

Development of financial markets in Asia and the Pacific: the international financial crisis and policy challenges

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1. Introduction

The crucial link between economic progress and vibrant/resilient financial markets has never been put in a sharper relief than during the current credit crisis. I will take up the question of the development of the financial markets in Asia and the Pacific in the context of the recent developments in credit markets as they have important lessons for the policymakers in this region in thinking about their developmental efforts. To this end, I will identify below some of the key characteristics of the current financial crisis (mid-August 2007 until now) and raise a few questions that the policymakers may wish to address in the context of developing financial markets.

First, the bursting of the housing price bubble and the near-collapse of banks and major financial institutions in the shadow banking system in the Western economies has choked the supply of credit and has brought about a period of recession in many nations in the global economy.² This has served to underscore the critical link that exists between the health of capital markets and the health of the real economy in developed economies. This is clearly one central issue in thinking about financial markets development in Asia and the Pacific. In this context, I would pose the following question.

Q1 – What is the nature of the link between development of financial markets and economic development in this region? How can this link be made stronger, resilient and more robust?

Second, the near-collapse of major financial institutions, besides resulting in massive aggregate losses to stockholders, and major layoffs, has also led to a huge transfer of wealth from the tax payers to the creditors of banks and financial institutions.³ The extensive infusion of capital by the tax payers has raised the question of moral hazard – banks and financial institutions take excessive risks in good times. If the risks translate to profits, then in such future good times the managers of banks and financial institutions capture most of the economic rents, leaving inadequate capital to buffer negative shocks if and when bad times materialise later. On the other hand, if the risks translate to financial distress, (ie bad times) they simply turn to the central banks (discount windows, standing facilities and other facilities hastily arranged to shore up weak and failing financial institutions) and the governments (ie taxpayers) to bail them out. The conventional argument for such costly bailouts is that the lending and deposit-taking activities of banks and financial institutions are too crucial to the vitality of economic growth and stability, and that the actual bankruptcy of a major bank can be too destabilising. The bankruptcy of Lehman Brothers is usually cited to bolster this

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² The drop in housing values and equity prices has also significantly dampened household consumption and curtailed the demand for credit further.

³ See Veronesi and Zingalis (2008).

argument.⁴ (Creditors to banks can threaten the bank with a protracted and costly bankruptcy of major banks that may serve to destabilise economic growth.) These observations form the basis for my next set of questions.

Q2 – How should policymakers in Asia and the Pacific think about designing and modifying the capital structure of banks/financial institutions, and how should they design policies for insolvencies of banks/financial institutions?

As noted, the managers of banks and financial institutions may try to capture significant economic rents during good times and rely on central bank's facilities and accommodative policies in bad times. From the perspective of policymakers in Asia and the Pacific, these developments also raise the following set of questions.

Q3 – What can be done so that banks and financial institutions transfer capital from good times to bad times voluntarily? If such a voluntary transfer is not credible or is ineffective, how can policymakers help make that process happen through public policy measures?

Third, one underlying theme is the extent to which “asset price bubbles” were created by too accommodative central bank policies, and whether central banks should be active in attempting to pro-actively and pre-emptively strike with bold policy actions before asset price bubbles go out of control. This possible policy initiative is in contrast to a stance in which the central banks step in after the bursting of an asset price bubble. The housing price bubble in the United States and its recent and spectacular bursting has certainly reinvigorated this discussion in policy circles. In a recent presentation, Dudley (2009) has argued that central banks may want to make it their business to pro-actively deal with asset price bubbles, despite the challenges posed in the identification of the correct time to intervene and in the designing of the tools that the central bankers may need to fight asset price bubbles. In the context of financial markets development in Asia and the Pacific, we should not lose sight of the 1997 Asian crisis, which was tied to asset price bubbles in some of the countries in the region. The debilitating consequences of that crisis from the perspective of economic development have already been documented.⁵ IMF (1998) identified “a build-up of overheating pressures, evident in large external deficits and inflated property and stock market values” as one of the probable causes. The question for the policymakers in this context is the following:

Q4 – What should be the role of policymakers in dealing with asset price bubbles? What tools and legislative authority are needed for central banks to effectively deal with asset price bubbles?

