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ASIA'S DEBT CAPITAL MARKETS: APPRAISAL AND AGENDA FOR POLICY REFORM

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Abstract

Markets for debt securities exist in a comprehensive way in no Asian economy other than Japan, even though short or medium-term bonds have been issued in almost all and Asian borrowers are established (though not prolific) international issuers. The markets provide no more than a simple borrowing medium for governments, banks and some companies, while investor activity is closely correlated with banking sector credit creation. Above all, the region's unfinished markets provide no guard against crisis or contagion, nor act as a balance to banking systems that are susceptible to distortion and event risk. Insufficient effort has been made to encourage activity by institutional investors.

This paper is concerned with markets for tradable debt securities; and with the value and appropriateness of structured finance techniques to expand general usage of Asia's debt markets. The paper examines the condition of the domestic and offshore debt capital markets for Asia-Pacific risk. It traces common patterns of development among the established and nascent public debt securities markets in the region, and looks at the dynamics that will affect these markets in the medium term. Last, it seeks to identify whether Asian markets can be made to accommodate continuous issuing and trading activity typical of advanced economies, and to consider the associated advantages and considerations.

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1. Introduction

The University of Hong Kong's Asian Institute of International Financial Law, in conjunction with the Hong Kong Institute of Economics and Business Strategy, the Centre of Asian Studies and the Center for China Financial Research, is managing a project to monitor the debt capital markets in Asia. The project forms part of the University's East Asian International Economic Law & Policy Programme. Members of the project team are currently working with national policy makers, officials from international financial organisations and private sector participants in preparing recommendations for financial market reforms, both national and regional, and in assessing the value to the economies of the region of continuing bond market development, including workable new financial structures.

Markets for debt securities exist in a comprehensive way in few Asian national economies, even though short or medium-term bonds have been issued in almost all, and Asian borrowers are established (though not prolific) international issuers. This paper is primarily concerned with markets for debt issues by governments, government proxies (for example, specialist national agencies), and tradable non-government debt securities; and secondly, with the value and appropriateness of structured finance techniques to expand general usage of Asia's debt markets. The paper examines the condition of the domestic and offshore[1] debt capital markets for Asia-Pacific risk. It traces common patterns of development among the established and nascent public[2] debt securities markets in the region, and looks at the dynamics that will affect these markets in the medium term. Last, it seeks to identify whether Asian markets (that have for some time admitted 'single' transactions executed on a negotiated basis) can be made to accommodate continuous issuing and trading activity typical of advanced economies, and to consider the associated advantages and considerations.

The core of the paper seeks to present a fresh view of a much discussed subject, in particular by identifying:

- Whether well-established market-based initiatives can combine symbiotically with recent proposals and reforms in public policy to result in the permanent expansion of existing markets and the successful opening of new developing markets in the region.

- Major obstacles to significant, steady growth in Asian debt securities market activity, notably in issuance volumes and liquidity. In particular, the paper analyses those factors that are common to the main sectors under review, notably:

    a. Issues of financial structure and system architecture.

    b. The use and enforcement of regulatory guidelines for banks, financial intermediaries and investors.

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1 'Offshore' markets and instruments are taken to include all cross-border debt securities or issuance programmes in any currency, including the currency of the domicile of the issuer of risk.

2 Unless stated, this paper refers to publicly issued and tradable debt securities. Private placement transactions are excluded from discussion, being written under local law, although it is recognised that sophisticated private markets (such as in Japan and the United States) are accustomed to investing in Asia-Pacific risk.

c. Omissions and impediments created by national law or the operation of law, and by significant differences between national laws relating to trading in securities that deleteriously influence investor behaviour.

d. Issues of corporate culture, including investment appraisal and the composition of external finance for investment.

e. Political and special interest factors, including national fiscal objectives.

- How the private sector may accommodate wider aims of public policy without compromising its proper objectives.

- Whether Asia is 'different' from advanced economies frequently identified as financial market models, either intrinsically or in terms of its stage of financial development, needs or other features.

The paper is based upon reviews of:

- All existing domestic currency markets for debt securities in Asia-Pacific, excluding Japan; and the most important cross-border public debt markets for Asian credit risk.[3]

- The role of governments as borrowers and participants in the financial sector; and the main roles of the commercial banking sector in each economy, including intermediation and its contribution to domestic credit expansion.

The dominant view of those advocating substantial bond market expansion[4] is that Asia may become less prone to contagion from economic shocks and shifts in sentiment if the region lessens its financial system's reliance on the banking sector, and improves the efficiency with which it mobilises savings. A further supportive argument often made since 2000 is that Asia suffers a loss of economic welfare by failing fully to muster savings for investment within the region. This paper concludes that the latter case relies on ephemeral circumstances and is unproven in principle[5] but that it represents powerful support for engaging policy interest.

Paradoxically, proposals arising from earlier analysis have typically lacked sufficient scale to command official attention and achieve policy traction. Before and since the 1997-98 regional crisis, many commentators have sought overriding reasons for the relative lack of depth or activity in Asia's debt securities markets. It has become clear that there is no plausible shared or singular explanation save the

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3 The paper considers China, Hong Kong SAR ('Hong Kong'), India, Indonesia, Republic of Korea ('Korea'), Malaysia, the Philippines, Singapore, Taiwan, China ('Taiwan') and Thailand. Its proposals have implications elsewhere in East and South Asia.

4 Crockett (2002), Dalla & Chintakananda (2003), Eichengreen (1999), Ghon Rhee (2000), Harwood (2002), Herring & Chatusripitak (2000), Yoshitomi & Shirai (2001) and many others.

5 The accumulation of international reserves by East Asian central banks, upon which the argument depends, is not necessarily permanent on its present scale.

coincidence of history. What most constrains Malaysia's market differs from the dominant factor affecting China's or Thailand's, for example.

The paper takes especial account of current discussions and initiatives of several international policy working groups that are reviewing and formulating proposals for architectural changes within the region. These groups are assisted by international financial organisations and private sector representatives, and the paper has been informed by certain of this work, especially in its portrayal of contemporary concerns. Historically, private sector lobbying has often driven financial sector reform. For example, the Singapore domestic debt market's expansion in 1998-2000 sprang from prolonged pressure for liberalisation by foreign banks and investors, whereas in Korea and Thailand the need for legislation to improve upon the perfection of title was a prerequisite for basic post-crisis securitisation transactions over impaired financial assets. Yet throughout East Asia, reforms have produced disappointing new issue volumes and trading activity has characteristically failed to expand such as to give full confidence to permitted new investors, whether domestic or offshore. This paper shows how governments can create a culture conducive to debt market growth with measured structural initiatives and detailed reforms introduced at a national level in a co-operative regional way. Such a co-ordinated approach would boost the confidence of private sector participants to invest further in market-driven activity.

Recommendations flowing from this descriptive paper for major market reform include a new institutional mechanism for risk transfer that will facilitate the securitisation of a wide range of assets and cash flows, together with proposals for a collaborative regional bond market. It is also suggested that policy formulation concentrate on removing obstacles to market growth and usage by:

- Co-operating in best practices for legislative or regulatory change. This will be supportive to market users, particularly institutional investors.

- Wherever possible, avoiding duplication and international competition in the creation of supporting market systems and financial architecture. This will reduce market participants' direct costs.

- Demanding and encouraging improvements in risk appraisal, financial disclosure and corporate governance; and in banking sector asset-liability management and the reporting of classified assets.

The paper refers chiefly to debt capital markets or to debt securities, which are taken to include all such cash instruments (and in some cases their associated derivatives), regardless of commercial terms (such as maturity or coupon, if any), and whether commonly viewed as bills, notes or bonds. Except where indicated, it does not deal with bonds or other securities sold in small denominations solely to retail investors, nor with wholesale money market instruments. Liquid, effective term bond markets are usually observed in parallel with money markets that are effective and transparent, chiefly to assist in regulating financial sector liquidity and from the need to avoid discontinuities in price signalling. Further, there is anecdotal evidence that (in the absence of capital restrictions) fund managers regard weak or illiquid money markets as a deterrent to investing in long-term securities markets, both for totemic reasons of confidence and because the lack of suitable short-term local currency instruments increases the costs of day-to-day portfolio management.

The conclusions of this study take the form of a series of linked questions:

- Do Asia-Pacific's established patterns of finance make mature bond markets infeasible in a conventional sense?
- Are weak Asian markets chiefly indicative of the region's relative development?
- Can debt capital markets be developed effectively without an active risk-free benchmark yield curve?
- Will new financial structures (regional or shared among several markets with common objectives) facilitate effective bond issuance, investment & trading?
- Can such new structures assist the funding of medium-scale businesses (SME's), and widen the use of securitisation for continuing funding and asset recovery?
- Do potential net gains in economic welfare justify active policy investment to strengthen Asia's bond markets?

Section 2 of the paper describes Asia's contemporary domestic and international bond markets and the respective interests of the policy groups that are examining their future, while Section 3 traces how sophisticated debt markets evolve, detailing in particular the value and costs that they bestow on developing or non-high income economies. Section 4 analyses prospects for the Asian debt markets based upon the preceding analysis; succeeding sections provide data and source references.

2. Contemporary debt markets for Asia-Pacific risk

The Asian bond has been an 'emerging market' animal since well before 1985, when the term may first have been used.[6] At various times fêted, scorned, reformed, reinvented, discarded and prized, the Asian bond is a victim of inconsistency and indecision, whose tragedy has been never to know its true role. Yet there is evidence that this irregular life may change markedly within 3-5 years, chiefly through constructive effort shared by the private and public sectors, with benefits for the region's spectrum of financial markets and economies. This section considers the main market-driven initiatives seen since 1990, and describes the current state of the domestic Asian debt markets and the international markets for Asian risk.

Asian governments and central banks have for many years[7] issued modest amounts of domestic debt securities for fundraising or regulatory purposes, respectively to capture individual savings or as money market tools to influence banking liquidity. Tangible interest has existed for many years in building 'true'

[6] By the International Finance Corporation.

