bonds might also provide an alternative channel to credit for foreign capital, which would be beneficial given that when capital is abundant bad credit decisions are often made (Batten and Szilagyi, 2003:96). Applying a sectoral split, Fink, Haiss and Kirchner (2005) provide preliminary evidence for reverse Granger causality from GDP growth to public bond issues in the European Union. Fink, Haiss and Hristoforova (2004) report a less clear cut relationship between bonds outstanding and GDP growth for EU countries. Fink, Haiss and Vuksic (2004) find that bond markets have had the strongest, positive and significant impact on output growth in EU accession countries among all financial segments. Thus there are a number of reasons and initiatives to develop domestic bond markets in the CEEC, for example the Debt Markets Development Initiative for Europe & Eurasia by the United States Agency for International Development

(USAID), with market studies, bond market development, and handbooks (see Burz-Pinzaru and Pascal, 2003; Epstein et al, 2000; Pejkovic and Osvatic, 2003).

Problematically though, these countries already face a plethora of development demands, on top of the steep requirements imposed by the Maastricht criteria. For instance, the issuance of sovereign bonds would be reined in by the need to keep government debt down, making it potentially difficult to develop a deep and active government bond market. The infrastructure needed for a liquid bond market is also costly and an added concern for the government. Government efforts might be better spent elsewhere.

2.7. Major differences and similarities

Summing up the SE-Asian and CEEC experiences, an issue that stands out is the higher diversity and heterogeneity of economies in East Asia, compared to the EU, which has regarded substantial economic convergence as a requisite for joint action on the regional level. In both Asia and Europe, closer monetary and economic cooperation was driven by rising trade integration across the respective regions, by the emergence of poles of economic growth independent of US demand, as responses to dramatic foreign exchange incidents (the breakdown of Bretton Woods and later the "snake" foreign exchange system, the 1997-98 Asian crisis), and by the stress on institution building (Baer, 2004). The ASIA-8 and the new EU member states and EU-accession countries also share some similarities with regard to their financial structures and development (e.g. see Sharma, 2000 and ECB, 2003a):

- Financial intermediation prevails over financial markets, total finance provided to the economy depends mainly on banks.
- Most of these countries went through one or several financial crisis situations, with numerous bank failures and high public rescue costs during the 90ies (though for different reasons).
- During periods of continuing deregulation, the aggregate economy showed high growth and/or volatility.
- In both regions, bond markets, especially corporate bonds, are/were of very limited importance for providing finance (i.e. small primary bond markets), but these markets gained in public interest recently.

Looking specifically at bond markets, there are still several differences. In Asia, efforts are already under way to jumpstart development; the Asian Bond Funds (ABF-1, ABF-2) serve as vivid examples (Parsons, 2003; Phuvanatnaranubala, 2003). The new EU member states's primary interest in developing bond markets is

the EMU's long-term interest rate requirement. Deregulation in the new EU member states is heavily related to privatisation, foreign direct investment plays a major role (Krkosko, 2001), and the countries will soon join an internal market with a developed bond market.

3. Bond market improvement and implications

Looking forward, there is ample reason to expect that both the SE-Asian and the CEEC bond markets will continue to grow. Both regions show faster economic growth than surrounding economies, and that growth will result in an expanding population of firms that may turn to the bond market to finance some of their operations. The flagship companies of the former transition economies like MOL (H) and PKN Orlen (PL, both oil and gas), CEZ (CZ, electricity) or OTP (H, banking), to name a few, form a new type of CEEC-based multinational corporations that expand in the neighbouring markets both greenfield and via acquisitions (Andreff, 2002; Holzhacker, 2002). The driving forces for EU-bond market growth, i. e. mergers and acquisitions and the making of the euro area (Bishop, 2003; de Bondt, 2001; EU, 2003), could likely boost CEEC markets in the near future. Similar growth triggers apply to SE-Asia, which further benefits from the high savings in the region (Eichengreen, 2004). With growth and improving judicial and settlement capacities in those markets, more companies ratings should improve towards investment grade and thus become feasible investment targets for pension funds and insurance companies.[22] The growing volume of housing finance will likely translate into banks securitising these mortgages and channelling them through to the bond market. Besides the *supply side*, the *demand side* will grow as well with the reforms of the pension systems, as growing pension and mutual funds will want to invest into local bonds.

