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## Securitization in East Asia

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## **Abstract**

Securitization offers a range of benefits for Asia's financial systems and economies as a mechanism to assist funding and investment. As a form of structured finance, reliable and efficient securitization can assist development by enabling financial systems to deepen and strengthen—thus contributing to overall economic growth and stability.

It must be recognized, however, that there are both overt and more subtle risks in certain uses of securitization. The credit and liquidity crisis that began in the United States and spread to other developed financial systems in mid-2007 exposed the danger associated with securitization: excessive risk-taking or regulatory capital arbitrage rather than a tool to assist more conventional or conservative approaches to funding, risk management, or investment. Securitization has also been criticized for rendering financial markets opaque, while contributing to a growing emphasis in the global economy of credit intermediation conducted in capital markets rather than through banks.

This study examines the institutional basis of these concerns by investigating the use of securitization in East Asia, questioning both the growth in regional activity since the 1997/98 Asian financial crisis, and the reasons for it remaining constrained. The paper concludes with a discussion of proposals to support proper development of securitization in the region, including institutional mechanisms that could better allow securitization to enhance development and financial stability. If East Asia begins to make fuller use of securitization, its motive will be to meet funding or investment needs in the real economy rather than balance sheet arbitrage of the kind that peaked elsewhere in 2007.

*Keywords:* Securitization, East Asia, debt markets, risk transfer.

*JEL Classifications:* F3, G2, K2.

## I. Introduction

*“We shall not cease from exploration  
And the end of all our exploring  
Will be to arrive where we started  
And know the place for the first time.”*

T.S. Eliot

Four Quartets, Little Gidding, V

This study questions whether the effectiveness of the financial systems of certain Asian economies can benefit from improved access to securitization as a form of market-based financial intermediation. The practical implication would be a greater reliance on the public and private securities markets in capital funding and portfolio investment, to complement traditional bank lending on which both newly-industrialized and developing East Asian economies now largely depend.<sup>1</sup> Given the general loss of confidence and liquidity in global credit markets and structured finance that began in mid-2007, this paper also examines how credit risk transfer and regulatory incentives to securitization will be re-assessed beyond the changes contemplated by the incoming revisions to the Basel capital accords.

Commercial interests have insisted since the early 1990s that structured finance has considerable potential in Asia. It was also accepted as a valuable tool in the restructuring of financial sector claims in the Republic of Korea (Korea) after 2000. Yet the overall development of securitization in the region is modest compared with Europe or North America, despite the fact that many national authorities have encouraged its use since the 1997/98 Asian financial crisis. This prompts the question whether this aspect of financial development lags other regions as a function of time, as a matter of national institutional conditions, or as the result of certain economic conditions—such as national savings and investment imbalances or relatively high banking sector liquidity. If effective securitization can support financial sector development and efficiency, which contribute to economic objectives such as growth and financial stability,<sup>2</sup> then it may be valuable both commercially and socially to promote its use.

However, it must be recognized that there are both overt and more subtle risks in certain uses of securitization. The credit and liquidity crisis that began in the United States (US) and spread to other developed financial systems in mid-2007 exposed the danger associated with securitization in excessive risk-taking or regulatory capital arbitrage, rather than as a tool to assist a more conventional or conservative approach to funding, risk management, or investment. Securitization has also been criticized for rendering financial markets opaque, while contributing to a growing emphasis in the global economy of credit intermediation conducted in capital markets rather than through banks.<sup>3</sup>

This study examines the institutional basis of these concerns by investigating the use of securitization in East Asia, questioning both the growth in regional activity since the 1997/98 Asian financial crisis, and the reasons for it remaining constrained. The paper concludes with a discussion of proposals to support proper development of securitization in the region, including institutional mechanisms that could better allow securitization to enhance development and

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<sup>1</sup> Unless otherwise stated, for the purpose of this study East Asia comprises the People's Republic of China (PRC); Hong Kong, China; Indonesia; Japan; Republic of Korea (Korea); Malaysia; Philippines; Singapore; Thailand; and Viet Nam.

<sup>2</sup> Financial stability is taken, in one sense, as the avoidance or mitigation of financial crises, and in another as the effective functioning of the financial system. See Arner (2007).

<sup>3</sup> Financialization refers to the relative influence of financial intermediaries and markets in national and international economies, including the scale of financial claims relative to aggregate national output, see Section 4 below.



financial stability. If East Asia begins to make fuller use of securitization, its motive may be to meet funding or investment needs in the real economy rather than balance sheet arbitrage of the kind that peaked elsewhere in 2007.

To the extent that securitized transactions or programs exist in Asia, have they developed to their fullest potential? Do special advantages exist to increasing structured finance resources in the region, especially if non-commercial interests such as state or transnational organizations are involved in their development? For example, could structured finance techniques provide new sources of funding for infrastructure capital as in parts of Europe, or as specialist long-term lenders that became important in prior phases of growth in Japan and Korea? Last, have institutional changes to facilitate or stimulate securitization had any impact on post-crisis risk aversion for Asian investors?

This study examines different features of East Asian securitization and identifies possible uses in other markets, in part to help identify new funding and investment applications. Its findings are based on an appraisal of current and prospective uses of securitized transactions in East Asia's leading economies. The analysis is tied to no national model, and in particular refrains from using Anglo-American practice as a benchmark. In the US, emphasis on public housing policy and the configuration of banking and securities laws have for many years supported the refinancing of household credit and, since the 1970s, encouraged the increasingly prolific sale of residential mortgage-backed securities (RMBS) and asset-backed securities (ABS).<sup>4</sup> While this might be applicable elsewhere, it does not necessarily provide a replicable or optimal model for East Asia.

The study also considers the concepts underlying securitization and examines the cost attractions and drivers for such issues in Asia. It describes what makes securitization practicable, what makes individual transactions successful, and the obstacles that cause them to fail or put off investors. It examines the impact of the 1988 Basel Capital Accord (Basel I), and assesses the likely effects of the introduction in Asia of its recent major revision (Basel II). By classifying credit risk and assigning risk weightings in broad strata, Basel I induced increasingly active portfolio management among capital-regulated banking intermediaries and created a science among such intermediaries for regulatory capital management with a developing array of institutions and financial instruments. Significantly, Basel I thus inadvertently led to the proliferation of securitization,<sup>5</sup> which radically altered the costs faced by banks when using structured finance to meet risk, return, or liquidity objectives.

The study assesses how certain Asian economies have used securitization for policy purposes, why others sanction a range of commercial transactions, and what obstacles hinder similar developments elsewhere. Finally, it suggests that multilateral development agencies might usefully support further reforms to strengthen property rights and the judicial process, promote standards among lenders for data collection and analysis, establish common best practices in documentation and risk appraisal among financial intermediaries in tandem with regulatory enhancements, and encourage securitization as a refunding mechanism for lending associated with public policy. These uses might include infrastructural risks, educational lending, and agricultural or community finance. For multilateral bodies to become intermediaries in such

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<sup>4</sup> A recent analysis of ABS issuance in the US, Europe, and Asia and the Pacific (including Australia; Japan; and Taipei, China) appears in Gyntelberg and Remolona (2006), page 67.

<sup>5</sup> Including among banks not formally subject to Basel I precepts, resulting either from regulatory competition between markets, or bank lenders being subjected to peer pressure through interbank credit pricing. Such behavior occurred in Asia prior to the 1997/98 financial crisis, although seldom practiced to appropriate standards.

areas may be an original and non-conflicting use of official capital, with identifiable goals in poverty reduction and incentives for resource development.

The following section outlines securitized transaction concepts, and then looks at the mechanics of structured finance and its uses. Section 2 then assesses securitization activity in Asia, including the legal and regulatory issues peculiar to the region. Section 3 examines the relationship between transaction use and national and global standards in capital regulation, especially under the Basel accords. Section 4 considers Asian securitization trends in the context of recent global developments, and looks to possible reforms in global markets emerging in the wake of the 2007 credit crisis. Section 5 closes by examining the scope for developmental uses of structured finance to which multilateral resources might be directed, given current levels of activity in Asia, and the implications of post-2007 global developments for the future of securitization. Is it time to reconsider the economic and systemic results of securitization, rather than its prolific use since the early 1990s in transactional regulatory arbitrage by financial intermediaries? The appendixes include the results of empirical analysis of factors associated with the growth of securitization, as well as explanations of common transaction structures and appraisals of government's legal provisions.

## II. Evolution

While the modern history of securitized transactions dates only from the late 1970s, the underlying concepts have been known for centuries.<sup>6</sup> Monarchs have since medieval times raised funds through the forward sale of expected tax receipts or tariffs.<sup>7</sup> In the 17th century, Dutch investors were making loans to Caribbean plantation owners secured against the proceeds from harvested sugar. In a public policy context, the first US federal refunding agencies helped encourage bank lending in the 1930s for certain classes of home purchases as a measure of public policy, an objective widely adopted elsewhere.<sup>8</sup>

Contemporary securitization transactions have become increasingly standardized, initially in US markets, then in other jurisdictions such as Australia and the United Kingdom (UK), and more recently in other economies. As securitization has spread through certain banks and housing lenders, it has produced enormously complex contractual structures—a factor that may be at the core of the disruption that began to affect markets in mid-2007. This evolved in tandem with increasingly sophisticated US and international securities markets.<sup>9</sup>

Since the 1980s securitization has become a powerful and widely-used tool in both developed and emerging markets. It became a valuable tool in parts of East Asia after the 1997/98 financial crisis as a means to determine the scope of and dispose of credit losses, partly at the behest of the International Monetary Fund (IMF) as a feature of the market-oriented

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<sup>6</sup> The first use of the term “securitization” is claimed by a Wall Street banker during a 1977 conversation reported in the *Wall Street Journal* (Ranieri 1996).

<sup>7</sup> The sale of offices was a formal institution of the Byzantine Empire by the 11th century, in which form it was characterized by a leading economic historian of the period as a form of prudent lending to the state, made necessary by weak public finances. Formal mechanisms provided incentives to tax collectors to help overcome this weakness (Andreas Andreades, quoted in Laiou, 2002, pages 7–8; Swart, 1949, page 99). Andreades argued further that tax farming through the sale of public offices was an institution of classical Greek city states, and as such may represent the first developed examples of securitized transactions, see Andreades (1933), pages 159–161.

<sup>8</sup> Danish and German covered bond transactions were known in the 18th century and began to resemble modern transferable issues in the late 19th century (see Appendix 4).

<sup>9</sup> US Federal legislation was needed before mortgage-backed instruments would be regarded as securities for investment and regulatory purposes, and thus held by non-bank investors (see Secondary Mortgage Market Enhancement Act of 1984).

“Washington consensus.” It soon began to appeal to certain states as a device to help bring about market-based reform, effectively using the effects of the financial crisis as a pretext to lessen traditional reliance on bank intermediation. Throughout the period, both commercial and official interests sought to promote securitization to users, or induced legal or regulatory reforms and in some cases provided incentives to users, especially in housing finance.<sup>10</sup>

The results are now seen most clearly in the breadth of completed transactions, which have included risk in most East Asian jurisdictions and both cross-border deals in major currencies and domestic local currency transactions, whether or not available to foreign investors. Yet securitization remains largely underutilized by institutional investors in Asia as it is often costly to execute, and has yet to deliver wide-ranging results in terms of systemic reforms or transaction volumes predicted by its advocates.

## **A. Concepts**

Securitization represents an important form of credit risk transfer.<sup>11</sup> It may be deployed as an established means to obtain funding at an acceptable cost, assist in portfolio risk management, or to meet investor preferences.<sup>12</sup> Separately, financial sector laws and regulations, including, since the early-1990s, many related to accounting or taxation, have triggered very considerable growth in transactions for banks and other financial sector users, largely to the neglect of more traditional economic drivers. This study suggests how that emphasis may change in response to the performance of structured finance markets in 2007. Where regulations provide incentives for financial intermediaries to use securitized structures, the process constitutes transactional regulatory arbitrage, whether seen as efficient capital management or taken as evasion or avoidance through the circumvention of rules by contractual means.

One core commercial concept of securitization is to separate future cash flows from their originator and use those cash flows to generate new funding resources. In addition to pooling risk, whole businesses may securitize distinct parts of their commercial activities—for example to improve credit ratings by reducing consolidated leverage or to reduce external financing costs. The result may be to increase liquidity for certain fixed assets or business streams, with broader results in terms of accounting, costs, and credit standing.<sup>13</sup>

Securitization can therefore be seen as the antithesis of the modern corporate framework for commercial activity. Even the simplest enterprise develops specialized functions to minimize transaction costs and achieve economies of scale. Securitization thus seeks to sever commercial activity from organizational or locational concerns and place it within a contractual setting. It will succeed only if a range of both fundamental and more sophisticated institutions are in place, including reliable property rights, and the means for their effective performance and enforceable transfer.<sup>14</sup>

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<sup>10</sup> See Section 2.

<sup>11</sup> Credit risk transfer is a means by which credit risk may be acquired or shed to alter the risk-return profile of a portfolio of financial claims. It is used by borrowers, intermediaries or end-investors, and may or may not be funded. Buying or selling loans or securities is a simple form of funded credit risk transfer; examples of unfunded credit risk transfer include the sale or purchase of credit protection through insurance or credit default swaps (CDS). Whole business securitizations represent a transfer of credit risk from corporate shareholders.

<sup>12</sup> For a discussion of the advantages and challenges involved in emerging market securitization, see Arner (2002).

<sup>13</sup> The pure commercial interpretation of securitization is exemplified by Schwarcz (2002). Whole business securitizations have been completed in Asia only in the non-residential property sector.

<sup>14</sup> Arner (2007) discusses more fully the institutional structures necessary to support simple cash securitization.

Securitization also represents a form of financial intermediation outside the confines of lending organizations and is thus concerned with ensuring that contracts are completed.<sup>15</sup> Properly practiced, it dispenses with the aggregation of claims within any single intermediary and is designed to expressly avoid a range of inherent mismatches historically associated with lending by these intermediaries.<sup>16</sup> For many financial intermediaries, securitization breaks commercial lending into its constituent parts, similar to the way that industrial groups use whole business or segmental securitization.

Traditional bank credit intermediation entails three major transformations of duration, credit risk, and value, as well as secondary effects prompted by risk management decisions that seek to offset those primary mismatches.

First, an intermediary must manage funding and reinvestment risk associated respectively with the withdrawal of a deposit prior to repayment of the loan that it helps fund, and the unexpected early repayment of a loan for which a deposit of longer duration has been contracted.<sup>17</sup> The intermediary can mitigate the risk by charging penalties, or seeking to maintain and match broad portfolios of assets and liabilities. Securitization is an alternative means to address the bank's process of duration transformation.<sup>18</sup> However, securitization itself relies upon transformational assumptions unless each claim that it generates has an optimal contractual match.<sup>19</sup>

Second, the liability compositions of many commercial bank intermediaries will often be far more diverse than their loan portfolios, ignoring geographical concentrations of individual or commercial depositors subject to shared economic conditions. The result may be that external shocks have a disproportionate impact on one side of the intermediary's balance sheet.

Third, unless an intermediary becomes wholly insolvent, it will expect to repay most deposit liabilities at their nominal (par) value but may not always recover the full amount of any single loan if a borrower defaults. This transformation is asymmetric, and may be given a definite and precise form in general expectations by mandatory deposit insurance schemes.

Securitization represents one solution to these three elemental mismatches. Securitized transactions may be designed to maintain such mismatches, for example, to seek profits from duration mismatches and yield curve plays, but unlike banks, they need not do so.<sup>20</sup> Transformations of the kind identified here have been cited as "core characteristics of banking," which together with levels of leverage that typically exceed other commercial sectors make

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<sup>15</sup> Throughout this study, "institution" means a law, rule or established practice; "intermediaries" are organizations concerned with financial transactions, including credit creation and lending. The term "financial institution" is partial, in wrongly suggesting stability, trustworthiness, or risk-averse behavior.

<sup>16</sup> See Arner (2007) for a discussion of traditional risks and responses thereto.

<sup>17</sup> Unforeseen unavailability of retail or wholesale deposits is a common catalyst in modern bank distress, including the mid-2007 liquidity crisis experienced by a British home mortgage lender, Northern Rock plc.

<sup>18</sup> The risk management of duration transformation between assets and liabilities is often mischaracterized as "borrowing short and lending long" (Butler, 2007) but is only one example of such practice. For many years, banks have sought contractually to mitigate the risk of the withdrawal of short-term deposits, for example with demand or "call" loans that become payable upon notice, or with provisions for compensation for increased interest costs.

<sup>19</sup> By contrast, the 2007 securitization market dislocation is largely associated with the withdrawal of funding from holders of securitized risks, see Section 4.

<sup>20</sup> This mechanism makes securitized transactions a solution to the problem of permanent equilibrium credit rationing identified by Stiglitz and Weiss (1981), whereby banks fail to lend to all willing and acceptable borrowers due to incentive factors associated with asymmetric information. Hill (1996) argues further that as a source of external funding, securitization reduces the transaction cost premium demanded by risk averse lenders when confronted with such problems, the unwanted "lemons" issue described by Akerlof (1970), but fails to show that the contractual solution of securitization is complete in welfare terms.

banks “susceptible to runs and panics” and “inherently unstable.”<sup>21</sup> Given that these factors are also inherent in banking activity rather than responses to the regulation of capital, liquidity or disclosure, this is taken as justification to regulate banks.<sup>22</sup> However, it is less clear that this is a sufficient explanation, since other solutions can also be used to address such “instability”.

For this reason, the mechanics and enabling institutions of securitization require high reliability and integrity. It may be that badly written or unrealistic contracts have impeded growth in Asian securitized markets. More broadly, the collapse in investor confidence in 2007 intensified concerns as to the contractual completeness of outstanding structured finance deals, especially in the subprime segment of US and UK RMBS issues.

The analysis in Appendix 1 suggests that securitization use varies as economies develop and financial markets become more sophisticated. Not all advanced economies are prolific users of structured transactions. However, it would be uncharacteristic for economies with effective and efficient financial systems not to support securitization. At the same time, later sections will show that institutional integrity as the basis for reliable and enforceable contracts is indeed a prerequisite.

## **B. Definitions**

“Cash” securitization is the irrevocable transfer of defined financial assets by their originator, funded by the simultaneous sale to third-party investors of new securities issued by the asset buyer. Neither asset buyer nor investor has transactional recourse to the originator. Other continuing aspects of the lending process will also be replaced by an array of contracts with administrative agents.

By contrast, “synthetic” securitization involves simple or complex forms of collateralized debt obligations (CDOs) that wholly or partly replicate the credit risk transfer involved in cash transactions, but with no outright funded transfer of claims. The generic structures of each transaction are described more fully in Appendix 2.

Covered bonds share some features of securitization, and can accomplish certain—but not all—of its objectives. The transaction model is explained in Appendix 3. Such structures have long been used in Denmark and Germany, and have grown increasingly popular elsewhere in Europe since the mid-1990s. Conventional covered bonds create a security interest for investors in claims held by an intermediary. Thus covered bondholders obtain preferential rights over pools of claims that remain funded assets on the balance sheet of the originating intermediary or its subsidiary. Those assets are said to “cover” the investor’s claim as dedicated collateral without an irrevocable transfer. Covered bonds have traditionally been issued primarily for funding reasons, but are also seen in locational and transactional regulatory arbitrage, for example to improve the post-tax returns from a specified lending activity or manage regulatory capital needs.<sup>23</sup>

“Structured” covered bonds are a variant on the generic form that represents a contractual solution for issuers domiciled in jurisdictions lacking enabling covered bond legislation. These

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<sup>21</sup> Macey (2006), page 4.

<sup>22</sup> Ibid., page 4–7. The proposition is more convincing if it assumes that bank instability induces financial sector contagion, see Kaufman (1994). See Arner (2007) for a fuller analysis of mechanisms to address systemic instability.

<sup>23</sup> German public sector lenders commonly use offshore vehicles as covered bond issuers.

bonds offer a relatively lower net return to investors sensitive to risk-asset weightings and thus raise the issuer's costs.

Conventional covered bonds generally involve less intensive structuring or credit enhancement compared with securitized issues. This often will lead to funding cost advantages for the user. The covered bondholder has recourse to the originator, and designated pool assets "cover" the new transaction as collateral, without an irrevocable transfer to an independent third party. Covered bonds have historically required national enabling laws, not only because of general civil law practice (the structure is more commonly used in civil law jurisdictions), but (in Europe where the preponderance of transactions have occurred to date) due to European Union investment and banking directives and their impact on investor preferences.

