A growing economy has an unsatiable demand for funds. If the existing assets of a firm can be used as a source of funds it would be a boon for such firm. Additionally, if these assets can be converted into negotiable instruments it would further enhance the attractiveness of the product. Finally, if the funds so received are repaid not from earnings of the firm but from the cash flows of pool of assets that have been converted into the source of funds it would become too attractive a proposition to be true for such asset holders.

Asset Backed Securities (ABS) is such a product having above properties and the process of conversion is called securitization. ABS is a derivative product developed in American market using the fine blend of the financial engineering and legal expertise. The product gained market acceptability in a very short time and its volumes have touched hundreds of trillion dollars in US market.

What is so special about the product having such attraction for such a large number of issuers and investors. What is the type of underlying product whose supply is unending? How the product is structured? What is the nature of the risk associated with the product? What are the legal hurdles for the product in India? The extent to which these legal hurdles have been addressed by the Securitization and Reconstruction of Financial Assets Act, 2002 (Act). What are the listing, trading and pricing issues? This paper addresses these financial engineering and legal issues of securitization.

Funds of a firm get blocked in various types of assets such as loans, advances, receivables etc. To meet its growing funds requirements, a firm has to raise additional funds from the market while the existing assets continue to remain on its books. This adversely affects the capital adequacy and debt equity ratio of the firm and may also raise its cost of capital. An alternate available is to use the existing illiquid assets for raising funds by converting them into negotiable instrument. E.g. a housing loan finance company which has a portfolio of loan advances having periodic cash flows may convert this portfolio to instant cash. Though the end result of securitization is financing, but it is not financing as such since the firm securitizing its assets is not borrowing money, but selling a stream of cash flows that are otherwise to accrue to it.

Financial Asset:
The loan / receivable portfolio is the underlying asset and their cash flow creates the new instrument. That is why the new instrument is a derivative product. Any asset having a cash flow profile over a period of time can be securitized. Some of the assets which may be securitized are housing loans, car loans, term loans, export credits, and future receivables like credit card payments, ticket sales, album sales, car rentals, electricity and telephone bill receivables etc. Thus, any present or future receivables in part or in whole can be securitized.

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* Asst. Manager, NSE. The views expressed and the approach suggested are of the author and not necessarily of NSE.
The Act has recognized the above features of the product by providing an inclusive definition of the ‘Financial Assets’ (Section 2 (l)) that can be securitized. However, Section 5 (1) of the Act mandates that only banks and financial institutions can securitize their financial assets thereby restricting the Originators of securitization. So, it may not be possible to securitize assets and receivables of other business entities having such assets and receivables from credit card, export earnings, sale of tickets, car rentals, electricity and telephone bill etc. within the parameters of the Act though the definition of Financial Assets specifically envisages the same.

The pooling standard prescribe that the asset portfolio has to be homogeneous in terms of underlying financial asset, maturity and risk profile. This ensures an efficient analysis of the credit risk of the asset portfolio and a common payment pattern. It means only one type of asset (e.g. car loans) of similar duration (e.g. 20 to 24 months) having uniform risk (whose repayment is continuous during the first 10 to 12 months of the loan) will be bundled for creating one securitized instrument.

The Process and Rationale:
Securitization is a multi-stage process starting from selection of financial assets and ending with the final payment been made to investors. The originator having a pool of such assets selects a homogeneous set from this pool and sells / assigns them to SPV in return for cash. The SPV in turn converts these homogeneous assets into divisible securities to enable it to sell them to investors through private placement or stock market in return for cash. Prior to selling the securities through private placement / stock market, the SPV may take credit rating for the securitized assets. Investors receive income and return of capital from the assets over the life time of the securities. Normally, the originator acts as the receiving and paying agent for collection of the interest and the principal from obligors and passing on the same to investors. The difference between the rate of interest payable by obligor and the return promised to investors is servicing fee for the originator and SPV.

The originator by securitizing the financial assets transfers the risk associated with economic downturn on cash flows or credit deterioration in a loan / receivable portfolio. The investors buy this risk in exchange for high fixed income return. Investors buy this risk if they see the risk as a diversifying asset, the risk premium demanded by them for underwriting such a risk is lower than the internal funding costs of the originator who has a concentration of such a risk.