3.1. Discussion of possible linkups between markets

There are also structural issues at stake. In studying Asian bond markets, Eichengreen and Luengnaruemitchai (2004) conclude that what matters for bond market development is market size, the currency regime (including the absence of

[22] Eichengreen (2004:2) argues that the imbalance between a supply dominated by speculative credits and a demand for predominantly investment-grade securites is among the major hindrances to bond market development.

capital controls), a competitive banking sector, and corporate governance (institutions, regulatory quality, accountancy standards etc.).[23] Given that the CEEC imported a competitive banking landscape, greatly improved in corporate governance (though there is still work to be done), and are heavily linked into the euro area, what remains to consider are size and efficiency. If CEEC and SE-Asian national bond markets are too small and regional markets are too fragmented by divergent regulation to appeal to domestic and foreign issuers and investors; if they are in a low-level bond market trap, where a market's small size and consequent illiquidity become a self-reinforcing cycle (Eichengreen, 2004), what can be done? Of the various initiatives to develop bond markets in Asia and in the CEEC, which could be transferrable and which options should be implemented to resolve the structural deficiencies? Treating stock markets as analogous to bond markets (Köke and Schröder, 2002; Claessens, Lee and Zechner, 2003), the basic options for domestic bond markets are:

1. Stand-alone national bond markets
2. Fully-fledged central CEEC (respectively SE-Asian) bond exchange
3. Intra-regional linkups (e.g. Scandinavia; Austria-Hungary etc.)
4. Joint regional (CEEC, Asian) bond funds
5. Individual national alliances with EU or US exchanges
6. CEEC (respectively SE-Asian) platforms at EU or US exchanges

The size of the (primary) bond market usually is related to the size of the economy itself (Eichengreen and Luengnaruemitchai, 2004). The size of the underlying economy also matters for (secondary) bond market liquidity as larger bond markets are associated with higher trading volumes that are in turn associated with higher liquidity (i.e. tighter bid-ask-spreads; Jiang and McCauley, 2004). Given that the CEEC bond markets have a combined size of 2.2% of the euro area, efforts to develop *stand-alone national bond markets* are not economical, at least not for the smaller countries. Poland, the Czech Republic and Hungary alone account for a large fraction of total CEEC bond volume outstanding and hence are represented in emerging market benchmark indices (Ludwig and Schlagbauer, 2002), while the remaining CEEC bond markets are so small that they have been considered as

[23] With a focus on the USA, Europe and Japan, Schinasi and Smith (1998:3) similarly find that liquidity, a well-functioning money market, supervision & regulation, market power in the financial industry, infrastructure and the investor base are important.

"virtually non-existing" by some (Hultgren and Hencsey, 2001:15; Kokoszczyński, Łyziak and Wróbel, 2002:10).[24] It is therefore doubtful whether these domestic markets will reach the critical mass necessary for transaction costs to be lowered enough for large-scale and wide-spread trading on a *purely domestic exchange*, with the possible exception of Poland, which has the largest domestic bond market in CEE (volume of 66 billion EUR). This same argument also applies *to individual national alliances with EU (e.g. London) or US exchanges*: most single CEEC bond markets are just too small as viable add-ons.

Certainly the most important rationale for regional financial cooperation is strong economic interdependence (Kuroda and Kawai, 2002:9). Strong financial sector direct investment (FSFDI), real sector FDI and trade flows would therefore *favour intra-regional linkups* of CEEC bond markets, for example like the existing 'Norex Alliance' between the Nordic and Baltic stock exchanges[25] and those new EU member states that share borders and/or strong business ties with Austria (Poland, Czech Republic, Slovakia, Hungary, Slovenia, Croatia) as "Central Market".[26] Both regional "bond gravity centers" could also build on already existing linkups of the respective stock exchanges, joint trading systems, and/or of high degree of cross-border involvement of the respective EU banks; the latter is also the case for Greece neighbouring Southeast Europe, including Bulgaria, Romania, Cyprus and Malta.[27] Figure 5 gives a comparative view about the aggregate volume of domestic bond markets for these suggested regional linkups. Given FDI, trade, bank and stock exchange "gravity", the intra-regional market is a natural model for most of the CEEC.

