Beyond the Crisis: Regulatory Reform in Emerging East Asia

Introduction

The unprecedented global financial crisis has prompted a reassessment of financial regulatory systems worldwide.

Financial crises often provide impetus and opportunity for overdue regulatory reform. As in past crises, the current turmoil exposed shortcomings in supervisory, regulatory, and prudential frameworks. This has led national authorities—together with regional and global financial institutions—to reexamine approaches to financial regulation and supervisory oversight. While the crisis continues to reshape the global financial architecture, wide-ranging reforms and a regulatory overhaul are under discussion to address apparent weaknesses and gaps.

As the expected reforms will dramatically transform the global financial landscape, it is imperative that Asia's financial regulators keep in step.

By and large, emerging East Asia's financial systems and institutions have been shielded from the direct impact of the global financial crisis. Thus, the region faces substantially less pressure for financial restructuring and regulatory reform. Nonetheless, the underlying causes of the current turmoil—based on the dynamics of financial innovation and globalization—accent the need to better supervise financial institutions and safeguard financial stability. While the resilience of emerging East Asia's banking systems has been in past attributed to the reforms following the 1997/98 Asian financial crisis, the risk-assessment capabilities installed are now clearly insufficient and must be supplemented to address new risks and challenges. Emerging East Asia cannot be insulated from the impact of financial crises spawned elsewhere. There is the need for a coordinated approach, not only to address the crisis, but also to prevent the emergence of systemic risks that could threaten national, regional, and global financial stability. Beyond the national responses to mitigate the spillover effects of the crisis, the region's authorities need to design an effective and

coherent framework for cross-border crisis management, and an international regulatory and surveillance system.

Currently, there is a need to improve and streamline the region's regulatory and supervisory regimes, reinforcing global efforts at revamping the financial architecture to avoid a repeat of the crisis.

With the crisis well into its second year, lessons drawn from recent events have led to specific reform proposals with concrete implementation plans. Two major shortcomings are shaping an array of possible regulatory, supervisory, and prudential reforms. First, supervisors failed to stop excessive risk-taking and leveraging by banks. Market failures, in part due to rapid financial innovation, discredited the regulatory model that relied on transparency, disclosure, and market discipline to curb inordinate risk-taking. Second, crisis management in helping resolve impaired financial institutions—local and international—sapped confidence from the system. Thus, the mandate for the region's authorities is clear: they need to be proactive in strengthening their respective national regulatory and supervisory frameworks, in line with higher regulatory standards emanating from global reforms. National regulators should form regional and global alliances to establish a mechanism that can effectively monitor cross-border financial activities that could threaten financial stability. Following a brief survey of the lessons drawn from the crisis and emerging East Asia's regulatory responses thus far, this special section will focus on proposed policies that address identified regulatory gaps.

Regulatory Gaps: What Went Wrong?

Global Lessons

A confluence of macroeconomic and structural factors contributed to the current crisis, highlighting an inadequate financial policy and regulatory framework.

The existing regulatory and supervisory system clearly failed to prevent systemic risk from undermining financial stability. Regulatory gaps between different market segments and products, fragmented supervision, and inadequate information to protect investors and encourage market discipline all contributed

to the incidence of systemic risk now crippling the global banking and financial system. While there are many lessons to draw from the crisis, there are five broad lessons particularly relevant to emerging East Asia's financial systems.

- ***Global and national regulatory structures have not kept up with changes in the financial landscape over the past decade, creating gaps across products and services that allowed excessive leverage and risk-taking.***

  The crisis exposed important weaknesses and gaps in regulations and their coverage in a number of countries. The global financial landscape has been transformed in recent years. Nonbank financial institutions play an increasingly important role in financial intermediation. The emergence of financial conglomerates also reshaped the financial landscape. Cross-border finance has accelerated, increasing financial interdependence globally. Also, the absence of clear mechanisms for information-sharing and monitoring global transactions contributed to the rapid spread of financial panic as the crisis gained strength.

- ***A largely unregulated, shadow banking system showed phenomenal growth with a massive build-up of off-balance sheet leverage.***

  The shadow banking system refers to nonbank financial institutions that play an increasingly critical role in lending. For example, a hedge fund may channel funds from an investor to a corporation, profiting either from handling fees or from interest rate differentials between investor and borrower. These shadow banking institutions have not been subject to the rigorous prudential regulations required of depository banks. The popular and growing use of structured investment vehicles and other conduits also contributed to the expansion of the shadow banking system, allowing excessive amounts of off-balance sheet leverage to build.

- ***Contagion was rapid during the height of the crisis, reflecting high levels of financial interdependence—for example, as a result of the transfer of risk through complex securitized products.***

  The financial crisis illustrated how the collapse of a systemically-significant global financial institution—or a sharp, rapid deterioration in an asset class—can have far-reaching impact on global markets and financial systems. Opacity embedded in complex financial products and services also exacerbated market liquidity, contributing to the sharp increase in risk aversion. For example, uncertainty about the valuation of complex credit derivatives and financial institutions' exposure to them generated widespread distrust among global financial institutions, further squeezing market liquidity.

- ***Misaligned incentives in compensation schemes, self-serving credit ratings, and the diffuse originate-to-distribute model were also exposed by the crisis.***

  Faulty incentive structures contributed to excessive leveraging and risk-taking. First, the remuneration and incentive schemes of financial institutions encouraged managers to take excessive risks by focusing on short-term returns. Second, misaligned incentives faced by credit rating agencies in supplying ratings and offering advisory services likely contributed to overly positive ratings for complex financial instruments and the underestimation of risk. Third, the originate-to-transfer model may have contributed to a decline in due diligence in lending by reducing incentives to monitor the credit quality of underlying assets in structured credit products.

- ***Certain regulations reinforced the pro-cyclicality of financial systems, exacerbating market stress as the crisis developed.***

  The regulatory system was inadequate in accounting for risks associated with boom–bust cycles at the macro level. In some cases, prudential requirements, in fact, encouraged the pro-cyclical behavior of banking systems. For example, several provisions in the Basel II framework appear to encourage banks to decrease the amount of capital they hold during business cycle expansions and increase them during

contractions—the result of mark-to-market, variations in specific provisioning, related risk-weighted capital requirements, and changes in perceived risk using the Value-at-Risk (VaR) model.

Emerging East Asia's Response

In response to the global financial turmoil, authorities across emerging East Asia used an array of policies to support their banking systems and ensure financial stability.

Emerging East Asian policy responses ranged across a wide spectrum, both in response to the immediate crisis and to address spillovers into the real economy. In terms of maintaining financial stability, the main thrust was to ensure sufficient funding in credit markets, restore consumer and investor confidence, and prevent systemic failures. As the effect of the financial crisis was most acute in terms of currency volatility and external funding conditions, the most common measures were exchange market interventions and swap arrangements. Liquidity support and deposit guarantees were also used. The Republic of Korea (Korea) was the most aggressive, while authorities in the People's Republic of China (PRC); several Association of Southeast Asian Nations (ASEAN) members; Hong Kong, China; and Taipei,China were also active **(Table 15)**.

Table 15: Government Responses to the Global Economic Crisis—Emerging East Asia

Emerging Asia	Capital Support	Liquidity Support	Credit Guarantee Schemes	Regulatory Forbearance	Deposit Guarantees	Foreign Exchange Intervention & Swap Arrangements	Stock Market Intervention
China, People's Rep. of		✓		✓		✓	✓
Hong Kong, China	✓	✓	✓	✓	✓	✓	
Indonesia	✓		✓	✓	✓	✓	✓
Korea, Rep. of	✓	✓	✓	✓		✓	✓
Malaysia		✓	✓	✓	✓	✓	✓
Philippines		✓		✓	✓	✓	
Singapore		✓			✓	✓	
Thailand				✓	✓	✓	✓
Taipei,China		✓	✓	✓	✓	✓	✓
Viet Nam			✓	✓		✓	✓

Source: *Asian Economic Monitor* December 2008, Asian Development Bank; *The State of Public Finances: Outlook and Medium-term Policies After the 2008 Crisis,* International Monetary Fund; OREI staff country write-ups; news releases; and national budget documents.

Taken together, these measures have been broadly successful in maintaining public confidence in the region's financial systems; yet there are concerns that some of these measures could hurt long-term financial system stability.

Authorities' policy responses have been swift and aggressive compared with 1997/98. The speed and magnitude of measures taken have been helpful in mitigating the crisis' immediate impact and in avoiding more serious systemic stress. However, despite their short-term stabilizing effects, many of these measures have major drawbacks. Accommodative policies such as state guarantees and regulatory forbearance tend to create moral hazard and breed future problems. Most of these measures also entail significant costs. Direct capital injections can add significant contingent risks to a government's fiscal position, with the possibility of large losses at the expense of taxpayers. Frequent interventions in foreign exchange and stock markets do not seem to have much visible effect on stabilizing either currencies or equity prices—although the simple fact of intervention can considerably harm an authority's reputation for independence and integrity in the long run.

Ad hoc national policy responses can create conflicts of interest among the region's economies, thus leading to suboptimal levels of policy support.

As the crisis rapidly intensified in the latter half of 2008, emerging East Asian governments raced to protect their financial systems and bolster foreign investor confidence in their markets. Without a regionally coordinated approach, competition across the region's financial systems may have led to inefficient or wasteful policy support. For example, the introduction of a blanket guarantee in one economy can force a competing economy to follow suit where authorities otherwise might not have done so. The result may be excessive policy support with potentially large corresponding costs.

A well-established crisis management framework reduces the risk of policy mistakes and greater costs in addressing financial crises.

Monetary and liquidity support along with deposit and other guarantees have succeeded thus far in maintaining confidence

in the region's banking systems—there have been no bank runs. However, few economies have systemic guidelines in responding to crises. For example, when providing capital and liquidity, few governments have specified criteria that trigger the support mechanism—although state-owned banks are usually the beneficiaries. State guarantees for depositors and small- and medium-sized enterprise (SME) credits have been repeatedly expanded. In the case of Taipei,China, it took only 1 day for authorities to expand the scope of deposit guarantees to unlimited coverage. Given the significant moral hazard and financial cost that stabilization measures might entail, there should be clear conditions and criteria under which financial institutions could avail of public sector support.

