MORTGAGE BACKED SECURITIES IN ARGENTINA: 
AN IMPLEMENTATION STUDY

by

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Submitted to the Sloan School of Management
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ABSTRACT

The purpose of this thesis is to analyze the feasibility of introducing Mortgage Backed
Securities (MBS) in Argentina. It begins with an analysis of the evolution of the MBS
market in the United States, determines the forces behind that evolution and development
of new products, and explores the recent trends in that market with the resulting
opportunities and threads.

It then analyzes general the general legal, regulatory, economic, financial and social
conditions necessary towards the creation of such instruments, with special emphasis on
the appropriate momentum, and support to be received from the various national
constituencies.

Finally, it integrates the previous analysis with the formulation of an action plan, a set of
recommendations for its implementation and development of such market. The thesis
includes a simple case securitization scheme as well as some alternative variations that
could be applicable. The author ends the study by making a personal "judgment-call" on
the future of this market together with some indications of implementation stages
schedule.

Argentina is a country with remarkable inconsistencies along its history, characterized by a
mismatch between its potential and its reality. Argentina's traditional social system as well
as its real estate and credit markets are no longer valid and do not satisfy the increasing
demand for construction of mainly household residential, causing a net deficit for the last
decades. Although the country is extremely rich in factor endowments, its successive
Governments have been unable to translate them into adequate supply of basic
infrastructure, in this case, household construction and development.

This thesis presents a list of actions and recommendations that would hopefully assist in
overcoming this deficit and set the stage for future development and engineering of new
financial products according to Argentina's conditions.

Thesis Supervisor: Donald Lessard - Professor of International Management
Thesis Supervisor: Jean-Luc Vila - Assistant Professor of Finance
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I am deeply thankful to MIT - Sloan School of Management’s Masters Program Office, the school’s faculty and specially my peer students for the two highly enriching years I spent with them between 1992 and 1994.

I also greatly acknowledge the strong effort and encouragement provided by Professor Donald Lessard and Assistant Professor Jean-Luc Vila for their support and aid in the preparation of this thesis. The preparation and documentation of this research would have been considerably more difficult and burdensome without their experienced guidance.

Finally, I thank my parents, family and friends for providing me with the emotional strength and support to pursue this studies abroad, as well as my wife, Carola, for being strong and enthusiast to follow me in this adventure.

Last, but not least, the conclusion of this thesis coincides with a man’s greatest gift and accomplishment that is the birth of my first son, Marcos.

For all this, I am immensely thankful and wish to give back to society the results of this formation in the form of economic, social and ethical contributions.
THESIS OUTLINE

This thesis is structured in five different sections following my analytical rationale for the study in question. My intention is to facilitate the reader’s understanding of each section as a self-contained module. Accordingly, the analysis has been divided in the following parts:

- **Part 1: Introduction**
  The first section provides a general introduction to the advantages provided by the securitization of mortgages as mortgage-backed securities, the different benefits and sources of value identified in the securitization value chain, as well analyzes the conditions existent in Argentina for the creation of such a market. It concludes with an identification of the different parties and constituencies that would be involved in the proposed securitization scheme, as well as a brief outline of the most recent developments in Argentina that would tend us to believe that the implementation of such scheme would be possible and attractive.

- **Part 2: Analysis of the US experience**
  As a natural next step in the analysis, I reviewed the main aspects and factors that can be observed from the implementation of a similar scheme in the United States. Even though, the US and Argentina are not directly comparable, either in economic scale or institutional and legal aspects, I have done so because the American mortgage securitization system is the most successful and developed in the world. The required considerations have been made as they seemed necessary.
  The purpose of this chapter is to provide the reader with the basic background regarding mortgage securitization’s legal, regulatory, financial and implementation aspects. I took special consideration to explore the different aspects that affect the success of a securitization scheme including the regulatory context, guaranteeing system, as well as the availability of varied mortgage types as well as mortgage-backed instruments. I close the section by analyzing what mortgage securitization has made possible in the US, as well as what could be learned and extrapolated to the implementation of a similar scheme in Argentina.

- **Part 3: Argentina’s background**
  Before entering to the specific conditions required for the implementation of a securitization scheme in Argentina, some basic background on the country is required. This chapter describes the country’s basic history and economy, as well as general social and political background. Readers well informed of the country’s realities can skip this section and continue with the next chapter.

- **Part 4: Conditions existent in Argentina for a securitization scheme**
  Once the reader is well aware of Argentina’s general background, I continue by determining and analyzing which are the relevant aspects, institutions, regulations and sectors required to implement a securitization scheme. As the reader will hopefully end up noticing, many of the requirements are already in place, while still others are under study by the pertinent authorities and major involved parties. The importance of this
section is that it clarifies which are the existing conditions and basis that would as "building blocks" allow us to design a securitization scheme applicable to Argentina's framework.

- **Part 5: Action plan and implementation**

Having determined the existent conditions as well as those which need further development or present a restriction for the proposed securitization scheme, I conclude this thesis by developing a series of alternatives for the actual implementation as well as by outlining several factors to keep in mind when developing a real business proposal.

As the concluding remarks express, I am convinced that securitization of not only mortgages, but also other assets will be one of the hottest capital markets areas during the rest of the nineties. We should expect this to occur not only in Argentina, but in the rest of Latin America as well.

*To the patient reader, ..... my eternal gratitude!*
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**Part I**

*Introduction*

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I.2. Existent conditions for the creation of a MBS market

I.3. The securitization value chain - The mortgage banking cycle

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I.5. Summary
I.1. Securities' innovation - Mortgage-backed securities

As a general rule, the purpose of security innovation is to develop new financial instruments that increase investors' wealth and, ultimately, favor general economic growth. To do this, new securities must enable issuers and investors to accomplish something they could not achieve with existing securities.

- *For investors,* this means higher (after-tax) returns for bearing a given level of risk, greater liquidity, or a more desirable pattern of payoffs.
- *For issuers,* security innovation holds out the possibility of reducing the cost of capital, thus expanding the range of projects they are willing to undertake.

Finally, for the economy, securities innovation brings new ways, and hopefully more efficient ones, to channel savings and investments towards the most economically sound and profitable projects.

Some security innovations are designed primarily to circumvent provisions of the tax or regulatory codes. Securities intended to overcome such obstacles are likely to disappear along with the tax or regulatory quirk that gave rise to them. *Significant* security innovations, by contrast, are those that endure because they provide a new way of meeting "fundamental" economic demands of issuers and investors. This is the case of MBS that do not replace another instrument or provide a temporary benefit, but rather serves a specific function in the economic and financial system.

A variety of factors have stimulated the process of security and market innovation in the world, and in Argentina in particular. Among the most important ones are increased interest rate volatility and the frequency of tax and regulatory changes. Also, the deregulation of the financial services industry and increased competition within investment banking worldwide have placed greater emphasis on being able to "engineer" new securities and develop new market opportunities. *Undoubtedly, the development of the MBS market in Argentina follows this last trend, where improved economic conditions, matched with a globalization of financial services and markets are the driving forces behind the creation of new markets and business opportunities.*

*Strategic and financial objectives achievable with securitization*

Following Kopff's (1991), securitization was initially designed to funnel capital market funds into the residential mortgage market, while reducing interest rates for originators and eliminating credit risk for investors. Two added objectives now dominate asset-backed securitization:

1. **Lower funding costs.** Securitization can reduce the cash cost of funding a portfolio if an institution is rated BBB/Baa or below (Argentina's ceiling is currently rated BB/B1) by the credit agencies. After transaction costs are accounted for, such institutions can save as much as 60 basis points in funding cost by collateralizing a security with loans (mortgages), rather than funding the portfolio with corporate obligations.

2. **Sale of assets to reduce cost of allocated equity.** Achieving "sale treatment" for regulatory purposes frees up expensive and scarce equity capital otherwise required
by regulators under risk-weighted capitalization rules (banking regulation). This was the main objective for money-center banks to securitize billions of dollars of assets in the past few years since the Bank for International Settlements in 1987 agreed to establish strict tier I and tier II capital requirements and distinguished between risk classes of assets, as well as added capital requirements for off-balance-sheet obligations.

In addition to these two major objectives, other significant benefits may be achieved through securitization:

- Reducing the concentration of credit risk by asset type, geographic area, or industry.
- Reducing prepayment risk, particularly for residential mortgages.
- Achieving new sources of income from underwriting and trading, for investment banks and some of the major commercial banks.
- Match funding a portfolio, particularly for auto finance companies.
- Growing fee income in lieu of spread income, for commercial banks.
- Obtaining a new funding source, which may be preferable because it is nondilutive or because it reaches investors that cannot buy loans but can buy rated asset-backed securities.

**Value chain analysis**

Following the mortgage securitization value-chain, we can easily identify several sources of benefits from the implementation of MBS is Argentina.

1. **Origination.** The securitization and placement of mortgages as securities in both the local and international markets will provide the mortgage originators (mainly banks) with a flow of lending capital that does not exist today. Off-balance sheet lending would be possible, therefore allowing banks to avoid committing their own resources (capital) to mortgage lending. Additionally, as lending funds become more available, the cost for borrowers would tend to decrease as barriers to entry to the origination business comes down and competition intensifies.

2. **Servicing.** As the volume of mortgages becomes larger, economies of scale and scope could be achieved by servicers by implementing more sophisticated and efficient systems, as well as more efficient use of administrative resources. A lower servicing cost will consequently be reflected in a lower cost for borrowers.

3. **Underwriting.** As the pools of eligible mortgages becomes larger, risk diversification and therefore underwriting would become easier, since regional, demographic and mortgage-quality diversification would become possible. Underwriting will therefore be less expensive as well as more readily available for mortgage originators.

4. **Credit evaluation.** Both the originators, the underwriters, and the rating agencies evaluation processes would be simplified as large volumes of standardized contracts become available, as well as credit history and statistics records allow for a more precise credit evaluation. Additionally, cost efficiencies would be attained as economies of scale and scope allow for a more economic use of resources.

5. **Pooling.** As barriers to entry into the mortgage origination business fall, and numerous national and regional institutions start to generate mortgages to the public, the pooling
of contracts would tend to be favored by the diversity of available contracts. With large volumes of contracts available for selection, specially targeted pools could be formed that reflect particular types of risks (i.e. socio-economic class, regional, etc.).

6. **Hedging and stripping.** As the volume of the MBS market start to increase, there will be incentives for the market to create and develop new hedging mechanisms as well as derivative products (i.e. stripping into IOs and POs) that would provide "market completeness".

7. **Placement.** With a larger secondary market and educated participants, the primary market placement would tend to be facilitated as the market's absorption capacity is increased.

8. **Secondary market.** The development of a deep secondary market with a diversity of products with medium and long term maturities will provide the recently created pension funds and other institutional investors with investment choices more attractive as well as more consistent with their investing preferences.

As we can see from the above description, there are numerous benefits to be achieved by the creation of a MBS market.

**MBSs and securities' innovation potential**

Academic writing on financial engineering (innovation of securities, processes and solutions to financial problems) academia has distinguished a series of factors that new financial innovations must meet in order to assess their future success and subsistence in the market.

Following Miller, Silber and Van Horne (1989), there are a number of factors that suggest that the implementation of MBS is Argentina could be a "truly innovative and successful event":

1. **Tax asymmetries.** There are a number of tax advantages to be captured by these instruments due to the off-balance sheet nature of these transactions for Banks, which will unload the assets-loans from their books and thus will avoid among others, the stringent reserve requirements imposed by the Central Bank for deposits financing, save a 1% annual tax rate on assets existent in Argentina, and others.

2. **Transaction costs.** This is probably one of the main sources of value since the current mortgage structure is expensive for banks (both in transaction and administrative costs) to maintain, and therefore for mortgage loan debtors. Achieving a critical mass of loans and transactions is essential to achieve both economies of scale and scope.

3. **Agency costs,** that arise from conflicts of interest among lenders, creditors and investors. Without a secondary market for mortgages, banks huge agency costs were passed to mortgage debtors as indicated by the high levels of interest rates paid.

4. **Reduction or transference of risks.** Not only default, prepayment and interest rate risks will be transferred to MBS investors, but also the capital markets provide investors with hedging alternatives not available to banks right now, like swaps, forward and futures contracts. Ownership risks will be transferred form banks to the trust and then to investors as the cycle is completed. Prepayment risks can be managed by adopting structures similar to the CMOs, Remics or serial structures.

5. **Opportunities to increase an asset's liquidity.** The liquidity to be attained by a public market of MBS is not attainable currently for the existent mortgage contracts in the
banks' portfolios. This enhanced liquidity is provided by the possibility that MBS provide investors to buy and sell them freely in the market, without the harass of transferring the ownership of the underlying loan documentation. A higher liquidity reduces yields, and therefore enhances the profits for banks due to yield differentials between the mortgage rates and the securities yields. Securitization also provides investors with larger diversification potential, thus reducing their required yield.

6. **Regulatory and legislative change.** Both new regulations by the CNV and legislation regarding banks operations, are two of the triggers for the creation and implementation of a MBS scheme.

7. **Level and volatility of interest rates.** For the first time in decades, Argentina's inflation and level of interest rates allows for longer term securities and a longer yield curve of up to 20 years. Nominal interest rates are for the first time at comparable levels to the international markets (with risk considerations off course). Similarly, as inflation decayed, so did the volatility in interest rates, allowing for the creation of new derivative instruments with embedded options like the MBS.

8. **Level and volatility of prices.** The price of asset-backed securities like this are not only dependent on interest rate changes but also on changes on the underlying collateral, in this case real estate. The real estate sector in Argentina has traditionally been dollar-denominated, and enjoyed during the last couple of years of a more stable price path, after it made the correction due to past performance.

9. **Academic work** that resulted in advances in theories or better understanding of the risk-return trade-off inherent in these securities. The boom of the MBS securities in the US since the early 80s has been tremendous not only in the market's depth and volume, but also in the proliferation of different types of securities. The understanding of the MBS market's dynamics and intricacies provides the groundwork for its implementation in foreign markets.

