Development of Financial Markets in Asia and the Pacific

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ABSTRACT

Policies relating to the development of financial markets in Asia and the Pacific should reflect the fact that a significant fraction of the households in this region live in poverty and are effectively out of the reach of even elementary formal banking and financial services such as savings, loans, insurance, etc. The future role of informal network of credit markets that currently serve this population (non-bank financial institutions, NGOs, credit unions, micro-finance institutions, village banks, trade-credit, etc.) must be articulated in any financial development strategy. This will reinforce the positive feedback effects between financial markets and economic growth and stability.

Current credit crisis has demonstrated the need to clearly articulate the design of bankruptcy code, and the design of the capital structure of banks/financial institutions to preclude the threat of costly financial distress by creditors *and* to ensure that "the first port of call" for capital infusions to banks in "bad states" must be the creditors of the bank, and *not* the tax payers.

Depository institutions that have access to central banks' emergency funds in "bad states" must be made to credibly transfer capital/liquidity from "good states" to "bad states" either through implementable "state-dependent" capital/liquidity requirements or through explicit pricing of the emergency access facilities to be paid for periodically by banks. Given liquid market signals on credit spreads that are currently available, central banks should give serious consideration to developing policy toolkits to prick "asset price bubbles" before such bubbles have the potential to burst the economy into prolonged economic crisis. The flaws in regulation that have been exposed by the credit crisis, such as lax underwriting standards in residential loans, insufficient "skin in the game" for originating financial institutions in the "originate-to-distribute" model of securitization and off-balance sheet liabilities must be corrected in future developmental efforts.

Central banks should put in place permanent institutions and liquidity facilities that reflect the "credit disintermediation" (away from banks) that has occurred so that the "shadow banking system" is also covered by the central bank's facilities. This will have the effect of lowering the probability of "runs" in shadow banking system, ex ante. The overarching goal in the financial markets development should be to promote transparency of financial markets, while recognizing that financial markets with differing levels of transparency can co-exist to cater to the differing risk/reward needs of entrepreneurs and investors.

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 policy makers 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 policy makers 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[1]. 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

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

transfer of wealth from the tax payers to the creditors of banks and financial institutions[2]. 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 states". If the risks translate to profits, then in such future "good states" the managers of banks and financial institutions capture most of the economic rents, leaving inadequate capital to buffer negative shocks if and when "bad states" materialize later. On the other hand, if the risks translate to financial distress, (i.e. "bad states") 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 (i.e., tax payers) to bail them out. The conventional argument for such costly bailouts is that banks and financial institutions are too crucial to the vitality of economic growth and stability through their lending and deposit-taking activities, and actual bankruptcy of a major bank can be too destabilizing. The bankruptcy of Lehman Brothers is usually cited to bolster this argument[3]. (Creditors to banks can threaten the bank with a protracted and costly bankruptcy of major banks that may serve to destabilize economic growth.) These observations form the basis for my next set of questions.

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

As noted, the managers of banks and financial institutions may try to capture significant economic rents during "good states" and rely on central bank's facilities

[2] See Veronesi and Zingalis (2008)

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

and accommodative policies in "bad states". From the perspective of policy makers 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 states" to "bad states" voluntarily? If such a voluntary transfer is not credible or is ineffective, how can policy makers 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 burst of asset price bubble. The housing price bubble in the United States and its recent and spectacular burst 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 the designing 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[4]. IMF (1998) identified "a build-up of overheating pressures, evident in large external deficits and inflated property and

[4] IMF Staff , "The Asian Crisis: Causes and Cures", Finance and development, June 1998, Volume 35, Number 2

stock market values" as one of the probable causes. The question for the policy makers in this context is the following:

Q4 - What should be the role of policy makers 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 summarizing 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 its importance to central banks and governments in the conduct of monetary and fiscal policies.

1.1 Importance of Financial Markets to Economic Growth

The importance of liquid and deep financial markets to economic development can hardly be overemphasized[5]. 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, allows the central banks to efficiently increase or decrease the money supply to meet the monetary policy goals. In a similar way, the ability of governments to borrow on a sustained basis by issuing sovereign debt

[5] In this context, a "liquid" market is one in which the following properties hold: a) transaction costs and bid-offer spreads are typically low, b) search time for evaluating and settling trades is low (in other words trades can be done in a timely fashion), and c) the "market impact" costs are low – i.e., "large trades" have 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.

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, a) regulatory policies, b) fiscal and exchange rate policies, c) bankruptcy code/laws, d) trade-patterns, e) infrastructure for trading and intermediation (financial and informational), f) access to the markets for global investors and issuers, and g) incentives for financial innovation.

