

Comparative Study of Risk Assessment, Management and Pricing of CMBS (Commercial Mortgage-Backed Securities) in Indian and other Asian Markets

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ABSTRACT

Recent global financial crisis brings slowdown in the global real estate markets and lack of funding brought forward tough economic conditions before the major global players as well as Indian real estate developers. They were either postponing their projects or unnecessarily delaying them. It is very difficult to get finance for their projects.

Indian developers can not solely depend on the finance through the banks and other financial institutions. To this extent, a thriving CMBS market in India would, in addition to augmenting the domestic investor base, allow foreign investors to invest in the Indian property boom, something they have been hither to unable to do on a large scale due to stringent Foreign Direct Investment (FDI) norms. Moreover, it will provide a more secure form of financing for developers in India. Through this research will assess the various risks which are associated with Commercial Mortgage backed securities (CMBS). A thorough study will be undertaken that how they (CMBS) were managed in the various Asian countries like China, Japan, Singapore, Korea, Taiwan, Hong-kong etc. How CMBS can provided an alternate source of financing to the real estate developers and how the pricing of these securities were done. Comparative study with the various countries will help in highlighting the usefulness and way to manage this new form of financing.

Introduction:

The recent global financial crisis was underline by a slump in global real estate markets, and brought forward the limitations of a lack of funding options in tough economic conditions. As traditional routes of debt and equity financing dried up, real estate developers in India found themselves struggling to obtain finance to complete commercial projects in progress. Major developers such as DLF and Unitech were amongst those announcing delays and postponements.

The lesson taught by those incidences is that in a mushrooming real estate market like India, the financing base for the supply side needs to be broader. India's emergence as a global financial power will create significant demand in the country for office space, particularly for IT/ITeS and Banking/Financial Services/Insurance (BFSI) sector companies. Similarly, the expected boom of organized retail in India will generate significant demand for mall space. Faced with such demand, developers in India cannot continue to rely as heavily as they do on largely domestic sources of financing, which particularly lately are under the scanner due to the emergence of lending scams such as the corporate loan scam. To this extent, a thriving CMBS market in India would, in addition to augmenting the domestic investor base, allow foreign investors to invest in the Indian property boom, something they have been hither to unable to do on a large scale due to stringent Foreign Direct Investment (FDI) norms. Moreover, it will provide a more secure form of financing for developers in India. Currently, lenders in India secure themselves from default via processes such as Lease Rental

Discounting and Sales Proceeds Escrows. Under lease rental discounting, the quantum of debt issued is determined by discounting expected lease revenue from projects that the debt is intended to finance. Similarly, lenders also insure themselves from default by insisting that the borrowing entity maintains an escrow of sales proceeds so as to prevent them from squandering such proceeds. However, both these common processes are not bankruptcy remote to the developer. This is different from CMBS transactions, in which the borrower can be provided with bankruptcy remote status.

CMBS Process:

Origination

The life of a CMBS transaction begins with commercial loans that are originated by local or regional banks for the purpose of either financing fresh commercial purchases or refinancing existing commercial mortgages. Loans backing CMBS transactions tend to be balloon loans, which entail substantial principal payments upon maturity.

The CMBS process kicks off after originator bank(s) sell commercial loans to an accumulator bank. The accumulator bank pools loans from originator bank(s), structures mortgage portfolios and transfers the same to a Special Purpose Vehicle (SPV). This transfer is completed in the form of a bankruptcy remote transaction, which means that in the event of the accumulator or originator bank encountering bankruptcy or other financial difficulties, investors' rights to the assets acquired by the SPV remain unaffected.