I will return to these questions in the final section of the paper and offer some perspective. Let me first begin by quickly summarising the critical functions that financial markets play both in the allocation of capital over time and across different types of investors/borrowers as well as their importance to central banks and governments in the conduct of monetary and fiscal policies.

⁴ Lehman Brothers declared bankruptcy in September 2008, which led to major dislocations in financial markets and extensive actions/interventions from central banks.

⁵ IMF Staff, “The Asian Crisis: Causes and Cures”, *Finance and development*, June 1998, Volume 35, Number 2.

1.1 Importance of financial markets to economic growth

The importance of liquid and deep financial markets to economic development can hardly be overemphasised.⁶ At a very broad level, financial markets are the venues where borrowers and lenders interact, and capital is raised for real investments and then gets reallocated among investors. In addition, governments and central banks may have a vested interest in developing liquid financial markets for the conduct of their fiscal and monetary policy implementation. For example, the presence of active markets for repurchase agreements and the availability of an extensive over-the-counter (OTC) dealer network allow central banks to efficiently increase or decrease the money supply to meet monetary policy goals. In a similar way, the ability of governments to borrow on a sustained basis by issuing sovereign debt securities is based on the presence of an active OTC dealer market, through which the dealers bid in government auctions of debt securities and then distribute the securities in active and liquid secondary markets.

In order for important economic activities such as the capital allocation process, monetary policy implementation and government borrowing to take place efficiently, economies must continue their efforts to develop financial markets. These efforts must be expended along multiple dimensions, as the development of deep and liquid financial markets depends on a number of factors, including, regulatory policies, fiscal and exchange rate policies, bankruptcy code/laws, trade-patterns, infrastructure for trading and intermediation (financial and informational), access to markets for global investors and issuers, and incentives for financial innovation.

I will illustrate briefly how these factors influence the development of financial markets. A regulatory framework that enforces strict corporate governance and disclosure policies, and strong investor protection will, *ceteris paribus*, tend to stimulate financial market development. In the context of the 1997 Asian crisis, the IMF has noted as a possible contributor to the crisis a lack of credible corporate governance and political uncertainty, which was a factor in foreign lenders refusing to roll over short-term debt. This in turn put downward pressure on currencies and equity prices. A fiscal policy whereby governments routinely access financial markets to borrow, instead of relying on state-owned (and controlled) banks as captive investors in government debt, will tend to encourage the development of a government bond market and provide a credible benchmark (government yield curve) for the rest of the credit market. Another example would be a policy that either implicitly or explicitly empowers the banking system to be the sole (or the primary) lender. This will end up inhibiting the growth of alternative credit markets such as commercial paper or corporate bonds. In the same vein, tightly managed exchange rate policies will inhibit the growth of a liquid foreign currency market where the domestic currency can be traded. The absence of a well specified bankruptcy code and its enforcement will cause bond investors to shy away from investing in corporate bonds or to demand an excessive premium for holding corporate debt. A well designed bankruptcy code attempts to balance the rights of creditors with those of debtors. Such a code will maximise the total value of the claims when the company enters into bankruptcy proceedings. Moreover, the code should also penalise corporate borrowers for not honouring their contractual obligations by providing credible access to borrowers' assets. Trade patterns can often motivate the development of one sector of financial markets in favour of another. Export-driven economies with significant foreign currency earnings have an added incentive to access and develop financial markets for foreign currency-denominated

⁶ In this context, a liquid market is one in which the following properties hold: (i) transaction costs and bid-offer spreads are typically low, (ii) search time for evaluating and settling trades is low (in other words trades can be done in a timely fashion), and (iii) market impact costs are low – ie large trades have only a limited impact on market prices. In a deep market, market impact costs for even very large trades will be low. Some futures contracts come close to the ideal of deep and liquid financial markets.

debt securities. On the other hand, economies that primarily depend on domestic consumption often develop innovative institutions for tapping pools of local currency savings. An example of infrastructural support in financial intermediation will be the development clearing and settlement systems that are so vital to the development of financial markets. Governments also have a critical role in setting policies that ensure that valuation-relevant information is disclosed promptly to potential investors through the enforcement of policies on disclosure requirements and insider dealing. Access to financial markets by global issuers and investors can promote thriving capital markets. Finally, regulatory policies must carefully balance the need to preserve and promote incentives for financial innovation with the need to prevent excessive risk-taking in financial markets.