I will illustrate briefly how these factors influence the development of financial markets. A regulatory framework, which enforces strict corporate governance and disclosure policies, and strong investor protection, will tend to stimulate financial market development, cetaris paribus. In the context of the 1997 Asian crisis, IMF has noted as a possible contributor to the crisis 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, fuelled a downward pressure on currencies and equity prices. A fiscal policy whereby governments routinely access financial markets for borrowing instead of relying on state-owned (controlled) banks to be captive investors in government debt will tend to encourage the development of a government bond markets and provide a credible benchmark (government yield curve) for the rest of the credit markets. Another example would be a policy that either implicitly or explicitly empowers the banking system to be the sole (or the primary) lender will end up inhibiting the growth of alternative credit markets such as commercial paper or

corporate bonds. In the same vein, tightly managed exchanged 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 demand excessive premium to hold corporate debt. A well-designed bankruptcy code attempts to balance the rights of creditors and with the rights of debtors. Such a code will maximize the total value of the claims when the company enters into bankruptcy proceedings. Moreover, the code should also penalize 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 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 the legal framework within which markets operate.

In this context, Table 1 summarizes 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 alert the multi-pronged nature of the development effort – 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.

Table 1

Factors influencing financial markets development

Factors	Manner in which factors influence financial markets development
1. Regulatory framework	• Corporate governance • Investor protection • Disclosure requirements • Insider trading • Market surveillance • Underwriting standards/bank supervision
2. Fiscal and exchange rate policies.	• Captive (nationalized) 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	• 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 a huge consequence for the development of corporate bond markets.
4. Trade patterns	• 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	• 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	• Access to global issuers allows foreign currency markets to develop within the country. • Access to global investors generates global portfolio flows to move in and out of the country.
7. Incentives for financial innovation	• "Light touch" regulation tends to promote innovation as well as excessive risk-taking. • Tough regulation can lead to stagnant 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 evolve and develop further. This perspective is useful as in many developing countries innovative financial markets have developed and have evolved and thrived over many decades. Any push towards developing financial markets must take cognizance of these markets and how the 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 effective level of investor protection and the quality of legal institutions in these countries can 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 summarizing some of the desired properties that well-functioning financial markets should possess[6]. 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

[6] These properties have been the focus of market micro structure literature in the field of finance.

outline some proposals for the development of financial markets in Asia and the Pacific.

2. Desired Properties of Financial Markets[7]

One of the most desired properties of a well functioning financial market is the notion of *Transparency*. IOSCO defines the transparency of a market as the widespread availability of information relative to current opportunities to trade and recently completed trades.[8] 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.

2.1 Pre-Trade Information

Pre-trade information that potential investors would like to have includes (a) firm (live) bid prices and (live) offer prices and the quantities that the market maker is willing to transact. The availability of such information enables the investors to observe the prices at which specified quantities of securities can be bought or sold; and (b) 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); 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.

[7] Part of this discussion that follows in section 2 is drawn from Sundaresan (2005).
[8] International Organization of Securities Commissions: IOSCO Objectives and Principles of Securities Regulation.

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. 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, 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 the 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[9]. 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 policy makers can do is to pursue policies that make financial markets as transparent as possible[10]. Such policies

[9] See Fama (1965, 1970) and Samuelson (1965).
[10] See Grossman and Stiglitz (1980) who provide a powerful argument as to why markets may never be fully informationally efficient.

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 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.

3. A Classification of Financial Markets in Western Economies & their evolution

Financial markets in the western economies (defined to include United States, United Kingdom and the Western Europe) have developed rapidly where global institutional borrowers are able to raise billions of dollars (or other chosen currencies) of capital at a short notice and where institutional investors are able to invest and reallocate their savings as needed. Both end-investors and issuers use these markets to manifest 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.

- Centralized markets such as the New York Stock Exchange-Euronext, Chicago Mercantile Exchange, etc.
- Decentralized 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 & settlement guarantees**	**Marking to market and collateral**	**Secondary market liquidity**	**Customization versus standardization**	**Market Transparency**
Centralized markets	✔	✔	Typically high	Highly standardized	Typically very high
OTC markets	✖ With some exceptions	✖ With some exceptions	Typically low	Can be customized to the needs of investors	Typically moderate to low
Private and less-regulated markets	✖	✖	Typically poor	Highly customized	Typically very poor

Centralized markets have flourished over time and the emergence of digital technology has been embraced vigorously by these centralized markets. Common clearing agreements across geographically dispersed exchanges have extended the trading hours, and enhanced global participation. One of the hallmarks of centralized 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 organization 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 centralized markets have been

resilient, the contracts that are traded in these markets tend to standardized, 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 organized 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 capitalized 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 altered the transparency properties of equity and fixed-income markets[11].

Privately placed securities, venture capital and private equity markets do not have the same transparency of centralized markets or other OTC markets, but they provide the necessary risk capital for start-up firms, small and medium scale firms and the observed contractual structure and the resulting opacity is an endogenous outcome of the discussions between the risk-capital supplier and the firms/entrepreneurs. Each

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

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 commoditized products as opposed to complex structured credit products, backed by clearing houses and settlement safeguards.
- Pruning the securitization (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 securitization[12].
- Greater transparency to regulators and possible restrictions on leverage or risk-taking by interconnected financial institutions[13].