What Makes Asia Different?

The direct impact of the global financial meltdown on emerging East Asian systems has been minimal.

Limited direct exposure to US mortgage-related assets shielded Asian banking systems from massive losses. Of the total $1.5 trillion in writedowns and credit losses reported worldwide since July 2007, only $39 billion, or about 2.7%, comes from Asian financial institutions—the bulk of which is concentrated in Japan and to a lesser extent the PRC. This—coupled with Asian banks' continued ability to raise fresh capital—allowed the region's banking systems to remain generally well-capitalized and liquid. The relative soundness of the region's banking systems, which dominate financial intermediation across emerging East Asia, has helped the region's financial systems continue to finance real economic activity.

The relative resilience of the region's financial systems is in part due to the structural reforms taken since the 1997/98 Asian financial crisis.

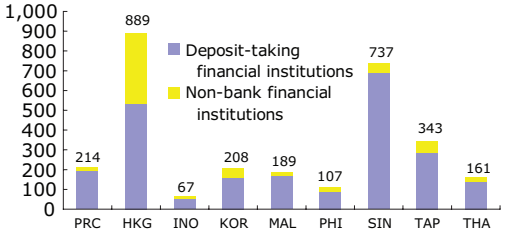
Significant structural changes swept across emerging East Asia in the aftermath of the 1997/98 Asian financial crisis, underpinning the relative resilience and soundness of the region's financial systems. The post-crisis reforms helped deepen and broaden the region's financial sectors, with significant financial asset growth, particularly in the non-banking sector, together with a strong rise in equity and bond markets **(Table 16)**. Across the region, banks continue to play an important role in financial

Table 16: Size and Composition of Financial System (% of GDP)

	Financial Sector Assets[1]				Market Capitalization[2]		Total Bonds Outstanding	
	Deposit-taking Financial Institutions		Non-bank Financial Institutions					
	2000	2008	2000	2008	2000	2008	2000	2008
China, People's Rep. of	168.8	204.5	8.8	33.9	27.1	32.3	16.9	50.3
Hong Kong, China	505.5	640.7	196.4	573.8	363.9	610.9	35.8	42.9
Indonesia	63.6	48.6	8.8	13.7	18.7	21.7	31.9	13.4
Korea, Rep. of	147.9	192.7	44.1	62.6	31.2	56.3	66.5	86.2
Malaysia	154.2	190.3	16.5	20.2	124.7	89.6	74.8	73.5
Philippines	99.2	78.8	22.4	18.5	76.8	54.3	27.6	33.7
Singapore	683.8	707.9	39.1	47.1	243.7	148.0	48.0	70.8
Taipei,China	259.9	289.6	29.8	80.6	81.7	94.7	7.7	7.7
Thailand	132.3	137.7	10.7	33.0	26.0	39.2	25.3	51.6
Average[3]	**246.1**	**276.7**	**41.9**	**98.1**	**110.4**	**127.5**	**37.2**	**47.8**
Median	**154.2**	**192.7**	**22.4**	**33.9**	**76.8**	**56.3**	**31.9**	**50.3**
eurozone	230.0	315.8	142.1	169.3	—	—	124.2	69.4
Japan	227.5	230.9	118.5	132.1	71.7	55.8	97.4	193.4
United States	78.3	104.8	283.2	306.1	117.5	64.6	41.8	55.3

[1]Financial asset data for People's Republic of China, for 2002 and 2007; Hong Kong, China for 2000 and 2007; Indonesia for 2001 and 2007; Malaysia for 2000 and 2007; and Japan for 2001 and 2004. [2]Market capitalization as percent of gross domestic product (GDP) in local currency unit. [3]Simple average.
Source: OREI staff calculations using data from national sources, CEIC, *AsianBondsOnline*, Bloomberg, *World Economic Outlook Database* April 2009, and World Federation of Exchanges.

Figure 51: Importance of Banks Relative to Non-Bank Financial Sector[1]
(total assets in % of GDP, period average)



[1]Average values for China, People's Republic of (PRC) for 2002-2007; Hong Kong, China (HKG) for 2000-2007; Indonesia (INO) for 2001–2007; Korea, Rep. of (KOR) for 2000–2008; Malaysia (MAL) for 2000–2007; Philippines (PHI) for 2000–2008, Singapore (SIN) for 2000–2008; Taipei,China (TAP) for 2000–2008; and Thailand (THA) for 2000-2008.
Source: OREI staff calculations using data from national sources; CEIC; and *World Economic Outlook Database* April 2009, International Monetary Fund.

intermediation **(Figure 51)**. Nevertheless, post-crisis capital market development has expanded alternative means of corporate finance, such as equities and bonds.

The quality of banks' risk management in the region has been strengthened substantially, although vulnerabilities could still arise from new lines of banking business and the legal and structural impediments that remain.

Banks across the region are generally stronger than before, owing to much-improved risk management practices **(Table 17)**. Banks generally hold comfortable credit and liquidity cushions, with the ratio of nonperforming loans to total loans sharply decreasing since the 1997/98 Asian financial crisis. Loan-to-deposit ratios have come down across the region as well, with the exception of Korea. While the 1997/98 crisis reflected, in part, the impact of structural weaknesses from a

Table 17: Banking Sector Indicators (%)

	Nonperforming Loans to Total Loans[1]		Bank Regulatory Capital to Risk-Weighted Assets[2]		Bank Provisions to Nonperforming Loans[3]		Private Sector Loans to Deposit[4]	
	2000	2008	2000	2008	2000	2008	2000	2008
China, People's Rep. of	22.4	2.5	13.5	8.2	4.7	115.3	95.2	69.6
Hong Kong, China	5.9	1.2	17.8	14.7	—	—	66.7	47.3
Indonesia	20.1	3.2	12.5	16.8	36.1	98.5	39.2	80.1
Korea, Republic of	6.6	1.2	10.5	12.7	81.8	155.4	111.5	134.1
Malaysia	9.7	2.2	12.5	12.2	57.2	88.9	108.8	92.8
Philippines	15.1	3.5	16.2	15.7	43.7	86.0	82.0	78.3
Singapore	3.4	1.4	19.6	14.3	87.2	119.9	99.7	85.3
Taipei,China	5.3	1.5	10.8	10.8	24.1	76.6	77.5	73.1
Thailand	17.7	5.3	11.9	14.1	47.2	97.9	102.3	97.7
Average[5]	**11.8**	**2.4**	**13.9**	**13.3**	**47.7**	**104.8**	**87.0**	**84.3**
Median	**9.7**	**2.2**	**12.5**	**14.1**	**45.5**	**98.2**	**95.2**	**80.1**
eurozone	—	1.5	—	7.9	—	—	135.0	138.5
Japan	5.3	1.5	11.7	12.3	35.5	24.9	58.5	73.9
United States	1.1	2.3	12.4	12.5	146.4	84.7	110.6	109.2

— = not available.
[1]Nonperforming loan ratios for commercial banks, except for eurozone and Taipei,China for banking system; Japan for major banks; and United States for all FDIC-insured institutions. Data for Hong Kong, China in 2008 refers to gross substandard, doubtful and loss loans. Data for Japan, Singapore, and the United States as of September 2008. Data for eurozone as of end-2007. [2]Risk-weighted capital adequacy ratios for commercial banks except for China, People's Republic of, eurozone, and Taipei,China banking system; Japan major banks; and United States all FDIC-insured institutions. Values for the Philippines are on consolidated basis; while eurozone data includes non-IFRS reporting countries only. Data for People's Republic of China in 2000 for state commercial banks only. Data for Singapore as of September 2008 and for People's Republic of China as of March 2008. [3]Data for Japan; Korea, Rep. of; Singapore; and United States in 2008 as of September 2008; Indonesia as of August 2008. Values for Indonesia are write-off reserve on earning assets to classified earning assets ratio, while those for Malaysia refer to general, specific, and interest-in-suspense provisions. Data for People's Republic of China in 2000 for state commercial banks only. [4]Covers loans to private sector or nonfinancial corporations, and deposits of banking institutions, other depository corporations, or deposit money banks. Private sector loans-to-deposit data for Indonesia, Japan, Malaysia, Thailand, and United States in 2000 are end-2001 values. [5]Simple average.
Source: *Global Financial Stability Report,* and *International Financial Statistics,* International Monetary Fund; and national sources.

highly leveraged corporate sector and weak bank oversight, the region's corporate sector during the current crisis appears to be in good shape with rising profitability and declining gearing ratios **(Table 18)**. Despite the global run-up in housing prices prior to the 2008 crisis, the region's households appeared to hold relatively healthy financial positions as well **(Table 19)**. With the exception of the region's more advanced economies—such as Hong Kong, China; Singapore; and Taipei,China—household debt and mortgages as a percent of gross domestic product (GDP) remain low compared with the United States (US) and Europe. While these indicators show the region's banks are sound overall, pockets of weakness remain with new challenges

Table 18: Corporate Sector Indicators[1]