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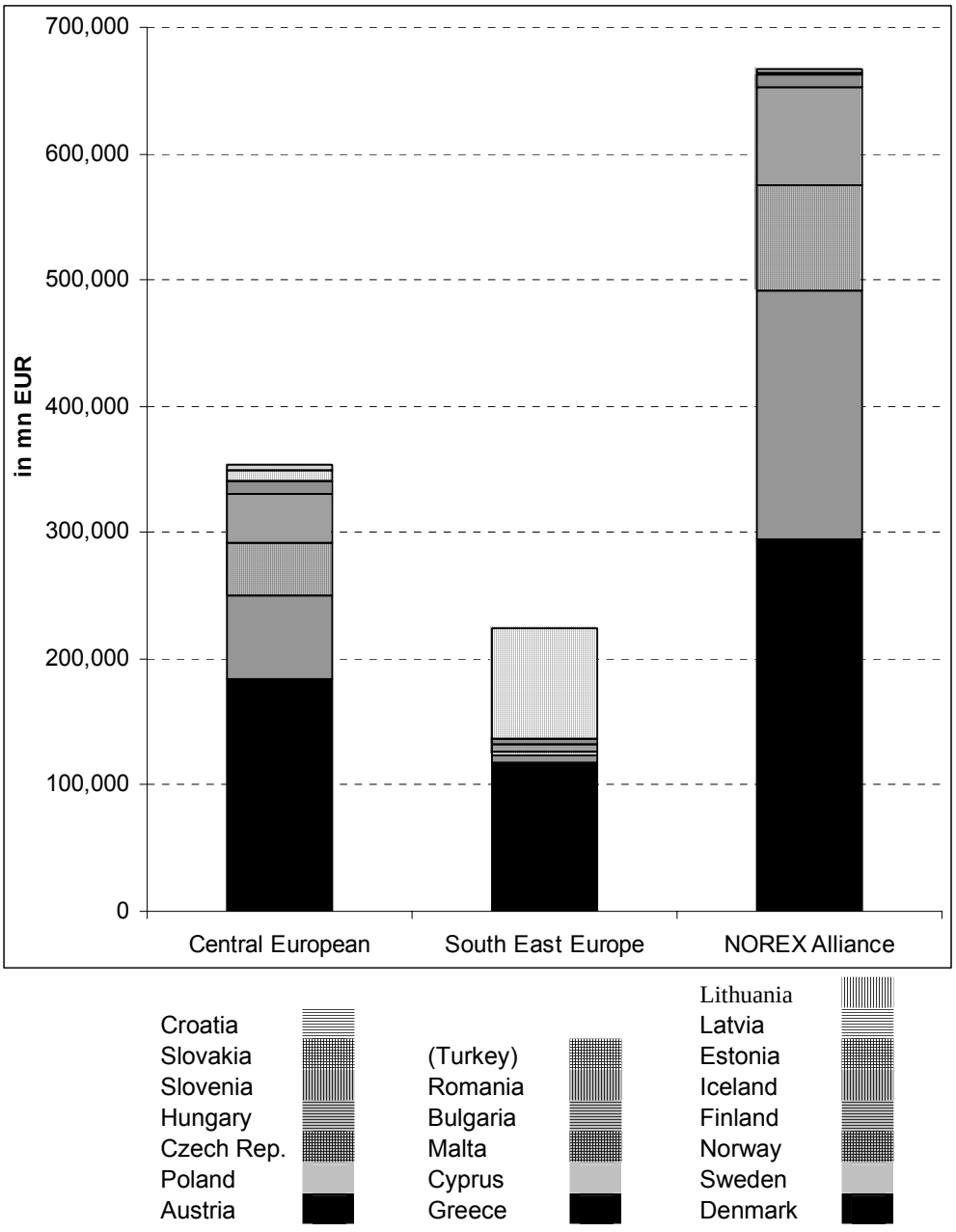
[24] See tables 4 and 5 for data.

[25] The 'NOREX Alliance' (2004) currently consists of the Copenhagen Stock Exchange, Iceland Stock Exchange, Oslo Börs and the exchanges in HEX Integrated Markets (Helsinki Exchange, Riga Stock Exchange, Stockholmsbörsen and Tallinn Stock Exchange). The goal of the alliance is to create a joint market place for financial instruments, including shares, bonds and derivatives.