### **C. Transaction Mechanics**

Most modern securitized transactions use pooled assets or income to create securities with combinations of credit ratings, yield and duration that are acceptable to different classes of investor. This has advantages for the originator in that it may allow for the sale of less-viable risk—for example with severely impaired assets or risk subject to legal or other contingencies. However, the feasibility of any highly complex transaction depends on a pronounced bias in the use of pool proceeds to service the highest ranking claims, requiring lower priority tranches to be deeply subordinated and thus acceptable to only the most risk-preferring investor, if any.

In stressed conditions these tranches are likely to remain unsold or retained as claims by the pool originator. Regulators may be concerned that, as a result, the originator holds a poorer overall risk portfolio than prior to the execution of the transaction. Investment conduits and structured investment vehicles (SIV) have become common if complex solutions to the regulatory and accounting problems associated with placing these lowest ranking "equity" tranches.<sup>24</sup> Basel II introduces a penal capital treatment of such claims when retained by originators.

With conventional cash securitization, the asset buyer is a special purpose vehicle (SPV) in the form of a single purpose company or trust, depending on legal practice in the jurisdiction of the domicile of the assets. Securities are typically issued in tiers or tranches, known as payment "waterfalls," that carry different commercial terms and risks so as to extract the maximum value from the pool assets over time.

All but the simplest transactions employ internal and external credit enhancement to improve or stabilize the risk of any tranche. Internal enhancement usually takes the form of portfolio pool design, over-collateralization or the creation of a liquidity reserve. Cash collateral or third-party insurance policies or financial guarantees are common external supporting sources of value. Such guarantees (or "wraps") are provided by specialist "monoline" insurers, which first

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<sup>24</sup> For solutions that may fall into partial disuse following the 2007 market disruptions, see Section 4 below. Conduits and SIVs are similar forms of investment funds, usually managed or sponsored by banks that have been prolific investors in structured securities. First used in London in the 1980s by Citibank N.A., they are organized in favorable tax domiciles and aim to profit through leveraged investment or proactive asset liability management. Banks have used these vehicles to avoid consolidating risk assets or to lessen their overall need for regulatory capital. The main difference between conduits and SIVs is the extent of credit support provided by the sponsoring bank. Conduits are funded by issuing short-term asset-backed commercial paper (ABCP) and require contingent credit lines for the full amount of their liabilities. SIVs tend to be only modestly supported with such credit lines.

emerged in the early 1970s in the US municipal bond market and have since become a powerful facilitating institution in many structured and project finance transactions.<sup>25</sup>

## **D. Tranching**

The most important aspect of cash and synthetic securitized transaction formation arises from tranching—payment priorities established to create separate securities issues with distinct risk-return features. This seeks to set payment rules that generate an optimal use of both investor demand and the time value of an asset pool. Even comparatively simple transactions require extensive modeling of pool performance, which demands adequate data, an understanding of the national payment and default experience of sectoral risks of the same type as the pool, and resources to forecast and stress-test as complete a set of outcomes as feasible. Synthetic transactions involve modeling that is identical in concept but still more complex. In all cases, this function has been passed to credit rating agencies, increasingly with the sanction of national regulators.<sup>26</sup>

Investor preferences provide the starting objective in pricing and structuring, with originators and transaction arrangers seeking to extract the greatest value from the resources available. Such manipulation is central to all securitized issues and partly explains their relative complexity and expense. Structuring the transactions has come to require active participation by credit rating agencies, which model the waterfall treatment of payments under many sets of conditions, and set terms for individual tranches to be given target credit ratings. This level of involvement is markedly different from commercial rating agencies' practices with non-structured corporate or state bonds issues and is increasingly questioned as a conflict of interest.<sup>27</sup>

Tranching also explains the potential for securitization to assist in general financial market transparency and development. This is most apparent in the use of securitization to assist in the recycling of nonperforming loans (NPLs), where a market-determined yield acceptable to the ultimate investor provides a transparent mechanism to value a pool of impaired assets where none otherwise existed.

Both legal and empirical analyses have seen tranching as a means to extract advantage from segmenting investors. Institutional analysis would see tranching as creating payment priorities that in turn allow a high investment-grade credit rating to be given to as large as possible a portion of any single transaction. The strict contractual priority established by a payment waterfall seeks to eliminate the chance that a creditor of either the pool or the pool originator would challenge payments to a holder of notes. It also serves to avoid payment delays in the event of bankruptcy or receivership.

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<sup>25</sup> Monoline insurers provide only financial guarantees but most are associated with general insurers or substantial conglomerates. Asian Securitization and Infrastructure Assurance Pte Limited (ASIA Limited) was an Asian regionally-oriented monoline insurer established in 1996 by ADB and certain commercial interests, later becoming dormant due to losses incurred in the Asian financial crisis, see Lejot, Arner, and Pretorius (2006), page 284–285.

<sup>26</sup> The limitations of this involvement were cautiously voiced by the BIS Committee on the Global Financial System (2005), which noted at page 11 that

Tranching creates a layer of analytical complexity beyond that of estimating the loss distribution of the collateral pool. It requires detailed, deal-specific documentation [...] to ensure that the intended characteristics [...] are actually delivered under all plausible scenarios. This implies intense transactional interaction between arranger and rating agency that has now become controversial, see Section 4.

<sup>27</sup> Such a conflict is disputed by rating agencies, see for example Bell and Rose (2007), but now widely believed to be a concern, especially in the context of the quasi-regulatory function accorded to rating agencies under Basel II, see Prada (2007), and Section 4 below.

Experience suggests that tranching takes advantage of investors' varying risk-return preferences, relying also upon the need of almost all institutional investors in structured transactions for their holdings to be given credit ratings.<sup>28</sup> Tranching helps meet the minimum criteria of the rating agencies, and hence minimizes the value of payments to be delivered to investors at a particular credit rating level in relation to the predicted present value of the total pool. This appears inconsistent with both traditional theories of bank intermediation, and the suggestion that securitization represents a Coasian solution<sup>29</sup> to the mismatches inherent in simple forms of lending within a conventional intermediary.

## **E. Usage**

Securitization use is widespread both geographically and by industry risk classification, but not ubiquitous outside of most developed financial markets. Its commercial and financial benefits (in addition to the potential stability benefits discussed above) become manifest in one or more of five ways:

- (i) A means to make unacceptable risks satisfactory to an investor, assuming that each potential investor has known risk-return objectives.
- (ii) Providing a credit rating higher than its respective sovereign ceiling or that of the originator. This may be especially attractive in the context of infrastructure financing.
- (iii) The means to price pools of assets that are difficult to value, usually to make their sale feasible. This applies particularly to NPLs and other impaired financial claims.
- (iv) A method to create capital market funding where none previously existed.
- (v) For asset originators, a funding source where none was available at an acceptable cost, especially when lending becomes subject to quantitative regulatory constraints.

These applications all represent tools to assist in balance sheet management. For modern financial sector users, securitization has become most crucially a mechanism for credit risk transfer and regulatory capital management, as Section 4 of this study shows. Credit risk transfer needs to be assessed in both the sense of allowing users to manage asset or liability portfolios, and more generally as claims move into and out of the regulated banking sector and across borders.<sup>30</sup> It may achieve other objectives for certain users or in particular phases of interest rate or credit cycles, and may have developmental or incentive features for both originators and investors or for general economic welfare.

Thus it is now common for regulators to consider the consequences of enhanced risk transfer for the dispersal of risk within and between domestic financial systems. This has several dimensions, some of which may be beneficial for efficiency and financial stability, such as lessening concentrations of geographical or sectoral risk, and includes transfers of credit risk to

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<sup>28</sup> Firla-Cuchra and Jenkinson (2005), who "also find some support for more nuanced modeling predictions such as the positive impact of the average quality of assets on tranching", *ibid*, page 32.

<sup>29</sup> Coasian theory, associated with economist Ronald Coase, describes the efficiency of an economic allocation or outcome in the presence of externalities. If trade in an externality is feasible and there are no transaction costs, then bargaining will lead to an efficient outcome regardless of the initial allocation of property rights.

<sup>30</sup> See Basel Committee on Banking Supervision (2005) and Section 4 below.



lightly-regulated nonbank intermediaries or non-capital-regulated end investors. The increasing velocity of risk transfer over the past decade presents first order information problems when bank transferors are poorly regulated or their compliance standards are uncertain. This was clear in the 1997/98 Asian financial crisis and in the 2007 subprime credit crisis, especially where nonbank intermediaries were active in corporate lending and consumer credit creation.

Furthermore, securitization may enable funding or refinancing by financial intermediaries, often through official housing finance agencies. This may include the entry of new commercial parties into established financing sectors such as residential mortgage finance or consumer credit, with consequences for overall efficiency and use of capital.<sup>31</sup>

Securitization can be applied to all defined credit risks, including delinquent assets or claims, but even in sophisticated markets is for reasons of cost and transaction expense typically associated with risks involving similar, unconnected, predictable cash flows. Assets commonly used in cash securitization include residential or commercial mortgage loans, credit and credit card receivables, vehicle or fleet loans, certain cash receivables, air ticket sales, taxes on revenue, transport or other tolls, licensing fees, foreign worker remittances, and music royalties. Almost all of these risks have been used in transactions in East Asia during the last decade. Dissimilar claims have been successfully securitized in certain highly developed markets, usually using synthetic structures,<sup>32</sup> but there are examples in the Japan, UK, US, and elsewhere of highly visible securitized transactions involving large diverse pools of corporate loans.<sup>33</sup>

The technique has been applied in advanced economies to whole businesses, discrete business streams, and more widely to single large-scale commercial properties. Commercial property transactions may become a potential source of new transactions in East Asia due to the importance of the sector in bank lending, especially if single- or multiple-asset real estate investment trusts (REITs) grow more popular.<sup>34</sup> East Asian REITs and their supporting legislation or regulatory codes tend to favor securitization structures to a greater extent than in the US, where REITs first appeared. The use of pooled NPLs is also comparatively new, notably in Germany and other major civil law jurisdictions.

In all cases, securitization represents a complex means to achieve the simple objective of making available well-defined risks to single homogeneous classes of investors. As such, the

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<sup>31</sup> To a greater degree than in East Asia, the introduction of ABS and RMBS in the US arose from banking and securities laws that gave an incentive to investment banks to create and securitize risks historically funded by commercial banks. See also Warnock (2007).

<sup>32</sup> Based upon basket or index credit default swaps.

<sup>33</sup> A 1996 collateralized loan obligation (CLO) transaction for UK-based NatWest Bank was the first significant public issue based on sizeable corporate bank loans, see *International Financing Review* (1996a, 1996b), where a new SPV participated in receipts from \$5 billion of the bank's loans and credit commitments, all to maximize its efficient use of regulatory capital. This structure has been superseded by CLOs involving outright sales of claims, and by synthetic and actively-managed CLOs. Regulatory changes continue to alter the cost parameters of transactions with similar aims, but it is notable that no similar issue has been made by lenders in Asia outside Japan. A small number of securitizations of lease receivables and bank loans to small and medium-scale enterprises (SME) have been completed for banks in Japan, and since 2005 in single deals in Malaysia; Singapore; and Taipei, China, apparently with official encouragement. These are uncommon due to technical challenges and competing bank sector liquidity, but as refunding sources are similar to transactions intended to support microfinance and agricultural credit, see Section 5.

<sup>34</sup> REITs are collective investment schemes that became attractive funding tools for property developers in Japan; Singapore; and Hong Kong, China (in declining scale of use) during phases of weak property prices. They also exist on a modest scale in Korea, Malaysia, and Thailand. To originators, REITs can resemble formal whole business securitizations, although more loosely framed "captive" REITs allow originators to participate in gains derived from trust assets. Singapore's Business Trusts Act 2004 permits similar schemes involving most forms of non-property risks. Both Singapore and Hong Kong, China now allow REITs to own foreign assets.

technique has been known to be overly complex, manifested in high marginal transaction expenses and development periods for single “one-off” transactions that can be protracted, especially when the prevailing law hinders rather than helps.<sup>35</sup> These obstacles have yet to be efficiently removed or circumvented in East Asia. More generally, securitization expenses are typically high, even if marginal transacting costs are reduced as a result of deal frequency, or supportive legislative or regulatory change. This can be seen clearly in expenses associated with data collection and verification, deal development, modeling, rating agency negotiation, marketing, and contractual execution.

### **III. Development in East Asia**

Commercial interests have long argued that structured finance has considerable potential in Asian finance, and its use has been accepted as having been a valuable strategic tool in the restructuring of financial sector claims in Korea after 2000. Yet the region’s modest overall use of securitization prompts the question as to whether this aspect of financial development lags other regions as a function of time, national institutional conditions, or as the result of certain economic conditions such as national savings and investment imbalances or relatively high private sector liquidity. Conservative levels of bank leverage have limited the supply of loans for cash securitization even in Japan—where markets in structured securities have developed successfully.

In the sense often associated with structured finance in East Asia, the favorable view of its being encouraged for development is typified by Bank for International Settlements (BIS) analysis:

Structured finance can have a positive influence on the financial system because it can transform ordinarily illiquid or risky assets into more liquid or less risky ones. It thus offers an alternative source of long-term funding in both domestic and cross-border markets, and can foster the development of domestic bond markets. In turn, this could promote greater bank and financial market efficiency, as it implies greater competition to meet customer financing needs.<sup>36</sup>

While acknowledging that proponents of securitization need to be cautioned as to its risks,<sup>37</sup> it is notable that a review published in mid-2007 during the global structured finance markets’ most severe dislocation to date is constructive and conforms with a seminal positive BIS view of credit risk transfer.<sup>38</sup>

Securitization activity increased markedly in parts of Asia after 2000—notably in Hong Kong, China; Japan; Korea; and Malaysia—in each case with housing loans used as raw material, and in Singapore through transactions supported by commercial property. Critically, securitization became a strikingly valuable tool for Korea as part of extensive corporate and financial sector post-crisis restructuring, when new legislation allowed large volumes of NPLs and other impaired financial claims to be employed as collateral for new CDOs, a process of recycling

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<sup>35</sup> Early cash and synthetic CLOs took many months to prepare and execute, despite originating in sophisticated jurisdictions.

<sup>36</sup> Scatigna and Tover (2007), page 71, emphasis added.

<sup>37</sup> Id., pages 81–82.

<sup>38</sup> Basel Committee on Banking Supervision (2005).

defaulted claims instrumental in the recuperation of the wider Korean economy.<sup>39</sup> At the same time, completed securitization volumes in the PRC, Indonesia, Philippines, and Thailand remain very limited. Securitization may be undeveloped or poorly used in East Asia partly because factional interests favor the existing financial system, with its emphasis on bank credit creation intended to serve relatively closely-held corporate sectors. This long-standing feature of the region has been taken both as conducive to economic growth and more recently as symptomatic of “cronyism”, poor commercial sector governance, and a factor that helped induce and intensify the 1997/98 financial crisis.<sup>40</sup>

It should be noted that the study examines structured issuance involving East Asian risks, whether in domestic markets or elsewhere, and takes no direct account of the inclination of East Asian intermediaries or sources of portfolio investment to acquire or trade in non-Asian securitized risks.<sup>41</sup> Such capital flows from East Asian sources have often been considerable since 2000. Market-based financial intermediation may induce banks to buy or hold securitized assets, and portfolio investment by Asian domiciled banks and other intermediaries as well as sovereign investors in non-Asian risks has been a substantial private counterpart to the accumulation of international reserves in the recovery from the 1997/98 financial crisis. This may represent a deliberate portfolio risk adjustment by such banks and investors, as well as a response to weak local credit demand.

## **A. Securitization Drivers**

Structured transactions first appeared in East Asia in the late 1980s, with banks replicating simple private contractual models developed elsewhere. They gained momentum in certain national markets upon official acceptance,<sup>42</sup> and by 1997 were widely used, if not prolifically. Most deals were negotiated as single transactions until the crisis brought forward a second generation of issues, with large programmed volumes of Korean impaired risks pooled under CBO structures. The crisis aftermath encouraged several economies to adopt securitization as a part of recovery strategy, but only Korea made the fullest use of its scope in recovery and market reform. This is most often attributed to cultural reasons, but institutional factors are also present.

Thus, over a 20-year period, the region’s motives for the use of structured fundraisings have altered, from single deals and commercial promotion, to a feature of broader post-crisis financial policy. Since 2000, capital market reforms have won growing official sympathy in the region, leading to certain changes in laws, but activity appears constrained,<sup>43</sup> and in some markets has declined.<sup>44</sup>

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<sup>39</sup> By contrast, Crotty, and Lee (2005) typify those hostile to these reforms, claiming that Korea’s “conversion from a state-guided, bank-based to a globally open capital financial system” (page 338) led to damaging falling rates of capital accumulation, and was contrary to the interests of a majority of Koreans.

<sup>40</sup> Bank credit creation was pivotal in the developmental state model used to characterize Japan and Korea in the 1950s and 1960s, respectively, see Johnson (1982) and Liu, Lejot and Arner (2008).

<sup>41</sup> There may be local technical value in such activity, for example, with banks in Singapore (Burton, 2007) and elsewhere (Tucker, 2007).

<sup>42</sup> Notably Malaysia.

<sup>43</sup> Issuance has been negligible in Indonesia and the Philippines. In Korea, securitization of housing loans is modest despite the creation in 2003–04 of the state-controlled Korea Housing Finance Corporation (KHFC) to support the refinancing of bank housing loans, see Chensavasdijai et al (2007), pages 47–53 and see Footnote 144 below.

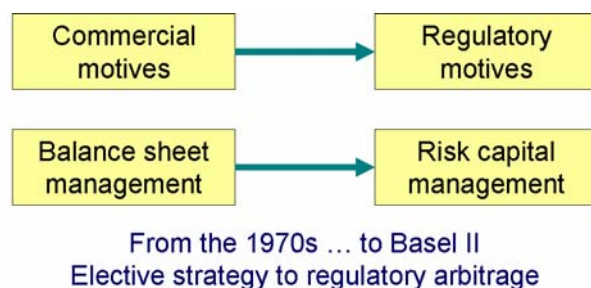
<sup>44</sup> Issuance of mortgage-backed securities (MBS) based on residential property in Hong Kong, China and both commercial and residential property in Japan are examples not wholly related to the market dislocation of 2007. In each case, issuance has been limited by shortages of poolable loans relative to available capital.

One institutional explanation is that sectoral interests may favor the existing configuration of Asia's financial systems. Thus governments, financial intermediaries, and transaction arrangers may all derive economic rents from segmented or illiquid securities markets.<sup>45</sup> Asia's governments have often seen the banking sector's dominance as assisting the management of monetary or exchange rate policy or the deployment of consumer savings, and for many the creation of freely functioning securities markets is both desirable as a mark of sophistication and a threat to fiat control of monetary or credit policy. The negative connotations of this emphasis became clear only during the 1997/98 financial crisis.

The pre-1997 transaction focus gave way to a clearer imperative to securitization after the financial crisis, with Korea becoming the first to institute legislative reforms and the most prolific host of activity. More recently, the precautionary incentives to instigate institutional reform to permit securitization have subsided due to lapse of time, a resurgence of economic growth, and in particular the results of reserve accumulation and comparatively high private sector liquidity. These factors have made reforms less urgent than seemed essential at the turn of the millennium. The PRC's lack of alacrity in introducing long-term securitization legislation is the most significant example,<sup>46</sup> but the pattern is observed in Indonesia, Thailand, and elsewhere. In other jurisdictions, the result has been adequate primary legislation but a lack of subsequent regulatory guidance or completeness, and minimal usage.

Since the early 1990s, the driving forces for securitization have changed, especially in East Asia's less sophisticated markets. The shift in emphasis in global drivers shows that traditional commercial motives for borrowers to use securitization as an elective part of funding strategy are supplanted by regulatory motives, largely prompted by bank capital regulation (Figure 1).

**Figure 1: Long-term Drivers of Global Securitization**



Increasingly, uniform regulation of bank capital from the late 1980s came to influence the nature, composition, and funding of all lending activity. This produced a new objective for structured finance and led to a material expansion in the application of securitization by banks and other regulated intermediaries. Thus the incentive to securitize shifted from commercial motives to one with roots in transactional or systemic regulatory arbitrage. Rapid growth in issuance in the major developed financial sectors after the early 1990s is largely attributable to the consequences of harmonized capital regulation, including the creation of regulatory capital

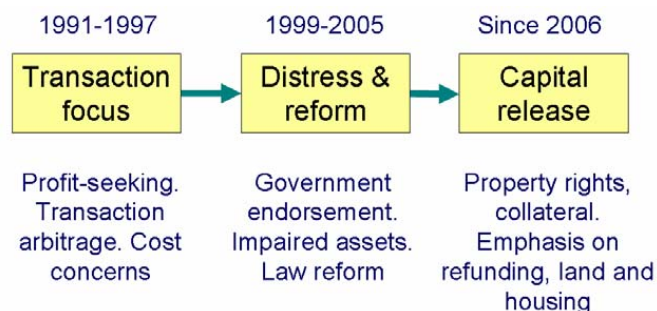
<sup>45</sup> Especially since financial market innovation is largely unprotected by copyright.

