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Going Regional: How to Deepen
ASEAN's Financial Markets

Maria Socorro Gochoco-Bautista and Eli M. Remolona
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ABSTRACT

This study identifies the key issues involved in the further development and deepening of financial markets in the Association of Southeast Asian Nations (ASEAN). For the smaller ASEAN countries, the first priority is the development of the banking system. In the larger ASEAN+3 economies, banking systems are already reasonably well-developed, while stock markets and government bond markets have evidently achieved critical mass even while remaining purely domestic markets. The tug-of-war between the geography of information in the direction of more localized markets versus the critical mass required by network externalities makes the case for regional integration stronger for corporate bond markets than for other financial markets. The study proposes three bold initiatives to develop a deep and liquid regional corporate bond market.

I. INTRODUCTION

Countries in the Association of Southeast Asian Nations (ASEAN) aspire to belong to a region of high and inclusive growth and high productivity, one tied together by bonds of economic cooperation and financial integration. The experience of the 1997 Asian financial crisis demonstrated the importance of a resilient financial sector. In the aftermath of the crisis, ASEAN countries strengthened their banking systems, improved regulatory oversight, and worked to further develop their capital markets. This is one reason the financial sectors in the region escaped the most recent global financial crisis relatively unscathed and why recovery from this crisis was quicker and more robust than that in other regions.

Yet it also cannot be denied that the underdevelopment of the region's capital markets was another reason for the resilience of the financial sector. This underdevelopment meant that exposures in the region to the subprime mortgages and other toxic assets in the United States (US) remained negligible. In the absence of deeper capital markets, the earlier regional crisis had led to high savings and the build-up of foreign exchange reserves, which served to protect the region during the more recent global crisis.¹

But the cost of such protection, along with the underdevelopment of capital markets, has been high. This cost has manifested itself in persistently low investment in the region. Low investment, in turn, has adverse implications on the region's ability to foster inclusive growth, primarily through employment generation that normally comes with investment. The underdevelopment of capital markets and the dependence on banks as a primary source of finance in many countries in the ASEAN means that many of the poor have little or no access to finance even under noncrisis conditions. For lack of better developed capital markets, the region has been sending its savings abroad to be intermediated by the capital markets of distant financial centers. The region has also been holding its savings in the form of safe, low-yielding reserve assets, while the markets abroad turned the savings into risky, higher-return investments. Some of these investments found their way back into the region, while some of them ended up in toxic assets outside the region.

The ASEAN countries face two different challenges. For Cambodia, the Lao People's Democratic Republic (Lao PDR), Myanmar, and Viet Nam, the challenge is to further develop their institutions and banking systems. For Indonesia, Malaysia, the Philippines, Singapore, and Thailand, it is to further deepen their capital markets without unduly exposing these markets to severe financial shocks abroad. To their credit, the second group of countries

¹ Nijathaworn (2011) points out that one lesson of the 1997 Asian crisis was the importance of self-insurance in the form of stockpiling foreign exchange reserves.

has made great strides in this regard. Their equity markets and government bond markets already exhibit remarkable depth and liquidity. This would seem to imply a two-speed track of market development, with some countries individually making their banking systems their first priority, while the others continue to deepen their capital markets. In time, the first group can try to catch up by emulating the more developed ones. But for the second group, their task is not so straightforward. The market that has remained conspicuously shallow and illiquid throughout the region is the corporate bond market. To develop this market, doing it individually is unlikely to work. It is here that regional cooperation appears most crucial.

One lesson of the 1997 Asian crisis is that bank finance can suddenly dry up. Those in ASEAN that do have banking systems have come to rely excessively on their banks. They have ended up with bank-centric financial systems. When their banks stop lending, these ASEAN countries lack a “spare tire.” Firms have no other market to which to turn for raising debt finance. The traditional spare tire in capital markets is the corporate bond market. Indeed, when the 2008 global financial crisis brought the international corporate bond market to a halt, the domestic corporate bond markets stepped in to provide financing to a few of the larger ASEAN companies, albeit in a very limited way. A deeper market would have welcomed many more companies that were starved for funds, including ones that never did have access to the international credit markets.

Robert Lucas saw as a paradox the stylized fact that capital does not flow from rich countries to poor ones. The capital flows in the ASEAN region are even more paradoxical. Capital in the region flows in the opposite direction—from the poor countries to the rich ones. The lack of developed financial markets accounts in part for this perversity. At their root, financial markets are arrangements for processing information that take critical advantage of the externalities found in networks of savers and investors. For large-scale savings and investments, the ASEAN region seems to lack such a network. It is London and New York that harbor such networks, thus they attract the world’s savings and decide the world’s investments. The historical lock-in effects of such networks are difficult to overcome. Nonetheless, the geography of information suggests that there are fundamental disadvantages in networks that are based in distant centers. A well-developed network based in Asia could very well reshape the region’s pattern of capital flows and render the Lucas Paradox a thing of the past.

This study aims to identify the key issues involved in the further development and deepening of ASEAN financial markets. It argues that for the smaller ASEAN economies, the first priority is the development of the banking system. For the larger ASEAN countries, the banking systems and the capital markets are already reasonably well developed. The one important market that is still missing is a deep and liquid corporate bond market. Because the required critical mass for this market is so large, only a regionwide market would succeed. It is for this that regional cooperation would be essential.

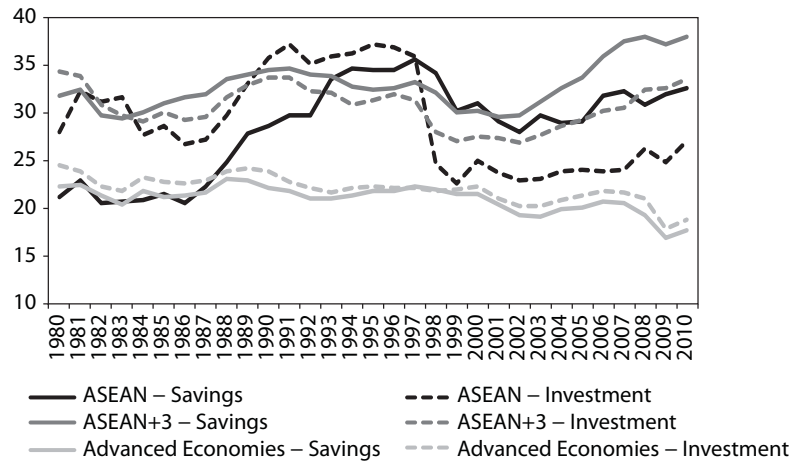
Section II discussed the intermediation of ASEAN savings in financial centers outside of the Asia and Pacific region and how these savings eventually end up as capital inflows to the region. This “recycling” is inefficient, since these distant financial centers have no

fundamental advantage in processing the necessary information for investment decisions. Section III discusses issues arising out of imperfect markets and the risks of full capital mobility. The tail risks of unhindered cross-border flows involve sudden stops and current account reversals, as well as their tendency to finance asset price bubbles that eventually lead to disruptive and costly adjustments. These costs are especially high in economies without well-developed financial markets of their own. Section IV briefly discusses the role of capital controls in mitigating the tail risks associated with cross-border flows. Section V discusses the level and process of financial development in the ASEAN region. It shows that while significant gains were achieved after the 1997 financial crisis, the corporate bond markets need to develop further. These are the markets that would make the most difference in moving toward a more efficient recycling of ASEAN savings and a more desirable pattern of capital flows. Section VI presents the rationale for regional cooperation and integration. Given the prerequisites of liquidity and the scale economies that the development of bond markets entail, regional cooperation and coordination should provide the local network externalities that support market depth. Lastly, Section VII lays out three bold proposals for regional cooperation which would facilitate the growth and development of corporate bond markets in the ASEAN.

II. THE RECYCLING OF SAVINGS

Throughout the decade after the Asian financial crisis, Mohanty and Turner (2010) show that there was a general increase in savings rates in Asia. Much of the growth in savings in Asia is attributable to the People's Republic of China (PRC), which together with Japan, accounts for the bulk of savings in the region. The PRC's average savings rate increased to 69% in 2000–2007 from 43% a decade earlier. An acceleration of savings was also experienced in India, from an average rate of 31% in 1990–1997, to 47.8% in 2000–2007. Other emerging economies in Asia had a marginally lower average saving rate of 31.2% in 2007–2010, from 33.9% in 1990–1997. As Asian savings increased or remained buoyant from 2000–2007, the equivalent figures in advanced economies generally declined further from comparatively lower levels a decade earlier. On average, the advanced economies had a savings rate of 18% for 2000–2007, lower than the average rate of 19.7% in 1990–1997. The US experienced a very low average savings rate in 2000–2007 at only 5.8% of gross domestic product, significantly lower than its 1990–1997 average of 20.9%.

ASEAN is a region of prodigious savers. From already high levels, savings in the region gradually increased at the turn of the century and accelerated after 2005. Figure 1 shows the evolution of savings and investment ratios in the ASEAN, the ASEAN together with the PRC, Japan, and the Republic of Korea, as well in advanced economies. ASEAN countries generally had higher savings relative to investment rates after 1998 onward. East Asia as a whole had higher positive savings–investment gaps since the early 1980s. In contrast, the savings–investment gaps in advanced economies was consistently negative, albeit by a marginal amount, from 1980 to 2010.

Figure 1: Savings and Investment (% of GDP)

ASEAN = Association of Southeast Asian Nations, GDP = gross domestic product.

Note: ASEAN includes Brunei Darussalam, Cambodia, Indonesia, the Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam; ASEAN+3 includes the PRC, Japan, and the Republic of Korea.

Source: Staff calculations using data from the *World Economic Outlook* (IMF 2011b) and the World Development Indicators (World Bank 2011).

Emerging Asia's average investment rates did not grow as fast as its marginal propensity to save. The average rate of investment as a percentage of GDP increased by only 3.4% to 34.1% in 2000–2007 from 30.7% in 1990–1997. This implies that there is a huge gap between savings and investment rates for 2000–2007.

There was a significant reduction in ASEAN investment ratios after 1998 following the Asian financial crisis. Various possible explanations have been advanced. Some have cited the lack of “animal spirits” after accounting for other possible factors; risk aversion increased after the Asian financial crisis. Others have said that investment was suboptimally high prior to the Asian financial crisis and thus, the fall in investment as a share of gross domestic product (GDP) in the postcrisis years was to be expected and welcomed (ADB 2007). One possible explanation that has been neglected in the literature is simply that the cost of investment has become exorbitant because of suboptimal intermediation through distant financial centers. Global investors now demand rather high rates of return for investments in Asia.

India and the PRC account for the bulk of investment growth in Asia. As a percentage of output, the PRC's and India's investment to output ratios are approximately 53% and 49%, respectively, for 2000–2007. Other countries in emerging Asia exhibited a lower average investment ratio of 23% in 2000–2007 compared to its 1990–1997 average of 36%. Table 1 shows comparative figures for the ASEAN.