[7] The Philippines and Thailand compete for the first recorded issues in the mid-1930's (Emery, 1997). Of the countries under review, Hong Kong and Singapore were the last to sanction domestic debt issuance in the mid-1970's. The chequered history of foreign issues by Asian governments extends to the nineteenth century.

markets for the issuance and trading of debt securities in East Asia's developing and newly-industrialised economies. One cause has been East Asia's generally high savings ratios, which private sector bank originators regard as unusual and highly exploitable. From the mid-1980's, Asian private sector participants – issuers and banks – sought to replicate certain transactions and market behaviour observed in most advanced economies. Prior to the 1997-98 regional crisis, risk-preferring overseas investors helped underpin this effort with sporadic buying support, especially in periods of falling nominal interest rates, although Asian-domiciled investors (other than banks) failed then to contribute funds on any material or consistent scale. National policymakers and regulatory agencies responded in the mid-1990's to these initiatives with a variety of legal and administrative reforms. None has been fully successful.

The result today is a family of disparate domestic markets commonly identified as either under-utilised or deficient, and therefore weak in stabilisation qualities as a policy tool,[8] and a cross-border market for Asian risk that is largely transactional, illiquid, and limited as to true investor participation.[9] Until the 1997-98 crisis public policy failed whole-heartedly to respond to private sector initiatives; indeed, commercial banks often lobbied successfully against changes promoting debt capital market activity.[10] By 1997, funding transactions were feasible in almost all East Asian currencies but no market offered the reliability of continual dealing that characterises major markets and gives confidence to new borrowers or investors.

Before the crisis, the most important drivers of regional debt market innovation were non-Asian banks, all hoping to apply home product management skills to 'fresh' markets. Their returns were mixed: hampered by weak domestic distribution and with few natural local investors, the greater share of bank income from Asian currency new issues in 1990-97 came from accruals on unsold bond inventory. Such market-driven innovation brought some success in Hong Kong, Korea and Malaysia, latterly with official sympathy. The amounts raised were modest and secondary trading was inevitably constrained. Some markets (including Indonesia and Thailand) were trivial in scale and impact, while others (Singapore and Taiwan) were effectively closed to new issues, with official opinion fearful that free capital movements might conflict with monetary or currency management policy. Table 1 shows the evolution of domestic bond issuance since 1990, including government, corporate and financial sector new issues. If Korea is excluded the total net amount of new long-term debt of all kinds made available in 2002 was US$39.0bn, less than two-thirds the comparable net amount issued by US federal agency Fannie Mae in the same period.[11]

8 Bond market literature concentrates on new financial architecture more than considering a lack of willing usage by potential participants. Harwood (introduction, 2000) is a rare exception.

9 Except for private banking sources, market convention sees commercial bank investment in medium-term bonds, other than for regulatory or treasury purposes, as an ephemeral lending substitute and generally indicative of sector weaknesses.

10 As recently as 1992-93 many large Hong Kong investors refrained from buying local currency bonds due to lobbying by major commercial banks, all reluctant to lose access to cheap deposits.

11 Federal National Mortgage Corporation annual report 2002. Korea raised less than Fannie Mae.

Table 1. Net annual issuance of domestic bonds

All long-term securities (> 1 year remaining life) US$ bn	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
China	1.4	8.2	14.2	14.8	20.2	25.8	26.0	41.8	66.8	64.4	61.9	48.1	9.4
Hong Kong	0.2	1.7	1.7	3.0	9.1	7.1	9.8	7.6	(1.3)	2.8	0.2	0.8	1.0
India	14.3	(2.7)	6.8	13.0	8.0	15.3	12.4	0.9	16.6	18.5	19.2	20.3	19.1
Indonesia	0.0	0.0	0.2	0.2	0.1	0.2	0.3	0.6	(0.1)	0.2	0.7	(0.2)	0.1
Korea	17.6	25.1	24.8	24.3	24.9	39.0	32.3	19.2	49.7	11.1	34.1	34.3	53.5
Malaysia	4.0	3.0	2.5	4.7	8.7	8.6	10.5	12.7	3.6	4.2	8.5	8.4	(0.4)
Philippines	0.8	3.3	7.1	5.5	(1.4)	2.1	1.6	(0.1)	2.3	2.0	2.5	2.0	0.9
Singapore	0.8	1.6	1.8	1.3	1.4	2.2	1.4	3.5	5.2	7.3	7.9	12.2	1.9
Taiwan	3.6	6.9	16.2	8.6	7.9	9.9	25.2	18.2	20.2	(1.6)	3.9	8.1	15.7
Thailand	0.9	0.9	1.1	1.9	1.0	1.7	2.1	0.1	10.7	8.4	4.1	5.7	10.5
East Asia	29.3	50.7	69.6	64.3	71.9	96.6	109.2	103.6	157.1	98.8	123.8	119.4	92.6
Total	43.6	48.0	76.4	77.3	79.9	111.9	121.6	104.5	173.7	117.3	143.0	139.7	111.7

Source: BIS, Bank Indonesia.[12]

The total amounts of long-term debt issues reported as outstanding to the Bank for International Settlements gives more a picture of the volume of debt issued and held for regulatory purposes by financial institutions, or (in the case of China) low denomination bonds placed with individual investors, rather than traded aggregates. This is shown in table 2, the central feature of which is the generally slow rates of growth in year-end amounts of debt outstanding in the same markets.

Table 2. Outstanding volumes of domestic bonds

All long-term securities (> 1 year remaining life) US$ bn	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
China	33.9	40.5	51.9	66.2	66.1	93.1	119.4	161.6	228.4	292.9	354.8	403.0	412.4
Hong Kong	1.2	2.9	4.6	7.6	16.7	23.8	33.6	41.1	39.9	42.6	42.7	43.6	44.6
India	67.9	45.2	51.3	55.4	63.5	70.6	81.2	75.2	85.7	102.1	113.6	130.2	149.9
Indonesia	0.0	0.0	0.2	0.4	0.5	0.8	1.1	1.7	1.6	1.8	2.5	2.3	2.4
Korea	96.1	114.6	135.2	156.1	185.2	227.2	239.0	130.3	240.1	265.5	269.0	292.7	380.9
Malaysia	32.7	35.4	39.3	42.5	53.6	62.4	73.1	57.0	61.9	66.1	74.7	83.1	82.7
Philippines	9.0	12.9	20.8	24.3	25.9	26.2	27.9	18.4	21.0	22.4	20.3	21.6	21.9
Singapore	11.1	13.6	15.2	16.9	20.0	22.9	24.6	23.8	29.3	36.6	43.1	52.2	57.6
Taiwan	28.4	37.1	53.6	59.7	68.4	75.7	100.2	101.2	124.3	125.9	122.8	124.3	141.2
Thailand	8.8	9.8	10.8	12.7	13.9	15.5	17.4	9.5	23.6	31.5	31.1	36.2	47.3
East Asia	221.2	266.8	331.6	386.4	450.3	547.6	636.3	544.6	770.1	885.3	961.0	1,059.0	1,191.0
Total	289.1	312.0	382.9	441.8	513.8	618.2	717.5	619.8	855.8	987.4	1,074.6	1,189.2	1,340.9

Source: BIS, Bank Indonesia.

12 In some cases BIS data effectively measure credit creation, not tradable issuance. China is a notable example.

In the nine East Asian review economies[13] at the end of 2002, government issues accounted for 46.5 per cent of the total volume outstanding, weighted by the total amounts in issuance in each category, compared to 24.5 per cent and 37.0 per cent for financial institutions and corporate borrowers, respectively. Over 13 years, government issues accounted for a relatively stable share of debt outstanding, falling from 52.1 per cent in 1990. In contrast, amounts due from financial institutions and corporates were volatile, clearly affected by the crisis and its aftermath. Issues by banks and other financial sector borrowers ranged over the period between weighted averages of 24.5 per cent and 65.5 per cent of the total. The highest share was seen in December 1997, reflecting a pre-crisis peak of domestic debt issuance by Asian banks (much of which would have been sold to offshore speculative investors). Conversely, outstanding corporate issues peaked in 1998 at a weighted average of 44.2 per cent, more reflective of a collapse in sales of bank debt than any confidence in the corporate sector. Outstanding corporate issues otherwise remained generally steady over the period at between 29.0 per cent and 39.8 per cent. Corporate issues were most prolific in Korea and Malaysia and latterly in Taiwan; finance sectors issues were more important elsewhere, with the exception of the Philippines where extant non-government issues are trivial.[14]

The 1997-98 crisis exposed faults in Asia's use of available debt markets that remain largely unsealed. Most commentators believe that structural flaws helped provoke and intensify the crisis, partly by making the region over-dependent on its domestic banking sectors, and partly by encouraging undisciplined foreign currency borrowings. Later, the same fragilities slowed a post-crisis recovery: the debt capital markets have contributed patchily in helping repair the balance sheets of Asia's commercial banks. Asia now sustains domestic currency bond markets of varying depths and value. Yet these markets are still under-utilised and fail to occupy the core status of most advanced economy bond markets in promoting an efficient flow of savings and investment and providing governments with effective tools of policy.

Since the crisis, the supply of new debt into Asian domestic and cross-border markets has generally been low.[15] In each case it is unclear to what extent this reflects structural factors or a cyclical lack of demand for funds. From a practical perspective, weak supply stems partly from credit risk concerns: the international markets were closed in 1998-99 to most East Asian borrowers following a precipitate down-grading of sovereign and issuer credit ratings. By contrast, in normal conditions the refinancing of maturing debt issues represents a highly significant share of new issues in all major debt capital markets: the post-crisis period has shown substantial and continuing capital outflows from all review economies. This has been described as a form of post-crisis balance sheet repair: Asia has devoted rising current account surpluses to acquire highly-rated non-Asian assets, representing a significant portfolio adjustment from pre-crisis to recovery.[16] Although non-Asian investors have partly balanced this outflow of Asian

[13] These comparisons exclude India.

[14] The division between financial and corporate issuers is unreliable: several local currency debt markets require corporate issues to carry bank guarantees.

[15] Korea is the sole exception. Although post-1997 issuance has been inconsistent and subject to shocks, all markets have provided substantial amounts for Korean corporate funding and refinancing.

[16] Crockett (*op cit*); Oh, Park, Park & Yang (2003); and many others.