	Return on Assets (%)		Sales Growth (%, y-o-y)		Interest Expense/ Assets (%)		Interest Coverage Ratio		Debt–Equity Ratio	
	2000	2008	2000	2008	2000	2008	2000	2008	2000	2008
China, People's Rep. of	4.5	4.6	621.5	38.5	2.7	1.3	5.1	9.3	0.6	0.3
Hong Kong, China	11.6	7.4	9.7	24.5	1.7	1.2	9.0	11.5	0.2	0.1
Indonesia	6.5	6.5	0.0	35.5	5.2	1.9	3.4	9.9	1.1	0.5
Korea, Rep. of	3.0	2.0	1.3	26.9	3.9	1.3	3.4	7.6	0.8	0.6
Malaysia	4.1	4.6	10.3	22.5	2.3	1.7	4.5	6.7	0.5	0.4
Philippines	3.3	4.4	0.5	16.8	3.1	2.5	3.4	5.2	0.8	0.5
Singapore	4.4	6.7	5.8	25.3	1.1	1.0	8.1	12.7	0.0	0.2
Taipei,China	7.5	3.1	19.7	6.0	1.3	0.9	11.2	13.9	0.3	0.2
Thailand	0.8	4.7	3.0	36.2	4.8	1.6	2.3	9.3	1.9	0.6
Average[2]	**5.1**	**4.9**	**74.6**	**25.8**	**2.9**	**1.5**	**5.6**	**9.6**	**0.7**	**0.4**
Median	**4.4**	**4.6**	**5.8**	**25.3**	**2.7**	**1.3**	**4.5**	**9.3**	**0.6**	**0.4**
eurozone	3.9	3.8	-1.4	-0.8	1.5	1.6	8.2	7.0	0.5	0.7
Japan	0.8	2.0	1.1	1.3	1.2	0.6	6.4	18.3	0.9	0.6
United States	5.7	4.6	7.0	10.6	2.2	1.8	6.7	7.2	0.7	0.6

y-o-y = year-on-year
[1]Data for all listed non-financial companies. [2]Simple average.
Notes:
Return on assets = (net income/total assets)*100.
Interest expense/assets = (interest expense/total assets)*100.
Interest coverage ratio = earnings before interest, taxes and depreciation(EBITDA)/interest expense.
Net income represents income after removing all operating and non-operating income and expense, reserves, income taxes, minority interest, and extraordinary items of listed non-financial companies.
Total assets represent the sum of total current assets, long term receivables, investment in unconsolidated subsidiaries, other investments, net property plant and equipment, and other assets of listed non-financial companies.
Net sales represent gross sales and other operation revenues less discount, returns, and allowance of listed non-financial companies.
Net debt represents total debt minus cash of all listed non-financial companies.
Common equity represents common shareholders' investment in listed non-financial companies.
Source: OREI staff calculations using Datastream data.

emerging. Slower growth often reveals vulnerabilities hidden below the surface during high-growth periods. With economies in the doldrums, the region's banking systems face a tougher business environment. For example, corporate defaults tend to rise with economic difficulty, increasing nonperforming loans. The region's banking systems now lend more to the household sector and invest more in securities. Deterioration in housing and/or financial asset markets could have a negative impact on bank's balance sheets. And finally, despite the significant progress made through the post-1997/98 crisis reforms, legal and market infrastructure remain underdeveloped in many of the region's economies, with meager institutional support for risk management.

Table 19: Household Sector Indicators

	Household Indebtedness (% of GDP)[1]		Household Mortgage Loans (% of GDP)[1]		Housing Prices Change (%, y-o-y)[2]		LTV Limit (%)[3]	DTI Limit (%)[3]	Mortgage Delinquency Ratio[4]
	2001	2008	2001	2008	Average 2001–2007	2008	Current	Current	Latest
China, People's Rep. of	—	—	5.1	11.6	6.3	7.1	80	55	—
Hong Kong, China	61.3	52.3	49.8	38.8	3.2	17.3	60–90	45-50	0.1
Indonesia	5.6	11.6	1.2	2.5	6.9	5.5	—	—	2.3
Korea, Rep. of	24.7	37.9	13.3	23.4	6.7	4.0	40–60	40	0.7
Malaysia	43.8	48.5	24.4	26.0	3.1	4.0	—	—	5.6
Philippines	2.2	6.4	1.4	2.1	—	—	—	—	7.5
Singapore	—	50.8	28.0	34.8	2.1	13.4	90	none	0.5
Taipei,China	43.3	54.0	26.6	38.4	—	—	—	—	—
Thailand	10.8	17.9	7.1	9.6	3.1	-1.1	70–90	none	—
Average[5]	**27.4**	**34.9**	**17.4**	**20.8**	**4.5**	**7.2**	**85.0**	**47.5**	**2.8**
Median	**24.7**	**43.2**	**13.3**	**23.4**	**3.2**	**5.5**	**85.0**	**47.5**	**1.5**
eurozone	44.4	52.7	28.6	37.6	6.4	1.7	—	—	—
Japan	19.7	22.4	15.0	19.5	-4.2	-1.2	90	25-40	—
United States	95.6	120.8	76.4	102.6	6.7	-5.7	70–95	45	7.9

— = not available. DTI = mortgage debt to income ratio, GDP = gross domestic product, LTV = mortgage loans to value ratio, y-o-y = year-on-year.
[1]Values for Indonesia, Singapore, and Thailand refer to loans from commercial banks and financing companies; People's Republic of China, from financial institutions; Hong Kong, China from authorized institutions; Republic of Korea from commercial and specialized banks; Malaysia from commercial and investment banks; Philippines and Taipei,China from the banking system; eurozone from monetary and financial institutions; Japan from domestic licensed banks; and United States from financial system. Data for People's Republic of China in 2008 as of December 2007.
[2]Values for China, People's Republic of; Hong Kong, China; Indonesia; Singapore; and eurozone refer to residential property price index. Data for Korea, Republic of; Malaysia; Thailand; and United States refer to housing price index. Data for Japan refers to urban residential land price index. [3]Limits for the United States are from Freddie Mac and Fannie Mae; Japan from Japan Housing Finance Agency; Hong Kong, China from Hong Kong Mortgage Corporation; and Thailand from Government Housing Bank. [4]Values for Indonesia, Malaysia, Philippines and Singapore refer to nonperforming housing loans ratio. For Korea, Republic of, Philippines and United States, housing loans are 30 days or more in arrears; Hong Kong, China, Indonesia, and Singapore 3 months or more in arrears; and Malaysia 6 months or more in arrears. Data from the banking system for most; except for Malaysia and United States for commercial banks; and Hong Kong, China for retail banks. Data for Singapore as of September 2008; Indonesia as of December 2008; Republic of Korea as of February 2009; Hong Kong, China; Malaysia, Philippines and United States as of March 2009. [5]Simple average.
Source: National sources; CEIC; Federal Reserve System; European Central Bank; and *World Economic Outlook Database* April 2009, International Monetary Fund.

The current crisis illustrates that the risk assessment capabilities built since the 1997/98 Asian financial crisis remain insufficient and need to be upgraded.

There is a fundamental weakness in exclusively using a micro-prudential approach in supervision—it tends to overlook financial spillovers and externalities in times of stress. Better regulatory and supervisory oversight has improved the soundness of individual banks. However, financial interdependence has intensified as banks diversify lines of business and new products and services blur the boundaries of banking. In addition, the

complexity of structured credit products—often involving high leverage, the unbundling and repackaging of risk, and credit enhancement—is challenging the ability of banks and financial regulators to fully assess the risks involved. In sum, marked changes in the banking environment have rendered existing regulatory approaches somewhat obsolete.

Innovation, deregulation, and globalization continue to impact the region's evolving banking environment.

Innovation is often driven by regulatory arbitrage, or the desire to avoid regulatory requirements placed on banks and other deposit-taking institutions. These include minimal capital and liquidity ratios, various prudential constraints on permissible assets and liabilities, governance requirements, and reporting obligations. Deregulation has obscured the boundaries between banks and nonbank financial institutions in terms of the products and services they offer. Increased globalization means global financial conditions increasingly affect the health of the region's banking and financial systems. During the current crisis, for example, the repatriation of funds by global financial institutions put significant pressure on local banks' foreign currency resources and in some cases threatened their financial soundness. The rapidly changing financial landscape requires a thorough review of new risks and challenges. The crisis presents an opportune time to review them and make required adjustments to the reform measures implemented since the 1997/98 Asian financial crisis.

The financial regulatory and supervisory framework changed significantly after 1997/98, driven by banking sector consolidation, the evolving business of banking, and growing financial disintermediation.

Overall, the region's banking regulatory and supervisory frameworks have become more rule-based—as opposed to the discretionary, relationship-based frameworks in place prior to 1997. Rules and norms in bank supervision across the region now appear to be broadly consistent with international standards. Market entry and ownership criteria, capital and liquidity requirements, prudential requirements, banking activities, auditing and disclosure requirements, and corporate governance all generally comply with international standards **(Table 20)**.

Table 20: Banking Regulatory and Supervisory Framework in Emerging East Asia

		China, People's Rep. of	Hong Kong, China	Indonesia	Korea, Rep. of	Malaysia	Philippines	Singapore	Taipei, China	Thailand	Viet Nam
Market entry criteria	Licensing authority	China Banking Regulatory Commission	Hong Kong Monetary Authority	Bank Indonesia	Financial Services Commission	Finance Minister (by recommendation of Bank Negara Malaysia)	Bangko Sentral ng Pilipinas	Monetary Authority of Singapore	Financial Supervisory Commission	Ministry of Finance (by recommendation of the Bank of Thailand)	State Bank of Viet Nam
	Minimum capital requirement for entry for domestic banks	CNY1 billion for a nation-wide bank; CNY100 million for a city commercial bank; CNY50 million for a rural commercial bank	HKD300 million	IDR3 trillion for domestic and subsidiary of foreign banks; new entry of foreign bank branch not allowed	KRW 100 billion	MYR2 billion	PHP4.95 billion for universal bank; P2.4 billion for commercial bank	SGD1.5 billion	NTD10 billion	THB5 billion	VND3 trillion
	Required information on the source of funds for capital	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ownership criteria	Maximum percentage of capital that can be owned by a single owner	For a city commercial bank, up to 5% of the total shares	None	None	None	10% for individuals and 20% for corporate	40%	None	25%	5% of the total amount of a commercial bank's shares sold	5%
	Nonfinancial firms' ownership of banks	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed
	Nonfinancial firms ownership of voting shares	Permitted	Permitted	Permitted	Permitted	Restricted	Restricted	Permitted	Restricted	Restricted	Permitted
Capital requirements	Risk-weighted capital adequacy ratio (%)	8%	8%	8%	10%	8%	10%	10%	8%	8.5%	8%
	Varying capital–asset ratio in line with market risk	No	No	No	No	Yes	Yes	Yes	Yes	No	Yes

