

## **PREFACE**

This dissertation was written in order to examine a very important financial instrument: Securitization. Basic purpose of this dissertation is to analyze the procedures of securitization and to judge the future of this instrument in our country, Greece.

This essay was written in a very simple way in order to be comprehensible for every reader. It is comprised to five chapters.

The 1st Chapter refers to securitization in general, from the basic meaning, to the purpose and the necessity of this financial tool to the economic world. Chapter 2 refers to securitization of receivables. It is also mentioned to the major forms of securitization basically in U.S.A that is the 1st country all over the world who used this instrument. Chapter 3 contests a brief reference to securitization in Europe with analytical statistics e.g., by country, by type of collateral. This chapter also contains references to European countries (U.K, Germany, Spain) in which securitization has extensively developed. Chapter 4 refers to the future of securitization here in Greece and how the Greek FIs prepare to meet this challenge. It is also contains an example of securitization by the Kotsovolos S.A through Alpha Bank. In Chapter 5 we discuss about the Bank of International Settlements (BIS) and how it can affect securitization. We also discuss about the risks and, mainly, the benefits of securitization to FIs, to corporates, to governments and to investors.

At the end of this dissertation we mention the major problems which might be occurred to Greek FIs by the usage of securitization.

## CHAPTER 1

### SECURITIZATION

#### 1.1 Basic meaning of securitization

Securitization essentially implies creation of securities – generically, any process by which securities, viz. tradable capital market instruments are created, is securitization. However, in present day capital market usage, the term is implied to include securities created out of a pool of assets, normally receivables, which are put under the legal control of the investors through a special intermediary created for this purpose. The securities are liquidated on the primary strength of the assets in the pool, but may be supported by “credit enhancements” provided by the originator or organized through external agencies.

The original concept of securitization was to create securities based on financial assets, say, receivables on mortgage loans, auto loans, credit cards, etc. However, later innovation has extended application of securitization to cover non-financial assets such as aircraft, buildings, and on the other hand, the same device has also been applied to securitize risk, such as insurance risk, weather risk, etc.

The simplest way to understand the concept of securitization is to take an example. Let us say I want to own a car to run it for hire. I could take a loan with which I could buy the car. The loan is my obligation and the car is my asset, and both are affected by my other assets and other obligations. This is the case of simple financing.

Securitization is a financial tool. It is a close cousin to traditional secured debt. In a securitization, a company raises money by issuing securities that are backed by specific assets. The cash flow from the underlying assets is the source of funds for the borrower/issuer to make payments on the securities.

Compared to traditional secured debt, securitizations are intended to provide a lender/investor with greater protection against the credit risk of the borrower/issuer. In principle, a securitization lender/investor is a kind of “super secured creditor”, with rights that surpass those of a traditional secured lender. Securitization employs the notion that the subject assets have been **sold** by the borrower/issuer and, therefore, will not become entangled in bankruptcy proceedings if the borrower/issuer files for protection under the bankruptcy code.

## **1.2 Loan sales and other credit risk management techniques**

Traditionally banks and other Financial Institutions (FIs) have relied on a number of contractual mechanisms to control the credit risks of lending. These have included:

- 1) Requiring higher interest rate spreads and fees on loans to more risky borrowers,
- 2) Restricting or rationing loans to more risky borrowers,
- 3) Requiring enhanced seniority (collateral) for the bank over the assets of risky borrowers,
- 4) Diversifying across different types of risky borrowers, and
- 5) Placing more restrictive covenants on risky borrowers’ actions, such as restrictions on the use of proceeds from assets sales, new debt issues, and dividend payments.

Additionally FIs are increasingly requiring borrowers to hedge their own risks, especially when the FI makes floating-rate loans to borrowers. When interest rates rise, the borrower of a floating- rate loan may have greater difficulty meeting interest rate payments. However, if the borrower has hedged the risk of rising rates in the derivatives market (e.g., by selling interest rate futures or receiving floating payments-paying fixed payments in an interest rate swap), the borrower is in a far better position to meet its contractual payments to the FI. As a result, the credit risk exposure of the FI is reduced.

While loan sales have been in existence for many years, the use of loan sales (by removing existing loans from the balance sheet) is increasingly being recognized as a valuable additional tool in an FI manager' s portfolio of credit risk management techniques.

### 1.2.1 The bank loan sales market

A bank loan sale occurs when an FI originates a loan and sells it either with or without recourse (the ability of a loan buyer to sell the loan back to the originator if it goes back) to an outside buyer.

If a loan is sold without recourse, not only is it removed from the FI' s balance sheet but also the Fi has no explicit liability if the loan eventually goes bad. The following table shows an FI' s balance sheet before and after a 20\$ million loan sale.

#### BEFORE LOAN SALE

	<b>Assets</b>		<b>Liabilities</b>
Cash assets	\$10	Deposit	\$90
Loans	<u>\$90</u>	Equity	<u>\$10</u>
	\$100		\$100

#### AFTER LOAN SALE

	<b>Assets</b>		<b>Liabilities</b>
Cash assets	\$10	Deposit	\$90
Loans	\$70		
New investments	<u>\$20</u>	Equity	<u>\$10</u>
	\$100		\$100

The buyer (and not the FI that originated the loan) bears all the credit risk. If however the loan is sold with recourse, under certain conditions the buyer can put the loan back to the selling FI. Therefore the FI retains a contingent credit risk liability. In practice most loans are sold without recourse because a loan sale is technically removed from the balance sheet only when the buyer has no future credit risk claim on the FI. As such, loan sales are a primitive form of securitization in that loan selling creates a secondary market for loans in which ownership of the loan is simply transferred to the loan buyer.

### **1.2.2 Types of loan sales contracts**

There are two basic types of loan sale contracts or mechanisms by which loans can be transferred between seller and buyer: Participations and Assignments. Currently, assignments comprise the bulk of loan sales trading.

#### **1) Participations**

The unique features of participations in loans are:

- The holder (buyer) is not a party to the underlying credit agreement so that the initial contract between loan seller and borrower remains in place after the sale.
- The loan buyer can exercise only partial control over changes in the loan contract's terms. The holder can only vote on material changes to the loan contract, such as the interest rate or collateral backing.

The economic implication of these features is that the buyer of the loan participation has a double risk exposure: a risk exposure to the borrower and a risk exposure to the loan selling FI. Specifically, if the selling FI fails, the loan participation bought by an outside party may be characterized as an unsecured obligation of the FI rather than as a true sale if there are grounds for believing that some explicit or implicit recourse existed between the loan seller and the loan buyer. Alternatively, the borrower's claims against a failed selling FI may be set off against its loans from that FI, reducing the amount of loans outstanding and adversely impacting the buyer of a participation in those loans.

As a result of these exposures, the buyer bears a double monitoring cost as well.

## **2) Assignments**

Because of the monitoring costs and risks involved in participations, loans are sold on an assignment basis in more than 90% of the cases on the U.S domestic market. The key features of an assignment are:

- All rights are transferred on sale, meaning the loan buyer now holds a direct claim on the borrower.
- Transfer of U.S domestic loans is normally associated with a Uniform Commercial Code filing (as proof that a change of ownership has been perfected).

While ownership rights are generally much clearer in a loan sale by assignment, frequently contractual terms limit the seller's scope regarding to whom the loan can be sold. In particular the loan contract may require either the FI agent or the borrower to agree to the sale. The loan contract may also restrict the sale to a certain class of institutions, such as those that meet certain net worth/net size conditions.

### **1.2.3 The buyers and the sellers**

#### **i) The Buyers**

Of the wide array of potential buyers, some are concerned with only a certain segment of the market for regulatory and strategic reasons. In particular, an increasingly specialized group of buyers of distressed highly leveraged transactions (HLT's) loans includes investment banks, hedge funds, and vulture funds (specialized fund that invest in distressed loans).

#### **ii) The sellers**

The sellers of domestic loans and HLT loans are major money center banks, foreign banks, investment banks, and the U.S government and its agencies.

### **1.2.4 Why banks and other FIs sell loans**

One reason that FIs sell loans is to manage their credit risk better. Loan sales remove assets (and credit risk) from the balance sheet and allow an FI to achieve better asset diversification. However, other than credit risk management, there are a number of economic and regulatory reasons that encourage FIs to sell loans. These are discussed below:

#### **1) Reserve Requirements**

Regulatory requirements, such as non interest-bearing reserve requirements that a bank has to hold at the central bank, are a form of tax that adds to the cost of funding the loan portfolio. Regulatory taxes such as reserve requirements create an incentive for banks to remove loans from the balance sheet by selling them without recourse to outside parties. Such removal allows banks to shrink both their assets and deposits and, thus, the amount of reserves they have to hold against their deposits.

#### **2) Fee Income**

An FI can often report any fee income earned from originating (and then selling) loans as current income, whereas interest earned on direct lending can be accrued (as income) only over time. As a result, originating and quickly selling loans can boost an FI's reported income under current accounting rules.

#### **3) Capital Costs**

Like reserve requirements, the capital adequacy requirements imposed on FIs are a burden as long as required capital exceed the amount the FI believes to be privately beneficial. For tax reasons, debt is a cheaper source of funds than equity capital. Thus, FIs struggling to meet a required capital (K) to assets (A) ratio can boost this ratio by reducing assets rather than boosting capital. One way to downsize or reduce A and boost the K/A ratio is through loan sales.

#### **4) Liquidity Risk**

In addition to credit risk and interest rate risk, holding loans on the balance sheet can increase the overall liquidity of an FI's assets. This illiquidity is a problem because FI liabilities tend to be highly liquid. Asset illiquidity can expose an FI to harmful liquidity

squeezes whenever liability holders unexpectedly liquidate their claims. To mitigate a liquidity problem, an FI's management can sell some of its loans to outside investors. Thus, the loan sales market has created a secondary market in loans that has significantly reduced the illiquidity of FI loans held as assets on the balance sheet.

### **1.2.5 Factors deterring loan sales growth in the future**

The loan sales market has gone through a number of up and down phases in recent years. However, notwithstanding the value of loan sales as a credit risk management tool, there remain a number of factors that will both spur and deter the market's growth and development in future years. We first discuss factors that may deter the markets growth.

#### **1) Assets to the Commercial Paper Market**

With the advent of Section 20 subsidiaries in 1987, large banks enjoyed much greater powers to underwrite commercial paper (and other securities) directly without legal challenges by the securities industry. The need to underwrite or sell short-term bank loans as an imperfect substitute for commercial paper underwriting is even less important. In addition, more and more small middle market firms are gaining direct access to the commercial paper market. As a result, they have less need to rely on bank loans to finance their short-term expenditures.

#### **2) Customer relationship effects**

As the financial institutions industry consolidates and expands the range of financial services sold, customer relationships are likely to become even more important than they are today. To the extent that a loan customer (borrower) views the sale of its loan by its FI as an adverse statement about the customer's value to the FI, loan sales can harm revenues generated by the FI as current and potential future customers take their business elsewhere.

#### **3) Legal concerns**

A number of legal concerns hamper the loan sale market's growth, especially for distressed HLT loans. In particular, while banks are normally secured creditors, this status may be attacked by other creditors if the firm enters bankruptcy. Indeed, in



many of the most recent HLT sales, loan buyers have demanded a put option feature that allows them to put the loan back to the seller at the purchase price if a transaction is proved to be fraudulent under the Uniform Fraudulent Conveyance Act.

### **1.2.6 Factors encouraging loan sales growth in the future**

There are at least six factors that point to an increasing volume of loan sales in the future. These are in addition to the credit risk “hedging” value of loan sales.

#### **1) BIS Capital Requirements**

The Bank for International Settlements (BIS) risk-based capital rules and the proposed reforms to those rules, mean that bankers will continue to have strong incentives to sell commercial loans to other FIs and investors to downsize their balance sheets and boost bank capital ratios.

#### **2) Market Value Accounting**

The Securities and Exchange Commission and the Financial Accounting Standards Board (FASB) have advocated the replacement of book value accounting with market value accounting for financial services firms. In addition, proposed capital requirements for interest rate risk and current capital requirements for market risk have moved banks toward a market value accounting framework. The trend towards the marking to market of assets will make bank loans look more like securities and thus make them easier to sell and/or trade.

#### **3) Asset Brokerage and Loan Trading**

The increased emphasis of large money center banks as well as investment banks on trading and trading income suggests that significant attention will still be paid to those segments of the loan sales market where price volatility is high and thus potential trading profits can be made. Most HLT loans have floating rates so that their underlying values are in large part insulated from swings in the level of interest rates (unlike fixed-income securities such as Treasury bonds). Nevertheless, the low credit quality of many of these loans and their long maturities create an enhanced potential for credit risk volatility. As a result, a short term, three month secured loan to a AAA rated company is unlikely to show significant future credit risk volatility compared to an

eight-year HLT loan to a distressed company. This suggests that trading in loans to below investment grade companies will always be attractive for FIs that use their specialized credit monitoring skills as asset traders rather than as asset transformers in participating in the market.

#### **4) Credit Ratings**

There is a growing trend toward the “credit rating” of loans offered for sale. Unlike bonds, a loan credit rating reflects more than the financial soundness of the underlying borrowing corporation. In particular, the value of the underlying collateral can change a loan’s credit rating up to one full category above a standard bond rating. As more loans are rated, their attractiveness to secondary market buyers is likely to increase.

#### **5) Purchase and Sale of Foreign Bank Loans**

With over \$1.200 billion in doubtful and troubled loans on their books in 2001, Japanese banks present a huge potential market for the sale of distressed loans. Indeed, a number of commercial and investment banks have established funds to buy up some of these bad loans. For example, in April 1998 Goldman Sachs announced a \$4 billion fund to buy troubled loans from Japanese banks. In the same month it did its first deal, purchasing \$100 million in loans from the Bank of Tokyo-Mitsubishi.

### **1.3 Purpose of Securitization**

Securitization is one way in which a company might go about financing its assets. The main purposes of asset securitization mechanism are:

- To **improve the return on capital** of a company, since securitization normally requires less capital to support it than other sources of funds,
- To **raise finance** when other forms of finance are unavailable,
- To **improve return on assets** – securitization can be a cheap source of funds, but the attractiveness of securitization depends primarily on the costs associated with alternative funding sources,

- To **diversify the sources of funding**,
- To **reduce credit exposure** to particular assets by remove them via securitization from the balance sheet,
- To **match-fund** certain classes of asset – mortgage assets are technically 25 years assets; securitization normally offers the ability to raise finance with a longer maturity than usual markets.

#### 1.4 Need for securitization

The generic need for securitization is as old as that for organized financial markets. From the distinction between a financial relation and a financial transaction we understand that a relation invariably needs the coming together and remaining together of two entities. Not that the two entities would necessarily come together of their own, or directly. They might involve a number of financial intermediaries in the process, but nevertheless, a relation involves fixity over a certain time. Generally, financial relations are created to back another financial relation, such as a loan being taken to acquire an asset, and in that case, the needed fixed period of the relation hinges on the other that it seeks to back up.

Financial markets developed in response to the need to involve a large number of investors in the market place. As the number of investors keeps on increasing, the average size per investors keeps on coming down – this is a simple rule of the market place, because growing size means involvement of a wider base of investors. The small investor is not a professional one: he is not as such in the business of investments. Hence, he needs an instrument that is easier to understand, and is liquid. These two needs set the stage for evolution of financial instruments which would convert financial claims into liquid, easy to understand and homogenous products, at times carrying certified quality labels (credit ratings or security), which would be available in small denominations to suit every one's purse. Thus, securitization in a generic sense is basic to the world of finance, and it is a truism to say that

securitization envelopes the entire range of financial instruments, and hence, the entire range of financial markets.

Following are the reasons as to why the world of finance prefers a securitized financial instrument to the underlying financial claim in its original form:

1) Financial claims often involve sizeable sums of money, clearly outside the reach of the small investor. The initial response to this was the development of financial intermediation: an intermediary such as a bank would pool together the resources of the small investors and use the same for the larger investment need of the user. However, then came the second difficulty, noted below.

2) Small investors are typically not in the business of investments, and hence, liquidity of investments is most critical for them. Underlying financial transactions need fixity of investments over a fixed time, ranging from a few months to may be a number of years. This problem could not even be sorted out by financial intermediation, since if the intermediary provided a fixed investment option to the seeker, and itself sought funds with an option for liquidity, it would get caught into serious problems of a mismatch. Hence, the answer was a marketable instrument.

3) Generally, instruments are easier understood than financial transactions. An instrument is homogenous, usually made in a standard form, and generally containing standard issuer obligations. Hence, it can be understood generically. Besides, an important part of investor information is the quality and price of the instrument, and both are far easier known in case of instruments than in case of underlying financial transactions.

In short, the need for securitization was almost inescapable, and present day's financial markets would not have been what they are, unless some standard thing that market players could buy and sell, that is, financial securities, were available.

So powerful is the economic logic for securitization that the trend towards securitization knows no limits. Capital markets are today a place where everything is traded: from claims over entities to claims over assets, to risks, and rewards.

## 1.5 Parties Involved

The entity that securitizes its assets is called the **originator**: the name signifies the fact that the entity was responsible for originating the claims that are to be ultimately securitized. There is no distinctive name for the investors who invest their money in the instrument: therefore, they might simply be called **investors**.

The claims that the originator securitizes could either be existing claims, or existing assets (in form of claims), or expected claims over time. In other words, the securitized assets could be either existing receivables, or receivables to arise in future. The latter, for the sake of distinction, is sometimes called **future flow securitization**, in which case the former is a case of **asset-backed securitization**.

Since it is important for the entire exercise to be a case of transfer of receivables by the originator, not a borrowing on the security of the receivables, there is a legal **transfer of the receivables** to a separate entity. In legal parlance, transfer of receivables is called **assignment of receivables**. It is also necessary to ensure that the transfer of receivables is respected by the legal system as a genuine transfer, and not as a mere eyewash where the reality is only a mode of borrowing. In other words, the transfer of receivables has to be a **true sale** and not merely a financing against the security of the receivables.