'capital to quality' with inflows of risk-preferring direct investment, there is now a consensus that the trend has become extreme and represents a loss of welfare to Asia's economies.[17]

The attention given to the debate by policymakers since 2001-02[18] suggests that structural reforms, where necessary to remove or circumvent transaction or trading impediments or to promote usage, can shortly be made feasible. That attitudes to market development and risk appraisal are changing is evident from caricature: prior to the crisis, supportive bankers would claim that the Asian bond market would be a 'good idea', while officials might voice support but worry as to the consequences of losing control to the market. All views today seem more pliable and constructive, not least because the US dollar's 2002-03 weakness has suggested to the Asian investor that capital preservation may not be compatible with a passive accumulation of US government bonds.

Table 3 gives a sketch of the relative maturity of each currency sector, accounting for transparency, liquidity, depth, the role of government, and the number of active participants.

Table 3. Relative maturity of Asian domestic debt markets

Effective but underused	Hong Kong Singapore
Effective but not efficient	Korea Malaysia Taiwan
Semi-effective or blocked	India Indonesia Philippines Thailand
Underdeveloped	China

A similar table prepared in 1996 would have shown a more tolerant view in one or two cases due to private sector transaction promotion. In the period approaching the crisis Southeast Asian markets[19] attracted buying or arbitrage interest from overseas banks and foreign high-yield investors, encouraging participants to anticipate a permanent rise in liquidity. Domestic financial, corporate and public agency borrowers were persuaded to respond with a significant number of modest new issues. Such versions of 'Yen carry trades'[20] disappeared in the spring and summer of 1997 with the currency crisis, making

17 Reflecting both a diversion of available funds from possible investment in Asia, and a restrictive monetary stance in conditions of low price inflation (other than if the exchange rate is undervalued).

18 Including the announcement by the EMEAP central banks' group in May 2003 of a US$1.0bn Asian bond fund. EMEAP, the Executive Meeting of East Asian Central Banks, comprises Australia, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore and Thailand.

19 Other than Singapore.

20 Unhedged purchases of high-yielding assets using low interest rate foreign currency resources.

an orphan of this market-based initiative for five years. It has recently resumed with Korean and Thai risk. Thus domestic debt markets subsist in principle in all established Asian economies, with varying degrees of sophistication indicated by architecture and participants, issue volume and trading activity. True markets are less apparent: in some cases they exist in a latent sense, as suggested in table 1, more as forums for specific transactions than continuously functioning financial sectors.

One direct consequence is that the quality of information offered to investing or borrowing participants is fractured or substandard, for example, as to prevailing yields or the credit risks associated with certain issuers, except in some cases in very short maturities.[21] A purist could argue that the operation of financial markets reflects the characteristics of underlying flows of capital and thus Asia's bond markets have evolved to their limited state to serve a limited purpose. Before the crisis only modest domestic capital markets could be supported or were strictly necessary; post-crisis, and with time assisting a recovery in Asia's balance sheet, the structural reforms resulting from contemporary policy forums are likely to change this simple state. In the long-term, the most intriguing issue is the extent to which the ensuing pattern of funds flows in the region responds to those reforms.

The dynamics of the review economies and a sample of advanced economy comparisons are shown quantitatively in table 4, which re-works data shown in a number of studies[22] using the illustrative pre- and post-crisis data points of end-1996 and 2002.

Table 4. Simplified internal sources of finance

Year ending		**1996**			**2002**	
Outstanding share of GDP (%)	**Debt securities**	**Bank loans**	**Equity capitalisation**	**Debt securities**	**Bank loans**	**Equity capitalisation**
China	14.6%	95.2%	3.9%	33.3%	139.9%	13.3%
Hong Kong	21.5%	158.4%	241.1%	27.4%	148.7%	246.8%
India	21.5%	29.8%	18.0%	33.4%	16.8%	17.1%
Indonesia	n.a.	14.6%	8.0%	18.1%	23.2%	13.9%
Korea	45.9%	41.2%	10.7%	82.5%	115.5%	43.0%
Malaysia	72.4%	63.3%	122.3%	86.9%	105.9%	98.3%
Philippines	33.7%	24.2%	35.5%	28.4%	31.8%	20.6%
Singapore	26.9%	80.4%	113.8%	63.9%	108.1%	102.4%
Taiwan	35.8%	120.9%	50.2%	50.2%	149.7%	67.3%
Thailand	9.6%	59.6%	20.1%	37.4%	80.5%	25.9%
Australia	48.9%	54.1%	43.8%	52.0%	n.a.	90.6%
Germany	79.2%	87.7%	10.7%	87.6%	n.a.	16.3%
Japan	100.1%	103.2%	60.9%	169.0%	107.9%	52.1%
United States	144.3%	64.3%	75.9%	155.8%	78.1%	87.8%

Sources: BIS, IMF International Financial Statistics, World Bank Economic Outlook, DataStream, national data.
Notes: Equity capitalisation data exclude non-traded shares of quoted public sector companies.

[21] Distinct from information available asymmetrically, or made available preferentially to banks.

[22] For example, Jiang, Tang & Law (2001); Ghon Rhee (*op cit*); Rajan (2002).

While the contributions of the main sources of funds within each economy are non-uniform, the role of debt securities in East Asia is consistently less prominent than elsewhere, both before and after the 1997-98 crisis.[23] The overall conclusion from these sample data is that the debt capital markets in East Asia, with the sporadic exception of Korea, fail to provide the resource potential for national economies in the way commonly expected among established market economies. Bank lending generally supports external financing activity within the economy to a greater and more consistent extent than outside the region. This observation held true through the 1997-98 crisis and in the immediate recovery. One similar study illustrated the difference in scale using early-1990's data, showing that in advanced economies, the level of outstanding debt issues averaged 110 per cent of aggregate output measured by GDP, with the corresponding proportions for aggregate outstanding equity and bank debt being 80 per cent and 150 per cent, respectively. For East Asia, domestic debt totalled 10.0 per cent and external debt 3.0 per cent, respectively of GDP.[24]

Has the lack of flourishing domestic debt capital markets led to a corresponding strengthening of offshore markets for Asian risk, either in terms of liquidity or the certainty of supply of funds? This would show Asia using the international capital markets as a proxy for domestic market development and be consistent in risk terms with many pre-1997 overt foreign exchange regimes in Asia. It might also account for the clear and consistent difference between the generally prevailing terms of Asian medium-term bonds compared to other emerging market sources: by comparison with East European or Latin American foreign currency debt, Asian risk has always traded at narrower credit spreads to the respective benchmark yield curve than would be implied by differences in sovereign credit ratings.[25] The answer is partly affirmative, though measured by insubstantial amounts. Some Asian borrowers and professional intermediaries are well-established in the international credit markets, either as issuers or (relatively passive) investors. A small number of Asian borrowers are prolific and very few[26] have maintained a continuous market in issued debt securities. Irregular supply and the generally conservative stance of investors able to hold Asian risk has meant that tight secondary conditions have been prevalent for much of the last decade.

If offshore markets have provided a partial substitute for illiquid domestic debt capital markets, are there identifiable results (other than in funds raised) for public policy? For example, fractured national markets may suggest that contagion remains a worry, in that any deleterious external shock could be prolonged or more widespread, as if the markets collectively lacked built-in stabilisers to unforeseen or unwarranted volatility. Some writers suggest that integration among East Asia's national financial sectors is relatively advanced and has risen in the post-crisis recovery, shown in two aspects of major currency cross-border markets; the level of participation by Asia-domiciled banks as lenders or syndicate members

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[23] It is unsafe to draw conclusions on too detailed a scale from these comparisons. For example, the modern German economy has been financed by far higher levels of privately-held non-traded equity investment and on private, tradable debt securities, relative to other advanced industrial economies.

[24] Pettis (2000). This stark comparison survives cyclical changes in mark-to-market valuations of bonds or equity.

[25] Anecdotal reasons cite supply failing to meet investor demand, and Asia's general lack of a modern default-to-rescheduling history prior to 1997. The Philippines is the sole exception: its borrowers have won less favourable terms for international issues, closer to prevailing East European or Latin American levels than for others in East Asia.

[26] No more than 4-5 Asian organisations have been regarded as 'frequent' issuers in market parlance.

in international loan and bond transactions.[27] Furthermore, the validity of this observation implies that Asian commercial bank behaviour has become a potential dampening force against severe conditions turning contagious. Yet the extent of Asian bank involvement in public bond issues as underwriters and investors and in syndicated credits may indicate commercial passivity on the part of those banks, or a lack of harvestable self-originated opportunities of sufficient return, and in any event is confined to transactions for large highly-rated borrowers. Similar evidence could suggest that potential contagion has not been lessened, for 'integration' in this form is a sign that Asian banks are less resourceful in arranging and distributing risk transactions than their foreign competitors.

A further (hostile) market-orientated view is that, given the generally favourable prevailing conditions enjoyed by Asian issuers relative to those from other emerging regions, the international debt markets have historically tended to lessen any incentive for local capital market development. If a well-rated borrower has free access to the major markets where its needs are fed by investment banks competing for limited debt supply, would it willingly lend resources to encourage growth in its domain currency bond market, when such support might limit its access to domestic funding?[28] Except in Korea and Singapore, there is little evidence of top-tier companies encouraging domestic debt market expansion other than by conference lectern exhortation. Similarly, Asian banks have made surprisingly scant use of domestic currency markets to raise hybrid or regulatory capital, which would represent the application of established techniques to stimulate local market growth.[29]

The 1997 Asia crisis has been subjected to repeated analysis, little of which has conceived practical long-term reforms. However, a surge of public policy interest since late 2001 has focused constructively on structural changes and in developing ways to encourage market usage by Asian governments, companies and investors. These efforts aspire to promote efficient markets, better to intermediate savings and investment in Asia, lessen the region's long-standing reliance on the bank sector as a source of domestic credit and build alternative and robust financial channels that contribute to the avoidance of further crises. Several ministerial or official groupings are working with interrelated agendas, and the results may be more substantial than those of past undertakings. Central banks belonging to EMEAP have recently sponsored the creation of a fund of an initial US$1.0bn to invest in highly-rated major currency Asian government bonds.[30] This is an apportionment of international reserves as a prefatory alternative to holding advanced economy risk. The project has technical assistance from the Bank for International Settlements and is favoured by those Southeast Asian countries whose economies were most severely affected by the onset of crisis in mid-1997. The fund's ceiling is modest; currently representing less than 0.08 per cent of the subscriber central banks' collected reserves but it may be both a political innovation and building block for regional co-operation on financial structure. Hitherto,

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27 McCauley, Fung & Gadanecz (2002). The pro-integration case may overstate the role of underwriting syndicates in international bond issues for distribution purposes, rather than publicity.