Table 20 continued

		China, People's Rep. of	Hong Kong, China	Indonesia	Korea, Rep. of	Malaysia	Philippines	Singapore	Taipei, China	Thailand	Viet Nam
Bank activities	Securities	Prohibited	Unre-stricted	Prohibited	Permitted	Permitted	Unrestricted	Unrestricted	Restricted	Prohibited	Permitted
	Insurance	Restricted	Unre-stricted	Prohibited	Permitted	Restricted	Permitted	Restricted	Restricted	Restricted	Permitted
	Real estate	Prohibited	Unre-stricted	Prohibited	Prohibited	Restricted	Permitted	Restricted	Restricted	Restricted	Permitted
	Regulatory restrictions on bank ownership of nonfinancial firms	Prohibited	Permitted	Prohibited	Restricted	Restricted	Permitted	Restricted	Restricted	Restricted	Permitted
Auditing system	Compulsory external audit	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Auditor's report given to supervi-sory agency	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Auditors are legally required to report mis-conduct by man-agers/directors to supervisory agency	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
	Supervisors can take legal action against external auditors for negligence	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Manage-ment and organiza-tion	Supervisors can force banks to change internal organizational structure	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 20 continued

		China, People's Rep. of	Hong Kong, China	Indonesia	Korea, Rep. of	Malaysia	Philippines	Singapore	Taipei, China	Thailand	Viet Nam
Liquidity requirements	Specific guidelines for asset diversification	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
	Banks are prohibited from making loans abroad	No	No	Yes	Yes	No	No	No	No	No	No
	Minimum reserve requirements	8% of outstanding deposits denominated in domestic currency	Not Applicable	7.5% of third party fund or bank deposit (IDR); 1% (USD)	Up to 35% of total reserves may be held in the form of vault cash	4% of eligible liabilities	19% of total deposit liabilities of banks	3% cash balance; 18% liquid asset ratio	A minimum of 7%; and deposit at Central Bank with minimum requirements vary with deposits (4–10.75%)	At least 0.8% of required reserves	Liquidity requirement on a case-by-case basis
Depositor protection schemes	Explicit deposit insurance scheme	None	Yes	Yes	Yes	Yes	Yes	Yes	Yes	None	Yes
	Deposit insurance agency can take legal action against bank directors and/or officials	Not Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Not reported
Provisioning requirements	Formal definition of nonperforming loans	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
	Loan classification is based on (a) the number of days a loan is in arrears, (b) a forward-looking estimate of the probability of default, or (c) other factors	(b)	(a), (b), and (c)	(c)	(a) and (b)	(a)	(a) and (b)	(c)	(a)	(a)	(a) and (c)

Table 20 continued

		China, People's Rep. of	Hong Kong, China	Indonesia	Korea, Rep. of	Malaysia	Philippines	Singapore	Taipei, China	Thailand	Viet Nam
Disclosure	Income statement contains accrued but unpaid interest/ principal while loan is performing	Not Available	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
	Consolidated accounts covering bank and any non-bank financial subsidiaries are required	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Not reported
	Off-balance sheet items are disclosed to supervisors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Not reported
	Banks must disclose risk management procedures to the public	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
	Directors are legally liable for erroneous and/ or misleading information	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Regulations require credit ratings for commercial banks	No	No	No	Yes	No	Yes	No	No	No	No
Supervision	Single/multiple supervisory authority	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single
	Onsite examinations	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Supervisors are legally liable for their actions	No	No	No	Yes	No	Yes	No	Yes	Yes	Not reported

Table 20 continued

		China, People's Rep. of	Hong Kong, China	Indonesia	Korea, Rep. of	Malaysia	Philippines	Singapore	Taipei, China	Thailand	Viet Nam
	Mechanisms of cease–desist type orders whose infraction leads to the automatic imposition of civil and penal sanctions on the banks directors and managers	Yes	None	Yes	Yes	Yes	Yes	Yes	Yes	Yes	None
	Supervisory agency can order directors and/or management to constitute provisions to cover actual and potential losses	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Not reported
Discipline	Specific law addressing bank insolvency	Banking Law and Commercial Banking Law	Companies Ordinance, Bankruptcy Ordinance, Banking Ordinance, Deposit Protection Scheme Ordinance, and Clearing and Settlement Systems Ordinance	Banking Act and Bank Indonesia regulation	Banking Act, Act on Structural Improvement of the Financial Industry	Companies Act 1965 and Banking and Financial Institutions Act 1989	R.A. 7653 Central Bank Act	Banking Act, Companies Act, and Bankruptcy Act	Company Law, Bankruptcy Law, and Banking Act	Bankruptcy Act B.E. 2483 (1940) as amended	The Law on Credit Institutions and Bankruptcy Law
	Supervisory agency can supersede bank shareholder rights and declare bank insolvent	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Not reported

Source: Caprio, Gerard, Ross Eric Levine, and James R. Barth; *Bank Regulation and Supervision (2003 and 2008)*, World Bank; and OREI staff updates based on central bank/monetary authority and regulatory agency circulars.

Nevertheless, there remain vast differences across emerging East Asia in the institutional setup for financial regulation and supervision **(Table 21)**. This largely reflects the varying stages of financial development and differences in the structure of individual financial systems. The 1997/98 Asian financial crisis played a catalytic role in reforming the region's regulatory and supervisory regimes. One of the key considerations then was to integrate and streamline the regulatory structure. For example, both Korea and Taipei,China now have single, integrated financial regulators separate and independent from their respective former regulators. In Singapore and Viet Nam, the central bank is the single regulator for all financial services. In most cases, however, the central bank remains the banking regulator. In Korea and Taipei,China, even where the single financial regulator also oversees banks, the central bank retains a specific role in bank supervision.

Asia's performance in implementing international financial standards and codes shows the need for further compliance.

Information on the quality of regulation can be drawn from assessments of compliance with international financial standards and codes. For Asian economies participating in the World Bank/ International Monetary Fund (IMF) Financial Sector Assessment Program (FSAP), this information is available together with other stand–alone and self–assessments. The principal standards assessed through FSAP are the Basel Core Principles (BCP), Insurance Core Principles (ICP), and International Organization of Securities Commissions (IOSCO) Principles **(Tables 22a, 22b, 22c).**

- ***Assessments of the BCP for effective banking supervision reveal that compliance was generally lower in Asian jurisdictions compared with the global reference sample.***

  Observance of compliance with principles on licensing and structure, methods of supervision, accounting and disclosure, and consolidated and cross-border supervision were found to be lower in Asian economies than the global average. In particular, for this cluster of principles incidences of materially compliant to non-compliant with the standards were generally higher than global averages. On the other

Table 21: Institutional Setting of Financial Regulation and Supervision in Emerging East Asia

			China, People's Rep. of	Hong Kong, China	Indone-sia	Korea, Rep. of	Malay-sia	Philip-pines	Singa-pore	Taipei,China	Thai-land	Viet Nam
Supervisory structure	Single supervi-sor	Separate from the central bank				✓				✓		
		Within the central bank							✓			✓
	Semi-integrated super-visory agen-cies	Banking and se-curities										
		Banking and insur-ance					✓					
		All non-banks										
	Multiple supervi-sors	At least one for banks, securi-ties, and insur-ers	✓	✓	✓			✓			✓	

Table 21 continued

			China, People's Rep. of	Hong Kong, China	Indonesia	Korea, Rep. of	Malaysia	Philippines	Singapore	Taipei,China	Thailand	Viet Nam
Central bank involvement in banking supervision	Central bank is the banking supervisor			✓	✓		✓	✓	✓		✓	✓
	Partial involvement	Management of the banking supervisor										
		Some specific tasks in banking supervision	✓			✓				✓		
		Sharing resources with other supervisory agencies										
Consolidated supervision of the operations of domestic and non-domestic financial groups	Consolidated supervision applied to bank subsidiaries and affiliates of domestic financial groups, and to unincorporated branches and affiliates of non-domestic financial groups		✓		✓			✓		✓	✓	✓
	Consolidated supervision applied to bank subsidiaries and affiliates of domestic financial groups, but not to unincorporated branches and affiliates of non-domestic financial groups			✓		✓	✓		✓			

Source: *Global Survey 2008: Regulatory and Market Developments,* Institute of International Bankers; *Designing an Integrated Financial Supervision Agency,* Siregar, R. and W. James; ASEAN Economic Bulletin Vol. 23, No. 1; and OREI staff updates and inputs.

Table 22a: Assessment of Compliance with Basel Core Principles

	Core Principles	Asia (% of Asian Economies Assessed)					Global (% of World Economies Assessed)				
		Compliant	Largely Compliant	Materially Compliant	Non-Compliant	No Answer or Not Assessed	Compliant	Largely Compliant	Materially Compliant	Non-Compliant	No Answer or Not Assessed
Objectives, Independence, Powers, Transparency, and Cooperation	1	10.5	5.3	5.3	—	78.9	11.6	4.3	2.2	—	81.9
Licensing and Structure	2–5	46.1	35.5	15.8	2.6	—	51.1	31.9	13.8	3.3	—
Prudential Regulations and Requirements	6–18	32.4	22.7	31.2	11.3	2.4	32.0	33.7	25.8	7.5	1.1
Methods of Ongoing Banking Supervision	19–21	33.3	26.3	24.6	8.8	7.0	36.5	29.7	23.9	5.6	4.3
Accounting and Disclosure	22	26.3	52.6	15.8	5.3	—	27.5	39.1	30.4	2.9	—
Corrective and Remedial Powers of Supervisors	23	36.8	5.3	21.1	10.5	26.3	30.4	19.6	13.8	8.0	28.3
Consolidated and Cross-Border Banking Supervision	24-25	36.8	34.2	13.2	7.9	7.9	40.2	29.0	14.5	4.3	12.0

Notes:
Asia includes: Australia; Bangladesh; Cook Islands; Hong Kong, China; India; Indonesia; Japan; Korea, Republic of; Labuan (Malaysia); Macau, China; Marshall Islands; New Zealand; Palau; Philippines; American Samoa; Singapore; Sri Lanka; Thailand; and Vanuatu.
Global includes 139 jurisdictions assessed.
Source: International Monetary Fund.