<sup>46</sup> The PRC has instead sanctioned trial transactions prior to introducing permanent legislation, most recently sizeable local currency domestic ABS and CLO issues for Shanghai Pudong Development Bank and Industrial and Commercial Bank of China, respectively, in September and October 2007.

and the assumption of weightings for bank risk assets, and the implementation of exposure limits on sectoral and single obligors.<sup>47</sup> After 2000, this practice accelerated in many developed markets, so that 2007 marked a chronic overreaction to perceived and actual excesses, especially those originated in 2005–06.

By contrast, in East Asia, with a shorter securitization history, a more complex pattern has involved both regulatory and other influences, especially after the 1997/98 crisis (Figure 2).

**Figure 2: Evolving Securitization Drivers in Asia**



Prior to the crisis, securitization in East Asia resulted from commercial interests seeking to replicate deals used in more established markets, in many cases using domestic assets in offshore transactions for sale to yield-seeking non-Asian investors, rather than as part of domestic financial reform. It became possible to complete transactions in most jurisdictions using complex contractual techniques to avoid obstacles of law or regulation. The resulting deal volumes were inevitably modest.

## B. Post-crisis Reforms

The 1997/98 crisis provided an incentive for certain jurisdictions to adopt securitization to assist with the recycling of NPLs, and in some cases was so strong an imperative that new issuance was unprecedented.<sup>48</sup> The incentive to introduce market-oriented reforms included IMF encouragement, but among the crisis-affected ASEAN countries the overall results were mixed: Malaysia avoided Washington consensus practice by increasing controls on cross-border investment but continued to promote securitization in its domestic markets; Indonesia and Thailand allowed relatively unrestricted capital flows but were slow in introducing legal reforms to facilitate securitized deals.

A more widespread post-crisis trend was the wave of new publicly-capitalized agencies or asset management companies (AMC). These acquired impaired assets from public and private sector financial intermediaries—in most cases at steep discounts to their nominal value—and handled their subsequent resolution, whether liquidation, further sale, or recovery. The importance of this development is comparable to that of the US Resolution Trust Corporation from 1989 to 1995, especially in terms of the effect on market confidence and initial impact of certain Asian AMCs. The most notable were the Korean Asset Management Corporation (KAMCO), Danamodal

<sup>47</sup> BIS analysts describe the expansion in global issuance as “remarkable,” Gyntelberg and Remolona (2006), page 67, but more striking is that growth in the market was unintended on the part of the Basel Committee architects.

<sup>48</sup> See Appendix 4 for an outline of recent enabling legislation and regulation. Australia, Japan, and Korea have accounted for around two-thirds of annual regional ABS issuance (Gyntelberg and Remolona 2006).

Nasional Bhd in Malaysia, and four PRC AMCs that acquired defaulted loans from the largest state-owned banks.

The intention in each case was to derive a clearing price from an assessment of the risk-return objectives of potential investors in securitized issues for the removal of assets from the stricken originator's balance sheet. With this premise, iterative models of the kind used by credit rating agencies of the behavior and value under different conditions of most asset pools can generate a price indication for the initiating asset sale more openly and less controversially than private sales negotiated between AMCs and privileged investors. This may not be a solution to all forms of financial distress, but has qualities identified as valuable in a developmental sense, most clearly seen in post-crisis Korea. The process has been widely regarded as successful, but the completeness of what is involved is not always acknowledged. Thus in the case of the PRC and Indonesia, sales of NPLs to third party investors were largely conducted under circumstances that precluded securitization, with its underlying need for transparency.

The PRC's AMCs are sizeable undertakings but a lack of timely legal support prevented their becoming more than token securitization users.<sup>49</sup> This may change when legal reforms are completed in 2008–09 to introduce a permanent national framework for securitization. Until now, AMC funding has been opaque and transaction activity has mainly involved the auction of impaired loans. When compared with the urgency of post-crisis objectives in fostering large-scale securitization in Korea, time has dissipated the PRC's imperative to instigate NPL recycling through structured finance techniques, aided by growth of international reserves and state bank capital.<sup>50</sup> If new securitization legislation is to produce substantial transaction volumes in the PRC, then transaction motives may need to be different from elsewhere in East Asia.<sup>51</sup>

The post-crisis imperative for balance sheet repair made transaction expenses more tolerable, resulting in a notable shift in assets, some growth in synthetic transactions, and improved bank and corporate balance sheets in certain countries, notably Korea and Malaysia. The gravity of the crisis perversely eased cost constraints by making asset sales and the creation of asset-backed securities essential to bank balance sheet renovation and corporate restructuring.

Those conditions encouraged the belief in official and academic circles that the crisis-driven necessity for several jurisdictions to allow securitization could have a broader impact on financial market development.<sup>52</sup> In particular, it was argued within ASEAN, ASEAN+3, and APEC that depth in securitization to deal with a pressing problem would lead to more effective debt markets and gradually help the region guard against other unexpected shocks. Asia's rapid post-crisis recovery and the precautionary accumulation of unprecedented levels of international reserves gradually removed the urgency from this argument.

Furthermore, as the recovery progressed and led to improvements in credit ratings, the desire among established monoline insurers to provide wraps for feasible East Asian transactions has increased, so that credit enhancement is not generally a regional resource constraint. The availability of credit enhancement has also been encouraged by yield-seeking investors during a prolonged period of relatively low nominal interest rates, but there are indications that such

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<sup>49</sup> Ma and Fung (2002). See also Hsu, Arner and Wan (2007).

<sup>50</sup> As the scale of such resources obviates the urgency of reform.

<sup>51</sup> One spur may be the propensity of consumer demand for new forms of investments to accelerate with general growth (*FinanceAsia*, 2007).

<sup>52</sup> See for example, Lejot, Arner, and Pretorius (2006), page 271.

freely available investor demand may have severely diminished or even vanished with the market dislocations of 2007. Until recently, low securitization activity relative to other markets and to bank credit creation may have reflected an actual or artificial shortage of poolable assets, costly institutional impediments, or a lack of derivative instruments to allow the synthetic replication of such risks.

For securitization based on non-distressed assets, housing loans have tended to provide the most consistent source material, in part due to official support.<sup>53</sup> Thus housing finance was made part of public policy in Japan in 1950 (following the US model); in Malaysia in 1985; Hong Kong, China from 1997; and by Korea in 2004.<sup>54</sup> Thailand's state Government Housing Bank is a substantial mortgage lender and has long planned an inaugural securitized issue.<sup>55</sup> This trend reflects two motives. First, the ultimate funding cost provided by securitized corporate debt compares unfavorably with bank lending, especially in a period of capital accumulation among many Asian banks. Second, adequate pool data for mortgages and consumer credit has been more often available than for heterogeneous corporate loans. As a result, securitization has focused more on liquidity and funding enhancement than the reallocation of credit risk by lenders.<sup>56</sup> Except for residential mortgage-based deals in Malaysia and Hong Kong, China, the results have yet to be tested in a complete credit cycle. This is important in part due to a lack of credit derivative protection through single-name or index Asian credit default swaps (CDS), even for Japan, and is also a constraint to ABS growth based on corporate risk.<sup>57</sup>

Thus, securitization in Asia evolved from simple profit-seeking to debt recycling in the periods straddling the 1997/98 crisis. Future Asian securitization may need broader applications to succeed in facilitating the release of capital or assisting in public policy. For securitization to be more widely used in East Asia in a new phase of development, both state and commercial objectives may need to evolve further, especially after the 2007 global market dislocation. For example, if securitization is to support financial development in the region, in part by bridging gaps between prevailing credit quality and investor risk preferences, its use will need to differ from the highly complex, regulatory-orientated form that seems likely to be disfavored for some time in established markets, and to which bank regulators are likely to react. However, altering the reliance on bank-based financial systems would have consequences in terms of control and governance for the corporate sector, and in the risks and rewards associated with the financial industry.

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<sup>53</sup> See Gyntelberg and Remolona (2006), page 65.

<sup>54</sup> Chan, Davies and Gyntelberg (2006), pages 71–83, in a study of Hong Kong, China; India; Japan; Korea; and Malaysia. State-supported finance for home purchase is well-developed in Singapore, but integrated with a mandatory provident fund and entails no wholesale market funding or refinancing. The authors believe that specialist state-sponsored agencies promoting housing finance have “helped eliminate barriers to securitization” *ibid.*, page 71.

<sup>55</sup> *International Financing Review* (2006), reporting remarks by the bank's chairman. No issue is likely before the resolution of the current constitutional hiatus and market disruption.

<sup>56</sup> *Id.*

<sup>57</sup> Note also that Securitization that uses lower-rated corporate paper as collateral [...] only work if there are also investors who are willing to hold [...] the equity tranche which absorbs the first losses. See Gyntelberg and Remolona (2006), page 72. The authors indicate that deeply subordinated equity tranches accounted for up to 30% of nominal issuance in KAMCO NPL securitizations, and that KAMCO retained much of those risks in most NPL securitizations. *Id.* at 73; see Fung, George, Hohl, and Ma (2004). While there is no doubt that KAMCO was a creation of public policy, the extent of state support for the credit risk transfer that it was able to engineer may be less widely understood.

## C. Legal and Regulatory Issues

Securitization places emphasis on intensive contracting as great as in any form of financing, which is broadly confirmed by the empirical findings of this study reported in Appendix 1. It requires a transparent legal framework, clear accounting principles, and regulatory support, although the same quality of conditions will also provide incentives for transactional regulatory arbitrage. Its success therefore depends upon how its governing system of law accommodates these institutions, and may help explain why securitization developed first in common law jurisdictions.<sup>58</sup>

The accepted essence of a supportive legal and regulatory framework is to ensure that neither law nor regulation lessens the structural integrity of legitimate securitized transactions, and that any transfer of assets is permanent and cannot be disturbed by external events, including subsequent actions by creditors of the originator. In the market for financial claims, securitization is a contractual alternative to intermediation managed within a financial organization, most commonly a bank or quasi-bank. It demands establishing contracts that are either simple (giving flexibility in operation and decision making, especially in relation to ex post events), from which arise agency concerns as with traditional loan contracts, or (more commonly) complex arrangements among many parties.<sup>59</sup> It should be noted that market-based nonbank financial intermediation in no way implies that banks do not engage in securitization as investors or traders.

Details of cash transactions may vary among jurisdictions. But as the description in Appendix 2 shows, they are assumed to entail the irrevocable transfer of assets to an insubstantive SPV to which the asset seller has no ties of ownership or control. Funding for the asset transfer is provided by the sale of securities to third-party investors. The transaction must withstand legal claims in bankruptcy against the asset seller. Its economics must withstand taxes and duties on transfer and in most cases securities issued by the transaction SPV must provide for the dependable subordination of claims.

Jurisdictions where securitization is well established, notably Hong Kong, China; Korea; and Malaysia, are not necessarily alike in needs or objectives, and except in the common law jurisdictions of Hong Kong, China; Malaysia; and Singapore, offshore transactions have usually been used to circumvent institutional weakness or obstacles in law or regulation.<sup>60</sup> One way to consider Asian securitization is to look at three groups of jurisdictions: those that in principle freely allow cash transactions, that is, Hong Kong, Korea, Malaysia and Singapore, those for which offshore cash transactions have been completed in significant volume, and those with obstacles to almost all deals. In all the review markets except Hong Kong, China, new domestic or offshore issues are subject to discretionary regulatory approval but this is in no

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<sup>58</sup> Modern common law systems regard the commercial contract as the result of economic bargaining, the primary aim of which is to bestow identified rights, the erosion of which may entail a penalty. Civil law jurisdictions have tended to view contracts as bundles of mutual obligations, which are thus intrinsically restricted and for which the courts are generally willing to require performance. The effect on lending contracts under civil law systems is generally to limit the potential for their unqualified sale, especially when the transferee is insubstantial. The same approach also tends to complicate the possible sale of future payment rights.

<sup>59</sup> Amplified by Scott (2006). The transaction cost decision is summarized by Schwartz and Watson (2004), page 26, "When parties choose [contractual] forms that themselves ensure efficient investment and trade (such as a complete mechanism), they strongly prefer that these contracts not be renegotiated. Initial contracting costs can be high in relation to contractual gains, however, and then parties choose more simple contractual forms that require."

<sup>60</sup> Malaysia is a prominent center for Islamic finance. Securitized *sukuk* transactions have been sanctioned by Malaysia's Islamic Financial Services Board since 2005 (Jobst, 2007). This represents forms of contractual and market segmentation that have value for participants but which creates transactions that are economically indistinct from the generic "conventional" structures considered here.



sense an obstacle unique to structured transactions.

At the same time, it must be recognized that encouraging the transfer of credit risk to nonbank financial intermediaries may have unwanted secondary results, given that lightly-regulated intermediaries were a cause of loan losses and contagion in 1997/98 in East Asia—and globally in 2007. This suggests a dual strategy to promote the compliance and regulatory quality aspects of Basel II,<sup>61</sup> while supporting the removal of national obstacles to securitization and regional investment in securitized instruments, especially to the extent that such a step would have broader benefits in terms of economic growth, financial stability, and poverty reduction.

The table in Appendix 5 shows that in general, the elements of law typically associated with securitized transactions in advanced markets are present in the three cited common law review jurisdictions, especially those affecting existing or future claims originated by financial intermediaries. However, certain future claims that cannot be specified in ways expected by current law may be seen as hazardous source material by investors or third-party monoline insurers. This has often been found with credit card receivables. In some cases insolvency laws have caused uncertainty as to the integrity of securitized transactions using cash receivables. This is not a problem at present for transaction originators given the investment grade credit ratings of Hong Kong, China; Malaysia; and Singapore.

Where enacted, modern securitization legislation in civil law jurisdictions usually allows for the creation of SPVs or trusts, which would otherwise generally not be permitted under the provisions of national civil codes. Certain jurisdictions are affected by related issues of law, tax or financial market rules, rather than pure securitization provisions. This adds to contractual uncertainty and applies in the Philippines, for example. Securitization transactions also require accepted commercial precepts that are not matters of legal policy, including, for example, a lack of contractual restrictions to the transfer of financial claims. These exist throughout the review markets except generally for Singapore and Hong Kong, China.

Transactional integrity with covered bond issues has a similar character, but demands that bondholders retain a contractual priority relative to other creditors of the originator. By custom and national regulation, covered transactions always require a clear framework of law. This is currently reinforced by investor demand for covered bonds being predominantly in continental Europe, and the desire of issuers to meet European Union (EU) rules allowing favorable capital treatment for regulated investors. National enabling laws differ in detail and lead to differences in governing transaction structures between jurisdictions, especially in relation to the banking and administrative functions required within the covered bond issuer.

Thus in the legal model used in France, the grantor of security interests is required to endow the target SPV with the resources to administer or procure administration for the relevant pool as if the grantor itself did not exist. Thus the originating intermediary, which may be involved in a broad range of credit-related activities, effectively creates a second generation intermediary whose lending is confined to a narrow spectrum of credit risks, and which becomes the covered bond issuer. New covered bond markets have become quickly established in parts of Europe since the late 1990s but the utility of the covered bond model to East Asia would depend partly on the administrative and servicing endowment that its enabling legislation forced transactions to absorb. The alternatives would be a well-resourced intermediary based on the French model, or a vehicle far less substantive that relied upon contractual agents to administer its lending, as

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<sup>61</sup> Through the second and third pillars of Basel II.

with cash securitization deals. It is certainly possible that the 2007 credit crisis will lead to increasing use of and support for such models in a range of jurisdictions, including civil law jurisdictions in East Asia.

Securitization in the US has informed transactional and regulatory developments in almost all states where transactions have been completed. However, neither those practices, which often vary from state to state,<sup>62</sup> nor concerns nor conflicts of law identified as threats to the integrity of securitization are necessarily optimal models or warnings for practice elsewhere.<sup>63</sup> The experiences of Japan and Korea shows that civil law jurisdictions in East Asia can support healthy securitized transaction volumes involving a variety of risks. If the 2007 market dislocation leads to a reassessment of the desirable extent of cash and synthetic securitization, its consequences in transferring risk from regulated intermediaries, or reconsideration of the regulation of transaction parties, then one result may be to see securitization's drivers shift from regulatory arbitrage to risk management and funding goals within the diverse settings of national markets.

#### **IV. National Regulations and International Capital Standards**

This section examines the relationship between securitization and the institutional background against which it has developed, including differences between national practices.

##### **A. Regulatory Incentives to Securitization**

It is essential to distinguish between securitization as a form of economic disintermediation and that which is substantially induced by regulation or accounting rules, seen most clearly among bank intermediaries. Economic disintermediation as described in Section 2 relies on its user's perception of current and future transaction costs in relation to organization and funding. Regulation and accounting are relevant in this context only secondarily, notably in relation to disclosure. By contrast, the securitization incentive that Basel I introduced for established lenders was rapid, unanticipated, and profound, even though an acknowledged objective of financial regulation is to alter the behavior of the target and provide it with incentives to conduct appropriate risk management and internal compliance.<sup>64</sup>

Financial regulation has increasingly come to be associated with internationally framed accords or principles, negotiated among state officials and adopted in harmony within national statutory or administrative settings. The work of the Basel Committee on Banking Supervision is a long-established example of this institutional process.<sup>65</sup> It also represents an example of transnational commercial law, characterized as:

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<sup>62</sup> US states with securitization laws include Alabama, Alaska, Delaware, Florida, Nevada, North Carolina, Ohio, South Dakota, Texas, and Virginia. Delaware, a popular corporate state domicile, legislated to assert the primacy of securitized transactions against third-party creditor claims and other threats (Delaware Asset- Backed Securities Facilitation Act 2002). The act declares that 'the term "securitization transaction" shall be construed broadly', *ibid* at §2702A.

<sup>63</sup> Concerns include possible conflicts with the US Bankruptcy Code, challenges to an originator's sale of claims, and the legal status of secured claims (Janger, 2004; Plank, 2004; Schwarcz, 2004). A recent attack argues in consequence that securitization relies on "dubious doctrinal foundations" (Kettering 2007, page 10), but these are issues more of public policy than law.

<sup>64</sup> According to Llewellyn (1999), "regulation involves a process of creating incentive compatible contracts so that regulated firms have an incentive to behave in a way consistent with the social objectives of systemic stability and investor protection. If incentive contracts [...] are badly constructed and improperly designed, they might fail to reduce systemic risk [...] or have undesirable side-effects," pages 6–7. For the Basel committee agreeing on common capital guidelines in 1987, "a modification in banks' behavior was the point of the exercise" (Hayward, 1990, page 794), with the recognition "that banks would need to earn higher profits if they are to service the new capital", *id.*, page 795.

<sup>65</sup> See Kane (2005). The Basel process is seen as effective by certain scholars of public international law (Kingsbury, Krisch,

[...] law which is not particular to or the product of any one legal system but represents a convergence of rules drawn from several legal systems or even, in the view of its more expansive exponents, a collection of rules which are entirely national and have their force by virtue of international usage and its observance by the merchant community. In other words, it is the rules, not merely the actions or events that cross national boundaries.<sup>66</sup>

Bank demand for securitization since the late-1980s has been driven by increasingly harmonized capital regulation, which created strong transaction incentives among both bank originators and bank investors. This form of capital regulation created potential value and the enabling devices for securitization to reduce transaction costs. Just as transaction costs are regarded by institutional economists as the catalyst for the transformation of firms as economic organizations, so regulation has a similar effect among financial intermediaries. In recent years, this seems also to have been magnified, with intense transaction use spread among a broadening population of banks. In terms of transnational commercial law, securitization by capital-regulated intermediaries has arguably been an intrinsic part of the Basel process.

The Basel Capital Accord's application of banded weightings to loans and other risk assets—together with standard capital provisioning and the creation of distinct tiers of regulatory capital—immediately became critical in credit preferences, although not in overall credit creation. Capital-intensive instruments such as committed standby lines of credit quickly lost favor, especially where competition eroded compensation for such lines. Banks that had formerly targeted net returns on assets as a measure of operating performance found that peer pressure made it essential to manage the accumulation of risk and both actual and regulatory capital according to a series of metrics, including returns on risk-adjusted assets, and on the component layers of regulatory capital set by the Basel Committee.