28 Because local banks dominate nascent bond market investment.

29 Korea and Singapore are again exceptions: several banks have issued local currency subordinated debt to raise Tier II capital, although the aggregate amounts are modest.

30 EMEAP plans a second fund of up to US$1.5bn for investment in Asian currency risk.

proposals to create regional bodies have been over-ambitious and not easily implemented,[31] so if the fund is successful and expands to embrace non-major currency assets it may be a forerunner of jointly sponsored financing and investment vehicles.

Second, three APEC[32] teams began in 2002 examining capital market development. Two have exploratory and promotional briefs; the third's work is more specific, seeking recommendations for securitisation and credit enhancement mechanisms to improve the risk quality of Asian bonds. APEC hopes to decide if securitisation can provide a continuous fundraising mechanism in the region and further assist the recycling of non-performing financial assets. The work is led by officials in Hong Kong, Korea and Thailand, the first two having recent experience of promoting new financial architecture and legislation to facilitate large-scale securitisation, either to assist the recycling of non-performing assets or businesses, or in the refinancing of residential mortgage loans. Last, the ASEAN+3[33] cluster is undertaking similar research to APEC in the practicalities of further promoting securitisation and external credit enhancement as two correlated ways to encourage market usage. Each of these working groups is mirrored by ministerial forums, some of which may contribute to the momentum of planning and implementation. There is reason to expect progress by 2004 in the groups dealing with specific initiatives; those looking at broader ways to encourage market growth may have laudable aims but less tangible success.

Converting expectation into practise is to confound the region's complex patterns of internal and external financing, and tends to assume that the adoption of bond market models from elsewhere is feasible and desirable. This view is hazardous, and risks neglecting the costs associated with bond market development.[34] More realistic (but no less demanding on a regional basis) may be the design of specialist structures that allow the pooling of risk or enhancement of credit quality and which are tailored for East Asia in its present stage of financial evolution. A second route would require challenging levels of collaboration and legal harmonisation but little in new systems or structure: this is the promotion of regional hubs for Asian currency debt issues.

Under-utilised markets are inefficient in two particular respects; from the resources absorbed by both public and private sectors in administration and the high marginal costs of transaction execution for participants. Asia's semi-liquid domestic markets bring all the costs yet only some of the true benefits associated with debt capital markets. For the markets to flourish and deliver their full value (if this becomes an agreed goal of policy), governments in the region must inculcate usage, not only with specific reforms, fiscal, regulatory or legal, but with suasion and innovation. Mechanical changes to

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31 For example, the currency co-operation pacts discussed by APEC and ASEAN members.

32 The Asia-Pacific Economic Cooperation forum's west-Pacific members are EMEAP, plus Brunei, Papua New Guinea, Taiwan and Vietnam.

33 Association of Southeast Asian Nations (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam). ASEAN+3 is an ad hoc group that includes China, Japan and Korea.

34 Jiang, Tang & Law (*op cit*). See also section 3 (*infra*).

improve the functioning of domestic markets may alone be inadequate; creating a vehicle that is sleek, but stationary. The nature of funds flows in East Asia suggests that by itself, time will fail to be the cause of a signal rise in trading volume, issuance, or draw new participants to any domestic market. The contemporary cross-border bond market, competitive for a handful of borrowers, unreliable for long-term investors, will indirectly sustain the quasi-monopoly of the region's banking system by discouraging financial innovation, especially in identifying new ways to finance second tier enterprises. Hong Kong and Singapore now have similar debt capital market infrastructures that are effective in most respects but use.[35]

The justification for this public policy effort arises from basic elements, against which can be assessed practical costs and strategic disadvantages.[36] These gains are shown in table 5, together with some primary challenges. Structural change is essential for some of these benefits to be captured successfully. For example, if policy intends to broaden financing sources for medium-scale enterprises then some form of innovation in financial architecture is necessary, either to create a new channel of funds and for risk appraisal, or to encourage changes in bank lending, funding or liability management practices. Some market reforms may be limited; others may demand ambitious co-operation for which the region may not be fully prepared or which would provoke a drain of sympathy from other competing national interests. The European Union's 1980's experience in devising a single market for trade and services may be useful in this respect for Asian policymakers, as the framework preceded Europe's moves towards more extensive confederal integration.[37]

35 Limitations in each case relate to permitted issuers, restrictions on the use of proceeds (Singapore), differential tax treatments *vis-à-vis* corporate and other issuers, and restrictions on purchases by certain investor classes.

36 Bond markets require health warnings. Some commentators argue that sophisticated markets can intensify or spread volatility, rather than act as dampeners as most capital market proponents expect. Critics suggest that debt market new issue activity is positively correlated with bank credit expansion, thus lessening the effectiveness of the markets as an alternative financing channel to mitigate the contagion effects of banking crises.

37 For a discussion in the context of securities, see Arner (*2002b*).

Table 5. Grounds for public policy intervention, and associated considerations

Welfare: The economic and social value of using Asian savings in Asia.	Accepted. Yet proponents of market development may not always quantify associated direct and hidden costs.[38]
Risks I: Active financial markets may help avoid systemic risks of crises of confidence; their impact on the banking sector and the 'real' economy.	Whether bond markets help circumvent collapses in bank liquidity depends upon their being an uncorrelated alternative. Conversely, debt markets may provide efficient media for contagion to worsen a crisis.[39]
Risks II: Operating risk management, for example, having efficient markets promote efficient portfolio management by investors and of official reserves.	This point is generally accepted though neglected in official circles because of the political value historically associated with high levels of international reserves.
Risks III: Competition and the promotion of optimal allocations for long-term investment.	Effective, well-regulated banking systems better promote resource allocation than financial markets, due to asymmetry in information gathering and more skilled risk management. Yet this is belied by recurring herd behaviour by banks. Market distortions[40] may also discourage banks from fully appraising higher risks.
Secondary benefits: New funding channels assist complementary financial sectors (for example, banking, equity markets, direct investment, project finance or recycling impaired assets).	It is impossible to legislate for such vague factors. The effects on the competitiveness and risk profile of the banking system in Asia cannot be fully judged, especially if changes to capital adequacy rules based upon value at risk assessments or credit ratings are introduced under Basel II guidelines.

[38] For example, in terms of Asian savers' preferences for stable risks, which may need to adjust to accommodate new Asian debt issuers in the absence of external credit enhancement.

[39] Jiang, Tang & Law (*op cit*). Highly developed markets demonstrate a direct positive correlation between bond issuance and private sector bank credit expansion. The US domestic debt market shows such a correlation yet is applauded for its effectiveness in backing up the banking system in times of crises, and *vice-versa* (Greenspan, 2000).

[40] For example, national accounting differences, fiscal incentives or concessionary funding.

This section has summarised the patchy evolution of Asia's domestic debt markets and how official opinion may now be resolved to create workable reforms, especially with regional initiatives for co-operation in the sharing of new constructions and the removal of market impediments. It has described East Asia's participation in the international bond markets, and how this has served as a semi-substitute for capable domestic or regional markets for a limited subset of Asian borrowers and investors. If the development cost issues associated with pro-market policies and raised in the preceding two paragraphs are considered to be satisfactory then how best can the region encourage the building of domestic markets? The question most often asked has been whether there exists a model for Asia to follow or adapt, for East Asia's domestic and international financing patterns are unique in the contemporary world.

East Asia's economies display considerable differences in per capita national income: a range nearly matched by variations in financial market sophistication.[41] This is a group of nations at varying stages of a regional shift from command or centrally-directed economies to forms of managed capitalism, facilitated by a generation of exceptionally high rates of economic growth.[42] The secret of the region's rapid growth may have been in productivity gains,[43] the mobilisation of increasingly voluminous factors of production,[44] or some multifarious combination, but aspects of the contemporary performance of the review economies are unparalleled, and since the mid-1980's regarded as common to all. Thus although the markets and offshore borrowers of East Asia have been classed 'emerging' since the term was first spoken, there are historically more macroeconomic dissimilarities than shared features between East Asia and emerging Eastern Europe, Latin America or the former Soviet republics.[45] Asia's 'difference' can be distilled to a single truth that its major currency bonds (and occasionally its domestic issues) have habitually been the costliest of all emerging sectors for the investor to acquire. It is essential that the recurring features of the principal East Asian economies be examined in order to give a contextual setting to capital market development, past and future. Asia's reliance on bank credit creation and its modest debt market activity have roots not only in the region's relative stage of development,[46] but also in the cultural pattern of flows of funds within and between its constituent economies. That pattern will inform all future market development, both in terms of its character and success.[47]

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41 Unless stated, this section refers to East Asia. Until the mid-1990's India shared few of the growth or external characteristics of the other nine review economies.

42 Except for Japan, Asia's period of extraordinary growth is uniform from 1978, interrupted only by the post 1997 crisis, begun earlier in Korea, Singapore and Taiwan. See tables A1& A2 (*infra*).

43 For example, Bhagwati (1996).

44 For example, Krugman (1994); Young (1995).

45 With the partial exception of the Philippines, which shares the 1980's commercial debt rescheduling history of other regions.

46 Yoshitomi & Shirai (*op cit*).

47 '[E]conomic explanations are more convincing if they acknowledge culture; [and] cultural explanations are more convincing if they acknowledge the market forces of economics.' Redding (1990).

Alone of emerging markets groupings, the Asia-Pacific region has frequently been characterised by consistently high personal and government sector savings, recurring central government fiscal surpluses or low deficits, strong and steady growth in exports, investment and fixed capital formation, generally low external borrowing, and intermittently favourable external balances. The result has been habitually high rates of growth. Since 1997 East Asia has realized sizeable current account surpluses and remarkable levels of international reserves relative to output. There have been periodic exceptions, typically after exogenous shocks or policy corrections, and certain countries have frequently followed distinct macroeconomic policies with consequences for government and external financing,[48] but the region's modern financial characteristics are long-standing. More recently, East Asia's growth recovered unexpectedly soon after the 1997-98 crisis, though not before considerable permanent losses in national income, especially in Southeast Asia and Korea.[49] In examining the region's flows of capital as a basis for financial market policy proposals, it is important to distinguish between observations made before and since the crisis. However agreed is the need for reform it may be wise not to build on temporary foundations.