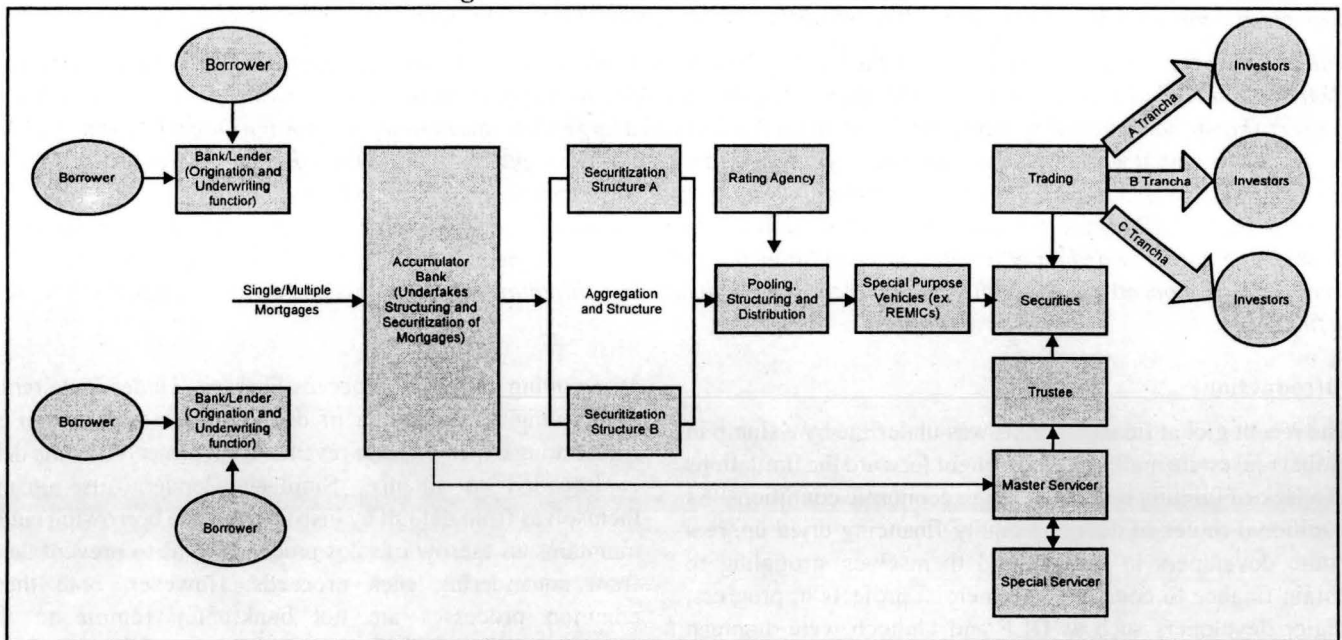
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SPVs are created only for the purpose of the transaction, and hold the assets for investors whilst issuing them securities. Hence, SPVs represent pass through entities that do not record liabilities on their balance sheets. SPVs in turn transfer the mortgage documents to a trust, which is tasked with responsibilities such as calculating monthly bond payments to bond holders. The majority of SPVs in the US are structured as

Real Estate Mortgage Investment Conduits (REMICs). REMICs are a product of US tax laws that allow the trust to be formed as a pass-through entity that is not levied tax at the trust level. CMBS transactions are typically structured and priced based on the assumption that REMICs will not be taxed with respect to their activities. Hence, following REMIC regulations is essential in the US.

Fig: Process Flow of CMBS Transaction



Source: CMBS Securitization in India, by K. Sabharwal, 2011

CMBS in India

Securitization, as a process, is not alien to the Indian financial markets. Residential mortgage loans and auto loan securitization instruments have been present in the market since the early 1990s. The market today, although still largely a private placement note market, has developed in the areas of debt trenching, prepayment protection and issuance of rated paper. More recently, there have been securitization deals pertaining to infrastructure, project finance, lease receivables, CMBS and CDO style issuances. Because securitization in India is conducted in largely a private placement market, it is difficult to access accurate information. In 2007, about 65% of the securitized assets were originated by banks, with the remainder originated by non-bank financial institutions. Moreover, non-mortgage backed securitization constituted around 65% of this market. The regular asset backed securitization that we see in the Indian financial system occurs in the domain of corporate loans, personal loans, auto loans and commercial vehicles. Single corporate loan securitization in 2007 amounted to USD 3 Billion, an amount that could triple this year. Recently, Single Loan Sell Downs (SLSDs) have become a preferred option for banks to transfer and

increase liquidity. SLSDs are formed from loans that are funded either by banks or non banking financial companies (NBFCs), and which are sold down to third party investors via an SPV. Earlier, SLSDs were funded as three year loans, and subsequently sold down as one year Pass Through Certificates (PTCs), thus resulting in interest rate arbitrage.