Table 22b: Assessment of Compliance with Insurance Core Principles

	Core Principles	Asia (% of Asian Economies Assessed)						Global (% of World Economies Assessed)					
		Observed	Largely Observed	Partly Observed	Materially Non-Observed	Non-Observed	Not Assessed or Not Applicable	Observed	Largely Observed	Partly Observed	Materially Non-Observed	Non-Observed	Not Assessed or Not Applicable
Organization	1	—	—	62.5	37.5	—	—	15.0	3.3	40.0	30.0	5.0	6.7
Licensing and Changes in Control	2-3	75.0	—	6.3	12.5	6.3	—	55.8	0.8	25.0	10.0	7.5	0.8
Governance and Internal Control	4-5	18.8	—	31.3	25.0	18.8	6.3	17.5	0.8	20.0	33.3	23.3	5.0
Prudential Rules	6–10	30.0	10.0	22.5	15.0	12.5	10.0	34.7	3.0	28.7	17.3	8.7	7.7
Market Conduct	11	37.5	—	37.5	25.0	—	—	30.0	—	20.0	35.0	8.3	6.7
Monitoring and On-Site Inspection	12-13	37.5	6.3	25.0	25.0	6.3	—	40.8	2.5	35.0	18.3	2.5	0.8
Sanctions	14	75.0	—	12.5	12.5	—	—	50.0	1.7	36.7	10.0	1.7	—
Cross Border Business Operations	15	50.0	—	25.0	12.5	—	12.5	41.7	—	15.0	11.7	—	31.7
Coordination and Cooperation	16	12.5	12.5	37.5	25.0	12.5	—	41.7	1.7	30.0	15.0	10.0	1.7
Confidentiality	17	75.0	—	25.0	—	—	—	71.7	—	21.7	5.0	—	1.7

Asia includes: Hong Kong, China; Japan; Korea, Republic of; Labuan (Malaysia); Macau, China; Philippines; Singapore; and Vanuatu.
Global includes 60 jurisdictions assessed.
Source: International Monetary Fund.

Table 22c: Assessment of Compliance with IOSCO Core Principles

	Core Principles	Asia (% of Asian Economies Assessed)					Global (% of World Economies Assessed)				
		Imple-mented	Broadly Imple-mented	Partially Imple-mented	Non-Imple-mented	Not Applica-ble or No Answer	Imple-mented	Broadly Imple-mented	Partially Imple-mented	Non-Imple-mented	Not Applica-ble or No Answer
Powers, Resources, Independence, and Accountability	1–5	52.0	17.1	25.3	4.0	1.6	56.4	25.5	18.2	—	—
Self-Regulatory Organizations and Supervision	6-7	48.0	5.3	22.0	4.7	20.0	63.6	4.5	31.8	—	—
Enforcement	8–10	46.2	15.1	29.8	7.1	1.8	45.5	21.2	24.2	9.1	—
Domestic and International Cooperation	11–13	47.1	10.7	29.8	10.2	2.2	45.5	15.2	15.2	21.2	3.0
Issuers and Disclosure of Information	14–16	48.4	13.3	29.3	4.0	4.9	45.5	27.3	21.2	—	6.1
Collective Investment Schemes and Operations	17–20	62.7	9.0	21.3	5.0	2.0	54.5	13.6	27.3	4.5	—
Supervision of Market Intermediaries	21–24	50.3	11.0	26.3	9.7	2.7	52.3	11.4	31.8	4.5	—
Regulatory Structure, Integrity, and Clearance and Settlement Functions	25–30	50.2	9.6	22.2	5.6	12.4	53.0	13.6	24.2	1.5	7.6

Asia includes: Australia; Bangladesh; Hong Kong, China; India; Japan; Korea, Republic of; Labuan (Malaysia); New Zealand; Philippines; Singapore; and Sri Lanka.
Global includes 75 jurisdictions assessed.
Source: International Monetary Fund.

hand, full compliance with BCP requirements on prudential regulations and on corrective and/or remedial powers was higher than the average benchmark, even though there were once again more observations of non-compliance among assessed Asian economies. It is noteworthy that in Asia, as for other countries, there were some difficulties in assessing compliance with BCP on the objectives, independence, and powers of the supervisor.

- ***Asian jurisdictions also scored lower than the global average in assessments of compliance with ICP.***

  Serious shortcomings were found in the organization of insurance supervision in Asia compared with the global benchmark, as no Asian jurisdictions were found to be either fully or largely ICP compliant. Compliance with prudential rules, monitoring and inspection, and coordination and cooperation were generally lower in Asia, with the incidences of non-compliant to materially non-compliant much higher than average. But Asia scored much better than the global average for licensing, market conduct, and imposing sanctions.

- ***Assessment of compliance with IOSCO showed that Asia implemented these principles more consistently than the global average.***

  Asia was particularly strong relative to the global average in the implementation of IOSCO principles in collective investment schemes and disclosure of information by issuers. But Asia had lower scores relating to supervisory powers and independence, the role of self-regulatory entities and the cluster of principles that included clearance and settlement functions. Otherwise, in general, implementation of the other principles by Asia was observed to be close to the global average.

Closing Regulatory Gaps

Specific reform agendas are emerging in international forums to address regulatory gaps; those that caused the crisis and have hampered corrective measures afterward.

Several global forums and multilateral institutions are preparing reform proposals. Based on initiatives from the Group of Seven (G7),[9] the Group of Twenty (G20),[10] the Financial Stability Forum (FSF),[11] and the IMF,[12] recommendations for regulatory and supervisory reform are being developed with detailed implementation plans. The following focuses on the measures and related issues with strong implications for emerging East Asia's financial systems.

[9]As early as August 2007, some international responses started to emerge to calm volatile financial markets, which originated from the US subprime mortgage market. The Group of Seven (G7) finance ministers, who met in Washington DC in October 2007, requested the Financial Stability Forum (FSF) to prepare recommendations for increasing the resilience of financial institutions and markets. An initial FSF report was tabled in April 2008, which was updated in October 2008 and again in April 2009. Initially, these recommendations did not address specific regulatory structures or expanding the scope of regulation, but rather focused on broad issues related to improving the existing international financial architecture.

[10]With the crisis worsening—despite policy measures taken by advanced economies—it became clear that the G7 could not address those issues requiring more comprehensive global resolution. The Group of Twenty (G20) met in Washington DC on 14–15 November 2008 to craft more comprehensive and multilateral measures to stop the financial panic and avoid a major global recession. At the end of their Washington summit, G20 leaders endorsed common principles for reform of the international financial system and established five working groups to review and recommend how to strengthen transparency and accountability, enhance sound regulation, promote integrity in financial markets, reinforce international cooperation, and reform international financial institutions.

[11]The Financial Stability Forum (FSF)—founded in 1999 to promote international financial stability—brings together finance ministers, central bankers, financial regulators, and international financial bodies. Following the G20 London summit in April 2009, the FSF was renamed the Financial Stability Board (FSB) with all G20 countries as members. The FSB is mandated to address vulnerabilities and to develop and implement strong regulatory, supervisory, and other policies in the interest of financial stability.

[12]At the London summit, the G20 also requested the IMF to tackle long-term and multilateral challenges of strengthening financial regulation while helping mitigate the short term impact of the crisis. The IMF will assume a greater role in monitoring and surveillance of global financial activities, and individual member countries' compliance with their policy obligations. In an effort to enhance the global regulatory and supervisory system, the IMF has recommended the adoption of more comprehensive perimeters for regulation, enhancing transparency with adequate disclosure requirements to determine the systemic importance of institutions, and strengthen their oversight.

Revamping regulatory structures

Regulatory reform should eliminate gaps and overlaps, avoid regulatory arbitrage, increase transparency, and improve coordination among relevant authorities.

The crisis revealed fragmentation in the current supervisory and regulatory structures. In economies without unified financial supervision, lack of coordination among different regulatory agencies—such as information sharing—hinders effective monitoring and developing an understanding of the risks tied to closely-intertwined market segments. Even in economies with unified supervisors, particularly those outside the central bank, there remains the need for greater cooperation and information sharing. Changes in regulatory structure need to address the gaps arising from incomplete cooperation and communication among different regulatory agencies, and identify clearly who has final legal authority to sanction or bail out individual institutions, or to implement policies to safeguard financial stability. Regardless of the institutional arrangements for supervision—whether unitary, "twin-peaks,"[13] or multiple supervisors—legal authority, information sharing, and effective coordination remain critical for effective crisis management.

While there is no "one-size-fits-all" regulatory structure, there is growing acceptance that an integrated approach to macro-prudential oversight and financial stability is needed.

One major regulatory gap is the lack of a centralized approach to monitoring potential systemic risk and ensuring financial stability. There have been many studies on the issue of a single unified supervisor versus multiple supervisors **(Box 4)**. But little evidence has been found that one regulatory structure is universally better than the rest.[14] Whether a country follows an approach of a single unified supervisor or several supervisors may not be as critical as having a supervisory structure with

[13] "Twin peaks" is an approach in which there is separation of regulatory functions between two regulators by objective. For example, in Australia, regulatory responsibilities are split between the supervisor of the safety and soundness of financial institutions and systems, and the conduct-of-business regulation.

[14] Barth, James R., Gerard Caprio, and Ross Levine. 2004. Bank regulation and supervision: What works best? *Journal of Financial Intermediation*. 13(2), 205–248.

Box 4: Single versus Multiple Regulators

The global financial crisis highlights the need for regulatory consistency and/or harmonization. It has generated a heated debate in both policy and academic circles over which structure is most appropriate for national regulatory and supervisory systems. The debate is complex, but in general pits those who favor a single unified regulator against those who argue that a single regulator may not have sufficient tools and expertise to satisfy diverse public policy objectives.

In the United States (US), for example, there are multiple regulators for the banking sector. These include the Federal Reserve Board (Fed), the Federal Deposit Insurance Corporation, the Office of the Comptroller of the Currency, and the Office of Thrift Supervision. As the financial crisis deepened, overall banking regulation was roundly criticized because of the gaps and weaknesses in this fragmented system. The US administration has recently announced reform proposals to consolidate banking regulation under one supervisor, most likely the Fed. In particular, the existing approach to regulate bank holding companies failed to identify and incorporate risks emanating from non-depository financial affiliates in bank risk management. The idea is to fill in these gaps to ensure comprehensive regulation of the entire corporate entity.