[26] Austria serves as an example due to the already existing cooperation between the Vienna and the Budapest Stock Exchange (Wiener Boerse 2004a) and the Bukarest Stock Exchange (Wiener Boerse 2004b) as well as their talks for enlarging the alliance (Wiener Boerse 2004c); it is clear that much of these factors for example also apply to Ljubljana / Milano, ties with Italien banks etc. Hultgren and Hencsey (2001:17) similarly provide three country groups. They see bond markets in Hungary, Poland and the Czech Republic as sizable enough to survive on a stand-alone basis; (2) the Nordic sphere; (2) remaining countries without meaningful markets See also Bonin and Wachtel (2003) for discussion.

[27] Two thirds of the Baltic bank assets are in Swedish hands; for Austrian banks, CEEC subsidiaries accounted for 18% of total assets and 38% of operating profit (OeNB, 2004:33; Breuss, Fink and Haiss, 2004). An alternative mode of linking CEEC (government) bond markets not further elaborated here might be extensions of the estisting trading platforms MTS, EuroMTS, or Eurex Bonds; see Baele et al, 2004:36.

Figure 5: Possible intraregional linkups based on total domestic bond markets, 2002



Data source: BIS (2004), ECB (2003a)

With heavily-linked banks and well-established economic cross-border activities already, bond market ties would easily follow bank and trade relationships. A regional market could be started with common trading platforms to provide size and liquidity or with full-fledged mergers (Köke and Schröder, 2002:130; Claessens,

Lee and Zechner, 2003:25).[28] According to Jiang and McCauley (2004), the critical size for a liquid market could be around a EUR 100 bn threshold. Those three regional linkups would reach that critical mass.

Regional linkups of bond exchanges and markets might also be easier to implement than those of stock exchanges: bond markets are less "visible" than stock exchanges, and thus less politicised signs of capitalism.[29] Why not start merging or linking capital markets with bond exchanges, if it makes sense economically and seems feasible politically? Again, this kind of linkage is easier on an intra-regional scale (i.e. Nordic, Central and South-East) than on a pan-CEEC or pan-EU-scale. The same also applies to *CEEC* or *SE-Asian platforms at EU or US exchanges*: those sound politically rather delicate and thus should not be followed (at least not as of now). It should be noted that 35% of the CEEC-10 stock listings cross-list, mostly in New York and London. Firms representing more than two-thirds of stock market capitalisation in Budapest, Prague and Warsaw also list abroad (Claessens, Lee and Zechner, 2003:16). In theory, this could provide some basis also to form linkages between e.g. London or New York and single CEE bond markets. This basis for linkage would still comprise of a rather small segment, and the CEEC´s international bond volume outstanding of 26 billion EUR as of year-end 2003 also does not support a single link relationship.

Unable to achieve the critical mass by domestic bond issuance alone, cross-border participation is essential to overcome the limitations of separate national bond markes in SE-Asia, too (Hirose, Murakami and Oku, 2004:7). Joint efforts like the Asian Bond Funds (ABF), though small in economic terms, could help overcome the handicap of small size (Eichengreen and Luengnaruemitchai, 2004:20) and could have a catalytic role in encouraging countries in the respective region to speed up convergence of regulation and infrastructure towards best practice (IMF, 2004a:74). More importantly, ABF joint efforts may serve as a role model in institution building, a contribution that significantly extends beyond economic impact. Frameworks such as ABF make it necessary to meet, exchange views and take decisions in common – prerequisites to knowledge and trust building, which are the critical elements for getting through difficult situations in more ambitious joint undertakings (Bear, 2004).

[28] A variety of functions undertaken by exchanges can be shared. It is beyond this paper to discuss possible modes of linkups. See Claessens, Lee and Zechner (2003) for a discussion.
[29] For stock markets in CEEC, see Claessens, Djankov and Klingebiel, (2000).

The argument that the strong regional ties stemming from intra-regional financial sector FDI could be used for developing intra-regional bond markets stressed above for the CEEC, however, does not apply to SE-Asia, at least not yet. Due to limited access and regulatory hurdles against foreign entries, the general share of foreign banks in domestic credit and total bank assets is lower in most of SE-Asia (see De Nicolo et al, 2003:16), where stronger regional cross-border bank linkups are a recent phenomenon.[30] While Asian markets continue to be major destinations for international capital flows, both in terms of securities investment and FDI, the degree of foreign participation in the domestic banking sector is limited (Marwah and Tavakoli, 2004). Foreign bank assets in East Asia (ex-Japan), which are about USD 600 bn, are larger than in Eastern Europe, with about USD 150 bn (Hishikawa, 2003). However, in relative terms, the share of foreign banking assets is only about 24% in SE-Asia and below 10% in Korea and Taiwan, while it is roughly 70% in the new EU member states (Baudino et al, 2004; Breuss, Fink and Haiss, 2004; Coppel and Davies, 2003; Hak Bin, 2003). Only Singapore and Hong Kong SAR have a larger foreign bank presence, given their colonial history, with 44% and 38% of total assets, respectively (Hak Bin, 2003).