The foregoing (illustrative) discussion suggests that the question of developing financial markets needs to be addressed with some sensitivity to the idiosyncratic economic circumstances of the country (such as its trade flows, exchange rate regimes, etc) as well as to the legal framework within which markets operate.

Table 1
Factors influencing financial markets development

Factors	Manner in which factors influence financial markets development
1. Regulatory framework	<ul style="list-style-type: none"> • Corporate governance • Investor protection • Disclosure requirements • Insider trading • Market surveillance • Underwriting standards/bank supervision
2. Fiscal and exchange rate policies	<ul style="list-style-type: none"> • Captive (nationalised) banks to hold debt • Auctions to sell sovereign debt – government benchmarks – active primary and secondary government bond markets • Controlled exchange rates
3. Legal framework and bankruptcy code	<ul style="list-style-type: none"> • Integrity of contract enforcement • Transparent ownership of assets such as residential and commercial properties • Bankruptcy code that leads to efficient outcome in financial distress and provides correct incentives ex-ante. This can have huge consequences for the development of corporate bond markets
4. Trade patterns	<ul style="list-style-type: none"> • An export-oriented economy has greater incentives to access and develop foreign currency debt instruments • An economy driven by domestic consumption may have innovative and informal credit markets to tap pools of local currency capital
5. Infrastructure for trading and intermediation	<ul style="list-style-type: none"> • Developing settlement and clearing systems • National and international standards for accounting/auditing statements • Developing and enforcing standards for investment advisors and other intermediaries
6. Access to global issuers and investors	<ul style="list-style-type: none"> • Access to global issuers allows foreign currency markets to develop within the country • Access to global investors generates global portfolio flows that move in and out of the country
7. Incentives for financial innovation	<ul style="list-style-type: none"> • Light touch regulation tends to promote innovation as well as excessive risk-taking • Tough regulation can lead to stagnant financial markets

In this context, Table 1 summarises the foregoing discussions and highlights some of the key dimensions through which each of these factors impinge on the development of financial markets. The purpose here is to highlight the multi-pronged nature of development efforts – some at the highest macro level and some at the level of basic infrastructure of the financial markets. As noted in a number of papers cited in this paper, many countries in Asia and the Pacific are well on their way to implementing such multi-pronged policies to promote the growth of liquid financial markets.

In thinking about the development of financial markets, it is also important to ensure that local financial (credit, savings, etc) markets, which have withstood the test of time, are also allowed to evolve and develop further. This perspective is useful, as in many developing countries innovative financial markets have developed, evolved and thrived over many decades. Any push towards developing financial markets must take cognisance of these markets and how overall welfare will be affected if financial development were to occur at the expense of such markets. On this point, a recent paper by Allen, Chakrabarti, De, Qian, and Qian (2008) has argued that both China and India have been able to register significant growth rates even though, by Western standards, the level of investor protection and the quality of legal institutions in these countries could bear improvement. In part, this has been possible because of a high savings rate and innovative and informal relationship-based credit markets (such as trade credit, company deposits, and other non-bank financing arrangements) that have been able to provide the necessary capital to borrowers to promote economic growth.

Next, I will begin by summarising some of the desired properties that well-functioning financial markets should possess.⁷ I will then describe the structure of financial markets in Western economies with a view to exploring the lessons that Asian and Pacific economies may draw from the experience of Western economies. One striking feature of financial markets in the Western economies is the fact that markets with different levels of transparencies co-exist with varying levels of regulation. This will be followed by a review of how various crises over the past several decades have shaped the evolution of these financial markets. Finally, I outline some proposals for the development of financial markets in Asia and the Pacific.