However, as arbitrage margins have eroded, these instruments have evolved to become sources of capital rising, and are particularly prominent in sectors where lending limits are stringent, an example being real estate.

Literature Review:

Several studies have looked at Mortgage-Backed Securities and their pricing models. Most works, however, have focused on residential products (i.e. Residential Mortgage-Backed Securities or RMBS), which represent a much wider market than the commercial one [see Chen, Roll, and Ross (1986), Campbell and Ammer (1993), Elton, Gruber, and Blake (1995), and Xu and Fung (2005)]. Nevertheless in the recent past, the research focus is moving to the more profitable and sophisticated market of Commercial Mortgage-Backed Securities (i.e. CMBS), which shows a less risky structure for

very attractive returns (if compared with RMBS products, especially considering the high proportion of sub-prime lending securitized in the latter).

Previous research primarily focuses on dynamic pricing models to study different CMBS features. Kau and Keenan (1995) analyze the price of CMBS products by structuring the right of prepayment as an American call option on the riskless debt, and the default option as an European compound put option on the underlying collateral. Modeling these options using the risk free rate, the real estate value and time to expiry, they compute the price of the mortgage and consequently the insurance to hedge against the risk of default. Other articles use real options to price CMBSs [please see Kau et al. (1987, 1990), Phelim and Vorst(1992) and Titman and Torous (1989)], but Fabozzi (1989) shows that this approach is very complicated to be implemented and that an approach based on a Montecarlo simulation may be parsimonious and then more useful [see also Childs et al.(1996) and Snyderman (1994)].

Several models showed that CMBS pricing is driven by several factors that are linked to the structure of the issued securities (i.e. tranching, average maturity, duration, debt service ratio, loan to value, etc.) and the behavior of the economy and of financial markets (i.e. yield curve, term spreads, economic growth, performance in other asset classes, etc.). Xu (2007) uses a VAR model on macroeconomic and financial variables trying to identify the most important driving factors of returns in investment grade and high yield CMBSs. Furthermore, Maxam and Fischer (2001) use a linear regression model to define the price of a CMBS and the Kernel density estimator to predict the joint density of the price of a CMBS during its life. Using data on 40 CMBS issues between 1994 and 1996, they conclude that CMBS tranches are sensitive to default risk, which justifies their premium above the benchmark.

Statement of the Problem:

Unlike traditional corporate bonds, which are not secured, securities created in a securitization transaction are "credit enhanced," which means that they have a higher credit rating than do the originator's unsecured debt or the underlying asset pool. CMBS securities are assigned credit ratings by rating agencies, which are private organizations that evaluate the creditworthiness of securities. In order to segregate securities according to riskiness for the investor, the mortgage pool is divided into pieces called "tranches," which represent the creditworthiness of different securities. Each tranche exhibits different risk characteristics, and consequently, investors in each tranche earn different rates of interest. The highest-rated tranche typically features an AAA rating, and will earn the lowest interest rate. This represents the inverse relationship

between credit rating and interest rates, wherein the highest rated securities attract the lowest interest rates. This is because holders of the highest rated securities are the first to receive mortgage payments, with subordinate holders next in line in decreasing order of credit rating. Consequently, in the event of defaults and delinquencies on interest and principal payments, holders of the lowest rated tranche of securities, also known as the "first loss piece", are the first to make losses on investments. There also may be one or more intermediate tranches.

Given the growth of the CMBS market, its present and potential importance as a vehicle of financing to the real estate developer and investors, and the development of regulations to govern these securities it was felt important to assess the role of regulation in adding value for the investor. Have the regulations ensured due diligence, transparency and sound securities selection? Have the dynamics of this market led to the necessity for change in regulations? Is the present form of CMBS based market and its performance information dissemination adequate? These are some of the questions that the present study attempts to answer.

This is sought to be done by examining the ability of regulations to: ensure proper performance disclosure; better management of financing to real estate projects; control costs of operation; prevent excessive management fees and be proactive in tackling issues that arises later on.