3.2. Infrastructure and the pivotal role of regulation

Harwood (2000:8) examines the components of a solid and functioning bond market through a three dimensioned approach: inside, across, and around. She argues that bond markets prove highly constructive in part because they are much more demanding and have higher requirements of participants than equity markets. Consequently they often develop behind equity markets. Whereas all financing options are affected by these factors of market stability, information and participation, bond markets are particularly sensitive: “But in economies that lack the infrastructure to support a bond market, investors are likely to have considerable doubt about what past earning have been and what current earnings are, much less what expected future earnings will be” (Herring and Chatusripitak, 2000:33). Because bonds are

[30] For an overview on FSFDI into CEEC, see ECB (2004b) or more generally Baudino et al, 2004. Recent cross-border acquisitions include the acquisition of majority stakes in Thai Danu and Radanashin Bank in Thailand by two Singapore banks; the expansion of a Malaysian Bank in Singapore, and the acquisition by Taiwan´s Fubon Holding of Hong Kong´s International Bank of Asia (Hishikawa, 2003; Yen et al, 2004:80). Malaysia is a special case: foreign banks held over 90 percent of the banking market when it became independet and lies at about 20% in 2001 (Detragiache / Gupta, 2004; Coppel / Davies, 2003).

based on the premise that the bond will continue to pay interest until maturity, reliability and predictable future prospects are particularly important.

Yoshitomi and Shirai (2001:58) argue that there are three factors that determine the mix of liabilities that firms choose: "(1) extent of severity of information asymmetry between ultimate creditors and ultimate borrowers; (2) stages of economic development; and (3) the degree of sophistication with respect to the informational, legal and judiciary infrastructures". Weak creditor right protection is by far the most important impediment to faster credit growth in the private sector (Cottarelli, DellAriccia and Vladkova-Hollar, 2003:27). In crafting and nurturing these factors, the government is undeniably one of the primary players in bond market development. The government is instrumental in developing a domestic bond market as issuer, regulator, promoter and catalyst (Yoshitomi and Shirai, 2001:7; IOSCO, 2002:16). Besides concerted efforts on withholding tax and bond funds, another important area for joint efforts are listing requirements, trading procedures, clearance and settlements. Governments must walk a very fine line, since their very political constitution can affect investment and financial structure, but for them to fret or involve themselves too much in the market is distorting as well. The government should create an environment in which bond markets are permitted to grow and take their course.

Governments need to create a macroeconomic environment stable enough for a bond market to develop and for firms and investors to make long-term plans. Governments are also responsible for the health of the market through regulation and the establishment of a monetary transmission mechanism. Regulations must also be adequate and stringent enough to foster confidence in a yet-emerging market, striking a fine balance. For instance, in the CEEC, companies must publish their financial information according to International Financial Reporting Standards (IFRS). While this raises the level of information dispersion, it also can make bond issuance rather expensive for firms (Batten and Kim, 2001:11). Consequently, only select firms, often the largest and with some state guarantee, can find bonds a cost-effective form of finance (Iakova and Wagner, 2001:10). Firms tend to list on the free unregulated market, an alternative that may not be conducive to the formation of strong primary and secondary market (Köke and Schröder, 2003; Batten and Kim, 2001:11).

Government bond issuanceis a significant means of jump-starting a domestic bond market, and should be seen as the first focus of domestic bond market development (Hirose, Murakami and Oku, 2004:6). Government bond issuance plays a vital role by not only creating volume and encouraging people to invest in bonds through confidence building, but government bonds function as a yield curve for the market. The government bond market, if sizeable and efficient, can be used as "benchmark" issues to form a term structure of risk-free interest (IOSCO, 2002:16). As such, healthy and efficient primary markets, and then active secondary markets for government securities should be established. Without active secondary market trading, the yield curve is "much less reliable as a risk-pricing vehicle" (Plummer and Click, 2002:16). But at the same time, the government must be careful not to issue bonds so as to crowd out private bond issuance, given the limited investor pool (Szilagyi, Batten and Fetherston, 2003:67). This is particularly important considering corporate (non-sovereign) bonds that lack the "marketability" of sovereign issue (Szilagyi, Batten and Fetherston, 2003:76).