The Financial Structure:
The financial structure of the securitized product is a function of the type of the instrument to be issued i.e. Pass Through Certificates (PTC) or Pay Through Certificates (Bonds / Debentures). In both cases, assets are sold to SPV for further sale to investors in the form of a new instrument. However, the similarity ends here. In case of PTC, investors get a direct undivided interest in the assets of SPV. The cash flows which include principal, interest and pre-payments received from the financial asset are passed on to investors on a pro rata basis after deducting the servicing fee etc. as and when occurred without any reconfiguration. Therefore, the investor takes the reinvestment risk on the payments received. The frequency of the payment is dependent on the frequency of the payment from the financial assets. (Figure 1)
The PTC structure has a long life and unpredictable cash flows that inhibit participation by some of the fixed income investors. The pay through structure reduces the term to maturity and provides some certainty regarding timing of cash flows. It is issued as a debt security (bonds / debentures) and designed for variable maturities and yield so as to suit the needs of different investors. The debt instrument is issued in the form of a tranche and each tranche is redeemed one at a time. In this case, cash flows are to be reconfigured since they have to match the maturity profile of the debt security. The payment to investors is at different time intervals than the flows from the underlying assets. Therefore, the reinvestment risk on the cash flows till they are passed on the investors is carried by the SPV. (Figure 2)

The Act has named the securitized instrument as ‘Security Receipt’ which has been added as a ‘security’ in The Securities Contract (Regulation) Act, 1956 and thereby makes it available for trading through stock exchange mechanism. As per the definition of security receipt in the Act (section 2(zg)) transfer of only an undivided interest in the financial asset is allowed and thus the Act recognizes only pass-through certificates (PTC) as the possible instrument for securitization. This has eliminated the possibility of issuing pay through certificates in Indian markets which are more investor friendly and are the norm in the international markets outside USA.

Players and Their Role:
The number of players in the securitization process is large. They can be grouped in two categories the ‘main players’ and the ‘facilitators’. The main players and their role are as follows:
The ‘Originator’ is an entity owning the financial asset that are the subject matter of securitization. Originator is normally making loans to borrowers or is having receivables from customers. It is the originator who initiates the process for securitization and is the major beneficiary of it. As already stated, the Act envisages only banks and financial institutions acting as originators.

The ‘Obligor’ (borrower) takes the loan or uses some service of the originator that he has to return. His debt and collateral constitutes the underlying financial asset of securitization.

The ‘Investor’ is the entity buying the securitized instrument. Section 7 (1) of the Act allows only Qualified Institutional Buyers (QIBs) to invest in Security Receipt (securitized product). The Act has thereby restricted the players in the market. The rational is that being a new product only informed, big players capable of taking risk shall be allowed to invest in it.

‘Special Purpose Vehicle’ (SPV) is a legal entity in the form of a trust or company created for the purpose of securitization. It buys assets (loans / receivables etc.) from originator and packages them into security for further sale to investors. In securitization, one of the primary concern of participants is to ensure non-bankruptcy of the SPV.

The Act has recognized SPV as a vehicle to promote securitization. Section 2 (v) and 2 (za) restricts the legal structure of SPV to a company under the Companies Act, 1956. In order to have effective supervision of such companies and to make them bankruptcy proof, Section 3 of the Act has prescribed Registration, Net worth and Corporate Governance requirements for them. These requirements are expected to help in orderly development of the market for
securitized product. However, nothing debars such a SPV from floating separate trust(s) for each securitization program.

Facilitators play a very crucial role in the securitization chain. Their services are instrumental in enhancing the credit worthiness of the product which is one of the prime reasons apart from collateral for the run away success of securitized products.

Credit Rating Agency provides rating to the securitized instrument and thus provide value addition to security.

Insurance Company / Underwriters provide cover against redemption risk to investor and / or under-subscription.

The Trustee acts on behalf of the investors and has priority interest in the financial asset supporting the securitized product. Trustee oversees the performance of other parties involved in securitization transaction, review periodic information on the status of the pool, superintend the distribution of the cash flow to the investors and if necessary declare the issue in default and take legal action necessary to protect investors interest.

Receiving and Paying Agent is the entity responsible for collecting periodic payment from obligors and paying it to investors. Normally, the originator performs this activity.

**Benefits and Threats:**

Securitization offers major benefits to originator and provides a low risk high yield instrument to investors. The main benefits to the originator are two fold. One, originator’s funds get blocked after it extends loan or expects receivables. Securitization converts these illiquid assets into marketable securities and thus provides alternate source of funding for the originator. Second, the illiquid assets are sold to SPV and are removed from the balance sheet of the originator. This improves capital adequacy and lowers capital requirement for a given volume of asset creation by the originator. By regularly securitizing its illiquid assets the originator can continue to expand its business without increasing its capital / equity.