10. **Accounting benefits.** As said, the securitization of mortgage contracts will allow banks to transfer their mortgage loan holdings to investors. Banks thus will be liberated from the huge reserve requirements and the constraint that this posed on their lending capacity.

11. **Technological advances.** The development of computerized systems for the administration of mortgages and MBS largely facilitates the implementation of such market in Argentina. Similarly, new trading and market procedures were created thanks to the development of computer programs that allow the operations of the securities markets.

In summary, financial innovations are driven by the demand for "completing the markets" by providing opportunities for risk-sharing, risk-pooling, hedging, or inter temporal or spatial transfers of resources that are not currently available.

We can consider the implementation of MBS in Argentina as the result of tax, regulatory and most importantly, general economic changes that led to the existence of a rising demand for mortgages by households, and therefore for their subsequent securitization. For the above reasons, MBS can be considered "truly" innovative products since they enable investors to realize a higher after-tax risk-adjusted rate of return without affecting
the issuer's after-tax cost of funds, they provide a new conduit or investment vehicle not
currently available (and thus invest in Argentina's real estate sector) and allow banks
(issuers) to continue lending as long as a secondary market is present.

*Value sources in the US experience*
We can attribute the most recent innovations on the mortgage market in the US during the
last decades to the following factors:

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I.2. Existent conditions for the creation of a MBS market

There are a number of factors and conditions at various levels that lead us to believe that the implementation of a secondary market for MBS in Argentina would be a successful one. Some of these factors are global in character, others result from recent changes in Argentina's overall economic recovery, while still others depend on the unique characteristics of the housing finance system and the demand for housing that has resulted from decades of economic troubles. We can distinguish these factors according to their nature as:

1. **International market factors**

   There are two principal developments in the global marketplace that favor the creation of MBS in Argentina.

   *First,* interest rates are currently at a very low level compared to historical standards. Not only have rates in the US and Europe come down due to tight monetary policies and a general reduction of inflation rates, but also interest rates in the emerging markets have decreased substantially, becoming more closely aligned with those of the developed economies. This favors and encourages both corporations and governments to go to the debt markets for funds.

   *Second,* and as a consequence of the first, emerging economies are finding it easier to obtain debt funding in the global marketplace as evidenced by the increasing number of debt issues placed during the last three years. In particular, both Argentinean corporations and the government have successfully placed a number of debt issues (primarily eurobond and private placements) both in the US and European markets.

   For the first time in decades, and as a result of Argentina's economic recovery and re-establishment of its credit condition (lost due to the default in 1990 of its foreign debt), the country has successfully reestablished its presence and acceptance in the world financial markets.

   Investors in the developed economies are not only attracted by the higher yields provided by Argentina's and other emerging countries issues, but most importantly they are willing to bear the risk inherent in such investments due to their better understanding of the risks as well as the existence of new hedging techniques and mechanisms as swaps, and other derivative products.

2. **National level**

   At a country level, Argentina's economic recovery and apparent political stability are the two most important ingredients required for the successful implementation of a MBS market. It is not only necessary that current conditions allow for new market developments, but also is needed a certain degree of certainty about future prospects.

   In this sense, the recent economic developments in Argentina like the convertibility plan, the country's successful re-establishment to the world economy and markets, as well as a high degree of political consensus evidenced by the pact signed between the two most important political parties (reform of constitution and re-election of the current president), tend us to believe that the country will enjoy a future of economic recovery.
The most important evidence of this general euphoric expectations among the public and economic actors, is the fact that for the first time in decades, Argentina has recovered a yield curve with products of up to 20 years compared to the historic rates that didn't go further than a couple of months.

Additional MBS-specific factors:
Following the cycle of the mortgage business and the secondary market for MBS, there are additional factors in favor of the development of such a market, that need to be mentioned.

1. Increase in personal income and savings rate:
Mainly due to the economic stability and to the growth in the country's economy, high and medium income level individuals not only enjoy higher levels of disposable income, but also have the possibility to save and plan their lives accordingly. The evidence of this is both the increased participation of individual investments in the financial markets, but also the proliferation of all kinds of consumer credit (from automobile and appliances to residential mortgages) that intend to tap such supply of savings.

2. Real estate sector:
When credit and economic stability were regained, one of the most important destinies of available funds was the real estate market as evidenced by the sharp increase in prices for real estate assets in the big cities, that started early in 1991, and met its peak by the end of 1992.
Traditionally, the real estate sector in Argentina has always relied on a hard currency (dollar) as its means of value. But decades of economic disruptions caused the market to fluctuate sharply, even in dollar terms, mainly due to public expectations about the economy as well as to the demand and supply for real estate. We can characterize the real estate market for the last decade as having huge deficits for residential and business housing, across all social groups. But while lower income groups received the aid from government housing programs, medium and high income individuals were left to their own to provide their housing needs. This ultimately developed a real estate market for this group, where no housing credit was available, and so transactions were purely 100% cash financed.
This whole situation changed during the last three years with the availability of housing credit (mortgage loans to medium and high income groups) initiated first by private banks and latter followed by other state and national banks.

3. Banking community:
Once the economic stability was attained in 1991, the private commercial banks were the first ones to realize that a huge market for residential mortgages was going to develop, mainly targeted to medium and high income groups.
While the banks first moves to this sector could be considered to be cautious and hesitant, it soon proved to be one of the most important sources of revenues for them, and thus many more banks joined the trend and started to enter the market. While the first mortgages were only in dollar terms, at rates over 24% and with maturities of up to 5
years, soon this changed dramatically as new entrants and competition generated the existence of 15 to 20 year mortgages in either dollars or pesos, and with rates ranging from 14% to 20% depending on the terms. This rush from the banks to tap the mortgage loan market caused them to have huge amounts of mortgages in their balance sheets which started to pose a restriction not only on their lending possibilities, but also on their reserve and regulatory requirements. For this reasons, we consider that banks would probably be the group most interested in the creation of a secondary market for mortgages that would allow them to:

- develop new sources of lending funds.
- reduce their cost of capital.
- reduce and re-balance their risk exposure.
- improve profitability by opening the mortgage servicing line of business
- improve their capital structure, capital ratios and their reserve and regulatory standings.
- originate assets at a pace which outruns their ability to invest

Official and private estimates consider the outstanding mortgage loan stock to be around US$ 2.5 billion, and it is expected to grow at 12% or higher during the next five to ten years, as the residential housing deficit is reverted. But considering Argentina's capital market characteristics, and specially the size and depth of its local debt markets as well as the current lack of an array of institutional investors (pension and insurance companies), sources of additional lending funds will promptly be saturated if the secondary mortgage market is not targeted to attract international funds as well.

4. General public:
Given the historic lack of residential and household credit, the general public, and specifically the medium to high income groups will be the most favored by the development of a secondary mortgage market. This is evidenced by the increasing volume of mortgages issued by banks as well as the public's willingness to accept high interest rates as well as stringent loan terms. As general economic conditions improve, the public will incline to obtain increasing numbers of loans as well as increase its indebtedness as individual financial planning is possible. The author strongly believes that urban population, in particular in the city of Buenos Aires and other big cities as Cordoba, Mendoza and Santa Fé will be the initial markets for residential mortgages that will later expand to other smaller urban concentrations, together with some state and federal-sponsored mortgage programs for rural producers.

5. Construction sector:
The decades of economic deterioration has taken its toll in Argentina's construction sector, which has languished in low levels of industry capacity and negative growth rates. Only recently, the sector has received new boost mainly fostered by the improved economy as well as the tremendous deficit in housing and general infrastructure. Given the rising construction activity, we could expect a rising demand for construction funds both in the form of hard investment and credit.
6. **Government:**
The existing conditions on economic stability and political consensus achieved by the current government have not been present in Argentina for decades. The current government, as it has demonstrated, is completely committed to developing the countries resources as well as to insert Argentina once again into the world markets.
Among other goals explicitly stated by the current administration is the creation of financial institutions and development of markets with similar standards to other emerging economies, in order to attract foreign capitals into Argentina's economy.
One of the government's goals is the reversion of the critical deficit in housing and lack of mortgage credit for individuals. To do so, it has delegated to the Comisión Nacional de Valores (CNV) the responsibility of developing the necessary capital market conditions required for the institution of a secondary market for mortgage loans.
According to these guidelines, the CNV has recently passed new regulation allowing for the creation of Credit Mutual Funds to act as trustee institutions for the issuance of all types of asset-backed securities, including MBSs. According to this new regulation, commercial banks are allowed to establish subsidiary trusts independent in all respects from the main banks, to act as depository of the mortgage loans and ultimate issuer of the public securities. This is clearly a long step towards the implementation of a secondary market for mortgages, although minor secondary resolutions are still pending.

**Summary of prevailing conditions:**
In brief, there are a number of developments in Argentina's economy that let us to believe that the creation and implementation of a secondary market for mortgage-backed securities, could be a concrete step forward towards Argentina's ultimate re-inception to the world economy.
Among the regulatory institutions, the banks and the general public, there are powerful parties interested in such development as evidenced by the large amount of blueprints and final regulations passed during the last semester on this subject.
1.3. The securitization value chain - The mortgage banking cycle

This section is based on the analytical value-chain framework by Bartlett (1992), and complemented with Fabozzi (1993) publications on the subject, as described in the annex. Additional material was drawn from Stone, Zissu and Lederman (1991). The following diagram provides the reader with a quick idea of the mortgage origination and subsequent securitization processes:

<table>
<thead>
<tr>
<th>Participants</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage Banks</td>
<td>Loan origination &amp; servicing</td>
</tr>
<tr>
<td>Inv. Banks &amp; Rating Ag.</td>
<td>Underwriting &amp; credit evaluation</td>
</tr>
<tr>
<td>Investment Banks</td>
<td>Pooling</td>
</tr>
<tr>
<td>Investment Banks</td>
<td>Hedging &amp; stripping</td>
</tr>
<tr>
<td>Inv. Banks &amp; Market</td>
<td>Placement &amp; secondary trading</td>
</tr>
</tbody>
</table>

As practitioners agree, there are two basic components of the above process that differ substantially in business nature, key characteristics, as well as participants. They are:

1. Loan origination process $\Rightarrow$ Mortgage banking activities
2. Securitization process $\Rightarrow$ Secondary market placement

Even though both constitute two different businesses, they are closely dependent on each other, and each one is key for the eventual success of an integral mortgage banking operation. Therefore we are going to review their most important aspects.

1. The mortgage banking cycle

Mortgage banks are financial intermediaries that originate and close mortgage loans. Their role includes making a credit review of the prospective borrower and appraising the property before the loan closing, usually with an outside appraiser. The mortgage banking process also involves warehousing the loans, which refers to the interim holding period from the time the loan is closed until its subsequent marketing to secondary market investors. The period from the receipt of the application (with specified rate and terms) until the marketing of the loans is collectively known as mortgage pipeline. Finally, the mortgage banking business is the ongoing management or servicing of loans through the loan's repayment term. **Mortgage bankers generate revenue in each of the five**
stages of the mortgage banking process: origination, warehousing, marketing, managing the mortgage pipeline and servicing.

a. Mortgage Loan Origination
It is commonly agreed that the "most basic value-creating function in mortgage banking is the ability to produce new mortgage loans" (Bartlett - 1992). Without the continuous infusion of new mortgage production, servicing portfolios would eventually perish. Coincidentally, loan production has been the cornerstone on which most successful mortgage banking operations have been built. Mortgage origination was traditionally viewed as a cost center necessary to collect the profits of reselling and servicing those loans. With new computer systems and technology, this has changed, being today a clear profit center if managed properly.

The four commonly used methods for mortgage origination are: Retail, Correspondent, Wholesale, and Consumer Direct.
The traditional retail production system consists of a branch system staffed by a sales force of loan officers that make calls on potential borrowers. To be successful in the retail market it is needed a highly trained professional staff, competitive mortgage products, reasonable rates and quality service.
The correspondent lending system is where correspondent lenders purchase completed application packages from smaller retail originators referred as "mortgage brokers or correspondents". This system allows correspondent lenders to produce a large volume of business without incurring in fixed costs. Wholesale lending is similar to correspondent in that the wholesaler purchases production from other lenders. In this case, however, the mortgages have already been closed and are held in warehouse by the originating lender. This is typically used by lenders in case of having non conforming loans that are thus sold to a wholesaler specializing in those products.
Consumer retail origination is based on direct consumer marketing strategies like advertising, telemarketing, direct mail, and computerization. Affordable technology is a driving force behind this trend. It intends to eliminate the loan officers role in the origination process and move a loan directly into processing. One of the latest innovations in this area are the Automated Mortgage Origination Systems that can streamline and handle basically all the functions needed to qualify, close and service a mortgage loan.

In addition to the above, seller's (homeowners or real estate developers and agencies) are common mortgage originators since they provide the buyer with financing. These mortgage contracts could be then resold to banks or poolers if they comply with qualifying standards, or kept by the seller.

The single largest origination group in the US is the savings and loan industry. S&L's, together with savings banks and credit unions, constitute the "thrift" industry. Regulatory and tax considerations encourage thrift to invest in mortgages (or mortgage-related securities), therefore many thrifts retain the mortgages they originate in their portfolios.
Commercial banks make up the second largest group of originators, and like thrifts, the money they put into mortgages comes primarily from deposits and they commonly retain the mortgages in their portfolios.

The third major originator of mortgage loans are the mortgage banks, which do not have any deposits, and act merely as intermediaries in the mortgage loan cycle. They are in the business of finding other sources of mortgage money, such as thrifts or insurance companies, and making it available for housing construction and ownership. Mortgage bankers profit from the servicing they provide, and from any difference that can be made from buying and selling the mortgages to permanent investors.

b. **Warehousing**

While the firm's mortgage loans are pending sale and delivery to the secondary market, they are usually funded by borrowing from banks under warehousing lines of credit. The mortgage firm typically holds mortgage loans for a period of 30 to 60 days after closing in order to prepare the loans for sale to the secondary market. The borrowed funds are repaid when the firm receives payment from the sale of the loans. Accordingly, the mortgage banker is dependent on loan sales to free warehousing credit lines so that new loans can be closed without exceeding available credit limits.