3. What are bonds for? Characteristics of debt capital markets

Classically, bonds are widely-held, tradable long-term securities. The vast majority represent unsecured unsubordinated claims on a borrower, even when issued as part of asset-backed or securitised arrangements.[50] In the real world they can be none of these: a significant percentage by volume of Asia cross-border issues in 2001-02 were small transactions arranged as substitutes for loans, intended for purchase by limited groups of commercial banks and like most financial assets were effectively transferable, rather than tradable.[51] This section looks at the features of developed markets and what they may bestow upon a developing or newly industrialised economy in which the banking sector is dominant.

Accepted theory and market practice may converge but never meet. The modern US bond market pre-dates its seminal text by at least 20 years, yet all practitioners know that government bond yield curves provide risk-free rates for every corporate investment decision and a pricing formula for comparable debt securities.[52] Almost all the common features of highly liquid markets can be contradicted, as the following examples suggest.

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48 Malaysia's central government has traditionally been active in direct spending on infrastructural investment; while the Philippines has a comparatively weak national tax base. Both have maintained fiscal deficits over extended periods.

49 Cerra & Saxena (2003).

50 Secured bonds (except covered bonds) tend to be transaction-specific, narrowly-held and in some jurisdictions may be transferable only at the risk of impairment.

51 Up to US$50m or its equivalent.

52 Government yield curves are tools of description, not pricing. Market practice prices new issues relative to outstanding comparable bonds, and any reference to benchmarks is purely for brevity in describing terms or to suggest trading conditions.

- The most well developed government bond markets conceal substantial sectoral illiquidity and price discontinuities; the majority of corporate bonds are typically traded for only a fraction of their full lives.

- Active markets help improve financial sector efficiency and competitiveness. But new issue cartels operated for many years among domestic US investment banks to control transaction fees.

- Debt securities enhance the stability of the system by creating funding alternatives to banks, reducing the sector's power and lessening moral hazard. Can this be reliable when banks manage all new issues, make markets in securities and are perennial long-term bond investors?

- Bond markets serve as a communication medium between policymakers and markets, and with the economy at large. This may be only partly true of the Japanese government bond market; the world's second largest by volume.

- Domestic government debt denominated in the issuer's fiat currency is deemed risk-free. Yet there are contemporary examples of overt defaults on such issues (for example, by Russia in 1998) that suggest the concept is suspect, even if taken solely as implying a yield offering no premium for risk.

Market reality blends theory and practice. Mainstream corporate finance theory suggests that long-term investment is best financed by long-term capital. It also asserts that banks are not providers of such capital. Yet loans may have long-term contractual features, which when combined with interest rate or other derivatives will offer full certainty as to long-run cost (applicable also to bank liabilities); while corporate bonds can be inadvertently short-term or cost uncertain.[53] Project finance extended by banks during the approach to the crisis often financed wasteful schemes – the many skylines of idle cranes – but at fault were risk appraisal and choice, not the instrument of funding. For some years in the United States and now globally, loans and bonds have become increasingly alike: loans are traded or acquired by non-bank investors, especially as the use of standard documentation becomes widespread. In developed bank markets, including parts of East Asia, there is a growing separation between bank-customer relationship management and the retention of financial assets by banks. Loans and bonds are evolving into instruments with common product features but different origins, making it hazardous to identify a financing tool with a market segment.

The availability of credit derivatives – especially credit default and total return swaps – make this process irreversible. Price transparency will soon apply equally to both loans and bonds, so it becomes necessary to ask whether such developments in derivatives and loan trading make contagion less likely. Regretfully, the probability is low unless Asian risk appraisal improves. Fungibility among instruments is similar to the severing of the early 20th century connection between financial centres and the currency they offer

[53] Embedded options or event covenants may trigger prepayment or changes in commercial terms.

to the borrower: markets increasingly distinguish solely between risks, not the means by which those risks are intermediated.[54] In the same way, credit and currency risks are increasingly regarded as distinct: this also has consequences for the relationship between domestic and major currency bond issuance and investment, and what may be needed to promote active markets.

Thus only certain generic features of debt securities markets are accepted, given limiting conditions. At the very least, active bond markets will improve competitive practices within the banking sector by offering an alternative means of intermediation; strengthen investor choice and assist risk transfer and risk management. Any contribution to financial policy formation must distinguish between in principle needs (which are not wholly proven) and an acceptable balance of probability. Developing or newly-industrialised economies deprived of effective bond markets will lack market-determined interest rates, leading firms to fail properly to measure their capital costs. The bondless economy offers no simple hedging instruments to encourage appropriate risk management, restricts portfolio choice for its savers and constrains institutionalised savings.[55] This in turn encourages short-termism in capital investment and the acceptance of undue foreign exchange risk. Worse, the bondless economy will undergo periodic banking sector strains. These circumstances can be said to describe China and Indonesia, which sustain the region's least developed markets. They may also provide a case for regional collaboration similar to the European Union principles of subsidiarity, which require adherents to enact legislation suitable to national needs in accordance with broad confederative intentions.

For a major rating agency[56] effective debt capital markets require several cardinal conditions.

- Strong, independent regulator of securities issuance and trading, with sound rules.
- An extended period of macroeconomic stability.
- Strong legal system and bankruptcy procedures.
- Coordinated, advanced payment, settlement, and custodial systems.
- Developed base of natural buyers of long-dated securities, specifically pension funds and insurance companies.

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[54] Highlighted in a recent debate over what may prevent the offshore sale of domestic currency bonds (section 4, *infra*).

[55] It is less clear that its bondless borrowers face higher effective costs of funds.

[56] Standard & Poor's Corporation (2003). One further condition is contentious; requiring standard resolution mechanisms in new issue documentation, including collective action clauses.

Only the last condition truly existed in Britain or the United States at the turn of the 20th century when their respective modern markets began periods of extraordinary growth. Other commentators look for specific measures of sophistication while accepting that the optimal market exists only in the leaves of a book.[57] The root value of true debt capital markets is in their multifarious nature. Whereas the commercial banking sector performs one function (credit creation) in a multiplicity of ways,[58] well developed bond markets have the distinct roles cited in the preceding paragraph. For 21st century Asia, a means by which stresses can be lifted from its banking system will be welcome, and essential while risk taking and money transmission commingle in banks, especially given the openness of most of the review economies. Only China, India, Malaysia and Taiwan maintain significant capital controls: these were also the countries least affected by the crisis.

If effective, well-utilised bond markets promote efficiency and general welfare,[59] has output growth been impeded by the absence of fully developed markets? The Asian crisis resulted in part from an overdependence on external debt under fixed rate exchange regimes. Yet outside China there were few restrictions prior to 1997 on the availability of domestic credit from banks and finance companies. While this may not have been ideal it was not always inefficient. Would East Asia's recent problems have been less severe had its economies not relied so heavily on banks as their principal means of financial intermediation? In a crude sense the use of mismatched and unhedged US dollar liabilities to fund domestic baht loans would always have reached a limit and halted lending by Thailand's banks; but did the Thai economy also need to collapse? With a functioning capital market, the outcome might well have been far more benign, providing that the market was uncorrelated in operations with the domestic banking sector. The existence of multiple avenues of financial intermediation is common to high income economies; for example, operating effectively in the United States during a late 1980's credit contraction and after Russia's unpredicted debt default in 1998.

While the absence of an effective market may make an economy more prone to crisis, it is unclear that such reasoning provides sufficient foundation for all countries to sustain active bond markets.[60] These are grounds for market-based innovation, though not without cost, most immediately in improving corporate governance and regulatory enforcement. Asia's leading companies are generally able to issue public debt at home and abroad, so this is not a pure funding question for well-rated credits but more a matter of the interests of investors. For medium-scale enterprises that constitute the majority of Asia's commercial population, narrow ownership and poor disclosure and reporting will deny access to an 'imposed' debt market but they would be unlikely issuers even if such standards were high.[61] Indeed, this is a cause of illiquidity equally important as issues of system architecture, law, taxation and investor behaviour. Natural or enhanced creditworthiness is critical to the market's functioning and to this is tied the effective risk management benefits of bonds.

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57 Notably Herring & Chatusripitak (*op cit*).

58 Ignoring money transmission, and non-capital attracting activities.

59 Herring & Chatusripitak (*op cit*).

60 Section 4 assesses what other grounds may exist.

61 Corporate issues are taken as more costly for the borrower than internal funds due to the high 'agency costs' associated with asymmetric information, typically more acute with SME's.

Section 2 sketched the most obvious potential gains and costs of market development. Whether the bond market becomes a panic-spreading mechanism depends on the quality of its flows of information and how sensitive are the regulatory requirements it faces. Also, if there is leakage between the bond and loan markets then creating a corporate bond market serves only to absorb bank capital, with banks substituting bond purchases for lending. This has represented a cheap source of revenue for many Asian banks in the post-crisis recovery. Without a non-bank investor base such leakage can eliminate secondary liquidity even in a bond market with noticeable new issue volume, it characterises most Asia-Pacific domestic debt markets prior to 1997. From a policy viewpoint, 'co-movement' between bank lending and bond purchasing may erode the value of bond markets as market-dampening mechanisms, for example, to provide corporate liquidity in times of stressed banking markets. The same features in the cross-border debt markets may lead to contagion: a withdrawal of bank credit taking place simultaneously with a cessation of new debt issues and collapse of secondary prices, but there is no agreement on the result.[62] In the long-run, sound regulation and credit monitoring are more effective in preventing contagion of any kind than financial innovation is in its cause.[63] The IFC has assessed these types of costs and its judgement is highly practical, not least as the most experienced offshore user of emerging debt markets.[64]

Germany shows that economies maintaining a strong relationship banking model can be consistent with highly effective debt capital markets. More generally, the early lives of sophisticated markets may show whether they share common roots. The history of government revenue raising is a story of transaction techniques no less sophisticated than deployed by contemporary investment banks. Soon after emperors or monarchs found it possible to tax their subjects[65] they learned to raise loans collateralised by streams of expected revenues, and both French and Spanish rulers grew used to financing state spending with forward sales of projected income. These pass-through structures were unreliable; European sovereign credit risk was uniformly volatile in the Middle Ages and the creditor's life often unstable. Only in the 17th century when costly standing armies became obligatory did European tax raising become continual and not wholly arbitrary. The modern bond – and the standardisation it implies – dates from the same era. The first transferable long-term bonds were introduced in London in the late 17th century soon after the founding of the Bank of England as the first state bank. With new debt instruments allowing those in power to spend more freely than ever, the growth of issuance by Europe's leading nations and later the United States could accelerate. Throughout the 18th and 19th centuries, military spending was the sole determinant of state issuance: most governments sought to reduce indebtedness in times of peace but issued debt freely when preparing for war, in the order of several multiples of contemporary national output.[66] Voracious state spending created the demand for financing instruments; the amounts raised were of a new order to those available from the bank or moneylender, each constrained by capital or personal prudence.