There are other attractions as well like separation of the credit risk of the illiquid assets from the credit risk of the originator since the originator markets claims on other assets. Securitized product is thus a distinct bundle whose credit risk is based on the intrinsic quality of the financial assets having credit enhancement measures and is independent of the credit risk of the originator. This lowers the cost of funds for the originator as the new security is not clubbed with the rating of the Originator and is used to raise funds at much lower cost. Securitization can be used to reduce credit concentration either sectoral or geographical by regularly transferring such concentration to investors of securitized product. Thus it is possible to expand operations in a particular portfolio of assets without increasing total exposure. Additionally, it transfers the interest rate risk, default risk of loans and receivable from originator to investors.

However, securitization is a complicated process involving large number of intermediaries and huge upfront legal and rating costs. Therefore it is viable only in case of large sourcing. It also tends to disclose originator’s customer information to third parties and this may
prove to be harmful in a competitive environment. Sometimes securitization forces originator to strip off its good quality assets leaving only junk assets on its books.

**Risk Profile:**
The inherent nature of the securitized instrument makes it less risky. The cash flow from the securitized instrument is backed by tangible identified financial assets earmarked exclusively for an instrument and is independent of the originator. Dependability of these cash flows is further strengthened as signified by the ageing of the portfolio. This means, an asset having a cash flow for three years would be monitored for the first 8 to 10 months to determine its historic loss profile. Earmarking a specific pool of aged assets is the core feature contributing to lowering the risk associated with securitized product. Further, the pool of borrowers creates a natural diversification in terms of capacity to pay, geography, type of the loan etc and thereby lowers the variability of cash flows in comparison to cash flows from a single loan. So, lower the variability, lower is the risk associated with the resulting securitized instrument.

Understanding of risk enhancement measures, which at times are used in combination, is also necessary to analyze the risk profile of securitized product. Normally, these risk enhancement measures are provided to cover the historic risk profile (first level risk) of the financial assets and some percentage of losses which may be higher than the historic risk profile (second level risk). Internal risk enhancement measures like over-collateralization, liquidity reserve, corporate undertaking, senior / sub-ordinate structure, spread account etc. cover the first level risk. External risk enhancement measures like insurance, guarantee, letter of credit are used to cover the second level risk.

Over-collateralization means for servicing an instrument of Rs. 100/- cash flow from underlying asset valuing Rs. 110/- are earmarked. Similarly, cash worth Rs. 5/- called Liquidity Reserve may be separately earmarked for servicing an instrument of Rs. 100/-. These features cover investors against the likely default in cash flow from the borrower to the extend of Over-collateralization / Liquidity Reserve.

In case of Senior / sub-ordinate debt, cash flows from two groups of borrowers are independently used to bundle two set of securities. These two trenches of securities are issued with a pre-determined priority in their servicing. This means the senior trench has prior claim on the cash flows from the underlying assets so that all losses will accrue first to the junior securities up to a pre-determined level. Thereby, the losses of the senior debt are borne by the holders of the sub-ordinate debt, normally the originator.

The difference between yield on the assets and yield to investors is the spread which is the gain to the originator. A portion of the amount earned out of this spread is kept aside in a spread account to service investors. This amount is taken back by the originator only after the payment of principal and interest to investors.

Other third party credit enhancement measures such as insurance, guarantee and letter of credit are also used by originator to get a better credit rating for the instruments.
With such multiple options for risk reduction and natural diversification inherent in the product, can a securitized instrument be presumed to be risk free? No. Primary risks associated with securitized product are pre-payment risk and credit risk. The pre-payment means refinancing at lower rate of interest or early repayment of the loan amount in part or in full. This risk is associated with mortgaged backed products using the pass through structure (PTC). Generally, loan agreements allow the borrower to make an early payment of the principal amount. The risk originates from the possibility of obligor making such early payment of principal amount and thereby disturbing the yield and the investment horizon of the investors. For premium securities, accelerated pre-payment reduces the average life and yield since the principal is received at par which is less than the initial price. Opposite is the case of securities purchased at a discount. Consequently, investors have to predict the average life of such securities and may have to look for alternate investment opportunities in a changed interest rate scenario.

The Act provides for PTC as the securitized instrument and so the pre-payment risk will exist in Indian market. Factors affecting pre-payment and corresponding pre-payment models to evaluate this risk will have to be developed in order to make investment decisions.

Credit risk reflects the risk that the obligor may not be able to make timely payments on the loans or may even default on the loans. In case of defaults, internal and external risk enhancement measures will come into play.