Some mortgage firms also obtain short-term financing through a type of reverse repurchase agreement called a gestation repo arranged with the financial institutions and security dealers. Under these agreements, the firm sells federal agency-guaranteed MBSs and simultaneously agrees to repurchase them at a future date at a specified price. The effective cost of funds is usually lower than for borrowing under typical warehousing lines of credit, although this depends on the credit rating of the parties involved in the repo.

c. **Marketing**

Marketing, the offering, the sale, and the packaging and delivery of closed mortgage loans to investors are the activities that most distinguish mortgage bankers as financial intermediaries from portfolio lenders or permanent investors. Marketing mortgage loans is complex both financially and operationally, being one of the critical aspects for success in this industry. It requires matching the needs of the retail origination market (borrowers seeking new mortgages) with those of the secondary market for mortgage loans (security dealers, thrifts, insurance companies, pension funds, and other investors).

Conventional loans are packaged for direct sale to private investors or to Fannie Mae or Freddie Mac. Loans that conform in size to the statutory limit of these agencies are usually submitted for conversion to a MBS issued by Fannie Mae or Freddy Mac through their respective loan swap-for-securities programs. MBSs issued by Fannie Mae or Freddy Mac are primarily sold by mortgage banking firms to security dealers. FHA-insured or VA-guaranteed mortgage loans are packaged for sale as pass-through MBSs guaranteed by Ginnie Mae and sold also primarily to security dealers. In addition, there is an active primary market for mortgage loans that have not been pooled or securitized, including non-conforming and jumbo loans.

Factors influencing the market value of packaged loans include the general level of interest rates, the type of loan, interest payment and principal amortization schedules, and type of mortgage property. Further considerations include the ratio of loan proceeds to appraised
property value (LTV), property location, borrower credit profile, and whether the loans are packaged in pools to be securitized or sold separately on a whole-loan basis.

The sale of mortgage loans produces a net gain or loss equal to the sum of the difference between the principal amount of the loans and the net price at which the loans are sold (cash gain or loss on sale), and the present value of the difference between the gross mortgage interest rate collected by the mortgage banker from the borrower and the pass-through interest rate remitted by the mortgage banker to the purchasers of the loans, net a normal servicing spread (the premium on sale of mortgage loans).

d. Managing the mortgage pipeline

One of the sources of potential losses or gains is the efficient management of the mortgage pipeline, that is the time between the application is received until the loans are placed in the market. Pipeline management requires the mortgage banker to make a series of choices, such as how much risk to take in the view of the outlook of interest rates and how much to pay to hedge against interest-rate risk. The challenge of pipeline management is twofold: knowing how to hedge and making the decision of when to hedge. The pipeline manager must decide how to balance the risks, rewards, and costs of different pipeline-management strategies.

Among the sources of interest-rate risk, the most important ones are three:

- Risks that result from timing delays between the setting of loan terms for borrowers and the setting of terms for sale to the secondary market.
- Risk resulting from the inconsistency that occurs between the origination and sale of commitments. Closing and delivery of loans can be either mandatory or optional, depending on terms agreed upon with borrowers and investors.
- The third source of risk is the uncertainty on how the market will value specific loans in a lender’s pipeline if rates have moved substantially in one direction or another. This uncertainty can result from changing prepayment expectations on fixed-rate loans or the impact of interest-rate adjustment caps on adjustable-rate loans.

It is important to distinguish between the loan production and inventory periods, because a lender’s risks on a loan already closed and warehoused are different from those associated with a loan that has not closed and might never close.

Among the types of pipeline risks, the most important ones that need consideration by the pipeline manager, are:

- Fallout risk. This risk is generally created when the terms of the loan to be originated are set at the same time as the sale terms are set. Although the timing of commitment is the same, the risk is that either of the two parties (borrower or investor) fails to close and the loan "falls out" of the pipeline, either because the commitment does not require closing/delivery or because one party does not live up to a firm commitment. Pipeline fallout usually is generated by changes in interest rates, usually being the amount and type of fallout dependent on the direction and magnitude of the variation. The result, however, is usually the same: the lender must sell loans at an unexpected discount and record a marketing loss. When rate fall, the applicant might not close, and so the lender must purchase a market-rate loan and deliver it to the investor at a discount to provide the required yield. When rates rise, the investor may fall out, and
so the lender must then find a new investor for the closed loan, which is now at a below-market yield, thus the loan has to be sold at a discount again.

- **Price risk.** This is the most familiar type of pipeline risk because it reflects exposure only to rising rates. Such risk is produced in the production segment when loan terms are set for the borrower in advance of terms set for secondary market sale. If interest rates rise during the production cycle, the lender will probably have to sell any loans at a discount. Otherwise, it can realize a profit, if the loan doesn't fall out from the borrower side. Price risk occurs during the inventory period for loans previously originated but not yet sold. This situation affect any loan that could be sold at some future date.

- **Reverse price risk.** Also results from mismatched commitment timing, but exposes a lender to the risk of falling interest rates. It occurs when a lender commits to sell loans to an investor at rates prevailing at application but sets the note rates when the borrowers close. When rates fall, the lender must deliver loans at a discount to provide the investor with the required yield previously established.

- **Product risk.** Product risk is a corollary of price risk. It occurs when a lender has an unusual loan in production or in inventory but does not have a sale commitment at a prearranged price. The value of a specific loan depends on general market rates and on the market's assessment of the financial characteristics of the loan. It is possible, therefore, that the value of a loan can change even when market rates remain constant. Product risk can be considered a special form of price risk, assuming a lender can always find an investor for a "nonstandard" loan - at a price.

- **Basis risk.** The basis is the relationship between the price of the item being hedge (like a mortgage pipeline) and that of the hedge tool (forwards or futures). The risk is that the price of the hedge tool does not move as expected relative to the increase or decrease in the market price of the hedged loan.

- **Yield curve shape.** Another source of risk is the shape of the yield curve. Lenders may hedge 30-year mortgages with 30-year Treasuries. However, if we assume a 12-year mortgage prepayment, the yield/price of the mortgage will perform closer to that of a Treasury instrument with a comparable-maturity duration. This inequality must be considered when constructing hedges. Additionally, because yield curve changes cause the rates on securities with differing maturities to move out of step with each other, there is a risk that even properly constructed hedges will be inefficient.

The process of managing the pipeline begins by identifying the risks associated with both the production and inventory segments. Once the risks are identified, one can select the most appropriate tools for eliminating these risks. There are many methods for efficiently hedging price risk: forward sales and substitute sales. These are accomplished by advancing the setting of loan sale terms to the time final terms are set for the borrower.

- **A forward sale** is an agreement between a lender and an investor to sell particular kinds of loans at specified price and future time. The most common forward is the mandatory delivery commitment or a similar contract with an investor or dealer. Forward sales allow lenders to eliminate both product and price risk by establishing simultaneously the terms of origination and sale. Forward sales insulate lenders from
movements in market rates and in the relationship between rates in general and the market price for the loans in consideration, being the costs of hedging known with certainty at the time of sale. In situations where both closing and delivery are certain, forward sales represent a "perfect hedging", providing complete, reliable protection and introducing no additional risks. However, there is always the possibility of fall out by the borrower or the investor, in which cases the lender still has a commitment to deliver the forward contract.

- A substitute sale, commonly considered a hedge, is an alternative to the forward sale that effectively creates a similar pipeline. Substitute sales are accomplished with debt-market instruments such as futures or by selling borrowed securities through dealers. They have the advantage to forward sales in that futures and related hedges are very liquid instruments with multitude of variations.

The lenders decision of whether use a forward or a substitute sale should be made by comparing the expected basis risk or maximum sustainable net loss on a substitute sale to the known cost of a forward sale, which is essentially free of basis risk. The decision as to which toll is better depends on the lender's confidence in managing hedges and the value placed on certainty.

e. Servicing

Servicing involves collecting principal, interest, and escrow funds for taxes and insurance on the mortgaged property from the borrowers and paying these taxes and premiums; paying P&I to the investors of the loans; and in many cases advancing uncollected P&I payments to the mortgage loan investors. Servicing also includes supervising foreclosures in the event of remedied defaults and performing all related accounting and reporting activities.

Servicing generates cash income in the form of fees, as percentage points of the declining principal amount of the loans plus any late charges. Servicing income thus is reduced by the normal amortization of the loans. Mortgage bankers also receive revenues through the sale of servicing rights, for which there is an active secondary market. Servicing value is usually determined by the present value of the income stream associated with the servicing of a given loan, adjusted for the servicing spread, loan size, estimated average life, and projected servicing costs.
Quality control in mortgage banking

This special section was included in order to describe the key role that quality control plays in determining the profitability of a mortgage banking operation. The need of an effective quality control system as an integral part of the mortgage process has become increasingly important in recent years. A lender's ability to remain profitable and attract business does not rely on offering the lowest rates, but rather on offering a variety of mortgage programs with the reputation of being a "quality-driven" organization. The primary objective of an effective quality control program should be to assure that all investor, regulatory, and corporate guidelines have been met and individual mortgage loans are originated utilizing industry-wide accepted practices and procedures. In addition, significant trends should be identified and assimilated into day-to-day operations. The first and most important step in this process is the commitment to quality control by management and regulatory bodies, and the communication of this commitment to all employees and participants. Quality control review is conducted at various stages of the loan process, including origination, processing, underwriting, and closing. Audits should be conducted on a post-closing basis, and should also include pre-closing reviews. A documentation verification program should also be established to monitor the integrity of documents on which the lender bases loan decisions. It is particularly important that this quality control process include a system for review of the performance of all originators, processors, underwriters, and appraisers. Suggested areas for review should include, but not limited to, the following:

- **Originator.** Loan application information is complete, proper disclosures are made and accurate, proper forms are used, loan terms comply with loan program requested, mathematical calculations are correct, borrowers are properly qualified, and proper signatures are obtained.

- **Processor.** Appropriate disclosures are made, accurately and within prescribed time period, supporting documents are ordered on a timely basis, verifications are mailed and additional ones are obtained when necessary, proper tax returns are obtained, necessary borrower explanations are obtained, sales contracts and addendums are filed, documents are checked for signatures, and all documents are current.

- **Underwriter.** The loan request and collateral comply with loan program parameters, all specific investor underwriting guidelines are met, appropriate income calculations are made and are supported, verification of funds is done, liabilities are correctly calculated and evaluated, the appraisal is underwritten to ensure that collateral is sufficient, appropriate and adequate conditions are placed on the loan approval, business judgment is used and the underwriting decision is sufficiently documented.

- **Appraiser.** The appraisal report is complete and or the proper form, the report is consistent and with adequate explanations when necessary, deficiencies are noted, all three approaches for value are used, appropriate comparables are used and adjustment are consistent, the appraisal's mathematics are correct, pictures of the property and its comparables are enclosed, as well as any other materials like maps, sketches and others.
2. **The securitization process**

After reviewing the different stages in the mortgage banking process, we move on to analyze the securitization alternative for loan originators. Mortgage originators can either hold a new mortgage in their portfolios, sell the mortgage to an investor or conduit, or use the mortgage as collateral for the issuance of a security. When a mortgage is used as collateral for the issuance of a security, the mortgage is said to be securitized.

All mortgage loans start as applications, which must be processed, underwritten, closed, and packaged before they can be sold to the secondary market. The application becomes a loan after the lender funds the mortgage transaction. However, a closed loan is not salable in the secondary market until it is packaged as a "whole loan" or mortgage backed security.

According to the normal practice in the US, when a mortgage originator intends to sell the mortgage, it will obtain a commitment from a potential buyer. Two federally sponsored credit agencies, Freddy Mac and Fannie Mae, and several private companies buy mortgages. Since these agencies and private companies pool these mortgages and sell them to investors, they are called conduits. Freddy Mac and Fannie Mae purchase only conforming mortgages that meet their underwriting standards. Nonconforming mortgages and jumbo loans have different conduits.

In this section we analyze individually, the different stages of the securitization operator that include the loan underwriting, credit evaluation, pooling, hedging and stripping mechanisms, and finally the placement and secondary market stages.

a. **Mortgage loan underwriting**

Mortgage loan underwriting involves the transference of a mortgage or pool of mortgages from the originator to an underwriter that assumes not only the rights but also the risks inherent in those mortgage contracts. In the US, the most typical underwriters are the federal-sponsored agencies as well as other private conduits (investment banks, poolers, etc.). The key to profitability in this segment relies in understanding all the risks involved in mortgage financing.

The nature of the mortgage financing business in the US has changed dramatically over the past decade. Mortgage lenders, investors, and insurers operating in today's lending environment clearly face considerably more risk than they did just a few years ago. Delinquent loan levels are near its peak, more than doubling since 1979. Thrifts own more than $20 Bn. of real estate whose loans fall ir. disgrace. Adjustable-rate mortgage instruments have become an accepted alternative to the traditional fixed-rate loans. Finally, the growing competition of a global economy now creates additional economic uncertainty and subjects the nation's housing markets to unpredictable fluctuations.

The key to understanding and managing these risks comes through recognizing that the mortgage contract, represents a long-term risk affected by fluctuations in borrower credit, regional economic disruptions, overlending and overbuilding, and quality control decisions.
The following are some of the issues mortgage underwriters must keep in consideration when making a credit assessment and assuming an underwriting commitment:

- **Borrower credit.** Mortgage loans must have sufficient credit quality to withstand the wide economic fluctuations that occur in today's economic environment. The growing influence of world economic forces on the economic stability of many nation's housing markets adds volatility to this condition. Usually, lenders start by determining the borrower's income and net worth, as well as if they have any additional outstanding loans or mortgages that would affect their ability to fulfill mortgage payments. As a rule of thumb, lenders agree that the total mortgage payment should not exceed 25% of the borrower's total income, and total housing expenses (including utilities, taxes and maintenance costs) should not exceed 33% of the total income. Additionally, the buyer is usually required to make a down payment on the property to qualify for the mortgage (providing some loan-to-value cushion).