Table 1: Savings and Investments as a Percentage of GDP

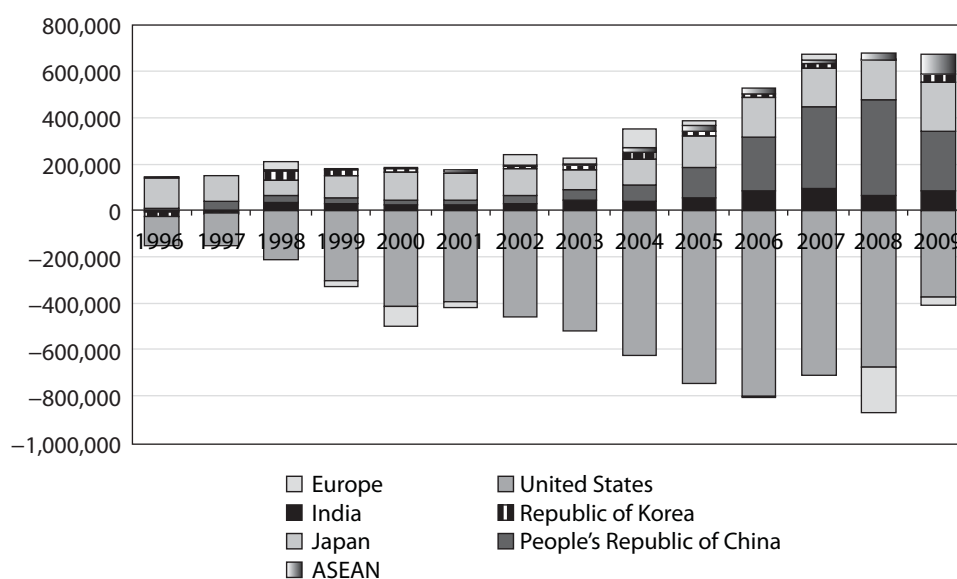
	Savings Rates		Investment Rates		Surplus Savings	
	1990–1997	2000–2007	1990–1997	2000–2007	1990–1997	2000–2007
Indonesia	32.3	26.7	39.2	23.9	-7.0	2.8
Malaysia	33.2	35.0	39.3	23.0	-6.1	12.1
Philippines	18.8	18.0	23.1	17.0	-4.2	1.0
Singapore	46.9	41.7	34.6	23.0	12.4	18.7
Thailand	34.1	29.1	40.2	26.1	-6.2	3.0
Brunei Darussalam	37.9	49.9	29.3	14.0	8.6	35.9
Cambodia	10.4	16.7	12.1	19.0	-1.7	-2.4
Lao PDR	n.a.	19.2	n.a.	30.7	n.a.	-11.5
Myanmar	10.7	16.2	13.9	12.4	-3.3	3.9
Viet Nam	18.4	33.1	19.4	35.1	-1.0	-2.0

GDP = gross domestic product.

Source: IMF International Financial Statistics, available: (<http://elibrary-data.imf.org>), downloaded 14 September 2011.

Note that all countries in the ASEAN except Cambodia, the Lao PDR, and Viet Nam, reflected higher average savings rates relative to investment rates after the Asian financial crisis. Hence, the PRC and most of the economies in the ASEAN accumulated surplus savings in 2000–2007. The secular trend in savings and investment ratios in the ASEAN and ASEAN+3 (composed of the ASEAN member countries and the PRC, Japan, and the Republic of Korea) is shown in Figure 1.

The rise in the savings–investment gap in Asia is reflected in the persistent trend of large current account surpluses in Asia, as seen in Figure 2. The PRC and Japan dominate the numbers on the surplus side while the US dominates on the deficit side.

Figure 2: Current Account Balances (\$ million)

ASEAN = Association of Southeast Asian Nations.

Note: ASEAN includes Brunei Darussalam, Cambodia, Indonesia, the Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam.

Source: IMF International Financial Statistics, available: (<http://elibrary-data.imf.org>), downloaded 14 September 2011.

Bernanke (2005) attributes the trend in global current account imbalances to the global savings glut, although Gruber and Kamin (2007), and Chinn and Ito (2008) argue that other factors in confluence with the advent of Asian savings explain the persistence of the imbalance. Cheung and Rustecilli (2010) extend the analysis of current account imbalances by dichotomizing the various factors as either structural or cyclical, and conclude that structural factors² generally drive the persistence of the imbalance. Gruber and Kamin (2007) note that the current pattern of persistent current account surpluses in Asia could be explained by the interaction of financial crises and standard macroeconomic determinants of the current account, which effectively imply some form of heightened risk aversion and insurance-seeking behavior. Chinn and Ito (2008) examine macroeconomic determinants of the current account controlling for institutional factors, the legal environment, and degree of financial openness and find that fiscal balance is an important determinant of current account outcomes in industrialized countries. They argue that the scarcity of savings in the US, underinvestment in Asia presumably due to increased risk aversion, and the well-developed financial markets in the US could explain the persistence of the imbalance.

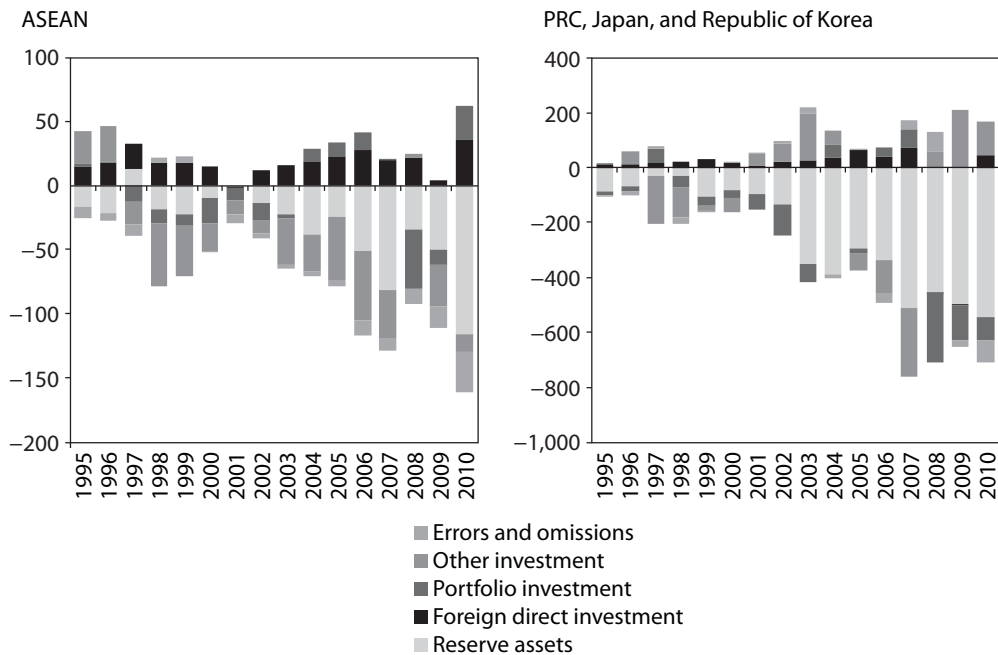
The region's surplus savings were channeled to bank deposits given an increase in risk aversion after the Asian financial crisis. This gave banks a substantial source of deposits that it could tap as the region's largely export-led growth led to an increase in the demand for credit. Export-led growth and the surplus savings in the region translated to persistent current account surpluses beginning at the turn of the century. The corresponding net capital inflows into the region, most of which were sterilized, translated into a build-up of reserves.

The increase in Asian surplus savings, the sterilized interventions by the Asian monetary authorities, and the institution of micro-prudential regulation through strict imposition of Basel I and II provided banks with an environment that allowed for stronger balance sheet positions (Mohanty and Turner 2010). The availability of local currency government bonds also gave some elbow room for liquid investments with relatively high returns and ample liquidity. In contrast, advanced financial systems outside of Asia saw an increase in interdependencies between banks and nonbank financial institutions, with banks becoming more dependent on wholesale fund providers, typically of short-term capital, in lieu of retail deposits. The reduced reliance on retail deposits did not occur in developing Asia, where bank deposits as a percentage of cumulative nominal GDP increased by 14.8% for 2001–2007. The deposit intake was approximately 3% higher than the bank credit to nominal GDP ratio of 11.3%. In contrast, the increase in the ratio of nominal deposits to cumulative nominal GDP for industrialized countries was only 5.4% during the same period, with an equivalent nominal bank credit ratio of 5.5% (see Mohanty and Turner 2010).

² These are cross-country differences in demographics, fiscal deficits, oil dependency and intensity, stage of economic development, financial market development, and quality of institutions.

The flow of Asian savings into advanced economies is an extreme form of the Lucas Paradox. Not only does capital not flow from rich countries to poorer countries to reflect the lack of capital in the latter, in the case of Asia it even flows in the opposite direction—from the poorer countries to the rich countries. Studies such as Kim, Kim, and Park (2011) show that although investment in emerging Asia is ultimately financed by savings in the region, this happens in a roundabout manner. As indicated in Figure 3, Asian savings go abroad in the form of low-yielding reserve assets and come back largely in the form of foreign direct investment and other investments. In other words, they are largely first sent to global financial centers like New York and London and only some return to the region. In the process of intermediation abroad, they come back as expensive, high-return investments.

Figure 3: Net Capital Flows (\$ billion)



ASEAN = Association of Southeast Asian Nations, PRC = People's Republic of China.

Notes: A positive number indicates capital inflow. Aggregate of the listed countries.

ASEAN includes Brunei Darussalam, Cambodia, Indonesia, the Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam.

For 2010, aggregate of the listed economies except Brunei Darussalam, Cambodia, and the Lao PDR.

Sources: IMF International Financial Statistics, available: (<http://elibrary-data.imf.org>), downloaded 14 September 2011.

Financial intermediation—which largely involves the processing of information—is more often than not done outside of the region. This process is inefficient, since much of the relevant financial information is local and could therefore be more efficiently processed within the region. Wang (2011), in a study of volatility of broad market indices of 12 Asian stock markets, for example, finds that despite the common perception of increased globalization, much of the volatility is attributable to local factors.

The underdevelopment of financial markets in Asia is a reason for the inefficient recycling of surplus savings. Thus, developing the ASEAN financial markets, together with the rest of Asia, is imperative in making financial intermediation more efficient. The inefficient intermediation of surplus savings and its eventual reinvestment into the region could contribute to financial vulnerability if capital inflows into Asia are large, volatile, and with a high risk of sudden stops or reversal. There are risks associated with full or a high-level of capital mobility as was the case during the 1997 Asian financial crisis.

III. THE DOWNSIDE OF CAPITAL MOBILITY

The rationale for capital account liberalization and full mobility of capital rests on the neoclassical assumptions of complete and well-functioning markets bereft of information asymmetries. The efficiency gains from capital liberalization are welfare-maximizing through risk reduction and consumption smoothing provided financial markets are sufficiently deep to be characterized as complete (Cochrane 2001). The assumptions of market completeness, information efficiency, and the absence of market distortions are sadly often overlooked by the policy prescription of capital liberalization and financial integration.

International capital mobility is not unambiguously welfare-improving because the real world is neither perfect nor free from distortions (Eichengreen and Park 2003, Cooper 1999). The inherent intertemporal nature of trade in financial assets makes it fundamentally different from trade in goods. Note that the promised payment of the borrower is contingent on some future state. Information asymmetry on the side of transacting parties introduces moral hazard and adverse selection problems on both sides. This is exemplified by the irrational lending behavior of mortgage originators in the run-up to the US mortgage crisis of 2007 (Stiglitz 2010). These distortions, replicated and aggregated to the macro level, could lead to bubbles, panics, and manias in financial asset trading activity that sometimes lead to full blown crises, especially if agents involved are systemically important entities.

Distortions on the real side of the economy also matter. Cross-border capital inflows to domestic industries with little comparative advantage are welfare-reducing in the long run. Capital may flow to a low-tax country regardless of the productivity of capital there, driven solely by differences in marginal tax rates across countries. This is likewise inefficient and arises out of a priori existing distortions brought about by differences in fiscal policy.

With the possible exception of Singapore, the relative underdevelopment of financial systems in ASEAN is argued not only to have limited potential gains from capital account liberalization but also to have contributed to the vulnerability of the region to financial shocks. The difficulty in efficiently intermediating ASEAN savings within the region has encouraged short-term cross border bank and portfolio flows. The high-growth environment from 1992 to 1997 and the lack of well-developed local corporate bond markets meant that large Asian

borrowers turned largely to domestic banks, which in turn borrowed heavily overseas in foreign currencies with short maturities. This double mismatch in exposures rendered the banking system extremely vulnerable to capital flow reversals.

There is evidence that the Asian financial crisis in 1997, characterized by contagion and capital flow reversals, had its most severe impact on economies with underdeveloped financial systems. Felman et al. (2011) argue that the bank-centric characteristic of the ASEAN financial systems in the run-up to 1997 coupled with a relatively high dependence on volatile capital inflows largely contributed to crisis. Capital flow reversals in the context of underdeveloped financial markets made the region's economies financially fragile. The presence of alternative intermediation channels, such as bond markets, could have provided an alternative source of external financing to the corporate sector when the banks began to have problems with currency and maturity mismatches in their balance sheets. Had this been the case, the negative impact on the sectors outside of finance might have been limited.