2. Desired properties of financial markets⁸

One of the most desired properties of a well functioning financial market is the notion of transparency. The International Organisation of Securities Commissions (IOSCO) defines the transparency of a market as the widespread availability of information relative to current opportunities to trade and recently completed trades.⁹ We may classify transparency into pre-trade transparency and post-trade transparency. Pre-trade transparency is helpful to potential buyers and sellers in a financial market in obtaining the best possible price for the transactions contemplated. Post-trade transparency is helpful to players who have already transacted in financial markets to assess the effectiveness of the execution.

⁷ These properties have been the focus of market microstructure literature in the field of finance.

⁸ Part of this discussion that follows in section 2 is drawn from Sundaresan (2005).

⁹ International Organization of Securities Commissions: IOSCO Objectives and Principles of Securities Regulation.

2.1 Pre-trade information

Pre-trade information that potential investors would like to have includes (i) firm (live) bid prices and (live) offer prices and the quantities that the market maker is willing to transact. The availability of such information allows investors to observe the prices at which specified quantities of securities can be bought or sold; and (ii) in multiple dealer markets (as in sovereign or corporate bonds), pre-trade transparency information will require the consolidation of bid prices and offer prices as well as the quantities associated with those prices across all market makers (or as many market makers or dealers as possible). The existence of effective consolidation mechanisms serves to reduce the search costs to potential investors by providing them, in one screen, with a complete picture of trading opportunities, not with just one dealer but with multiple dealers. This, in turn, promotes overall transparency.

2.2 Post-trade information

Relevant post-trade information that investors would like to know includes the prices and the volume of all individual transactions that have actually taken place in the market at the time a potential investor is contemplating a trade. The post-trade transparency of a market determines the information that investors will have about most recent trades and will help them evaluate the quality of execution of trades relative to recently concluded trades. Once again, the existence of effective consolidation mechanisms serves to reduce the search costs to potential investors by providing them with a complete picture of recently completed buy and sell orders with various dealers and the quality of trade execution. In a market where pre-trade and post-trade transparency is poor, information about the prevailing buying interest or prevailing selling interest or quality of recently completed trade executions is costly and time-consuming to acquire. As a result, prices will not efficiently reflect all the buying and selling interests that are present in the market. This may lead to poor trade execution; investors may receive or pay prices that are not necessarily the best available prices in the market.

A desirable goal in developing financial markets in Asia and the Pacific should be to ensure the greatest possible pre-trade and post-trade transparency. A transparent market promotes informational efficiency.¹⁰ While there is considerable debate in the academic literature as to whether the financial markets are “efficient” in the sense of reflecting rapidly all available information, the best that policymakers can do is to pursue policies that make financial markets as transparent as possible.¹¹ Such policies in turn have the potential of making financial markets as close to being efficient as is possible in practice.

The importance of transparency in financial markets in helping to dampen crisis in financial markets has been noted in the context of Asian financial crisis by an IMF staff report (1998), which cites lack of transparency as a possible contributor to the crisis.

“Problems resulting from the limited availability of data and a lack of transparency, both of which hindered market participants from taking a realistic view of economic fundamentals”.

While promoting transparency in financial markets should be an integral part of market development, the next section will argue that markets with differing levels of transparency often co-exist, catering to a spectrum of investors and entrepreneurs.

¹⁰ See Fama (1965, 1970) and Samuelson (1965).

¹¹ See Grossman and Stiglitz (1980) who provide a powerful argument as to why markets may never be fully efficient.

3. A classification of financial markets in western economies and their evolution

Financial markets in the western economies (defined to include United States, the United Kingdom and western Europe) have developed rapidly. In these markets, global institutional borrowers can raise billions of dollars (or other chosen currencies) of capital at a short notice and institutional investors can invest and reallocate their savings as needed. Both end-investors and issuers use these markets to apply their risk-return assessments in their investment and issuance strategies. These markets have evolved over a period of time and have assumed broadly three basic forms.

- Centralised markets such as the New York Stock Exchange-Euronext, Chicago Mercantile Exchange etc.
- Decentralised over-the-counter (OTC) markets such as Treasury debt markets, corporate debt markets, mortgage-backed securities, interest rate swap markets, credit default swaps markets etc.
- Private and less-regulated markets such as private equity, venture capital, private placements, hedge funds, etc.