The result was a profound effect on transaction costs and an encouragement for many firms to separate credit origination from considerations of risk accumulation.<sup>67</sup> It thus helped intensify the rewards of active organizational and balance sheet management. Basel I also induced portfolio arbitrage and credit distortions, so as to reinforce the development of securitization and credit risk transfer markets. This perspective sees securitization and credit risk transfer as secondary results of harmonized regulatory principles, and a substantial explanation of securitization and other forms of credit risk transfer developed by banks since the late-1980s.

The further impact of modern transaction technology and capital regulation was to steadily encourage the prolific transfer of credit risk to hedge funds and other lightly-regulated intermediaries, and encourage the creation of SIVs and investment conduits designed to maximize the returns from capital and accounting arbitrage. In the past decade, this in turn has influenced the nature, composition, and funding of all bank risk assets and radically altered the use of structured finance techniques by many banks, especially an elite group of major banks that is most committed to structured finance and risk management, and which represent a powerful participatory lobby in the Basel process.<sup>68</sup>

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Stewart Wiener, 2005; Kapstein, 2006; Slaughter, 2004) but criticized by political economists as secretive and relying on discriminatory "public-private coalitions" (Underhill, 2006, page 23), and as usurping of national legislative processes by some administrative lawyers (Barr and Goldsmith, 2006). A thorough chronology of the Basel process appears in Alford (2005).

<sup>66</sup> Goode (1997) page 2.

<sup>67</sup> Some critics assert that it may have provoked casual standards of credit appraisal and management of the kind now associated with US subprime mortgage lending, see Section 4.

<sup>68</sup> See also Footnote 75.

As Basel I created incentives for both systemic and transactional arbitrage which Basel II in part aims to remove,<sup>69</sup> so the emphasis in bank securitization thus changed from elective strategy to regulatory arbitrage. Not only did the introduction of the first capital accord cause banks to manage their credit portfolios to meet regulatory incentives, making securitization a commonly used tool, it also acquainted many investor classes with both securitized transactions and regulatory capital instruments.<sup>70</sup> In Asia under both Basel I and Basel II, credit risk transfer and the subsequent loss of regulatory capture of risk may have become more of a concern than the erosion of bank capital resulting from any cyclical downturn. At the same time, regulators know that the proliferation of securitization represents a means to lessen or eliminate the mismatches inherent in traditional bank credit creation.

## **B. Basel II Implementation**

Basel II is intended to improve the economic rationality of regulatory incentives for credit risk transfer and require regulatory capital more closely to reflect actual economic risks: regulatory capital and economic capital should become largely equivalent. It may also remove incentives to securitization that arose with Basel I and result in new shifts in retained bank credit portfolios.<sup>71</sup> In states where Basel II is fully adopted, capital relief will depend on more realistic economic considerations similar to the precepts of general international accounting practice.<sup>72</sup> The replacement of broad risk categories with more closely-defined or “granular” weightings is essential in this change. Last, Basel II may capture certain lending by non-banks through widening the geographical scope of effective compliance and supervision, and indirectly regulating parts of the non-bank sector through the capital-regulated sector in a form of supervisory outsourcing.<sup>73</sup>

Basel II’s impact on access to credit for smaller enterprises is yet unknown and may vary widely among national markets according to local practices.<sup>74</sup> Critics of capital regulation predicted while Basel II was under negotiation that lowering the cost of well-rated credit risk would slow lending to “vital” small firms,<sup>75</sup> especially for banks in less creditworthy economies. This may be challenged by more recent findings in German bank lending to emerging-market borrowers.<sup>76</sup>

<sup>69</sup> Jobst (2005) gives a robust quasi-official explanation of Basel II’s aims in this regard.

<sup>70</sup> That Basel I incentivized securitization as transactional arbitrage was clear prior to its formal implementation in the early 1990s, when price signals led banks in affected states to transfer assets that were to become subject to unfavorable weightings. More complex but similarly anticipatory transfers have been prolific since 2004–05, when the final form of Basel II became known.

<sup>71</sup> The largest direct effect for most banks (due to conventional balance sheet leverage) may be seen in the scope and scale of regulatory capital-raising deals. This is well advanced in Asia and elsewhere. See also Footnote 74.

<sup>72</sup> Contrasted with the narrower “true sale” criterion used by US regulators to determine capital relief, and in accordance with the International Accounting Standards Board’s International Financial Reporting Standards.

<sup>73</sup> US regulators sought to regulate hedge fund activity in this indirect way through the supervision of banks that provide fund clients with credit lines.

<sup>74</sup> The Basel Committee conducted quantitative impact studies in 2002–06 to estimate possible change outcomes to minimum capital levels under Basel II. The most recent study (QI5) surveyed banks in 32 states (of which Australia, Indonesia, Japan, and Singapore are considered in this paper) but no national results have been published. The amounts of capital that banks expect to maintain in respect of lending to major companies and to SMEs varied according to the sophistication of the bank’s domicile and whether it intends to adopt Basel II’s standard or internal ratings-based approaches to calculating risk capital. Similarly, only banks using the standard assessment model were likely to make a significant addition to regulatory capital in respect of securitized risks. In principle, such banks are less likely to be arrangers of structured transactions compared to those adopting the internal ratings-based model. See Basel Committee on Banking Supervision (2006b).

<sup>75</sup> For example Griffith-Jones, Segoviano, and Spratt (2002). This finding may be influenced by a fall in cross-border capital flows to emerging markets during and immediately after the 1997/98 Asian financial crisis. A recent assertion that Basel II may be deleterious to the financial systems of emerging economies includes little supporting evidence, see Claessens, Underhill and Zhang (2006). Less contentious is the finding that Basel II may have an overall pro-cyclical effect on capital and thus on credit creation.

<sup>76</sup> Liebig, Porath, Weder and Wedow (2007). See also Jobst (2006).

Lending to SMEs in both developed and emerging economies often relies on third-party collateral, sometimes provided by owner-managers. The pattern is widespread in East Asia, especially in common law jurisdictions. Implementation of Basel II may establish to what extent SME credit creation relies on such credit risk substitution. To the extent that loans to Asian SMEs are supported by collateral that is subject to verifiable valuation, banks will have less regulatory incentive under the new regime to shed the resulting credit risk. Such SME lending that is cash flow-based will require a higher contribution of capital, making securitization of the resulting risk an attractive portfolio strategy, providing that credit can be created on a sufficient scale. More sophisticated appraisals of commercial credit risk could eventually encourage greater SME lending that relies on securitization for its cost effectiveness. This would represent a partial return to the economic non-regulatory function of securitization.

National implementation of Basel II in Asia is uneven to date and in some cases subject to political delays that have taken advantage of a hiatus in US implementation.<sup>77</sup> Other regional anomalies may emerge where asset originators wishing to securitize claims have chosen or been forced to adopt the standardized model of capital regulation, at least in the early life of the revised accord. Whether Asia's regulators adopt Basel II enthusiastically in part or in total, the most pressing questions relate to the implementation of the supervision and disclosure standards in the second and third pillars. Given that bank regulation comprises rule-setting, the monitoring of behavior, and the supervision of individual intermediaries, it can be argued that the monitoring function was relatively neglected prior to 1997/98.<sup>78</sup> This is a long-standing concern and the approach and composition of Basel II is a chance to correct any remaining gaps. The effect of higher supervisory standards on future securitization is potentially important since a lack of appropriate material for cash transactions has been observed throughout the region so as to make transaction economics unattractive. Higher and more uniformly enforced standards for supervision, compliance and monitoring are likely to be conducive to the identification of feasible pool risks. Weak or nonexistent banking performance data make supervision difficult and cash securitization impossible.

When global credit conditions recover, the revised risk weightings will also create an incentive to banks in East Asia to transfer or securitize new types of credit risks. This might include SME loans and commitments or trade finance receivables, but the outcome will depend also on factors unrelated to regulation, including aspects of commercial banking practice and corporate behavior. SME securitization has been successful in Japan largely due to support from state agencies or municipal authorities.<sup>79</sup> For SME and consumer credit securitization to be used more widely in East Asia, a means must be found to either make deeply subordinated risk acceptable to third-party investors, since the current practice in which originators retain a residual risk would be an unattractive cost under Basel II, or procure external credit enhancement for funded risk, or to act as a CDS counterparty.

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<sup>77</sup> Implementation in its most comprehensive form is decided only in Australia; Hong Kong, China; and New Zealand, and in a somewhat less complete form in Singapore. There is uncertainty as to the phasing and extent of implementation elsewhere, including the remaining developed economies. US regulators announced their final Basel II implementation rules only in late 2007 see <http://www.federalreserve.gov/newsevents/press/bcreg/20071102a.htm> (accessed 15 December 2007).

<sup>78</sup> See Footnote 5.

<sup>79</sup> The central government agency Japan Finance Corporation for Small and Medium Enterprise (JASME) is a well-established lender to SMEs. But since 2004, JASME has also occasionally provided credit support for commercial lenders in securitizing SME risks through cash and synthetic CDOs. Similar transactions have been completed in Korea and are mooted in Singapore.

### C. Variations in Regulation and Practice

Basel has inspired abundant literature in several disciplines, but two elements of its development are neglected. First, the influence of commercial interests and ways in which state officials represent their commercial constituents are recognized by political and economic commentators,<sup>80</sup> but the financial and administrative legal literature gives little attention to how commercial interests contribute directly to the direction and detail of the committee's policy formation.<sup>81</sup> This factor influenced the initiation and modification of Basel I, its 1996 market risk amendment, and Basel II to a degree that is participatory and cannot be characterized as commercial lobbying or regulatory consultation. More recently, the major commercial credit rating agencies have participated in the process, but only recently attracted the regulatory scrutiny applied to the banking sector.<sup>82</sup>

Second, the Basel narrative commonly neglects national practices except where they become the subject of contentious negotiation between states.<sup>83</sup> The nature of domestic financial systems and the behavior of financial intermediaries in domestic and offshore markets is usually conditioned by past activity and institutions.<sup>84</sup> Contemporary commercial lending practice differs between US and German domestic banks, for example, for reasons that can be traced to contrasting 19th century lending, collateral and corporate governance practices in England and France, respectively. National variations in banking practice persist, even where large commercial interests use globalized financial markets to borrow or invest. Not only does today's credit and transaction practice extend from that past, but the nature of financial regulation reflects the results of ongoing competition among national regulators that inevitably have different approaches, despite sharing well understood goals of creating common standards to encourage stability and avoid post-shock contagion.<sup>85</sup> A simple characterization of conventional Anglo-American transactional banking practice compared with a traditional German relationship banking model, taken with dissimilar rules on disclosure to investors or banking confidentiality can imply settings that are conducive to different securitization outcomes. This is apparent in both a legal and regulatory context and in contractual structures for transaction management.

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<sup>80</sup> Regulatory capture is assessed by Posner (1974). Barr and Miller (2006), page 19, note that the Basel process is informal and its opacity readily allows for such capture. Stigler (1971) argues that commercial interests demand regulation of the state to favor their own interests or help limit the costs that the state would otherwise require them to bear. In this analysis, the Basel process represents both lobbying of national Basel Committee members by their home banks, and an international setting for elite banks to submit to regulation that they are able both to influence and tolerate. Laffont and Tirole (1991) analyze regulatory capture to take account of the asymmetry of information available to regulators and colluding commercial interests. Political analysis of the Basel process sees commercial involvement as generally malign, for example, Wood (2005) questions "[t]o what extent should regulators abdicate their privilege to control the market, and instead to work with it?," pages 125–126, even while accepting that consultation with commercial interests may be an essential practicality.

<sup>81</sup> The "private element in global administration" is acknowledged by scholars of administrative law in the operations of self-regulatory bodies such as the International Swaps and Derivatives Association, see Kingsbury, Krisch, Stewart Wiener (2005) page 20.

<sup>82</sup> But see Section 4. The International Organization of Securities Commissions (IOSCO) published a voluntary code of conduct for credit rating agencies that has been accepted by the leading firms in the sector, but which is neither specific nor mandatory (IOSCO, 2004). Basel II provides for national regulators to decide the sources of ratings that are acceptable in classifying certain transaction risks.

<sup>83</sup> The BIS Q15 survey notes that changes to capital provisions resulting from the revised treatment of securitized risks varies considerably according to national provisions (Basel Committee on Banking Supervision, 2006b, page 32). The institutional importance of this form of path dependence is commonly attributed to Roe (1999).

<sup>84</sup> The institutional importance of this form of path dependence is commonly attributed to Roe (1999).

<sup>85</sup> An even-handed exposition of the rationale for financial regulation cites three objectives in systemic stability, encouraging sound financial intermediaries, and protecting the interest of other users, (Llewellyn 1999), pages 8–9, but fails to address problems arising from the possibility of equilibrium instability, and transactional incentives given by regulation to regulated and lightly regulated intermediaries. Arner (2007) broadens the analysis to examine the effects of regulation on financial sector and general development.

These differences have two implications for structured finance. First, any single national legal and institutional setting may not favor securitized transactions or any universal model of structured finance contracts. Second, it may be inappropriate or inefficient to import any established transaction model without identifying the need for adaptation to local needs. Errors of this kind have been associated with promoters hoping to create familiar transactions for prospective investors but to the detriment of contractual integrity. The general result may be constricted usage, as in the Philippines, for example. This concern extends beyond the way that commercial lawyers seek contractual solutions to problematic laws or regulations, which is not uncommon in East Asian securitization.<sup>86</sup>

More positively, Basel II is highly complex in its complete form for both regulators and their supervisory targets, but includes concessions that enable states to legitimately adopt its provisions in stages or according to need. Basel II's risk weightings are eventually to be applied uniformly but many aspects of national supervision will differ.

To what extent has a national legal or regulatory setting acted as an incentive to securitization, especially in the capital regulated sectors? Much securitization activity has an orientation that reflects its modern roots in the US, where securitization developed as a result of competitive tensions between two parts of a divided financial industry, and was heavily influenced by state and federal law and regulation, and social attitudes to the banking sector. Securitization in the US markets is inevitably a systemic and transactional influence, but may not be a model for elsewhere, in spite of globalization trends of convergence in intermediary behavior, regulation, and financial instruments and their treatment in law. US practice has a practical value in that many international and national markets find it attractive to sell foreign transactions to US investors, despite the costs of conforming with demanding disclosure requirements.

This is especially true in securitized transactions, given their structural need to target different classes of homogenous investors, which is a particular feature of the extensive US investor base. While the US is the source of modern securitization technology, the reasons for it to enthusiastically adopt this form of actual loan defeasance in the 1970s are embedded in many aspects of US law and financial practice.<sup>87</sup> Such variables affect sources of bank funding, encourage the targeting of returns by banks, limit the term of house loans, encourage the formation of mortgage loan aggregators, and generally induce credit risk transfer. These factors are not unique but exist nowhere else to the same comprehensive extent. Thus in promoting institutional reforms it would be inappropriate to identify other markets as synonymous with those of the US,<sup>88</sup> but perfectly acceptable to use or amend US transaction technology.

More broadly, the "Law and Finance" school has suggested that a primary means by which law influences financial development is through contract formation and enforcement.<sup>89</sup> This view aligns with the general economic motives for securitization, which are related to transaction costs factors and not primarily to financial sector regulation,<sup>90</sup> and which may increase in importance after the dislocation of 2007 credit crisis.

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<sup>86</sup> For example, the simple model shown in Appendix 3 that uses sequential onshore and offshore SPVs.

<sup>87</sup> Including legislation after the 1929 Great Crash controlling banking by type and by geographical coverage, securities legislation, quantitative controls on lending, interest rate ceilings, the comparatively attractive risk-return profile of traditional mortgage lending, constraints on diversification by mortgage lenders, and a societal wariness of banks.

<sup>88</sup> See also Cacdac, Warnock and Warnock (2007).

<sup>89</sup> Empirical analysis shows the US financial sector conforms with this result, even though financial activity in the US is subject to a complex rule-based regulatory environment.

<sup>90</sup> For example, Schwarcz (2002).

These factors have two consequences in an East Asian context. First, even though ASEAN+3 banking supervision was generally poor prior to 1997, its subsequent and future improvement depend upon introducing appropriate objective and minimum common standards, not on any single model solution. Second, if securitization is to grow in the region on a significant scale, it is likely to resemble but not mirror the transaction model and usage of other economies.

One further point arises from the staggered national implementation of Basel II's revised risk weightings. To the extent that banks adopting the standardized approach to capital adequacy maintain subsidiary or affiliated operations in overseas economies that introduce the new weightings at a different time to the bank's home regulator, then Basel's plan of implementation may encourage credit risks to be located so as to achieve an optimal use of capital. The impact of this discrepancy has not been quantified but has been taken to be modest. However, this relatively minor aspect raises the possibility of a more complex form of systemic regulatory arbitrage between unconnected parties in economies where Basel implementation differs, and the opportunity that a complex matrix of regulation may offer to even simple lenders. Cooperation among regulators would need to be reconsidered in this event.<sup>91</sup> Such practices may also evolve from the significant credit-related activity now associated with lightly-regulated hedge fund investors.

Basel II conforming states will force regulatory capital more accurately to reflect credit risk, and improve the economic rationality of regulatory incentives. Removing Basel I's incentives to securitization may also lead to new shifts in retained bank portfolios. Changes to the incentive structure that regulation has created for financial sector securitization will be incomplete without a parallel reexamination of the supervisory and accounting background. This is the setting against which markets in securitized transactions entered their most unsettled period to date in 2007, which is the main subject of Section 5.

## **V. Recent Trends**

The medium-term future of securitization in all its forms must be considered in the context of the severe dislocation experienced by global financial markets in 2007. It is certain that, in response, there will be qualitative changes in regulation and supervision. Consequences may arise in changes to national and harmonized financial regulations and crisis prevention measures, credit rating and accounting practices, and they will likely induce changes in transaction structuring and post-execution management. This section will distinguish between recent global events and aspects important to East Asia's markets, and seek to identify what may transpire in both securitization use and regulatory change following a recovery in credit and liquidity conditions.

### **A. Global Disruption**

A definitive assessment of the causes of the crisis is premature, but several features are clear, and point to a shock more significant than a periodic downturn in global credit conditions.<sup>92</sup> In particular, the widespread loss of confidence that began in early 2007 with increases in loan losses and payment delinquencies among certain US subprime mortgage lenders developed in

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<sup>91</sup> The second principle of Basel II's guidelines for home-host regulator implementation provides that "The home country supervisor is responsible for the oversight of the implementation of the New Accord for a banking group on a consolidated basis." Basel Committee on Banking Supervision (2006a), page 11.

<sup>92</sup> A narrative of events until end-September 2007 appears in Bank of England (2007), pages 5–22.



the third quarter into a collapse of liquidity in many structured and conventional financial markets, a period of intense risk aversion among global investors in structured issues, and a hiatus in market valuation mechanisms for most structured transactions.<sup>93</sup> These events were accompanied by a succession of unusually severe downgradings of structured issues by the three leading international credit rating agencies. A number of financial intermediaries announced or predicted substantial investment and trading losses on structured transactions, both held directly and in SIVs and other similar vehicles,<sup>94</sup> and in August several leading central banks began to provide exceptional liquidity to the interbank markets as part of their general liquidity and lender of last resort facilities.

The disruption of the first 3 quarters of 2007 included pricing dislocations in several important markets previously considered deep and liquid, and widespread losses of confidence, not only in structured products but also in intermediaries involved in the markets, whether as originator, arranger, or investor. It also included bank failures and reorganizations resulting from illiquidity, insolvency, or a terminal combination of both conditions. With investor participation evaporating, a mid-year hiatus occurred in new cash or synthetic securitized and covered bond transactions. By late September, a trickle of new transactions was announced, all more modest in scale and generous in pricing than earlier issues. The closing of the securitized new issue markets was temporary but is likely to end only with a radical adjustment in the commercial terms and complexity of feasible transactions.

The most severe dislocation was associated with all forms of synthetic transactions, and especially CDO or cash transactions associated with loan aggregators, that is, mortgage arrangers who create and warehouse loans solely for subsequent packaging and sale. However, investors took the view that all structured risk was tainted with unquantifiable losses and the loss of confidence penetrated all credit markets—a classic case of asymmetric information, adverse selection, and contagious loss of confidence. Although these events may be part of a cyclical downturn, some aspects were sufficiently alarming to lead to calls for broad regulatory change to curb financialization. A recovery is likely to be accompanied by regulatory reform and changes to market practice (partly to avoid structured finance continuing to be associated with instability).<sup>95</sup>

The path to substantial losses among banks and investors began with credit stresses in weaker sections of the US home mortgage market. Property values associated with US subprime borrowers fell in the second half of 2006, and began to be disclosed by major lenders in the first quarter of 2007. From there, an accumulation of market analyst and rating agency warnings quickly caused confidence to fall, with many participants fearful of being unable to quantify the extent to which their investments or counterparties were at risk. Widespread risk aversion and a shortage of bank liquidity thus led ABS and CDO holders to be unable to find a market price for

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<sup>93</sup> One BIS report was prescient of these developments:

Growing dependence on financial markets has also increased the exposure to market turbulence. [...] [I]n periods of severe market unrest or uncertainty, a whole group of housing finance lenders may suddenly find it difficult to obtain funding. Thus, although internationally active financial institutions build up exposures to non-domestic mortgages to diversify risks, spillover effects from foreign housing markets could become a source of concern.