- **Regional economics.** Regional economic disruptions can produce localized stress within the housing market, even during periods of general economic expansion. Because of the new boom and expansion of regional economics, home prices can both soar and plummet within the lifetime of a typical mortgage.

- **Overlending and overbuilding.** The overlending and overbuilding risks is prevalent in many regional and local housing markets, typically during times of optimism. During boom times, credit is softened and construction soars beyond the point of long-term stability. Under these terms, loans offered to marginal, often highly leveraged, buyers can perform well. However, as the economy turns downward, the negative implications of increased unemployment, slow income growth, and flat home prices or deflation lead to high levels of default.

- **Quality control.** When competition increases, typically there is a significant erosion in quality control standards. Usually, it is translated into reduced documentation requirements, higher loan-to-value ratios, and loose monitoring of the serviced loans. It is essential to maintain a tight control over the loan origination and servicing at all times, even at the risk of foregoing some business opportunities.

b. **Credit evaluation.**

Once the underwriter or the issuer has gathered sufficient mass of mortgage contracts, a credit evaluation review must be performed in order to determine the mortgages overall key characteristics.

This credit evaluation has two important goals:
- **Determine the feasibility of a securitization transaction.**
- **Select among the universe of mortgages a pool that meet not only the qualifying standards (conventional versus non-conventional), but also the pre-determined set of conditions according to the issue's goals (regional, sectoral, or diversified risk).**

It is recommended that this preliminary review be done by both the issuing institution (commercial bank) as well as by the appointed financial advisor (investment bank). The result of this evaluation process will be a written report together with a proposal for the CNV and other regulatory authorities for approval of the issue and registration if applicable.
This proposal should also include a basic description of the issuing terms and conditions (draft of a issuing prospectus - red herring) including credit enhancement mechanism selected, type of transaction structure, names of appointed managing and depository institutions, as well as description of the securities to be offered.

c. **Pooling.**
Once a specific group of mortgages has been selected, the issuer together with its financial advisor must determine the pooling structure chosen, as well as analyze the cash flows profile that would give rise to the securities to be offered.
With the pools expected cash flow profile, the issue's key characteristics like proposed maturity, yield, default and prepayment expectations must be determined. In general, these will be based on market conditions as well as historic statistics and experiences.
In the case that the financial advisor provides the issuer with an underwriting agreement, initial terms and conditions (mainly pricing and delivery of the proceeds) must be agreed upon. These will be subject to review once the final approval from the CNV is obtained.
Simultaneously to the above described, Resolution 237/93 determines that the issuer must obtain an external credit rating and review from at least two independent and authorized rating agencies. This adds a second layer of review to the transaction, and together with the internal proposal, must be submitted to the CNV for review.

d. **Guaranteeing**
The next step in structuring the securitization, is to determine the mechanisms for credit enhancement, among which obtaining a guarantee is one of the most commonly used forms. We believe that once a mortgage securitization mechanism is in place, it will not be long before private insurance companies will start working together with independent rating agencies to exploit this new line of business, that is, provide the necessary payment guarantee.

Like all forms of insurance underwriting, mortgage insurance is subject to the problems of "adverse selection" and "moral hazard" (Bartlett, 1992). Adverse selection refers to the propensity of mortgage originators to securitize riskier loans when they believe that guarantors cannot adequately assess loan characteristics, which in turn gives risk to a moral hazard faced by guarantors.

Although the severity of these problems is not that high for securitized mortgage loans, provided the borrowers have substantial interests in the mortgage properties and the market values of the properties can be assessed accurately, regulatory authorities should keep these problems in mind when developing the regulation that would treat the industry, in order to avoid them.

As the market becomes more experienced, guarantors can also deal with this situation by dealing only with originators they trust and that have good track records in delivering mortgage loans of a specified quality.

Guarantors need to obtain the necessary expertise to manage mortgage risks, and in particular the prepayment and default risks associated with these instruments and usually a result of:
- Spread between the coupon on the mortgage and the current mortgage rate, that would indicate propensity for refinancing mortgages by borrowers.
- Seasoning or age of the mortgage, which affects not only the LTV ratios but also the behavior of borrowers as they become attached to a real estate property.
- Month of the year, since in the US, prepayments exhibit a seasonal pattern, being high in summer and low in winter.
- Characteristics of the mortgage like the terms or structure.
- Historical prepayment rates for the pool.
- General economic factors, that could affect the borrowers ability to meet its payments or refinance its loans.

e. **Hedging and stripping mechanisms**

With the transaction structure and documentation approved by the CNV, a final underwriting agreement is signed between the issuer and the financial advisors. In any case (with or without underwriting), different hedging mechanisms should be reviewed in order to isolate and eliminate any unwanted risk that may arise from the mis-matching of the securities expected cash requirements and the underlying mortgage pool's expected cash flows. Among the most common hedging mechanisms, currency swaps, interest rate swaps, as well as forward and futures contracts can be analyzed.

Additionally, in the case that the issue involves stripping the security into its interest and principal components (IOs and POs), a detailed stripping scheme should be designed.

f. **Placement**

With all the documentation and authorizations, the final placement of the securities is made according to the issuer's and the financial advisor's understanding regarding regional, investor type and local/international distribution.

The placement mechanism depends heavily on the type of transaction designed, since domestic, United States, and euro-issues vary.

The above description constitutes only a base case transaction, which could vary depending on different transaction factors as type of offering and placement, financial structure of the operation, credit enhancement mechanisms chosen, and others. Hopefully, the reader would have by now a basic idea of the different stages and activities involved in a securitization transaction.
1.4. Beneficiaries from mortgage securitization

Among the main beneficiaries from the securitization of mortgages in Argentina, and following the securitization transaction flow, we can identify the following:

1. **Borrowers**
   In Argentina's case, this will comprise middle and high income groups who previously did not have access to housing credit, and are currently charged high rates due to a lack of sufficient loan credit from banks. In general, the borrower's benefits are derived from the enhanced ability of banks to make loans that meet borrower's demands, but which cannot be held by banks without subjecting them to unacceptable interest and credit risks. To the extend that a competitive market for mortgage loan origination evolves due to the creation of a secondary market for loans, borrowers could also benefit from lower borrowing costs.

2. **Mortgage originators - mainly banks**
   The creation of a secondary market for mortgage loans intends to create a new securities market that will mainly provide commercial banks and mortgage loan originators with the following advantages:

   - **Capital adequacy.** As traditional lines of business for Argentine banks dries up (like short term market operations and foreign exchange transactions), and banking regulations become more stringent, banks can use securitization of their mortgage loan portfolios as a mean of alleviating the capital adequacy pressures received from the Central Bank and other banking authorities. As regulatory pressures increase, banks might find it more difficult to obtain traditional sources of capital (equity or debt), or at least see them restricted to a point where non-traditional funding mechanisms might be necessary. Securitization provides this mechanism, to improve capital ratios and adequacy, that is the control of the mismatch between their assets and liabilities maturities.

   - **Profitability.** Even those Argentine banks that might not be capital constraint due to their current debt capacity or equity raising capabilities, might consider securitization as a mean of improving the bank's profitability. In this case, the securitized assets will be moved off their balance sheets to the SPVs and therefore freeing some of the bank's capital that could be re-deployed to support further investments. It is important to note in this case, that given the high rates charged by Argentine banks for mortgage loans, a substantial excess yield could be expected to keep on coming to the bank after the securitization.

   - **Competitive advantage.** As the pressure for bank's performance (return on equity) builds up, mortgage origination and subsequent securitization may prove to be a sizable source of profits for banks within their respective regional or market segment competitive advantage. Nationally spread banks as Banco de Galicia, Banco Rio or Nación, can take advantage of their branch network to provide nationwide mortgage programs.

   - **Business expansion.** When capital is short, the business expansion is constrained to the bank's size of their balance sheets. If no securitization scheme is made available for
Argentine bank's, and given the high economies-of-scale nature of the mortgage lending business, it could be expected that the larger banks would ultimately dominate the business leaving smaller banks out of competition. This could have important effects on the industry's improvement and efficiency. If a bank can originate more assets that it can hold on its balance sheets, it is likely to achieve significant economies of scale from its servicing operation, therefore reducing the cost to borrowers (if competition is present).

- **New funding sources.** Even the most solid and profitable Argentine bank's are restricted to borrow in the international markets at the country's debt rating (or the bank's if lower) of BB (securitized senior debt in foreign currency denomination), and in the domestic markets at the bank's credit rating. However, securitized mortgage loans with carefully selected collateralization could achieve rates much lower than either BB or the bank's own credit rating would allow. Therefore, Argentine Bank's could significantly favor from this new source as well as enhance their funding alternatives.

- **Changing risk profiles.** By selectively using securitization, Argentine banks can reduce their exposure to their risks inherent in a particular business sector or geographic region. By securitizing selected mortgage loans, the bank's can off-load risk to which they no longer wish to be exposed (i.e. risky regional real estate sectors or socio-economic groups), or as a way to continue doing business. In summary, originators are able to obtain substantial risk reductions due to;
  - better estimation and control of risk, since securitization adds additional reviewers and risk controls for originators (poolers and guarantors)
  - lower concentration of credit risk, since originators are able to sell some of their portfolio and balance it with mortgage loans or securities that provide a better diversification mechanism,
  - reduction of interest rate and prepayment risk, since Argentine mortgage loan originators (commercial banks) are funding their mortgage loans with short-term liabilities as time deposits, and thus are using the institutions borrowing capacity. This mismatch between funding and investing maturities (and duration) may cause important capital losses if interest rates rise unexpectedly.

3. **Guaranteeing agents**
The Argentine regulatory authorities have not yet decided on which guaranteeing scheme to adopt. In particular, the federal banking authorities are reluctant to issue guarantees, since these in the past have been a source of abuses and criminality.
But as the insurance de-regulation process in Argentina develops, it is expected that better insurance management companies would be willing to accept this role. It is believed that guarantors who have the skills to assess credit risk have the opportunity of charging fees greater than expected losses without actually having to extend loans.

4. **Investment banks (poolers)**
The investment banking industry has been the driving force behind the asset-backed securities development. They benefit from underwriting fees and trading profits, and
typically create investment trust or other special purpose vehicles that serve as intermediaries. Such intermediaries pool borrowers obligations to achieve a diversified portfolio of mortgage loans, so that they can be rated by specially qualified independent rating agencies (several existing in Argentina) or insured by a credit guarantor, and then repackage the mortgage cash flows to meet demands by specialized investors. Investment bankers usually guarantee by themselves a special portion of the pool in order to provide signals of credit risk to investors. As a consequence, poolers have considerable incentives to evaluate the loans offered to them by originators and to insist on initial underwriting standards that allow them to assess the probability of borrowers default.

5. Investors
Like other debt instruments, securitized mortgage loans sell at a price that reflect credit risk and prepayment risk. Various mechanisms are usually taken to reduce or virtually eliminate these risks, at least for some investors. Credit risk in Argentina's mortgage-backed securities can be virtually eliminated in one of three ways. First, only very high-quality loans to high income people can be included in the security. In the same way, only loans with low LTV ratios should be included in order to leave a higher cushion against default by borrowers. Second, the guarantor can guarantee the payment when due of both loan interests and principal. Investors would then be only concerned about the financial standing and probity of the guarantor. This guaranteeing role could be performed by either private insurance companies, the originating banks, or a federally sponsored agency or program. Third, the cash flows from a loan pool can be repackage to shield some investors from credit risk, like for example in the form of serial bonds adopted by the CMO structure in the US (cash flow payments are separated into tranches that are repaid according to different schedules).

Prepayment risks can also be managed by imposing costs or restrictions to borrowers for early repayment or cancellation of their loans. There is no regulation in Argentina, like it exists in the US, that prohibits lending institutions from imposing cancellation restriction to borrowers. Serial bonds like the CMO also serve to reduce and manage the prepayment risk for some investors.

Even though I limited the beneficiaries' description to these five key constituencies, the implementation of a securitization scheme will have effects beyond those described above. Additional economic, social as well as legal and financial market's actors will be greatly favored by a securitization process.
1.5. Summary

This chapter dealt with a brief introduction to the securitization concept, exploring the various sources of value, as well as the various beneficiaries of the implementation of a mortgage-backed securitization scheme.

Additionally, a basic transaction flow was explained in order to make the reader aware of the complexity of this transactions, since they involve financial, legal, regulatory and economic considerations for its success.

We now move on the next chapter to explore what has been the securitization experience in the US, hoping to discover many considerations that could be applicable in less developed economies like Argentina. Many of the aspects we are going to see that are present in the US cannot be extrapolated, while others constitute an ideal source of information for our project.

If anything, we should expect that the implementation of MBS in Argentina to be much faster and with more profound consequences than in the US, given that:
- The US provides a vivid experience that allows to capitalize on.
- The complete lack of consumer credit in Argentina for the last two decades.
- A housing deficit of about 800,000 residential units.
- Much more sophisticated and experienced financial markets and participants.
- More clear goals by both financial institutions and political and regulatory authorities.

Additionally, with the implementation of a securitization scheme we should expect to see barriers of entry into the loan production business to fall down, allowing smaller regional banks to act as mere originators by selling their production to pooling institutions. This would initiate warehousing activities as well as provide the basis for a broader coverage of regional and sectorial markets by small specialized institutions.

The expected dis-intermediation process:

Probably the most striking consequence of securitization could be the disintermediation process that it allows, since no longer the large national banks would be required to perform all activities of the value chain since, as sufficient market volume is developed, new special purpose institutions would arise. Among others specialized functions that could be expected to be decentralized from the major banking firms, guaranteeing, depository, fund managing as well as investment banking and legal activities are the most important ones.