3.3. Creating an investor base

A narrow investor base is among the most significant limiting factors for bond market development (Hirose, Murakami and Oku, 2004:6). This can be attributed to "restricted saving schemes, underdeveloped mutual funds, over-regulation of the asset management industry and a limited role for insurance companies and pension funds" (Szilagyi, Batten and Fetherston, 2003:79). The broader the investment base, the better for the market, since a greater diversity in interest and maturity needs and more capital invested altogether are requisite for a stronger market. In contrast to Asia, the CEEC faces a much lower rate of savings (see Table 8), implying there are less funds to actually mobilise even if individuals were to invest what they save. While the average savings rate for CEE-5 is about 25% (from as low as 20% for Poland to almost 28% for Slovakia)[31], the average for ASIA-8 (excluding Taiwan) is about 35% and with a much higher range than the CEEC: from 25% (Indonesia) to more than 47% (Malaysia, Singapore).

[31] Schrooten and Stephan (2003) provide a detailed analysis on private savings and their determinants.

Table 8: Gross domestic savings as a percentage of GDP

	1997	1998	1999	2000
Hong Kong	31.6%	30.5%	30.9%	32.9%
Indonesia	31.5%	26.5%	19.5%	25.1%
S. Korea	33.7%	34.4%	32.9%	32.4%
Malaysia	43.9%	48.7%	47.4%	47.1%
Philippines	18.7%	21.6%	26.5%	24.8%
Singapore	50.5%	51.7%	48.8%	47.9%
Thailand	33.6%	36.1%	32.8%	31.0%
Poland	20.2%	21.0%	20.0%	19.6%
Czech Republic	26.6%	28.7%	26.4%	26.0%
Slovakia	26.8%	25.2%	26.5%	27.6%
Hungary	27.7%	27.6%	26.0%	26.5%
Slovenia	23.4%	24.0%	24.0%	24.2%
Estonia	19.3%	19.0%	18.8%	21.0%
Latvia	14.3%	14.1%	16.7%	18.6%
Lithuania	16.0%	12.5%	12.3%	14.3%
Bulgaria	16.9%	13.9%	11.3%	11.0%
Romania	13.6%	9.8%	12.8%	13.6%
CEE-5 Average	24.9%	25.3%	24.6%	24.8%
ASIA-8 Average (excluding Taiwan)	34.8%	35.6%	34.1%	34.5%

Source: Schrooten and Stephan (2003:8; for CEEC); Dalla (2003:6; for Asia)

In increasing the investor base, the government again stands to play a large role by deregulating insurance and pension funds and by encouraging them to hold both government and corporate bonds (Kiang, 2003). As private pension is encouraged and grows, bond investment should increase, as investors seek out better interest rate and maturity match-ups. Investor culture needs to be changed to understand the value and usage of bonds, which is mainly an issue of time. In Asia, the low-age population pyramid (i.e. few elderly people and many younger people, quite different from CEE and EU-15), may draw in foreign insurance companies (Hirose, Murakami and Oku, 2004:4). Governments would do well to take advantage of the dual need to strengthen the domestic financial situation and to reform pension systems, and develop bond markets. Insurance and pensions are creating institutional investors with needs that match bonds long-term, local currency liabilities, and with the option of fixed rates (Jabre, 2000; Harwood, 2000:40). As the

macroeconomic environment stabilises, investors will be more willing to lock into fixed rates (Harwood, 2000:5). The figures in Table 9 suggests institutional investors play a more vital role in some of the Asian countries than in the CEEC, though their orientation towards stock or bond funds varies (Klapper, Sulla and Vittas, 2004). With growing assets the importance of institutional investors in CEEC will increase. The figures for institutional investors in the CEEC are very homogenous: the split of assets between investment / mutual funds, pension funds and insurance companies and the total figures are almost at the same level for Czech Republic, Hungary and Poland, the three large CEEC economies.