Committee on the Global Financial System (2006), page 32.

<sup>94</sup> This included banks domiciled in the PRC; Hong Kong, China; Japan; and Singapore. To date, the greatest losses have been posted by banks in US, Germany, and UK.

<sup>95</sup> Following a direction of the G-7 finance ministers to IOSCO, the Financial Stability Forum, and Basel Committee, IOSCO announced on 8 November 2007 a structured finance task force to examine credit rating agency practice, accounting, valuation, transparency and due diligence, and risk management and prudential supervision.

either dealing or valuation, or raise or renew funding. This notably included conduits and SIVs whose risk exposure was ostensibly of high credit quality.<sup>96</sup>

Until the results of the current accounting year are published by all leading participants, the main unknown outcome of the crisis is the extent to which banks will be forced to fund, charge off, or consolidate risk that has been held in conduits and SIVs, as well as resulting demands for new equity or regulatory capital. A related concern arises in the outcome of falls in CDO and bank credit ratings, which will lessen the willingness of investors to make new commitments in bank risk, securitized assets, or covered bonds.

## **B. Credit Risk Transfer**

Among the most profound financial market developments in the post-Bretton Woods world of deregulated international finance has been the growing emphasis and ease of credit risk transfer. This relies especially on two related financial innovations, credit derivatives, and cash or synthetic securitization.<sup>97</sup> It has led to a diffusion of risk geographically, and by type of counterparty or intermediary. Yet before 2007, it had generally been believed that access to credit risk transfer might help in crisis avoidance.<sup>98</sup> Instead, credit risk transfer seems to have led in 2007 to profound uncertainty in the interbank markets, caused by valuation difficulties associated with outstanding structured transactions, and the view that dispersal of risk created problems in credit assessment. If the location of credit risk perceived to be threatened could not be identified, then banks and other investors would be unable to determine with any confidence the extent to which any counterparty might itself be exposed to potential problems. This represents an apparent reversal of finance theory's presumption that portfolio diversification is a favorable and risk averse long-term strategy, and which in this form has underlain recent views of financial innovation. The BIS in particular became associated with a generally favorable view of credit risk transfer that relies on the benefits of risk dispersal. The scale of the 2007 shock will change that outlook.

The results are analyzed here in institutional terms. For example, if securitization is dependent upon contractual integrity and can be associated with gains in transparency, how can periods of extreme illiquidity and lapsing confidence be explained, as experienced in all major markets for securitized instruments in mid-2007? One need is for greater focus on contract completeness. If the benefits of increasingly free credit risk transfer are not to be wholly lost, then transparent transaction standards are essential, and the global regulatory system and lenders of last resort may need to focus more openly on liquidity rather than capital adequacy alone.

A well-received BIS study in 2005 drew on surveys of market regulators and participants to conclude credit risk transfer to be beneficial overall. A diffusion of risk that it enables would offset a lack of direct regulatory control or insight arising when risk assets leave the capital-regulated banking system or insurance sector, especially given an assumption of indirect or

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<sup>96</sup> See for example an announcement made on 6 September 2007 to the London Stock Exchange by a Citigroup managed SIV, Beta Finance Corporation, available at <http://www.londonstockexchange.com/LSECWS/IFSPages/MarketNews> (accessed 15 December 2007) and on file with the authors. The fund had risk exposure in August of approximately \$22.7 billion, of which \$59 million was to CDOs based on (then) highly-rated subprime ABS issues. The remainder of the portfolio was held in AAA structured securities or unrated "super-senior" notes that rank in priority to AAA-rated tranches of the same CDO transactions. In spite of this theoretically healthy profile, investor caution made Beta Finance unable fully to fund itself from usual short-term sources.

<sup>97</sup> Other aspects involve harmonization in aspects of private commercial law, for example the increasing similarity and economic effects of loan and bond contracts.

<sup>98</sup> Basel Committee on Banking Supervision (2005). Others argue that credit risk transfer has a negative impact on capital adequacy (Jobst, 2005).

outsourced control. The notion that bank credit lines with non-bank intermediaries would act as an effective distant control device, as might “a twitch upon the thread”,<sup>99</sup> has now become implausible given that many SIVs and conduits have the primary objective of reducing their sponsors’ need for regulatory capital. Instead, one problem has been the participation of banks more directly, which has endangered capital, however modestly.<sup>100</sup>

The first SIVs were set up to garner funds from third-party investors and generate management fees for their creators.<sup>101</sup> They are generally distinct from bank conduits, which are unconsolidated, non-capital attracting vehicles used by banks to house revenue-seeking activity. Conduits rely heavily on sales of asset-backed commercial paper (ABCP) for funding, and the seizure associated with this market from July 2007 in both Europe and North America has led to considerable concerns as to the long-term solvency of conduits.<sup>102</sup> Those banks associated with their creation and management have usually provided standby lines of credit, which may entail commitments to fund the conduit in the event of it becoming impossible to sell ABCP. The result has been increasing pressure for conduits with outstanding assets to be wound up or consolidated into the sponsoring banks’ balance sheets, which would necessitate very sizeable additions to regulatory capital.

In the long run, the use of SIVs is likely to become more conservative in all aspects of leverage, risk management and funding, and conduits will not exist in the form known until mid-2007. There may be contractual or structural solutions to this dilemma, such as to include the creation of reserves, or the inclusion of recourse rights to investors in a way similar to cash covered bonds, but in each case the result will be for risk to be consolidated. The concept of specialist vehicles to house structured investments is not eliminated by Basel II, for it contains provision for banks adopting the internal rating-based regulatory treatment to provide committed standby lines to SIVs at a risk weighting of only 20%, providing the lines may be used only in times of general illiquidity. 2007 would clearly have been one such time.<sup>103</sup>

One recent empirical study of the behavior of regulated banks in conditions of freely available credit risk transfer using credit derivatives and including synthetic securitization concludes that the BIS was correct to evince benefits from risk dispersal, and points to efficiency gains arising when banks use such techniques.<sup>104</sup> It may be ironic that in institutional terms, regardless of commercial factors, the risk management benefits of securitization in intermediation appear to have been neutralized by the common SIV structure.

All of these events and a shift in confidence in the results of prolific credit risk transfer can be expected to have consequences in the distribution of risk, the objectives and balance of activity within intermediaries, and eventually in new forms of intermediaries. Credit risk transfer

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<sup>99</sup> A fictional detective explains apprehending a criminal in a manner similar to the Basel Committee’s home- host objective “with an unseen hook and an invisible line which is long enough to let him wander to the ends of the world, and still to bring him back here with a twitch upon the thread,” Chesterton (1929).

<sup>100</sup> For example Burton (2007), Tucker (2007), Batson and Morse (2007), all describing subprime related losses by Asian banks.

<sup>101</sup> See Footnote 24.

<sup>102</sup> Risk assets held by SIVs and bank conduits at the end of June 2007 exceeded \$1,500 billion and \$350 billion, respectively. Both types of vehicle have been significant holders of cash and synthetic securitized assets, and may in aggregate have held RMBS positions amounting to 25% of total assets in mid-2007, see Bank of England (2007), page 19 and page 21. The extent of the mid-2007 interruption to SIV and bank conduit funding is considerable: as at end-June 2007, US dollar ABCP represented 54.1% of all outstanding US dollar commercial paper and exceeded \$1,140 billion (source, Federal Reserve Board at <https://www.federalreserve.gov/releases/> accessed 15 December 2007).

<sup>103</sup> See Basel Committee on Banking Supervision (2006a), § 638. The qualifying term ‘general market disruption’ is defined at § 580. A similar remark appears in Axford and Hart (2007).

<sup>104</sup> Goderis, Marsh, Vall Castillo and Wagner (2006).

techniques appear certainly to have spread risk among many more legal parties, and have induced funded and contingent claims traditionally held by capital-regulated bank intermediaries to flow to other types of parties, be they hedge funds by any conventional understanding, institutional investors, interests of high net worth investors or others. At the same time, much of this dispersal among parties has not entailed risk leaving the conventional banking sector, but rather seen it become more widely held within the global banking community as a whole. Thus small German public sector lenders, the ostensible mission of which was traditionally to provide credit for activity within a narrow geographical domain, accumulate through a vehicle domiciled in Ireland a portfolio of US subprime mortgages, the value of which collapses or cannot be appraised, and leaves the vehicle unable to renew its liquid liabilities to fund its asset book. These kinds of arrangements threaten the continuation of structured finance techniques.

### C. Transaction Appraisal and Management

The past decade has seen rapid growth in subprime mortgage lending to households with impaired or insufficient credit histories, notably in the US but also in Australia, Canada, and the UK (collectively, the “Anglo-American economies”). The activity is “dominated by new loan originators, who are not deposit-takers”,<sup>105</sup> and many will not be regulated as conventional lenders. The recent outcome in the subprime mortgage sectors and that part of it classed as predatory lending suggest a failure in the contractual mechanisms for transaction appraisal and ongoing management. By this argument, it is not securitization as a concept that is the cause of instability, but improperly designed incentive structures leading to poor design of complex transactions, inadequate contract enforcement and risk appraisal.

In the same period, forms of predatory lending became a sizeable segment of the market in home mortgage loans in the US,<sup>106</sup> and represent a considerable portion of the market in subprime mortgage loans.<sup>107</sup> Practices in this market segment were controversial prior to the deterioration in credit conditions in 2006. Certain US academics and mortgage industry representatives have described structured finance as the essential driver of predatory lending. These home loans are always securitized, demand steep tranching to support aggressive transaction economics, and may be said to capture a crucial moral hazard of credit risk transfer, where information is withheld from an investor. They are thus unwilling to see securitization as a

<sup>105</sup> Committee on the Global Financial System (2006), page 17.

<sup>106</sup> Engel and McCoy (2002), page 1,257, describe predatory lending as “exploitative high-cost loans to naïve borrowers.” They suggest that securitization is a change to the operation of the US home mortgage market that from the 1980s caused growth in new loans to accelerate and allow new loan providers to enter the market, id at 1,273-74. This is uncontroversial but the same authors’ more recent claim that securitized transactions have induced predatory lending appears to be assertive (Engel and McCoy, 2007). A similar attack is made by Peterson (2007), pages 6–7, who describes a process that is abusive, and includes evasive activity:

[S]ecuritization [...] has not yet proven capable of reliably providing high quality services to consumers and investors. I believe this problem stems from the legal incentives actors in the system operate under. The one uniform feature of residential mortgage law is its failure to recognize and account for the complex financial innovations that have facilitated securitization structures.

Id., page 8, but this identifies concerns for which securitization cannot be a primary cause, and which in the absence of securitization are likely to continue. Eggert (2007) is still more hostile, claiming before a US Senate committee that

[S]ecuritization has transformed the American mortgage market, atomized the loan process, and to a great extent turned the regulation of the subprime mortgage industry over to private entities. Some aspects of the current meltdown of the subprime market, the increased default rate and threat of rising foreclosures, as well as the difficulty of crafting an adequate response to that meltdown, may be attributed to the effects of securitization. [...] Securitization has also led to loosened and inconsistent underwriting standards.

But this fails to support the assertion, only indicating that factors other than securitization have not been fully regulated or controlled.

<sup>107</sup> As an indication of market contributions prior to the mid-2007 credit crisis, US Mortgage Bankers Association survey data suggest that 19% of mortgage loans created in the first half of 2006 were made to subprime debtors, with 45% of those borrowers using the proceeds to buy homes.

technique that has been used by lenders of all kinds, including those making loans that might generally be criticized or made void as part of public policy.

Critics of securitization in this context thus suggest that it supports predatory lending, and induces fault and malpractice by allowing abuses arising from the moral hazard of assigning or transferring poorly-originated claims. The removal of a conventional lender's administrative interest with the sale of a loan leads inevitably to that moral hazard:

The protections that securitization provides investors do not safeguard borrowers. To the contrary, securitization inflicts negative externalities on subprime borrowers in at least four ways. First, securitization funds small, thinly capitalized lenders and brokers [... that...] are more prone to commit loan abuses [...]. Second, securitization dilutes incentives by lenders and brokers to avoid making loans with excessive default risk [...]. Third, securitization denies injured borrowers legal recourse against assignees [...]. Lastly, securitization drives up the price of subprime loans because investors demand a lemons premium for investing in subprime mortgage-backed securities.<sup>108</sup>

The same sources argue that securitization increases problems of adverse selection arising from asymmetries of information between lender and investor. They suggest that lenders have an incentive to securitize the poorer parts of their loan portfolios, and that ABS or MBS investors cannot know whether any loan or pool of loans was made soundly or is properly maintained.

This attack is more a complaint against predatory or unsound lending, rather than the processes involved in securitization. However, it appears also to specify wrongly the nature of any information asymmetry between lender and securitized investor:

Before the advent of securitization, lenders typically handled loans from cradle to grave. [...] Because lenders bore the full risk of default, they had strong incentives to turn down observationally risky borrowers. [...] The lemons [adverse selection] problem occurs because unbundling creates information asymmetries that mortgage lenders (or brokers) can exploit to investors' detriment.<sup>109</sup>

In institutional terms there is a clear difference between the knowledge that a bank lender can be expected to accumulate of an established corporate borrower, and its insight into a single consumer debtor. Yet many banks in East Asia and elsewhere extend credit to SMEs only if provided with collateral. Although widespread, this has been seen as an obstacle to both SME credit creation and loan securitization.<sup>110</sup> In the case of the US subprime sector, it became accepted practice to create a contractual framework for loan servicing and mortgage registration that facilitated loan transfer but weakened the flow of credit information to the ultimate investor.<sup>111</sup>

It is important to note that US practice is not a model in this respect, even though the collapse of the US subprime market has been a global contagion event. The credit risk profile of a complex corporate debtor may be far harder for an investor than a bank to assess, but a securitization

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<sup>108</sup> Engel and McCoy (2007), page 2,041.

<sup>109</sup> Id., pages 2,048–49.

<sup>110</sup> Booth, Arner, Lejot and Hsu (2007), pages 527–28.

<sup>111</sup> By means of Mortgage Electronic Registration Systems (MERS), a commercial mortgage loan registration vehicle used by many subprime loan aggregators as the beneficiary of mortgage deeds.

transaction that is as contractually complete as possible can create an incentive framework for usable information to be given to the investor.<sup>112</sup> The alternative to preventing the use of securitization in predatory loan funding is to adopt strict disclosure provisions for loan aggregators and agents, and to provide for the policing aggressive lending.

#### **D. Credit Rating Agency Functions**

It has been recognized for some time that credit rating agencies can engage in commercially conflicted activities. IOSCO's code of conduct drew attention to this concern as a regulatory issue but only extended to the general mission of the agencies, not their analytical techniques, which were viewed as sacrosanct in much the same way as many internal quantitative models under the Basel I market risk framework prior to the 1998 collapse of hedge funds managed by Long-Term Capital Management.<sup>113</sup> Criticism of the agencies has focused on two particular conflicts of interest, namely compensation being met by issuers whose securities the agencies appraise, and the possibility that a rating agency parent or affiliate may derive revenue or other benefits from issuers or their advisors. This neglects a specific actual conflict inherent in the origination process for structured transactions, and which the recent dislocation has exposed to far wider concern. It arises from the quasi-origination function that the leading rating agencies undertake whenever many complex transactions are under negotiation, and it is this aspect of the current rating agency model that is likely to be reconsidered in the medium-term. In addition, it is highly likely that quantitative risk modeling will be generally subject to an increase in regulatory minimum-setting and scrutiny, not only in structured transaction ratings but in a range of regulatory risk considerations.

This potential conflict has become widely criticized within the context of structured finance markets, since agency involvement in the creation of new transactions is profound, interactive, and no less significant than that of arrangers. The resolution of this conflict may include greater transparency in the rating process for structured transactions, and explicit regulatory supervision of agency organization and activity. The greater difficulty may be to create a new model of independent investment appraisal specifically designed for structured finance risks, which allows for challenges to rating agency opinions. If the leading rating agencies are to hold a central place in the transactional process (as well as the regulatory process under at least the standard level of Basel II), then the capital markets must cease to regard their opinions as mere contributions to investor advice.

It should also be noted that periods of market disruption tend to include calls for rating agency reform based upon the observation that they often fail to predict imminent credit problems. This criticism was made in the context of the Asian financial crisis and recently after the deterioration in the US subprime mortgage market, during which one agency made without warning controversial steep downgradings of certain CDOs.<sup>114</sup> It is not part of this study's purpose to

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<sup>112</sup> The institutional analysis of van Order (2007) summarizes at pages 2–3 the transaction cost trade-off associated with securitization:

[A] reasonable way of posing the problem (of which funding structure is best) is that it can be defined by a tradeoff between the advantages of securitization as a low cost and elastic source of funds with the disadvantages of securitization due to information asymmetry between investors and lenders (a problem that banks tend to manage better) and costs of setting up deals (which do not apply to deposit funding), and a priori the balance could go either way.

However, this fails to acknowledge the effect of wrongly-specified (and thus incomplete) contracts as the core explanation rather than intrinsic information asymmetry.

<sup>113</sup> See Footnote 73.

<sup>114</sup> For example, International Financing Review (2007) reported that

S&P last week downgraded US\$80m of Tier 1 mezzanine notes issued by Avendis Group's Golden Key SIV-lite by an astounding and possibly unprecedented 17 notches – from AAA to CCC. At the same time, it downgraded

evaluate the methods of the leading agencies but it is appropriate to ask how these organizations function within an institutional setting, and how reforms are likely to result from recent events. In particular, a moral dilemma arises in the iterative process used by originators and rating agencies to structure complex transactions in order to achieve target ratings on deal tranches.

It has been further argued in a US context that credit rating agencies have unconstitutionally acquired a quasi-legal position as arbiters of the contractual integrity of securitized issues. This also presents a commercial conflict as the agencies derive revenue from their involvement in creating such securities. US rating agencies claim that their opinions are not actionable in law as mere opinions subject to constitutional protection, or that aggrieved investors lack a basis of claim since they lack a contractual relationship with the agency.<sup>115</sup> The paradox is that ratings are central to investors and increasingly risk-based regulation of intermediaries in structured finance, but to date they have not been successfully challenged. Indeed, the conflict that arises from the rating agency being compensated by the issuer is one that is essential to maintain in order to guard against litigation—if the agency were to be paid by the investor, this arrangement could not be sustained.<sup>116</sup>

Rating agency structured finance practice has been questioned by events and by securities regulators, notably France's *Autorité des Marchés Financiers*,<sup>117</sup> but defended by the principal rating agencies.<sup>118</sup> IOSCO's code of conduct for credit rating agencies includes the exhortation that agencies use "rating methodologies that are rigorous, systematic, and, where possible, result in ratings that can be subjected to some form of objective validation based on historical experience."<sup>119</sup>

Yet, this is clearly not the outcome with regard to many structured or synthetic transactions in 2007. The leading French financial regulator has questioned whether structured finance transactions are properly rated, pointing out that unlike with conventional debt issues with a single commercial or sovereign obligor, the role of the rating agency in structured transactions is more active, and akin to a quasi-participatory function:<sup>120</sup>

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US\$174m of Tier 1 mezzanine notes from Solent Capital's Mainsail II SIV-lite by 16 notches – from AAA to Triple CCC+. Such sharp downgrades spurred criticism of the ratings agencies, both from market participants and politicians, casting doubts over the agencies' credibility and raising more questions about the value of a Triple A rating. That in turn cast doubt over the fundamental basis of the Basel II regulatory regime, which is intrinsically tied to credit ratings.

Bell and Rose (2007) seek to defend structured finance rating practice. Note that there are long-standing conceptual differences in the approach to structured transaction valuation methodology used by the three leading agencies, see also Footnote 123.

<sup>115</sup> Kettering (2007), pages 96–118.

<sup>116</sup> *Id.*, page 108.

<sup>117</sup> Prada (2007).