As the mortgage lending business stands right now, with lack of a securitization vehicle and capital market access, huge national banks dominate the scene. These banks currently get involved in mortgage origination, servicing, as well as credit evaluation and funding. The latest, funding, being probably the most restrictive factor in the development of the mortgage lending business since banks today rely exclusively of their own financing capacity in order to sustain on-balance sheet mortgage lending.
With the existence of a securitization mechanism, mortgage originators would be able to obtain lending capital by transferring their mortgage portfolios to special purpose vehicles for subsequent securitization and placement. Therefore, this would open the possibility of off-balance sheet financing for banks as well as cause a process of vertical di-integration by the main players.

No longer mortgage banks would require to perform all stages of the business since other smaller banks, rating agencies, paying and fiscal agencies, depository institutions, investment banks as well as regulatory institutions (CNV) will perform many of the activities currently done by large integrated banks.

Additionally, as access to own-lending funds would no longer be the key to mortgage origination, new smaller and specific purpose institutions will start to issue mortgages to the public subsequently selling them to larger ones for pooling and securitization. Therefore, to have a national network of subsidiaries will no longer be the only way to enter the mortgage banking business. Banks and other financial intermediaries will therefore be able to focus in their core competence activities as mortgage origination, warehousing, servicing, or others that would allow them to exploit scale and scope economies, as well as their specific regional or market competitiveness.

Eventually, it is not unrealistic to imagine small regional banks acting as mere mortgage originators that through warehouse lines of credits provided by major national banks, sell their production to poolers for subsequent securitization. This scenario would represent the ultimate stage in the disintermediation process of mortgage banking operations. Therefore, securitization brings new challenges as well as opportunities to the financial markets allowing many small and medium-sized institutions to compete against the large ones.
Part II

Mortgage Backed Securities in the United States

II.1. Origins and evolution of mortgage-backed securities' markets

II.2. Opening of a small mortgage banking operation

II.3. Legal and regulatory issues in mortgage banking

II.4. Mortgage instruments

II.5. Mortgage-backed securities' origination

II.6. Mortgage loan investors

II.7. Markets for mortgage-backed securities

II.8. Historic evolution of the secondary market

II.9. History of the secondary mortgage market

II.10. Summary of the US experience
II.1. Origins and evolution of the mortgage-backed securities market

This section follows Fabozzi's (1993) description of the history and evolution of the MBS market in the US, as well as other material including in the annex.

For most of its modern history, the mortgage banking business was comprised of a relatively small number of independent firms who filled the role of intermediary between borrowers and permanent mortgage investors. Their activity was concentrated on residential loan origination, consisting mainly of FHA and VA loan production. Savings and loan associations dominated most of the conventional residential market and there were few sources of mortgage capital besides the traditional mortgage investors such as thrifts and life insurance companies. It was thus more like a private market where available capital disappeared when interest rates rose and credit availability tightened. Prior to 1970, Fannie Mae provided one of the few national secondary mortgage markets through its whole-loan purchase and sale programs. Even that program was limited to government loans. The establishment of Freddie Mac in 1970 and the entrance of Fannie Mae and Freddy Mac into the conventional secondary market in 1972 began the expansion and the rise in importance of secondary market activities for all mortgage lenders. This initiated a process of standardization of loan documentation and underwriting criteria, and a consistent market presence that the private secondary market never achieved.

As a result of these developments and the economic disruptions of the late 1960s, mortgage banking and the entire mortgage finance industry began to undergo fundamental changes that altered the roles of traditional participants, opened the market to new players, saw Wall Street emerge as a major supplier of mortgage capital, and radically changed the nature of the secondary mortgage market.

Factors of change
According to Fabozzi (1992), there were a number of factors and forces that affected all financial services, but perhaps the mortgage industry constitutes one of the most rapidly changing markets during the last two decades.

1. Insufficient supply of capital: Mortgage lenders recognized that the original secondary market lacked the ability to consistently provide mortgage capital in either the amount needed or the geographical distribution required to meet the housing needs of the US. With no central marketplace, and illiquid investment vehicle and nonstandard mortgage documentation, mortgages could not compete in the capital markets when demands for capital exceeded the available supply of thrifts, life insurance companies, and other portfolio lenders.

2. Agency guarantees: Mortgage-backed securities, which offered access to the broad investor base and capital formation abilities of Wall Street, were revived with the creation of the Government National Mortgage Association (GNMA, or Ginnie Mae) in 1968 and the issuance of the first GNMA pass-through securities in 1970. With government guarantees on both the underlying mortgage collateral and on the securities themselves, GNMA securities trading attracted nontraditional mortgage investors. At the same time, Freddie Mac initiated sales of pass-through securities backed by conventional residential mortgages. By mid 1970s, residential mortgages,
both government and conventional, had been accepted as viable security collateral by the investment community. The result was a rapid growth in both the volumes and types of mortgage securities in the marketplace.

3. **Transaction efficiency:** In addition to a huge investor base and new sources of capital, the securities market offer a speed of execution and efficiency of pricing that the traditional secondary mortgage market cannot match. As a result, the securities markets have been the outlet for larger and larger percentages of residential mortgage production. Security markets drive mortgage pricing nationwide and heavily influence mortgage product design, as well as reducing the mortgage finance industry’s reliance on mortgage portfolio lenders.

**Market developments during the 1980s**

During the past ten years, as mortgage securities assumed a major role in the mortgage financing, changes occurred in the basic economic of all financial markets that forced huge alterations in the operation of the mortgage industry. The magnitude of interest rates movements and the speed with which they occur have reached unprecedented levels. The collapse of mortgage security prices in the spring of 1987 illustrated the volatility of the market. The effect of such volatility has been to make the mortgage banker’s job of risk management much more complex and difficult.

Further complexities have been added to the business with the wider variety of mortgage products offered to borrowers, whose preferences shift from one loan type to another as the economic climate changes. As mortgage rates fall, fixed-rate products tend to dominate the market. As rates rise, lower initial rates bring adjustable products a larger share of the market.

As the economics of the market change, so does the complexity of the mortgage banking role increases. Analytical and financial modeling skills are required, forecasting abilities are essential, far beyond the needed levels of a few years ago.

**Main players in the market**

With the market changes, the composition of the players often changes too. Players enter and exit the market depending on the prevailing conditions and their ability to adapt to the changing market.

1. **Securities dealers.** Are the primary market makers as the bulk of residential mortgage origination are used to collateralize mortgage securities, primarily through the programs of Freddy Mac, Fannie Mae, and Ginnie Mae.

2. **Thrift institutions.** The thrift industry has been decimated by the consequences of the excesses, incompetence, and fraud of the last ten years. They are no longer the major source of mortgage capital, although most still maintain a mortgage loan portfolio.

3. **Commercial banks.** Particularly the large super regional banks and bank holding companies have emerged as major players in the mortgage industry. They view mortgage banking as a natural expansion of their consumer lending operations.

4. **Nonfinancial corporations and holding companies.** This institutions have built some of the largest mortgage banking operations in the country, with mixed results.
5. **Life insurance companies and pension funds.** They are viewed as prime sources of mortgage funds. They both provide direct funds or indirectly via investing in mortgage securities.

**Pursuit of economies of scale**

One of the most striking changes in the mortgage banking industry over the last decade has been the increase in size of the major firms. This translated into many small firms exiting the market, leaving only those who have the capital and technical capability to cope with the market needs and changes. Both loan production figures and the size of the servicing portfolio dwarf the figures common a short time ago.

Annual loan origination of $1Bn. to $10Bn. are not uncommon, nor are servicing portfolios of $10Bn. and higher.

1. **Loan origination:** On the origination side, the influence of the securities markets has much to do with the drive for higher volumes. Formation of the collateral pools for mortgage securities is faster and more certain with high volumes, simplifying the use of Wall Street delivery mechanisms and providing more effective control over risk exposure. Higher volumes also offer pricing advantages in the securities markets. The competition for origination market share, however, has resulted in thinner margins and less room for error on the marketing side of the operation.

Higher loan production does not appear to significantly lower the pre-loan cost of origination. Loan production operates at a loss in the majority of mortgage banking firms. A number of attempts have been made to reduce retail production costs through computer-based origination networks. Relatively few of them have achieved sustainable production volumes and none has succeeded on a nationwide basis.

2. **Servicing:** In contrast to loan production, loan servicing operations are subject to economies of scale, up to a point. There are minimum levels of fixed costs, primarily in facilities, data processing resources, and personnel, that are required for the varied servicing activities. These minimum resources can accommodate larger volumes without proportionate increases in the cost per loan. As a result, mortgage bankers aggressively seek to benefit from larger portfolios through expanded in-house origination programs, wholesale origination, and the purchase of servicing portfolios. Up to $1 or $2 Bn. in servicing, per-loan cost declines sharply and further economies can be realized up to $4 to $5 Bn. Beyond that level cost reductions come very slowly, if at all. There are indications that portfolio size reach a point of diminishing returns, where further additions begin to increase servicing costs.

Product diversity, geographic dispersion, adequate systems support, and management control have more influence on costs than just number of loans serviced.

It is this limit to economies of scale, and the big players focus on the deep and large segments of the market to achieve them, that allowed for a number of small firms to survive in the mortgage origination and servicing activities by attacking specific niches of the market that are not attractive to the big players.
II.2. Opening of a small mortgage banking operation in the US

Entry to the loan production side of the business is still relatively easy and can be done with minimal working capital (Bartlett, 1992). Numerous firms have entered the US market in the recent years, have been successful in loan solicitation, and sale of their production to other lenders after some time, in return of a share of the origination fees.

The next step in putting a full-scale mortgage banking operation in place -acquiring the capability to fund loan closings through own capital or warehouse lines of credit, and establishing secondary markets and loan servicing functions- are much more difficult. Finding warehouse lines of credit can be very hard, even for large firms, and small mortgage bankers usually find them scarce and expensive. Most firms thus find it impossible to generate the cash flows and accumulate the net worth necessary to grow and expand from within. The economics of the servicing operations are even harder to overcome. Servicing requires substantial investment in facilities, technical and systems' support, personnel, and the growth to a break-even size can take years. Even if servicing is contracted outside to avoid the start-up costs, the premiums form servicing-released sales must be foregone, narrowing the margins of the full operation.

The result of these factors has been a mortgage banking industry in which the vast majority of firms are subsidiaries of big institutions that can provide the financial support to prosper and grow.

Large mortgage banking operations with strong parent organizations enjoy critical advantages:

- Their financial resources give them access to cheaper sources of warehouse lines, including commercial paper markets, and an ability to buy and sell servicing.
- They can establish national covering origination networks, using both retail and wholesale programs.
- Larger firms can support the systems and financial expertise essential to mortgage banking operations.

As has been amply demonstrated in the recent past, the survival in this industry is not only a function of size. Success is more dependent on how well senior management does its strategic planning, focuses in the primary objectives, manages risk exposure and adapt to changing conditions. There are numerous well-run small firms that had prospered despite their size, by attacking special market niches.

*The risk management problematic*

Risk is an inherent characteristic of mortgage banking. It is what mortgage bankers get paid for. But managing today's risk is much more difficult than it was ten years ago given the market complexities, proliferation of products and increased restrictive regulations.

Many of the factors that brought expansion to the business have contributed to the increased risk of mortgage banking operations, and even the bigger players are not exempt form financial disaster in case of mismanagement, given the size of the stakes in play today.
Securitization and the use of Wall Street mechanisms, increased investor base, greater product variety, and geographic expansion or production sources have been accompanied by exposure to higher interest rate volatility, greater speed and magnitude of market movements, credit risk, and complexity of financial strategies and analysis. Risk management is not concerned only about minimizing losses, but with survival.

New opportunities are almost always accompanied by new sources of risk. Many of these are subtle and deadly, demanding skills of analysis and interpretation absent in many firms. Failure to recognize that mortgage banking is a complex financial business will ultimately end in mediocre results and eventual disaster. It requires an understanding of the nature of mortgage banking and adherence to the disciplines necessary to succeed. Risk management is not a matter of hedging, but rather a matter of efficient processing, consistency of approach, effective planning, quick response to changing conditions, personnel training and expertise, capable management. Experienced mortgage bankers know this, and for many the toughest part of their jobs is to convey the message to parent boards and senior managers.

Mortgage banking is a complex financial operation where sophisticated financial analyses and strategies drive all the functional operating areas. The risks are so great and the margins so thin, that one wrong assumption or lapse in risk management disciplines can result in huge losses.

The level of computer systems support for mortgage banking operations has grown faster than the ability of many organizations to respond. Mortgage banking requires access to large amounts of data and methods to manipulate it in many ways. In many firms, the greatest source of risk may lie in the inadequacy of systems support.

**Market information**

Since its early days, there were a number of agencies and institutions that initiated coverage and market analysis to the mortgage banking industry, providing with the information generation and dissemination needed for an efficient market to operate as such. This institutions help provide not only with the basic data and information, but also are embarked in the generation of new products and analysis tools that ultimately foster the development of the mortgage market. Among the most important ones, there are:

- The Mortgage Banker's Association of America
- The American Bankers Association
- The National Association of Realtors
- The National Association of Home Builders
- The Wharton Economic Forecasting Group
- Private Mortgage Insurance companies
- Local Market Monitor
- SMR Research
- FNMA and FHLMC
- A series of publications like the "Mortgage Banking" magazine
- Public and Private research by market actors, etc.
II.3. Legal and regulatory issues in mortgage banking

Two factors contribute to the increasing complexity of mortgage banking (Bartlett, 1992). The first is economics. The industry has identified and now serves a consumer’s need for a wide range of mortgage products beyond the traditional long-term fixed-rate mortgage. The second factor is law and regulatory changes. The complexity of the law of mortgage banking and the risks it carries for mortgage bankers seem to be increasing geometrically. There are three reasons for this: more products and processes to regulate, more lawmakers and prosecutors getting into the act, and better-informed and litigious population.