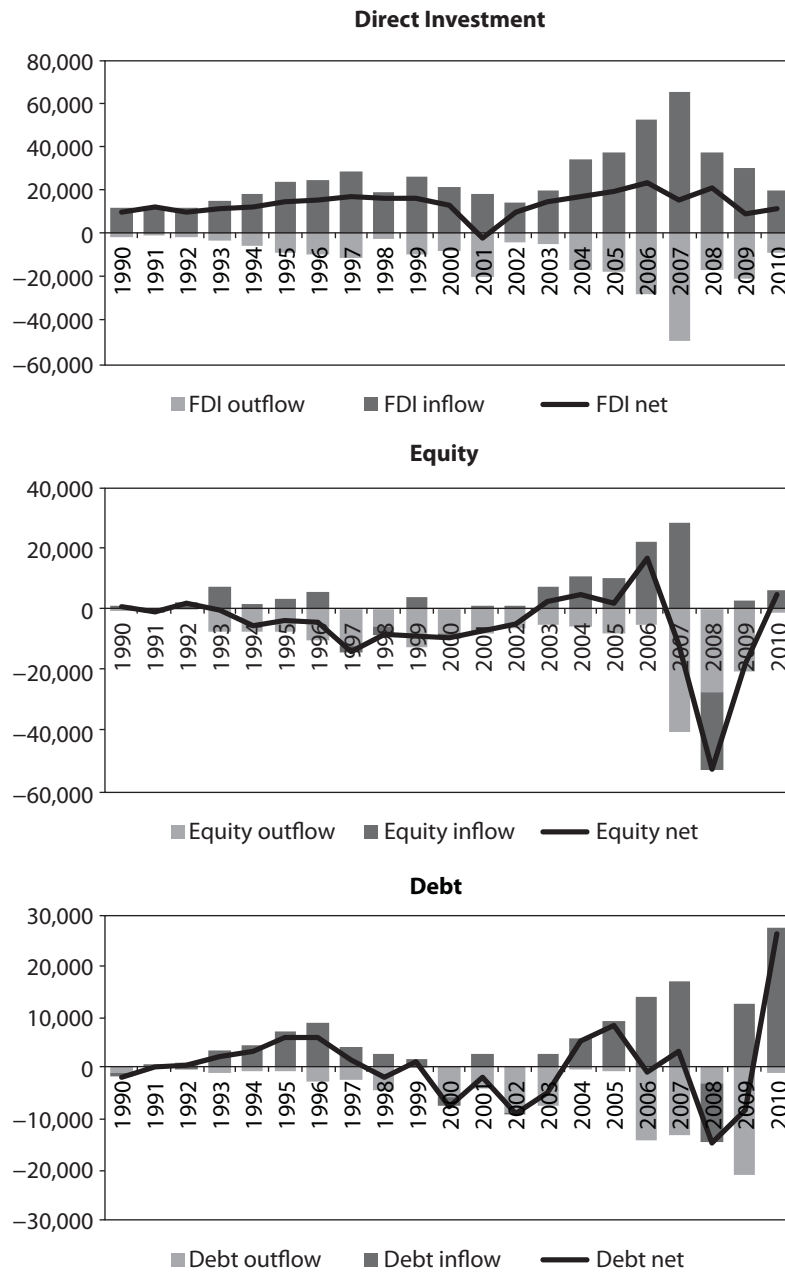
Theoretical and empirical analyses show that the benefits to capital mobility are elusive, while the tail risks and associated costs are very real. As Bhagwati (1998) points out, free trade in widgets is not the same as free trade in financial assets. The costs of capital mobility are the risks of sudden stops or reversals and the tendency of these flows to finance asset bubbles. These costs are especially high in economies that do not have well-developed financial markets. Sudden stops and capital flow reversals are particularly disruptive, as evidenced by their impact in Asia in 1997–1998. The formation of asset price bubbles, a phenomenon that is repeatedly observed, is driven by seemingly rational behavior of expected profit maximization³ under conditions of asymmetric information. This is unstable and eventually leads to costly disruptions and financial instability.

The pattern of capital inflows and outflows into and out of the ASEAN-5,⁴ by type of capital over 1990–2010 is shown in Figure 4. A sudden stop and reversal of debt and portfolio investment inflows was experienced in 1997 and persisted well into 2003. Portfolio investment and debt inflows showed a strong rebound in 2003 only to exhibit a sudden stop and reversal in 2007. Systemic shocks emanating from capital flows once again manifested during the global financial crisis of 2008. The impact of the global financial crisis and capital flow reversals on economic growth were not as severe compared to the effects of the Asian financial crisis.

³ Several behavioral theories attempt to explain the formation of asset price bubbles. Interested readers may refer to Shiller (2003) and Lansing (2007).

⁴ The ASEAN-5 is comprised of Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Figure 4: ASEAN-5 Capital Inflows and Outflows by Category (\$ million)



FDI = foreign direct investment, ASEAN-5 = Indonesia, Malaysia, the Philippines, Singapore, and Thailand.
 Source: Authors' estimates.

Capital inflows and outflows are highly procyclical with financial crises, and tend to exhibit increasing volatility. Short-term capital flows, whether short-term debt or portfolio investments, are the primary drivers of historical fluctuations. The relatively underdeveloped and closed financial markets of Cambodia, Myanmar and Viet Nam were largely unaffected by the 1997 Asian financial crisis as well as 2008 global financial crisis.

Mechanisms that lead to currency and financial crises are numerous and include the interactions among currency markets, government finances, the banking sector, and the corporate sector. Obstfeld and Taylor (2004) notes that financial and institutional underdevelopment including the inadequate quality of bank supervision, the quality and transparency of corporate governance, the enforcement of property rights, etc. contribute to the probability of occurrence of a crisis.

The 1997 financial crisis spread through the region's banking systems, as sudden stops in combination with asset price deflation led to large current account reversals, bank and some large corporation balance sheets being impaired, and financing drying up. The lack of well-developed local corporate bond markets meant that the capital markets had no "spare tire" when banks could no longer issue credit to fuel the economy. For a long period after the crisis, large corporate borrowers, which are dependent on local banks, were unable to raise funds. The crisis was instrumental in unmasking the fragility and lack of depth of the ASEAN financial system. The rush to liberalize financial markets in many countries in the 1980s and 1990s under the prevailing dogma that it is welfare-enhancing led to perverse results in the absence of institutions and infrastructure that promotes financial market development.

There seems to be some degree of endogeneity among financial crisis vulnerability, capital account openness, and level of development of local financial systems. The more developed the latter, the less vulnerable they are, as is argued to be the case of Singapore, which has the most developed and open financial markets among the ASEAN-5. On the flipside, countries with less developed financial markets tend to be more vulnerable to financial shocks, and are more likely to constrain cross-border flows to mitigate risk—an equilibrium position akin to financial autarky. The latter could lead to suboptimal results unless the correct policies and financial infrastructure are pursued.

IV. THE ROLE OF CAPITAL CONTROLS

At the theoretical level, the Feldstein–Horioka puzzle⁵ and the Home Bias Puzzle⁶ have withstood innumerable efforts to overturn them. The high correlations between domestic saving and investment rates in otherwise relatively open economies in the Organisation for Economic Co-operation and Development (OECD) imply that capital is relatively immobile even in the advanced economies. This empirical regularity is inconsistent with the notion that savings flow from advanced economies in the form of investments in less developed economies, resulting in global welfare gains. This also implies that consumption smoothing and risk diversification are benefits that cannot be automatically expected with cross-border capital liberalization. The most important benefit from the standpoint of economic development is the potential for foreign direct investments into the real sector. The Lucas Paradox suggests that this would not be a likely outcome.

Even if the gains from capital account or financial liberalization were realized, however, such gains may not be particularly large. Gourinchas and Jeanne (2006) conduct a policy experiment on two calibrated models of economic development and find that the potential gains from capital liberalization are likely to be small, not exceeding a 1.7% increase in real consumption given estimated parameter values in production and intertemporal elasticities of substitution. Employing a neoclassical model akin to A. Ramsey–Cass–Koopmans Model, and a “Macro-Mincer” model with human capital and distortions, they conclude that any substantial gains arising from capital liberalization could not come from channels arising out of the standard neoclassical model of economic development. The implication is that financial liberalization would have to induce improvements in factor productivity in order to produce substantial improvements in economic growth. Their research results imply that it is better to introduce policies that reduce domestic distortions prior to financial liberalization in order to realize substantial gains from liberalization. While lacking in empirical content, the results of their study are consistent with the observation that countries with relatively undeveloped internal markets fail to gain from cross-border capital account liberalization.

The economic performance of emerging market economies (EMEs) and patterns in flows of capital during the 1997 Asian financial crisis and the 2008 global financial crisis have led to the renewed interest in the usefulness of capital controls. The dogma of financial liberalization had primacy in the 1980s and 1990s on the grounds of supposed welfare gains arising from consumption smoothing and risk sharing, but the lack of empirical evidence on actual gains coupled with real costs of vulnerability to crises arising from sudden stops and reversals increasingly cast doubt on its validity. There is mounting evidence that the path

⁵ Under the intertemporal theory of the current account and capital mobility, savings and investment should have a low correlation, since investors could borrow or lend abroad without being constrained by the amount of domestic savings. Feldstein and Horioka (1980) found high correlations between savings and investments in OECD countries, contrary to the prediction of theory.

⁶ The Home Bias Puzzle is attributable to French and Poterba (1991), and reflects the finding that equity investors tend to invest locally despite the presence of higher yielding investments and benefits from overseas investments, contrary to the prediction of finance theory.

to financial liberalization and development without regard to the degree of development of the financial market could be costly.

After recovering from the Asian financial crisis, the region's emerging economies managed the risk of sudden stops largely by accumulating prodigious amounts of foreign exchange reserves. This costly strategy involves sterilization by the region's central banks, which end up holding low-yielding foreign currency and issuing relatively high-yielding debt. The process of massive capital inflows and sterilization by the region's central banks (to prevent inflation) merely reinforces the inefficient recycling of Asian savings. Its reinforcing effects on inefficient reintermediation of Asian savings notwithstanding, there are limits to reserve accumulation and sterilization, given the ensuing fiscal burden of interest payments on local currency sovereign bonds such that other measures will eventually have to be resorted to.

The degree of financial openness and output volatility depends on a number of factors, including the nature and persistence of shocks to the system. Mendoza (1994) finds that output volatility increases with financial integration when shocks are large and persistent. Buch, Dopke, and Pierdzioch (2004) find that monetary policy shocks increase the volatility of output but lower that of consumption. They also find that fiscal policy shocks give rise to opposite results.

There is some evidence that not only was consumption smoothing not achieved in some cases, but actually became more volatile for some countries. Kose, Prasad, and Terrones (2006) find that the volatility of consumption growth relative to income growth actually increased for some mid-range financially integrated economies that experienced particularly large inflows in the 1990s. This is consistent with the observed procyclicality of capital flows as well as threshold effects, where reversals tend to occur after inflows reach a certain level. In contrast, less financially integrated developing countries experienced a reduction in their volatility of consumption growth relative to income growth in similar periods.

How can the risk of increased vulnerability to financial crises in the course of increased financial openness be reconciled with the objective of increased regional financial integration as part of ASEAN's financial development strategy?

It is proposed that a selective use of capital controls⁷ under predefined and mutually agreed upon rules and conditions for implementation be included in the ASEAN countries' stabilization toolkits. Without cooperation, the use of such controls by one country could give rise to negative externalities on neighboring countries, exacerbate the perverse pattern of capital flows, and possibly give rise to greater misallocation of capital and unwise investments.

⁷ The traditional definition of capital controls rely on policies that affect cross-border capital transactions which discriminate on the basis of residence. Broader capital management measures espoused more recently by the IMF include those that do not do so.

The notion of capital controls is not new. At its inception, even the IMF recognized that full mobility of capital is not necessarily welfare-enhancing. Ostry et al. (2010) note that even the IMF's Articles of Agreement recognize that members may generally exercise controls as are necessary to regulate international capital movements subject to their Article IV obligations on IMF surveillance.

It is argued that capital controls need not be an anathema to financial development under conditions where their use is coordinated, harmonized, and exercised under a set of multilaterally agreed upon rules. This is necessary to militate against the use of controls for purposes other than financial stabilization. There is a need to discourage its use as a tool for strategic advantage and gains arising out of “beggar thy neighbor” trade and exchange rate policies.