<sup>118</sup> For example, Bell and Ross (2007) ask

Why does this dialogue between rating agencies and arrangers occur at all [in structured finance transactions]? The answer lies in two aspects of structured finance: the first is "tranching" and the second is the "structured" nature of structured finance. Both are intrinsic and necessary to the structured finance market. And in both instances, the degree of rating agency interaction is not only beneficial to the structured finance market but almost certainly a prerequisite to having any kind of structured finance market at all.

The authors omit to suggest that an alternative business model that lacks the commercial conflicts inherent in assigning a regulatory function to credit rating agencies. They continue to say that

The only aim is to design a product that can find investors and still generate a positive economic return. In other words, structured finance is "structured".

*Ibid.*, page 5.

<sup>119</sup> IOSCO (2004), §1.2, page 4.

<sup>120</sup> Prada (2007).

can a pure rating approach be an appropriate and sufficient answer to the investors' needs in terms of credit risk assessment on structured finance instruments?<sup>121</sup>

And continues,

[t]he accuracy and the robustness of structured finance ratings are [...] subject to the quality and the stability of the models that are specifically developed by each agency. [...] as they can have a very high impact on the absolute or the comparative levels of market spreads.<sup>122</sup>

This point is neglected in academic commentary and by investors. The analytical methods of the three principal agencies are proprietary and different in approach and mechanics,<sup>123</sup> in addition to their maintaining wide variations in their respective commercial approaches. They employ different methods, and their ratings and approaches to warnings or making changes are taken by the financial sector as distinct. In addition, this has traditionally led to the belief among other market participants that one agency may be commonly regarded as favoring or being less likely to penalize certain risks. There is thus a commercial decision in selecting a rating agency, or choosing to engage either two or three firms to rate new issues or new classes of risk.<sup>124</sup>

It seems likely that the quasi-regulatory functions of the agencies in the Basel II process will be re-evaluated, at least in respect of structured transaction ratings.<sup>125</sup> The rating agencies have been criticized periodically for slow analytical reaction to deteriorating credit risks, rapid reappraisals, and an asymmetric view of credit improvements and declines. Concern over their structured finance activity is different and more fundamental. The effect of rapid changes in rating is less seen in sober reassessments and changes in expectations of the kind predicted by market economists, but in quantum-like, non-granular reactions. A fall in credit rating below a set level may cause no change in intellectual sentiment but a conditioned and often compulsory sale by institutional investors constrained by ratings-based investment criteria. The implication, rarely acknowledged outside the gossip of market professionals, is that ratings rarely induce or inform a portfolio investment decision but may permit it to happen (institutional investors frequently having contractual-or regulated-ratings minimum mandates for investments), or provide exculpatory evidence if the decision later proves mistaken.

The BIS examined the activities of credit rating agencies in structured finance transactions in 2005, and pointed to risks and potential conflicts that have been more widely and urgently discussed since mid-2007. Its assessment describes the vital position granted to the agencies in facilitating synthetic transactions due to their reliance on tranching,<sup>126</sup> but it may be fairer to stress the interactivity of this part of transaction formation. The report warned that

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<sup>121</sup> Ibid, page 7.

<sup>122</sup> Ibid, page 8.

<sup>123</sup> An explanation of the main differences is given in Raines and Rutledge (2003). Each agency has recently sought to defend its structured rating methodology (Bell and Rose, 2007) but at least one announced in September 2007 changes in its approach to rating certain CDOs.

<sup>124</sup> Differences in reputational considerations are trivial in the domestic US markets, where the rating agencies are ubiquitous and the issuer universe large and relatively homogeneous.

<sup>125</sup> See Footnote 95.

<sup>126</sup> Committee on the Global Financial System (2005), page 6.



[...] market participants, in using ratings, need to be aware of their limitations. This applies, in particular, to structured finance and the fact that the one-dimensional nature of credit ratings based on expected loss or probability of default is not an adequate metric to fully gauge the riskiness of these instruments.<sup>127</sup>

It concluded:

It is clear from this discussion that rating agencies are interactively involved in more than one dimension of structured finance issues such that they cannot be seen as independent external assessors of the results.<sup>128</sup>

## **E. East Asian Impact**

East Asia has been affected by the 2007 crisis but without the severe problems experienced in credit markets in the Anglo-American economies and to a lesser extent continental Europe. A number of banks have disclosed losses from investments in SIVs and CDOs but the main concerns to date have been consequences for liquidity and confidence pouring in from elsewhere, rather than problems that are intrinsic. The main structured finance activity among East Asian banks has been outward investment, or in modest sized or path-dependent CDOs issued under medium-term note programs, often geared to yield-seeking private clients. New issues have clearly been negatively impacted but activity in East Asia is in any event subdued, and the direct consequences of the crisis may be minimal.

On the other hand, East Asia's partial implementation of Basel II may leave it able to introduce future modifications that seek to build on the disruption of 2007. This may cover more closely defined regulation of loan origination, contractual post-advance loan servicing where the loan is made with the express intention of being packaged for sale. It may also involve some common default means of valuing or pricing complex or securitized issues in times of stress or illiquidity.

## **F. Post-crisis Outcomes**

Institutional interpretations of the recent disruption would examine differences between the costs associated with structured transactions for those directly involved and more broadly for market valuations at large. The central concern would be to establish whether greater or more formal external oversight is needed in the contractual bargaining solutions provided by subprime securitization deals if they are perceived to have wider consequences.<sup>129</sup>

It would be premature and beyond the scope of this paper to analyze the dislocations so far suffered in many national and cross-border markets.<sup>130</sup> However, the immediate effect of the shock in the context of securitized instruments is clear, and while it is impossible to know the long-term results, it seems feasible to identify the likely focuses of forthcoming resulting changes.

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<sup>127</sup> Id., page 3.

<sup>128</sup> Id., pages 23–24.

<sup>129</sup> Similar to the provision of “public goods” through Coasian contractual solutions while avoiding the free-rider concern or costs associated with externalities.

<sup>130</sup> The BIS' first published analysis of the crisis takes 15 June as the start of the period of disruption, which it characterizes as a retrenchment in credit conditions leading to a collapse in confidence and acute shortage of liquidity (Fender and Hördal, 2007).

First, this is not only a result of worsening credit conditions, but reflects a fundamental change in the transaction costs of future deals resulting from higher regulatory capital charges with fewer off-balance sheet vehicles permitted by national regulators or supported by investors.

Second, the structure of certain transactions and in particular of transaction warehousing programs is likely to change, with a similar impact on user transaction costs.

Third, a more conservative phase of deal formation and regulation will transpire.<sup>131</sup> This will lessen the need for heavy structuring and reliance on selling CDO risk. The basic cash CDO and CDO-squared models need more capital so as to attract investors, especially in the sub-AAA tranches.

Fourth, a long-term change in the regulatory setting for securitized deals seems inevitable, covering accounting and capital treatments. It may also embrace aspects of credit risk transfer and reporting among non-bank and lightly-regulated entities. Basel II has been assumed to remove the balance sheet incentives for banks to set aside sufficient assets and funding to conduits, but a response in commercial arbitrage cannot be discounted. The Basel II home-host framework needs to be able to prevent or penalize the use of future off-balance sheet conduits.

Fifth, rating agency involvement in structured finance must be reconsidered, as well as the concentration hazard of monoline and rating agency sectoral dominance. Rating agencies cannot be entrusted with a multiplicity of conflicting responsibilities, and monoline insurers will need more capital if they are to continue wrapping the ABS sector.<sup>132</sup>

More generally, recent conditions should ultimately lead to less regulatory securitization and more economic securitization, which would make East Asia's securitization prospects conform more to general practice. The result is a probable change in deal economics, so that it no longer is quite so advantageous for originators and deal brokers to take the most aggressive approaches. This includes intermediaries that are capital-regulated, given that they might in future be required to grant some element of recourse to investors in structured deals. Basel II will make this conservative option more favorable than at present.

A more radical and demanding measure directly relevant to market events in 2007 would be to introduce common mechanisms to provide liquidity in the banking or securities markets in times of extreme stress. The primary concern would be to avoid or limit contagion after unexpected shocks, and might comprise an international lender of last resort combined with new minimum liquidity rules for banks and quasi-bank intermediaries. Creating an international lender of last resort has been a discussion topic at intervals within Basel and elsewhere, especially when prominent banks collapsed in illiquid conditions in the 1970s, but without conclusion.<sup>133</sup> Such discussions will continue—especially within the European Union—but there is likely to be little real development beyond the increased coordination and temporary liquidity arrangements announced in December 2007 among the central banks of the US, eurozone, UK, Switzerland,

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<sup>131</sup> To which industry representatives will seek to influence, and transaction arrangers then respond. This, together with the future of the interactive rating agency model of structured finance were the central concerns of a large number of industry and regulatory representatives discussing the future of securitization in New York on 19 September 2007 in a seminar organized by the American Securitization Forum (transcripts of which are on file with the authors).

<sup>132</sup> The financial condition of the monoline sector is under intense discussion among market participants, regulators and rating agencies at the time of writing, largely as a result of valuation uncertainties in the risks that they insure.

<sup>133</sup> Alford (2005).

and Canada.<sup>134</sup> At the same time, Basel Committee members have long felt that liquidity regulation was so sensitive to local market practice and national circumstances as to make unworkable any common regulatory framework.<sup>135</sup> Nonetheless, there is now agreement within the G-7<sup>136</sup> Finance Ministers and Basel Committee to develop an internationally agreed approach to liquidity. While this will not be simple to agree, it seems likely that some sort of standard will emerge during 2008. This is likely to have a significant impact on the global banking markets.

There was not merely a credit downturn in 2007, but a questioning of market practice and regulation. Both the intensification of credit risk transfer and the shocks suffered by all credit and interest rate markets lead inevitably to concerns for the future of structured finance. Does securitization require a defense, given its function in market segments most affected by recent losses in confidence? What might improve its outlook and enhance its economic value, given that it is impossible to dis-invent cash or synthetic securitized transactions, or generally restrict the contractual freedom of commercial market participants? The attractions of wide access to sophisticated forms of credit risk transfer have been commonly associated with risk management and dispersal, which the financial sector has long taken as valuable. However, the outcome of widely spread risks appears to conflict with a rapid assessment of the effects of a major shock or resulting loss of confidence.

Thus, the crisis provides a chance for securitization uses to be reconsidered. This could result in structured finance relying less on transactional regulatory arbitrage, even if retaining the efficiency and risk dispersal features of modern credit risk transfer. The changes in practice needed to bring this about include a refocus on transaction economics, greater transparency in transaction disclosure, for example in the treatment by banks of SIVs, and in a change in the use of tranching and leverage as a means to capture target credit ratings and investor interest.

Regardless of the nature of pool assets, the current practice is for the value available from an asset pool over the life of any transaction to be applied in an aggressive waterfall tranching of rights, with the aim of obtaining the highest possible credit rating and absolute priority for the most senior tranche of securities. The result is an array of junior and deeply subordinated tranches, some of which carry a first loss position that cannot be sold to third-party investors.

It may, however, be suitable for users to consider granting an element of recourse to investors in a way similar to secured transactions typical of covered bond markets. This would be especially appropriate if regulators tighten the rules relating to the off-balance sheet treatment of SIVs, or it ceases to be cost effective for originators to retain the most junior tranches of securitized deals, given also that Basel II seeks to change the incentives to economic and regulatory arbitrage for securitized issuance. Thus a covered claim could form the senior tranche of a structured issue, with junior tranches gaining no rights of recourse, but a greater share of pool value.

The dispersal of credit risk is not synonymous with problems of SIVs and conduits, which are products of regulatory and accounting rules. The BIS view of credit risk transfer was generally favorable, even though recognizing risks. It now seems that the dispersal was less widespread than predicted, and not in any sense simply a removal of risk from the bank to the non-bank

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<sup>134</sup> See for example the statement of the Federal Reserve board on 12 December 2007, <http://www.federalreserve.gov/newsevents/press/monetary/20071212a.htm> (accessed 15 December 2007).

<sup>135</sup> Lastra (2006), page 493, notes that an international lender of last resort, however intended, could be no other organization but the IMF, which currently lacks the constitutional powers to assume such a function.

<sup>136</sup> The G-7 consists of Canada, France, Germany, Italy, Japan, UK, and US.

sector: banks were heavily involved as investors in CDO and ABS markets. Thus the “transfer” was incomplete, leading to a popular fear among investors of “not knowing” what risks they faced. This was similar to the transformation of the risky to the uncertain in Knightian terms. Contracts need to create and sustain incentives to encourage prudent behavior by loan servicing agents and others responsible for the administration of supporting risks and reporting to investors. Credit rating agencies have a useful corollary function to report on the effectiveness of such contracts and administrative performance.

More generally, excessive reliance on quantitative modeling techniques in structured finance has lost (at least for the moment) investor and regulator confidence. As a result, quantitative risk modeling will be reassessed and is likely to be constrained following a review of the securitization framework of Basel II that is already underway, and in the context of IOSCO’s review of rating agency activity. In both cases, a much greater granularity and robustness of data will be demanded as well as limiting parameters similar to those affecting banks’ internal models under the IRB approaches permitted by Basel II.

## **VI. Securitization’s Future in Asia**

The institutional analysis of Section 2 stressed that as a model that represents an alternative to locating funding within a conventional economic organization, securitization must always be as contractually complete as possible. In that it represents a distinct form of business governance, it can succeed only by the intensity and transparency of its contracts and how it is based in terms of the appropriateness of the institutional incentive structure and its economic assumptions.<sup>137</sup> In the financial sector, the shift of activity through disintermediation may require certain aspects of regulation to adapt new approaches and objectives, while events in 2007 are likely to lead to this including supervisory features such as common aspirational standards for administration contracts in securitized issues, disclosure to investors, and in risk appraisal. This may be beneficial in the long-term as a spur to economic securitization in East Asia, where structured finance has been slow to develop.

The scale of financial activity in an economy appears to be positively associated with securitization use, although certain institutional factors also tend to be influential in developed economies where that usage is likely to be greater.<sup>138</sup> If the use of advanced financing techniques were merely an evolutionary function of general growth then it might be possible to argue that East Asia can expect securitization to develop unassisted as a commercial process. But this view has been challenged in a series of studies since the mid-1990s, and is not supported by the current extent of the region’s transactional activity.

This section thus considers further incentives to use securitization that might be introduced in East Asia, on the basis that national governments continue to promote an increase and broadening of structured finance activity for reasons of public policy. However, any such reforms will be considered at a time when the intense form of structured finance used outside East Asia is subdued and under question.

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<sup>137</sup> Williamson (2005), pages 385–386, shows that “debt is a governance structure that works almost entirely out of rules” contrasted with the administrative nature of governance within the firm.

<sup>138</sup> See Appendix 1.

## A. Rethinking Securitization

A distinguished economist and central bank advisor has accused “wanton” securitization as contributing heavily to the financial market instability of 2007.<sup>139</sup> Others critics suggest that the overall scale and intensity of global financial sector activity has become harmful,<sup>140</sup> with the implication that banks and markets would be less troublesome if constrained and the financial system made less prone to instability. Such views may become commonplace, especially if the hardening of credit conditions in North America or Europe has an impact beyond the financial sector or in Asia. The financial distress experienced since mid-2007 by large bank intermediaries in Canada, France, Germany, UK, and US has inevitably raised political and popular concerns. It also gives prominence to attacks on financialization and the increasing ubiquity of market-orientated Anglo-American financial systems and corporate governance.<sup>141</sup> It is unclear that financialization can easily be lessened but political and regulatory pressure is likely to grow increasingly hostile to its continuing to grow without increased restraint.

The major structured finance markets may recover unaided from the dislocations of 2007, but it is now likely that national regulators will examine the framework for transactional activity beyond the incoming provisions of Basel II. Section 5 argued that regulators and national legislators will reevaluate the functioning of securitization markets and intermediaries in the coming months so as to reduce the potential for credit risk transfer and structured transactions to lead to severe volatility and contagion. Any proposals to extend the use of securitization in East Asia must necessarily anticipate where such changes may be concentrated:

- Limits to permissible activities in terms of transaction types or the actions of intermediaries;
- Extending risk and transaction disclosure requirements in the banking sector and beyond, as well as constraining further regulatory recognition of quantitative internal risk modeling systems;
- Restricting regulatory capital relief for certain classes of investment or forms of credit risk transfer;
- Removing or constraining the standing and breadth of involvement of credit rating agencies in structured finance transactions,<sup>142</sup> including in relation to setting parameters in relation to certain aspects of quantitative modeling to focus on transparency and data quality in order to achieve regulatory recognition in a range of contexts;

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<sup>139</sup> Buiter, 2007.

<sup>140</sup> Criticisms of financialization similar to those of Eatwell and Taylor (2000), who favor a protective international regulatory hegemon, have been echoed by writers generally supportive of globalization such as Martin Wolf (2007), who observes “the transformation of mid-20th century managerial capitalism into global financial capitalism.” This is characterized as a growth in financial assets relative to global output, greater transactional disintermediation of traditional intermediaries including banks, expansion in new financial instruments and non-bank intermediaries, and greater cross-border financial activity. Thus “[t]he new financial capitalism represents the triumph of the trader in assets over the long-term producer [...] In the same way, the new banking system is dominated by institutions that trade in assets rather than hold them for long periods on their own books.” *ibid.*

<sup>141</sup> Four semi-discrete definitions of financialization are given in Krippner (2005), page 181. The sustainability of a highly financialized system is beyond the scope of this paper, but has been discussed among international political economy scholars since Karl Polanyi (1944). Ruggie (1982), Dore (2002) and others suggest that financialization entails increasingly fewer varieties of capitalism, so that the German or Japanese models have, since the 1980s, adopted practices associated with Anglo-American or common law systems, including structured finance techniques. Thus to Blackburn (2006) “[f]inancialization can most simply be defined as the growing and systemic power of finance and financial engineering.” page 39.

<sup>142</sup> A more radical measure would be to require fees for structured finance ratings to be paid by investors or investor representatives, but this would introduce wider concerns as to rating agency liability.

- Introducing minimum liquidity provisions similar to limited market-making in identified securities markets. This would also help overcome the problem of the absence of pricing, making impossible the valuation of CDOs; and
- Devising common standards and supervision practice for contractual loan monitoring.<sup>143</sup> This could include properly supervised contractual solutions to constrain aggressive behavior by specialist loan aggregators.

At the same time, some of these restrictions may be criticized as denying accepted commercial contractual freedoms. They are also likely to spawn new forms of circumvention by encouraging a matching wave of transactional regulatory arbitrage. As Basel I led banks to securitize certain risks, so new rules would be expected to have an uncertain additional impact on intermediary behavior. As a result, regulatory design in order to establish desired incentive frameworks is likely to receive increasing attention.

The critical need is to give more attention to disclosure. This implies that such reforms may be beneficial to securitization growth in Asia, where corporate governance is often weaker than in developed economies, because of its potential to impose contractual governance.<sup>144</sup>

## **B. Incentives to Securitization in Asia**

Commercial interests have long argued that securitization and similar techniques have considerable potential in financing in East Asia, and its use is accepted as having been a valuable tool in the restructuring of financial sector claims in Korea after 2000. Yet the region's use of securitization is modest compared with North America, Europe, or Australia, despite having had the encouragement of many local authorities since the 1997/98 financial crisis. Transaction volumes are low relative to economic output except in Korea and Malaysia, and unevenly spread across the region. Persistent institutional obstacles to regional capital flows indicate that the post-crisis motivation for legal and regulatory reform has dissipated.

This prompts the question as to whether this aspect of financial development in Asian markets lags other regions as a function of a time dynamic, as a matter of national institutional conditions, or as the result of certain economic conditions such as national savings and investment imbalances or relatively high private sector liquidity. It was widely accepted by the mid-1960s that financial sector development could be identified by the extent of financial intermediation within an economy.

Economies with relatively high financial intermediation ratios were seen as likely to be home to sophisticated banks and other intermediaries. After the onset of post-Bretton Woods deregulation in the mid-1970s, this came to be associated with increasingly freer choices in financial instruments for savers and users of funds. As a result, a view emerged in the 1980s that financial systems generally follow a path of evolution that begins with banks monopolizing the intermediation of savings and investment, proceeding to mixed banking-capital market intermediation, and finally to a configuration where financial activity takes place largely across

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<sup>143</sup> A model for instituting standard practice could be taken from residential mortgage agencies such as the US Federal Home Loan Corporation, Hong Kong Mortgage Corporation (HKMC), or Korea's KHFC. Note that the supervision of contractual performance is one aspect of the Anglo-American market-oriented model that is unsuited to structured finance, since breaches of contract under common law systems customarily induce compensation in damages rather than enforcement by performance.