Volumes of law and analysis have been published in recent years on topics that were hardly known a decade ago. Virtually every state has now enacted laws governing the conduct of mortgage lenders and mortgage servicers. Most states have also created regulatory bodies to oversee the industry. Consumers tend to stay well-informed about critical issues, and with the help of many lawyers and other groups, many mortgage lenders and servicers find themselves defending an increasing number of claims. As the industry, especially servicers, concentrates into larger organizations, they become more attractive targets for class-action lawsuits.

Regulation of the lender

There are a number of public and private organizations that exercise some kind of control over the mortgage banking industry. Among the most salient ones, and according to their role in the mortgage origination flow, are:

Federal Housing Administration (FHA).
The FHA was established by Congress in 1934 to encourage lenders to make residential mortgage loans by providing mortgage insurance. The FHA administers several insurance programs, the basic ones cover loans secured by single-family homes. A mortgage lender who wishes to originate FHA-insured loans must first become a FHA-approved lender, and the loans it provides must meet various standards established by the Housing and Urban Development (HUD). The requirement to be met for approval by the FHA include having adequate staff and facilities to originate and service mortgages, as well as certain net worth requirements. The FHA also allows certain mortgage bankers that meet higher and more stringent requirements to operate under a Direct Endorsement Program that allows them to petition for the approval and insurance coverage after the mortgage contract is closed. Loan size and minimum down payments restrictions also limit the issue of FHA insured mortgages. The FHA no longer regulate interest rates, which are now negotiated between the borrower and the mortgage lender.

Department of Veterans Affairs (VA).
This organization guarantees loans made to veterans who have served in the US armed forces since 1940. Unlike the FHA, the VA does not insure mortgage loans, but rather guarantees the payment of a percentage of the mortgage loan amount in the event the borrower defaults.
Federal National Mortgage Association (Fannie Mae)

Fannie Mae was created by Congress in 1934 to provide a secondary market for FHA-insured and VA-guaranteed loans. Fannie Mae was originally a federal government agency, but is currently a privately owned corporation whose stock is traded in the NYSE. Today, Fannie Mae purchases single-family conventional and multi-family loans in addition to FHA-insured and VA-guaranteed loans, providing mortgage lenders with funds to make additional mortgage loans. Fannie Mae pools the mortgages bought and sells securities backed by the mortgages in these pools.

Fannie Mae purchases residential mortgages from approximately 2,800 mortgage banking companies, savings and loans, commercial banks, and other primary market lenders across the nation. Fannie Mae also expands the availability of funds for home mortgages by issuing Mortgage Backed Securities in exchange for pools of mortgage loans from lenders. Fannie Mae guarantees the timely payment of principal and interest on its MBS holders, and provides a link between the residential and capital markets.

To be allowed to sell mortgage loans to Fannie Mae, a mortgage lender must meet several qualification requirements as being able to originate and service mortgage loans, being licensed in each jurisdiction, and maintain a reasonable net worth. Once approved, Fannie Mae and the mortgage lender sign a contract that establishes the terms and conditions under which the mortgage lender will sell and service mortgage loans for Fannie Mae. The contract includes representations, warranties and conditions that the mortgage loans must meet in accordance with Fannie Mae’s requirements. A mortgage lender’s failure to comply with this terms might end in suspension and monetary losses.

Mortgage lenders who sell and service mortgage loans for Fannie Mae must be certain that the borrower can repay the debt, that he is willing to do it, and that the property is sufficient security for the mortgage loan according to strict appraisal standards.

Fannie Mae offers a wide variety of products to lenders, who by either selling or swapping loans and securities can accommodate their portfolios to their goals. Fannie Mae currently purchases or swaps more than 50 mortgage products through the standard committee window, such as:

- 10 - 15 - 20 or 30 year, fixed-rate mortgages
- 1 and 3 year ARMS indexed to Treasury securities or to 11th district cost of funds
- FHA/VA fixed-rate and graduated-payment mortgages
- 5 and 7 year two-step ARMs

Fannie Mae has developed a number of special mortgage products and programs to meet the needs of specific borrower categories. Many of them are designed to assist lenders meet their community lending objectives. Some of these programs are; the Community Home Buyer's Program, Fannie Neighbors, The Lease-Purchase Mortgage, Home Improvement Loan Program, and many others.

Fannie Mae's MBS program enables lenders to pool their loans and exchange them for one or more Fannie Mae Mortgage-Backed Securities. The MBS is an investment instrument that represents an interest in a pool of mortgages. Each month the principal and interest payments are passed through to the MBS investor at a specific interest, or coupon, rate. Fannie Mae's MBS are popular among investors because the timely payment of interest and principal is guaranteed.
Federal Home Loan Mortgage Corporation (Freddie Mac)

Freddie Mac was created by Congress in 1970 to provide a secondary market for mortgage loans originated by federally insured thrift institutions. Freddie Mac now purchases mortgage loans from any Freddy Mac-approved lender, with the exception of FHA-insured and VA-guaranteed loans. Freddie Mac as Fannie Mae, then pools the mortgage loans and sells securities backed by these pools. Freddie Mac only buys mortgages from approved lenders that have to demonstrate experience and sufficient net worth. After approval, Freddie Mac and the lender sign a contract which sets forth the terms and conditions under which the mortgage lender sells and service mortgages for Freddie Mac.

Freddie Mac joined the MBSs market with its participation certificate (PC) program, opening the federally guaranteed MBSs market to conventional mortgages (loans not insured by FHA or guaranteed by VA). Freddie Mac furthered the innovation effort in 1975 with the creation of mortgage securities designed to look like a corporate bond. This was the Guaranteed Mortgage Security (GMC), which reduced the risk of prepayment volatility by guaranteeing a minimum average life. In addition, the GMC was structured with semiannual payments of principal and interest in an effort to make the mortgage security more attractive to nontraditional investors who objected to the monthly remittance of payments that is characteristic of the pass-throughs. Throughout the 1970s, Fannie Mae and Freddy Mac further supported the secondary mortgage market by acting as aggressive purchasers of loans originated by approved mortgage bankers and S&Ls. In 1981, Fannie Mae and Freddy Mac introduced their swap programs, whereby approved financial institutions could package loans held in portfolio and, following submission of the appropriate documentation, receive back on "swap" mortgage securities issued by these agencies. The securities are backed by the loans held in portfolio by the private institutions that initiated the swap. Initially the swap program was used primarily by S&Ls, which held seasoned loans in portfolio and took advantage of the program to add liquidity to their mortgage portfolios. The S&Ls were stimulated to do so under 1981 FHLBB regulations allowing S&Ls to dispose of fixed-rate, long-term assets as part of a regulatory mandate effort to restructure the S&L industry. Under the stimulus of these swap programs, billions of dollars of MBSs backed by seasoned loans were introduced to the marketplace, thereby creating the two-tiered market for seasoned versus new production loans that exists today.

Government National Mortgage Association (Ginnie Mae)

Ginnie Mae was created by Congress in 1968 as part of the Housing and Urban Development (HUD), to help finance mortgages for families who could not obtain adequate housing under other mortgage programs. Its primary role is to guaranty mortgage-backed securities issued by Ginnie Mae-approved private mortgage lenders and backed principally by FHA-insured and VA-guaranteed loans. Ginnie Mae, as part of HUD, is a federal agency and its guaranty carries the full faith and credit of the United States.

Ginnie Mae guarantees mortgage-backed securities under two programs: GNMA I and GNMA II. Under GNMA I, which is the original program, investors who purchase Ginnie
Mae-guaranteed mortgage-backed securities receive payments from the individual issuer, mortgage lender. Under GNMA II, Ginnie Mae uses a central paying agent (Chemical Bank) so that investors receive a single monthly payment check. Securities issued under both programs represent an undivided interest in "pools" of single-family and multi-family mortgages.

In 1975, the Chicago Board of Trade announced the opening of a futures market in Ginnie Mae securities, adding a further avenue for the hedging of market risk by mortgage originators and investors. Following soon after, was the listing of options on Ginnie Mae futures.

**Bank or BHC-owned companies**

Among the various mortgage lender institutions, one of the most typical nowadays are those directly or indirectly owned by state or national banks or by bank holding companies. Prior to 1982, national banks were subject to numerous statutory restrictions on real estate loans. Today those restrictions are less burdensome and national banks may "make, arrange, purchase or sell loans or extensions of credit secured by liens on interest in real estate," as long as the loans are made in accordance with the regulations issued by the Office of the Comptroller of the Currency. A mortgage company that is owned by a national bank is subject to the regulations posed by this office and the Federal Reserve Act. All mortgage companies that are subsidiaries of a national bank are deemed HUD-approved.

State banks are subject to the laws of the state where they are chartered and are usually regulated by a state banking commission. Their requirements may vary depending on the individual state law and regulations. Some states have introduced regulatory bodies, others have prohibited state banks from this activity, and others have not put in place any kind of regulation at all.

A bank holding company is a company that has control over either a bank or another BHC. They are regulated by the Federal Reserve Board and they are restricted in the activities they can engage. They are allowed to make, acquire and service loans or other extension of credit such as consumer lending and mortgage lending.

**Private Mortgage Conduits**

Ginnie Mae, Fannie Mae and Freddie Mac have been primarily responsible for the development of the secondary-mortgage and mortgage-backed securities markets. Federal law, however, limits the size of mortgages that Fannie Mae and Freddie Mac may purchase. Loans that exceed the size ($200,000 for single-family loans) or do not meet their standards, are called "non conforming", and are thus handled by private conduits that do not have those restrictions. These companies act as conduits that channel funds from the capital markets to the mortgage markets by acquiring non conforming loans from mortgage lenders, converting them into mortgage-backed securities and selling them to investors. The first private mortgage securities were issued in 1977 by the Bank of America and First Federal Savings and Loan Association of Chicago. Since then, a number of private conduit organizations have developed.

In addition to competing with the "big three", private conduits have faced certain statutory and regulatory obstacles, including registration with the SEC and state securities agencies.
The Secondary Mortgage Market Enhancement Act of 1984 (SMMEA) helped remove many of these obstacles by exempting private mortgage securities from registration requirements of state securities law, provided that they qualify as "mortgage related security" under SMMEA. A mortgage related security is one that is rated in one of the two highest ratings categories by at least one nationally recognized statistical rating organization (e.g. Moody's and S&P), represents ownership of one or more promissory notes (directly secured by a first lien on a single parcel of real estate), and was originated by a savings and loan association, savings bank, commercial bank, or similar institution with supervision by a federal or state authority. Mortgage lenders that wish to channel their loans by private conduits enter into purchase agreements under which the mortgage lender agrees to sell and the private conduit agrees to buy mortgages satisfying the terms and conditions set forth in the agreement. The mortgage lender usually services the loans on behalf of the private conduit.

**Warehouse lenders**

Mortgage lenders require funds with which to originate mortgage loans. To obtain access to sources of funds, mortgage lenders establish "warehouse lines of credit" with warehouse lenders. Warehouse lenders are institutions that make revolving credit available to mortgage lenders that draw from their credit lines to fund their mortgage loans. The extension of credit for a particular loan is paid off when the mortgage lender sells the mortgage loan to a secondary-market investor, such as Fannie Mae or Freddy Mac. The warehouse lender usually secures each extension of credit by placing a lien on the mortgage loan and perfects its security interest by taking possession of the original promissory note executed by the borrower, endorsed "in blank", together with an assignment of the mortgage securing the loan. It finally delivers the loan package to the secondary-market investor in exchange for the purchase price, leaving the mortgage lender out of this final clearing process.

**Mortgage Insurers**

There are two types of mortgage insurance that may be used when borrowers obtain mortgage financing. The first type of mortgage insurance is taken by the borrower, usually with a life insurance company that provides for mortgage payments after the death of the insured person. The other type of mortgage insurance is taken out by the lender, although borrowers pay for the insurance premiums. This policies usually cover some percentage of the loan amount and guarantees that in the event of a default by the borrower the insurance company will pay the amount insured or pay off the loan in full. This insurance is usually taken as a percentage of the value of the loan, and covers the amount left between the remaining present value of the loan and value of the property. In case of default by the borrower, the insurance company has basically three options. It can help (be lending new money) the borrower to pay the mortgage payments, thus avoiding foreclosure costs. It can choose the bank to foreclose the mortgage and pay the amount of the insurance to the bank, in this case the bank can make a profit from selling the property above the sum of the mortgage outstanding balance and the insurance amount. Finally, it can choose to take title of the property by paying the outstanding balance of the mortgage.
and proceed to sell the property for a better price. Usually, insurers choose the latter option. The net effect of mortgage insurance from the lender's standpoint is to reduce its risk, while passing the cost of the insurance to the borrower. It has become common practice for the lenders to charge a lump amount to the borrower at the moment of origination of the loan. However, it is not necessarily to have insurance for the entire life of the loan, since as the mortgage amortizes the LTV ratio decreases and the mortgage becomes safer. Usually insurances are taken for the first 2 to 5 years of the life of the loan depending on several considerations.

The increasing competition for mortgage lending during the last five years have dramatically increased the allowed and common-practice loan-to-value ratio for conventional (not FHA-insured or VA-guaranteed) mortgages to a level of 95% of the purchase price of a home. While this has excellent result for mortgage lending, it puts both investors and insurers in a risky default position since with a small price decline in real estate, many borrowers may very well default on their loans. The insurance industry has responded to this concern by providing coverage that cushions the risk of making and purchasing these higher-risk mortgage loans. Private Mortgage Insurance (PMI) usually covers the top 20 or 25% of a conventional loan with a loan-to-value ratio of over the 80% threshold. When the ratio falls below 80%, PMI may be discontinued temporarily or definitely. In exchange for PMI, borrowers pay an up front mortgage insurance premium at closing and one-twelfth of an annual premium with each monthly installment of principal and interest under the mortgage note. PMI is different from FHA insurance since PMI is required for conventional loans. FHA-insured or VA-guaranteed loans do not require PMI coverage. Private insurers also provide pool insurance for the secondary market. This insurance covers losses on mortgages in a pool backing mortgage-backed securities, and protect the purchasers of the securities backed by the mortgage pool in the event that an extraordinary number of mortgages in the pool go into default.