Scope of the Study:

Primary focus of the study is to evaluate the feasibility of the Commercial Mortgage based securities in the Indian real estate market. Up till now barely 2.75 percent of the financing is done through these type of securities in Japan so it is important to evaluate these securities in terms of its cost of operation and complications. As these securities were secured form of investment so it is important to create more awareness amongst the investors. Through the comparative study with various other Asian markets a complete picture can be obtained and to be put forward before the investors that how this new form of financing is important. Data of last Ten year will be taken as base to compare (2002-2013).

Objectives:

1. To provide framework for assessing and communicating risk in real estate market investment for the establishment of CMBS market.
2. To study the process of CMBS in detail and how it is working in the various Asian market.
3. To study how CMBS will help in taking informed decision related with the real estate market in Indian and Asian market.

Sample Size:

Secondary data was collected for the purpose of the study. For comparison data of real estate market of the China, Japan, Korea, Taiwan, Singapore, Hongkong, Malaysia etc were taken.

Statistical Techniques

Based on the data collected percentage analysis, cross tabulation were used for statistical analysis.

Analysis:

The growth of the CMBS market as a funding source and as an investment option is attributable to its advantages of lower pricing, improved liquidity, diversification of lenders, non-recourse to the parent company, release of value while retaining future growth potential, and off-balance sheet

financing in comparison to bank financing. Jones Lang LaSalle (2001) illustrated the potential of CMBSs being a cheaper and alternative debt financing option for companies with property exposure. They further added that CMBSs offered investors advantages of insolvency remoteness, greater diversification, and greater transparency. Roche (2000), Blundell (2001) and Morrison (2001) also stated the advantages of CMBS over traditional bank financing as cost effectiveness, flexible arrangement, and longer repayment timeframes that closely match the long-term nature of property investment. The Reserve Bank of India (2006) also noted that

increased supply of CMBS, with a range of subordination, has broadened the investor base in real estate debt markets and reduced the commercial property sector's dependence on bank financing.

Table: 1

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Diversified	1	2	11	7	7	14	13	14	16	14	8	7	10	11
Industrial	4	3	6	12	4	3	0	7	10	12	18	9	13	12
Office	0	3	4	5	9	10	11	14	12	12	19	12	15	14
Retail	0	0	15	9	0	8	18	19	9	12	8	12	18	13
Total	5	8	36	33	20	35	42	54	47	50	53	40	56	50

A cogent review and explanation of features of international and Indian CMBSs helps to understand the changing nature of the market. Using the historical approach, a researcher endeavours to record and understand events of the past. In turn, interpretations of recorded history hold to provide better understanding of the present and suggest possible future

directions (Baumgartner & Hensley 2005). As such, the evolution of Indian CMBS is analysed and compared to that of the US and EU. Detailed research on the CMBS market structure and issue details add to its promotion as major commercial debt fund instrument.

Table :2

Features	India	United State	European Union
Market Size	Rs. 14.27 million worth issued in 2011, 6% of the India Market.	US \$310 billion issued in 2009, around 35% of ABS market.	120 transactions worth 124.75 billion in 2009
Underlying Collateral	Retail and office supported issues dominated 8.3% of the total sector.	Retail and office backed issues dominant at 25% each in 2009	Office 29%, retail 34% and multifamily 37% in 2009.
Rating Tranche	27% in AAA category by 2009, 53% AA ⁺ category	Well matured market with A rated and B-rated notes issued.	54% in AAA category; 14.2 billion worth of non-investment notes by 2008

Interest Type	31% floating rate, 69 % fixed rate notes.	72% floating rate notes and 28 % fixed rate notes.	81% floating rate notes and 19% fixed rate notes.
Tranche Distribution	68% single borrower transactions.	84% conduit transactions and 16% large loans	64% conduit and 36% single borrowers in 2010
Spread Trends	AAA less than five year spread at 15-20bps AAA more than five year 20-25bps	Downward trend	Spread tightened
Performance	20% credit rating upgrades, 12% downgrades and 68% affirmations till 2009	41% credit rating upgrades, 5% downgrades and 54% affirmations in 2009	9.4% credit rating upgrades and 7.6% downgrades in 2009
Others Features	Not available	True sales structures dominate Typically 5-10 year note tenure	85% synthetic and 15% true –sale structure in 2008 UK traditionally the dominant jurisdictions.