Each of these markets can be compared along multiple dimensions of contractual safeguards and features of underlying securities. Table 2 provides a comparison of these markets along selected dimensions.

Table 2

A classification of financial markets

Type of financial markets	Clearing house and settlement guarantees	Marking to market and collateral	Secondary market liquidity	Customisation versus standardisation	Market transparency
Centralised markets	√	√	Typically high	Highly standardised	Typically very high
OTC markets	X With some exceptions	X With some exceptions	Typically low	Can be customised to the needs of investors	Typically moderate to low
Private and less-regulated markets	X	X	Typically poor	Highly customised	Typically very poor

Centralised markets have flourished over time and they have vigorously embraced the emergence of digital technology. Common clearing agreements across geographically dispersed exchanges have extended trading hours and enhanced global participation. One of the hallmarks of centralised exchanges is the clearing house which stands between the buyer and seller, guaranteeing the integrity of all transactions. It is a matter of record that this market organisation has withstood time after time major financial crises such as the stock market crash of 1987, Asian crisis of 1997, LTCM/Russian default of 1998, and the ongoing credit crisis, which began in mid-2007. While centralised markets have been resilient, the contracts that are traded in these markets tend to be standardised, and may not always suit the needs of institutional investors and issuers in global markets. This has led to the evolution of OTC markets or dealer markets. Most fixed income securities markets are

organised as OTC markets. Dealers act as market makers by purchasing the debt securities from borrowers (issuers) such as the U.S. Treasury and corporations and then sell the securities to investors such as pension funds, insurance companies, and the like. This process occurs in primary markets. Once the securities are issued, they trade in secondary markets, where the ownership of these securities merely exchanges hands without generating new capital or funds. Most of the trading in secondary markets in fixed income markets occurs through the OTC structure and their relative success in attracting global capital may be attributed to the following underlying institutional features: availability of well capitalised dealers with an extensive distribution network, provision of anonymous trading and matching services by inter-dealer brokers (IDB), availability of funding markets such as the markets for repurchase agreements with clearing house and settlement safeguards, ability to hedge risk by trading in futures contracts on government debt securities etc. Electronic screen-based trading capabilities have dramatically improved the transparency of equity and fixed income markets.¹²

Privately placed securities, venture capital and private equity markets do not have the transparency of centralised markets or other OTC markets, but they provide the necessary risk capital for start-up firms, small and medium scale firms. The observed contractual structure and the resulting opacity is an endogenous outcome of the discussions between the risk-capital supplier and the firms or entrepreneurs. Each category of the financial markets play an important function in the development of the economy and their diversity is a reflection of the strength of the capital market's ability to provide risk capital to a spectrum of firms/entrepreneurs with projects of varying risk-return rewards.

Financial markets development over the past several decades has been influenced in an indelible manner by the crises that have occurred over this period and also by enlightened actions by some financial regulators. Gudmundsson (2008) explores how the current financial crisis might shape the development and regulation of financial markets. He predicts that "the future financial sector can be expected to be smaller and operate with higher capital and liquidity than before the crisis." Gudmundsson (2008) and others in policy circles have argued for the following changes in the development of financial markets in the foreseeable future.

- Higher capital and liquidity buffers for banks.
- Simpler and commoditised products as opposed to complex structured credit products, backed by clearing houses and settlement safeguards.
- Pruning the securitisation (originate-to-distribute) model to capture its insights but avoiding excessive risk-taking and extensive distribution. Ensuring that the originating bank's skin is in the game of securitisation.¹³
- Greater transparency to regulators and possible restrictions on leverage or risk-taking by interconnected financial institutions.¹⁴

Many of the changes that have occurred in the financial markets development in the western economies over the past few decades have resulted from both financial market crises and the actions of self-regulatory bodies and regulators. Let me highlight a few below to suggest how crises can help in sharpening the focus on what needs to be done to make the markets more resilient.

¹² See, Barclay Michael, Hendershott Terence, and Kotz Kenneth (October 2006). Automation versus Intermediation: Evidence from Treasuries Going Off the Run. *Journal of Finance*, LXI (5).

¹³ See Dudley (2009).