Historically, capital controls have been used in the ASEAN largely to help authorities manage the exchange rate and maintain the independence of monetary policy. They were likewise used by Malaysia and Thailand during the Asian financial crisis in an attempt to control excessive outflows and minimize the effects of the reversals in capital flows. Thailand introduced controls on capital inflow surges in 2006–2007 through a 30% unremunerated reserve requirement. Chile used the same instrument at the turn of the century.

Studies on the effectiveness of controls show mixed results. In a review of empirical studies on the effectiveness of capital controls, Hutchison (2012) finds that the evidence is mixed on their effect on volumes of outflows and inflows, albeit there seems to be a general finding that controls tend to alter the composition. Gochoco-Bautista, Jongwanich, and Lee (2010); Jongwanich and Kohpaiboon (2012); and Kim and Yang (2012) find that capital controls do have temporary effects on the volume of inflows, and also significantly affect its composition. Gochoco-Bautista and Francisco (2011) find that the effectiveness of controls in Asian emerging markets depends on regional income factors, and that in varying degrees, capital controls have significant effects on foreign direct investment inflows and on debt inflows and outflows.

Despite the apparent effectiveness of capital controls by type and direction of capital flows, these are not the only tools that should be used, nor should they necessarily be the first tool to be considered even for macroprudential reasons. The emerging consensus in the literature is that specific types of capital controls have differential effects on the components of capital flows. Unremunerated reserve requirements, for example, were found by Edwards, Valdez, and De Gregorio (2000) to have pushed capital inflows into Chile into assets with longer term maturities. Ostry et al. (2010) note that inflow taxes on short-term debt will also tend to create a wedge between short- and long-term debt and induce substitution for the latter. A tax on financial transactions would have the same effect. The effect of various capital controls on the composition of flows is important, since short-term debt and portfolio investment flows are typically more volatile than others.

Surges in capital inflows tend to finance asset price bubbles especially in the property sector. Inflation targeting central banks in the region (Indonesia, the Philippines, and Thailand) have remained reluctant to use monetary policy as a tool against asset price bubbles and primarily use macroprudential measures such as ceilings on loan-to-value ratios, property cooling measures, and reserve requirements.

Ostry et al. (2010) propose a framework in which capital controls may be used in conjunction with macroeconomic and prudential policies in order to address potential problems associated with surges in capital flows. This preliminary framework is suggested as a useful starting point in harmonizing any effort to arrive at a regional framework for a multilateral agreement on the use of capital flows to guard against financial vulnerability even as efforts to undertake regionwide liberalization is being implemented. However, this framework is seen by many emerging economies as flawed in that it allows the use of capital control measures only as a last resort when every other measure has failed. However, at that point, capital controls are less likely to work.

In their survey of the literature on managing capital inflows, Kawai and Takagi (2008) argue that there are no simple rules on the pace and sequencing of capital account liberalization and that certain preconditions must exist in order to address macroeconomic and financial stability risks associated with cross border flows. They argue that elements of sound macroeconomic policy including fiscal discipline, prudent external debt management, a flexible exchange rate, and the transparent conduct of monetary and exchange policies must be put in place. These preconditions are consistent with the framework proposed by Ostry et al. (2010). A multilateral approach is, however, reiterated since each member state has a different state of domestic financial market development, and is consequently exposed to varying levels of financial fragility.

V. FINANCIAL MARKET DEVELOPMENT IN ASEAN COUNTRIES

The inefficient intermediation of Asian savings, arising from the region's relatively underdeveloped financial systems and the risks associated with volatile capital flows, requires a proactive development approach. The benefits from increasing the depth of financial markets in Asia in terms of reduced exposure to the tail risks of capital mobility as well as in providing a more efficient platform for intermediating ASEAN savings should provide these economies enough incentives to push such an initiative.

A. The Asian Financial Crisis and Developments in ASEAN Depository Institutions

The bank centric nature of Asian financial systems in the run-up to the 1997 Asian financial crisis was exacerbated by the fact that banks were generally badly managed and poorly supervised (Mohanty and Turner 2010). The relatively high regional (and global) growth

rates from 1992 to 1996 together with liberalized cross border capital flows encouraged banks to incur foreign currency debt with relatively short maturities to take advantage of the increased local demand for credit. Ease of access to foreign currency-denominated financing encouraged banks to take unhedged positions and engage in excessive risk taking. This practice left them vulnerable to the sudden stop of debt inflows and subsequent reversals in 1997–1998. Since nonbank firms are heavily dependent on the local banking system for debt financing, this set the stage for the transmission of the ensuing financial crisis into the real side of the economy, resulting in severe economic contractions in most ASEAN economies.

Retail deposit growth in the ASEAN, except for Cambodia, exceeded gross loans in 2003 and 2008, although the loan to deposit ratios for Indonesia, the Lao PDR, and Thailand went up during the global financial crisis (Ree 2011). This is reflective of banks' increased risk aversion after the 1997 financial crisis, with the consequence of reduced reliance on wholesale funding. In addition, local banks' international lending increased significantly beginning in 2006, hand in hand with the increase in deposits in international banks. This implies that claims in Bank of International Settlements (BIS) reporting banks exceeded their liabilities in most years. International banks also tended to lend to Asian banks in local currency, such that a currency mismatch was avoided. In general, the liquidity of Asian banks, including those in the ASEAN, dramatically improved at the turn of the century. In addition to increased risk aversion in the aftermath of the 1997 Asian financial crisis, favorable macroeconomic conditions and micro-prudential regulations⁸ resulted in strong balance sheet positions with significantly less reliance on capital flows outside of the region (Mohanty and Turner 2010). Improved access to international capital markets also allowed nonbank firms to directly obtain cross-border loans, thereby substantially reducing the role of banks in intermediating capital flows. As a result, the ASEAN banking systems became even more resilient against external shocks.

Nonbank firms are likewise beginning to tap overseas markets for external financing, implying a potential for corporate bond market development within the region. The combined effect of faster growth in deposits relative to the demand for bank credit, the availability of local currency loans from foreign banks, and the available revenue alternatives in the form of sovereign bonds gave banks in the ASEAN EMEs a sufficient liquidity cushion to employ countercyclical lending.

Bank lending in the region has also become more inclusive, with retail consumer debt rising substantially in Indonesia and Malaysia. Prior to the Asian financial crisis, ASEAN banks generally engaged in a one-way intermediation process where household savings were transformed into bank deposits and eventually converted into corporate credit. Upon recovery from the 1997 crisis, there was an increase in two-way intermediation and there was rapid development in consumer banking (Mohanty and Turner 2010). This rise in mortgage

⁸ These prudential measures include single and group borrower limits as well as tighter provisions on the dispensation of credit to shareholders, officers, and related interests. Basel I and II ensured that capital adequacy is sufficient and that risks are carefully monitored and controlled.

and consumer lending is indicative of improved avenues for consumption smoothing on the part of households, as well as reduced exposures to trade shocks on the part of banks.

B. Deepening ASEAN Financial Systems

Financial market development among the ASEAN+3 economies has been uneven. It has been uneven across markets and uneven across economies. For most of these economies, the banking sectors and stock markets are already well developed. Except for the five smaller ASEAN economies, the government bond markets are also fairly well developed. In none of the economies are the corporate bond markets sufficiently well developed to contribute significantly to economic growth and stability.

Robust financial markets and systems require multiple channels of financing such that it is imperative that bond markets are developed in the ASEAN (Gyntelberg, Ma, and Remolona 2005). Garcia-Herrero, Wooldridge, and Yang (2009) find that the lack of liquidity in Asian financial markets is the major reason why Asian savings are predominantly invested outside of the region.

The underlying problems of bank-centric financial systems under government regulation were increasingly viewed as a source of risk to the region. The subsequent interest in developing capital markets and converting the finance sector to be an instrument for economic growth rather than an independent industry was a consequence of this belief. The intermediate goal of financial deepening in the region is a necessary step toward a fully developed regional financial system.

Financial deepening is a measure of the importance of a financial sector to the economy. It is usually measured by the size of the sector as a ratio to GDP. Table 2 provides measures of such deepening for the ASEAN+3 economies.

In terms of the ratio of domestic bank credit to GDP, the banking systems have been the most developed sectors of the financial systems in the ASEAN+3 economies. Nonetheless, among the 13 economies, two—the Lao PDR and Myanmar—have yet to develop significant banking systems. Since the liquidity provided by the banking system is critical for financial markets, a further deepening of the banking sectors in these two economies is likely to be necessary before the other financial markets can be developed.

Table 2: Financial Depth of ASEAN+3 Countries Market Size as a Percentage of GDP
(as of end 2010)

	Domestic Bank Credit	Stock Market	Debt Securities Market
Brunei Darussalam ^b	32.0	...	...
Cambodia	23.3	...	...
Indonesia	35.6	51.0	13.2
Lao PDR	...	...	...
Malaysia	132.2	171.7	100.8
Myanmar	...	...	...
Philippines	52.1	83.4	33.9
Singapore	85.7	290.6	57.8
Thailand	109.0	87.1	70.7
Viet Nam ^b	123.0	37.0	...
China, People's Rep. of	147.6	46.2	24.8
Japan	237.6	70.1	251.6
Korea, Rep. of	103.2	108.4	110.3
<i>Memo:</i>			
United States	104.4	117.9	172.9
Euro area ^c	156.5	55.2	111.5

... = Data not available, GDP = gross domestic product, PPP = purchasing power parity.

^a For domestic bank credit, end-2009.

^b Weighted averages based on 2005 GDP and PPP exchanges rates.

Sources: Staff calculations using data from *International Financial Statistics* (IMF 2011a), *World Economic Outlook* (IMF 2011b), and World Federation of Exchanges (2011).

When it comes to financial markets, it is said that in Asia “equity is king.” Indeed, the stock markets in most of the ASEAN+3 economies are thriving. As shown in Table 2, in the Republic of Korea, Malaysia, and Singapore, the ratio of stock market capitalization to GDP exceeds 100%. In contrast, Brunei Darussalam, Cambodia, and Myanmar have no stock markets to speak of. Trading in the Lao Securities Exchange started only in January 2011, with two listed companies. Because of its wealth and its easy access to the Singapore market, Brunei Darussalam probably has no need for its own stock market. For Cambodia and Myanmar, however, a stock market can be considered to be low-hanging fruit for financial market development.

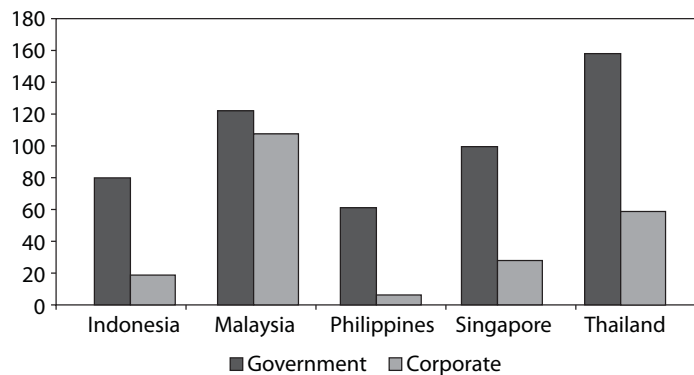
While generally not as well developed as the stock markets, significant domestic debt markets also exist in most of the ASEAN+3 economies. As shown in Table 2, only five of the economies lack such markets, namely Brunei Darussalam, Cambodia, Lao PDR, Myanmar, and Viet Nam. Nonetheless, even for the other economies, it is only the government debt markets that are well developed. As discussed further below, the corporate debt markets remain much less well developed.

Table 3: Outstanding Bonds by Category (\$ billion)

	2000			2010			Average Growth per Annum		
	Corporate	Government	Total	Corporate	Government	Total	Corporate	Government	Total
Indonesia	2.4	51.2	53.6	11.6	81.9	93.5	38	6	7
Malaysia	31.4	28.4	59.8	111.9	128	239.9	26	35	30
Philippines	0.2	20.7	20.9	2.3	61.7	64.0	105	20	21
Singapore	17.0	25.0	42.0	26.0	102.8	128.8	5	31	21
Thailand	14.1	16.7	30.8	59.5	166.1	225.6	32	89	63
Total	65.1	142	207.1	211.3	540.5	751.8	22	28	26

Source: Staff calculations using Bloomberg and World Federation of Exchanges data.