Since securitization involves a transfer of receivables from the originator, it would be inconvenient, to the extent of being impossible, to transfer such receivables to the investors directly, since the receivables are as diverse as the investors themselves are. Besides, the base of investors could keep changing, as the resulting security is essentially a marketable security. Therefore, it is necessary to bring in an intermediary that would hold the receivables on behalf of the end investors. This entity is created solely for the purpose of the transaction: therefore, it is called a **special purpose vehicle (SPV)** or a **special purpose entity (SPE)**. The function of the SPV in a securitization transaction could stretch from being a pure conduit or intermediary vehicle, to a more active role in reinvesting or reshaping the cash flows arising from the assets transferred to it, which is something that would depend on the end objectives of the securitization exercise.

Therefore, the originator transfers the assets to the SPV, which holds them on behalf of the investors and issues to the investors its own securities. Therefore the SPV is also called **the issuer**.

There is no uniform name for the securities issued by the SPV as such securities take different forms. These securities could either represent a direct claim of the investors on all that the SPV collects from the receivables transferred to it: in this case, the securities are called pass through certificates or beneficial interest certificates as they imply certificates of proportional beneficial interest in the assets held by the SPV. Alternatively the SPV might be re-configuring the cash flows by reinvesting it, so as to pay to the investors on fixed dates, not matching with the dates on which the transferred receivables are collected by the SPV. In this case, the securities held by the investors are called pay through certificates. The securities issued by the SPV could also be named based on their risk or other features, such as senior notes or junior notes, floating rate notes, etc.

Another word commonly used in securitization exercises is **bankruptcy remote transfer**. What it means is that the transfer of the assets by the originator to the SPV is such that even if the originator were to go bankrupt, or get into other financial difficulties, the rights of the investors on the assets held by the SPV is not affected. In other words, the investors would continue to have a paramount interest in the assets irrespective of the difficulties, distress or bankruptcy of the originator.

## **1.6 Features of securitization**

A securitized instrument, as compared to a direct claim on the issuer, will generally have the following features:

- **Marketability**

The very purpose of securitization is to ensure marketability to financial claims. Hence, the instrument is structured so as to be marketable. This is one of the most important features of a securitized instrument, and the others that follow are mostly imported only to ensure this one. The concept of marketability involves two postulates: a) the

legal and systemic possibility of marketing the instrument, b) the existence of a market for the instrument.

As far as the legal possibility of marketing the instrument is concerned, traditional mercantile law took a contemporaneous view of marketable documents. In most jurisdictions of the world, laws dealing with marketable instruments (also referred to as negotiable instruments) were mostly limited in application to what were then in circulation as such. Besides, the corporate laws mostly defined and sought to regulate issuance of very usual corporate financial claims, such as shares, bonds and debentures. For any codified law, this is not unexpected, since laws do not lead commerce: most often, they follow, as the concern of the lawmaker is mostly regulatory and not promotional.

Hence, in most jurisdictions of the world, well-coded laws exist to enable and regulate the issuance of traditional forms of securitized claims, such as shares, bonds, debentures and trade paper (negotiable instruments). Most countries lack in legal systems pertaining to other securitized products, of recent or exotic origin, such as securitization of receivables. On a policy plane, it is incumbent on the part of the regulator to view any securitized instrument with the same concern as in case of traditional instruments, for reasons of investor protection.

However, it needs to be noted that where a law does not exist to regulate issuance of a securitized instrument, it is naïve to believe that the law does not permit such issuance. As regulation is a design by humanity itself, it would be ridiculous to presume that everything that is not regulated is not even allowed. Regulation is an exception and freedom is the rule.

The second issue is one of having or creating a market for the instrument. Securitization is a fallacy unless the securitized product is marketable. The very purpose of securitization will be defeated if the instrument is loaded on to a few professional investors without any possibility of having a liquid market therein. Liquidity to a securitized instrument is afforded either by introducing it into an organized market (such as securities exchanges) or by one or more agencies acting as market makers in

it, that is, agreeing to buy and sell the instrument at either pre-determined or market-determined prices.

- **Merchantable quality**

To be market acceptable a securitized product has to have a merchantable quality. The concept of merchantable quality in case of physical goods is something that is acceptable to merchants in normal trade. When applied to financial products, it would mean the financial commitments embodied in the instruments are secured to the investors; satisfaction. "To the investors satisfaction" is a relative term and therefore, the originator of the securitized instrument secures the instrument based on the needs of the investors. The general rule is: the broader the base of the investors, the less the investors' ability to absorb the risk, and hence, the more the need to securitize.

For widely distributed securitized instruments, evaluation of the quality, and its certification by an independent expert, viz., **rating**, is common. The rating serves for the benefit of the lay investor, who is otherwise not expected to be in a position to appraise the degree of risk involved.

In case of securitization of receivables, the concept of quality undergoes drastic change-making rating is a universal requirement for securitizations. As already discussed, securitization is a case where a claim on the debtors assumes significance, which at times enables to investors to rely purely on the credit-rating of debtors (or a portfolio of debtors) and so, make the instrument totally independent of the originators' own rating.

- **Wide Distribution**

The basic purpose of securitization is to distribute the product. The extent of distribution that the originator would like to achieve is based on a comparative analysis of the costs and the benefits achieved thereby. Wider distribution leads to a cost-benefit in the sense that the issuer is able to market the product with lower return, and hence, lower financial cost to him. But wide investor base involves costs of distribution and servicing.



In practice, securitization issues are still difficult for retail investors to understand. Hence, most securitizations have been privately placed with professional investors. However, it is likely that in to come, retail investors could be attracted into securitized products.

- **Homogeneity**

To serve as a marketable instrument, the instrument should be packaged as into homogenous lots. Homogeneity, like the above features, is a function of retail marketing. Most securitized instruments are broken into lots affordable to the marginal investor, and hence, the minimum denomination becomes relative to the needs of the smallest investor.

The need to break the whole lot to be securitized into several homogenous lots makes securitization an exercise of integration and differentiation: integration of those several assets into one lump, and then the latter's differentiation into uniform marketable lots.

## **1.7 Securitization and Financial Disintermediation**

Securitization is often said to result into financial disintermediation. This concept needs to be elaborated. The best way to understand this concept is to take the case of corporate debentures.

If one imagines a financial world without securities, all financial transactions will be carried only as one-to-one relations. For example if a company needs a loan, it will have to seek such loan from the lenders, and the lenders will have to establish a one-to-one relation with the company. Each lender has to understand the borrowing company, and to look after his loan. This is often difficult, and hence, there appears a financial intermediary, such as a bank in this case, which pools funds from a lot of such investors, and uses these pooled funds to lend to the company. Now, let us suppose the company securitizes the loan and issues debentures to the investors. Will this eliminate the need for the intermediary bank, since the investors may now lend to the company directly in small amounts each, in form of a security, which is easy to appraise, and which is liquid?

### **1.7.1 Utilities added by financial intermediaries**

A financial intermediary initially came in picture to avoid the difficulties in a direct lender-borrower relation between the company and the investors. The difficulties could be one of the following:

#### **i) Transactional difficulty**

An average small investor would have a small amount of sum to lend whereas the company's needs would be massive. The intermediary bank pools the funds from small investors to meet the typical needs of the company. The intermediary may issue its own security of smaller value.

#### **ii) Information difficulty**

An average small investor would either not be aware of the borrower company or would not know how to appraise or manage the loan. The intermediary fills up this gap.

#### **iii) Perceived risk**

The risk as investors perceive in investing in a bank may be much lesser than that of investing directly in the company, though in reality, the financial risk of the company is transposed on the bank.

Securitization of the loan into bonds or debentures fills up all the three difficulties in direct exchange mentioned above, and hence, avoids the need for a direct intermediation. It avoids the transactional difficulty by breaking the lumpy loan into marketable lots. It avoids informational difficulty because the securitized product is offered generally by way of a public offer, and its essential features are well disclosed. It avoids the perceived risk difficulty too, since the instrument is generally well secured, and is rated for the investor's satisfaction.

### **1.7.2 Changes the function of intermediation**

Hence, it is true to say that securitization leads to a degree of disintermediation. Disintermediation is one of the important aims of a present-day corporate treasurer,

since by leap-frogging the intermediary, the company intends to reduce the cost of its finances. Hence, securitization has been employed to disintermediation.

It is, however, important to understand that securitization does not eliminate the need for the intermediary: it merely redefines the intermediary's loan. Let us revert to the above example. If the company in the above case is issuing debentures to the public to replace a bank loan, is it eliminating the intermediary altogether? It would possibly be avoiding the bank as an intermediary in the financial flow, but would still need the services of an investment banker to successfully conclude the issue of debentures.

Hence, securitization changes the basic role of financial intermediaries. Traditionally, financial intermediaries have emerged to make a transaction possible by performing a pooling function, and have contributed to reduce the investors' perceived risk by substituting their own security for that of the end user. Securitization puts these services of the intermediary in a background by making it possible for the end-user to offer these features in form of the security, in which case, the focus shifts to the more essential function of a financial intermediary: that of distributing a financial product. For example, in the above case, where the bank being the earlier intermediary was eliminated and instead the services of an investment banker were sought to distribute debenture issue, the focus shifted from the pooling utility provided by the banker to the distribution utility provided by the investment banker.

### **1.7.3 Securitization changing the face of banking**

Securitization is slowly but definitely changing the face of modern banking and by the turn of the new millennium, securitization would have transformed banking into a new-look function.

Banks are increasingly facing the threat of disintermediation. In a world of securitized assets, banks have diminished roles. The distinction between traditional bank lending and securitized lending clarifies this situation.

Traditional bank lending has four functions: originating, funding servicing, and monitoring. Originating means making the loan, funding implies that the loan is held on

the balance sheet, servicing means collecting the payments of interest and principal, and monitoring refers to conducting periodic surveillance to ensure that the borrower has maintained the financial ability to service the loan. Securitization introduces the possibility of selling assets on a bigger scale and eliminating the need for funding and monitoring.

The securitization lending function has only three steps: originate, sell, and service. This change from a four-step process to a three-step function has been described as the fragmentation or separation of traditional lending.

## **1.8 Economic impact of securitization**

Securitization is as necessary to the economy as any organized markets are. While this single line sums up the economic significance of securitization, the following can be seen as the economic merits in securitization:

### **1) Facilitate creation of markets in financial claims**

By creating tradable securities out of financial claims, securitization helps to create markets in claims, which would, in its absence, have remained bilateral deals. In the process, securitization makes financial markets more efficient, by **reducing transaction costs**.

### **2) Disperses holding of financial assets**

The basic intent of securitization is to spread financial assets amongst as many savers as possible. With this end in view, the security is designed in minimum size marketable lots as necessary. Hence, it results into dispersion of financial assets. One should not underestimate the significance of this factor just because most of the recently developed securitizations have been lapped up by institutional investors. Lay investors need a certain cooling-off period before they understand a financial innovation. Recent securitization applications, viz., mortgages, receivables, etc. are, therefore, yet to become acceptable to lay investors. But given their attractive features, there is no reason why they will not.

### **3) Promotes savings**

The availability of financial claims in a marketable form, with proper assurance as to quality in form of credit ratings, and with double safety-nets in form of trustees, etc., securitization makes it possible for the lay investors to invest in direct financial claims at attractive rates. This has salubrious effect on savings.

### **4) Reduces costs**

As discussed above, securitization tends to eliminate fund-based intermediaries, and it leads to specialization in intermediation functions. This save the end-user company from intermediary costs are serviced-related, and generally lower.

### **5) Diversifies risks**

Financial intermediation is a case of diffusion of risk because of accumulation by the intermediary of a portfolio of financial risks. Securitization further diffuses such diversified risk to a wide base of investors, with the result that the risk inherent in financial transactions gets very widely diffused.

### **6) Focuses on use of resources, and not their ownership**

Once an entity securitizes its financial claims, it ceases to be the owner of such resources and becomes merely a trustee or custodian for the several investors who thereafter acquire such claim. Imagine the idea of securitization being carried further, and not only financial claims but claims in physical assets being securitized, in which case the entity needing the use of physical assets acquires such use without owning the property. The property is diffused over an investor crowd.

## CHAPTER 2

### SECURITIZATION OF RECEIVABLES

#### 2.1 Mortgages

Homeownership in most countries is achieved through a mortgage that is, in essence, a secured loan. The family that wishes to own a home will typically pledge the home as collateral and borrow money from the lender, who is typically a bank or a financial institution. Every month, the homeowner will pay an amount, which is credited towards the payment of interest and the outstanding principal amount that has been borrowed. In the event of default, the lender has the right to take over the home and dispose of it in the market to recover the outstanding balance.

##### 2.1.1 Primary Mortgage Market

To understand the risks and incentives that are present in the mortgage market, it is useful to begin with the primary mortgage market, where lenders and borrowers interact to consummate their transactions. The lender reviews applications for mortgage loans from different potential and present homeowners. The original lender is referred to as the originator. The mortgage originator underwrites the loan, processes the necessary documents, and provides the funds to the homeowner (borrower). While homeowners are the principal mortgage borrowers, farmers and commercial institutions also use mortgage financing. Homeowners are classified into single-family and multi-family units by the lenders. More than 95% of the loans in the residential market are originated by thrifts, commercial banks, and mortgage bankers. The lending institution collects a fee for its services. This fee, known as the **origination fee**, is a small percentage of the loan, usually 1% of the loan amount.

The borrowers are typically homeowners. The lender collects a fair amount of information from the potential borrowers to minimize the risk of default. Typically before a loan is approved, the following data are gathered:

- Information about the borrower's credit history and other loans and liabilities the borrower has. The basic motivation here is to compare the loan amount and the resulting mortgage payments with the net income of the borrower less payments towards prior obligations. A rule of thumb used by many lenders requires that the mortgage payments are less than 28% of the borrower's pretax monthly income. This puts an upper bound on the loan that can be taken by the borrower.
- Information about the borrower's net worth and liquidity.
- An assessment of the value of the property. A policy limit is then set on the **loan value (LTV) ratio** and the downpayments that are expected from borrowers. LTV ratios depend on a number of factors, such as the nature of the property, the levels of interest rates, and the credit conditions. For instance, lenders may require that the borrowers make a downpayment of 5% to 25% of the appraisal property value. Loans extended in this manner are known as conventional mortgages. Such loans are not insured by government agencies.

After extending several loans, the originator ends up with a loan portfolio. If he decides to sell this portfolio (to book a profit), then there are well-established institutions in the market to help accomplish this task in an efficient manner. There are organizations such as the Federal Home Loan Mortgage Corporation and the Federal National Mortgage Association, which buy loan portfolios and pool them to make them sufficiently attractive for institutional investors. For a loan portfolio to be purchased by these agencies, they must be **conforming loans** meeting certain standards. Loans not satisfying these standards are called **nonconforming loans**.

Loans (whether they are pooled or not) must be serviced. A number of activities must be performed in servicing loans. These activities include:

- Maintaining the status of individual loans in terms of outstanding principal, prepayments, and delinquency records;
- Collecting scheduled interest payments, principal payments, and prepayments;

- Handling delinquencies, defaults, and foreclosures;
- Making payments to owners of the loan portfolio.

One of the choices that the household makes in the mortgage market is the type of the loan it takes. In the following sections, we will focus on residential mortgage loans. The conventional residential mortgage loan falls under two categories, fixed-rate mortgages (FRM) and adjustable-rate mortgages (ARM).

### **2.1.2 Fixed-Rate Mortgages (FRM)**

FRMs differ from other fixed-income securities with promised common coupon payments. Typically, Treasuries, corporates, agencies, and Eurobonds pay semi-annual or annual coupon payments. Mortgages typically pay **monthly cash flows**. In addition, mortgages are **amortizing** with payments assigned toward both interest and principal.

The traditional mortgage is the thirty-year-fixed-rate mortgage with level monthly scheduled payments. This is an amortizing loan, wherein level monthly payments are scheduled over 360 months so that the loan is retired at the end of 360 months. There have also been active originations of fifteen-year FRMs in the market.

### **2.1.3 Adjustable-Rate Mortgages (ARMs)**

ARMs permit the interest payments to be reset at periodic intervals to prespecified short-term interest rates. The most commonly used short-term indexes are the constant maturity one-year Treasury rate and the Cost-of-funds Index (COFI), which is the weighted-average cost of funds for the thrift-institution members of the Federal Home Loan Bank of San Francisco.

Since ARMs shift fluctuations in interest rates to the borrowers, the asset-liability management problems of lenders that we alluded to in our general discussion are mitigated. The only exposure that the lender has with a plain-vanilla ARM without caps is the exposure to interest rates during the period between the resets. To the extent



the interest-rate risk to the lender is reduced, any resulting benefits will, at least in part, be passed on to the homeowners as a lower cost of borrowing. As we already know short-term interest rates are more volatile and, as such, ARMs can subject borrowers to a significant amount of risk if the rates increase unexpectedly. If the homeowners are unable to meet the increased monthly payments resulting from such increases in short-term interest rates, defaults can occur.

It is rarely the case that ARMs are issued without additional contractual features. Typically, ARMs include prespecified interest-rate caps. These caps limit the maximum interest rate that the borrower will pay in case the index rates increase dramatically. Often, ARMs carry caps on reset dates as well as a cap rate applicable throughout the life of the ARM. ARMs also have payment caps.

When the payment cap becomes binding (due to an increase in the short-term rates), the borrower pays the specified capped amount. During this period, the principal amount of the loan may actually increase. This is referred to as negative amortization. Initially when the ARM is offered to the borrowers, a below-market initial rate is specified in the contract. This is known as the teaser rate. To summarize, ARM has the following features:

- A reference rate or an index. This can be the one-year constant maturity T-Bill or the eleventh district COFI, etc.
- Reset frequency: monthly, semi-annual or annual
- Spread over the reference rate
- Lifetime cap on rates
- Periodic cap on rates
- Payment caps

Currently ARMs account for over 50% of the market share.

## 2.2 Major Forms of Asset Securitization

The major forms of asset securitization are the *pass-through security*, the *collateralized mortgage obligation (CMO)*, and the *mortgage-backed bond*. In addition, although all three forms of securitization originated in the real estate lending market, these techniques are currently being applied to loans other than mortgages – for example, credit card loans, auto loans, student loans, and commercial and industrial (C&I) loans.