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62 McCauley, Fung & Gadanecz (*op cit*).

63 Discussed by Arner & Lin (2003).

64 Harwood (2002 *op cit*) is an example. Only the benefits are stated, not the costs, nor whether the presumed benefits might be achieved in other ways.

65 Taxation by tribute probably appeared in the 9th century 'for the declared purpose of defending the realm from outside attack' (Ormrod & Barta, 1995).

66 Ferguson (2001).

The unprecedented expense of the Great War of 1914-18 was ruinous for all combatants but the United States. Shortly afterwards, Britain's treasury calculated that the marginal cost of the 'financial effort' of the war was £8.85bn, of which £7.17bn (81 per cent) was financed by borrowing of all kinds at home and overseas.[67] At the outbreak of war Britain's total outstanding debt was approximately £645m; at the close of fiscal 1918-19 the amount had risen twelve-fold to £7.88bn.[68] War's absolute, inviolable demand is the root of modern debt capital markets.[69] An official historian of Britain's national debt conceded in the 1930's that while the financing of the war produced financial problems of 'an entirely new order' it would be mistaken 'to suppose that the nation is now confronted with a situation to which there is no parallel in its own history'.[70]

Historically, scale and momentum appear crucial to the growth of a successful, usable market. Asia's foreseeable funding needs (compatible with creditworthiness) are far smaller in real terms than the amounts borrowed by the Great Powers in 1914-18 but its overall demands must be sufficient to be convincing to market participants. It is arguable that until 1997-98, Asia had no need for developed bond markets. Only the wish to guard against future volatility will provide that momentum, rather than great increases in public borrowing. Only economies with a history of financing organised conflict have elected to build fully developed debt capital markets. If Asia is to be an exception it must establish a contemporary need as compelling as war.[71] The crisis provides motivation: ignoring the loss in output in Korea and Southeast Asia, the direct costs to central governments of supporting stricken banking sectors were enormous.[72]

A history of conflict[73] explains the existence of corporate debt markets, not only a benchmark government yield curve. Are fully synthetic yield curves feasible in Asian currencies, given that state funding is generally constrained? This is usually regarded as unlikely with a foundation of illiquid derivative and money markets, where trading spreads will be volatile and futures contracts non-existent or little used. However, contemporary techniques may soon allow the building of a synthetic yield curve based upon several references and informed by sovereign credit differentials. Government's role in supporting

67 Including the UK's first foreign currency debt issue, jointly and severally with France, a US$500m 5 year 5.0 per cent fixed rate bond launched in October 1915 in the domestic US market via JP Morgan & Co. The issue was poorly received: much of the transaction was left with the underwriters (Wormell, 1999), a fate known to all modern issuers.

68 Ramsey (1918). Writing without the benefit of macroeconomic national income accounting, the marginal cost of the war was an under-estimate. The volume of debt issued was accurate.

69 Ferguson (*op cit*) gives a similar picture for other western issuers.

70 Hargreaves (1930). London's financing of the Napoleonic wars was a test of financial engineering.

71 National differences in financial development may be explained by the origins of governing law, for example, in the treatment of investor or property rights, or how legal systems adapt to commercial circumstances (Beck, Demirgüç-Kunt & Levine, 2002).

72 Estimated as shares of GDP in the 12 months to July 1998 to be 17 per cent for Indonesia; 2 per cent for Korea; 13 per cent for Malaysia; and in the 12 months to July 1999 22 per cent for Thailand (Lindgren, Tomás, Baliño, Enoch, Gulde, Quintyn & Teo, 1999).

73 Continued in some cases by the funding demands of a welfare state.

benchmarking is always valuable, as shown in the markets of Hong Kong and Singapore, yet synthetic instruments can increasingly replace traditional aspects of financial market architecture. It will soon no longer be necessary to have a standard risk-free yield curve in sophisticated markets and the trend will spread to their newer counterparts in Asia and elsewhere.

Supply conditions in certain mature government bond markets have recently caused term interest rates to fall below the 'true' nominal risk-free yield curve.[74] How may companies then estimate the risk-free rate for investment decisions, and how will non-government issues be priced by the market? In each case, the market already provides an effective answer, by using interest rate swap rates as a substitute for government bond yields. Arrangers of new issues in all major markets use the trading level of comparable outstanding bonds and the yield curve of interest rate swaps (actual, imputed or implied) for guidance, with launch pricing quoted as a spread above a government benchmark yield curve solely for convenience. While the trend of the vanishing benchmark has been confined to major currency markets, the principle applies to the issue and trading of domestic Hong Kong non-government bonds, which are priced in relation to HK and US dollar swap rates and expected credit spread differentials. Less sophisticated East Asian markets could follow the same approach. A liquid government bond market is not an absolute prerequisite for a deep and effective corporate debt securities market, providing that an adequate interest rate derivative market exists in the national currency and is not prohibited by government. Early private sector initiatives to open a long-term debt market in parts of East Asia were hampered, not only by non-existent government yield benchmarks, but also by the relative youth of all interest rate swap markets. This is not to dispense with active and efficient government markets but rather to find a solution to illiquidity that is appropriate to the region by which sovereign issuance can be adequate if insufficient, and yet encourage a corporate and securitised market to grow.

Soon after the inception of the crisis, the BIS reported that 'Government debt markets are especially important [...] where the fiscal costs of resolving systemic problems in the banking sector will be significant, and capital markets are needed to facilitate the restructuring and recapitalisation of banks and non-bank corporations. In such countries, the upgrading of both debt and equity market infrastructure is a high priority.[75] History suggests that momentum is equally important in market innovation and growth. New issue scale and regularity will promote liquidity and encourage institutional investors, the most risk preferring of which craves predictability.[76] As the institutionalisation of savings increases through provident schemes and insurers, then debt product will doubtless be generated to meet their needs.

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[74] For example, in Australia, the UK and the US. Cooper & Scholtas (2001) discuss *inter alia* the effects on advanced corporate bond markets of a diminishing supply of 'risk-free' government bonds.

[75] Bank for International Settlements (1998).

[76] Flandreau & Sussman (2002).

4. Appraisal of Asia-Pacific's debt capital markets

It might have been written that all sophisticated bond markets are alike but that undeveloped markets differ in their own fashion. All that is universally accepted is that Asia-Pacific's debt markets are sub-optimal: there is no exception in respect of market usage or investor confidence. Earlier sections have shown how the region's markets are often well-developed but poorly used. Hong Kong and Singapore are praised for establishing well-integrated systems but like the tyre that is never checked for air, these markets' use is latent; how they perform in stress is unknown.[77] Liquidity is not present by any accepted measure, with only ephemeral exceptions. The markets are ineffectual as an alternative channel to the banking sector and so fail to lessen the risk of contagion; except in Korea, they are of only limited use in recycling impaired financial assets. In some cases new issue growth has been robust since the crisis but the markets remain illiquid, opaque and subject to variations in regulation, taxation or legal status that deter many investor classes and may prevent others from becoming established. Concomitantly, bond markets are important but inessential. This encapsulates why public policy has failed to achieve adequate energy and why past private sector initiatives have never wholly partly succeeded. Some irregularities are shared: a theme of this paper is to identify common policy remedies to correct such problems. This section is an outline of where reform must be applied.

Policy formation will need to address a series of characteristics and impediments.

- Common barriers to steady growth in bond market activity in the review countries, notably issuance volumes and secondary trading liquidity.[78] These especially include obstacles in relation to withholding taxes, differentials in the application of taxes, restrictions on settlement or custody, arbitrary differences in creditor status that constrain institutional investment, legal risks for investors, creditor claims and property rights in receivership or bankruptcy.

- Institutional blockages, including the framework and application of regulatory guidelines for banks, pension and mutual funds, insurance companies and borrowers, and how they hinder activity.

- Given that securitisation is effective in promoting balance sheet restructuring and to provide ongoing supply for Asia's bond markets, does it require specific corrective measures or 'umbrella' legislation enacted in civil code jurisdictions such as post-crisis Korea and Thailand? Are there other ways to enhance the creditworthiness of Asian borrowers and open funding alternatives for medium-scale businesses, including structured solutions such as credit enhancement with over-collateralisation or external support?[79]

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77 Greenspan (*op cit*) famously saw the US bond market as the economy's spare tyre, available in times of crisis to supplant a stricken banking sector.

78 Accepted indicators of liquidity are beyond measure if the market tends always to trade 'bid-only'.

79 Arner (2002a) gives a contemporary view of this issue.

- Cultural factors that cause obstructions relating to corporate governance and ownership. Is Asia's concentration of family-controlled or closely-held companies a product of the absence of a deep debt capital market? Has the lack of such markets resulted from these aspects of ownership and governance?[80] Asia's exporting economies are aggregates of mainly medium-scale enterprises in which ownership is comparatively closely-held, and for which related party transactions are thought relatively important, resulting in poor disclosure and a regulatory environment lacking credibility and confidence. For similar reasons, the work of local rating agencies (none established before 1990) has been erratic and in some cases their coverage has been conflicted. All these factors can make securitisation impossible.[81] Where corporate credit risk might be enhanced by securitisation the law has often been inadequate, especially if asset transfers to a securitisation vehicle may be challenged or subjected to ad valorem taxation. Data records will often be inadequate to sustain an economic transaction. In this context, how has Asian nurtured an equity culture but not admitted traded debt? A majority owner's desire for control provides the most plausible explanation, with minority shareholders accepting risk with a (theoretically) limitless return and some semblance of a shared interest with the owner.[82] For such recalcitrant companies, issuing public debt instruments would compel both disclosure and a contractual coupon. In the long run true corporate debt markets will assist the equity markets by stimulating fuller disclosure.