The value of corporate debt securities in the ASEAN-5 in 2010 was only \$211.3 billion, whereas the total value of domestic bank credit surpassed \$3.1 trillion. Of the outstanding \$751.8 billion of bond issuances as of 2010, approximately 72% were sovereign bonds. Malaysia has the biggest outstanding value of corporate bonds at close to \$112 billion in 2010. Thailand's outstanding value of \$59.5 billion is a far second. The Philippines has the smallest volume of issuances at \$2.3 billion. The comparative size of government and corporate bond markets in the ASEAN-5 is shown in Figure 5.

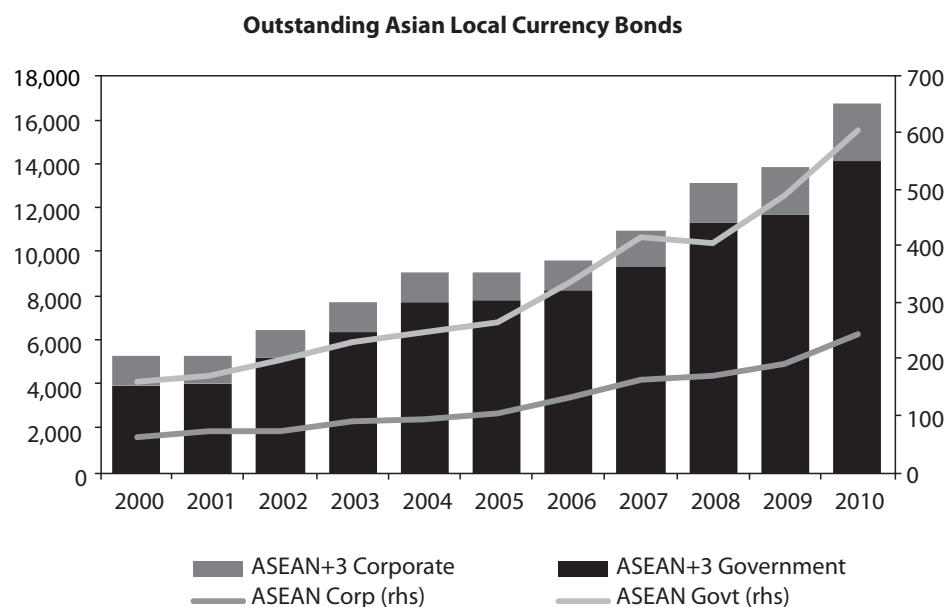
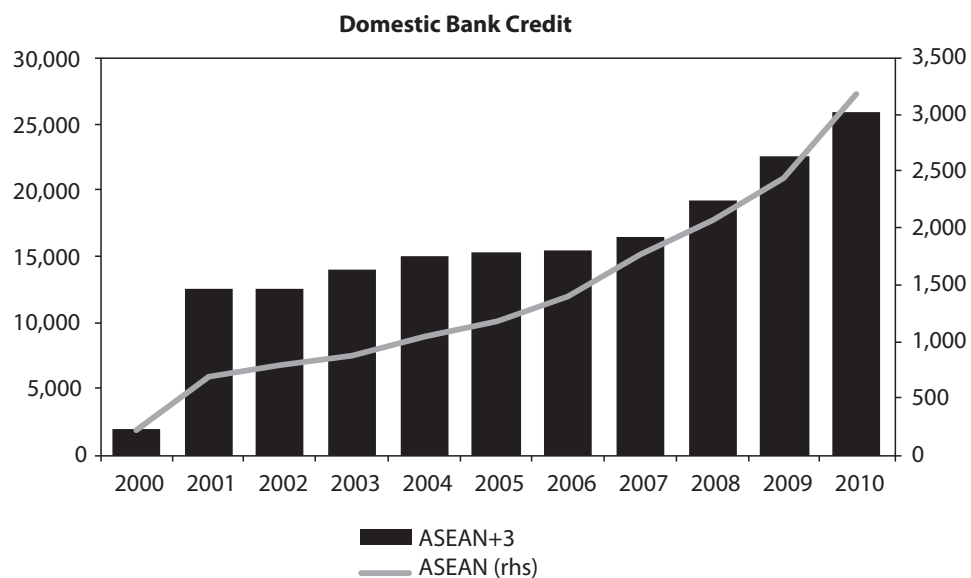
Figure 5: Outstanding Government versus Corporate Bonds, year-end 2010 (\$ billion)

Source: Staff calculations using Bloomberg and World Federation of Exchanges data.

A cursory examination of historical bond market volumes for the ASEAN and ASEAN+3 in Figure 6 reveals that while corporate bonds are growing, the growth and absorption of sovereign issuances outstripped the growth of corporate bonds. The growth differentials resulted in a gradual decline in the composition of corporate bonds relative to the total from approximately 33% in 2000 to 23.5% in 2010.

The average growth rates of corporate bond issuance in Indonesia and the Philippines are significantly higher, posting average per annum growth rates of 38% and 195%, respectively, for 2000–2010. The caveat is that these countries had substantially smaller volumes of outstanding bonds in 2000. This is particularly true for the Philippines, which only had \$200 million of outstanding corporate bonds in 2000. The continued dominance of banks is illustrated by the following charts in Figure 6.

Figure 6: Domestic Bank Credits and Outstanding Local Currency Bonds (\$ billion)



Notes: ASEAN includes Brunei Darussalam, Cambodia, Indonesia, the Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam; ASEAN+3 includes the PRC, Japan, and the Republic of Korea.

Sources: Data on domestic bank credit from *International Financial Statistics* (IMF 2012a); data on outstanding Asian local currency bonds from Asian Bonds Online, available: asianbondsonline.adb.org/

A quick examination of the right hand side axes reveals the disparity in the relative volumes of domestic credit and outstanding bond issuances in the ASEAN. Note further that the left hand side axes denoting the ASEAN+3 points to a smaller gap between bank credit and bond issuances, implying that the ratio of bank credit to outstanding bonds is smaller for the PRC, Japan, and the Republic of Korea.

The extent of bank dominance is likewise seen in Table 4. Note that the share of bank assets to the total size of the finance sector is significantly higher than the share of debt securities. In comparison, the share of debt securities in Japan is much bigger relative to the share of debt securities. The gap between the two debt classes is also smaller for the Republic of Korea. The comparative figures for the US bank asset and debt securities indicate that debt securities are twice as large as bank debt (Sheng 2011).

There is no bank sector information for Brunei Darussalam and Myanmar, and they have no stock exchanges as of October 2011. The stock markets of Cambodia and the Lao PDR only opened in January 2010 and July 2011 respectively; and stock market capitalization and bond market pricing data are not yet available. Of the peripheral ASEAN countries, Viet Nam seems to have the most advanced financial market. Nevertheless its bank assets and stock market capitalization as a percentage of GDP are significantly lower than those in the ASEAN-5.

Table 4: Global Finance Sector Indicators, 2010 (% of assets)

	Bank Asset, Stock Market Capitalization, and Debt Securities (\$ billion)	Share of Bank Assets (%)	Share of Stock Market Capitalization (%)	Share of Debt Securities (%)
Indonesia	1,060	54	34	12
Malaysia	1151	40	36	24
Philippines	415	37	38	25
Singapore	1408	41	46	13
Thailand	1054	51	26	22
Brunei Darussalam	--	--	--	--
Cambodia	6	100	--	--
Lao PDR	2	100	--	--
Myanmar	--	--	--	--
Viet Nam	69	18	55	27
ASEAN	5165	45	37	18
China, People's Rep. of	19746	71	14	16
Japan	27263	34	14	52
Korea, Rep. of	4150	43	26	30
ASEAN+3	56325	49	17	35

-- = Data not available, ASEAN = Association of Southeast Asian Nations, ASEAN+3 includes the ASEAN members and the PRC, Japan, and the Republic of Korea.

Notes: Debt securities includes all issuers of domestic and international securities

Cambodia and the Lao PDR have data on bank assets only; for the Lao PDR, bank assets are as of June 2010.

Sources: Staff calculations using data from Bank for International Settlements, available: www.bis.org/statistics/bankstats.htm; World Bank's World Development Indicators, available: data.worldbank.org/data-catalog/world-development-indicators; IMF *World Economic Outlook*, available: www.imf.org/external/pubs/ft/weo/2011/02/weodata/download.aspx; CEIC Database, available: www.ceicdata.com/; World Federation of Exchanges, available: www.world-exchanges.org/statistics; Bank scope, available: www.library.hbs.edu/go/bankscope.html; and country central bank websites; all downloaded 14 September 2011.

In terms of asset distributions found in Table 4; note that the ASEAN-5 is also much more dependent on the equities market compared to the PRC and Japan as of 2010. Indonesia and Thailand had the highest degree of dependence on banks whereas the Philippines was the least dependent. Among the peripheral ASEAN countries, Cambodia and the Lao PDR are totally dependent on banks for financial intermediation. Viet Nam, on the other hand, has a higher level of dependence on the equities market. While it has the most developed domestic capital market in the ASEAN peripheral countries, its financial sector still needs further development to bring it up to par with the ASEAN-5. Leung (2009) notes that Viet Nam's banking system is still dominated by state-owned commercial banks, and that banking supervision and governance need to be significantly upgraded. There is a need for further institutional development and capability building in key macroeconomic institutions.

In contrast, Sheng (2010) notes that the proportion of debt securities relative to its sum with bank assets and equities market capitalization in the US and Europe for 2009 is 52% and 43%, respectively. The share of bank assets in the US and Europe was 23% and 46% respectively, such that Europe has a significantly low level of dependence of the equities markets as a source of capital.

The persistence of demand for bank credit may have been due to the increased preference for internal and external equity financing given the increased risk aversion after the 1997 financial crisis. (Mohanty and Turner 2010), but also exacerbated by the perceived high transactions costs of corporate bond issuance (Goswami and Sharma 2011).

With the persistent dominance of banks in local financial markets and the development of sovereign bond markets, the former began to hold on to an increasing share of government bonds in their asset portfolios, effectively raising the share of liquid assets and improving their balance sheets (Mohanty and Turner 2010). In a sense therefore, the development of the region's bond markets contributed to the improvement of local banks' balance sheets and resiliency during the 2008 global financial crisis.

Felman et al. (2011) note that most countries in the ASEAN are at various stages of developing the infrastructure necessary to deepen the local bond markets. Indonesia and Thailand have undertaken reforms to their market microstructures by establishing market makers, introducing modern platforms, and upgrading payment and settlement systems. Other ASEAN countries are likewise improving their local infrastructure to support the development of local bond markets. The Philippines introduced a new Securities Regulation Code, institutionalized delivery and payment through a Real Time Gross Settlement System, and launched an interdealer platform to encourage trading of fixed income instruments.

The recent development of deep and liquid local currency government bond markets in the ASEAN emerging economies now provide dependable yield curves for the pricing of local currency corporate bonds. As shown by Chan et al. (2011), among the factors that account for much of the improvement in the local currency sovereign bond markets are the consolidation of issuances into a few benchmark maturities, and the development of critical market making structures, including the rise of interdealer markets and the entry

of international interdealer brokers. The nature of these market-making structures provide lessons for the further development of corporate bond markets in the region.

C. Market Making in the Emerging ASEAN Bond Markets

The experience of deep and liquid government bond markets in the US and Europe shows that the provision of liquidity in these markets requires an active role for market makers. These market makers do not just arise by themselves. They are often designated by the government and are obliged to make markets by providing two-way quotes on benchmark issues. They perform this role in exchange for certain privileges, such as being able to trade with the central bank. To be effective, these market makers often trade among themselves in an interdealer market with the help of interdealer brokers. Indeed, the interdealer market is often the most active part of the government bond market, and it is often where much of price discovery takes place.

Market making structures are a strong suit of government bond markets in the ASEAN+3 economies. The nature of market making in these markets has tended to follow the example of the US Treasury market and the United Kingdom's gilts market. As shown in Table 5, each of the emerging ASEAN+3 markets (the ASEAN+3 markets excluding that of Japan) has between 10–50 designated market makers. Each market has at least a few interdealer voice brokers, strongly indicative of the existence of a fairly active interdealer market.