### 2.2.1 The Pass-Through Security

FIs frequently pool mortgages and other assets they originate and offer investors an interest in the pool in the form of pass-through securities. While many different types of loans and assets on FIs' balance sheets are currently being securitized, the original use of securitization is a result of government-sponsored programs to enhance the liquidity of the residential mortgage market. These programs indirectly subsidize the growth of home ownership in the United States.

Given this, we begin by analyzing the government-sponsored securitization of residential mortgage loans. Three government agencies or government-sponsored enterprises are directly involved in the creation of mortgage-backed, pass-through securities. Informally, they are known as Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

- **GNMA**

The Government National Mortgage Association (GNMA) began in 1968 when it split off from the FNMA. GNMA is a government-owned agency with two major functions. The first is sponsoring mortgage-backed securities programs by FIs such as banks, thrifts, and mortgage bankers. The second is, acting as a guarantor to investors in mortgage-backed securities regarding the timely pass-through of principal and interest payments on their sponsored bonds. In other words GNMA provides **timing insurance**, a service which provided by CNMA guaranteeing the bondholder interest and principal payments at the calendar date promised. GNMA supports only those pools of mortgage loans whose default or credit risk is insured by one of three

government agencies: the Federal Housing Administration (FHA), the Veterans Administration (VA), and the Farmers Home Administration (FMHA). Mortgage loans insured by these agencies target groups that might otherwise be disadvantaged in the housing market, such as low income families, young families, and veterans. The GNMA guarantee of full and timely payment of interest and principal is backed by the full faith and credit of the U.S Government. GNMA covers low-income homes (house price less than \$152,000).

- **FNMA**

Originally created in 1938, the Federal National Mortgage Association (FNMA) is the oldest of the three mortgage-backed security sponsoring agencies. While it is now a private corporation owned by shareholders with stock traded on major exchanges, in the minds of many investors it still has implicit government backing that makes it equivalent to a government-sponsored agency. Indeed, supporting this view is the fact that FNMA has a secured line of credit available from the U.S Treasury should it need funds in an emergency. FNMA creates mortgage-backed securities (MBSs) by purchasing packages of mortgage loans from banks and thrifts; it finances such purchases by selling MBSs to outside investors such as life insurers and pension funds. In addition, FNMA engages in swap transactions whereby it swaps MBSs with an FI for original mortgages. Since FNMA guarantees securities as to the full and timely payment of interest and principal, the FI receiving the MBSs can then resell them on the capital market or hold them in its portfolio. Unlike GNMA, FNMA securitizes conventional mortgage loans as well as FHA/VA insured loans, as long as the conventional loans have acceptable loan to value or collateral ratios normally no exceeding 80%.

- **FHLMC**

The Federal Home Loan Mortgage Corporation performs a function similar to that of FNMA except that its major securitization role has historically involved savings institutions. Like FMA, FHLMC is a stockholder owned corporation with a line of credit from the U.S Treasury. It buys mortgage loan pools from FIs and swaps MBSs for loans. FHLMC also sponsors conventional loan pools as well as FHA/VA mortgage pools and guarantees timely payment of interest and ultimate payment of principal on

the securities it issues. Together FNMA and FHLMC represent a huge presence in the financial system as they have over 58% of the outstanding mortgage pools in the U.S.

### **2.2.1.1 The incentives and mechanics of pass-through security creation**

In order to analyze the securitization process, we trace through the mechanics of a mortgage pool securitization to provide insights into the return-risk benefits of this process to the mortgage originating FI as well as the attractiveness of these securities to investors. Given that more than \$3 trillion of mortgage-backed securities are outstanding - a large proportion sponsored by GNMA - we analyze an example of the creation of a GNMA pass-through security next.

Suppose a bank has just originated 1,000 new residential mortgages in its local area. The average size of each mortgage is \$100,000. Thus the total size of the new mortgage pool is:

$$1,000 \times \$100,000 = \$100 \text{ million}$$

Each mortgage because of its small size will receive credit risk insurance protection from the FHA. This insurance costs a small fee to the originating bank. In addition, each of these new mortgages has an initial stated maturity of 30 years and a mortgage rate – often called the mortgage coupon – of 12% per annum. Suppose the bank originating these loans relies mostly on liabilities such as demand deposits as well as its own capital or equity to finance its assets. Under current capital adequacy requirements, each \$1 of new residential mortgage loans has to be backed by some capital. Since residential mortgages have 50% risk weight in the risk-based capital standards, and the risk-based capital requirements 8%, the bank capital needed to back the \$100 million mortgage portfolio would be:

$$\text{Capital requirement} = \$100 \text{ million} \times 0.5 \times 0.8 = \$4 \text{ million}$$

We assume that the remaining \$96 million needed to fund the mortgages come from the issuance of demand deposits. Current regulations require that for every dollar of demand deposits held by the bank, however, \$0.10 in cash reserves is held at the

Federal Reserve Bank. Assuming that the bank funds the cash reserves with demand deposits, the bank must issue \$106.67m. ( $\$96m./ (1-0.1)$ ) in demand deposits (\$96m. to fund mortgages and \$10.67m. to fund the required cash reserves on the demand deposits). The reserve requirement on demand deposits is essentially an additional “regulatory” tax, over and above the capital requirement, on funding the bank’s residential mortgage portfolio. Given these considerations, the bank’s initial postmortgage balance sheet may look like the following table:

<b>Assets</b>		<b>Liabilities</b>	
Cash reserves	\$10.67	Demand deposits	\$106.67
Long-term mortgages	\$100.00	Capital	\$4.00
	\$110.67		\$110.67

In addition to the capital and reserve requirement taxes, the bank has to pay an annual insurance premium to the FDIC based on the risk of the bank. Assuming a deposit insurance premium of 27 basis points (for the lowest-quality banks), the fee would be:

$$\$106.67 \text{ million} \times 0.0027 = \$288.000$$

Although the bank is earning a 12% mortgage coupon on its mortgage portfolio, it is facing three levels of regulatory taxes:

- Capital requirements
- Reserve requirements
- FDIC insurance premiums

Thus, one incentive to securitize is to reduce the regulatory tax burden on the FI to increase its after tax return. In addition to facing regulatory taxes, the bank has two risk exposure problems:

- **Gap Exposure**

The FI funds the 30-year mortgage portfolio with short-term demanded deposits. Thus, it has a duration mismatch.

- **Illiquidity exposure**

The bank is holding a very illiquid asset portfolio of long term mortgages and no excess reserves; as a result, it is exposed to the potential liquidity shortages including the risk of having to contact mortgage asset fire sales to meet large unexpected demand deposit withdrawals.

By contrast, creating GNMA pass-through securities can largely resolve the duration and illiquidity risk problems on the one hand and reduce the burden of regulatory taxes on the other. This requires the bank to securitize the \$100 million in residential mortgages by issuing GNMA pass-through securities. In our example, the bank can do since the 1,000 underlying mortgages each have FHA/VA mortgage insurance, the same stated mortgage maturity of 30 years, and coupons of 12%. Therefore, they are eligible for securitization under the GNMA program if the bank is an approved lender.

The bank begins the securitization process by packaging the \$100 million in mortgage loans and removing them from the balance sheet by placing them with a third-party trustee, in a special purpose vehicle (SPV) off the balance sheet. This third-party trustee may be another bank of high creditworthiness or a legal trustee. Next the bank determines that (1) GNMA will guarantee, for a fee, the timing of interest and principal payments on the bonds issued to back the mortgage pool and (2) the bank itself will continue to service the pool of mortgages for a fee, even after they are placed in trust. Then GNMA issues pass-through securities backed by the underlying \$100 million pool of mortgages. These GNMA securities or pass-through bonds are sold to outside investors in the capital market and the proceeds go to the originating bank.

Investors in these bonds are protected against two levels of default risk:

- **Default Risk by the Mortgagees**

Suppose that because of rapidly falling house prices a homeowner walked away from a mortgage, leaving behind a low-valued house to be foreclosed at a price below the

outstanding mortgage. This might expose the mortgage bondholders to losses unless there are external guarantors. Through FHA/VA housing insurance, government agencies bear the risk of default, thereby protecting bondholders against such losses.

- **Default Risk by Bank/Trustee**

Suppose the bank that had originated the mortgages went bankrupt or the trustee absconded with the mortgage interest and principal due to bondholders. Because it guaranteed the prompt timing of interest and principal payments on GNMA securities, GNMA would bear the cost of making the promised payments in full and on time to GNMA bondholders.

Given this default protection, GNMA bondholders' returns from holding these bonds would be the monthly repayments of interest and principal on the 1,000 mortgages in the pool, after the deduction of a mortgage-servicing fee by the mortgage-originating bank and a monthly timing insurance fee to be paid to GNMA. The total sum of these fees is around 50 basis points with approximately 6 b.p going as a fee to GNMA for timing insurance and the remaining 44 b.p going to the mortgage originator as a servicing fee. As a result, the stated coupons on the GNMA bonds would be set at approximately 0.5% below the coupon rate on the underlying mortgages. In our example GNMA pass-through bond coupon 11.5%.

### **2.2.1.2 The Collateralized Mortgage Obligation (CMO)**

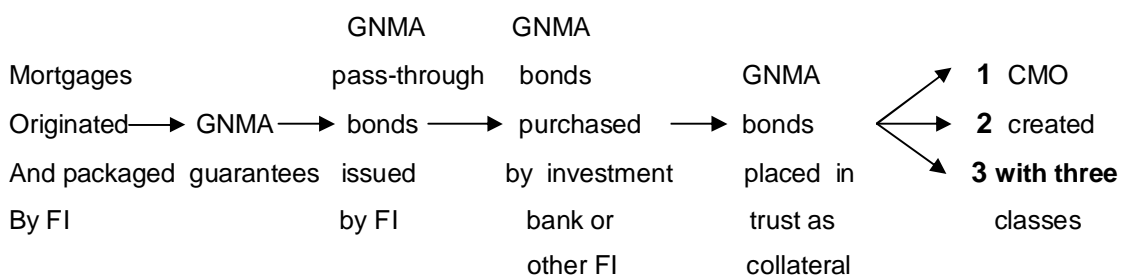
While pass-throughs are still the primary mechanism for securitization, the CMO is a second and growing vehicle for securitizing FI assets. Innovated in 1983 the CMO is a device for making mortgage-backed securities more attractive to investors. The CMO does this by repackaging the cash flows from mortgages and pass-through securities in a different fashion to attract different types of investors. While a pass-through security gives each investor a pro rata share of any promised and prepaid cash flows on a mortgage pool, the CMO is a multiclass pass-through with a number of different bondholders classes or tranches. Unlike a pass-through, each bondholder class has a different guaranteed coupon just like a regular T-bond; but more importantly, the allocation of early cash flows due to mortgage prepayments is such that at any one time, all prepayments go to retiring the principal outstanding of only one class of

bondholders at a time, leaving the other classes' prepayment protected for a period of time. Thus, a CMO serves as a way to mitigate or reduce prepayment risk.

### 2.2.1.2.1 Creation of CMOs

CMOs can be created either by packaging and securitizing whole mortgage loans or, more usually, by placing existing pass-throughs in a trust off the balance sheet. The trust or third party FI holds the GNMA pass-through as collateral against issues of new CMO securities. The trust issues these CMOs in three or more different classes. For example the first CMO that Freddie Mac issued in 1983, secured by 20,000 conventional home mortgages worth \$1 billion, had three classes: A, \$215 million; B, \$350 million; and C, \$435 million.

Issuing CMOs is often equivalent to double securitization. Mortgages are packaged, and a GNMA pass-through is issued. An investment bank, a commercial bank, or a savings institution may buy this whole issue or a large part of the issue. The investment bank would then place these GNMA securities as collateral with a trust and issue three new classes of bonds backed by the GNMA securities as collateral. As a result, the investors in each CMO class have a sole claim to the GNMA collateral if the issuer fails. The investment bank or other issuer creates the CMO to make a profit by repackaging the cash flows from the single-class GNMA pass-through into cash flows more attractive to different groups of investors.





#### 2.2.1.2.2 Class A, B, and C Bond Buyers and other CMO classes

**Class A:** These bonds have the shortest average life with a minimum prepayment protection. They are, therefore, of great interest to investors seeking short-duration mortgage-backed assets to reduce the duration of their mortgage-related asset portfolios. In recent years, depository institutions have been large buyers of CMO class A securities.

**Class B:** These bonds have some prepayment protection and expected durations of five to seven years depending on the level of interest rates. Pension funds and life insurance companies primarily purchase these bonds, although some depository institutions buy this bond class as well.

**Class C:** Because of their long expected duration, Class C bonds are highly attractive to insurance companies and pension funds seeking long-term duration assets to match their long-term duration liabilities. Indeed, because of their failures to offer prepayment protection, regular GNMA pass-through may not be very attractive to these institutions. Class C CMOs with their high but imperfect degree of prepayment protection may be of greater interest to the FI managers of these institutions.

In summary, by splitting bondholders into different classes and by restructuring cash flows into forms more valued by different investor clienteles, the CMO issuer stands to make a profit.

**Other CMO Classes:** CMOs can always have more than three classes. Indeed, issues of up to 17 different classes have been made. Clearly, the 17<sup>th</sup>-class bondholders would have an enormous degree of prepayment protection since the first 16 classes would have had their bonds retired before the principal outstanding on this bond class would be affected by early prepayments.

**Class Z:** Frequently, CMO issues contain a **Z class** as the last regular class. The Z implicitly stands for zero, but these are not really zero-coupon bonds. This class has a stated coupon such as 10% and accrues interest for the bondholder on a monthly basis at this rate. The trustee does not pay this interest until all other classes of bonds

are fully retired. When the other classes have been retired, the Z class bond-holder receives the promised coupon and principal payments plus accrued interest payments. Thus, the Z class has characteristics of both a zero-coupon bond (no coupon payments for a long period) and a regular bond.

**Class R:** In placing the GNMA collateral with the trustee, the CMO issuer normally uses very conservative prepayment assumptions. If prepayments are slower than expected, there is often excess collateral left over in the pool when all regular classes have been retired. Further trustees often reinvest funds or cash flows received from the underlying instrument (GNMA) in the period prior to paying interest on the CMOs. In general, the size of any excess collateral and interest on interest gets bigger when rates are high and the timing of coupon intervals is semiannual rather than monthly. This residual R class or “garbage class” is a high-risk investment class that gives the investor the rights to the overcollateralization and reinvestment income on the cash flows in the CMO trust. Because the value of the returns in this bond class increases when interest rates increase, while normal bond values fall with interest rate increases, class R often has a negative duration. Thus, it is potentially attractive to depository institutions seeking to hedge their regular bond and fixed-income portfolios.

### **2.2.3 The Mortgage – Backed Bond (MBB)**

Mortgage (asset)-backed bonds (MBBs) are the third asset-securitization vehicle. These bonds differ from pass-throughs and CMOs in two key dimensions. First, while pass-throughs and CMOs help depository institutions remove mortgages from their balance sheets as forms of off-balance-sheet securitization, MBBs normally remain on the balance sheet. Second, pass-throughs and CMOs have a direct link between the cash flows on the underlying mortgages and the cash flows on the bond vehicles. By contrast, the relationship for MBBs is one of collateralization – there is no direct link between the cash flow on the mortgages backing the bond and the interest and principal payments on the MBB.

An FI issues an MBB to reduce risk to the MBB bondholders, who have a first claim to a segment of the FI's mortgage assets. Practically speaking, the FI segregates a group of mortgage assets on its balance sheet and pledges this group as collateral against

the MBB issue. A trustee normally monitors the segregation of assets and makes sure that the market value of the collateral exceeds the principal owed to MBB holders. That is, FIs back most MBB issues by excess collateral. This excess collateral backing of the bond, in addition to the priority rights of the bondholders generally ensures that these bonds can be sold with a high credit rating such as AAA. In contrast, the FI when evaluated as a whole could be rated BBB or even lower. A high credit rating result in lower coupon payments than would be required if significant default risk had lowered the credit rating.

Other than regulatory discouragement and the risk of regulatory intervention, there are private return reasons why an FI might prefer the pass-through/CMO forms of securitization to issuing MBBs. **First** MBBs tie up mortgages on the FI's balance sheet for a long time. This increases the illiquidity of the asset portfolio. **Second**, the amount of mortgages tied up is enhanced by the need to overcollateralize to ensure a high-quality credit risk rating for the bond issue. **Third**, by keeping mortgages on the balance sheet, the FI continues to be liable for capital adequacy and reserve requirement taxes. Because of these problems, MBBs are the least used of the three basic vehicles of securitization.

### **2.3 Prepayments**

Mortgages permit the homeowners to prepay the loans. This prepayment provision introduces timing uncertainty into the originating bank's cash flows from its loan portfolio. For example, if the bank originates a pool of mortgages and a period later mortgage rates drop, then the loan portfolio is certain to experience significant prepayments as borrowers rush to refinance their mortgages with less-costly loans. The lender has a long position in the mortgage loan that entitles him to monthly scheduled payments, but has also sold an option to the homeowners that gives them the right to prepay the loan when the circumstances demand it. This means that the bank cannot predict the future cash flows from its loan portfolio with certainty. Clearly, the option to prepay will be priced into the loan by the bank and the borrower will pay a higher interest rate on the loan as a consequence.

### 2.3.1 Factors affecting prepayments

Prepayments of mortgages are driven by a number of factors, each of which merits further elaboration.

- **Refinancing Incentive**

Perhaps the most important reason for prepayments. If the market rates for mortgage loans drop below the rate that a borrower is paying, then the borrower has a very strong reason to prepay as long as the borrower is able to qualify for a new loan. This incentive means that the prepayments accelerate in periods of falling interest rates, especially when there is a belief in the market that the rates have bottomed out.

- **Seasonally factor**

Families typically do not move during the school year. This results in increased prepayments during this part of the year.