¹⁴ See the Turner report, for example and recent proposals for reform from the United States Treasury.

Table 3

Some examples of market developments

Event/Causes	Market Development
1. Bid-rigging by Salomon Brothers in two-year Treasury note auction.	Treasury eventually moves to single-price auction after experimenting with both discriminatory and uniform price auctions.
2. Lack of transparency in corporate debt markets.	SEC institutes TRACE mechanism to include transaction prices of corporate bonds in Bloomberg and enhance market transparency.
3. Fails in repo agreements.	Penalty of 300 basis points for failing in repo agreements.
4. AIG – CDS protection triggers.	Clearing house and cash auctions for CDS.
5. Run in shadow banking system.	Money market guarantees. Credit market facilities by the Fed.
6. Settlement and clearing problems.	FICC in the United States. Major initiatives in European Union.

4. A perspective for developing financial markets in Asia and the Pacific

A number of papers have documented the developments that have taken place in Asia and the Pacific and the challenges faced by the countries in these regions in the process of developing their financial markets.¹⁵ The background paper on financial markets in Asia and the Pacific by Filardo, George, Loretan, Ma, Munro, Shim, Wooldridge, Yetman, and Zhu (2009) provides a comprehensive survey of the developmental efforts that have been agreed upon and implemented by the nations in this region. In addition, the efforts promoted by BIS and the People's Bank of China have also resulted in a concerted drive to develop corporate bond markets in this region.¹⁶ With the time and effort that these economists have invested at the ground level, many important initiatives have been taken. I offer some proposals here, which are more at a policy level. Hence the proposals outlined in this section of my paper must be viewed in the context of these developmental efforts that are already in progress.

This said, let me now return to the questions that I posed in section 1 in the context of financial market development.

Q1 – What is the nature of the link between developments of financial markets and economic development in this region? How can this link be made more robust?

In some developing countries in Asia and the Pacific a significant fraction of households has no access to banks and financial markets. Many of these households rely on informal credit markets as they are too poor to be depositors in the formal banking system and for the same

¹⁵ See the papers by Ma and Remolona (2005), Remolona and Shim (2008), Loretan and Wooldridge (2008), and Tsuyuguchi and Wooldridge (2008).

¹⁶ See, BIS Papers No 26, Developing corporate bond markets in Asia, Proceedings of a BIS/PBC seminar held in Kunming, China on 17–18 November 2005.

reason do not qualify as borrowers in the formal banking system. In order to make the link between financial markets and economic development stronger, initiatives must be taken to make these informal credit markets stronger and safer and to extend their reach to a wider range of households. By informal credit markets, I mean non-bank financial institutions, credit unions, micro-finance institutions, NGOs, village banks, etc.¹⁷ In addition, small and medium scale firms often rely on relationship-based lending arrangements such as trade credit. Any financial development strategy must include this sector, where the poorest section of the society participates as an integral part. The current financial arrangements that small and medium scale firms rely on should also be taken into account in future developmental efforts.

Q2 – How should policymakers in Asia and the Pacific think about designing and modifying the capital structure of banks/financial institutions, and how they should design policies for the insolvencies of banks/financial institutions?

The costly bail-outs of large financial institutions such as Citibank, Bank of America, AIG and several major banks in the United Kingdom raise two key policy issues for Asia and the Pacific, namely the. “Too big to fail” and. “Too interconnected to fail” doctrines. More broadly, the recent experience raises the thorny question of how financial market development policies should address the insolvency of such financial institutions. This question also cuts to the design of the capital structure of banks and other major financial institutions. In the current crisis, most of the recapitalisation for failing banks came from taxpayers. The creditors, who could threaten bankruptcy, did not have to write down their claims voluntarily. In a recent presentation the President of the New York Fed has suggested the possibility of issuing bank debt that automatically converts to equity once the stock price falls below a certain level.¹⁸ To quote Dudley (2009):

“Capital requirements are one area where I think we could adjust the rules in a way to improve incentives. For example, imagine that we mandated that banks had to hold more capital, but that the added capital could be in the form of a debt instrument that only converted into equity if the share price fell dramatically. What would this do? It would change management’s incentives. Not only would management focus on generating higher stock prices, but they would also worry about risks that could cause share prices to fall sharply, resulting in dilution of their share holdings.