Table 5: Market Making in Emerging Asian Government Bond Markets

Jurisdiction	Market Makers	Interdealer Voice Brokers
China, People's Rep. of	50 primary dealers for the People's Bank of China Open Market Operations (two foreign banks); 23 market dealers in the interbank bond market (three foreign banks); and three companies providing brokering services for the interbank bond market	Shanghai CFETS-ICAP, Tullet Prebon SITICO Ltd., Pingan Tradition International Money Broking Co. Ltd.
Indonesia	18 primary dealers (five foreign banks)	BNI Securities, Danareksa Sekuritas, Mega Capital Indonesia, OSK Nusadana Securities, Reliance Securities, Trimegah Securities Tbk
Korea, Rep. of	20 primary dealers (two foreign banks)	Korea Interdealer Broker Corporation (KIDB), Korea Money Brokerage Corporation (KMB)
Malaysia	12 principal dealers (six locally incorporated foreign banks)	Affin (Tullett Prebon), Amanah Butler Malaysia Sdn Bhd, First TAZ Tradition Sdn Bhd, Harlow's & MGI Sdn Bhd, Forex Enterprise Sdn Bhd, KAF-Astley & Pearce Sdn Bhd
Philippines	42 government securities dealers (nine foreign banks and financial institutions)	AFS Philippines Inc., ICAP Philippines Inc., Tradition Financial Services, Tullett Prebon Philippines Inc.
Singapore	13 principal dealers (10 foreign banks)	ICAP, Tullett Prebon, Tradition
Thailand	9 primary dealers (four foreign banks)	ICAP, Wallstreet Tullett Prebon

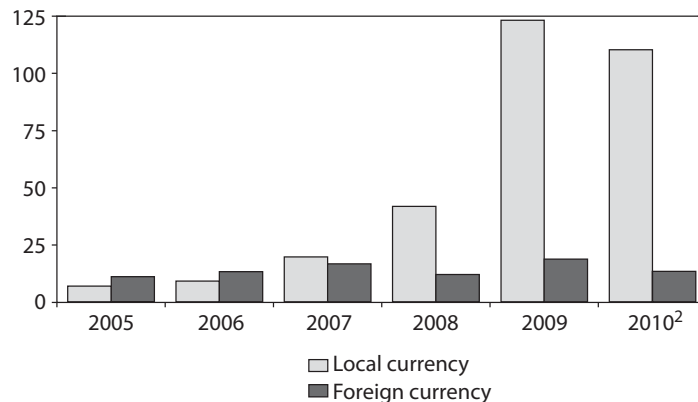
Note: Seven markets as of February 2011.
Sources: BIS, Chan et al. (2011).

Market liquidity does not seem to require many designated market makers. In the more liquid of the emerging ASEAN+3 markets, there tend to be only 10–20 designated market makers. Indonesia has 18 primary dealers; the Republic of Korea, 20 primary dealers; Malaysia, 12 principal dealers; Singapore, 13 principal dealers; and Thailand, 9 primary dealers. The PRC and the Philippines rely on the most number of market makers. The People’s Bank of China (PBOC) has designated 50 primary dealers as counterparties for its open market operations and 23 market dealers in the interbank bond market. The Bureau of Treasury of the Philippines has designated 42 government securities dealers.

Interdealer voice brokers now operate in the larger ASEAN+3 markets. The entry of these brokers entails large fixed costs, and they would not have come if the markets did not have serious potential for depth and liquidity. Such brokers have played critical roles in the fixed-income markets of the US and the United Kingdom by ensuring ex ante anonymity and ex post transparency in bringing counterparties together. The leading global interdealer brokers include BGC, ICAP, Tullett Prebon, GFI, and Tradition. At least one or two of them operate in the more liquid of the ASEAN+3 markets. Some of the markets rely largely on local interdealer brokers. This is especially the case in Indonesia and Malaysia.

The entry of interdealer brokers is key to the development of corporate bond markets in the ASEAN, and in emerging Asian countries as a whole. Figure 7 shows the acceleration of corporate bond issuance in Asian emerging markets in 2009 and 2010.

Figure 7: Corporate Bond Issuance in Asian Emerging Markets (52 issuers, in \$ billion)



Source: Staff calculations using data from *International Financing Review* (Thomson Reuters 2005–2010).

While the aggregate volumes are still significantly smaller than those in advanced economies, the rapid growth of local currency bond issuances in the past 2 years is indicative that finance market development initiatives are yielding some positive results.

D. Why Size Matters for Deep and Liquid Markets

The regional imperative for market development recognizes that size is important. McCauley and Remolona (2000) and Gyntelberg, Ma, and Remolona (2005) have emphasized the importance of market size in developing deep and liquid financial markets. The potential number of issuers and buyers in some countries may be a significant barrier toward faster development of local currency corporate bonds for some countries in the region. The authors observe that markets with smaller liquidity are often characterized by a small investor base, lacking in market transparency and with a poor information infrastructure. Eichengreen and Luengnaruemitchai (2006) also point out that structural factors like the lack of critical size in capital market issuance and the historical dependence on the banking sector also explain the weak growth of corporate bond markets in Asia. Goswami and Sharma (2011) point out that secondary liquidity in the ASEAN has a high degree of dependence on foreign investors who access the regional markets through “access products” distributed by foreign intermediaries.

While the degree of financial deepening indicates the importance of a financial sector to the economy, the absolute size of the sector is often an indicator of how effective the sector is in performing its role of intermediating savings and investment. Larger financial markets are more likely to be deeper and more liquid than smaller markets. If, as discussed in the next section, network externalities are the source of depth and liquidity in financial markets, then there will be a size threshold beyond which a critical mass will allow a market to develop viable depth and liquidity. Nonetheless, exceeding the size threshold seems to be a necessary but not sufficient condition for financial market development. Factors other than size are clearly also important. Table 6 shows the absolute size of the various financial sectors for the ASEAN+3.

Table 6: Size of Capital Markets in ASEAN+3 Countries, end-2010 (\$ billion)

	Stock Market	Government Bond Market	Corporate Bond Market
Brunei Darussalam	...	...	...
Cambodia	...	...	...
China, People's Rep. of	2,716	1,623	674
Indonesia	360	82	12
Lao PDR	...	...	...
Malaysia	409	128	112
Myanmar	...	...	...
Philippines	157	62	2
Singapore	647	103	26
Thailand	278	166	59
Viet Nam	38	...	...
Japan	3,828	11,632	2,102
Korea, Rep. of	1,092	475	636
<i>Memo:</i>			
United States	17,283	11,152	14,197
Euro area	5,638	7,205	5,915

... = Data not available, ASEAN+3 = composed of ASEAN member countries and the PRC, Japan, and the Republic of Korea.

Sources: Staff calculations using data from Bloomberg, available: www.bloomberg.com/; Bank for International Settlements, available: www.bis.org/statistics/bankstats.htm; and World Federation of Exchanges, available: www.world-exchanges.org/statistics, all downloaded 14 September 2011.

Experience suggests that the size threshold for stock markets is not very high. As shown in Table 6, among the ASEAN+3 stock markets, the markets in the Philippines and Viet Nam are the smallest. With a capitalization of \$157 billion as of the end of 2010, the Philippine stock market appears to be already well developed and has apparently been so for many years. With a capitalization of \$38 billion, the Viet Nam stock market is not yet considered to be well developed. The size threshold for a critical mass in stock markets would appear to be somewhere between the sizes of those two markets, probably closer to that of Viet Nam than that of the Philippines. The Viet Nam market may need to list just a few more companies to exceed the size threshold. Beyond this, the government can focus on other important aspects of market reform. Such aspects are beyond the scope of this study. The other small ASEAN economies have a longer way to go.

The size threshold for government bond markets does not appear to be very high either. In recent years, the larger ASEAN countries have succeeded in developing deep and liquid local-currency government bond markets. These markets now provide dependable yield curves for the pricing of local-currency corporate bonds. As shown in Table 6, the smallest among these markets is that of the Philippines, with an outstanding amount of government bonds of \$62 billion as of the end of 2010. A BIS report in 2010 by Chan et al. (2011) provides an assessment that considers even this market to be deep and liquid. In the Philippines, this was achieved in part through the consolidation of issuance in a few benchmark maturities. Some evidence for the market's liquidity is found in the market making structures, which was discussed earlier in this section.

The size threshold for corporate bond markets appears to be much higher than that for government bond markets. As shown in Table 6, among the ASEAN+3 economies, the largest corporate bond markets are those of the PRC, Japan, and the Republic of Korea. With amounts outstanding as of the end of 2010 of \$674 billion, \$2.1 trillion, and \$636 billion, respectively, not one is considered deep and liquid. Nonetheless, it is possible that with the right market microstructure, these markets are big enough to become deep and liquid. Such a microstructure would likely include interdealer markets that ensure ex ante anonymity and ex post transparency.

There are two corporate bond markets that are well known to be deep and liquid—those of the US and the Euro area. But these markets are far larger than those in Asia. The US market is \$14.2 trillion in size and the European market \$5.9 trillion. It is likely that the size threshold needed for a critical mass is much smaller than these. Nonetheless, in Asia, it also seems likely that reaching such a threshold will require a market that is regional in scope.

If corporate bond markets in Asia are to perform their roles as a spare tire for the capital markets and as a mechanism for rectifying the perverse way in which the region's savings are recycled into costly investments, it is important to recognize that only a regional effort will allow these markets to reach the required size threshold.

VI. WHY REGIONAL INSTEAD OF GLOBAL? THE TUG-OF-WAR BETWEEN THE GEOGRAPHY OF INFORMATION AND NETWORK EXTERNALITIES

Many of the usual arguments for the regional integration of financial markets would apply with even more force for the global integration of such markets. Two such arguments are economies of scale and the diversification of risks. Economies of scale supposedly bring depth and liquidity to markets. Diversification allows investors to seek certain levels of investment returns without taking on greater risk. Global integration would take greater advantage of such economies of scale and allow wider diversification of risks than would regional integration.⁹

Nonetheless there is a case for regional integration rather than global integration. This case rests on the trade-off between the geography of information and the critical mass required by network externalities. The geography of information pulls in the direction of more localized markets, while network externalities pull toward more regional and global markets. The terms of this tug-of-war varies from one financial market to another. In emerging Asia, this tug-of-war makes the case for regional integration stronger for corporate bond markets than for other financial markets.

At its root, the role of financial markets is to process and aggregate relevant information obtained by market participants. The actual allocation of capital to various investments is the outcome of decisions made on the basis of this informational role of markets. Such an informational role involves two distinct dimensions:

- (i) *The geography of information.* Depending on the type of asset, the cost of obtaining that information would often be lower for investors whose geographic proximity to sources of information are closer. Such geographic proximity is especially important for markets that depend on firm-specific information—particularly equity markets—and less important for markets that depend on macroeconomic information such as government bond markets.
- (ii) *Network externalities.* The processing of information requires market participants to interact in various ways, including through trading. This interaction gives rise to the network externalities in information that is the fundamental source of market depth and liquidity. To take effective advantage of such externalities, markets require a certain size. But once a critical mass is reached, the advantages become less compelling.

⁹ The 2008 ADB report on the emerging Asian regionalism, for example, states "... there are potentially more opportunities for diversification—and thus higher risk-adjusted returns—from investing globally. Global financial markets tend to be deeper, more liquid, and more diversified" (ADB 2008, 109).

A. The Geography of Information for Different Markets

The evidence for the geography of information is circumstantial but persuasive. It comes from two bodies of literature. One body is on gravity models of financial flows, the other on the home bias of portfolio investments. Gravity models provide evidence for the geography of information for both equity markets and international bank lending. The home bias of portfolio investments is largely seen to be a puzzle, but there is now some evidence that it reflects the geography of information.

In the case of equity markets, Portes and Rey (2005) explore panel data on cross-border equity flows between 14 countries. They find that a gravity model explains international transactions in these assets at least, as well as goods trade transactions. These transactions depend on market size as well as trading costs. With distance between countries as a proxy for information costs, they find the geography of information to be the main determinant of the pattern of international transactions.

In the case of international bank lending, Eichengreen and Park (2003) fit a gravity model to BIS data on cross-border bank claims. They find that international lending falls with distance and rises with common language. A common land border has little effect. These results lead Eichengreen and Park to conclude that information costs are more important than transportation costs.