- **Age of the mortgage**

During the early part of the mortgage loan, interest payments far exceed the principal component. This, in part, means that the interest savings associated with refinancing are greater during the earlier part of the mortgage loan. We expect the prepayments to be greater during the earlier part of the life of the loan and then stabilize afterwards; indeed, prepayments are higher when the life of the loan is in the range 2 to 8 years. In addition, when a mortgage is more than 25 years old, there may be an incentive to pay it off in order to secure the property's title. The speed of prepayments slows for loans in the age range 10 to 25 years.

- **Housing prices**

The price of the home is yet another factor in prepayment. The housing prices affect the LTV ratio, which in turn affects the ability of the household to qualify for refinancing. When the housing prices increase, the LTV decreases. This enhances the ability of the homeowner to refinance if the going interest rates and family circumstances warrant refinancing. On the other hand, when the housing prices drop, the LTV ratio increases; this diminishes the ability of the homeowner to qualify for refinancing, even if other factors favor refinancing.

Furthermore if the existing mortgage is an assumable mortgage, the buyer of the house takes over the outstanding mortgage's payments. Thus, the sale of a house in a pool does not necessarily imply that the mortgage has to be prepaid.

Lets examine the prepayment frequency of a pool of mortgages in relation to the spread between the current mortgage coupon rate ( $Y$ ) and the mortgage coupon rate ( $r$ ) in the existing pool. Notice when the current mortgage rate ( $Y$ ) is above the rate in the pool ( $Y > r$ ), mortgage is said to be a **discount mortgage**, prepayments are small, reflecting monthly forced turnover as people have to relocate because of jobs, divorces, marriages, and other considerations. Even when the current mortgage rate falls below  $r$ , such mortgages are referred as **premium mortgages** those remaining in the mortgage pool do not rush to prepay because up-front refinancing, contracting, and penalty costs are likely to outweigh any present value savings from lower mortgage rates. However, as current mortgage rates continue to fall, the propensity for mortgage holders to prepay increases significantly. Conceptually, mortgage holders have a very valuable call option on the mortgage when this option is in the money. That is, when current mortgage rates fall sufficiently low so that the present value savings of refinancing outweigh the exercise price (the cost of prepayment penalties and other fees and costs), the mortgage will be called.

## 2.4 Securitization of other assets

While the major use of the three securitization vehicles - pass-throughs, CMOs, and mortgage-backed bonds – has been in packaging fixed-rate mortgage assets, these techniques can and have been used for other assets, including:

- Automobile loans
- Credit card receivables (certificates of amortizing revolving debts)
- Small business loans guaranteed by the Small Business Administration
- Junk Bonds

- Adjustable rate mortgages
- Commercial and industrial loans

#### **2.4.1 Certificates of amortizing revolving debts (CARDS)**

Rather than holding all credit card receivables until they pay off, an FI can segregate a set of receivables and sell them to an off-balance-sheet trust. A good example is J.P. Moran Chase, which is a major sponsor of credit cards. (J.P Morgan Chase retains the role of servicing the credit card pool, including collection, administration, and bookkeeping of the underlying credit card accounts.) J.P. Morgan recently sold \$280 million receivables to a trust. The trust in turn issued asset-backed securities (CARDS) in which investors had a pro rata claim on the cash flows from the credit card receivables. As the trust received payments on the credit card receivables each month, they were passed through to the bondholders. In practice, bonds of a lesser principal amount than the \$280 million credit card pool are issued. In this example, \$250 million in bonds were issued, with the difference - 30 million – being a claim retained by J.P Morgan Chase. The reason for this is that credit card holders can either increase or repay their credit card balances at any time. The risks of variation in principal outstanding and thus collateral for the bonds is borne solely by the FI while the investors' collateral claim remains at \$250 million until maturity unless a truly exceptional rate of debt repayment occurs. As a conclusion, we can say that the securitization of credit card assets is very similar in technology to the pass-through mortgage bond.

#### **2.5 Can all assets be securitized?**

The extension of securitization technology to other assets raises questions about the limits of securitization and whether all assets and loans can be securitized. Conceptually the answer is that they can, so long as it is profitable to do so or the benefits to the FI from securitization outweigh the costs of it. In the next table we summarize the benefits versus the costs of securitization:

	<b>BENEFITS</b>	<b>COSTS</b>
<b>1</b>	New funding source (bonds vs. deposits)	Cost of public/private credit risk insurance
<b>2</b>	Increased liquidity of FI loans	Lost of overcollateralization
<b>3</b>	Enhanced ability to manage the duration gap (Da-kDI)	Valuation and packaging costs (the cost of asset heterogeneity)
<b>4</b>	If off balance sheet, the issuer saves on reserve requirements, deposit insurance premiums, and capital adequacy requirements	

From the above table we conclude that given any set of benefits, the more costly and difficult it is to find asset packages of sufficient size and homogeneity, the more difficult and expensive it is to securitize. Specifically, the harder it is to value a loan or asset pool, the greater the costs of securitization due to the need for overcollateralization or credit risk insurance.

The potential boundary to securitization may well be defined by the relative degree of heterogeneity and credit quality of an asset type or group. It is not surprising that 30-year fixed-rate residential mortgages were the first assets to be securitized since they are the most homogeneous of all assets in FI balance sheets.

## CHAPTER 3

### SECURITIZATION IN EUROPE

#### 3.1 Overview of European Securitization Market

The origin of the European securitization market began during the mid-1980s with UK mortgages, followed in the early 1990s by transactions featuring collateral from Spain and France. The UK MBS market is still the largest market in Europe, despite Germany possessing some 30% more available mortgage collateral (over 1 trillion Euro in total relative to some 700 billion Euro in the UK). Despite rapid growth during the mid-1990s, the market did not really take off until 2000, because of some uncertainty regarding the interpretation of several key securitization factors such as regulatory treatment of securitization, banking secrecy laws, and perfection and enforcement of security issues.

While these issues continue to exist in certain respects even today, market pressure to achieve efficient capital usage and reliable access to liquidity in the capital markets led to many asset originators developing solutions which offered effective risk transfer.

In continental Europe, the market followed the UK lead, as we have already mentioned with Spain and France. Subsequently, Holland and Italy become very active securitization markets given that each is a major domicile for collateral in MBS transactions. Germany, which is the largest market for mortgages in Europe, has employed the *Pfandbrief* as a primary financing tool for some 20% of all mortgages (the balance funded on-balance sheet). However the *Pfandbrief* offers no regulatory risk transfer for originators, and so the mortgage lenders have now moved to employ the synthetic MBS to transfer risk associated with their portfolios, whilst also using *Pfandbrief* for funding.

The synthetic solution has evolved in line with the global markets for fast efficient transfer of risk without many of the legal and relationship complexities associated with



“true sale” transactions. The most significant market is in Germany, due primarily to banking secrecy laws. However these techniques have also been used extensively for the risk transfer of debt exposures, and more recently in arbitrage transactions for asset managers.

The advent of the corporate ABS market lies in the UK debenture finance market, which was employed for the finance of social housing and Private Finance (PFI) projects through the mid-1990s. Long-term access to liquidity, coupled with strong debt multiples, led many corporates with strong cash flows to access the market through securitization structures. These have included, most notably, the UK pub market, several commercial property securitizations, and various government cashflow related financing schemes. Most recently, securitization has been employed by governments to assist in their own balance-sheet management, most notably in Italy and Greece.

According to the European Securitization Forum (ESF) Securitization Market Outlook For 2002, growth in European securitization is expected to continue, with projected issuance totaling 162 billion Euro. The volume of new issues is expected to climb 16%, topping the record 140 billion Euro of European structured debt issued in 2001. This figure includes funded transactions only, and includes the full spectrum of underlying assets – such as CDOs, CLOs, residential mortgage-backed securities (RMBS). Commercial mortgage-backed securities (CMBS), auto receivables, credit card receivables, consumer loans, etc. consisting of European collateral.

### **3.2 European Securitization Forum (ESF)**

The ESF is the unified voice of the entire securitization market place in Europe with the purpose to promote the efficient growth and continued development of securitization throughout Europe, and to advocate the positions, represent the interests, and serve the needs of its members – European securitization market participants. To achieve this goal, the ESF seeks to increase awareness, build consensus and pursue advocacy projects relating to a broad array of legal, regulatory, accounting, capital, tax and other issues that impact the European securitization markets, working with relevant European regulators and standards-setters. The Forum also attempts to

identify, recommend and implement market standardization policies, practices, guidelines and related documentation, to promote liquidity, transparency and efficiency in the primary and secondary European securitization markets. The Forum also undertakes initiatives designed to educate and inform external constituencies, including legislative and regulatory officials, the financial media, industry participants and others concerning the operation, importance and policy benefits of the securitization markets and related activities throughout Europe. The Forum's membership number approximately 85 firms from across Europe, including Germany and Austria, France, Italy, the UK, Spain, Ireland, Holland, Belgium, Switzerland, Luxemburg, Sweden, Norway and Portugal. The Forum is affiliated with the Bond Market Association, which is an international trade association representing securities firms and banks that underwrite, trade and sell bonds in the US, Europe and worldwide.

The European Securitization Forum (ESF), in cooperation with the Commercial Mortgage Securities Association (CMSA), announces the formation of a joint Commercial Mortgage Securitization (CMS) Subcommittee. This, is a group that brings together senior business people active in the European commercial mortgage-backed securities (CMBS) market to identify and work on issues that will impact, expand and enhance the liquidity of the market for CMBS securities.

The Subcommittee has been created as a result of the growing importance of the CMBS market in Europe, and will form part of the ESF's co-operation with the CMSA's European Chapter on relevant sector issues in Europe.

The CMSA is an international trade association whose goal is to promote a more efficient primary and secondary market for commercial mortgage backed securities. The association has over 250 members representing issuers, dealers, investors and service providers. CMSA has chapters in Canada, Europe, Japan and the United States.

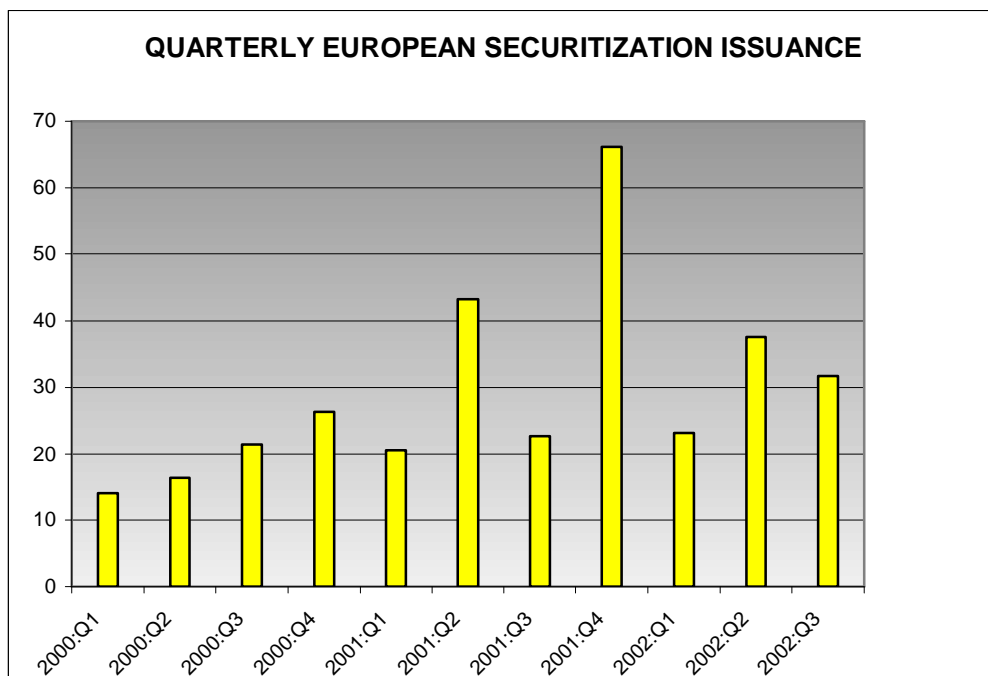
CMBS are structured securities backed by underlying commercial mortgage obligations. According to the ESF's autumn 2002 Securitization Data Report, CMBS accounted for 21.7% of Europe's 42.5 billion Euro new mortgage-backed issue volumes for the first three quarters of 2002. Issues based on a mix of both commercial

and residential mortgages accounted for 12.8% of new issues. The UK mortgage-backed securitization market continued its strong growth through the first three quarters of 2002, accounting for 46.3% of the CMBS market.

### 3.3 Statistics

#### 3.3.1 European Securitization Issuance Totals

Issuance in the European securitization market increased to 92.4 billion Euro in the first three quarters of 2002, up 6.9% from the 86.4 billion Euro issued during the same period last year. Issuance in the third quarter increased sharply to 31.7 billion Euro, up 39.6% when compared to the third quarter of 2001, however, issuance was down 15.7% from volumes in the second quarter of 2002. Most of the increase can be attributed to the mortgage-backed securities (MBS) sector, where issuance totalled 42.5 billion Euro in the first three quarters of 2002, up 16% from the 36.6 billion Euro issued last year in the same period. The asset-backed securities (ABS) sector issuance volume totalled 49.9 billion Euro in 2002, relatively unchanged from the 49.8 billion Euro of the first three quarters of 2001.



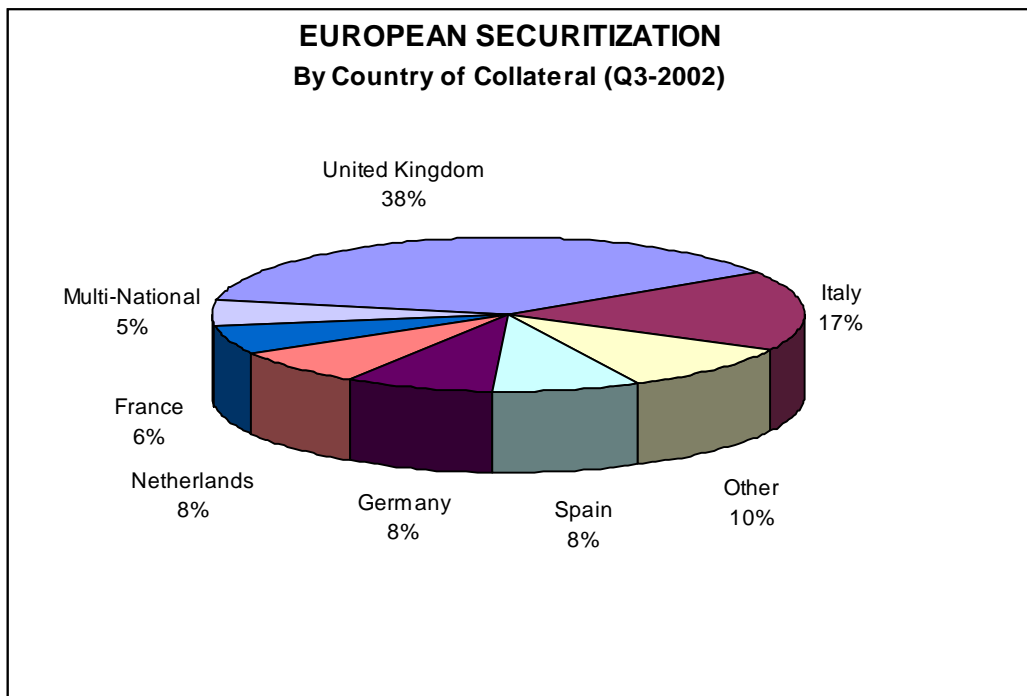
The European securitization market has continued to attract issuers and investors in 2002. The market has provided a safe haven from the volatile equity markets and weak economy. Also credit concerns in the corporate bond sector continue to lead issuers to utilize structured securities to finance their capital needs.

The residential mortgage-backed securities (RMBS) sector accounted for more than 30% of all European securitization activity. The collateralized debt obligations (CDOs) sector was the second largest, accounting for nearly 15% of securitized issuance. Securitization of UK and Italian assets accounted for over half of European issuance through the first three quarters of 2002. Yield spreads have fluctuated in the third quarter of this year. ABS and MBS spreads narrowed since the beginning of the year but have returned to higher levels last seen in the third quarter of 2001. MBS spreads were relatively stable during the first part of the year.