Debt convertible into equity on the downside would also be helpful in that it would be a dampening mechanism – equity capital would be automatically replenished, but only when this was needed.”

In fact, the proposal made by Dudley is not new. Flannery (2002) made such a proposal, which he called reverse convertible debt. Such proposals will ensure that the first port of call for capital infusion in bad times will be the creditors of the bank and not the tax payers.¹⁹ The reverse convertible debt proposal advocated by Flannery in effect achieves the debt for equity swap agreements under financial distress, which typically occur in many non-financial company bankruptcies under the aegis of Chapter 11. Innovative design of debt can eliminate the spectre of a costly bank or institutional failure and also secures a capital infusion from creditors before public monies are allocated to the banks. A criticism of this approach is that the bank debt will be more expensive to issue as rational investors would

¹⁷ See *The Economics of Microfinance*, by Beatriz Armendáriz and Jonathan Morduch, M.I.T. press, (2005) and *Microfinance: Emerging Trends and Challenges*, edited by Suresh Sundaresan, Edwin Elgar Publishing, (2009).

¹⁸ Dudley: *Lessons Learned from the Financial Crisis*, Remarks at the Eighth Annual BIS Conference, Basel, Switzerland.

¹⁹ The proposal came in a SSRN working paper in 2002.

demand a higher coupon to buy bank debt with mandatory conversion to equity in bad times. This increased cost is however borne by the bank in good times, and the design is simply a transfer payment from good times to bad times. In other words, the bank is relieved of the costs of financial distress and coupon obligations in bad times when the debt converts to equity. In exchange it must pay a higher coupon in good times.

Q3 – What can be done so that banks and financial institutions transfer capital from good times to bad times voluntarily? If such a voluntary transfer is not credible or is ineffective, how can policymakers help make that process happen through a public policy measure?

One way to address this question is to “lean against the wind” by requiring that the capital and liquidity requirements of banks and financial institutions should be related to the state of the economy. Banks should accumulate greater and greater capital/liquidity buffers in good times (by perhaps decreasing the proportion of profits that is paid out to managers and shareholders) and then utilising these accumulated buffers in bad times. One potential difficulty with this approach is that capital comes in many forms and they differ in their opacity/transparency. Tier 1 capital is clearly more transparent than Tier 3. Any rules that one uses to risk-weight these tiers of capital are necessarily very subjective.

Another way is to formally set up a public policy framework that recognises that banks and other financial institutions which have access to emergency lending facilities at the central bank in bad times must pay for that privilege in good times. This idea is already employed in the context of other public policy arenas. Corporations with defined-benefits (DB) plans do pay a premium to the Pension Benefits Guarantee Corporation (PBGC) in good times so that the employees of the sponsoring corporations get some measure of guarantee that their pensions will be protected by the PBGC should bad times occur and the sponsoring corporation goes bankrupt. Likewise, banks pay a premium to the FDIC for the FDIC insurance that the depositors enjoy. In these two examples there is a clear recognition that banks and corporation should pay in good times to cover the costs of any future bad times.

The welfare costs to the tax payers of facilities such as discount window, standing facilities, and the willingness of central banks to accept a broader menu of collateral and broader terms of lending must be assessed ex-ante. In formal terms, we can characterise the privilege of being able to borrow at the discount window and the standing facilities at potentially very attractive terms as an option that banks enjoy. These options are exceptionally valuable to the banks as they can be exercised precisely when their very survival is threatened. These options are currently not paid for by the banks and are implicitly (and explicitly, during this crisis) borne by the taxpayers. One public policy option is to effectively price out these options and charge the banks/depository institutions on a periodic basis. This will transfer from the banking sector in a credible way capital that can be held in custody for use in future bad times. A number of issues, including the so-called stigma associated with borrowing at the discount window, must be taken into account in evaluating such a policy option. Tirole (2006) has suggested that the government provision of these institutions has some social benefits in reducing the liquidity premium in markets, but their welfare costs in relation to the benefits captured by the banks is worthy of closer look.