<sup>144</sup> See Footnote 137. Note also that compliance and supervision must apply equally to state-controlled banks.

open securities markets.<sup>145</sup> This evolutionary concept sees a “securitized phase” as the pinnacle of financial sector development,<sup>146</sup> which is expected to result from growth in output.

This paper shows that the growth in securitization in Asia is the result in part of elective strategy, in that governments and regulatory authorities can introduce, or fail to introduce institutional changes that encourage or discourage financial development.<sup>147</sup> That securitization has lagged expectations in several East Asian markets results partly from institutional constraints, and suggests that governments have elected to give only limited or cautious support to market reforms. That the need for securitization to assist financial development in East Asia has dissipated since 1999–2000 does not invalidate the proposition that it can be of value in risk management or as an alternative channel for intermediation. This is the basis for promoting institutional change and policy reform. The implication would be a greater reliance on the public and private securities markets in capital funding and portfolio investment, compared to an historic emphasis on national banking systems that characterizes both industrialized and developing East Asian economies. However, such changes require policy support and relevant institutional action.

If structured finance is accepted as value-creating, what might advance its use in Asia, and what limits such use now? For example, can development organizations usefully support institutional reforms? This would include strengthening property rights, judicial processes, promoting minimum standards among lenders for risk appraisal, data collection and analysis, establishing common best practices in documentation and risk appraisal among intermediaries, in tandem with regulatory enhancements.<sup>148</sup> It could also include support for securitization to fund lending in areas of interest for public policy, such as infrastructural risks, education, and agricultural or community finance. For multilateral bodies to become intermediaries in such areas may be an original and non-conflicting use of capital, with identifiable goals in poverty reduction and incentives for resource development.

Even if fully practical, these schemes strain to find support from traditional commercial sources.<sup>149</sup> The scope for multilateral involvement may be constrained by conflicts associated with credit risk transfer at a time when national supervision and reporting among substandard bank and non-bank intermediaries needs enhancement. However, support for implementation of the second and third pillars of Basel II would be beneficial in this respect, and might contribute to regional cooperation among national authorities.

Successful securitization programs can lead to migration among source asset originators to common standards for facility appraisal, documentation, and enforcement. For example, in Hong Kong, China, competition in the last decade in the market for residential mortgage loans has led to sharp reductions in gross loan margins. Such gains for borrowers are due in part to the creation of the Hong Kong Mortgage Corporation (HKMC), which refinances housing loans and has induced a general improvement and standardization of primary loan documentation and

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<sup>145</sup> Rybczynski (1997). Although the theory sees institutions such as property rights as important catalysts in the evolutionary process, it regards the legal and regulatory framework as endogenous to growth in output and per capita income, and is thus challenged by empirical findings of causal relationships between financial development and general growth, and between the nature of legal systems and financial development.

<sup>146</sup> *Id.*, page 9.

<sup>147</sup> This analysis builds on a general framework developed in Arner (2007).

<sup>148</sup> A more detailed discussion is given in Arner (2007).

<sup>149</sup> Without incentives, banks may elect not to lend for such purposes or do so only with severe limits, especially given Asia’s modest record of financial innovation. An excess of non-deployed personal savings has long been seen as an obstacle to economic growth, see notably Lewis (1955), pages 213–244.

credit appraisal, since loan originators must meet HKMC requirements in order to secure credit insurance (necessary for loan-to-value ratios greater than 70%) or subsequent loan sales. In due course this will assist in the diversification of investor classes, and lower the average expenses associated with serial securitizations.<sup>150</sup>

### C. New Initiatives

Examples of initiatives open to transnational organizations to encourage the use of securitization include three concepts:

- Supporting refunding of microfinance lenders to agricultural or community based projects.<sup>151</sup> This can be quite significant in developing financial systems where there is frequently a liquidity constraint on microfinance providers facing increasing demand for their products. This is also true for established banks with excess liquidity but unwilling to lend to borrowers outside traditional large corporations.<sup>152</sup> This would require a contingent commitment of capital, as well as resources to help standardize credit appraisal and loan execution. Such efforts could be supported not only at the domestic level, but perhaps at the regional level as well, providing support for regional standards, transparency, and products with the potential to develop liquidity;
- Providing credit support and refunding for long-term loans to students and for human resource development.<sup>153</sup> Student loans (where available) tend to be treated as unsecured personal lending and are costly. New mechanisms would require incentive structures to encourage repayment, perhaps through changes to insolvency laws or taxation systems. There may also be scope for microfinance providers to engage in student loan financing which could be given by third-party credit support;
- The funding and redistribution of infrastructural finance. Projects not associated with revenue generation may be assisted with structured finance techniques, especially when state or provincial revenue raising is inefficient. For example, the securitization

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<sup>150</sup> KHFC was created for similar purposes, but as yet has had only a modest effect in stimulating or extending the duration of residential mortgage lending, see Footnote 43.

<sup>151</sup> Structured funding for established microfinance providers is conceptually new and modest in scale, but has been shown to be feasible by a small number of similar transactions for lenders in South Asia, Latin America, and Eastern European transition economies. In some cases, funding has been arranged or supported by non-profit, non-governmental organizations or public developmental intermediaries such as the Dutch Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden (FMO) or Germany's KfW Bankengruppe (KfW). Each of the latter provided credit enhancement through partial guarantees of a 2006 pass-through loan sale program for Bangladesh Rural Advancement Committee (BRAC), an established Bangladesh microlender. BRAC's first tranche of short-term notes was given internal credit enhancement through over-collateralization, with notes carrying pool claims of 150% of their nominal value. Program issuance may eventually reach Tk12.6 billion (\$183 million), with notes expected to be issued twice annually. The most sophisticated transaction disclosed to date to securitize microfinance claims may be a \$106 million 2006 CLO for Blue Orchid Finance, a specialist lender to microfinance intermediaries, which comprises two tranches with average lives of up to 5 years and which uses a pool of loans to microfinance providers in 13 different states, but unlike the BRAC program, investors in this transaction obtain claims against intermediaries, rather than any ultimate borrowers.

<sup>152</sup> Cambodia provides an excellent example: see Royal Government of Cambodia (2007).

<sup>153</sup> It is common for commercial or subsidized student loans to be funded or refinanced with structured finance techniques, including securitization. The example best known to the capital markets is SLM Corporation or "Sallie Mae," a former government agency that is one of a number of specialist US intermediaries providing student loans with public sector support. Sallie Mae, its affiliates, and similar organizations obtain commercial funding through many markets and financing structures, including substantial student loan ABS programs. Student loans have been packaged and sold as pools on more modest scales by banks and agencies elsewhere, including Korea. Separately, a number of universities in North America and Europe have borrowed in the commercial markets using forward sales of revenue as collateral, for example from student tuition or accommodation fees.



of future tax receipts may provide a funding source for new projects, while the covered bond concept has scope to refinance public sector claims.

These examples share aims that are simple and involve programs that the commercial finance sector is unable or unwilling to create without external assistance. In a global climate of regulatory and systemic reform, such concepts will help regenerate economic securitization in East Asia, with a range of consequent developmental benefits.

In addition, as policy responses develop from 2007's market dislocation, Asia's regulators and governments could usefully consider regional specifications of new or revised global standards for intermediary liquidity, rating agency practice and certification, and Basel II treatment of securitization.<sup>154</sup> In the longer-term it may also be prudent to examine new arrangements among East Asian central banks to share resources to deal with liquidity disruptions involving Asian financial markets or intermediaries.<sup>155</sup> Cross-border financial intermediation in Asia is currently insufficient to make such arrangements a necessity, but if financial market liberalization continues it would be beneficial to consider wide-ranging contingencies in advance of any actual need, as has been shown in the approach to crisis and liquidity arrangements made by the European Central Bank.

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<sup>154</sup> Through the established forums of ASEAN, ASEAN+3, East Asia Summit, APEC finance minister processes, Executives Meeting of East Asia-Pacific Central Banks (EMEAP), and IOSCO's Asia-Pacific committee.

<sup>155</sup> The Chang Mai Initiative (CMI) among ASEAN+3 central banks provides a network of short-term foreign exchange swap lines intended for currency crisis management, the use of which is largely subject to exacting conditions. CMI includes bilateral lines opened by the PRC, Japan, and Korea each with the middle-income ASEAN members that also allow limited securities repurchase agreements, see Arner, Lejot and Wang (2008).

## Appendixes

### Appendix 1. Effects of Financial Market Development on Securitization

Factors influencing the extent of securitization were estimated with a series of linear regressions, using as dependent variables a series of measures of securitization market capitalization and issuance. These included total outstanding structured issues across five asset classes, namely ABS and MBS issues, pfandbriefe, other covered issues, and cash CDOs.<sup>156</sup> Independent variables were:

1. gross domestic product as a measure of economic development;
2. financial market deepening as a proxy for the importance of the financial sector in national economies;
3. an index of rule of law as a proxy for the quality of national legal systems and judicial processes;<sup>157</sup>
4. an index of capital controls as a measure of financial openness;<sup>158</sup>
5. credit creation measured by bank lending to the non-financial sector, the commercial real estate sector, and to residential mortgages as a share of total bank lending;
6. quality of bank lending, as shown by NPLs share of total loans;
7. bank capital adequacy ratios as a measure of the robustness of financial intermediaries.

These estimates were made in each case using annual data for 16 developed and developing economies for 1995–2006.<sup>159</sup> No distinction was made between securitization use and its contractual or legal feasibility in any jurisdiction, so that the results of these estimates should be read in the context of the information given in the table in Appendix 5.

Three sets of regressions were run:

1. Pooled data (combinations of time-series and cross-sectional observations);
2. Panel data (combinations of time-series and cross-section observations taking account of country-specific effects);
3. Regressions with interaction dummy variables to capture differences in projected slopes between the two developed and emerging economy samples.

The regression equations take the following forms:

Without interaction:

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<sup>156</sup> Covered bonds include synthetic (contractual) issues such as those made to date by UK or US issuers see Appendix 3.

<sup>157</sup> The Rule of Law Index is one of six World Bank Worldwide Governance Indicators assembled from many sources. It measures “the extent to which agents have confidence in and abide by the rules of society, in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence” (Kaufmann, Kraay and Mastruzzi, 2007, pages 3–8). Other World Bank data on the control of corruption and regulatory quality were tested as explanatory variables and found to be insignificant.

<sup>158</sup> Controls on capital transactions as published in the Annual Report on Exchange Arrangements and Exchange Restrictions, IMF.

<sup>159</sup> The developed economies are Australia; Canada; Denmark; France; Hong Kong, China; Japan; Singapore; UK and US. Developing economies are the PRC, Indonesia, Korea, Malaysia, Philippines, Thailand, and Viet Nam.

$$Securitization = \beta_0 + \beta X + \varepsilon$$

With interaction:

$$Securitization = \beta_0 + \beta X * EmergingEastAsia + \theta X * DevelopedEconomies + \varepsilon$$

where *Securitization* is total securitization, including ABS and MBS outstandings, *X* represents the independent variables, and *<EmergingEastAsia>* and *<DevelopedEconomies>* are dummy variables for country groupings.

**Table A1.1: Summary of Variables and Expected Signs**

|                            |     |
|----------------------------|-----|
| Gross domestic product     | +   |
| Financial market deepening | +   |
| Bank lending               | +   |
| Rule of law                | +   |
| Capital controls           | -   |
| NPLs                       | +   |
| Capital adequacy           | +/- |

## Results and Interpretation

The three methods show significant results for the developed economies but generally weaker results for emerging East Asian economies. The depth of securitization measured by total securitization, ABS and MBS thus appears to be aligned with the development of financial markets as measured by financial market deepening, selected indicators of credit creation, growth in GDP, aggregate bank capital adequacy and the extent of NPLs. Rule of law and capital controls showed significant but less consistent results for developed economies, and insignificant results for the emerging economies tested.

Estimates for developed economies indicate that financial market deepening contributes positively to the use of securitization, where such deepening is given by the aggregate relative to GDP of bank credit creation and outstanding capitalization of national bond and equity markets. Significant results were found for the emerging economies tested using pooled data for MBS. As financial markets grow in scale and sophistication, so the propensity of intermediaries to engage in credit risk transfer and demand among investors for a broadening range of risks and instruments can both be generally expected to increase. If successful, securitization can be said to lower the transaction costs associated with credit risk transfer and increase the availability of transferable debt instruments.

Significant results were found for the effect of credit creation on total securitization for all economies and on MBS issuance in developed economies. No measure of credit creation had a particular value in explaining growth in total securitization, or either ABS or MBS growth. To the extent that the results indicate that credit creation is positively related to the use of

securitization, the underlying reasons may be associated with transaction arrangers thus having more feasible commercial sources of suitable pool assets or risks.

The estimates also suggest that securitization use increases with economic growth. But it is clear that national institutional factors may hinder its effectiveness or development. This is seen most clearly in the PRC, where despite a record of consistently high growth, the policy, legislative and regulatory setting have to date allowed very few securitization transactions.

A further analysis was made excluding data for US securitization. This seeks to reflect the view of US financial market practices being path dependent upon institutions and circumstances that are unusual or unique at the federal or state level, rather than internationally common.<sup>160</sup> For example, the origins of ABS and RMBS transactions in the 1970s in the US lay in long-standing geographical and commercial restrictions on banks of all kinds that provided strong incentives to disintermediation, and subsequently led to unprecedented growth in activity among nontraditional financial interests.

This would not be inconsistent with the view that innovation in US financial markets may have applications elsewhere in both common law and other jurisdictions, but that US practice may not necessarily be a benchmark for all other states. Thus to the extent that financial innovation in the US results from atypical domestic institutions such as the nature of law and regulation, then the inclusion of US data may have a distorting effect on the regression results.

The results, excluding US issuance, are generally less significant in respect of the developed economy sample, and become insignificant in relation to the emerging economies tested. In this respect, the findings appear to conform with those contained in a recent study of housing finance in 61 states and territories—first, that the depth of housing finance in the economy measured by the share of outstanding residential mortgage debt is on average higher in developed economies, and second, that countries' larger housing finance systems are positively associated with institutions such as legal rights and efficient credit information provisions.<sup>161</sup> This suggests that such institutions favor the making and maintenance of housing finance, whether by intermediaries or through the contractual process offered by securities markets.

These findings are also supported by measures of both the rule of law and cross-border capital controls, each of which was found to be significant for developed economies but insignificant for the emerging economies sample. The rule of law is likely to influence the use of securitization through its effect on investor confidence and market microstructures. Trust in the judicial system for the unbiased enforcement of claims is typically perceived to be weaker in emerging economies than others. It is widely acknowledged that a supportive legal and regulatory framework will help to avoid eroding the contractual integrity of legitimate transactions, for example, so that a transfer of assets is reliable, permanent and may not be disturbed by subsequent claims. However, it must be noted that the rule of law variable is defined in broad terms and lacks precision.

Controls on capital impact negatively on securitization by limiting the extent and diversity of investor participation. The need for prior approval for the purchase or sale of financial assets by nonresidents, withholding taxes on foreign payments or to offshore transactional SPVs, and restrictions on the use of financial derivatives may all discourage cross-border participation in local markets. Limits on trading and transfer will in turn have a limiting effect on securitization,

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<sup>160</sup> See notably Roe (1994), pages 54–59 and pages 94–101.

<sup>161</sup> Warnock and Warnock (2007), pages 14–16.

even though states that discourage foreign participation may still sustain vibrant capital markets: Korea is a prominent example.

The estimates showed a negative relationship between NPL volumes and securitization for developed economies. No effect was seen in respect of the emerging economies tested. This may be explained by differences in national accounting and reporting requirements, notwithstanding harmonization trends in bank regulation and the fact that reported NPLs have generally fallen since the 1997/1998 financial crisis. In the case of the developed economy sample, securitization is traditionally rarely used in respect of NPL recycling in European civil law jurisdictions. Regulatory standards that demand prompt loan loss disclosure and provisioning may have restricted its use elsewhere. A rise in NPL securitization may follow in due course from the deterioration in conditions in residential mortgage lending since late 2006 in the US and other Anglo- American economies.

Taking data limitations into consideration, the bifurcated development of East Asian structured finance reported in this study, with a separation between usage in Hong Kong, China; Japan; Korea; and Malaysia from the PRC, Indonesia, Philippines, and Thailand can be attributed in part to the effectiveness of enabling law. While the results confirm that common law jurisdictions are comparatively felicitous in providing for effective securitization, the example of Korea shows that other jurisdictions can present a highly effective setting for such activity. Future research may wish to explore whether this outcome results from incentives arising from choices in national policy.

**Table A1.2: Selected Pooled Regression Estimates with Interaction Dummies, 1995–2006**

|  | Dependent Variable:<br>Asset-Backed Securities |                        | Dependent Variable:<br>Mortgage-Backed Securities |                        | Dependent Variable:<br>Mortgage-Backed Securities |                        |
|--|--|------------------------|---|------------------------|---|------------------------|
|  | Emerging<br>East Asian<br>Economies            | Developed<br>Economies | Emerging<br>East Asian<br>Economies               | Developed<br>Economies | Emerging<br>East Asian<br>Economies               | Developed<br>Economies |
| Bank Lending to<br>Corporate Sector / Total<br>Loans | 0.011<br>(0.251)                               | 0.011***<br>(6.069)    | -0.193<br>(0.775)                                 | 0.423***<br>(5.180)    | 0.005<br>(0.074)                                  |                        |
| Nonperforming Loans/<br>Total Loans                  | 0.497<br>(0.630)                               | -6.048***<br>(8.151)   |   |                        | -0.253<br>(0.084)                                 | -79.181***<br>(6.898)  |
| Capital Adequacy Ratio                               | 0.646<br>(1.072)                               | 1.961***<br>(5.356)    |   |                        | -0.068<br>(0.022)                                 | 24.550***<br>(5.314)   |
| Log Gross<br>Domestic Product                        | 9.758**<br>(3.176)                             | 8.081***<br>(5.027)    | 149.893<br>(1.839)                                | 17.161<br>(0.252)      | -2.939<br>(0.134)                                 | -38.927*<br>(2.537)    |
| Financial Market<br>Deepening                        |  |                        | 0.165<br>(0.345)                                  | 2.166***<br>(3.942)    |   |                        |
| Bank Lending to<br>Commercial Real<br>Estate         |  |                        |   |                        | 1.817***<br>(41.432)                              |                        |
| Constant   | -60.006***<br>(5.200)                          | -796.653*<br>(1.994)   | 19.565<br>(0.203)                                 | -60.006***<br>(5.200)  | -796.653*<br>(1.994)                              | 19.565<br>(0.203)      |
| Adjusted R-squared                                   | 0.739  | 0.493                  | 0.952   | 0.739                  | 0.493   | 0.952                  |
| Observations   | 96   | 124                    | 149   | 96                     | 124   | 149                    |

Notes:

Parentheses denote t-values in absolute terms.

\* significance at the 10% level.

\*\* significance at the 5% level.

\*\*\* significance at the 1% level.

Source: <http://www.asianbondsonline.com> (accessed 15 December 2007).

**Table A1.3: Complete Pooled Regressions Estimates with Interaction Dummies, 1995-2006**

|  | Dependent Variable:<br>Asset-Backed Securities |                        | Dependent Variable:<br>Mortgage-Backed Securities |                         | Dependent Variable:<br>Mortgage-Backed Securities |                         |
|--|--|------------------------|---|-------------------------|---|-------------------------|
|  | Emerging<br>East Asian<br>Economies            | Developed<br>Economies | Emerging<br>East Asian<br>Economies               | Developed<br>Economies  | Emerging<br>East Asian<br>Economies               | Developed<br>Economies  |
| Bank Lending to<br>Corporate Sector /<br>Total Loans | -0.197<br>(0.980)                              | 0.166<br>(1.880)       | 1.213<br>(0.182)                                  | 28.861***<br>(11.087)   | 1.736<br>(0.471)                                  | 27.730***<br>(14.791)   |
| Nonperforming Loans /<br>Total Loans                 | 0.638<br>(0.479)                               | -6.526***<br>(7.767)   | 4.921<br>(0.471)                                  | -253.831***<br>(10.544) | 1.273<br>(0.171)                                  | -261.782***<br>(11.926) |
| Capital Adequacy Ratio                               | 0.549<br>(0.706)                               | 2.560***<br>(6.212)    | 3.656<br>(0.349)                                  | 75.971***<br>(6.403)    | 2.102<br>(0.225)                                  | 68.910***<br>(6.670)    |
| Log Gross Domestic<br>Product                        | 8.798<br>(1.777)                               | 17.346***<br>(11.653)  | 41.798<br>(0.512)                                 | 469.237***<br>(11.841)  | 28.503<br>(0.447)                                 | 514.438***<br>(18.438)  |
| Financial Market<br>Deepening                        | -0.015<br>(0.656)                              | -0.024*<br>(2.172)     | -0.007<br>(0.019)                                 | 1.058***<br>(3.166)     | -0.043<br>(0.128)                                 | 0.871**<br>(2.767)      |
| Rule of Law (Log/Level)                              | 0.219<br>(0.706)                               | -0.637<br>(1.486)      | 1.691<br>(0.405)                                  | -45.703***<br>(7.891)   | 0.448<br>(0.132)                                  | -49.718***<br>(12.361)  |
| Capital Controls<br>(Log/Level)                      | 16.529<br>(0.689)                              | 25.980**<br>(2.884)    | 26.816<br>(0.112)                                 | 895.966***<br>(3.622)   | -38.093<br>(0.203)                                | 1041.964***<br>(5.001)  |
| Constant   | -67.175<br>(1.604)                             |                        | -486.185<br>(0.987)                               |                         | -262.078<br>(0.807)                               |                         |
| Adjusted R-squared                                   | 0.716  |                        | 0.843   |                         | 0.839   |                         |
| Observations   | 96   |                        | 123   |                         | 147   |                         |

Notes:

Parentheses denote t-values in absolute terms.