**State licensing**

Approximately 85% of state jurisdictions now require licensing requirements for mortgage brokering, lending, and servicing. However, the scope and restrictions vary widely among different states, but in general, they all require record keeping, office facilities, accounting, and origination and servicing procedures. The applicability of a state's licensing statute to an individual company may depend on a great number of factors, including the type of institution, the parentage of the company, and the type of loans to be made. Almost universally, however, the licensing statutes set forth a list of exempt entities, which are often those that are already regulated by another state agency - for example banks, savings institutions, credit unions, and insurance companies.

In addition to meeting licensing requirements imposed by state, mortgage brokers, lenders, and servicers must consider a state's laws regarding the conduct of business by foreign corporations. Every state has a statute that requires corporations that are incorporated in a foreign state to obtain a certificate of authority before transacting business in the state. The process of qualifying to do business within a state is usually simply a matter of paying
an annual fee, competing an application, and appointing a resident agent. The inability to do so most often means the inability to bring a lawsuit within the state, the payment of any fees and taxes, along with the payment of a monetary penalty.

**Regulation of the loan - State and Federal**

Every stage of a mortgage loan from advertising and application through loan processing, closing, and servicing is regulated by either federal or state law, or both. The statutes and regulations impose both substantive and disclosure requirements and are generally intended to protect borrowers from abusive lender practices.

The enactment of the Home Mortgage Disclosure Act (HMDA) in 1975 stemmed form a rising public concern about credit shortages in urban neighborhoods. The goals of HMDA are to provide information to the public indicating financial institutions are servicing the credit needs of the neighborhoods they serve, and to assist public officials in targeting private-sector investments to the areas where they are most needed. Their regulations apply to almost all mortgage lenders with few exemptions. HMDA requires covered entities to compile information on loan type, the purpose and amount of the loan, the type of action taken on the loan, the date on which any action was taken, and whether the property relating to the loan is to be owner-occupied.

There are several fair-lending statutes that impact upon every stage of the lending process - form advertising of services to the taking of an application, the determination of creditworthiness, and the origination, servicing, and collection of a loan.

Three federal laws that provide protection to consumers are:

1. **Equal Credit Opportunity Act (ECOA).** ECOA and its implementing regulation, Regulation B, are applicable to all persons who, in the ordinary course of business, regularly participate in deciding whether or not to extend credit. Its purpose is to promote the availability of credit to all creditworthy applicants, prohibits any kind of discrimination or discouraging of applicants, and limits the amount and type of information that a lender may request from an applicant. The FTC enforces ECOA for mortgage bankers with both civil liability and punitive damages.

2. **Fair Housing Act.** It prohibits from discriminating in housing-related activities such as residential or non-residential, urban or rural, etc. Both the Fair Housing Act and ECOA do not intend to coerce lenders into providing loans when its is not, in their good business judgment, prudent to do so. They just intend to prohibit discrimination based on certain specified bases.

3. **Fair Credit Reporting Act (FCRA).** Regulates the consumer reporting industry as well as users of consumer credit reports by placing disclosure obligations on the users of consumer reports and ensuring fair, timely, and accurate reporting of credit information.

**Real Estate Settlement Procedures Act (RESPA)**

RESPA is administered by HUD, and was enacted by Congress in 1974 to provide mortgage loan applicants with the disclosure of information about the costs and procedures involved in loan settlement. RESPA specifically prohibits kickbacks and other undisclosed or unearned fees from being unknowingly or improperly passed on to the
borrowers. It also requires disclosures relating to escrow accounts and the transfer of mortgage servicing.

RESPA applies to "federally-related mortgage loans" which, as originally enacted, were defined as loans secured by a first lien on one to four-family residential real property if the loan proceeds were used in whole or in part to finance the purchase of the property. RESPA requires that a good faith estimate of settlement costs (GFE) be delivered to or placed in the mail to a loan applicant no later than three business days after the application is received. The GFS is provided by both the mortgage lender and the mortgage broker, and consists of an estimate, expressed as either a dollar amount or a range, of the charges the borrower will be likely to incur at or before settlement, based on common practice in the locality.

**Truth in Lending Act (TiLA).**

TiLA was enacted in 1968 and revised in 1979, and its goal is to provide consumers with information about the cost of credit to enable them to compare different credit programs. TiLA is administered by the Federal Reserve Board, and like RESPA, it is a disclosure statute. In addition to setting out rules for the disclosure of the terms of consumer credit before the consumer enters the transaction, TiLA also requires disclosure on a periodic basis, provides for billing error resolution, and regulates how a lender advertises loan programs. It also sets a roof for the interest rate charged on residential one-to four-family mortgages if the note allows for an increase in the annual percentage rate.

**Real Estate Insurance**

In order to protect the property on which it has taken a lien and in order to sell a mortgage to an institutional lender, a lender requires a hazard insurance policy that protects the value of the underlying property from a number of potential events like fire, floods, earthquake, etc.
II.4. Mortgage instruments

The key to success for mortgage lending in the 1990s and beyond is profitability over the long term. To remain profitable, mortgage brokers, mortgage bankers, and financial institutions must address the issue of affordable housing and minimize the risks associated with individual loan instruments.

Before entering to discuss the different types of mortgage contracts commonly to be found in the US, the author believes that it is necessary to explain some of the basic terminology used in the business practice. The following list was compiled based on Bartlett (1992) and Fabozzi (1993).

These are the most commonly used terms for mortgage instruments:

- **Accrual rate**, is the stated annual interest rate at which the interest is calculated.
- **Amortization period**, is the period of time over which a specific mortgage payment will fully repay a given loan amount at a given interest rate.
- **Buydown**, are the funds provided to a lender by the borrower or a third party for the purpose of reducing the borrower's monthly out-of-pocket payments. Buydowns may be permanent and, therefore, reduce the interest rate over the life of the loan, or may be temporary, therefore reducing the borrower's payments for a short period of time.
- **Caps and floors**, is a limit on the amount by which the payment may increase or decrease, or on the amount by which the interest rate may increase or decrease.
- **Fully indexed accrual rate**, is the base index value of an adjustable-rate mortgage plus the highest gross margin during the life of the loan.
- **Index**, is the variable reference rate source upon which future interest rate changes are based for an ARM. Common indices include one-year treasury bills, three-year treasury securities, and 11th district cost of funds.
- **Initial payment rate**, is the interest rate used to determine the amount of the initial monthly payment.
- **Loan term**, is the time over which the loan amount must be fully paid. The loan may be paid in full either by a balloon payment or through fully amortizing payments.
- **Loan-to-value ratio**, refers to the ratio of the mortgage balance to the market value of the property expressed as a percentage. The lower the LTV, the less the loan amount relative to the property value, and the greater the safety. The LTV ratio tends to decrease overtime (unless negative amortization happens), since monthly payments include both interest and amortization components that reduce the outstanding balance, and inflation tends to increase property prices. This is the main reason why seasoned loans are deemed safer than newly issued. LTV requirements depends on the borrower's net worth and income, as well as on certain characteristics of the property like marketability, age, and type.
- **Margin**, is an amount added to the index value to determine the accrual rate of a mortgage.
- **Negative amortization**, is the gradual increase in the outstanding balance of a loan, caused by adding unpaid interest to the loan balance. The unpaid interest is a result of monthly payments being less than the amount required to pay the interest on the loan.
Negative amortization can be either potential or scheduled. Scheduled negative amortization is negative amortization that is certain to occur, for example when one year of no payments is pre-determined. Potential negative amortization is negative amortization that results from a borrower-optional payment cap.

- **Rate concession/discount**, is a reduction in the accrual rate from the fully indexed accrual rate by the lender to the borrower.
- **Payment increases**, is an increase in the borrower's monthly payment, which occurs either due to unscheduled index increases or scheduled payment increases, which occur regardless of fluctuations in the index and are set forth in the mortgage contract. Scheduled payment increases would occur on a graduated payment mortgage or a loan with a temporary buydown.
- **Prepayments**, is the payment by the mortgagor that exceeds the actual amount due, with the idea of applying the excess payment to further reduce the loan. In the extreme case, the loan can be completely repaid by a single payment, in which case the mortgage contract is terminated.
- **Delinquency**, occurs when a mortgagor fails to make a mortgage payment due to a variety of reasons; death, unemployment, or others. If the matter is not resolved quickly, the mortgagee may charge late payment fees, or even declare the foreclosure.

**Mortgage instruments**

There are five basic elements of a loan that affect the way it functions. These are the amortization period, the payment rate, the accrual rate, and the loan amount. Instruments differ in one or more of these elements. Over the last decade, lenders have adjusted these elements to create various types of instruments with basically two goals in mind; create instruments that are affordable to borrowers, and match the yield on the mortgages to the cost of funds and the investors' requirements. There are a increasing number of alternative mortgage instruments (AMIs). Some of the most popular types of instruments are:

1. **Adjustable-Rate Mortgages (ARMs)**

   Adjustable Rate Mortgages were developed in the early 80s, and have evolved to be one of the most commonly used residential mortgage financing instruments. Rather than a fix rate for 30 years, ARM loan offer shorter periods of rate inflexibility, where the interest rate is tied to an index that floats up and down with the money market. There are ARM loan products on the market that adjust anywhere from six months to one, five, or seven years. In addition to the variety in the length of time between interest rate adjustments, ARM offer different margins, rate caps, amortization schedule, and indices on which the interest rate is based.

   ARMs permit lenders to share the interest rate risk with the borrower, since they are typically structured with interest rate and payment adjustments occurring at one-, three-, or five year intervals. Some instruments allow for more periodic revisions, and thus allow for a more fully transference of the risk to borrowers. The interest rate for an adjustable-rate mortgage is determined by taking the index value and adding a predetermined margin amount. The result is known as the Fully Indexed Accrual Rate. The ability of the lender to adjust the interest rate as index values change permits lenders to better match the yield on their lending portfolios to their cost of funds. However, this presents the borrower with
an uncertainty of payment that is offset to some degree by placing interest rate or payment caps that limit the amount by which the payment may be adjusted. Typically, loans with interest rate caps do not have potential for negative amortization. Many lenders provide for a rate concession or discount in order to make ARMs more attractive to borrowers. In these instances, lenders would originate loans at an initial interest and payment rate below the Fully Indexed Accrual Rate.

2. **Convertible Mortgages / ROLs**

Convertible mortgage loans are mortgages that, at the time of origination, contain an option allowing the borrower to change the mortgage instrument's payment or other characteristics. The most common of these instruments is an adjustable-rate mortgage that allows the borrower the option to convert to a fixed-rate loan at prevailing market interest rates at predetermined periods in the mortgage life. This option is generally offered on a one-time-only basis at the time of normal rate adjustments, and for a maximum specified length of time, such as during the first five years of the loan term.

In order to obtain this feature, borrowers may have to pay a slight premium at the time of origination through either initial rate or loan fees. The borrower does, however, generally incur substantial savings in costs when converting versus the cost of refinancing.

A recent development in the convertible loan arena is the Reduction Option Loan (ROLs), that allow conventional fixed-rate loan borrowers to reduce the interest rate on their loans one time during the second to fifth years of the loan. Borrowers do, however, have to wait for market rates to fall a set amount (e.g. at least 2 percent) from their original note rate before exercising their option. Like other convertible loans, ROLs allow borrowers to take advantage of more favorable interest rates on a one-time basis without the expense and inconvenience of refinancing. The lender also benefits by offering these convertible loan instruments. More stable servicing portfolios are maintained due to the diminished risk of losing servicing fees on loans that are refinanced.

3. **Early Ownership Mortgages (EOMs)**

The EOM mortgage, known also as a Growing Equity Mortgage (GEM), is an instrument whereby the initial payments are typically structured using a longer amortization payment, such as 30 years, while the loan term itself will be a period of 15 to 20 years. The early payoff of the mortgage is accomplished through scheduled payment increases. As the payments are increased over the term of the loan, more of the payment is applied to principal, resulting in early amortization. The benefit to the borrower of an EOM is the early payoff of the mortgage, thus resulting in reduced interest costs. The benefit to the lender is that its lendable funds are tied up for a shorter period of time. The inherent risk in the early-ownership mortgage is the payment shock experienced by the borrower resulting from continual payment increases.

4. **Elastic ARMs**

Elastic ARMs is an instrument that has an adjustable interest rate, but a fixed payment for the life of the mortgage. The term of the loan is adjusted to ensure payoff based on the fixed payment and the interest rate in effect at the time. Elastic ARMs are typically originated at shorter initial amortization periods like 20 years, and have a maximum term
of up to 40 years. In the event that interest rates remain high for a period of time, the payment is adjusted only if it is insufficient to amortize the loan over a period of 40 years or less. This particular instrument allows the lender to match its yield to its cost of funds, while providing the borrower with a fixed-payment loan. However, the extended term may result in increased aggregate interest expense to the borrower.

5. Fixed-rate, Fixed-payment Loans
This loan has been the most traditionally used type in the mortgage industry since its beginnings. As it names implies, the borrower's payment and the interest rate charged by the lender are fixed for the life of the loan. Although this instrument provides payment certainty for the borrower, it shifts the total burden of interest rates fluctuations to the lender. Thus it is particularly popular with borrowers in middle to low interest rate environments. In order to provide affordability to the borrower in the higher interest rate environments, a feature known as a temporary buydown is frequently incorporated. The borrower's initial payment is supplemented by funds provided to the lender by either the borrower or a third party, thus allowing the lender to maintain the necessary yield on the loan. Typically, a loan with temporary buydown will have scheduled payment increases for a period of one to five years.

6. Graduated-payment mortgage
The graduated-payment mortgage was designed to address the borrowers-affordability issue. Their structure is set such that the initial payment is discounted to a point below the payment necessary to cover the interest costs in the loan. Payments are typically scheduled to increase for a period of three to five years. During the initial periods of payment increases, while the payment is insufficient to cover interest, the loan negatively amortizes at a scheduled rate. Since the loan has both scheduled payment increases and negative amortization, the instrument is of a high-risk nature. The scheduled payment increases create payment shock, as the borrower is continually faced with increasing for scheduled period. The initial down payment of the borrower is eroded through the negative amortization. This instrument has been proven to be unacceptable to borrowers and lenders alike due to its high-risk nature.