Q4 – What should be the role of policymakers in dealing with asset price bubbles? What tools and legislative authority are needed for central banks to effectively deal with asset price bubbles?

Dudley (2009) has argued that a case can be made for central banks to be actively involved in managing asset price bubbles when the economy expands at an accelerated rate. Effectively Dudley (2009) makes three points:

- First, large asset price bubbles may not be that difficult to identify.
- The use of short-term interest rates as a tool to manage asset price bubbles may be, in itself, insufficient. Other items in the central bank’s toolkit should be explored.

- If no tools are currently available, new tools must be devised to address asset price bubbles.

An objection that is frequently made to this approach is that, in practice, it is difficult to identify when the peak of the asset price bubble has been reached. One mitigating factor is that the markets have developed to a point that we have price signals that are available on a higher frequency basis to make this judgment. For example, the availability of CDS spreads indicates when the credit spreads are dangerously tight.²⁰ In a similar way, ABX spreads indicated just how risky some sectors of the asset-backed securities markets were well before the onset of the credit crisis.

There is some published evidence that suggests that the Reserve Bank of India took pre-emptive actions to prevent the overheating of some sectors of the economy in India.²¹ Among the measures cited in the source included the following: banning the use of bank loans for the purchase of land and permitting only construction loans; curtailing securitisation and off-balance sheet liabilities; and increasing capital requirements on commercial real estate loans.

In designing their future developmental efforts in Asia and the Pacific, policymakers must take note of the near-failure of almost all major financial intermediation in the western financial markets during the crisis and the unparalleled intervention to salvage the banks and other financial institutions by governments, coordinated rescue efforts by central banks and other institutions such as the FDIC. In some respects, the western banking system looked quasi-nationalised during the crisis period and not unlike some of the banking systems in Asia and the Pacific.

It would be worthwhile to examine the policy flaws that in large part have led to the credit crisis so that the future developmental efforts in Asia and the Pacific can avoid those pitfalls.

- The underwriting standards that allowed banks and other financial institutions to originate subprime mortgage loans point clearly to the need for much stronger standards for loan originators in Asia and the Pacific, so that loans only go to borrowers who have the ability to meet the contractual payments associated with mortgages.
- The originate-to-distribute model and the simultaneous growth of collateralised debt obligations, with mortgages, and mortgage-related securities as the underlying collateral, have resulted in the global distribution of leveraged subprime positions. In part, the success of this distribution depended on two factors: first, the willingness of investment banks and other financial institutions to distribute securities in which they themselves had very little stake. Second, the actions by credit rating agencies to certify that such securities were of high credit quality. These actions pose several challenges to policymakers in Asia and the Pacific. First, how should one define standards on credit quality and the liquidity profile of the universe of securities that investors in Asia and the Pacific should evaluate for investment purposes? Second and more broadly how should the process of securitisation and the resulting disintermediation of loans and credit be managed in Asia and the Pacific to prevent in future the type of meltdown of the asset-backed securities markets that has occurred in the United States?

Finally, it should be said that the central banks are primarily organised/geared towards providing emergency funding to banks in times of crisis. This model was sufficient when

²⁰ CDS stands for credit default swaps.

²¹ Joe, Nocera, "How India Avoided a Crisis, *New York Times*, 20 December 2008.

banks were the sole if not the primary source of lending in the economy. Over the last several decades a significant amount of credit disintermediation has taken place. In fact, the onset of the credit crisis was heralded by the inability of off-balance sheet vehicles such as SIVs to issue asset-backed commercial paper as members of the shadow banking system such as money market mutual funds refused to roll over short-term commercial paper, effectively triggering a run on the shadow banking system. The tools at the disposal of central banks were not adequate to the task of meeting this run. This should serve as a warning signal to policymakers in Asia and the Pacific in designing appropriate institutions and facilities within the central banks that will allow the central banks to effectively deal with the shadow banking system if and when a crisis arises.

5. Conclusion

Much progress has been made in the development of financial markets in Asia and the Pacific. The current credit crisis has exposed significant flaws in the way in which financial markets are organised, regulated and capitalised. This paper summarised some of the policy implications for the future development of financial markets.

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