### **3.3.2 By Country of Collateral**

Issuance of securitized debt consisting of **United Kingdom** assets totalled 34.5 billion Euro in the first three quarters of the year, up 6.8% from the 32.3 billion Euro issued during the same period in 2001. United Kingdom securitization issuance was dominated by MBS, which accounted for 62.6% of the total UK new-issue securitization market. RMBS accounted for nearly 60% of the MBS market in UK. Real state prices in the UK continued to rise, strengthening the UK residential property market. The volume of securitization in **Spain** totalled 7.8 billion Euro during the first three quarters of 2001, up 56% from the 5.0 billion issued last year in the same period. New issues of securitized debt consisting of collateral from the **Netherlands** totalled 7.3 billion Euro in the first nine months of the year, up 24.7% from the 5.9 billion Euro issued in 2001 during the same period. MBS accounted for close to 70% of the securitization in the Netherlands. The MBS market in the Netherlands is the second largest in Europe, behind only the UK. New **German** securitization volume increased the most in the first three quarters of 2002, totaling 7.1 billion Euro, more than double the 3.0 billion Euro issued last year during the same period. Non-mortgage collateral accounted for nearly 80% of the German securitization market. The volume of securitization in **France, Denmark** and **Belgium** also increased in the first three quarters of the year. In contrast, **Italian** securitization volume decreased 10.55, to 15.4

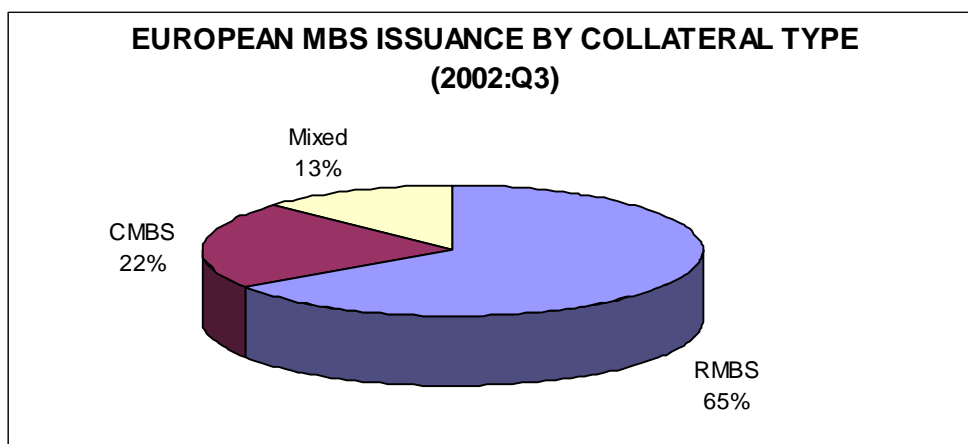
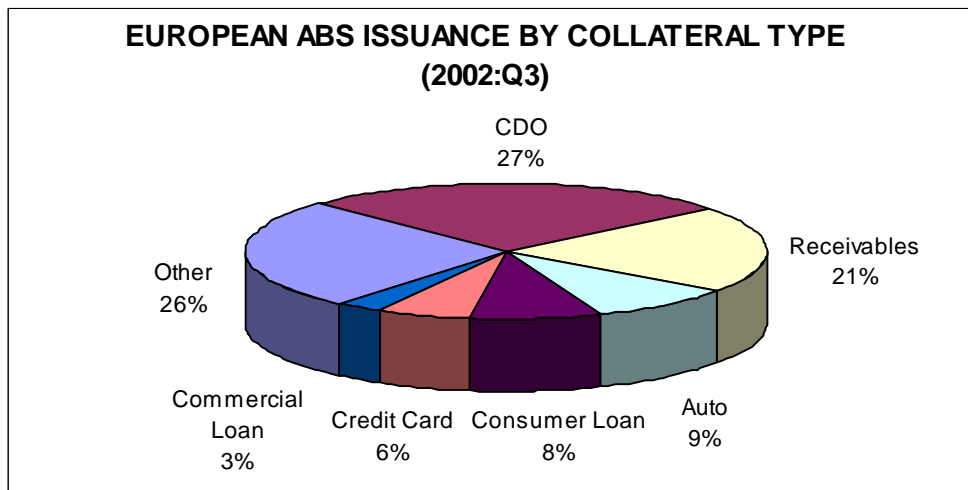
billion Euro in the first nine months of the year, down from the 17.2 billion Euro issued during the same period last year. Italian MBS issuance decreased nearly 50%, while ABS issuance increased 14.5% when compared to the first three quarters of 2001. The Italian securitization market was dominated by non-mortgage assets, which accounted for nearly 80% of the issuance. The volume of securitization in **Portugal** totalled 1.3 billion Euro in the first three quarters of the year, down 53.4% from the 2.7 billion Euro issued in the same period last year. Securitized debt issuance backed by collateral from **Ireland, Luxemburg, Sweden, Switzerland** and collateral from multiple countries (multinational) also decreased.



### 3.3.3 By Collateral Type

In the **ABS sector**, CDOs accounted for 27.4% of securitized issuance in the first three quarters of the year. Securities backed by commercial receivables-including property lease, public houses, rent, lease, trade and shipping-totalled 20.8% of total securitizations through September. Securities backed by auto loans, consumer loans and credit card receivables accounted for 9.3%, 7.7% and 5.6% respectively.

In the **MBS sector**, RMBS accounted for more than 65.5% of MBS issuance in the European securitization market for the first three quarters of the year. Commercial mortgage-backed securities (CMBS) accounted for 21.7% of new issue volume and issues based on a mix of both commercial and residential mortgages accounted for 12.8% of new issues. The UK MBS securitization market continued its strong growth through September, accounting for 45.1% of the RMBS market, 46.3% of the CMBS market.



### 3.3.4 Pfandbrief

New issuance of Pfandbrief totalled 159.9 billion Euro in the first three quarters of the year, up 15.6% from the 138.3 billion Euro issued in the same period of 2001. On a quarterly basis, Pfandbrief issuance increased 35.7%, to 55.9 billion Euro in the third quarter of 2002, up from the 41.2 billion Euro issued in the second quarter. **German** Pfandbrief issuance increased to 136 billion Euro during the first three quarters of the year, up 10.3% from the 123.3 billion Euro issued in the same period of 2001. The amendment of the German Mortgage Bank Act in July has helped to expand the pool of collateral available and emphasized the importance of credit quality in the Pfandbrief marketplace. **France**, with the second largest Pfandbrief market, increased issuance to 9.4 billion Euro through September of 2002, up 13.5% from the 8.2 billion Euro issued in the same period last year. Issuance of **Spanish** Pfandbrief increased sharply to 8.5 billion Euro during the first nine months of the year, a dramatic increase over the 1.5 billion Euro issued in the comparable period of 2001. When compared to the same period of 2001, **Luxemburg** and **Switzerland** increased Pfandbrief issuance in the first three quarters of the year, totaling 3.2 billion Euro and 2.7 billion Euro respectively. Issuance of **Austrian**, **Belgium** Pfandbrief from multiple countries decreased as of September.

<b>PFANDBRIEF ISSUANCE BY COUNTRY OF COLLATERAL</b>						
Country	In Euro billions			In USD billions		
	2001:Q3	2002:Q3	Change	2001:Q3	2002:Q3	Change
Austria	0,1	0,09	-0,01	0,09	0,08	-0,01
Belgium	1,1	-	-	1	-	-
France	8,24	9,35	1,11	7,53	8,68	1,15
Germany	123,3	135,99	12,69	111,77	125,53	13,76
Luxemburg	1,53	3,22	1,69	1,4	2,9	1,5
Spain	1,5	8,5	7	1,34	8,1	6,76
Switzerland	2,53	2,74	0,21	2,29	2,54	0,25
Multinational	0,03	-	-	0,03	-	-
<b>Total</b>	<b>138,33</b>	<b>159,88</b>	<b>21,55</b>	<b>125,45</b>	<b>147,83</b>	<b>22,38</b>

## 3.4 European Securitization Markets

### 3.4.1 United Kingdom

Securitization is increasingly being used in UK as a financing mechanism. UK contributed transactions worth about USD 26 billion in 1999. It was at top position in 2000 as well, but in 2001, for some time, Italy seems to have over taken UK. This might well be a transient phenomenon as some big deals emerged from Italy during the first half of 2001.

By the end of year 2001, UK was on top position in Europe. In fact UK's contribution was about 35% of total European securitization in 2001, though the percentage was 44% in 2000.

UK can well be regarded as the securitization laboratory of the world. For whatever reasons, lots of innovative applications of securitization emerge from the UK. Securitization transactions conducted in UK are more complex than those in any other part of the world and the number of legislative considerations involved in UK is simply mind –boggling.

Exploring the reasons as to why UK has experimented with so many different innovative applications, Hilda Mak and John Deacon in an article titled *Developments in UK Securitization*, observe that: the reason lies in a stagnant mortgage market during the early 1990s as a result of a general downturn in mortgage business, because of which securitization could not progress in its traditional mainstay – RMBS.

UK is not only the largest market in Europe: it is also giving a number of innovative deals. The range of assets that have been the subject of securitization in the UK is growing rapidly.

Some of the recent transactions involving securitizations would give an indication of the spread of activity:

- National Westminster Bank's securitization of \$10 billion of corporate loans.



- Nomura's acquisition of Intreprenuer, Spring Inns and William Hill funded by means of a securitization.
- Stagecoach's issue of 368 million GBP of bonds to be serviced by rental income from leases of trains to the train operators.
- The London branch of Sumitomo Bank raising 1.4 billion GBP from the securitization of bank advances undrawn loan facilities and bank security.
- Canary Wharf Finance raising 500 million GBP by a securitization of leases of properties at Canary Wharf.

Other securitizations have involved credit cards, auto loans, receivables from pubs, and equipment leases. Sections of the media and entertainment industry are seeking to securitize royalty streams from completed films and TV programming and from music publishing and recording.

Mortgage securitizations in UK in 1998 grew substantially. Telephone receivables and Internet receivables were also securitized. In May 1999, securitization of TV rights revenues of Formula One racing business made history with USD 1.4 billion issue.

#### **3.4.1.1 Legal Systems and Initiatives**

English legal system is known world over as common law. English common law distinguishes between tangible and intangible property – choses in possession and choses in actions. The latter are transferable only by a written conveyance. Thus the Law of Property Act 1925 required a written agreement to transfer actionable claims. Notice to debtors was also required.

However, traditional English law has always recognized equitable transfers, that is, transfers that do not comply with the legal requirement of law, but would be recognized as setting up a legal relationship between the transferor and transferee. Equitable transfers do not result into a right against the world at large, but a personal right – what

this means is that the right of the assignee under an equitable transfer is a right against the assignor, and not an independent right against any and all.

#### **3.4.1.2 SPV structures**

In most UK securitizations, the SPV is structured as “an orphan subsidiary” with the shareholding transferred to a charitable trust. Therefore, even though there is no direct control of the originator on the SPV, it is a matter of a common knowledge that the SPV is a figment of the originator. The originator does maintain operational control over the SPV.

This ownership structure of the SPV is devised to avoid consolidation, both from bankruptcy as well as accounting viewpoint. To avoid consolidation from legal and accounting viewpoint, the originator must hold no equity interest, and no residual interest in the SPV. Therefore, very convoluted methods are followed in UK practice for extraction of the originator's profit from the transaction. These include: deferred consideration, an intermediary trust holding legal interest on behalf of both the originator and the issuing SPV, interest swap, retained interest, management fee, brokerage, etc.

#### **3.4.1.3 Taxation**

**Withholding Taxes:** Two kinds of withholding taxes affect securitization vehicles in the UK:

- The MIRAS system in case of mortgage payments, and
- Withholding tax on interest in case of other receivables.

As far as withholding tax on interest is concerned, the payer of interest is required to withhold tax at the basic rate, unless the lender is a bank. Since securitization SPVs are not banks, transfer of loans to SPVs surely gives rise to the problem of withholding tax. In answer, a number of securitization transactions in the past were structured as “participation” transfers, rather than true sales.

**Value added tax:** VAT is not applicable on sale of receivables

#### **3.4.1.4 Income-tax rules**

There are no pre-defined income-tax rules on securitization in the UK but the tax treatment is understood with reference to general tax law and practice.

##### **Originator taxation:**

The basic question to be decided for the originator is whether the disposition of the receivables will be taken as a sale or financing. The question would, in most cases, be decided by reference to the originator's accounting treatment. If the assets in question are business assets, and they are being transferred, business profits/loss may arise. In certain cases, the asset being transferred may be held as capital assets – for example, in case of lease transaction. Ideally, in such cases, the physical asset and the receivables therefrom should be split, and the receivables should only be transferred rather than the physical asset.

The other significant tax issue is the deductibility of the initial fees of the issue. Incidental costs of raising finance may, if properly structured, be deductible by the issuer under the FA 1996 rules. Accounting Standard FRS4 will generally require issue costs, and thus the tax deductions, to be amortized over the period of the notes.

##### **Investors' taxation:**

An investor's UK tax position will be reasonably straightforward. Notes will generally fall within the withholding tax exemption for quoted Eurobonds.

In general, it is believed that the accounting method employed by the investor for books will be adopted for taxation too.

##### **SPV taxation:**

A proper structuring of the SPV is crucial: the objective of all concerned parties is to ensure a tax transparent SPV. Only matching incomes and expenses can ensure this. The payments made by the SPV will be principal and interest on the bonds, of which interest will be tax deductible – principal will not be.

Interest paid by the SPV on a participating loan, that is, a loan with a right to participate in profits is not tax deductible. Such interest is also not taxable in the hands of the originator.

### **3.4.2 Germany**

The German securitization market in terms of volumes declined in 2001: from a volume of 7 billion Euro in 2000 to approx. 5.5 billion Euro in 2001. However, this should not dishearten, as German banks and mortgage lenders have taken to more of synthetic securitization, which is unfunded in nature. Therefore, a notional volume of some 15.5 billion Euro was hidden in synthetic deals in 2001.

Germany is Europe's largest economy. With approximately 1.9 trillion DM of mortgages, thousands of banks, and some of the world's most powerful and sophisticated industrial and service corporations, and all the more, one of the leading financial centers in Europe, it should only be surprising that Germany should rank at place 3 in European securitization market. However, Germany has a very old and well established Pfandbrief market, an instrument that in many respects fits the bill for US-style mortgage securitization. Pfandbriefes are not considered the same as mortgage pass throughs. Pfandbriefes are on-balance sheet instrument, which carry a claim both against the mortgage originator as also against the underlying mortgages.

#### **3.4.2.1 German law on securitizations**

On May 20 1997 the German Banking Supervisory Authority published a "Circular Regarding the Sale of Customer Receivables of Credit Institutions in Connection with ABS Transactions" under cover of an explanatory side letter. The stated purpose of the Circular is to provide credit institutions with planning and legal certainty in respect of central questions concerning ABS transactions and to enable their completion without the prior involvement of the BAK.

Although it does not cover all questions arising in connection with ABS transactions, the circular provides banking supervisory guidance on two central issues:

- The possibility of relief under the own funds requirements of the originator, and
- Safeguarding the interests of the debtors of the receivables sold particularly data protection and bank secrecy.

The structure for ABS transactions envisaged by the Circular was developed in consultation with representatives of domestic and foreign banks. In this way, the UK experiences with ABS transactions particularly credit enhancements and financing of the SPV, have found their way into the Circular to varying degrees. Nonetheless, German regulators remain cautious in respect of own funds relief for credit institutions.

**ABS definition:**

The Circular defines ABS as “securities and certificates of indebtedness representing payment claims against a special purpose vehicle (SPV) serving exclusively the purposes of the ABS transaction”. The payment claims are “backed” by a pool of uncertified receivables, which are transferred to the SPV as security, principally for the benefit of the holders of the ABS. The qualification “uncertified” was added to the draft Circular at the behest of the association of foreign banks in order to exclude from the scope of the Circular transactions whereby certificated securities are repackaged in ABS transactions. For banking supervisory purposes the BAK will not distinguish between SPVs with company structures and SPVs with trust structures.

**Own funds requirements:**

In accordance with the EU Directive on a solvency ratio for credit institutions, the Own Funds Principle I requires that at least 8% of a credit institution’s risk assets must be backed by own funds. In principle, banking customer receivables are treated as assets items. The Circular now makes clear that ABS transactions allow credit institutions to effectively remove customer receivables from their balance sheets and from the application of Principal I, by selling them to an SPV. Such receivables will no longer be treated as risk assets of the selling credit institution, not even as off-balance sheet risk assets, provided no counterparty or market risks regarding such receivables are retained by the selling credit institution.

This will be the case if the following prerequisites are met:

- There must be legally valid transfer of the receivables to the SPV (“true sale”).
- Recourse against the originator must be limited to liability for the legal existence of the receivables sold or their compliance with eligibility criteria set forth in the purchase agreement.
- There must be no substitution by the originator of receivables sold to the SPV, other than substitutions for non-compliance with the contractually agreed eligibility criteria.
- A repurchase of the receivables sold to the SPV is only permitted for the purposes of finalizing the transaction and is limited to a rest-portfolio of less than 10% of the receivables sold to the SPV at their then current value.
- Subject to the exceptions, neither the originator nor any of its affiliates must participate in the financing of the SPV during the transaction. In this context, “affiliates” means credit institutions, financial institutions or enterprises engaged in ancillary banking services in which the originator directly or indirectly holds at least 40% of the capital shares or which are controlled subsidiaries of the originator. “Financing of the SPV” refers to any provision of financial means to the SPV during the transaction in the broadest sense, including the simple obligation to provide the SPV with financial means or the giving of a similar undertaking. The purpose of this regulation is to ensure that the credit risks transferred to the SPV do not fall back onto the originator in a different form.
- If originators assume the placement risk of the ABS in a firm commitment underwriting, relief under Principle I will only be available to the extent that the ABS underwritten by the originator are completely placed on the market, or after the originator’s underwriting obligation has expired.

It is unclear whether all ABS must be placed before the originator receives relief under the Own Funds Principle I or whether such relief is granted to the extent that ABS are

placed in the market. The latter interpretation would more accurately reflect the risk profile of the originator.

- Purchases of ABS by the Originator in the secondary market must be at the current market price and must not involve the granting of credit to the SPV or the investors. Securities purchased by the originator must be backed by own funds in accordance with Principle I.
- Originators must take adequate measures to prevent any de facto obligation to assume economic responsibility for the receivables sold in the ABS transaction from arising, e.g. in the form of market pressure. In particular, the Circular requires that there be no corporate group, company law, capital or personal connection between the originator and the SPV or the trustee/collateral agent holding title to the receivables and other security in a fiduciary capacity. Nor must the name of the originator be similar to or identical with the name of the SPV. Finally, the ABS sales prospectus must indicate clearly that only the SPV is liable for claims of investors and that a quarantine obligation of the originator exists only to the extent expressly undertaken by it.

Retained market and liquidity risks must be backed by own funds, but it remains unclear which own funds requirements will be applied by the BAK in such cases.

**Selection of receivables:**

On the assumption that the sale and transfer of high quality receivables in an ABS transaction may cause the risk profile of the originator to deteriorate, the BAK requires that the receivables be selected randomly from the originator's receivables portfolio. The random selection may, however, be made from those receivables satisfying certain contractual eligibility criteria. The auditor's report on the audit of the annual accounts of the originator must comment on any material deterioration of the portfolio caused by an ABS transaction and the BAK will assess whether "special circumstances" requiring a revision of the own funds assessment. Because no precedents exist, it is unclear what own funds requirements will be imposed on an originator by the BAK in such cases.

**Notification to the debtor:**

To facilitate ABS transactions by credit institutions, the Circular provides that no consent from the debtor of the receivable is required for the transmission of data:

- Which is required to identify and legally enforce the receivable transferred, provided such data are encrypted in the declaration of transfer, the encryption key being deposited under seal with a neutral party. Either a notary or a domestic credit institution supervised in accordance with the EU Banking Directives and having its seat in another member state of the EU, or in a state party to the Convention on the European Economic Area.
- The transmission of which to a third party (rating agency, auditor, trustee) in connection with the ABS transaction is absolutely indispensable for technical reasons and whereby the identity of the customer is not disclosed. Such third persons must be obliged to ensure confidentiality.