Many of the changes that have occurred in the financial markets development in the Western economies over the past few decades have been as a result of both financial market crises as well as due to the actions of self-regulatory bodies and regulators. Let

[12] See Dudley (2009).
[13] See the Turner report, for example and recent proposals for reform from the United States Treasury.

me highlight a few below to suggest that crises can be helpful in sharpening the focus on what needs to be done to make the markets more resilient..

Table 3

Some examples of market developments

Event/Causes	Market Development
1. Bid rigging by Solomon Brothers in 2-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 infuse transaction prices of corporate bonds into Bloomberg and enhances the 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 & 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[14]. The background paper on financial markets in Asia and the Pacific by Filarado, 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

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

this region. In addition, the efforts promoted by BIS and Peoples Bank of China have also resulted in a concerted drive to develop corporate bond markets in this region[15]. 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 stronger, resilient and more robust?

In some developing countries in Asia and the Pacific a significant fraction of the households do not come under the formal rubric of 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 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, safer and extend their reach to wider range of households. By informal credit markets, I include non-bank financial institutions, credit unions, micro-finance institutions, NGOs, village banks, etc[16]. In addition, several small and medium scale firms rely on relationship-based lending arrangements such as trade credit. Any financial development strategy must include this sector

[15] 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.
[16] 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).

where the poorest section of the society participates as an integral part. The current financial arrangements that small and medium scale firms are relying on should also be taken into account in future developmental efforts.

Q2 - How should the policy makers in Asia and the Pacific think about designing and modifying the capital structure of banks/financial institutions, and how they should design policies of 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 raises two key policy issues for Asia and the Pacific: 1. "Too big to fail" 2. Too interconnected to fail". More broadly, the recent experience raises the thorny question of how financial market development policies should articulate the treatment of 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 recapitalization for failing banks came from the tax payers. 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[17]. 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.

[17] Dudley: Lessons Learned from the Financial Crisis, Remarks at the Eighth Annual BIS Conference, Basel, Switzerland.

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) had made such a proposal, which he called reverse convertible debt. These proposals will ensure that the "first port of call" for capital infusion in "bad states" will be the creditors of the bank and *not* the tax payers[18]. The reverse convertible debt proposal advocated by Flannery in effect achieves the debt for equity swap agreements under financial distress, which typically occurs in many non-financial company bankruptcies under the rubric of Chapter 11. Innovative design of debt can eliminate the spectre of a costly bankruptcy associated with the failure of a major bank or financial institutions and also get some 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 demand a higher coupon to buy bank debt with mandatory conversion to equity in "bad states" of the world. This increased cost is however borne by the bank in "good state" of the world, and the design is simply a transfer payment from good state to bad state – bank is relieved of costs of financial distress and coupon obligations in the bad state when the debt converts to equity. In exchange it must pay a higher coupon in "good states".

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

[18] The proposal came in a SSRN working paper in 2002.

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 states" (by perhaps decreasing the proportion of profits that is paid out to managers and shareholders) and then utilizing these accumulated buffers in "bad states". 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 likely to be very subjective.

Another way is to formally set up a public policy framework that recognizes that banks and other financial institutions which have access to emergency lending facilities at the central bank in "bad states" must pay for that privilege in "good states". 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 states" so that the employees of the sponsoring corporations get some measure of guarantee that their pensions will be protected by the PBGC should a "bad state" occur and the sponsoring corporation goes bankrupt. Likewise, banks do pay a premium to the FDIC in "good states" 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 states" to cover the costs of any future "bad states".

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 characterize 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 tax payers. 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 states". 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 policy makers 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.
- Just the use of short-term interest rates as a tool to manage asset price bubbles may be insufficient. Other parts of 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 the identification of the timing as to when the peak of the asset price bubble has been reached may be extremely difficult in practice. 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"[19]. 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[20]. Among the measures cited in the source included the following: a) ban the use of bank loans for the purchase of raw land and permitting only construction loans, b) curtailing securitization and off-balance sheet liabilities, and c) 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 by governments, co-ordinated rescue efforts by central banks and other institutions such as FDIC to salvage the banks and other financial institutions. In a way during the crisis period the banking system in the West tended to look quasi-nationalized and not unlike some of the banking systems in Asia and the Pacific.

19 CDS stands for Credit Default Swaps.

[20] Joe, Nocera, "How India Avoided a Crisis, New York Times, 20th December 2008.

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 sub-prime mortgage loans points clearly to the need to be much stronger and more credible 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 model of "originate-to-distribute" and the simultaneous growth of collateralized debt obligations, with mortgages, and mortgage-related securities as the underlying collateral have resulted in the global distribution of levered sub-prime 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 policy makers in Asia and the Pacific. First, how should one define standards on credit quality and 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 securitization 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 organized/geared towards providing emergency funding to banks in times of crisis. This model was sufficient when banks were the sole if not the primary source of lending in the economy. Over the last several decades 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 refuse to roll over short-term commercial paper, effectively creating 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 the policy makers 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 organized, regulated and capitalized. This paper summarized some of the policy implications for the future development of financial markets.

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