In contrast, the United Kingdom (UK) has, in principle, a single unified regulator—the Financial Services Authority (FSA). The FSA has supervisory responsibility for banks, listed money market institutions, and clearing houses from the Bank of England. As the financial crisis unfolded, however, critics argued that there was inadequate coordination among regulatory and supervisory authorities—bank failures such as Northern Rock required substantial support from the Bank of England (BOE) and the government. These critics were quick to argue that the FSA lacked authority to take responsibility for protecting the economy and financial system as a whole. The UK government has tabled a proposal to create a Council for Financial Stability—to bring together the BOE, FSA, and Treasury on a regular basis to review risks to the system and publish their results.

Although little empirical evidence exists on the effect of different structures on regulatory effectiveness and financial stability, there is a growing number of studies that discuss conceptual and theoretical frameworks for national regulatory and supervisory systems.[1]

[1]For a detailed review of existing studies, see Barth, Dopico, Nolle, and Wilcox. 2002. An International Comparison and Assessment of the Structure of Bank Supervision, in *Financial Regulation: A Guide to Structural Reform*, ed. Jan-Juy Lin and Douglas Arner, pp.57-92. Hong Kong: Sweet & Maxwell.

There are, of course, strong arguments on both sides. Those who prefer unified supervision emphasize several points:

- Consolidated supervision can avoid regulatory gaps and limit regulatory arbitrage that can arise from fragmented supervision. Multiple agencies may have difficulty forming a comprehensive risk assessment of financial institutions or assess system-wide risk. Also, as the demarcation between products and institutions increasingly blur, financial institutions tend to want supervision by less restrictive regulators—trying to reduce the regulatory burden. Consolidated supervision, the argument goes, could help achieve competitive neutrality.

- A single regulator is likely to be more transparent and accountable. Under a multiple regulatory regime, regulators may defer responsibilities to each other. It can also make it more difficult to hold regulators accountable for regulatory failures or actions taken counter to intended objectives.

- A single regulator could generate economies of scale and enhance regulatory efficiency. A large single regulator can take advantage of economies of scale

Continued overleaf

by increasing the cost effectiveness of its operations, thus minimizing wasteful duplication of resources and allowing for more efficient resource allocation.

- The unified approach can allow greater flexibility in responding to changing environments. A single regulator can decide promptly and efficiently, compared with a process involving multiple agencies that are each saddled with a unique bureaucratic, political, and legal atmosphere. A streamlined decision-making process can also help a single regulator resolve conflicts that arise.

- Finally, a single regulator could better coordinate cross-border supervision. Often times, foreign supervisors find it difficult to gather information from multiple regulators in a country.

Those who favor multiple regulators have equally compelling arguments:

- A single agency may not be able to meet diverse public policy objectives. These range from protecting consumers and investors to safeguarding financial stability. It may be difficult for a single regulator to clearly focus on a variety of objectives, which can generate internal conflicts of interest among different departments.

- A single regulator's monopoly on power may create diseconomies of scale. In fact, multiple regulators may encourage competition between regulators, enhancing regulatory efficiency and motivating regulators to respond quickly to innovation. Also, the synergy gains from a single regulator may not be very large. The focus and skill sets of the traditionally functional supervisors, —such as banking, insurance, and securities regulators—generally do not overlap, thus limiting the efficiency gains arising from mergers between these different regulators.

- A single regulator may create the illusion that all creditors of institutions it supervises will receive identical protection. For example, from the perspective of public policy, depositors are often treated differently from financial investors. However, other financial investors may assume that they are subject to the same degree of protection, generating moral hazard.

Institutional frameworks for financial regulation come in all shapes and sizes, depending on the different structures of financial sectors and the stage of market development in individual economies. While there is no universally "better" regulatory structure, an appropriate institutional setup should consider the following:

- First, a regulatory regime, with either single or multiple agencies, should ensure competitive neutrality, thus limiting regulatory arbitrage and moral hazard. There should be a level playing field without undue regulatory burden for financial institutions.

- Second, there should be a clear and effective mechanism for information-sharing and supervisory cooperation among different regulators, whether different departments within a single regulator or different agencies.

- Finally, issues such as the insolvency of a systemically important institution and its impact on systemic risk require a consolidated approach. There should be an avenue for better communication and close cooperation among financial regulators to ensure system-wide soundness. It is also important to establish who has the ultimate responsibility for macro-prudential supervision and how the regulatory measures to counter systemic macro-prudential risks should be formulated and implemented.

clear objectives and supervisors with the authority and legal power to regulate and take effective action, especially in resolving financial distress. The blurring of activities among financial service providers, together with the emergence of financial conglomerates (Bank holding companies covering a variety of financial business), also poses regulatory challenges as a number of agencies often have different objectives and share different regulatory responsibilities. Any new regulatory structure should be flexible enough to meet the challenges of a rapidly changing regulatory environment, while allowing for a centralized approach to macro-prudential oversight and determination of systemic risk.

Lessons from the recent financial turmoil call for reconsidering the supervisory role of central banks.

It is now clear that as "lenders of last resort" and in monitoring financial stability, central banks must have timely access to banking information and developments in other financial segments. According to a recent survey by the IMF (2009),[15] almost all banking supervisors consider monitoring systemic risks and maintaining financial stability to be part of their mandates. Other financial services supervisors such as insurance and securities gave little importance to these systemic aspects. Whether the central bank should also be a bank regulator is subject to debate. However, the governance arrangement of supervisory agencies is central to their effectiveness. Recent studies suggest that supervisory authorities' independence may enhance the safety and soundness of the banking system while promoting bank efficiency.[16] The IMF study showed that 75% of agencies surveyed had legislated operational independence over supervisory decisions, but only 58% had independence for regulatory activities. Currently, the majority of bank supervisors are also located within central banks. Thus, the region's central banks tend to have dual responsibility—for banking supervision and monetary policy. It is important to ensure that the supervisory arm of the central bank maintains its independence from the central bank's monetary policy division.

[15]Seelig, Steven and Alicia Novoa. 2009. Governance Practices at Financial Regulatory and Supervisory Agencies. IMF Working Paper No. 09/135.

[16] Barth, James R., Chen Lin, Yue Ma, Jesús Seade, and Frank M. Song. 2009. The Role of Bank Regulation, Supervision and Monitoring in Bank Efficiency. Unpublished manuscript.

Broadening regulatory parameters

The crisis highlighted the need to extend supervision over a wider set of market segments and institutions—especially those deemed systemically important.

Financial regulators have always faced the challenge of balancing public policy objectives with market innovation. They need to safeguard financial stability and protect the general public while not stifling market incentives to innovate and diversify risks. Prior to the crisis, many nonbank financial institutions—non-life insurance, hedge funds, monoline insurers, private equity funds, specials investment vehicles (SIVs)—were either lightly regulated or not regulated at all. The crisis showed that these institutions, either individually or collectively, can pose risks to financial stability or trigger contagion when they are closely connected to regulated entities and have a concentration of assets giving rise to systemic risks.

However, it is less clear what constitutes systemic importance and how to identify or define these systemically critical institutions.

For any financial institution (whether bank or nonbank), many argue that systemic risks should be linked to operations and asset-liability structure. This leaves their legal status—as banks, insurers, and SIVs, among others—a secondary concern. Yet it remains unclear what constitutes systemic importance, how it is defined, and how it should be monitored. Indeed, standard stress tests on individual financial institutions proved inadequate in identifying those that posed systemic risk. In the crisis aftermath, specific national proposals are also likely to err on the side of over-regulation given the highlighted role that hedge funds and over-the-counter derivatives played leading up to the crisis. But the existence of strong asset management funds and the availability of various financial products are essential elements for building deep and liquid financial markets. The risk of over-regulation and discouraging financial innovation could be particularly harmful, deterring necessary capital market developments in emerging East Asia, where many economies still struggle to develop their capital markets and provide adequate systemic support and market infrastructure.

Tests of systemic risk can be strengthened by assessing the financial institution's position and influence in the market, as well as its size.

A specific financial institution could—because of its size or market influence—be an individual entity that poses systemic risk. This could be determined through stress tests using traditional methods, such as value-at-risk (VaR)-based models. As a next step, the model could be strengthened by including incremental risk factors of identified weaknesses. A financial entity could also pose systemic risks because it may likely trigger "herd behavior" because of its swathe or position in the market. Recent studies[17] suggest that CoVaR—the VaR of financial institutions conditional on other institutions being in distress—can be a useful device in determining the systemic risk posed by such an institution. This method can capture the risk-spillovers from one institution to another. For example, financing constraints of individual institutions could force them to unwind when the risk estimated by individual VaR rises, pushing margin and capital requirements higher. In times of market stress, forced asset sales could lead to an increase in market risk, thus feeding back into the measured risk. The co-risk measure, or CoVaR, estimates the extent to which an individual institution is exposed to such systemic risk in addition to its own risk as measured by VaR.

Strengthening prudential requirements

There is broad agreement among financial regulators that existing capital adequacy requirements must be increased and supplemented by a forward-looking assessment of risks.

There have been recommendations for bringing back a simple fixed minimum leverage ratio for capital. This would serve as the first line of defense, not for safeguarding the bank itself, but for depositors represented by the deposit insurance agency, and ultimately taxpayers. If this minimum capital is breached it should be the trigger for regulators to demand immediate corrective action. In addition, the minimum capital adequacy ratio (CAR) should be set higher and supplemented by additional

[17]Tobias, Adrian, and Markus K. Brunnermeier. 2008. *CoVaR*. Federal Reserve Bank of New York Staff Reports No. 348.

charges or provisioning based on forward-looking assessment of emerging risks stemming from liquidity, higher leverage, or pro-cyclicality.

Emerging East Asian authorities should strengthen bank liquidity management and supervision by determining whether banks could fall victim to problems encountered by institutions in advanced economies.