Finally, the mortgaged backed securitized product in the foreign markets are backed by a guarantor who guarantee to the investors the timely payment of interest and principal. As of now, such guarantees do not exist in Indian market. However, National Housing Board (NHB) is working in this direction to guarantee securitization of housing loan mortgages.

**The Legal Structure and Constraints:**
The intermediaries involved in creating a securitized product have to comply with multiple legal provisions to give shape to the product. The financial asset is transferred from the originator to the SPV and thereby attracts the relevant provisions of Stamp Act, The Transfer of Property Act, 1882, The Negotiable Instruments Act and Registration Act. These provisions throw up the issues related with i. Stamp duty ii. Registration charges in case of mortgage back securities iii. Negotiability / transferability of new security iv. Assignment of mortgage backed receivables, v. Assignment of future receivables and vi. Issue of part assignment. These issues, on the one hand, make securitized product economically unviable due to high stamp duty and registration charges. On the other hand, lack of clear supporting legal provisions for the features which are integral part of the process of securitization hinders wider acceptability of the product.

The Act has addressed above mentioned issues by providing appropriate definition of ‘financial assets’ and ‘securitization’ and recognizing ‘security receipt’ as a security under the Securities Contract (Regulation) Act, 1956. However, the problem arising due to stamp duty and registration have not been addressed to the satisfaction of the participants and would therefore make it economically unviable.

The securitization chain attracts the incidence of stamp duty at three stages. One, at the time of acquisition of financial assets by SPV from the originator. The Act provides two modes
for acquisition of assets: (i) by issuing a debenture which will attract stamp duty on the instrument of transfer and on the issue of debentures, and (ii) by entering into an agreement which being a conveyance and would attract stamp duty. The second incidence of stamp duty arises when the 'Security Receipt' is created. Finally, transfer of security receipt from one investor to another in the secondary market would attract stamp duty unless issued in demat form.

The incidence of stamp duty is one of the major concerns which make securitization transactions financially unviable. Stamp duty is a state subject and in most of the states the duty ranges from 4% to 12%. Four states viz. Maharashtra, Tamil Nadu, Gujarat and West Bengal have recognized the commercial benefits of securitization and have reduced stamp duty on such transactions. The Act has not addressed the issue of stamp duty and the same is left to respective state governments to decide.

Other area of concern is the registration requirements on transfer of mortgage backed receivables from immovable property which again adds to the cost of securitization transaction and needs to be addressed. Another impediment is the taxation of income of various entities of securitization transaction since the existing provisions are likely to result into double taxation.

Listing and Trading:
Originators will be keen to get ‘Security Receipt’ listed on stock exchanges to enhance its liquidity and thereby its attractiveness for investors. This would require framing of disclosure parameters for the securitized instrument. The aim of such disclosures is to assist the market in assessing the creditworthiness and the pricing of the instrument.

Two features of the securitized instrument are the determinants of the disclosure requirement for stock exchanges. One, the periodic reduction in the face value of the instrument after each set of receivables from obligors is passed on to investors. Secondly, this reduction in the face value of the instrument might be higher or lower than the scheduled reduction in face value since the cash flows is a function of the performance of the pool of assets i.e. pre-payment and credit risk.

Disclosures can be divided into two: initial disclosure and continuing disclosure. The initial disclosure shall concentrate on information having significant effect on pre-payment and credit risk such as lender’s credit policy, characteristics of the loans, of the properties that collateralize the loans and of obligors, etc.:
1. Lender’s credit policy shall disclosure loans selection policy, documentation, filling, collection etc.
2. Loan related disclosure will be coupon, difference of weighted average coupon for the pool and the current market benchmark rate, original weighted average yield, original tenure, remaining tenure, weighted average remaining tenure to maturity, age of the loans, size of the loans, start and end date etc.
3. Property / collateral information will require geographical distribution, type of the property and other features of the pool of financial assets.
4. Other collateral information like performance expectation based on the aging analysis of the portfolio, current / cumulative principal defaults, pre-payment assumptions, periodic rating will also required to be disclosed.
5. Instrument specific information like scheduled principal and interest payment dates and the corresponding amount, allotment date, record date, total original face value, scheduled principal and interest distribution amount are to be informed upfront.
6. Obligor information will comprise loan purpose, their social and economic profile etc.
7. Details of credit enhancement measures and how they are going to be activated and work in case there is a short fall in the receivables from obligors.