- Inadequate disclosure, especially non-consolidation in reporting, including corporate leverage hidden by related-party transactions, off-balance sheet financing and cross-guarantees. Uncertain disclosure of derivatives or contingent liabilities. Unrecorded exposure to currency risks from short-term foreign borrowing and unstated use of hedging instruments.

- For banks and finance companies, poor disclosure of sectoral risk concentrations, delinquent loan classifications, provisioning, non-accruing assets and 'voluntary' rescheduling with new advances.

- Last, how Asia's financial sectors differ from those of advanced economies, whether intrinsically or purely in terms of its relative stage of development. This question affects policy implementation in that governments risk promoting capital markets because of their assumed value while neglecting fair competing interests and a variety of other costs. Today's bond markets may be underdeveloped mainly because their host economies are themselves youthful: greater sophistication will flow naturally from further economic growth. It has been suggested that Asia is now in the second, semi-sophisticated stage of three distinct phases of financial development, and that its systems

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80 One survey shows that whether a company uses external finance may not be a function of the financing alternatives available in its host economy, although the form it takes typically is. Further, the size of companies is an important determinant of the extent of that choice being realistically available (Beck, Demirgüç-Kunt, & Maksimovic 2002).

81 The 1990's saw pioneering securitised or asset-backed transactions close in Indonesia, Korea, the Philippines, Thailand and in Asian countries outside the review group. In most cases, these transactions were not repeated, despite all intentions and heavy development expenditure.

82 Herring & Chatusripitak (*op cit*).

for funding and intermediation are in their 'natural' state on an evolutionary path.[83] If correct, it remains likely that external effort is needed to induce Asia's markets to the third stage of sophistication: this inevitably demands policy reform.

Reviews of the crisis often neglect China's success in avoiding output losses in 1997-98[84] while noting that a substantial 1994 devaluation and a pre-crisis external current surplus left China free of the stresses placed on Korea and Southeast Asia in mid-1997. That China's border halted the contagion may owe much to its economy's limited natural credit culture. Market techniques have grown steadily important since the 1980's but financial institutions are prevented from operating in the fullness of market forces. This has two consequences for China's banks. First, they suffer external direction and may be unable to extend or withdraw credit from corporate borrowers as freely most banks would prefer. Second, banks are protected from external shifts in sentiment. The sector cannot be attacked rapidly even though the scale of its impaired assets and weak capital bases is accepted. China's insidious deregulation will eventually make those pressures less susceptible to semi-official resistance; it is essential for China to create a true debt capital market to guard against destabilisation. This is also a question of funding efficiency for China's private enterprise sector, which hitherto has relied on internal funding and received minimal external financing support.[85]

A recent debate asks why an economy cannot use its own currency to borrow abroad, or to borrow domestically for long maturities.[86] With this 'incompleteness', financial fragility is unavoidable because all investments will suffer either a currency or maturity mismatch. Critically, these mismatches exist not because of imprudent hedging but because a country whose external liabilities are denominated solely in foreign exchange is unable to hedge.[87] Deeper capital markets lessen the problem, as the early 20th century proved for the United States and several other leading industrial economies. The key in the progression of 'older' economies to become free to issue external debt in their own currencies (or having local currency debt bought by non-residents) was their response to shocks on the scale of war or the 1930's depression. In this respect the US debt market evolved more rapidly than those in Europe because of the size of its host economy. This produced a vast investor need for domestic debt and made it less risky for investors to hold bonds (despite a phasing out of convertibility).[88] Until the 1960's investment in foreign debt securities was most often undertaken through a limited number of financial centres that were home to prominent investor communities, but there is no longer any correspondence between a bond's currency of issue and its place of issue or listing. In Asia it is clear that future bond market development is more truly a domestic question, for the critical need is for to admit or establish

83 Yoshitomi & Shirai (*op cit*).

84 Real GDP grew by 7.8 per cent in 1998.

85 Gregory & Tenev (2001) surveyed over 600 private Chinese enterprises.

86 Initiated by Eichengreen & Hausmann (1999). This condition has been termed 'original sin' (ironically unknown in Asian traditions).

87 Since no investor is willing to acquire this local currency, it is assumed that hedging instruments are likewise unavailable (Eichengreen & Hausmann *op cit*).

88 Prior to 1933 bonds typically provided for repayment in gold at the investor's option (Bordo, Meissner & Redish, 2003).

prominent local currency investors at home, as well as abroad.[89] Research[90] and anecdotal evidence shows that large countries are better able to attract foreign investment to their domestic currency issues; market depth is an important corollary to an economy's size.

Asia's government bond markets are likely to evolve further but they will be deficient with neither budget deficits to fund nor principle to support in the form of welfare and efficiency.[91] This is a current theme of several regional working groups.[92] Whether governments issue bonds to raise funds or for the operation of monetary policy the practice must have clarity and predictability. Too often this is not the case and investors and intermediaries suffer impromptu withdrawals of note or bond auctions. The same argument can be made of international financial organisations issuing in Asian currencies, often failing to contribute to liquidity with regular issues (there are many examples of supranational borrowers making single visits to emerging bond markets).[93] The absence of a well-developed market may have costs for any economy (in terms of efficiency and capital allocation) but in Asia this has been seen most acutely for investors. Bank competition has often been so extreme that creditworthy borrowers have generally not lacked external funding, and few budget deficits have become endemic. With a more developed financial infrastructure, the near-term gains will be most apparent from the investor's perspective.

Regulatory or system arbitrage are drivers of product innovation, particularly in rule-based economies, but the growth of markets will not succeed without reform, however much it may be desired by participants. Governments need to legislate wherever necessary to remove or correct obstacles and inconsistencies, as well as agreeing new wholly practical elements (as radically new as the US mortgage or German plandbrief markets once were). If debt market reform is a goal of public policy, then the aim is to promote the role of bonds in Asia as a broadening of financial intermediation. Public policy's task must therefore be to promote usage and may involve significant expansions in government issuance. It may also involve the creation of national or regional agencies to facilitate change. For many of these issues the IFC has a reliable view given its experience in fundraising in developing markets. It has argued that not every country will be able to develop active markets for reasons of volition or scale.[94] This supports further a solution involving a hub approach by which system resources are pooled. Behavioural factors are critical in achieving market usage and since this takes time to become manifest[95] it must be recognised that creating financial infrastructure alone does not bring usage, nor achieve the broad benefits of bond markets. No policymaker can countenance encouraging market development as a mark of a sophisticated economy.

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89 This accords with the second precept of the analysis, whether an economy is supported by long-term domestic local currency investors (Eichengreen and Hausmann *op cit*).

90 Bordo, Meissner & Redish (2003).

91 If China elects to promote true domestic debt markets then its profound funding needs may prove a catalyst for growth and participation throughout the region.

92 Section 2, (*supra*).

93 To the extent that these issues are held by commercial banks, it is arguable that they also represent a negative market distortion due to favourable risk-asset weightings, and as such form part of Asia's risk averse post-crisis portfolio adjustment (*supra*; Crockett *op cit*).

94 Harwood (2000 *op cit*), introduction.

95 Similar to the market evolution concept (Yoshitomi & Shirai *op cit*).

Liquid debt markets engender a culture of enquiry, for they demand accepted standards of exchange and information. Asia's performance record is remarkable but far from immaculate, for reasons that are widely discussed.[96] A post-1998 output resurgence has resolved certain issues, some structural as conceived by critics of the region's growth record, and others relating to the quality of regulatory insight and observance. The most pertinent policy task is to solve permanently a crisis overhang of non-performing or impaired financial assets, and instigate practices that lessen the true occurrence of such assets and provide a means to deal with new cycles of loan losses and recovery. Fully-functional debt markets are part of Asia's prescription, not least in their giving banks a means to raise local currency regulatory capital and broaden their funding and asset refinancing. Governments may become better able to fund themselves securely, with fewer risks of flight capital leading to contagion and chronic illiquidity; active markets will offer greater real choices for both borrowers and investors.

The issue of feasibility cited at the beginning of this paper is addressed by two tables on the immediately following pages. Fully functioning and active markets are desirable and feasible but will not be achieved without dedicated effort and agreement to remove structural, legal and regulatory blockages. Furthermore, it is unlikely that the needs of each review economy are sufficient to maintain a debt capital market effective in all respects. This paper's proposals for collaboration in policymaking and in detailed aspects of implementation are based upon these conclusions, in particular for the creation of formalised regional financing arrangements through a new capital market. Table 6 assesses the present strengths of domestic and offshore markets for debt securities in terms of how participants are served by each market. Most commonly, the domestic markets provide adequate means for governments to borrow and conduct monetary policy, albeit that each may be limited in ambition. No market offers value in risk management or for all corporate borrowers or investors. The core questions posed in section 1[97] are considered in table 7, which provides a basis for policy proposals.

[96] Including corruption, crony capitalism, self-induced moral hazard, over-investment, unhedged foreign currency borrowing, poor exchange rate management, inadequate risk analysis by bankers and project sponsors, and government 'interference' in the economy. It is unclear which non-Asian economies are free of these problems.

[97] Penultimate paragraph, (*supra*).