There is voluminous literature on the home bias of equity portfolios. In 1991, French and Poterba found that US equity investors allocated nearly 94% of their funds to domestic securities, although the US market comprised less than half of the global market. Such a home bias is apparently even stronger for European equity investors. Twenty years after French and Poterba published their results, the home bias of equity investors remains as pronounced as ever. This is a gross violation of modern portfolio theory that it is called the “home-bias puzzle.”

Yet there is growing evidence that the so-called home-bias puzzle simply reflects the geography of information. A familiarity with domestic securities may breed not contempt but understanding. Indeed there is evidence of an informational advantage in the home bias of equity portfolios. Coval and Moskowitz (2001) find that home bias holds even for localities within countries. Managers of equity mutual funds show a significant preference for stocks in their own geographic vicinity. This is not irrational behavior, however, because the performance of these mutual funds does tend to be enhanced by such geographically preferred investments.

This geographic phenomenon seems to be even more striking in cases where investors exercise some control over the companies whose shares they acquired. Kang and Kim (2008) look at a large sample of partial block acquisitions, in which investors purchase large amounts of stock in a given company. Kang and Kim find that geographic proximity

is important in these acquisitions. Not only do block investors show a strong preference for nearby companies but these investors are also more likely to involve themselves in post-acquisition governance efforts in such companies. These governance efforts tend to succeed. The geographically proximate target companies realize higher announcement returns and better post-acquisition performance than do other target companies.

To provide an insight on the geographic distribution of investors in international bond issues by large Asian borrowers, data were collated by gleaning information from reports on bond issues in the weekly *International Financing Review* (Thomson Reuters, various years). As shown in Table 7, we have been able to obtain information on 31 bond issues over 8 months between January and August in 2011 for a total of \$17.0 billion. The issuers come from eight ASEAN+3 countries, namely the PRC, Indonesia, Japan, the Republic of Korea, Malaysia, the Philippines, Singapore, and Thailand. While the issuers include two sovereigns—Malaysia and the Philippines—most of the rest are corporate borrowers, including financial institutions. The currencies in which the bond issues are denominated are dominated by the US dollar, but there are also nine issues in the Chinese renminbi and one each in the Japanese yen and the Singapore dollar.

Table 7: International Bond Issuance by Asian Borrowers: Geographic Distribution of Investors, January–August 2011 (millions)

Month of issuance	Issue Description				Size in US Dollars	Investors by Region (%)		
	Issuer name	Residence of Issuer	Size	Currency		Asia	US	Europe
Aug 2011	National Agricultural Cooperative Federation	Korea, Rep. of	500	USD	500	58	27	15
	Posco	Korea, Rep. of	24,526	JPY	316	41	0	36
	Hangzhou ZhongCe Rubber [The People's Rep. of] China	PRC	900	RMB	140	99	0	0
Jul 2011	Shanshui Cement	PRC	1,500	RMB	232	99	0	1
	Korea Housing Finance	Korea, Rep. of	500	USD	500	48	41	11
	Korea Hydro & Nuclear Power	Korea, Rep. of	500	USD	500	31	47	22
	Japan Bank for International Cooperation	Japan	2,000	USD	2,000	36	11	38
Jun 2011	Beijing Enterprises Water Group	PRC	1,000	RMB	155	99	0	0
	Beijing Enterprises Water Group	PRC	450	RMB	70	89	0	8
	Zijin Mining Group	PRC	280	USD	280	87	0	13
	Malaysia	Malaysia	1,200	USD	1,200	44	4	9
May 2011	Malaysia	Malaysia	800	USD	800	57	15	21
	Lonking Holdings	PRC	350	USD	350	47	33	20
	Pertamina	Indonesia	1,000	USD	1,000	36	42	22
	Pertamina	Indonesia	500	USD	500	40	37	23
	Sino-Ocean Land	PRC	400	USD	400	84	16	0
Apr 2011	ENN Energy Holdings	PRC	750	USD	750	31	50	19
	Beijing Enterprises	PRC	600	USD	600	51	38	11
	Beijing Enterprises	PRC	400	USD	400	66	26	8
	Guangzhou R&F Properties	PRC	150	USD	150	95	0	5
	Guangzhou R&F Properties	PRC	2,612	RMB	399	97	0	3
	BYD	PRC	1,000	RMB	153	99	0	1
	Zhongsheng Group	PRC	1,250	RMB	191	98	0	2
Export-Import Bank of Korea	Korea, Rep. of	700	USD	700	50	43	7	

continued

Table 7. continued

Month of issuance	Issue Description				Size in US Dollars	Investors by Region (%)		
	Issuer name	Residence of Issuer	Size	Currency		Asia	US	Europe
	[The People's Rep. of] China							
	Automation Group	PRC	200	USD	200	67	0	33
	Fufeng Group	PRC	300	USD	300	46	21	33
	SPG Land	PRC	200	USD	200	100	0	0
	PTT Exploration and Production	Thailand	700	USD	700	30	56	14
	Malayan Banking	Malaysia	1,000	SGD	794	100	0	0
	[The People's Rep. of] China							
	Wind Power Group	PRC	750	RMB	114	97	0	3
Mar 2011	Republic of the Philippines	Philippines	1,500	USD	1,500	40	30	30
	Singapore							
	Telecommunications	Singapore	600	USD	600	37	27	36
Jan 2011	PCD Stores	PRC	750	RMB	113	97	0	3
	Texhong Textile Group	PRC	200	USD	200	62	10	28
	Total				17,005	53	23	18

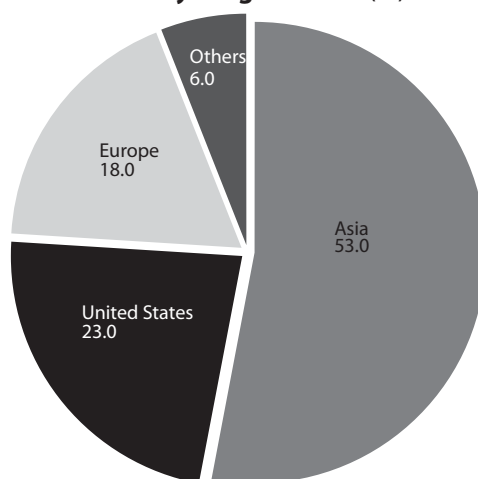
JPY = Japanese yen, PRC = People's Republic of China, RMB = renminbi, SGD = Singapore dollars, USD = United States dollars.

Note: Thirty-one issues.

Source: *International Financing Review* (Thomson Reuters, various issues).

Our data on Asian bond issues show some evidence of a home bias in the international corporate bond market. As shown in Table 7, 53% of the total amount of issuance was by investors from the Asian region. The next largest group of investors was from the US, accounting for 23% of the total. The geography of information seems to apply to corporate bond markets just as it does to equity markets. It is interesting that in the case of the sovereign issues, the effect remains but is somewhat less pronounced. For the Philippines issue in March 2011, 40% was purchased by Asian investors. For the two sovereign issues by Malaysia in June 2011 together, 49% was by Asian investors. The extent of home bias is easily seen in Figure 8, which shows that 53% of the take-up of bond issuances in the region from January to August 2011 was locally subscribed.

Figure 8: International Bond Issues by Asian Corporate Borrowers, January–August 2011 (%)



Note: 31 issues for a total of \$17 billion.

Source: Staff calculations using January–August 2011 data from *International Financing Review* (Thomson Reuters 2011).

A recent study by Coeurdacier and Rey (2011) looks for evidence of home bias beyond the equity home bias. As far as home bias in bonds (an aggregate of both government and private sector) across emerging markets is concerned, their measure shows that emerging Asia has the highest level of home bias in bonds compared with developed countries and relative to other regions such as Central and South America, South Africa, and Central and Eastern Europe.

B. Two Phenomena of Network Externalities in Finance

Depth and liquidity in financial markets arise from network externalities. Economides (1993) suggests that in a given market, the interaction of market participants within a network produces gains for the market as a whole that add up to more than the gains of the individual participants. Such interaction allows market makers to provide liquidity. It also eases price discovery so that price signals may guide the flow of savings to investments. These externalities arise in two ways. First, they arise from the interaction of market makers, which explain the phenomenon of financial centers. Second, they arise from the interaction of savers and investors within a network, which explain the phenomenon of investment banking and syndicated lending.

Babus and Allen (2009) argue that network externalities offset the impact of geographic distance and information asymmetries in 18th century Europe's merchant banking system, thereby allowing for a more efficient flow of capital. Christoffersen and Sarkissian (2009) on the other hand, argue that there are network externalities even at the local level. These stem from access to local information relevant in the assessment of idiosyncratic risk as well as externalities arising from learning effects associated with interaction and learning among market players. They find that city size and the agglomeration of financial intermediaries within a locality matters for more efficient intermediation, and explains the prevalence of financial centers.

The phenomenon of financial centers can be found at various geographic levels. At the local level, the existence of a predominant financial center in the larger ASEAN cities attests to the importance of network externalities. These centers include the Jalan Sudirman area in Jakarta, Ayala Avenue in Makati City, Shenton Way in Singapore, and Sathorn and Silom Roads in Bangkok. In these centers, financial firms willingly pay the highest office rents in the city just to be located close to each other. At the regional level, Hong Kong, China; Singapore; and Tokyo serve as important regional financial centers, and these cities command the highest office rents in the region. Singapore tends to specialize in currency and fixed-income trading activity and in private banking. Hong Kong, China tends to specialize in equity trading, initial public offerings and mergers and acquisitions.

The rise of financial centers seems to be driven by a particular form of network externalities—those that stem from the interaction of market makers in interdealer markets. Such interdealer markets are especially important in fixed-income markets, such as government bond markets and currency markets. The dealers in these markets find it to

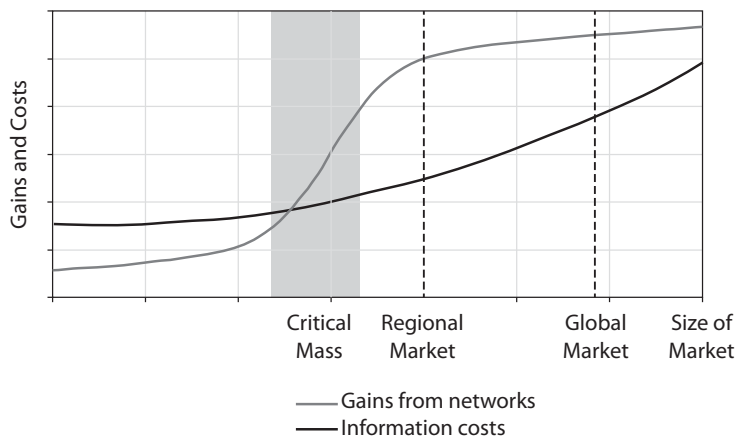
their advantage to be located close to each other, because of the importance of face-to-face communication—to be able to hear the so-called “buzz” of the market. Hong, Kubik, and Stein (2005), for example, find evidence in the significance of this buzz in the holdings and trades of money managers. There seems to be something special in the hobnobbing by market participants, in being able to observe body language, something that is just not available in internet communication.

The other phenomenon of network externalities is about the information network of borrowers and investors. This phenomenon has more to do with the geographic reach of financial markets than with the interaction of market makers among themselves. Morrison and Wilhelm (2007) suggest that investment banks derive a critical informational advantage in underwriting securities from their access to a network of investors located in a wide geographic area. This informational advantage seems to have been exploited even by merchant banks in the 18th century. Schnabel and Shin (2004) provide evidence that merchant banks in Amsterdam in that century were part of a network that included merchant banks in Hamburg and Berlin. This network allowed funds to be raised in Amsterdam and invested all over Prussia.

C. The Tug-of-War in Different Financial Markets

The viability of a financial market of a given size depends on the tug-of-war between the geography of information and network externalities. As illustrated in Figure 9, in markets that are too small, the total geographic costs of information would dominate the total economic gains from network externalities. As the markets get larger, the total costs of information rise because the average distance between investors and investments lengthens. An important characteristic of networks, however, is the existence of a critical mass. Once the market expands to reach this critical size, the externalities become important and the total gains from the network rise rather sharply. These gains begin to overcome the geographic costs of information. It is only at this stage that a financial market becomes viable as an important source of value to the economy.