Table 9: Assets held by Institutional Investors in percent of GDP

	Investment / Mutual Funds	Pension Funds	Insurance Companies	Total
Hong Kong	103%	1%	4%	108%
Indonesia	0%	2%	0%	3%
S. Korea	119%	24%	20%	164%
Malaysia	6%	26%	1%	33%
Philippines	0%	4%	0%	4%
Singapore	2%	29%	18%	49%
Thailand	5%	5%	1%	10%
Poland	8%	2%	5%	15%
Czech Republic	8%	2%	2%	19%
Slovakia	6%	0%	4%	9%
Hungary	12%	4%	3%	19%
Slovenia	5%	0%	4%	9%

Source: Claessens, Djankov and Klingebiel (2000; for CEEC, 2000 data); Dalla (2003:9; for Asia, 2002 data)

The effects of not having a functioning bond market are significant. Policyholders might be forced to pay higher premium to offset the increased risks and management issues that funds face (IOSCO, 2002:5). As the macroeconomic environment stabilises, investors will be more willing to lock into fixed rates (Harwood, 2000:5). Bond market development is vital in addressing more long-term and risk pooling needs, among other, as there simply are no real alternatives offered outside of a domestic bond market for them. It may be sufficient that CEEC governments should pursue bond market development to support corporate governance reform and transparency, the creation of a more sophisticated investor base, and enhance market infrastructure.

3.4. The role of banks

Since banks figure prominently in all these economies, a special word on them. Though there is an emphasis in weaning these economies off bank credit, to say that the role of banks in these countries simply should be smaller is an over-simplification. Greenspan (2000) applied a spare tire comparison to the bond market-bank relationship (Greenspan, 2000), with the bond market being the spare, but the relationship is actually more a symbiotic one than traditional seen (Hawkins, 2002:43). Bond markets and banks have been found typically to be positively correlated (Jiang, Tang and Law, 2002; Eichengreen and Luengnaruemitchai, 2004), and banks are actually "the most important issuers, holders, dealers, advisers, underwriters, guarantors, trustees, custodians and registrars in this market" (Hawkins, 2002:42). Over half of Asian domestic debt securities are held by banks, a share which is significantly above the corresponding mark in other markets, whether emerging or developed (Jiang and McCauley, 2004:73). While that high bank share may hinder liquidity, especially if a buy-and-hold investment strategy prevails, banks at least substitute for the lack of other institutional investors.

As for the fear that bond markets will take all the best business, leaving banks with the lemons, there are mixed views and possibilities (Turner, 2002:8; Hawkins, 2002:45). Banks may fear losing their loan book to disintermediation (Ziegler, 2003). Large firms, though, are unlikely to terminate their relationship with the bank, and it may be that the nature of that relationship simply changes. If long-term bond issuance leads to a better overall firm position, then what bank loans are taken out by the firm will be of higher quality (Hawkins, 2002:45). On the other hand, it is possible that firms will imprudently issue bonds, making the scenario potentially worse for banks, but this is less likely, given the obstacles in bond issuance already. Once there is agreement that the infrastructure for deep, well-functioning bond markets cannot be built without the participation of banks, why not involve them?

Banks played a major role in the development of Europe's capital markets, specifically in the Eurobond market (Ziegler, 2003; Claes, De Ceuster and Polfliet, 2000). Domestic banks can promote debt capital as opposed to credit finance, a move that would also diversify their income base (Hultgren and Hencsey, 2001:16). At least several European banks are increasingly trying to implement a business model that is more origination-oriented and less buy-and-hold (Frank, Haiss and

Ransmayr, 2004). Bonds fit very well into this "integrated corporate finance" strategy. Banks also have a role in innovation. If size is a decisive factor for bond markets, one way of creating size is by lumping together different types of debt: for example, across maturities, obligors (e.g. municipalities or corporates of the same credit rating), and/or national markets. A recent product innovation of German and Austrian banks that just does that may well fit CEEC companies: bundle bonds. To reach the critical size for public bond issues, several companies are bundled together into a fund-type "structured basked bond" (BA-CA, 2004). Given the many companies that are too small to issue individual bonds, this bond type may well suit the CEEC and SE-Asian economies.

4.Summary and conclusion

SE-Asian countries emphasise the development of domestic bond markets since they drew the conclusion from the 1997-98 crisis that those with more mature bond markets fared better during the crisis. They viewed reducing the dependence on bank finance as a means to raising financial stability. The joint Asian efforts for bond markets also draw into a broader political initiative on a regional Asian level. In the new EU member and EU accession states (termed CEEC, Central and Eastern European Countries in the paper) bond markets, though growing, have not received much special attention during the phase of transition and adaptation to meet the EU-entry criteria; bank restructuring and stock exchanges as "symbols of market capitalism" stood more in the forefront. Since long-term interest rates depend on the existence of bond markets, forthcoming EMU (Economic and Monetary Union of the EU) enlargement drew more attention to bond market development in the CEEC recently. In that sense, bond market development as one of the intermediate measures towards EMU shares the Asian goal of raising financial stability, though from a different angle and with a different institutional setting.