Table 6. How current markets affect participants

	Beneficiaries	Omissions and failures
China	Central government as borrower; and in monetary policy operations Infrastructure project promoters	Fund managers and insurers Banks needing to recycle impaired assets Non-state corporate borrowers and medium-scale enterprises Central government as risk manager
Hong Kong	Central government as borrower; and in monetary policy operations Supranational borrowers	Fund managers and insurers All corporate borrowers Central government as risk manager
India	Central government as borrower, and monetary policy operations Banks and public sector investors	Fund managers and insurers Major corporate borrowers and medium-scale enterprises Central government as risk manager
Indonesia	Central government in monetary policy operations	Central government as borrower; and as risk manager Fund managers and insurers All corporate borrowers
Korea	Central government as borrower, and in monetary policy operations Major borrowing companies Banks needing to recycle impaired assets	Fund managers and insurers Medium-scale enterprises Central government as risk manager
Malaysia	Central government as borrower, and in monetary policy operations Public sector investors and pension funds	Major corporate borrowers Fund managers and insurers Medium-scale enterprises Central government as risk manager
Philippines	Central government as borrower Short-term corporate borrowers Banks as investors	Central government as risk manager All non-bank investors Medium-term borrowers Infrastructure project promoters
Singapore	Central government as borrower, and in monetary policy operations Major local companies Public sector investors	Supranational and foreign borrowers Fund managers and insurers Medium-scale enterprises
Taiwan	Central government as borrower, and in monetary policy operations	Companies of all kinds Fund managers and insurers
Thailand	Central government as borrower, and in monetary policy operations Prominent, well-rated companies	Banks needing to recycle impaired assets Medium-scale enterprises Infrastructure project promoters
Offshore	Well-rated sovereign, public sector and major corporate borrowers Banks as borrowers Inactive investors	Non-investment grade borrowers Governments as risk managers Banks as regulatory capital issuers Active investors and hedge funds

Table 7. Feasibility of true debt capital markets in Asia

Do Asia-Pacific's established patterns of finance make mature bond markets infeasible in a conventional sense?	Not infeasible but new markets will not develop naturally.
Are weak Asian markets chiefly indicative of the region's relative development?	The markets' current disposition reflects funding and spending choices and historic priorities.
Can debt capital markets be developed effectively without an active risk-free benchmark yield curve?	With difficulty, but providing regulatory discretion allows interest rate derivatives to generate a continuous swap yield curve.
Will new financial structures (regional or shared among several markets with common objectives) facilitate effective bond issuance, investment & trading?	Giving system reliability, issuer predictability, and prospects for improving credit ratings, investors and other new users will proliferate.
Can such new structures assist the funding of medium-scale businesses, and widen the use of securitisation for continuing funding and asset recovery?	This is demonstrable in the case of non-performing loans. Funding SME's is feasible (if complex compared to applying securitisation to homogenous assets such as home loans); banks must be encouraged to accelerate SME lending in return for arms' length refinancing through securitisation.
Do potential net gains in economic welfare justify active investment to strengthen Asia's bond markets?	The potential gains in terms of a shield against instability are real, universal, but unquantifiable. The pooling of resources or co-operation in regional solutions will require new political effort.

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Appendix. Summary data

The source for tables A1-A5 is the IMF's World Economic Outlook 2003. Forecasts are indicated by the suffix 'f'. The data sets shown are illustrative and in each case not aggregable. 'Newly Industrialised Asian Economies' are Hong Kong, Korea, Singapore and Taiwan. The twenty-nine 'Advanced Economies' are the eighteen members of the Group of Seven leading economies and the European Union, the four Newly Industrialised Asian Economies, with Australia, Cyprus, Iceland, Israel, New Zealand, Norway and Switzerland. The twenty-five countries of 'Developing Asia' are nine of the ten ASEAN members (excluding Singapore[98]), China, Afghanistan, seven South Asian and seven South Pacific nations.

Table A1. Period average growth rates, 1985-03.

Growth in real GDP(%)	Period averages	
	1985-94	1995-03
Advanced economies	3.0	2.6
Developing countries	5.1	5.1
Developing Asia	7.7	6.6
China	10.2	8.2
Indonesia	6.8	2.7
Malaysia	7.1	4.9
Philippines	2.2	3.9
Thailand	9.0	2.6
Hong Kong	6.2	3.0
Korea	8.2	5.3
Singapore	7.8	4.5
Taiwan	8.0	4.3

Table A2. Evolution of per capita income, 1970 and 2002.

Per capita gross domestic product at current prices US$/person	1970	2002
China	$102	$963
Hong Kong	$959	$23,912
India	$117	$478
Indonesia	$91	$803
Korea	$275	$9,602
Malaysia	$405	$3,880
Philippines	$179	$969
Singapore	$896	$21,699
Taiwan	$426	$12,452
Thailand	$183	$1,989
Germany	$2,480	$24,128
Japan	$1,967	$31,343
USA	$5,067	$36,210

98 See footnote 33 (*supra*).

Table A3a. Selected comparison of central government fiscal balances.

Central government fiscal balances 1995-02 % of GDP	1995	1996	1997	1998	1999	2000	2001	2002	2003f
Advanced economies	-3.4	-2.8	-1.8	-1.3	-0.1	0.3	-0.8	-2.1	-2.6
Newly industrialised									
Asian economies	1.0	1.0	0.8	-1.3	-1.2	1.0	-0.7	-0.8	-0.6
Developing Asia	-2.5	-2.0	-2.6	-3.6	-4.2	-4.2	-4.1	-4.0	-3.9
China	-2.1	-1.6	-1.9	-3.0	-4.0	-3.6	-3.2	-3.3	-3.2
Other developing Asia	-1.5	-1.1	-2.2	-3.2	-3.3	-4.6	-4.4	-3.6	-3.5

Table A3b. Selected comparison of general government fiscal balances.

General government fiscal balances 1995-02 % of GDP	1995	1996	1997	1998	1999	2000	2001	2002	2003f
Advanced economies	-4.1	-3.0	-1.8	-1.3	-0.9	-0.1	-1.6	-3.1	-3.6
USA	-3.3	-2.4	-1.3	-0.1	0.5	1.2	-0.7	-3.6	-4.6
Euro area	-5.0	-4.3	-2.6	-2.3	-1.3	0.1	-1.5	-2.2	-2.4
UK	-5.8	-4.4	-2.2	0.2	1.1	4.0	0.9	-1.2	-2.6
Japan	-4.7	-3.1	-3.8	-5.5	-7.1	-7.4	-7.2	-7.7	-7.4
Newly industrialised									
Asian economies	3.3	3.3	4.4	2.4	1.4	-1.7	-4.5	-4.5	-4.6
Hong Kong	-0.3	2.1	6.5	-1.8	0.8	-0.6	-5.0	-5.5	-5.3
Korea	0.3	0.0	-1.7	-4.3	-3.3	1.3	0.7	2.8	3.0
Singapore	12.2	9.3	9.2	3.6	4.6	8.1	4.9	3.1	4.5
Taiwan	2.7	2.3	2.3	3.7	0.8	-4.5	-6.6	-6.0	-6.5

Table A4. Summary of balances on current account.

Current account balances 1995-02 US$bn	1995	1996	1997	1998	1999	2000	2001	2002	2003f
Advanced economies	56.3	39.6	94.5	49.6	-91.6	-224.5	-187.3	-217.2	-270.4
USA	-105.8	-117.8	-128.4	-203.8	-292.9	-410.3	-393.4	-503.4	-576.7
Euro area	57.2	83.9	104.5	70.9	33.9	-15.1	19.4	72.1	91.0
Japan	111.4	65.7	96.6	119.1	114.5	119.6	87.8	112.8	115.5
Newly industrialised									
Asian economies	2.8	-2.2	7.5	67.4	59.6	44.0	55.5	69.7	65.8
Hong Kong	-9.1	-4.0	-6.2	4.4	10.9	9.1	12.3	18.5	18.0
Korea	-8.5	-23.0	-8.2	40.4	24.5	12.2	8.6	6.1	1.6
Singapore	14.9	13.9	14.7	19.2	15.8	13.8	16.7	19.4	21.3
Taiwan	5.5	10.9	7.1	3.4	8.4	8.9	17.9	25.7	25.0
Developing Asia	-42.1	-39.2	8.4	47.9	46.7	44.2	34.5	51.2	34.8

Table A5. Summary of sources and uses of sectoral savings.

Sources and uses of savings % of GDP		1981-88 average	1989-96 average	1997	1998	1999	2000	2001	2002	2003f
Advanced economies:	Saving	22.1	21.6	22.0	22.0	21.6	21.8	20.6	19.7	19.6
	Private	21.5	20.8	19.8	19.2	18.3	18.0	17.7	18.1	18.5
	Public	0.5	0.9	2.2	2.8	3.3	3.8	2.8	1.6	1.1
	Investment	22.6	22.0	21.9	21.7	21.9	22.2	20.7	20.0	20.1
	Private	18.5	18.0	18.2	18.2	18.2	18.7	17.2	16.6	16.7
	Public	4.0	4.0	3.6	3.6	3.6	3.4	3.5	3.4	3.4
USA:	Saving	18.4	16.7	18.1	18.8	18.4	18.4	16.5	15.2	14.8
	Investment	20.6	18.3	19.9	20.7	20.9	21.1	19.1	18.6	18.9
Euro area:	Saving	n.a.	21.5	21.9	21.9	21.9	22.0	21.4	21.3	21.5
	Investment	n.a.	21.3	20.3	21.0	21.3	22.0	20.9	20.1	20.1
Japan:	Saving	31.8	32.4	30.8	29.7	28.4	28.7	27.7	26.5	26.0
	Investment	29.4	30.3	28.6	26.8	25.9	26.2	25.6	23.7	23.5
Newly-industrialised Asian economies:	Saving	n.a.	34.5	32.5	32.6	31.8	30.8	28.9	28.7	28.2
	Private	n.a.	27.6	25.1	26.0	25.5	22.8	20.9	20.7	20.2
	Public	n.a.	6.9	7.3	6.6	6.2	8.0	8.0	8.0	8.0
	Investment	n.a.	32.1	31.6	24.2	25.8	26.8	23.8	22.7	22.8
	Private	n.a.	22.7	22.0	14.9	17.6	19.2	16.1	16.1	16.2
	Public	n.a.	9.4	9.6	9.3	8.2	7.6	7.6	6.6	6.7
Developing Asia:	Saving	22.4	24.8	28.3	29.0	31.4	30.6	29.1	29.3	30.2
	Investment	27.3	32.3	32.8	30.0	29.5	29.6	31.2	32.4	32.6

Table A6. Comparison of corporate leverage

Total debt/equity % Year ending	1992	1993	1994	1995	1996
Hong Kong	26	23	33	36	39
Indonesia	59	54	58	81	92
Korea	123	129	127	132	n.a.
Malaysia	31	29	38	45	62
Philippines	81	78	50	49	69
Singapore	37	34	33	45	58
Taiwan	71	73	71	67	65
Thailand	71	81	103	135	155
France	141	133	117	112	111
Germany	61	67	61	59	58
Japan	136	139	139	135	138
US	106	102	97	94	90

Source: reproduced from Pomerleano (1998).