Furthermore, the Circular provides that no consent from the debtor of the receivable is required if the originator itself services the receivable transferred in the ABS transaction in the capacity of service agent, because in this case customer-related is not transmitted. The guidance provided by the Circular for cases in which the originator is replaced by a new service agent is limited to requiring that the new service agent must be a domestic credit institution, an EU credit institution or an EEA credit one. Clearly customer data must be transmitted in such cases to allow the receivables to be collected. However, the legality of such a data transmission is at present not settled.

**Pfandbrief: The German Securitization Instrument**

Pfandbriefe are asset-backed bonds. But unlike US-style securitizations, the underlying assets remain on the issuing bank's balance sheet. There is no special-purpose vehicle. The Pfandbrief institution is like one big SPV. Its designated mortgage or public-loan assets as an undifferentiated pool of collateral for all mortgage or public Pfandbrief at once. The bank has to manage that pool to make sure its value and cashflows cover all Pfandbrief liabilities.



A trustee appointed by the federal banking supervisor BAKred checks periodically that the collateral is adequate and registers all the assets in the pool. The bank needs the trustee's approval to sell any of those assets.

If the Pfandbrief issuer defaults, Pfandbrief holders have preferential access to the assets in the pool. If the registered collateral is inadequate to meet Pfandbrief liabilities, holders get equal status with the highest creditors in the queue for the rest of the bank's balance sheet.

In fact there hasn't been a Pfandbrief default since the instrument was created by executive order of Frederick the Great of Prussia in 1769. In 1897,, the sector had its worst crisis. Three Hypotheken banks, which had participated in, as well as financed, housing developments went bankrupt when property prices collapsed. Deutsche Grundschuldbank defaulted on its bonds – it had issued no Pfandbriefe. Preu bische and Pommersche Hyp met their Pfandbrief liabilities, but shareholders lost all their capital.

So popular are jumbo Pfandbrief among international investors nowadays that the Pfandbrief market is the seventh-biggest bond market in the world. About 1.8 trillion-DM in Pfandbrief are outstanding.

### **3.4.3 Spain**

#### **3.4.3.1 The market**

The traditional mortgage-funding product in Spain was the Pfandbrief. Securitization of the US-style was introduced only recently. Spain is one of those few markets where Government initiative has been behind the growth in securitization markets. While securitization transactions originated around 1991, the Government passed an enabling law in 1992. Over a period of time, the Government has been reshaping and reforming the law making it more permissive and market-friendly – the most recent legal initiative was taken in 1998.

Spanish securitization market for last many years has been a mortgage-dominated market. The first transaction in 1991 was one where Citibank Hipotecas I and Sociedad Espanola issued 19.8 billion pesetas (\$141 million) of participation certificates, secured by an issuer's specific portfolio of mortgage loans. There was an exceptional deal in 1996 to help the restoration of enterprises whose revenues were affected by the moratorium on the government's nuclear program.

Some innovative deals have been struck recently. For example, the Government subsidies to certain universities have been securitized enabling the universities to raise immediate funds. There has also been securitizations of electricity bills receivables, to part finance the transition of the electric utilities: this is more or less on the lines of securitization of stranded costs by US electric companies.

In 1998, the total volume of securitization issues in Spain was estimated at around \$4 billion. In year 2001, this volume reached approx. 10 billion Euro. Main market participants are banks and financial intermediaries including the local version of savings and loans companies.

In 2002 securitization activity performed brilliantly, with volumes increasing some 70% at \$18.4 billion compared with \$10.6 billion a year earlier. A total of 27 transactions closed compared with 18 in 2001. A recent S&P special report says that this is by far the largest volumes achieved in Spain. Over just 4 years, the volume of issuance in Spain has quadrupled.

Spain is the 5<sup>th</sup> largest market in Europe – followed by UK, Italy, Germany and the Netherlands.

In 2002, the growth was pulled mainly by repeat issuances from originators who have already tasted the benefits of securitization. Like in many other countries RMBS was the dominant asset class.

According to the S&P report, for the same reasons as in 2002, the Spanish securitization market in 2003 will continue to grow at a brisk pace. Some repeat originators are already working on transactions for the first quarter, others will go to

market later in the year. There will be recurrent issuances from established originators and new types of transactions will be structured. Some corporate originators are already looking into the possibility of taking advantage of this source of financing.

## CHAPTER 4

### SECURITIZATION IN GREECE

#### 4.1 Latest news of Securitization in Greece

Securitization in Greece is still in early stage on comparison with the rest European countries. This delay has occurred because the legislation framework about securitization has not been finished yet. This “financial tool” is the most convenient method for the banks to face problems of capital adequacy. According to the ECB the average rate of capital adequacy has been reduced for many banks below 8%, which is the minimum acceptable limit.

By issuing corporate bonds many banks will securitize their receivables of mortgage and consumer loans, and others will securitize their own buildings. All these will benefit banks, which have an important portfolio of mortgage loans. For the mean time there is no thought about the securitization of credit card receivables by the Greek FIs. The main reason for this adverse is that credit card holders can either increase or repay their credit card balances at any time. As we already mentioned in Chapter 2 the extension of securitization technology to other assets raises questions about the limits of securitization and whether all assets and loans can be securitized. Conceptually the answer is that they can, so long as it is profitable to do so or the benefits to the FI from securitization outweigh the costs of it. The more costly and difficult it is to find asset packages of sufficient size and homogeneity, the more difficult and expensive it is to securitize.

So, **National Bank of Greece** examine two choices:

- To securitize part of the mortgage loans' portfolio, or
- To securitize part of its own buildings.

**Alpha Bank** examines the case to cooperate with foreign banks in order to securitize its mortgage loans, and the credit cards' balances.

**Aspis Bank** is the first bank, which has already decided to participate in this program when the legislative framework completed. According to its vice president, Aspis is going to securitize a big part of mortgage loans' portfolio, which is the 65% of the total loans' portfolio of the bank.

## 4.2 The Legislation framework in Greece

The legislation framework here in Greece has already finished but has not been voted yet. It leans on basic principles of typical securitization's procedure just like in most European countries. The only difference has to do with the taxation of financial claims, which is different among the countries.

So, as we already mentioned, there is going to be a legal **transfer of the receivables** to a separate entity. This entity is created solely for the purpose of the transaction: therefore, it is called a **special purpose vehicle (SPV)** or a **special purpose entity (SPE)**. The function of the SPV in a securitization transaction, could stretch from being a pure conduit or intermediary vehicle, to a more active role in reinvesting or reshaping the cash flows arising from the assets transferred to it, which is something that would depend on the end objectives of the securitization exercise.

Therefore, the originator transfers the assets to the SPV, which holds them on behalf of the investors and issues to the investors its own securities. Therefore the SPV is also called **the issuer**. The minimum face value of its security, here in Greece, is 100.000 Euro.

According to the Greek law, if the SPV is not a Greek company and the receivables are paid by consumers here in Greece, then the seller or a FI here in Greece has the obligatory to control the collections and the monitoring of the receivables.

One of the main reasons of the late completion of legislation framework in Greece is the banks' capital adequacy. Banks here in Greece has serious problems with their capitals. According to the ECB, as we already mentioned at the beginning of this chapter, the average rate of capital adequacy has been reduced for many banks "unofficially" below 8%, which is the minimum acceptable limit. Greek banks have the priority to improve their capital adequacy because for most of them, has decreased in "dangerous" levels. If they manage to improve it, then they are going to use other financial tools such as securitization, in order to reduce credit exposure, to reduce the illiquidity by holding loans, and generally to improve their balance sheets. About capital adequacy we are going to discuss further in the next chapter.

### **4.3 Securitization of Secured Consumer Loans Originated by Kotsovolos**

The one and only kind of securitization, which has already begun here in Greece, is the securitization of the consumer loans originated by the **Kotsovolos S.A.** which main activity is to sell house equipment. Kotsovolos' clients in order to satisfy their consumer needs take loans from Alpha bank. Under the bank loan agreement Kotsovolos quaranteeing that the consumer will pay the receivables to Alpha Bank. So, under these conditions Kotsovolos securitize such loans.

#### **4.3.1 Parties and definitions**

- **"Agent Bank"** means the bank granting loans to consumers to enable them to purchase goods from Kotsovolos (Alpha Bank).
- **"Albion"** means Albion Capital Corporation.
- **"Bank Loan"** means the loan advanced by the Agent Bank to the consumer for the purchase of goods from Kotsovolos.
- **"BTM"** means the Bank of Tokyo-Mitsubishi, Ltd.

- **“Consumer”** means a consumer wishing to purchase goods from Kotsovolos who obtains the money for this purchase by entering into a loan agreement with the Agent Bank.
- **“Heads of Terms”** means the heads of terms drafted by TMI the last draft of which was dated 8<sup>th</sup> February 2002.
- **“Indemnified Parties”** means the Agent Bank, TMI, BTM, the Swap Counterparty, the SPV, the Monoline Insurer and Albion being the parties that Kotsovolos will agree to indemnify under the Indemnify Agreement.
- **“Kotsovolos”** means P. Kotsovolos S.A.
- **“Receivables”** means the Bank Loans and any other relevant amounts owed to the Agent Bank under the Bank Loans.
- **“Security Trustee”** means the security trustee appointed as such under the Deed of Charge.
- **“Servicer”** means Kotsovolos who will be appointed as such under the Standby Servicer Agreement with the SPV.
- **“SPV”** means a UK special purpose vehicle.
- **“Standby Servicer”** means the company which all be appointed as such under the Standby Servicer Agreement.
- **“Swap Counterparty”** means the company, which will enter into the Swap Agreements with the SPV.
- **“TMI”** means Tokyo-Mitsubishi International Ltd.
- **“Transaction Administrator”** the company, which pursuant to the terms of the Transaction Administration Agreement manages the Collection Account and distributes

cashflows for the SPV in accordance with the Priority of Payments as, defined in the Heads of Terms.

#### **4.3.2 Features of Assets**

Loans, which granted to retail customers of Kotsovolos to finance the purchase of goods, are financed via an agent bank ("Alpha Bank") for whom Kotsovolos acts as originator and servicer. All such loans currently pay a 15% fixed interest rate and their term adjusted between 12 and 60 equal monthly installments. Kotsovolos guarantees 100% of the interest and principal repayment to the agent bank. The average loan amount is 615 Euro. For the year 2000 Kotsovolos originated 540.000 such loans.

#### **4.3.3 The Transaction**

The transaction will consist of raising funds for Kotsovolos from the proceeds of a legal true sale of a portfolio of secured consumer loans originated by P. Kotsovolos S.A. The transaction will receive funding from Albion Capital Corporation ("Albion"). The program amount will be up to 300 million Euro and the sale of the assets will build up over 12-18 months. The sale of assets will be completed on a quarterly basis with a minimum amount of 20 million Euro. The final maturity of the program will be 7 years and the weighted average life of the transaction expected to be 58 months. The payments of interest, principal and transaction costs will be covered from collections under the assets (consumer loans). The Senior Facility, which is going to take place between the "Albion" and the SPV, will be rated AAA/Aaa from S&P and Moody's. Additionally there will be a monoline guarantor which will guarantee the Senior Facility in respect of the timely payment of interest and ultimate repayments of principal. Finally the senior Facility will benefit from credit enhancement to structure the asset risk to an A+ standard.



#### 4.3.4 Transaction Structure

1) Each Consumer executes:

i) A sale agreement (“**Sale Agreement**”) between itself and Kotsovolos providing for the sale of the goods and payment for these goods fully in cash to be provided by the Agent Bank under the Bank Loan, and

ii) A loan agreement (“**Bank Loan Agreement**”) between itself and the Agent Bank pursuant to which the Agent Bank agrees to advance the Bank Loan in an amount equal to the purchase price of the goods. The Bank Loan Agreement is signed by the Consumer and the Agent Bank (by its authorized officers or by attorneys in fact acting on its behalf.

iii) Statutory declaration of any other loans from financial institutions.

2) Under the Bank Loan Agreement Kotsovolos grants a guarantee (the “**Guarantee**”) in favor of the Agent Bank, guaranteeing that the Consumer will pay the Receivables and the Sale Agreement provides that Kotsovolos retains title to the goods in question until the Consumer has paid all installments in full (and hence by implication until Kotsovolos is discharged of its obligations under the Guarantee).

3) The Agent Bank will execute a master assignment agreement (“**Master Assignment Agreement**”) with the SPV pursuant to which the Agent Bank will agree to assign to the SPV and the SPV will agree to purchase those Receivables meeting the relevant Eligibility Criteria, (the “**Eligible Receivables**”).

These asset criteria are:

- Not defaulted or delinquent
- Is evidenced by a valid loan agreement
- Is an annuity type with equal monthly installment

- At least 1 month payment has been made
- Original term of no more than 60 months
- Remaining term remains within final transaction maturity
- No grace periods or rebates
- Minimum yield requirements

Under the terms of this agreement, the Agent Bank will give an indemnity to the SPV relating to the validity and enforceability of the Bank Loan Agreements related to the Eligible Receivables which will be transferred to the SPV. The Master Assignment Agreement will be executed in New York and the originals of the documents will be kept with the Security Trustee outside Greece. The Master Assignment will not transfer title to any Receivables, it will merely set out the terms on which certain Receivables are to be sold by the Bank and purchased by the SPV. The actual assignment of specific Eligible Receivables by way of sale will be effected through the mechanism described below.

4) As soon as an agreed amount of Eligible Receivables has accumulated, the Bank will assign to the SPV these Eligible Receivables. This assignment (the “**Particular Assignment**”) will be governed by the terms of the Master Assignment Agreement and may be effected in one of the following ways:

- a) the SPV and the Agent Bank will sign an assignment agreement in New York, or
- b) the assignment will be structured as an offer to assign by the Agent Bank and an acceptance by the SPV of that offer in the following way:
  - i) the Agent Bank will send an offer letter (the “**Offer**”), which will be signed in New York, to the Transaction Administrator (as agent for the SPV) in New York offering to sell particular Eligible Receivables to it and requiring the SPV to confirm acceptance of the Offer by means of a letter (the “**Acceptance**”) to be delivered to the Agent Bank in New York, and

- ii) The SPV will send the Acceptance to the Agent Bank in New York or
- c) the assignment will be structured as an offer to assign by the Agent Bank and an acceptance by the SPV of that offer in the following way:
- i) the Agent Bank will send an offer letter (the “**Offer**”), which will be signed in New York, to the SPV in New York offering to sell particular Eligible Receivables to it and requiring the SPV to confirm acceptance of the Offer by remitting the purchase price for those Eligible Receivables (the “**Purchase Price**”) to the Agent Bank in an account of the Agent Bank outside Greece, and
  - ii) the SPV will accept to purchase these Eligible Receivables by remitting the Purchase Price to the Agent Bank in the account of the Agent Bank specified in the Offer.

5) Once the Eligible Receivables have been sold as described above, the rights and claims of the Agent under the relevant Guarantees (being accessory rights and claims) will be transferred to the SPV together with the rights and claims of the Agent Bank under the Bank Loan Agreements in question. The SPV will, therefore, succeed in the rights of the Agent Bank under the Guarantees shall continue to secure such sold Eligible Receivables. The Guarantees for all non-Eligible Receivables will remain in place and, therefore, the non-Eligible Receivables continue to be held by the Agent Bank supported by the Guarantees. The assignment of the Guarantees occurs automatically under Greek law since the latter are accessory to the Bank Loans. However, the Master Assignment Agreement and the Particular Assignment will also deal with this issue expressly.

6) The SPV and the Agent Bank will notify Kotsovolos and, through the agency of Kotsovolos, will also notify each Consumer of: i) the assignments of its Receivable (together with the respective Guarantee) to the SPV, and ii) the security interest and security assignment over the Receivable and the respective Guarantee by the SPV to the Security Trustee. This notification will be in writing and will be given to each Consumer with the receipt for each payment the Consumer makes, in respect of the

Loan or, in case the Consumer has not made any payments at all, in the notice of non-payment to that Consumer. The notification will also state that Kotsovolos will be the Servicer and will, therefore, receive payments and give notices and receipts of payment under the relevant Receivable as agent for the SPV and the Security Trustee, unless written notice is given to the contrary by the SPV and the Security Trustee.

7) In order to record that the particular Eligible Receivables have been assigned to another entity, the Agent Bank will make appropriate notes and entries in its loan books and accounts respectively, which are available for inspection by all appropriate authorities, including tax authorities and the Bank of Greece or other competent regulatory authorities.

8) Kotsovolos will enter into a servicing agreement (the “**Servicing Agreement**”) with the SPV pursuant to which it will be appointed as the Servicer of the sold Eligible Receivables and it will perform administration, collection and monitoring functions. As part of these functions, Kotsovolos will record in its systems which receivables have become Eligible Receivables, which of them have been assigned to the SPV and which Receivables remain non Eligible Receivables as well as any defaulted receivables. In addition, Kotsovolos, in its capacity as Servicer, will administer the collections of payments of Eligible Receivables sold to the SPV (“**Collections**”). The Collections will at first instance be deposited in a bank account in the name of Kotsovolos in Greece. They will be held by Kotsovolos as agent for the SPV and will be transferred to an account in the name of the SPV outside Greece on a daily basis. In addition, the Standby Servicer will be appointed pursuant to a standby Servicer agreement (the “**Standby Servicer Agreement**”) and we understand that the exact scope of its appointment will be agreed in Phase 2.

9) Pursuant to the terms of an agreement (the “**Transaction Administration Agreement**”) with Albion, Kotsovolos, the Agent Bank the Security Trustee and the SPV, the Transaction Administrator will, inter alia, agree to manage the account of the SPV where the Collections will be transferred by Kotsovolos as Servicer, and also to distribute the Collections in accordance with the Priority of Payments, as defined in the Heads of Terms.

10) The Purchase Price will be funded as to a certain proportion by the SPV (the “**SPV Proportion**”) and as to the balance by Kotsovolos (the “**Kotsovolos Proportion**”).