Comparison with conventional financing methods

Compared with the traditional bank mortgages financing, CMBS has its unique advantages. Because the bonds are backed by tangible assets rather than the credit-rating of a

corporate borrower, rates are lower. CMBS is a non-recourse loan to the issuer as it is fully secured by the underlying property asset.

Table: 3 Examples of Financing Methods by the Developers

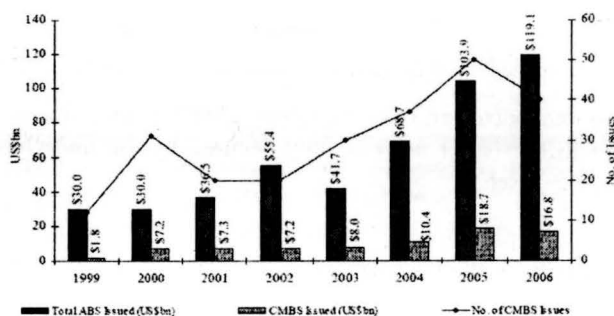
Methods	Bank Loan	Share Placement	CMBS
Examples	DLF Property in June 2006 raised Rs. 2500 cr. Through a five year unsecured syndicated loan at interest rate 35 bps over LIBOR	OMAXE in January 2010 raised Rs. 560 cr. Through a share placement	3C property in September 2009 raised Rs. 292 cr. Through securitization of three commercial properties.
Advantages	Easy and Quicker in arranging finance; lower arranging cost	No Interest cost, Fast and Efficient to raise capital	Lower interest rates; Non-recourse to originator; Release value of assets and retain future growth potential; Lenders diversification
Disadvantages	Interest exposure cut into earning; Require higher corporate rating Stringent loan covenant	Dilution effect in both earnings and net asset value per share; Unfavorable in a depressed stock market	Complex deal structure; Costly funding arrangement

CMBS Market of other Countries

Japan

For the period 1999 to 2006, a total of over AU\$98.3 billion (US\$77.4 billion) worth of CMBSs were issued, representing nearly 16% of total ABS issuance over the same period. During 2006, 40 CMBS deals were launched in Japan, with issuance of over AU\$21.3 billion (US\$16.8 billion or JPY1.4 trillion), a slight decrease from 2005. This was mainly due to a decrease in significant refinancing deals that totalled approximately AU\$6.1 billion (US\$4.8 billion or JPY400 billion). Coupon spreads of CMBS widened during the first half of 2006, especially for 'AAA' rated notes. No transaction was downgraded in Fitch-rated Japanese CMBS deals in 2006 (Fitch Ratings 2007c). Figure shows CMBS market issuance by amount and size as a percentage of the overall securitisation market trends from 1999 to 2006.

Fig: Japanese CMBS Market



Source: Various Fitch Ratings Structured Finance Year Review and Outlook Reports 1999 - 2006

CMBSs backed by non-performing commercial property loans have played a major role in the development of multi-borrower transactions. However, single asset transactions are the dominant CMBS vehicle.

South Korea

The securitisation market in South Korea is dominated by asset backed securities mainly of consumer finance receivable-backed securities with the CMBS market largely underdeveloped. It is anticipated that with the establishment of Corporate Restructuring REITs (CR-REITs) and Korean REITs (K-REITs), the CMBS market will grow. The KREIT is an ordinary REIT, while the CR-REIT is a special vehicle created to transform the unproductive properties of a restructured company into liquid assets. It is anticipated that the CR-REITs and K-REITs will use CMBSs as a funding source.

Singapore

Singapore offers one of the most vibrant securitisation markets

in the Asian region. The driving forces have been the improving macro-economic dynamics; favourable legal and regulatory framework; relaxed leverage requirements; stable performance of existing transactions and increased investor familiarity with specific asset types and asset managers.

Property-related transactions mainly commercial properties –are the dominant players. These transactions are either repeat issuances by established REITs or new securitisations of landmark properties. Property companies have become proficient in using CMBSs as a funding source and in balance sheet management. In 2004, 85% of the securitisation deals were by REITs compared to 70% and 75% for 2003 and 2002 respectively.