The continuing disclosure requirements will keep investors updated on the performance of the pool and as to the funds collected. Information like number of delinquencies till date and the corresponding amount, new delinquencies for the period and the corresponding amount, the scheduled outstanding face value and actual outstanding face value of the instrument, current weighted average yield, face value prior to and after each payment date, the current and cumulative interest and principal shortfall / excess for the pool and for the instrument, amount drawn from credit enhancement measures and the balance available etc. are to be disclosed to enable the market to judge the creditworthiness and to price the instrument.

Stock exchanges would be required to set-up ex-dates for each scheduled payment date.

Pricing:
For taking the investment and pricing decisions for securitized securities, investors need to find answers to the following question: the dynamics of the risk transferred in securitization transaction, the expected value of loss being transferred and the compensation for this expected loss, whether this will be a diversifying asset in the investor's portfolio and the fair risk premium to be paid for underwriting this exposure. Once, an understanding of the above issues is gained, it is possible to develop pricing models incorporating the effect of relevant risks.

Given an understanding of above issues, the initial pricing is based on the creditworthiness, the presumed pre-payment rate and the financials of the instrument. The creditworthiness is used to arrive at the required discount factor and the presumed pre-payment rate is factored to determine the reduced average life vis-à-vis the stated tenure of the instrument. The financials cover the suitability of the instrument in the portfolio of the investor.

The discount factor is a function of the interest rate scenario, investor's risk profile and the creditworthiness of the instrument and would comprise a benchmark rate and a risk premium on it. The benchmark rate could be a GOI security having similar average maturity / duration while the rate of risk premium would vary by investors. The historical analysis of past data of pre-payment is done to get the presumed pre-payment rate and the reduced tenure.

Using these parameters, the price of the securitized instrument is calculated like a plain bond by applying the discounted net present value method. However, a securitized instrument has an embedded option of pre-payment and the value of this option is reduced from the plain bond price to arrive at the expected price of it.

The pricing for the secondary market after the cash flows have commenced throw up another challenge, since, the actual performance of the pool is to be factored in the prices. Therefore, the effect of past delinquencies and accelerated pre-payments are to be
considered for assessing the future cash flows. Projecting delinquencies and accelerated pre-payments based on past performance of an instrument for arriving at an appropriate risk premium is a complex problem that depends on both economic variables (interest rate, inflation, economic trend and credit deterioration) and demographic variables (frequency of moves, nature of borrowers etc).

This implies, at times the actual outstanding face value may be higher or lower than the scheduled face value. Determining the present price for such an instrument will be a teaser. If the outstanding amount is more, it means the pool is turning to be delinquent and may need to be priced even lower than the scheduled face value. If the outstanding amount is less, it means the pool is pre-paying thereby taking away the initial yield expected by investors for a given tenure and need to be priced accordingly. Therefore, the market would have to develop pre-payment and default analysis models in order to price securitized instruments. Also, the instrument requires the investors to be vigilant while pricing it since the scheduled face value of it will keep changing after each payment date.

Overall, the Act has provided the much need legal sanctity to securitization by recognizing the securitization instrument as a security under the SCR Act. However, sponsors are restricted to banks and financial institutions and the nature of the instrument to pass through certificates. This limits the scope of financial assets that can be securitized and the coupon & tenure flexibility associated with pay through instruments. These restrictions, may limit the utility of securitization for Indian markets. Additionally, the issue of stamp duty and registration has not been tackled and will make securitization transactions financially unviable in some states. Taxation is another matter which shall be clarified at the earliest. Finally, it is still not clear whether securitization can be done outside the parameters of the Act or not. On the other hand, market participants namely sponsors, investors and stock exchanges need to equip themselves to meet the challenges of this new product. For making investment decisions, investors shall develop pre-payment and pricing models. This would require them to understand the nature of the new instrument and its risk profile. At the same time, stock exchanges need to frame appropriate disclosure and monitoring requirements to meet the peculiar nature of this product. However, these limitations shall not delay the introduction of this product through Exchange mechanism and thereby restrict its wide spread acceptability.
**Pass Through Structure (Figure 1)**

- **Originator**
  - Monthly Servicing Fee
  - Cash Receipts
    - SPV
      - Principal & Interest Shortfall
      - Monthly Principal & Interest
      - Excess interest & recoveries
      - Credit Enhancement Measures
      - Investors

**Pay Through Structure (Figure 2)**

- **Originator**
  - Monthly Servicing Fee
  - Obligors
    - Cash Receipts
      - SPV
        - Principal & Interest Shortfall
        - Excess interest & recoveries
        - Scheduled principal & interest
        - Investment Vehicle for prepayments
        - Investors