11) The SPV will fund its proportion by drawing under a loan agreement it has with Albion (the “**Albion Loan Agreement**”). The Albion Loan Agreement will be executed outside Greece and all payments under it will be made to accounts located outside Greece. A monoline insurance company (“**Monoline Insurer**”) will insure the risk that Albion will bear in not getting paid under the Albion Loan Agreement.

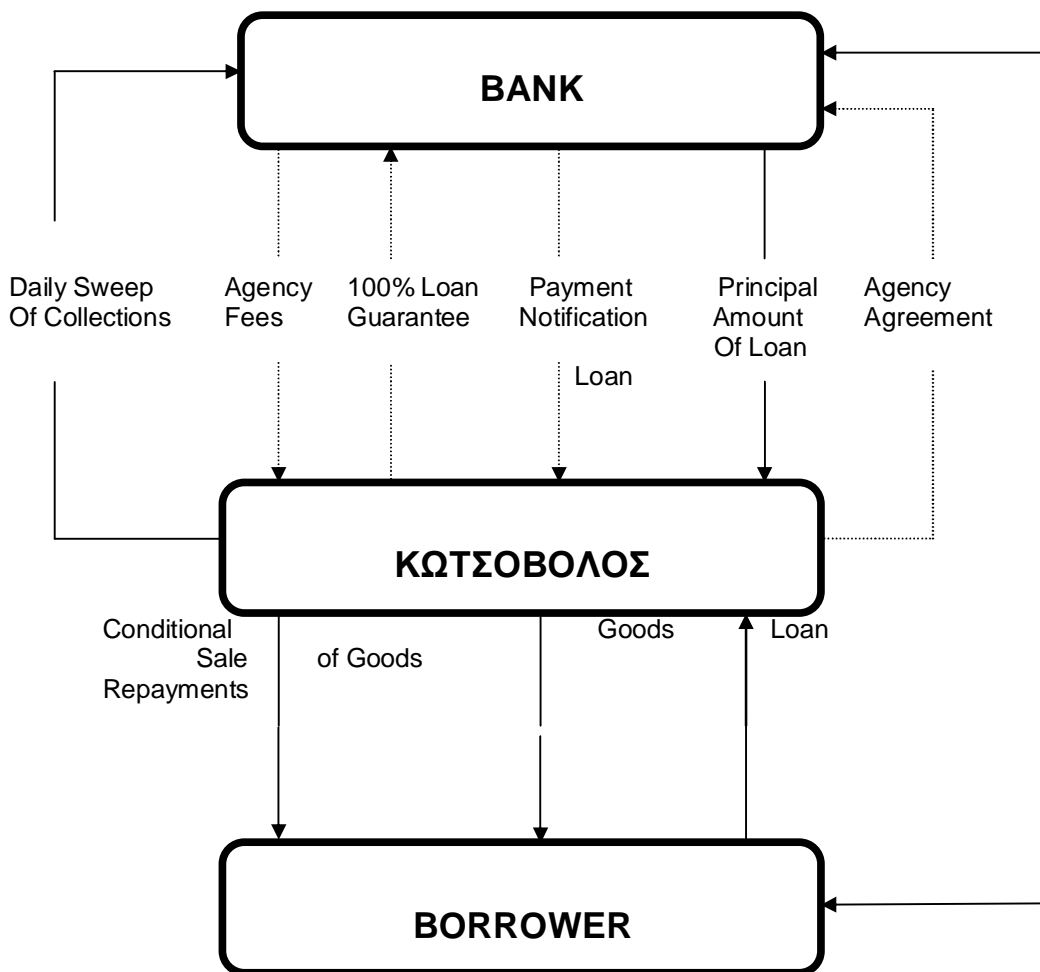
12) The Albion Loan Agreement will be secured pursuant to a deed of charge (the “**Deed of Charge**”) between the SPV, Albion, Kotsovolos and the Security Trustee by all of the SPV’s right, interest and title in and to the sold Eligible Receivables, all of the SPV’s rights in the Subordinated Loan Agreement or Cash Collateralized Guarantee, as the case may be, as well as over all other property of the SPV.

13) Kotsovolos will enter into a subordinated loan agreement (“**Subordinated Loan Agreement**”) with the SPV to provide funding for the Kotsovolos Proportion which will be drawn down by the SPV at the time of each Particular Assignment. The Subordinated Loan Agreement will be executed outside Greece and all payments by Kotsovolos under it will be made to an account of the SPV located outside Greece.

14) To the extent that any sold eligible receivables have defaulted, this will reduce payments made to Kotsovolos under the Subordinated Loan Agreement and depending on the exact amount of default it may also reduce payments made to Albion under the Albion Loan Agreement. The Transaction Administrator (as agent for the SPV) will give written notice to Kotsovolos requesting payment under the Guarantees for the Defaulted Receivables and will issue to Kotsovolos in lieu of such payment subrogating receipts thus entitling Kotsovolos to pursue the defaulting consumers in its own name as creditor of the defaulted receivables in accordance with the sale agreement between Kotsovolos and the respective consumer. Any amounts recovered by Kotsovolos from the defaulting consumers will constitute collections and will be administered as such pursuant to the mechanism set out above, so that Kotsovolos will only bear the risk of the Kotsovolos proportion in connection with defaulted receivables. The SPV will also have the right to pursue the defaulting consumer in its own name with assistance from Kotsovolos.

15) The SPV may enter into a series of interest rate and/or currency swaps with the Swap Counterparty depending on the commercial agreement between Kotsovolos and TMI.

16) Kotsovolos will enter into an Indemnity Agreement with the SPV, the Agent Bank, Albion, TMI, BTM and the Monoline Insurer pursuant to which Kotsovolos will agree to indemnify each of the other parties to the Indemnity Agreement in respect of increased costs and taxes, including stamp taxes and duties.



#### 4.3.5 The Agent Bank Role

The main role of Alpha Bank, as we already mentioned, is the sale of consumer loans, which satisfy the eligible criteria, to the SPV (Mezzanine Facility). The sale is going to take place periodically (every 3 months). The SPV will fund the purchase of the Loans through three sources:

- A Senior Facility provided by the international capital markets (via Albion)
- A Mezzanine Facility from the Agent Bank
- A Subordinated Facility from Kotsovolos.

Prior to the sale the Agent Bank will book the loans in an amount individually no greater than 3.000 Euro. Agent Bank will also finance the eligible loans for up to the first three months prior to their sale into the securitization and Kotsovolos will provide a 100% payment guarantee to Alpha in exchange for the loan advances.

The Agent Bank's exposure to the sold loans will amount to the level of the Mezzanine Facility, but protected by:

- Excess interest collections on the Loans
- The Subordinated Facility

The excess spread is going to be 8%-10%, and the Subordinated Facility is expected to be in the region of 5% of the loans sold. So, the Mezzanine Facility is going to be approximately the 15% of the loans sold.

About the risk of default of such loans, the average default rate (based on defaulting a loan when it first becomes more than 4 installments delinquent) was found to be 1.8% per annum. Historical documents have shown that the quality of the Kotsovolos originated loans is very consistent.

Except from the sale of the eligible loans to the SPV Alpha Bank also acts as Back-up Servicer. So, during the transaction, Alpha hold information on the loans to ensure that

servicing can be performed if required to do so. Additionally, upon an occurrence of a Back-up Servicer trigger event, Alpha can provide servicing to the sold loans in accordance with the transaction documents including collecting payments, providing arrears administration processes and monitoring the performance of the loans.

#### **4.3.6 Why should the Agent Bank get involved?**

First of all, this transaction will be the first non-state securitization transaction in Greece, so it will be a highly prestigious one. The Agent Bank will also benefit from the publicity of the transaction and will gain invaluable experience from being involved in the securitization process.

Secondly Alpha will receive remuneration for:

- Warehousing and financing eligible loans for the first three months of their life
- Back-up Servicing fees for acting as a Standby Servicer
- Providing the Mezzanine Facility

Finally with this involvement Alpha Bank can provide access to the Kotsovolos customer base.

#### **4.3.7 Criticisms about Kotsovolos' securitization**

Some useful questions at this point should be:

- a) Why Kotsovolos didn't wait for the completion of the legislation framework in order to securitize its consumers' loans here in Greece?
- b) Does Kotsovolos has any benefits by choosing to securitize its customers' loans outside Greece?

Actually, Greek market has no experience in such kinds of financial mechanisms. As we have already mentioned the main purpose of FIs here in Greece is to improve their net



positions, to improve their ratios and their profits. The FIs didn't work on securitization because the usage of this financial tool wasn't very important. So, Kotsovolos decide to follow this way because outside Greece (in USA and in many European countries) securitization already exists for many years and companies, FIs that are work on securitization have a lot of experience in this kind of transactions.

Additionally foreign investors are more familiar in these kinds of investments (corporate bonds). This kind of securities is not familiar here in Greece because the legislation framework hasn't be completed yet. The framework that refers to securitization includes and the procedure about issuing corporate bonds. So, Kotsovolos decided very well, because in Greece couldn't issue a bond under current conditions.

Kotsovolos by securitized its loans and issuing bonds in foreign country, is very prestigious for a Greek company and it is going to benefit from the publicity of the transaction. Also this transaction is going to improve Kotsovolos' reputation except for the Greek market, and to the foreign ones.

As a disadvantage of this movement, to go abroad, we think that the cost of the whole procedure is very increased (administrative cost, servicing fees) because of the large number of counterparties which take place in order to complete the procedure, and the high levels of payments which might demand because of their experience in securitized loans.

## **CHAPTER 5**

# **BANK FOR INTERNATIONAL SETTLEMENTS (BIS) AND SECURITIZATION**

## **5.1 Second Working Paper on the Treatment of Asset Securitizations**

### **5.1.1 Introduction**

The current Basel Accord contains very little guidance on the treatment of securitization transactions. Given the large and rapidly growing securitization markets, a robust treatment of securitization is seen as an essential component of the Basel II framework. Without such a treatment, the new Accord would not achieve the objectives set out by the Basel Committee on Banking Supervision.

The Committee therefore has sought to develop a capital treatment for securitization exposures. The Committee's first consultative paper (released in June 1999) introduced a securitization proposal. This original proposal was expanded upon in the Committee's second consultative package (released in January 2001). Those proposals primarily focused on the standardized treatment to traditional securities. Generally, banks were required to assign risk weights to securitization exposures based on a few observable characteristics, such as the presence of an issue rating. Risk transfer requirements for traditional securitizations were also provided.

The purpose of this paper prepared by the Securitization Group of the Basel Committee is to discuss two sets of proposals that were initially outlined in the January 2001 consultative package. The first proposal is for an internal ratings-based (IRB) treatment of securitizations and the second is a general approach to synthetic securitizations. So, the paper discuss some of the new elements of the securitization framework, such as improvements made to the IRB treatment, as well as those concerning liquidity facilities and structures containing early amortization features.

They are all aimed at improving the risk-sensitivity of the minimum capital requirements.

### **5.1.2 Scope of the Securitization Framework**

In general, the securitization framework is to apply when the transaction involves the stratification of credit risk. The performance and the risk tranced exposures would be linked to that of the underlying credits. More generally, whether a transaction is going to be treated as a securitization, banks are interested in looking to the economic substance of a transaction rather than its legal form. They are expected to do so when determining the minimum capital requirements applicable to positions generated by a securitization.

General terminology is used throughout the securitization framework with emphasis on the risk arising from different exposures. These depend on the role played by the bank, for example whether it is an originator, an investor or a sponsor program. For example, originating banks must satisfy a set of minimum operational criteria related to credit risk transference. Where these criteria are met, the originating bank may exclude exposures it has securitized from the calculation of its risk-weighted assets. The bank would still have to hold regulatory capital against any retained or repurchased securitization exposures.

The proposed new Basel Accord or Agreement (called Basel II) consists of three mutually reinforcing pillars, which together, contribute to the safety and soundness of the financial system. Pillar 1 covers regulatory capital requirements for credit, market, and operational risk. In the 2001 consultative document, the BIS proposed a range of options for addressing both credit and operational risk. The 1<sup>st</sup> is the standardized approach and the 2<sup>nd</sup>, as we mentioned, is an internal rating based (IRB) approach. The standardized approach is more risk sensitive. Under the IRB approach, banks are allowed to use their internal estimates of borrower creditworthiness to assess credit risk in their portfolios (using their own internal rating systems and credit scoring models) subject to strict methodological and disclosure standards.

In Pillar 2, the BIS stressed the importance of the regulatory review process as a critical complement to minimum capital requirements. Specifically, the BIS proposed procedures through which regulators ensure that each bank has sound internal processes in place to assess the adequacy of its capital and set targets for capital that are commensurate with the bank's specific risk profile and control environment.

In Pillar 3, the BIS proposal provided detailed guidance on the disclosure of capital structure, risk exposures, and capital adequacy.

### **5.1.3 Risk-Based Capital Ratios**

Regulators of all over the world currently enforced the Basel I risk-based capital ratios as well as the traditional leverage ratio. Unlike the simple capital-asset (leverage) ratio –  $L = \text{Core Capital} / \text{Assets}$  – the calculations of these risk-based capital adequacy measures is quite complex. Their major innovation is to distinguish among the different credit risks of assets on the balance sheet and to identify the credit risk inherent in instruments off the balance sheet by using a risk-adjusted assets denominator in these capital adequacy ratios. In a very rough fashion, these capital ratios mark to market a bank's on – and off – balance sheet positions to reflect its credit risk. Further, additional capital charges must be held against market risk and operational risk.

In measuring a bank's risk-based capital adequacy, its capital is the standard by which each of these risks is measured.

#### ***Capital***

A bank's capital is divided into Tier I and Tier II. Tier I capital is primary or core capital. Tier II capital is supplementary capital. The total capital that the bank holds is defined as the sum of Tier I and Tier II capitals.

- **Tier I capital:** Tier I is closely linked to a bank's book value of equity reflecting the concept of the core capital contribution of a bank's owners. Basically, it includes the book value of common equity plus an amount of perpetual (nonmaturing) preferred stock plus minority equity interests held by the bank in subsidiaries minus goodwill. Goodwill is an accounting item that reflects the amount a bank pays above market value when it purchases or acquires other banks or subsidiaries.

- **Tier II:** Tier II capital is a broad array of secondary capital resources. It includes a bank's loan loss reserves up to a maximum of 1.25% of risk-adjusted assets plus various convertible and subordinated debt instruments with maximum caps.

### ***Credit Risk-Adjusted Assets***

Under both the current (Basel I) and proposed (Basel II) capital adequacy rules, risk-adjusted assets represent the denominator of the risk-based capital ratio. To be adequately capitalized, a bank must hold a minimum ratio of total capital (Tier I core capital plus Tier II supplementary capital) to credit risk-adjusted assets of 8%. The total risk-based capital ratio is calculated as:

**Total risk-based capital ratio** = Total capital (Tier I + Tier II)/Credit risk-adjusted assets

This ratio must be  $\geq 8\%$

In addition the Tier I core capital component of total capital has its own minimum guideline. The Tier I capital ratio is calculated as:

**Tier I capital ratio** = Core capital (Tier I) / Credit risk-adjusted assets  $\geq 4\%$

That is, of the 8% total risk-based capital ratio, a minimum of 4% has to be held in core or primary capital.

## **5.1.4 Calculating Risk-Based Capital Ratios**

### **1) Credit Risk-Adjusted On-Balance Sheet Assets under Basel I**

Under the current BIS risk-based capital plan (Basel I), each bank assigns its asset to one of four categories of credit risk exposure: 0%, 20%, 50% or 100%.

**Category 1 (0% weight):** Cash, Central Bank balances, Government securities.

**Category 2 (20% weight):** Cash items in the process of collection, some government deposits and securities, some mortgage-backed securities.

**Category 3 (50% weight):** Loans fully secured by first liens on the residential properties.

**Category 4 (100% weight):** All other on-balance sheets assets not listed above, including consumer loans and credit cards, investments in subsidiaries.

To figure the credit risk-adjusted assets of the bank, we multiply the amount of assets it has in each category by the appropriate risk weight.

## **2) Credit Risk-Adjusted On-Balance Sheet Assets under Basel II**

A major criticism of the original Basel Agreement is that individual risk weights depend on the broad categories of borrowers (sovereigns, banks, or corporates). For example, under Basel I all corporate loans have a risk weight of 100% regardless of the borrowing firm's credit risk. The Basel II Standardized Approach aligns regulatory capital requirements more closely with the key elements of banking risk by introducing a wider differentiation of credit risk weights. Specifically, the risk weights are refined by reference to a rating provided by an external credit rating agency (such as S&P). Accordingly, compared to the current Accord (Basel I), the Standardized Approach of Basel II should produce capital ratios more in line with the actual economic risks that FIs are facing.

Under the Basel II risk-based capital plan proposed for implementation in 2006, each bank assigns its assets to one of five categories of credit risk exposure: 0%, 20%, 50%, 100%, or 150%.

**Category 1 (0% weight):** Cash, Central Bank balances, Government securities and loans to sovereigns with an S&P credit rating of AA-.

**Category 2 (20% weight):** Cash items in the process of collection, some government deposits and securities, some mortgage-backed securities and loans to sovereigns with an S&P credit rating of A+ to A-. Loans to banks and corporates with an S&P credit rating of AA- or better.

**Category 3 (50% weight):** Loans fully secured by first liens on the residential properties. Loans to sovereigns with an S&P credit rating of BBB+ to BBB-. Loans to banks and corporates with an S&P credit rating of A+ to A-.

**Category 4 (100% weight):** All other on-balance sheets assets not listed above, including consumer loans and credit cards, investments in subsidiaries. Loans to sovereigns with an S&P credit rating of BB+ to B-. Loans to banks with an S&P credit rating of BBB+ to B-. Loans to corporates with an S&P credit rating of BBB+ to BB-.

**Category 5 (150% weight):** Loans to sovereigns, banks, and securities firms with an S&P credit rating below B-. Loans to corporates with a credit rating below BB-.

To figure the credit risk-adjusted assets of the bank, we again multiply the amount of assets it has in each category by the appropriate risk weight.