In 2006, there was a new type of asset (hotels) providing as collateral for the CMBS market. The cross-border issuance amounted to AU\$1,118 billion (US\$930 million) from three CMBS transactions. The CMBS originators were Keppel REIT (K-REIT), Frasers Centrepoint Trust and RCS Trust, a joint venture trust established by CapitaMall Trust (CMT) and CapitalCommercial Trust (CCT). In the CMBS originated by RCS Trust, the portfolio property was the integrated Raffles City complex which comprises a shopping centre, an office tower, a convention centre and two hotels in Singapore. This was the first CMBS involving hotel assets and the largest CMBS issuance in Asia (ex64 Japan). The proceeds from this deal were used to partly finance the AU\$2.8 billion (US\$2.2 billion) acquisition of the Raffles City complex by CCT and CMT. The total number of transactions remained unchanged in 2006 at four. In February 2007, CapitaMall Trust issued its fifth CMBS worth AU\$292.3 billion (EU€175 million) to refinance its 2002 CMBS issue (Fitch Ratings 2007a).

Malaysia

In 2001 the Securities Commission introduced ABS guidelines which have set the regulatory and infrastructural framework for all securitisation deals including CMBSs. Authorities seek to use securitisation as a means of dealing with non-performing loans. The country's first CMBS transaction was in 2002 sponsored by Sunway City Berhad worth AU\$161 million (RM450 million).

Hong Kong

The capital markets have been awash with liquidity for the past few years subduing the securitisation market as there are cheaper financing sources (Fitch Ratings 2007a). However, the government's use of securitisation as a means to raise AU\$1 billion (HK\$6 billion) from future revenues from 6 government-owned toll bridges and tunnels in 2003 set the regulatory and infrastructural framework for securitisation deals. Potential is there for CMBS transactions from REITs that will be listed. In 2006, a cross-border CMBS transaction worth AU\$381 million (US\$300 million) from Singapore

listed Fortune REIT was concluded (Fitch Ratings 2007a).

Taiwan

The Financial Asset Securitisation Law (FASL) and the Real Estate Securitisation Law passed in 2002 and 2003 respectively set the regulatory and infrastructural framework for all securitisation deals. By the end of 2005, 35 deals worth AU\$6.35 billion (US\$5 billion or NTD170 billion) had been structured: 25 were financial base deals and 10 were real estate based deals. Of the 10 real estate based deals, 3 were issued by REITs and the other 7 were issued by Real Estate Asset Trusts (REATs). Total issues by REITs amounted to AU\$1.2 billion (US\$ 941 million or NTD 31 billion) and AU\$269 million (US\$ 212 million or NTD7 billion) for four of the REATs.

The securitisation market is facing impediments in the form of certain tax treatments and structural arrangements. There is a hurdle for refinancing as there is a 6% tax on interest and a 10% tax on the difference between sale price and purchase price. REITs also have no provision to issue CMBSs.

China

Currently developments are underway for a reliable legal, regulatory and structural securitisation framework in China. The sheer size of available assets and nonperforming loans shows great potential for the development of REITs. Launched in September 2006 with an issue size of AU\$184 million (US\$145 million), Dynasty is China's first cross-border CMBS, securing over nine retail properties located in nine cities in eastern China. It is anticipated that further issuance of cross-border CMBS backed by Chinese properties may come from Singapore- and Hong Kong-listed Chinese REITs due to the popular use by REITs of CMBS as a funding strategy. However, investors are cautious as they doubt the enforceability of China's legal framework.

Other Countries

In Thailand, Dhanarak Asset Development's (DAD) repeat office leases-backed CMBS issuance by in 2006 at AU\$280 million (THB8.2 billion) was down from the AU\$341 million (THB10 billion) CMBS it had issued the previous year.

Conclusion:

Comparison of the CMBS market of India with the Asian market shows that the Indian market is increasing with slow pace but the pace is at higher speed since 2008 onwards, as there is a tremendous growth in the real estate market since last one decade. Asian CMBS market is at its maturity stage and there are lots of transactions happening in this area.

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