A global standard on proper liquidity management is rapidly evolving. The crisis showed that liquidity management using the minimum CAR for liquidity and leverage risks is inadequate. Several mechanisms are being considered to supplement the minimum CAR—for example, use of an additional capital charge linked to a mismatch in the asset–liability maturity structure. New capital adequacy requirements should also take account of a leverage ratio to dampen excessive leverage. The Basel Committee on Banking Supervision (BCBS) already unveiled enhanced capital requirements for structured products and securitization.[18]

The crisis showed that the riskiness of a bank's assets is intimately linked to a bank's funding source and its term structure.

Regulators did not pay sufficient attention to the source and maturity structure funding banks' asset expansion and growth in recent years. Excessive reliance on short-term funding during booms—particularly when interest costs and margins are low—tends to increase the fragility of the financial system. Accordingly, a capital charge on the maturity mismatch from the funding of asset–liability growth would help dampen a bank's reliance on short-term funds and pro-cylicality. This means that banks with medium- to long-term assets that have low market liquidity—and those who funded these assets with short-term liabilities—must hold additional capital. This additional capital charge would then force banks to internalize risks from maturity mismatches that give rise to funding liquidity risks. A multiple of CAR set as a function of the months of effective mismatch

[18]Two important global standard setters are documenting new guidelines for prudential requirements. First, the Basel Committee on Banking Supervision (BCBS) published *Principles for Sound Liquidity Risk Management and Supervision* in June 2008. Second, the Committee of European Banking Supervisors (CEBS) published *Recommendations on Liquidity Risks Management* in September 2008.

between asset maturity and funding maturity could be used for the additional capital charge for maturity mismatches. To do this, supervisors would need to develop a new database. This is best done in coordination with macro-prudential supervisors and the industry to agree on a method to match pooled assets with pooled funding and to determine effective maturities of assets and their funding.

The capital adequacy requirement should also take into account the amount of leverage undertaken by a bank or nonbank financial institution.

Setting the explicit leverage ratio may serve as an upper bound to leverage during a boom period. The amount of leverage of a bank or nonbank financial institution would need to be reviewed by taking into account links to off-balance sheet exposures and other contingent liabilities. The additional capital charge for exceeding the leverage ratio can be a multiple of CAR or derived using a function of the amount of deviation from the established ratio, which will increase as the deviation widens.

The combination of these additional capital charges should be applied to the basic CAR, as in Tier 1 capital.

Higher capital requirements would better respond to risks identified in the course of the current crisis. It will introduce buffers, making the banking system more resilient and ameliorate the counter-cyclical tendency of the regulatory regime. The charges should be applied to Tier 1 capital, widely recognized by the market as the reliable measure of a bank's resilience. Thus, the more a bank engages in risky activities, as measured by asset growth, maturity mismatches, liquidity pressures, and leverage, the higher the multiple in CAR it will have to set aside to reduce pro-cyclicality.

There is growing support for counteracting the pro-cyclicality of capital and liquidity requirements through the business cycle.

Several mechanisms are being considered for creating counter-cyclical capital buffers and dynamic provisioning **(Box 5)**. One is the requirement for higher capital levels during normal times, which could be used to absorb losses in a downturn. A second is

Box 5: Examples of Counter-Cyclical Regulatory Measures

The global financial crisis revealed an unintended problem with current regulations—they actually encouraged the procyclical behavior of financial institutions, which thus aggravated the credit crunch. Recent criticism of the Basel II framework is that it reinforces pro-cyclicality of the financial system by increasing risk sensitivity in financial regulation. There is now growing demand for counter-cyclical measures using dynamic provisioning or additional capital buffers to help mitigate risks during the boom cycle and dampen the effects of deleveraging and asset sales during a downturn.

Dynamic provisioning is a counter-cyclical regulatory measure that mitigates risks from rapid loan growth and the sharp credit retrenchment that may follow. The Bank of Spain applies one that requires additional provisions to be set aside (or utilized) based on a formula it provides. The formula can alternatively be an approved internal bank model. The summary formula for general provisioning (GP) is

$$GP = \alpha \Delta \text{Credit} + \beta \text{Credit} - \text{Specific Provisions}$$

The formula incorporates an adjustment for collective risk assessment (α) of credit growth over a defined period, latent risks derived from historical loan loss experience (β), the stock of outstanding credit, and specific provisions for incurred losses. The formula aims to capture the rising risk of default over time, provided that the loan is appropriately priced with the default premium correctly set.

Similarly, **additional capital buffers** for "excessive" credit growth provide a useful counter-cyclical tool. There are some simple methods for imposing counter-cyclical capital charges that are triggered by some definition of excessive bank asset growth. In 2000, the Central Bank of Brazil used a method that relied on a simple comparison of the growth rates of bank credit and gross domestic product (GDP). The ratio helped determine the capital buffer needed to help mitigate potential problems during a down cycle.

In Brazil, credit tended historically to expand faster than GDP during economic upswings. In subsequent downturns, loan loss provisions of Brazilian banks could not support normal operations, leading to stagnation in credit growth, thus creating a drag on economic recovery. The introduction of an additional capital charge as a function of credit growth in excess of GDP growth to serve as a buffer during the upswing mitigated the negative effects from the downturn that followed.

The increased capital adequacy ratio (CAR) is calculated as a function of the excess growth in credit over GDP growth over a specified observation period. The larger the excess, the higher the additional capital charge levied. The additional capital charge (ACC) is determined by

$$ACC = \alpha (\Delta \text{Credit} - \Delta \text{GDP})$$

such that (α) would rise as the positive deviation of (Δ Credit – Δ GDP) grows. During a downturn, (Δ Credit – Δ GDP) could become negative and (α) could drop below unity.

to consider counter-cyclical or through-the-cycle provisioning. It has long been argued that loan loss provisioning is often backward looking as it is mostly based on losses already incurred. With a short time horizon, the current loan loss provisioning creates delays in recognizing new risks, excessive risk taking during boom periods, and regulatory arbitrage. In recent years, the enhanced risk sensitivity of Basel II capital requirements also exacerbated this pro-cyclical behavior.

Dynamic provisioning helps recognize credit risks posed by the possibility of expected future losses—it can also limit excessive bank credit growth.

The rational for dynamic provisioning is that the risk of expected losses tends to rise as the economic cycle matures. Thus, the use of a metric that captures the increasing rate of credit growth also measures rising expected losses (See Box 5). This triggers additional provisioning on top of the specific one as a buffer in the upswing phase of credit growth and vice versa in a downswing. Additional provisioning lowers net credit and is reflected as an expense, thus affecting profitability. Since it was introduced by the Bank of Spain in 2000, this mechanism has been widely touted as a good example of counter-cyclical measures. There are some complications, however, if the Spanish example were to be applied elsewhere. The use of generic provisioning contravenes International Accounting Standards (IAS) principles in which provisioning must be based on incurred losses or evidence of credit impairment. This conflict did not create a problem for Banco de España, as it also sets the accounting standards. But, for most other regulators, adopting dynamic provisioning would create conflict with IAS compliance. Related concerns are that this mechanism may interfere with a proper evaluation of credit risks, distort the distribution of dividends, and give rise to deferred taxes if they were not deductible as an expense. There is growing support for recognizing the importance of prudential requirements, which may take precedence over accounting principles, and a review of IAS principles is underway.

Another more direct counter-cyclical mechanism is to add a capital charge linked to a measure of excessive credit growth.

To achieve this, regulators would need to develop, ideally in coordination with macro-prudential supervisors and industry

stakeholders, a measure of normal sustainable loan growth consistent with financial stability and the long-term growth of the economy. When a bank's loan growth exceeds the agreed growth path, it would trigger an additional charge on capital. It would be dynamic if the multiple on capital rises as the trend of loan growth deviates further away from the agreed path. As the boom continues, this would result in a larger capital buffer. Similarly, in a downturn the surcharge would be progressively lowered—below one if the situation worsens dramatically. The Central Bank of Brazil introduced such a capital charge in 2000 through a mechanism that links the deviation of credit growth relative to GDP growth (See Box 5).

Formalizing macro-prudential supervision

System-wide macro-prudential supervision must be developed to complement existing micro-prudential regulation.

High leverage tends to magnify profits during booms for individual institutions but leads to huge system-wide losses during crises. Moreover, the micro-prudential approach encourages banks to be more reluctant and conservative when lending during an economic downturn. This hurts the public good by depressing economic activity and deepening the business cycle trough. Risks also stem from interdependence among banks and lightly regulated nonbank entities through their operations, diversification of risks, and participation in innovative financial instruments. The ups and downs of the economic cycle need to be better integrated through macro-prudential supervision.

Macro-prudential supervision aims to ensure financial system stability by focusing on overall market trends or turning points—factors that can signal emerging systemic risks.

Strengthening macro-prudential capabilities in no way implies that micro-prudential measures are wrong or no longer needed. Rather, the global crisis clearly showed that micro-prudential supervision is insufficient on its own and would be more effective if complemented by macro-prudential supervision (MPS). There is as yet no clear agreement on what an MPS framework should look like. And the instruments to operationalize MPS are not well defined. Establishing an MPS approach requires caution to

ensure that the main objectives for ensuring financial stability are met while taking into account the basic cost–benefit assessment of the large information needs that MPS is likely to entail. This would include defining policy targets to monitor, instruments available to address deviation from targeted trends, and governance issues. It is also important to specify which supervisory or government authority will be in charge and held accountable.

An effective MPS requires comprehensive supervision and analysis of how a failure in any segment of a financial system—whether bank or nonbank-related—affects the risks associated with any other segment or the system as a whole.

Many national regulators now publish financial stability reports that provide an analysis of financial risks from a system-wide perspective—based on how the resilience of the system can be assessed. The introduction of dynamic provisioning and/or additional capital requirements may help address identified risks emerging from rapid loan growth in a boom cycle and the effects of deleveraging and asset sales during a downturn. Also at the global level, international institutions are attempting to define an effective MPS. The FSB, for example, is working with the IMF to develop early warning indicators of evolving macroeconomic and financial risks. It is critical that emerging East Asian economies contribute to this process by providing inputs for the development of early warning indicators specific to their national systems, while ensuring that they are fully incorporated in their regulatory systems and shared among supervisors and regulators of all financial sector segments.