Basel II modifies the treatment of sovereign, bank and corporate loans by using credit agency ratings of borrowers to improve the risk sensitivity of the Standardized Approach. Numerical examples have shown that the result is a decrease in the credit risk-weighted value of the bank's on-balance sheet assets.

### **5.1.5 Internal Ratings-Based (IRB) Approach to Measuring Credit Risk-Adjusted Assets**

Rather than issuing the Standardized Approach, banks with a sufficient number of internal credit risk rating grades for loans and whose borrowers are largely unrated by the major credit rating agencies, may (with regulatory approval) adopt one of the two Internal Ratings Based (IRB) approaches to calculating credit risk-adjusted assets for capital requirements: *The Foundations Approach and the Advanced Approach*.

Under the Foundations Approach to corporate, bank and sovereign exposures, a bank internally estimates the one-year possibility of default (PD) associated with a borrower class, while relying on supervisory rules for the estimation of other risk components. With regulatory approval, a bank may use the Advanced Approach in which banks use

internal estimates of three additional risk components: loss given default (LGD), exposure at default (EAD), and maturity (M).

Under both approaches of IRB capital requirement calculations, benchmark risk weights (BRWs) are calculated for different loans. Under the Foundations Approach, the bank calculates the expected (mean) probability of default (PD) for each of its rating classes based on historical experience to generate the BRW. Then, given an LGD for the loan (assumed by the BIS to be 50% for unsecured loans, 45% for loans secured by physical non-real estate collateral, and 40% if secured by receivables), it calculates an individualized risk weight (RW) of its corporate loans.

$$\text{RW} = \text{LGD}/50 \times \text{BRW}$$

Note that in the Foundations Approach model, if the loan is not secured LGD equals 50% (so that the ratio  $\text{LGD}/50 = 1$ ). If, however, the loan is secured by collateral such as non-real estate collateral or receivables, the  $\text{LGD}/50$  ratio is less than 1, thus reducing the overall risk weight on the loan. The LGD shows the severity of loss as a percent of original value and RW shows the overall risk weight or the capital requirement on the loan. According to the following table the 8% capital requirement on all loans under Basel I translates into a (one-year) probability of default (PD) of 1%.

<b>Probability of Default (PD)</b>	<b>Capital Requirement</b>
0.03%	1.4%
0.1%	2.7%
0.25%	4.3%
0.5%	5.9%
0.75%	7.1%
<b>1% (BASEL I)</b>	<b>8%</b>
1.25%	8.7%
1.5%	9.3%
2%	10.3%
2.5%	11.1%



3%	11.9%
4%	13.4%
5%	14.8%
10%	21%
20%	30%

Thus under Basel I, loans with PD's less than 1% generally "charged" too much capital and loans with PD's greater than 1% "charged" too little capital. The above table shows the impact of the probability of default (PD) on capital requirements under the IRB Foundations Approach assuming LGD equals 50%.

### 5.1.6 Criticisms of the Risk-Based Capital Ratio

The risk-based capital requirement seeks to improve on the simple leverage ratio by:

- 1) incorporating credit, market, and operational risks into the determination of capital adequacy,
- 2) more systematically accounting for credit risk differences among assets,
- 3) incorporating off-balance sheet risk exposures, and
- 4) applying a similar capital requirement across all the major FIs in the world.

Unfortunately, the requirements have a number of conceptual and applicability weaknesses in achieving these objectives.

- 1) *Risk weights*: It is unclear how closely the four (five) risk weight categories in Basel I (Basel II) reflect true credit risk. For example, commercial loans have risk weights between 20 and 150% under Basel II. Taken literally, these relative weights imply that some commercial loans are exactly four and a half times as risky as other loans.

2) *Risk weights based on external credit rating agencies:* While Basel II proposed reforms to improve on Basel I in measuring credit risk, that is, replacing the current single 100% risk weight for sovereign, bank and commercial loans with five different risk weights, depending on the loan's credit rating, it is unclear whether the risk weights accurately measure the relative risk exposures of individual borrowers. Moreover, S&P's and Moody's ratings are often accused of lagging rather than leading the business cycle. As a result "required" capital may peak during a recession when banks are least able to meet the requirements.

3) *FI specialness:* Giving private sector moderate and high risk commercial loans the highest credit risk weighting may reduce the incentive for FIs to make such loans relative to holding other assets. That is, one aspect of banks' special functions –bank lending- may be muted. In addition, since many emerging market countries have low credit ratings, under the Basel II plan banks may have to hold considerably more capital against such loans than under Basel I. This may adversely affect the flow of bank financing to these less-developed countries – with major adverse effects on their economies. Indeed, the high-risk weight given to commercial loans relative to securities has been blamed in part for inducing a credit crunch and a reorientation of bank portfolios away from commercial loans toward securities in the early 1990s.

4) *Competition:* As a result of tax and accounting differences across banking systems and in safety net coverages, the 8% risk-based capital requirement has not created a level competitive playing field across banks. This is different from what proponents of the scheme claim. In particular, some countries have very different accounting and tax rules that significantly affect the comparability of these countries banks risk-based capital ratios.

5) *Other risks:* While market risk exposure was integrated into the risk-based capital requirements in 1998 and operational risk is proposed for 2005, the BIS plan does not yet account for other risks, such as interest rate risk, foreign exchange rate risk, and liquidity risk. A more complete risk-based capital requirement would include these risks. In next paragraph we are going to see more about risks of securitization.

## 5.2 Risks of Securitization

The Bank for International Settlements in a 1992 publication titled *Asset Transfers and Securitization* had the following to say on the risks of securitization:

The possible effects of securitization on financial systems may well differ between countries because of differences in the structure of financial systems or because of differences in the way which monetary policy is executed. In addition, the effects will vary depending upon the stage of development of securitization in a particular country. The net effect may be potentially beneficial or harmful, but a number of concerns are highlighted below that may in certain circumstances more than offset the benefits. Several of these concerns are not principally supervisory in nature, but they are referred to here because they may influence monetary authorities' policy on the development of securitization markets.

While asset transfers and securitization can improve the efficiency of the financial system and increase credit availability by offering borrowers direct access to end-investors, the process may on the other hand lead to some diminution in the importance of banks in the financial intermediation process. In the sense that securitization could reduce the proportion of financial assets and liabilities held by banks, this could render more difficult the execution of monetary policy in countries where central banks operate through variable minimum reserve requirements. A decline in the importance of banks could also weaken the relationship between lenders and borrowers, particularly in countries where banks are predominant in the economy.

Moreover, the securitization process might lead to some pressure on the profitability of banks if non-bank financial institutions exempt from capital requirements were to gain a competitive advantage in investment in securitized assets.

Although securitization can have the advantage of enabling lending to take place beyond the constraints of the capital base of the banking system, the process could lead to a decline in the total capital employed in the banking system, thereby increasing the financial fragility of the financial system as a whole, both nationally and internationally. With a substantial capital base, credit losses can be absorbed by the

banking system. But the smaller that capital base is, the more the losses must be shared by others. This concern applies, not necessarily in all countries, but especially in those countries where banks have traditionally been the dominant financial intermediaries.

The funny piece below seeks to capture the inherent risks of securitization:

**10 reasons as to why the Titanic was actually a securitization instrument:**

- 1) The downside was not immediately apparent
- 2) It went underwater rapidly despite assurances it was unsinkable
- 3) Only a few wealthy people got out in time
- 4) The structure appeared iron-clad
- 5) Nobody really understood the risk
- 6) The disaster happened overnight London time
- 7) Nobody spent any time monitoring the risk
- 8) People spent a lot trying to lift it out of the water
- 9) People who actually made money were not in original deal
- 10) Despite the disaster, people still went on other ships

The above highlights the risks inherent in securitization. One of the biggest inherent threats in securitization deals is that the market participants have necessarily believed securitized instruments to be safe, while in reality, many of them represent poor credit risks or doubtful receivables. For example, a growing section of securitization market is

sub-prime auto loans and home equity loans. Similarly, many of the health-care receivables or student loan receivables may not represent good credits.

In the article titled On the Frontiers of Creative Finance: «**How Wall Street can Securitize Anything**» Kim Clark noted: “Investors do need to beware, of course. Financial markets are notorious for pushing investment ideas into the absurd. Some of these exotic securities will undoubtedly collapse, which will undoubtedly cause a backlash.”

Except the already mentioned risks, this financial tool (securitization) has a lot of benefits for investors, for FIs, for corporates etc, as we can see in the following paragraph.

### **5.3 The Benefits of Securitization in Europe**

Securitization has become widely accepted as a financing and risk diversification technique in Europe where it has developed into a deep and resilient market which has been accessed by a broad cross-section of entities for differing purposes. These include corporates, banks, investment managers, governments, finance companies, utilities and insurance companies. Consideration of the benefits of securitization in Europe should therefore be addressed from the points of view of a number of participants, including companies, regulators, financial institutions, governments and investors.

#### **5.3.1 Benefits for Corporates**

There are many benefits from the viewpoint of the corporate:

- Securitization is seen as an attractive financing alternative at reduced cost of funds. By segregating the assets from the credit risk of the corporate-originator, the corporate can reduce the borrowing risk premium and therefore fund themselves through the capital markets at more attractive pricing than otherwise through the traditional bank and debt capital markets.

- A corporate faced with various core banks may choose to disintermediate its bankers by accessing the capital markets directly through securitization, leading to price tension between the competing funding sources.
- If the financing is non-recourse to the corporate – which may be subject to a level of retained credit enhancement – securitization is perceived as an effective asset-management tool for a corporate.
- For unrated companies and medium sized enterprises that are not sufficiently large to issue debt in their own name, securitization is also the ideal way to tap the capital markets on an anonymous basis without the prerequisite of a corporate rating. Many originators of assets also perceive rating agency analysis applied to securitization structures as an ideal preparation for a credit rating of their own.
- As an off-balance sheet funding technique, securitization also aims at de-leveraging, when necessary, i.e. reducing the gearing of the company (debt to equity ratio) by selling assets and using the proceeds, amongst other things, to repay more expensive long term debt. In this way corporates can free up existing credit lines for future business.
- Securitization can be used as an alternative form of acquisition finance for a corporate, often providing longer tenor and cheaper pricing than traditional bank loan markets (or finance when the traditional bank loan market would not be available).
- Securitization can also be used as an administrative tool to introduce and consolidate the various invoicing and billing processes and collection management on a group basis. This is particularly true in Pan-European transactions involving a large number of operating sellers.

### **5.3.2 Benefits for Regulators**

Regulators recognize securitization as an important financial technique that can assist financial institutions and their regulation.

The benefits from the viewpoint of the relevant regulator can include:

- Improving the management by financial institutions of their exposure to particular economic sectors or business lines.
- Introducing transparency through third party review and market discipline to asset origination and servicing processes.
- Encouraging medium term funding of medium term assets through the Capital Markets and the diversification of funding away from the short-term interbank market and the deposit bank.
- Allowing more efficient use of the regulatory capital within the financial system by shifting risk from regulated institutions to investors (both regulated and non-regulated) who wish to accept such risk.
- Promoting orderly financial markets by allowing regulated institutions to release regulatory capital from capital constrained business and reinvesting it in generating more assets in such businesses.

### **5.3.3 Benefits for Financial Institutions**

Financial Institutions are widespread users of securitization across Europe. The benefits of securitization for financial institutions are also widely recognized by regulators.

Benefits for financial institutions fall into two categories:

- i) Benefits applicable to FIs as originators
- ii) Benefits applicable to FIs as sponsoring banks

### **5.3.4 Benefits of FIs as Originators**

These can include:

- One of the benefits of securitization, namely the transformation of illiquid loans into liquid securities, may lead to an increase in the volatility of asset values, although credit enhancements could lessen this effect. Moreover, the volatility could be enhanced by events extraneous to variations in the credit standing of the borrower. A preponderance of assets with readily ascertainable market values could even, in certain circumstances, promote liquidation as opposed to going-concern concept for valuing banks.
- Reducing risk based capital requirements against own-balance assets, thereby freeing capital to generate more assets or be put into other businesses improving the return on risk-weighted assets.
- Enhancing its management of exposure to particular economic sectors or business lines.
- Reducing asset liability mismatches by utilizing the cash raised through securitization to augment or replace short term or deposit based existing funding of medium or long-term asset portfolios.
- Creating internal policies and procedures to better understand, manage and fund asset portfolios through evaluation of the transaction and the discipline of the market including the rating process itself.
- Retaining the economic upside on the securitized assets following satisfaction in full of investors.

### **5.3.5 Benefits to FIs as Sponsoring Banks**

- Providing a different product to a client as a low cost alternative financing technique



- Allowing continuation of a financial relationship without breaching agreed credit limits for credit exposures to the relevant client.
- Capping or reducing credit exposure to a client where the proceeds are used by the client to repay other credit lines made by the FI to the client.
- Generating fee income without increasing the size of the FI's regulatory balance sheet, and
- Strengthening its relationship with its clients by improving the relationship risk weighted return.

### **5.3.6 Benefits for Governments**

The benefits for governments are direct or indirect. As promoter of securitization, the government enables national corporates and FIs to utilize the benefits described earlier. Additionally, an increasing number of European governments have accessed the securitization markets directly or indirectly via privatization programs financed by purchasers of the privatized assets funding the purchase by way of securitization.

The benefits from the viewpoint of various European governments can include:

- Monetising the cashflows it would otherwise receive from the liquidation of the securitized assets over time.
- Removing risk on the level and timing of cashflows from the securitized assets (which is particularly relevant where the assets are not performing and accordingly their recovery is uncertain).
- Reducing the overall level of government debt by converting assets that may count as part of the public debt of the relevant European government into income that can be used.

- Promoting a higher degree of government transparency by liquidating government assets and businesses via a securitization program, through evaluation of the transaction and market discipline, including the rating process itself.
- Securing better pricing for disposal of the assets than from purchases funded through equity.
- Retaining economic upside on the securitized assets following the satisfaction in full of investors.
- The promotion of securitization programs for small medium enterprises (SMEs) are a particular focus of government support and various national programs have directly or indirectly supported the access of SMEs to the capital market via securitization. This can be seen as an important step to help SMEs to maintain their competitiveness and continue to be a major force in providing employment.
- Achieving efficient asset and liability match for various asset types, which could normally not be obtained due to high prepayment uncertainty.
- Helping the transfer process to privatization by sale of assets and outsourcing the servicing process.
- Providing indirect benefits to consumers through reducing funding costs for corporates and funding the capital costs for FIs while reducing their overall risk exposure to consumer assets thereby encouraging increased consumer lending with keener pricing.

### **5.3.7 Benefits for Investors**

An increasing number of European investing entities are becoming investors in securitization instruments.

The benefits for investors investing in securitization instruments can include:

- Diversification of investments within an investment portfolio
- Diversification into new asset classes and along credit spectrum.
- Spreading risk between different sectors of the economy by reference to the assets generated in those sectors.
- Comfort from the highest level of structural and legal review.
- Transparency of the risks involved in a securitization transaction at all times during the life of a transaction.
- Reducing exposure to corporate entities whilst being able to increase risk to certain sectors in which such corporate entities operate.

## **THE FUTURE OF SECURITIZATION IN GREECE**

In our opinion, the future of securitization in Greek market seems to be fairly optimistic. There is a lot of interest by the Greek FIs in order to get ready to securitize their assets when the legislation framework gets voted. But as any new application, securitization has a lot of difficulties to face. In the following paragraphs we analyze the most serious problems that securitization is going to face in the Greek financial market.

- Firstly, as we already mentioned for several times, one main difficulty is the capital adequacy of Greek FIs. In order to securitize assets with high credit risk exposure, for example credit risk-adjusted 100% multiplied by 8% capital requirements, a bank must hold a minimum ratio of total capital (Tier I core capital plus Tier II supplementary capital) to credit risk-adjusted assets of 8%. The main problem of FIs here in Greece is that some of the existed banks are very close to the limit of 8%. So, they have to improve their total risk-based capital ratio (overcapitalized) in order to start securitize their loans and achieve the benefits of this financial tool.
- A second difficulty that the FIs are going to face is the poor rating of a big part of loans that granted by Greek banks. Many of them decided in the past to grant loans with loose criteria and without examining the creditability of the client. Such loans belong mainly to the categories of consumer loans, corporate ones and credit cards. The main purpose of this wrong movement was to increase their share in Greek loans market. As a result many of these loans have defaulted and others have great probability to default in the near future. So, they have high risk weighted and the capital requirements, which need for the securitization of these loans are high too.
- For most of the Greek companies there is no credit rating neither from Moody's nor S&P. As a result of this lack of rating is that this kind of loans – corporate loans – it's going to be very difficult to securitized. In order to do so, each one of corporate loans must be rated by the FI in order to get in a group of similar loans with same rating. But this procedure is very difficult and costly.

- Another difficulty that the FIs are going to face, is the inexperience of the Greek financial market to such kind of financial tools. Also, domestic investors know almost nothing about this kind of investment. So, at the beginning of securitization of loans of Greek banks, there must be uncertainty by investors and a low demand for bonds. A solution to this problem is the probability given by the legislation framework to a FI to cooperate with a foreign SPV and securitize its assets by issuing a bond to foreign countries. This probability is going to be very good for the popularity of Greek FIs to foreign investors. When the mechanism begin to work and FIs achieve experience in such kind of transactions, and the securitization become more popular to domestic investors, then a Greek SPV must establish and cooperate with FIs to promote securitization in Greece. From another point of view, foreign investors want the growth of new financial markets in order to achieve geographically diversification to their portfolio.

- As a result we can see that there is one category of assets that, at the first stage, is going to be securitized by FIs; this is the category of mortgage loans. This is happened because these loans are the more secured loans in Greece with a credit risk-adjusted (according Base II) about a 50%. But this kind of loans is not the only one which going to be securitized. In the near future, with the enforcement of usage the International Accounting Standards (I.A.S) by the companies, there must be growth of securitization in corporate loans. This is going to happen because with the I.A.S all corporates are going to be rated, so FIs can group corporate loans with same rating and securitized them.

So, as we see, Greek FIs are not ready to undertake such kind of transactions. But with steady and careful movements and with the valuable experience in this mechanism by other European countries, Greek FIs can use securitization and achieve the important benefits, which it has.

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