\* significance at the 10% level.

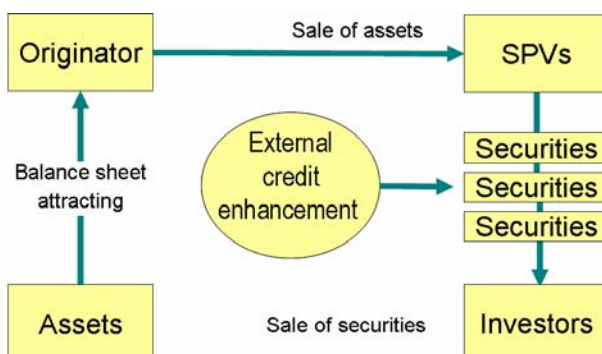
\*\* significance at the 5% level.

\*\*\* significance at the 1% level.

Source: <http://www.asianbondonline.com> (accessed 15 December 2007).

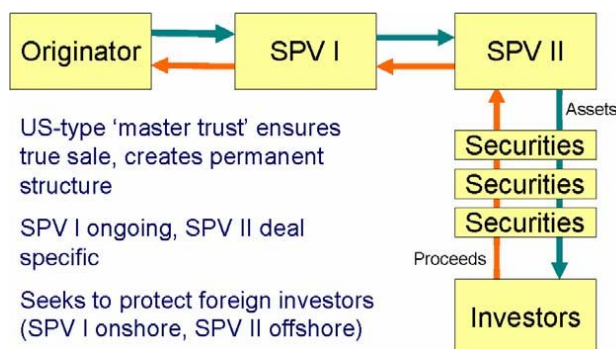
## Appendix 2. Cash and Synthetic Generic Transactions

**Figure A2.1: Generic Cash Securitized Transaction**



Financial assets are sold by their originator to an insubstantive SPV in a shared domicile,<sup>162</sup> and simultaneously resold to a second offshore SPV that in turn funds the purchase, immediately or after a short period for asset accumulation, with an array of new securities enjoying direct claims of varying seniority over all or part of the pool of assets (Figure A2.1).

**Figure A2.2: Generic Structure Using Sequential SPVs**



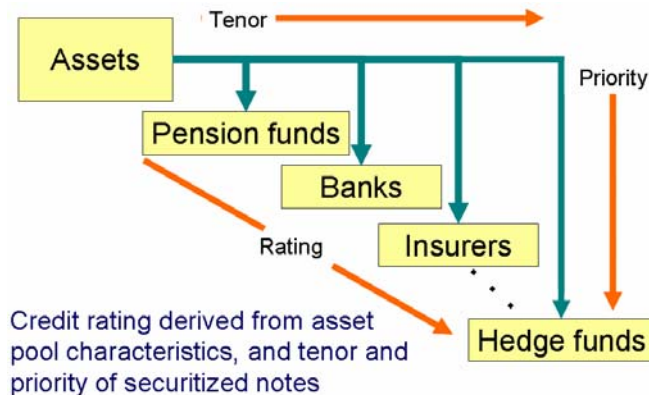
In Figure A2.2, “cross-border” indicates the use of SPVs remote from the source assets, located offshore as a means to safeguard an irrevocable asset transfer. Securities created with the sale may be acquired at issue or later by any investor, whether or not of the same domicile from which subject assets are first sold.

Qualifying assets may include impaired assets, commercial mortgage loans, corporate loans and major lease receivables. Asset servicing becomes independent of the originator. The originator may continue to deal commercially with any ultimate debtor except in cases involving impaired assets but may not usually derive ongoing economic benefits from claims becoming subject to the sale.

<sup>162</sup> The domestic domiciled SPV.



**Figure A2.3: Credit Rating & Risk-return Trade-off**

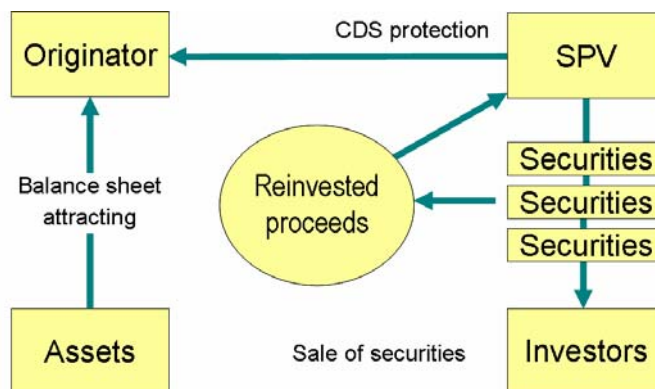


Securities (typically notes, bonds or commercial paper) are issued in tranches to meet required target credit ratings and the risk-return preferences of various segmented classes of investors while extracting the fullest economic use of pool cash or proceeds.

Value is first extracted from the asset pool internally. External sources of credit then provide additional tangible contingent support such that each series of bonds meets a target initial credit rating. This is achieved through iterative consultation between transaction arrangers and at least one rating agency.

Such external backing is facilitated by additional third party support, for example by means of funded or contingent capital, guarantees or dedicated insurance. It may cover defaults within the collateral pool or an entire transaction, and in cross-currency transactions will include specific credit support to induce the participation of a currency swap counterparty.

**Figure A2.4: Generic Synthetic Securitized Transaction**



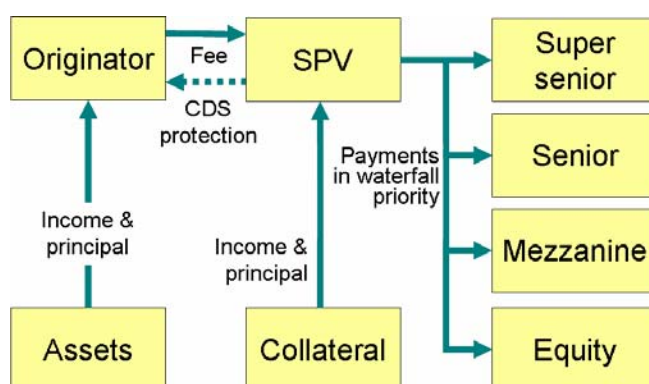
Synthetic transactions achieve one facet of cash transactions by providing originators with credit risk support through an array of credit derivatives, thus altering the risk composition of the source balance sheet. Investors thus enter a transaction with different legal rights from a cash securitization, but which may fully replicate the risk-return qualities of one or more tranches of such a transaction.

This generic example is a template for more complex deals. Proceeds from the sale of securities are devoted to buying credit protection structured to meet the expected risk performance of the originator's asset pool. In effect, the originator buys bespoke credit protection funded by the sale of an irrevocable interest in its risk portfolio.

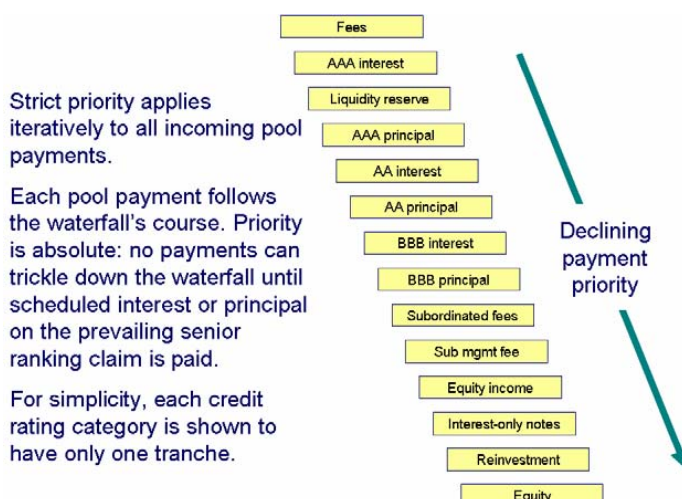
Assuming identical regulatory treatment, the significant difference in transaction economics between cash and synthetic deals is that the proceeds of the sale of securities remain within synthetic transactions and can assist in servicing the claims of investors, for example by making or replenishing a cash reserve for scheduled payments.

The transaction economics of synthetic structures are aimed to a greater extent than cash deals towards credit rating augmentation. This requires an array of CDS, and a diversified investor base that allows the sale of deeply subordinated tranches, or "equity". In many cases prior to the 2007 market dislocation, these most junior claims would be retained by the originating bank, and thus erode the regulatory capital advantages of the overall transaction. Basel II removes the incentive for this approach in all but the most extreme cases, for example, a highly over-capitalized closely-held bank.

**Figure A2.5: Generic Synthetic CDO**



**Figure A2.6: CDO Payment Waterfall**



### Appendix 3. Covered Bonds

This form of secured finance is widely seen as related to securitization. It has long been used in Denmark and Germany, and with incentives created by EU Directives, is now popular elsewhere in Western Europe and certain transition states. Covered bonds share two main objectives of cash securitization: to assist in funding by financial intermediaries, and provide relatively homogeneous risks to investors. However, they are distinct in creating a security interest for investors. Covered bond holders obtain preferential rights over pools of claims that remain funded assets on the balance sheet of the originating intermediary. Those assets “cover” the new transaction as dedicated collateral, without the irrevocable transfer associated with securitization.

Covered bonds (first known in Germany as “pfandbriefe”) typically offer a funding cost advantage compared to securitized transactions since bond holders retain rights of recourse to the originator. As a result, conventionally they require less intensive structuring or credit enhancement.<sup>163</sup> Importantly, covered bonds are customarily associated with substantive intermediaries or their guaranteed subsidiaries, but may involve the use of SPVs, usually as a function of the operation of law. In contrast to cash securitizations, such vehicles will often be substantive in having dedicated management and administrative resources.<sup>164</sup>

Covered bonds are primarily associated with European civil law jurisdictions. They resulted from legislation supporting development and social policy objectives begun in Denmark from 1850 in Germany from 1900 and more recently encouraged by an EU Directive in 1988.<sup>165</sup> Most create collateral pools from residential mortgages or loans made by specialist lenders for public infrastructure purposes. Since 2002, the market’s accelerated growth has resulted largely from incentives created by several further EU Directives. Total covered bond outstandings in Europe exceeded €1.8 trillion (\$2.35 trillion) as at end-2005, with German issues accounting for approximately 60% of the total.<sup>166</sup> Denmark, France, Spain and Sweden also saw significant new issue volumes. Gross European issuance was approximately €475 billion (\$620 billion) in 2005, with Germany and Denmark contributing the largest amounts.

The major distinction between covered bonds and securitization is conceptual, as a secured loan rather than the sale of future claims. Covered bonds require no transfer of pool assets to an SPV, although certain states stipulate that pool loans be housed in a dedicated subsidiary. In Europe, covered structures have assumed an importance and scale similar to the US RMBS market, but the concept is not entirely unknown elsewhere: secured loan transactions have been used elsewhere as funding tools, for example by the Federal Home Loan Banks in the US. As an historical idea, the covered bond was first associated with the needs of public policy, or public lending intermediaries, which have been common in different forms to most advanced economies.

The EU’s Consolidated Banking Directive and Capital Requirements Directive (implementing Basel II) now encourage investment in covered bonds by allowing EU bank holders a 10% risk asset weighting if the bonds meet UCITS conditions. Other rules permit covered mortgage

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<sup>163</sup> “Structured” covered bonds simulate the generic “cash” form as a contractual solution for issuers domiciled in jurisdictions lacking suitable enabling legislation. As at 30 June 2007 this included the Netherlands, UK, and US.

<sup>164</sup> For example, French covered bond law effectively requires that pool assets subject to covered issuance be held and administered in a separate “new” bank.

<sup>165</sup> Directive on Undertakings for Collective Investment in Transferable Securities (UCITS), 1985.

<sup>166</sup> Source: European Covered Bond Council.

bonds that conform with national laws to be used as central bank borrowing collateral in the same way as sovereign bonds.<sup>167</sup> Others exempt covered issues from prudential limits to risk concentration. Almost all EU Member States have enacted covered bond legislation, including common law Ireland. The UK is likely to introduce similar enabling legislation in 2008: until now, UK issuers have used structured transactions to simulate traditional covered bonds, but at a marginal cost disadvantage.<sup>168</sup> Nonetheless, the scale of UK issues has been notable since the first issue in 2003. Two substantial US mortgage lenders issued structured covered bonds in Europe in 2006–07, but without interest among domestic US investors.

Recent price and liquidity disruptions have not neglected the covered bond market, in spite of claims to the contrary.<sup>169</sup> However, with changes in investor preferences made apparent in the 2007 credit crisis, as international bodies consider regulatory responses, and as Basel II alters potential securitization transaction economics for most loan originators and in a range of states, the major capital markets may find a greater prominence for the covered structure, with transactions that combine certain advantages from both securitized and covered issues. This has become a feature of the covered bond market in Spain, and after the return of generally normal conditions may be adopted more widely. Creating a covered tranche within a securitized transaction alleviates the need for aggressively tiered payment priorities among the classes of issue that make up the overall transaction. The covered tranche replaces all or part of a super-senior tranche, and thus allows more pool value to percolate to the more junior ranked notes.

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<sup>167</sup> This dispensation was afforded from its inception by the European Central Bank, but only adopted in extremis by the Bank of England in September 2007.

<sup>168</sup> See H. M. Treasury and Financial Services Authority (2007). Legislation would grant regulatory capital treatment to holders of covered bonds in the form specified in various EU directives and thus remove the current cost disadvantage to potential UK covered issuers.

<sup>169</sup> BIS analysts claim that  
the valuation of covered bonds in recent years has been rather robust to shocks to both issuer creditworthiness  
and the value of the underlying collateral.

Packer, Stever and Upper (2007) page 43. However, the study fails to assess price or liquidity reactions of outstanding covered bonds or the feasible pricing of new issues following major disruptions. In one example (International Financing Review 2007b):

After weeks of secondary illiquidity with covered bond traders defecting from their posts, all hopes had been firmly placed with the primary side to bring stability. [...] In an environment where traders were struggling to call the correct market level, a repricing was almost inevitable.

## Appendix 4. Enabling Legislation and Regulation

The following table lists major national reforms to assist securitization.<sup>170</sup>

**Table A4: Enabling Legislation and Regulation**

|                         | Years of enactment or proclamation   |
|-------------------------|--|
| China, People's Rep. of | Major bank sector securitization legislation under preparation 2007-08. Limited trial deals permitted by banking and securities regulators in 2006-07.   |
| Hong Kong, China        | Permissive legal framework, except for conflicts with bankruptcy laws arising in certain future flow transactions.   |
| Indonesia               | Pre-1997 securitization decrees.<br>2002-03 securities regulator guidelines.   |
| Japan                   | Perfection Law 1998.<br>Asset Liquidation Law 1998/2000.<br>Trust Business Law (Amendment) 2004.   |
| Korea, Rep. of          | 1998 Asset-backed Securities Law.<br>1999 Mortgage-backed Securities Law.<br>2003 Korea Housing Finance Corporation Law.   |
| Malaysia                | Generally permissive common law legal framework, except for future flow transactions.<br>Well-established legal framework for Islamic securitized issues.  |
| Philippines             | 2002 Special Purpose Vehicle Act, Republic Act No. 9182, enacted 2003.<br>2004 Securitization Act, Republic Act No. 9567 (largely untested).<br>Implementing Rules and Regulations (2005) over credit rating requirements and the use of SPVs. |
| Singapore               | Permissive legal framework, except for conflicts with bankruptcy laws arising in certain future flow transactions.<br>Highly supportive REIT regulatory code 2001-05, Business Trust Act 2004.   |
| Thailand                | 1997 securitization decree.<br>2003 Asset-backed Securitization Act.<br>2004 Special Purpose Vehicle Act.  |
| Viet Nam                | None.  |

<sup>170</sup> See Arner, Booth, Lejot and Hsu (2007), and Kilner, Avanzato, Oddy and Hartnett (2006).

## Appendix 5. Provisions for Securitization

**Table A5: Assessment of Prevailing Securitization Market Conditions (“5” = excellent)**

|                  | Sale, assignment or other conveyance of assets to securitization vehicles     |  |   |   | Creation and operation of SPV                                  |                                    |   | Other |  |
|------------------|---|--|---|---|--|------------------------------------|---|-------|--|
|                  | Legal framework for creating, transferring and perfecting ownership interests | Restrictions on types or terms of financial assets that may be transferred | Taxation and capital gain recognition issues by the SPV | Default, foreclosure, repossession at the level of source individual assets | Legal and regulatory impediments (e.g.; bankruptcy remoteness) | Taxation or licensing requirements | Restrictions on securitization vehicles issuing multiple tranches |       |  |
| Hong Kong, China | 5   | 5  | 4   | 5   | 5  | 5                                  | 5   |       |  |
| Indonesia        | 2   | 2  | 2   | 2   | 1  | 2                                  | 2   |       |  |
| Korea, Rep. of   | 5   | 4  | 3/4   | 4   | 5  | 5                                  | 5   |       |  |
| Malaysia         | 5   | 4  | 4   | 3/4   | 4  | 4                                  | 5   |       |  |
| Philippines      | 2/3   | 2/3  | 1/2   | 2/3   | 2/3  | 1/2                                | 2/3   |       |  |
| Singapore        | 5   | 5  | 5   | 4   | 5  | 5                                  | 5   |       |  |
| Thailand         | 3/4   | 3  | 3/4   | 3/4   | 2/3  | 4/5                                | 2/3   |       |  |

Table A5 gives an assessment of prevailing securitization market conditions across selected regional economies.<sup>171</sup> The table's assessments of the effectiveness of enabling legal provisions (column 2), the enforcement of foreclosure or repossession of source assets (column 5), and ongoing threats to the integrity of transfer of assets to a SPV (column 6) are in each case based on transactional evidence and appraisals of governing laws. The PRC and Viet Nam have been excluded from the table due to policy decisions to withhold full support from market development. In addition, the PRC's recent bankruptcy and property legislation and the ongoing process of regulatory implementation make the treatment of these issues indeterminate, even were transactions to become more freely permitted.

In most jurisdictions transactional integrity has yet to be tested through a complete credit cycle. This would apply even in common law jurisdictions such as Singapore and Hong Kong, China, for example, in relation to new rules permitting the creation of REITs, although in each case the probability is small that a completed transaction would be successfully challenged.<sup>172</sup>

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<sup>171</sup> See also Arner, Booth, Lejot and Hsu (2007).

<sup>172</sup> One substantial public sector REIT transaction in Hong Kong, China for The Link Real Estate Investment Trust was subject to litigation that sought to prohibit its launch. Completion eventually took place in November 2005.

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##### State of Delaware:

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- Home Ownership and Equity Protection Act 1994. 15 U.S.C. §§1601-1667.
- Sarbanes-Oxley Act 2002. 15 U.S.C. §§ 7201 et seq.
- Secondary Mortgage Market Enhancement Act 1984. P.L. 98-440, 12 USCS §§1701 et seq.
- Truth in Lending Act 1968. 15 U.S.C. §1641.

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## About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two thirds of the world's poor. Nearly 1.7 billion people in the region live on \$2 or less a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance. In 2007, it approved \$10.1 billion of loans, \$673 million of grant projects, and technical assistance amounting to \$243 million.

## About the paper

Paul Lejot, Douglas Arner and Lotte Schou-Zibell examine the use of securitization in East Asia, questioning both its growth after the Asian financial crisis and the reasons for it remaining constrained. Proposals for proper development of securitization in the region are also discussed especially in meeting funding and investment needs of the real economy rather than to propagate excessive risk-taking or regulatory arbitrage of the kind seen in 2007.