The aim of the paper is to describe these various efforts for bond market development in both regions, their rationale and outcome in order to learn from each other. As empirical research on Asian bond markets emphasises the importance of size and liquidity, the question is raised whether it makes sense to develop small domestic bond markets (CEEC bond markets represent about 2% of the EU-15; SE-Asia's about 12% of Japans) and what are the alternatives. The crossover from bond

market microstructure into macro-policy and financial stability is important for developing the financial architecture and for better understanding the chances these markets provide for the respective participants. The first part of the paper thus analyses differences in development; provides data on the bond markets (domestic, sectoral and international) for a broad array of countries which is less available compared to the bank and stock segments; compares the composition of capital structures; and reviews the lessons drawn from the 1997-98 Asian financial crisis. Bond markets in both regions still are classified as rather “emerging”, i.e. below potential compared to the EU-15 and the USA.

The paper then explains in more detail the lessons drawn for bond markets from the Asian financial crisis and describes the broad array of regional initiatives with regard to policy dialogue and surveillance mechanisms; regional financing facilities; and regional exchange rate arrangements in Asia. Special emphasis is given to bond market initiatives on the supply side, on the demand side, and with regard to political support. Goals and makeup of the Asian Bond Funds (ABF-1; ABF-2) are described. With regard to the CEEC, EU entry and EMU are discussed as major initiatives that share aspects of bond market development. The paper also reviews some recent literature on the impact of bond markets on economic growth and the real sector (e.g. Fink, Haiss and Vuksic, 2004 and Eichengreen and Luengnaruemitchai, 2004).

From Asian efforts and the broader experience reflected in the literature, the conclusion is drawn that regional efforts like the Asian bond fund and the path towards EMU can accelerate the development of the respective bond markets by improving regulation and supervision, adherence to internationally recognised accounting standards, and strengthening the banking system. More generally, these findings suggest that bond market development could indeed be catalysts for economic growth and help stabilise financial markets – though the costs of these efforts have to be taken into consideration. The efforts may be restricted by the lack of the minimum efficient scale of the underlying economy for developing sufficiently deep and liquid bond markets of about EUR 100 bn (Jiang and McCauley, 2004) – only South Korea and Taiwan exceed this level. The more important are thus regional initiatives and linkups of the kind under way in SE-Asia.

Even if a healthy economic and regulatory environment, and all the players

were in place, a key question is, how far could domestic markets become viable alternatives to international bonds (Turner, 2002:3). In spite of all the focus and efforts to develop a bond market, not every country will be able to develop a sizeable, liquid and efficient bond market. Often times, bonds become a captive market, since institutional investors and banks buy and hold bonds; institutional investors need to be careful not to discourage the development of a secondary market by holding bonds over maturity (Yoshitomi and Shirai, 2001). Also, domestic issuance may be hindered by "cream skimming", when the strongest best domestic companies go to the international bond markets (Bonin and Wachtel, 2002). While both the SE-Asian and the CEEC regions stand to gain a lot from primary and secondary bond market development, they all face challenges of "culture and cashflow" – bond market development cannot be a top-down affair, and participation scars must be carefully avoided (Harwood, 2000:9).

For the CEEC, we therefore argue that developing the small bond markets separately does not make economic sense and discuss various options for bond market development in analogy to stock market development. We suggest forming intra-regional bond market linkups, effectively creating Nordic, Central and South-East European bond exchanges. This would allow countries to build upon existing strong economic ties from regional integration in trade, foreign direct investment, and cross-border banking. As regional foreign sector financial direct investment (FSFDI) and trade ties are not that strong in Asia yet, we argue that the Asian Bond Funds are more appropriate for Asia. We finally discuss the importance of infrastructure, regulation, the investor base and the interplay with banks for bond market development. The conclusion is drawn that bond market development will broaden the financial vehicles available, can improve market discipline, helps to provide a crucial source of information for financial market participants and thus should receive more attention in efforts to enhance financial stability. The array of topics covered in the paper and the data reported should provide a basis for further research in this area.

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