Figure 9: Tug of War between Geography of Information and Network Externalities



Source: Authors' representation.

In the larger ASEAN+3 economies, the stock markets and government bond markets have evidently achieved the critical mass even while remaining purely domestic markets. With the right microstructures in place, these markets have become viable financial markets.

This is clearly not the case for the domestic corporate bond markets. These markets have remained illiquid, and they raise funds for only the highest rated issuers, usually utilities and quasi-government companies. The lower-rated borrowers in the PRC, Indonesia, the Republic of Korea, Malaysia, and the Philippines often go abroad to issue in the global US dollar corporate bond market rather than in the domestic markets. The issues listed on Table 7 are examples of such borrowing activity. While most of the local corporate bond markets in the ASEAN+3 countries have not attained the critical mass to be viable, the global US dollar market certainly has.

There are good reasons to believe that a regional corporate bond market in Asia could be large enough to reach the critical mass required by network externalities, especially if that market includes the PRC and the Republic of Korea. In the global credit markets, one of the most actively traded instruments is an Asian regional index, the iTraxx Asia ex-Japan index, which is a contract based on credit default swaps (CDS) for 70 of the largest borrowers in emerging Asia. During the first week of September 2011 alone, the trading volume for this contract was \$31 billion in notional amounts. It is notable that the other comparably actively traded credit instruments are also regional CDS indices rather than global ones. The two most actively traded credit instruments in the world are the DJ CDX North American Investment Grade Index (based on CDS contracts on 125 North American borrowers) and the iTraxx Europe Index (similarly based on CDS contracts on 125 European borrowers). There is no actively traded global CDS index.

In the corporate bond markets, including a borrower name in an actively traded CDS index is critical for liquidity. It is analogous to listing a company in a major equity exchange. Using a comprehensive dataset of all US investment in foreign equities, Ammer et al. (2011) find that the single most important determinant of the amount of US investment a foreign firm receives is whether the firm cross-lists on a US exchange. An effort to develop a regional bond market should lead to the expansion of the existing iTraxx Asia ex-Japan index so that it included more Asian names instead of just the existing 70 names.

One challenge a regional corporate bond market would face is whether it could overcome the lock-in effect of existing networks, namely that of the global US dollar and euro markets. This lock-in effect is similar to that of the QWERTY keyboard. As David (1985) illustrates, the alternative Dvorak Simplified Keyboard (DSK), patented in 1932, lets one type 20%–40% faster. Yet even in the age of computers that allow one to switch keyboards instantly, DSK has failed to displace the QWERTY keyboard because of the latter's well-established network.

In the case of the global corporate bond markets, it is conceivable that these markets have already grown so large that the gains from network externalities no longer exceed by much the geographic information costs for Asian borrowers. If a regional market could get going in earnest, it may not only reach the critical mass but also find itself in a region where the gains from localized network externalities are much larger relative to geographic information costs. This is illustrated in Figure 9, where the size of the regional market hits the sweet spot in the contest between the geography of information and network externalities. Note that the geometry of the curves implies that gains from a regional network, relative to information costs, is larger than that of a global network. Without more rigorous empirical evidence, however, the question remains whether even such advantages of a regional market would be sufficient to overcome the gains from the historical lock-in effects enjoyed by the global markets.

The existence of such a regional sweet spot for an ASEAN corporate bond market must be considered no more than a hypothesis at this time. Nonetheless, the ASEAN's Asia Bond Market Initiative already has as one of its objectives the development of such a regional bond market. There has so far been no empirical justification for this, and a hypothesis is at least a step toward such a justification. It will, of course, be useful if such a hypothesis could be tested in subsequent studies.

VII. THE WAY FORWARD

A. Regional Initiatives Thus Far: The ABMI, ABF, and the ASEAN Infrastructure Fund

The Asian financial crisis of 1997 has already led to a number of regional initiatives to develop the domestic debt markets in ASEAN countries, especially in Indonesia, Malaysia, the Philippines, and Thailand. The two most important initiatives have been the Asian Bond Markets Initiative (ABMI) and the Asian Bond Funds (ABF). The ABMI was launched in 2003 by the ASEAN along with the PRC, Japan, and the Republic of Korea. The first ABF was established in that same year by the Executives' Meeting of East Asia Pacific Central Banks (EMEAP), a group of 11 central banks in the region, including five that are part of ASEAN. The same group of central banks established a second fund in 2005. For its part, the ADB started a study program that included the creation of Asia Bonds Online, a data resource for researchers, analysts, and market participants.

The ABMI has two goals: (i) to develop local currency-denominated bond markets in ASEAN, and (ii) to develop well-functioning regional bond markets. In pursuit of these objectives, the ASEAN+3 finance ministers met in Madrid in May 2008 and agreed on a new roadmap for monetary and financial integration of ASEAN. The roadmap established priorities and streamlined the initiative's work programs through the creation of four task forces. Each task force would focus on one of four areas:

Task Force 1: Promoting the issuance of local currency-denominated bonds

Task Force 2: Expanding the demand for such local currency-denominated bonds

Task Force 3: Improving the regulatory framework

Task Force 4: Improving related infrastructure for the bond markets

In April 2011, the ASEAN finance ministers took three more steps. First, they agreed to set up the Credit Guarantee and Investment Facility, with a capital of \$700 million, involving contributions from the PRC, Japan, and the Republic of Korea. Second, they launched a \$495.2 million infrastructure fund later in the year to finance major infrastructure projects across the ASEAN and provide a way to mobilize the region's large dollar reserves to finance its infrastructure needs, the ASEAN Infrastructure Fund was set up with an initial equity contribution of \$495.2 million (ADB 2011). The fund is based in Malaysia as a limited liability company. The ADB is providing \$150 million of the fund, while nine ASEAN member countries are providing \$335.2 million. It is estimated that the ASEAN will require about \$60 billion per year in the next decade to finance its infrastructure needs. ADB is projected to cofinance 70% of the ASEAN Infrastructure Fund's total lending through 2020, estimated to reach about \$4 billion. Finally, the ASEAN finance ministers established the ASEAN+3 Macroeconomic Research Office (AMRO) in Singapore to conduct economic and financial surveillance in support of the Chiang Mai Initiative Multilateralized (CMIM).¹⁰

In the meantime, the EMEAP set about to launch the Asian Bond Funds. When the Asian Bond Fund 1 (ABF1) was launched in June 2003, it pooled \$1 billion in international reserves from 11 central banks and invested in US-dollar denominated bonds issued by sovereign and quasi-sovereign borrowers in eight of the EMEAP countries. These countries consisted of the PRC; Hong Kong, China; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; and Thailand. Following the success of the first fund, EMEAP launched the Asian Bond Fund 2 (ABF2) in March 2005. Not only was the second fund double in size, it also focused on local-currency denominated bonds and would thus complement the efforts of ABMI. The ABF2 actually comprised nine separately managed funds, a \$1 billion Pan Asia Bond Index Fund and eight single-market funds amounting to another \$1 billion. The markets included were the same as those in ABF1.

These funds have turned out to be an important exercise in learning-by-doing, which helped policy makers identify a number of critical impediments to the growth of the local markets as well as the regional capital market. As explained by Ma and Remolona (2005), the mere process of setting up the funds required, overcoming the myriad of domestic market restrictions as well as capital controls between the EMEAP economies. One unexpected impediment, for example, was the lack of mutual recognition agreements among jurisdictions, so that funds established in one could not be sold in another. Inconsistencies in the way valuations were calculated and in the accounting of withholding taxes were also seen as problems to be addressed. In the process of setting up ABF1 and ABF2, several impediments

¹⁰ A useful initiative by the Asian Bond Market Forum is the setting up of a registry of legal entity identifiers.

were overcome, and this served to catalyze the development of the local currency bond markets. Moreover, the yearly reallocation of investments by the regional Pan Asia Fund across the eight local markets was based in part on assessments of how well the local markets functioned. This provided additional incentives for central banks to support reforms in the local markets.

While these regional initiatives have contributed in some degree to market development in general, they suffer from the lack of a distinction between government bonds and corporate bonds. This distinction is critical because for government bond markets the work is largely already done. It is for the corporate bond markets that initiatives are truly needed. Under the ABMI, for example, one of the mandates of Task Force 4 is to increase liquidity of bond markets by enhancing a primary dealer system for government bonds, developing a benchmark yield curve, and improving trading platforms. As argued in this report, these objectives have in fact already been achieved in Indonesia, Malaysia, the Philippines, Singapore, and Thailand. In the case of Cambodia, the Lao PDR, Myanmar, and Viet Nam, they are not ready because they still need to develop their banking systems. Under the ABMI, no task force has been assigned to address important issues that are specific to corporate bond markets.

B. Three Bold Proposals for Regional Cooperation

If the ASEAN countries would like financial markets to play a significant role in the realization of a rich, inclusive, and harmonious region in the future, the first priority in market development should be a regional corporate bond market. A deep and liquid corporate bond market would require something on a regional scale. The development of such a market would make more efficient the way the region's savings are recycled and at the same time provide a spare tire for capital markets.

To develop a deep and liquid regional corporate bond market, we propose three bold initiatives:

1. Form an ABMI task force with the specific mandate of creating a regional corporate bond market. This mandate would include three components:
 - (i) *Common standards for issuance.* At present there are two global standards for corporate bond issuance: Regulation S in Europe and Rule 144A in the US. The task force would assess which standard would be more appropriate for ASEAN and possibly even develop a new standard for ASEAN. These standards would set with an eye for potential liquidity, including minimum issue size and standardized maturities and covenants.
 - (ii) *An interdealer regional trading platform.* This will have designated corporate bond market makers from each jurisdiction who will agree to provide liquidity in exchange for certain privileges such as special access to a regional repo market.

(iii) *A regional centralized counterparty (CCP) for credit default swaps (CDS) on ASEAN names.* The PRC has already drawn up rules for its own domestic CDS market, while Singapore and Hong Kong, China are already in the process of organizing their own CCPs.

2. To support the growth of a regional corporate bond market, establish an ASEAN+3 zone of free capital mobility.

This would include mutual recognition of funds and instruments of the different jurisdictions, the removal of withholding taxes for flows within the region, and a timetable of implementation appropriate for the circumstances of subsets of countries in the region. This will also require a harmonization of macroprudential rules for managing capital flows from outside the region.

This proposal may be regarded as an Asian Free Trade Area for capital flows. In an interim period, actions regarding the use of capital controls both from within ASEAN and from outside ASEAN may be coordinated to account for the absence of deep and well-developed financial markets in some countries in the region. While the PRC and the Republic of Korea need not be included at the outset, a regional market with a critical mass may eventually require that they be included.

3. To provide additional dealer liquidity, extend the CMIM into a regional repo market, in which central banks agree to accept cross-border collateral in the form of government and corporate bonds from within ASEAN+3.

This might best be done through tripartite contracts and a few clearing banks, with perhaps one clearing bank each in the PRC (Bank of [the People's Republic of] China already plays a similar role for offshore renminbi), Japan, the Republic of Korea, and Singapore. If corporate bonds are included, either AMRO or the clearing banks would prequalify these bonds or assess repo haircuts on them. The Swiss National Bank is one central bank that already accepts cross-border collateral. The designated corporate bond market makers mentioned above may be given preferential or exclusive access to such a regional repo market.

This proposal would make the CMIM a facility that operates as a daily source of liquidity rather than one that only operates during a crisis. Such an extension of CMIM would likely also remove any possible stigma attached to using CMIM funds and will thus make countries in need of emergency liquidity more willing to access it. As a repo market, it will also increase the amount of information available in financial markets without having to rely on surveillance and reportorial requirements of countries under the current IMF linkage of CMIM. Eventually, this linkage to the IMF will be unnecessary as more market-based regulation comes into effect.

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About the Paper

Maria Socorro G. Bautista and Eli M. Remolona examine key issues in the further development of financial markets in the Association of Southeast Asian Nations (ASEAN) and ASEAN+3 countries. The trade-off between the geography of information and its access and cost implications, versus the effects of externalities of wider financial market networks makes the case for regional integration of corporate bond markets more compelling. The authors propose three bold proposals in support of regional corporate bond market development and financial deepening.

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