Improving Accounting Standards and Credit Rating Systems

In the run-up to the crisis, mark-to-market accounting, in combination with the pro-cyclical characteristics of asset prices contributed to the delay in seeing rising risks and interdependencies.

The global financial crisis illustrated that strict adherence to mark-to-market accounting principles exacerbates bank losses, liquidity problems, and the downward asset price spiral. To alleviate this, regulators could ask banks to pool together assets

that can be matched to a pool of liabilities funding such assets. The assets would then be placed in a "hold-to-funding account," which would be linked to the maturity of the funding rather than mark-to-market or fair market valuations. This tool would help preserve the value of bank assets during periods when market disruptions hamper appropriate asset pricing. It would also preserve systemic stability by reducing market illiquidity brought about by forced asset sales from strict adherence to mark-to-market accounting.

The crisis identified several flaws in the design and function of credit rating agencies.

The complex nature of structured products led to heavy reliance on rating agencies in assessing the exposures to different layers of structured products, and in monitoring their secondary market performance. Traditionally, credit rating agencies enhance transparency, support capital market development, and encourage financial innovation. But several flaws in the design and function of rating agencies helped cause or aggravate the current crisis. Rating agencies were found lax in rating structured credit products with short historical track records, thus relying overwhelmingly on mathematical models in defining risks. This created doubts in rating accuracy and model-based valuations. Credit rating downgrades of structured products triggered the liquidity squeeze, and destroyed confidence in related products and the financial entities that were exposed to these instruments. Wide-spread concern over conflicts of interest and the analytical independence of rating agencies derives from the agency business model, which is based on compensation from the credit issuers, and the fact that rating agencies usually act as issuers' financial advisors. This triggered discussions over whether credit rating agencies should be subject to formal regulatory oversight. Earlier proposals from the G20 and FSB left open the possibility of voluntary compliance by rating agencies with the IOSCO standards on transparency and disclosures, governance, and management of conflicts of interest.

Enhancing corporate governance

The crisis focused attention on flawed compensation incentives for financial managers and traders that rewarded imprudent short-term risk-taking.

There is a growing consensus that compensation schemes for financial managers and traders should be reviewed by supervisory authorities to ensure they do not reward excessive short-term, risk-taking behavior at the expense of longer-term value and financial stability. At the G20 London meeting in April 2009, leaders endorsed principles on pay and compensation proposed by the FSB. Following this, the European Commission issued a communication and unveiled proposals that include supervisory oversight of the sustainability of compensation schemes.

Promoting better cross-border cooperation

The crisis showed that the established framework for cross-border coordination and cooperation through memorandums of understanding and a College of Supervisors have limitations.

In reforming crisis management frameworks, remedial or corrective actions need to be harmonized, particularly for large and systemic cross-border financial institutions. In the early stages of the crisis, there were issues with cross-border movements of funds and assets to support liquidity or capital requirements of either the parent entity or the subsidiary or branch. Actions to widen guarantees on deposits and selected bank liabilities and similar measures were not coordinated—in some instances adding pressure to neighboring countries' systems. Later, there were problems with the resolution of cross-border banks and their operations.

Supervision of liquidity management of cross-border banks lacked consistency; an important issue as liquidity across domestic and international capital markets tightened.

Regulators need a common set of liquidity parameters. Disruptive regulatory actions—such as the ring-fencing of liquid assets in the recent crisis—should be used only as a last resort. This requires better knowledge of how cross-border banks conduct their

business. Complex, large cross-border banks internally manage liquidity in very diverse ways. Host and home supervisory and regulatory authorities need to ensure that these banks hold sufficiently high-quality liquid assets.

A more effective cross-border bank resolution process needs to be established.

The crisis showed that insolvency regimes need to be aligned across economies affected by cross-border bank failures. Delays and uncertainties during the height of the crisis broke potential deals and exacerbated contagion. For example, measures and processes for managing insolvent banks requiring close out netting, managing creditor claims on collateral assets, or unwinding financial transactions are often designed for domestic operations. They fail to address cross-border banking insolvencies. A strengthened resolution framework would also help forestall unilateral actions tantamount to financial protectionism. There is a clear need for better information sharing and for cross-border burden sharing on costs. For work-out operations, mergers, or liquidation of cross-border banking businesses, for example, in which jurisdiction would a bridge bank be located if one is needed as a least-cost solution?

There are several models addressing cross-border issues, ranging at the extremes from establishing a global supranational authority to tightly regulating cross-border activities.

Realistically, the establishment of a supranational supervisory authority will involve prolonged political and legal negotiations. A common legal and regulatory framework will be needed for financial institutions to operate; and to be supervised, resolved, and liquidated. Credible mechanisms for coordination, burden-sharing, and crisis management must be in place. While it is difficult to imagine a supranational supervisor will emerge anytime soon, the reverse—rigid operational control of cross-border banks by the host regulator—would be a deep setback to the benefits of financial integration. A middle path needs to be found that incorporates elements of cross-border liquidity management, alignment of insolvency regimes, and better sharing of financial burden and information.

The Way Forward

Emerging East Asia must play its part in ensuring the new financial architecture meets both the challenges of globalized finance and the region's financial development agenda.

The absence of a global mechanism to supervise the increasingly globalized financial system exposed serious problems during the crisis. Reform of the global financial architecture is underway. Emerging Asia must take its place in this new architecture by actively participating at all levels of governance. In doing so, authorities in emerging East Asia, both individually and collectively, need to address weaknesses in their financial systems, improving both functionality and integrity. Detailed action programs focusing on crisis prevention and improving crisis management can be coordinated regionally in line with the initiatives of the G20, the FSB, and the IMF. Given its financial evolution since the 1997/98 Asian financial crisis, plus reactions to the spillover from the current global turmoil, the region needs to contribute in a major way to these international and regional work programs. While reinforcing efforts for effective regional cooperation, emerging East Asia also needs to play a proactive role in ensuring macroeconomic and financial stability at the global level. This requires greater responsibility in correcting global macroeconomic and structural imbalances.

An important distinction should be made between the basic elements of capital market development and risky financial innovation.

Many economies in the region continue to face the challenge of developing capital markets to efficiently channel domestic savings into productive investment. For emerging East Asia, where banks remain the main channel for financial intermediation, building a strong banking system remains paramount. However, authorities must also foster a broader range of markets—including corporate bond markets, securitization, and derivatives—to enhance financial system resilience. Still, much of the region lacks essential financial services—authorities need to encourage greater public access to banking, provide credit to promote entrepreneurship, diversify savings instruments, and develop appropriate products to manage risk. Thus, at this stage, it is important to encourage simple innovations to provide a better

array of financial services and products that cater to the needs of small entrepreneurs and investors. Many economies also need to establish, upgrade, or reform the basic market infrastructure for trading and settlement, all of which will help promote more efficient financial transactions.

The key challenge for the region's regulators is how to encourage and manage financial market development without stifling innovation.

Ideal regulation leaves space for innovation. However, unfettered innovation can generate risks of its own. The effects of past crises suggest caution, but translating caution into regulatory straitjackets stifles innovation. And this has its own costs. Striking the right balance is the challenge, and not an easy one. Crises highlight the importance of adequate monitoring. Regulators should be wary of complex innovations that make the underlying risks of products or services more difficult to assess or trace—whether by bank management or the final investor. Innovative products also lack the historic data needed to apply appropriate stress testing. Regulators need to assess the impact of innovative products on the safety and soundness of financial institutions, risk management, investor protection, and financial stability in general.

Emerging East Asian economies should reinforce cooperation on enhancing financial stability by accelerating regional initiatives.

National mechanisms to stem the spread of financial panic were largely inadequate, ineffective, and inefficient in the face of massive deleveraging in advanced economies, tight international liquidity, and worsening growth prospects. Some Asian economies experienced severe disruptions in their currency and asset markets due to difficult access to external funding sources. Although economies with sufficiently large international reserves were able to provide liquidity support to their banks and financial systems, holding vast reserves for rainy days has its own costs. Also, accumulating large current account surpluses is often blamed for having contributed to global imbalances. Swap agreements with developed and financially strong emerging economies, regional reserve pooling, and access to funding from international financial institutions offer several alternatives for the region in managing short- to medium-term debt and

financial flows. Many Asian economies have already negotiated swap arrangements with both developed and other emerging economies. For example, Singapore and Korea established temporary swap lines with the US Federal Reserve of up to $30 billion; Japan arranged similar deals with Indonesia and a few other Asian countries; and the PRC made arrangements with several of its Asian trading partners. The multilateralization of the ASEAN+3 Chiang Mai Initiative (CMI) further institutionalizes the arrangement through operational rules governing fund access, voting rights, and contributions (See Box 3).

Emerging East Asia must play an appropriate role in shaping the new global financial architecture, with support from international financial institutions and multilateral development banks.

The global crisis demands a global solution. The crisis highlighted that inappropriate policies and poor governance in advanced economies can severely harm the growth and welfare of developing countries. A new framework for the global financial architecture should also accompany appropriate changes in the new international governance architecture, which must reflect the increased weight of emerging economies and developing countries. The G20 recognized insufficiencies in the existing institutional setup for financial rules and regulations. It proposed to reform the global financial architecture, to reduce and control threats of a systemic financial meltdown in the future. In their April meeting, G20 leaders agreed to take a tougher stance on financial regulation and emphasized the role of international and regional financial institutions. International financial institutions, including the Asian Development Bank (ADB), the IMF, and the World Bank have also received increased funding to support economic growth, bolster trade and investment financing, and support financial system development.

ADB is ready to play a greater role in safeguarding financial stability in the region.

ADB has been working to ensure that developing economies in Asia have sufficient access to finance to restore market confidence and economic stability. It also plays a counter-cyclical role by providing credit in areas where commercial players have retreated, including trade finance. ADB also provides assistance for its developing member countries' financial

system development through (i) financial support, (ii) policy advice, and (iii) technical assistance for policy implementation and institution building. In addition, ADB continues to support existing work within ASEAN and the wider regional architecture on economic monitoring, surveillance, and policy dialogue; bond market development; and the creation of a credit guarantee and investment mechanism, currently under development.