An instrument with some similarities to the GPM is the collateral pledge GPM, that like the GPM has scheduled payment increases; however, it does not have negative amortization. Under this instrument, the borrower places funds in a collateral pledge savings account, which are used to supplement the mortgage payment. The difference between this instrument and a fixed-rate, fixed-payment mortgage with a temporary buydown is the fact that the pledged account funds are used to offset the outstanding mortgage balance in the event of default. Again, this is also a high-risk instrument, since funds provided by the borrower at the inception of the loan are erode as the funds from the pledged account are depleted. The risk characteristics of this loan, again, are payment shock through scheduled payment increases and perceived equity erosion of the borrower as his funds are depleted.
7. **Buydowns**
Provide for an escrow account that may be held by a regulated depository institution, where monthly predetermined amounts are withdrawn to subsidize the P&I payments the borrower makes, thereby reducing the cost of the mortgage. The escrow may cover a portion of the loan payments for a specified term or may be deposited in an amount sufficient to subsidize the loan for its full contractual life.

8. **Balloon Loans**
Balloon loans are usually written for terms of three or five years. Their contracts call for regular monthly payments based on a 30- or 15-year amortization but stipulate one large (balloon) payment at the maturity date for the full remaining unpaid principal balance of the loan.

Although the provided list of mortgage contract formats is not complete, they include the most commonly used ones. Other types are usually variations or hybrids between two or more of these.
II.5. Mortgage-backed securities' origination

Mortgage originators can either hold a new mortgage in their portfolios, sell the mortgage to an investor or conduit, or use the mortgage as collateral for the issuance of a security. When a mortgage is used as collateral for the issuance of a security, the mortgage is said to be securitized.

When a mortgage originator intends to sell the mortgage, it will obtain a commitment from a potential buyer. Two federally sponsored credit agencies, Freddy Mac and Fannie Mae, and several private companies buy mortgages. Since these agencies and private companies pool these mortgages and sell them to investors, they are called conduits. Freddy Mac and Fannie Mae purchase only conforming mortgages that meet their underwriting standards. Nonconforming mortgages and jumbo loans have different conduits.

With the advent of increasingly sophisticated mortgage securities tailored specifically to investors' needs, an increasing share of residential mortgage loans are originated for sale into the secondary market rather than for banks, thrift or insurance portfolios. This change into a secondary-market driven activity has resulted in numerous developments.

All mortgage loans start as applications, which must be processed, underwritten, closed, and packaged before they can be sold to the secondary market. The application becomes a loan after the lender funds the mortgage transaction. However, a closed loan is not salable in the secondary market until it is packaged as a "whole loan" or mortgage backed security. Industry tradition dictates that the borrower be offered a rate lock at the time of the application. Pipeline hedging refers to hedging the rate offered to the borrower and that at which the final security will be issued.

Two pipeline risks must be hedged: interest rate risk and fallout risk. Interest rate risk regards to the risk in variation in interest rates between the time of application and the securitization. Fallout risk results from some locked applications not becoming loans. Pipeline management strategies span a wide spectrum of risk: from outright speculation to fully hedged. Lenders should understand the risks associated with a speculative strategy and the opportunity costs associated with a fully hedged strategy, in order to decide at which point on the risk spectrum they wish to operate.

The mortgages' complex nature

Mortgages and mortgage securities rank among the most complex fixed-income instruments. While mortgages are callable by a prepaying borrower, the exercise of this embedded option is often based on unpredictable and seemingly irrational factors.

Like long-term treasury notes and bonds, fixed-rate mortgages possess a significant amount of interest rate risk. The mortgage call feature makes its price-rate relationship less attractive than the treasury note's. Duration and convexity measurements are one of the easiest and most convenient, though not the best available, methods to evaluate an instrument's price-rate relationship. Different mortgage instruments respond differently to the same rate movements, depending on a number of issues and the terms of each security.
Risks associated with mortgage-backed securities

Risks for the lender/originator:
"To risk" means to expose to chance of loss. Known or accurately predicted losses are not risks: they are calculated costs of doing business. Lenders must assume some degree of risk, because a risk-free rate or return will not compensate for the costs of doing business and the value of capital. Lenders who survive and prosper are those who get the best assistance from sophisticated management tools designed to help price loans and risks more effectively. The role of decision support systems is to provide insights, analysis, and guidance to lenders that would allow them faster and better actions. However, the size and complexity of mortgage servicing portfolios are beyond a small system's ability. The sheer volume of data, lack of a central source, and the complexities of the decisions to be made requires large-scale technology to satisfy executives who require immediate actions.
All risks can be divided into two categories.

- **Systematic risks** are common to all mortgage assets, and are associated with broad economic trends or financial market conditions. Therefore they cannot be diversified away.
- **Nonsystematic risks** by contrast are specific to individual assets and can be reduced by intelligent diversification, or can be eliminated surgically, one loan at a time. Nonsystematic risks can be for example different regional real estate market conditions, higher loan-to-value ratios, etc.

Mortgage risk management involves an identification and understanding of each risk in servicing or asset lending and how these risks interact to produce losses (primarily risks related to performance of the real estate sector and the choices made by the borrower). It also requires discovering the exact degree to which those factors are present in a given portfolio by analyzing the portfolio composition and condition; involves pricing risks and quantifying their true effect under various possible scenarios (requires the highest skills and best analytical tools); finally, it requires actions to avoid, reduce, or transfer assets that can meet the risk-adjusted required rate of return.

During the 70s, mortgage products in the secondary market were simple and thus the task was relatively simple. As securities started to deviate from standards and new developments demolished much of the simplicity of that earlier business environment, portfolio management has become increasingly difficult. Local market conditions are highly diverse, and new types of risks evolve rapidly.

**Mortgage investment risks**
The principal investors in mortgages are thrifts and commercial banks. Pension funds and life insurance companies also invest in mortgages, but their participation is smaller than that of thrifts and banks. These investors are exposed to various types of risks by investing in whole loans, depending many times on the type of mortgage or instrument used:
1. **Interest rate risk.** Interest rate risk is the risk of loss in the event that general market rates change. If rates decline the price of the mortgage will decline producing a loss for the investor. This is the risk common to all fixed-income securities.

2. **Prepayment risk.** Prepayment risk stems from the chance that prepayment forecasts will not turn out to be fully on the mark. The value of mortgage servicing is so integral to mortgage banking that proper valuation of prepayment risk is essential. The problem faced is to value servicing rights and correctly price prepayment risk in the face of interest rate volatility and uncertainty. Part of the answer is straightforward: Avoid static-case valuations, and use only multi-case scenarios and the idea of the underlying "expected value".

Prepayment stems from three basic choices made by borrowers; demographic prepayments due to home sales, economic prepayment due to refinance or loan payment-in-full, and default.

a. **Prepayment from homeowner mobility.** The American Housing Survey (AHS) shows that homeowner mobility are highest during the first two years following move-in. Demographic prepayments can be directly monitored by studies and indirectly by some ratios as home sales per capita in local markets, the more active a market the more prepayments will be.

b. **Prepayment by refinance.** The borrower would be willing to refinance if there is some kind of underlying economic gain such as equity cash-out, lower rates, or lower payments. The benefits must be in balance with cost in time and money. Refinance choices are affected by information that only the borrowers have (asymmetric information), such as their prospects for continued employment and how long they plan to stay in their home.

**Measuring prepayments.**
The market has evolved a variety of conventions for quantifying prepayments intended to facilitate trading and investment in mortgage-backed securities. The oldest and simplest of these was the prepaid life assumption employed by secondary market traders of whole loan mortgages.

At one time the 12-year prepaid life assumption was the convention for quoting mortgage yields. Under this convention, the first 12 years of cash flows consist entirely of amortized principal and interest in each of the mortgages in the pool. At the end of the 12th year, the remaining principal balance is assumed to be paid in full. In other words, the entire pool is treated like a single mortgage prepaying in the 12th year of its life. The yield-to-maturity calculated for a given price and the cash flows derived form a 12 year prepaid assumption was termed the "mortgage yield". During the 1970s, however, increases in the level of volatility of interest rates led in turn to substantial increases in the level and volatility of prepayment rates. The 12-year prepaid assumption could not be adjusted for the wide differences in coupon, maturity, seasoning, and other security characteristics prevalent in today's markets.
Recognizing these limitations, traders and investors started to use the termination experience collected on FHA-insured mortgages issued since 1970 to model expected
prepayments. This distribution of prepayments was readily accepted and used to adjust various different types of mortgage instruments according to their past experience. Unfortunately, FHA experience is defined on a single parameter: age of the mortgage. By averaging individual mortgage data, it ignores the critical link between coupon and prepayment. Furthermore, the underlying data are from assumable FHA and VA mortgages and can be misleading when applied to conventional pass-throughs. Other restrictions of using FHA experience include the fact that it does not incorporate variables such as the level of interest rates and economic activity known to influence prepayment. The FHA prepayment standards gave way in the 1980s to the conditional prepayment rate (CPR). CPR has become the principal means traders and investors employ to quantify prepayment activity in pass-throughs. This convention assumes that a fraction of the remaining principal is repaid each period, which implies that each individual mortgage in the pool is equally likely to prepay. The CPR measures prepayment based on the previous month's remaining balance. The resulting rate is expressed as an annualized percentage, and so it is easy to manipulate and incorporate to yield calculations.

**Multiscenario prepayment analysis.**

A static case valuation is one in which the valuation is computed under the assumption that key variables such as market interest rates, prepayment and default patterns will not change over the life of the loan. This approach is the beginning analysis, but its static premise that interest rates and prepayments never change is wholly unrealistic because the effects of prepayment risk on servicing is extremely nonlinear. That is, declining rates hurt servicing values far more than increasing rates help them. This "negative convexity" is one reason it is crucial to use multiple scenarios of rates, in a pattern that assumes rates go unchanged (the "base" case), higher and lower. This happens because the slope of expected prepayment rates is usually very shallow for loans whose note rates are much higher or lower than "current" coupon. But, loans just at or above current coupon rate (called "cusp" coupons) have very sharply upward sloping prepayment rates. That means that small decreases in interest rates cause a large increase in prepayment expectations for a cusp coupon loan.

Multiscenario prepayment analysis tackles this multivariable problem by requiring the risk manager to generate a series of alternative scenarios that can be tested and finally calculate a series of most likely parameters.

3. **Change in regional real estate markets.** Constitutes one of the main sources of unsystematic risk, adding to both prepayment and default possibility. The US is one of the most regionally volatile real estate markets in the world, that behave in many ways independently from other regional movements and general economic conditions. A close monitoring of these variations and markets is necessary to predict changes in default and prepayment patterns.

4. **Default risk - also known as credit risk.** Default risk is the risk of loss due to homeowner/borrower default. For FHA-insured or VA-guaranteed mortgages, this risk is minimal because the credit of FHA and VA stand behind such loans. For privately insured mortgages, the risk can be gauged by the credit rating of the private insurance company.
that has insured the mortgage. For conventional mortgages without private insurance, the credit risk depends on the borrower, and the exposure can be monitored by the LTV ratio. Default risk arises from the possibility that foreclosure probability or default severity will be worse than anticipated. Pricing default risk requires three major components; finding the probability of default, calculating the estimated severity of the loss, and present valuing the future loss stream into an expected loss number.

Default probability has two major components; real estate values and loan-level risks (mainly loan-to-value LTV ratios and adjusted-loan-to-value ALTV ratios). Default probability is usually calculated using default experience from a nationwide benchmark pool of loans, and adjusted to the specific characteristics of a particular loan pool (up to 14 different multiplicative default probability indices - DPIs).

Default severity is independent of the probability of its occurrence, and it is based upon several factors that need to be calculated (vectored) separately for each future period. The first factor is the borrower's original equity as a down payment, next is the gain or loss in home prices from the date of origination to date of default (historical appreciation) that need periodic recalculations, to these numbers needs to be added interest losses for the expected foreclosure and sale period. Then comes real estate commissions, property maintenance costs, and so forth like and adjustment for the property's value due to foreclosure (tenancy damage, etc.).

Two different results for default severity must be computed. Intrinsic loss is the total loss that is expected to result from a foreclosure, no matter who bears it. It is not necessarily the servicer's share because it is calculated before the effect of available mortgage insurance or the recourse status of a loan. It gives the truest possible measure of loss potential.

In addition, a net-loss-to-servicer forecast should be calculated, which includes both insurance coverage and recourse status of the loan.

An excellent monitoring tool is the so-called "delinquency progression" indicator that is a cross-period indicator of delinquency where managers can learn exactly which characteristics in their operations are predictive of good or bad progression behavior. It provides an early-warning of emerging trends and problems.

5. Liquidity risk. Liquidity risk is the risk of loss in the event that the investment must be sold quickly. It is typically measured by the bid-ask spread in the marketplace for the investment. Most mortgage securities are highly liquid and therefore have minimal liquidity risk.
II.6. Mortgage loan investors

The nature of the mortgage investors in the US has changed dramatically over the last decade due to a number of issues, the most important one probably the crisis of the S&L industry during the second half of the 80s. The following table describes the breakdown by institution type, as well as the sources of credit for mortgage origination. Source: Fabozzi & Modigliani (1992): (millions of dollars)

<table>
<thead>
<tr>
<th></th>
<th>Thrifts</th>
<th>Commercial Banks</th>
<th>Pension Funds</th>
<th>Life Insurance Companies</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Acquisition of Mortgage Loans</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>124,124</td>
<td>78,714</td>
<td>741</td>
<td>6,901</td>
<td>27,584</td>
<td>238,064</td>
</tr>
<tr>
<td>1987</td>
<td>158,581</td>
<td>104,643</td>
<td>959</td>
<td>6,451</td>
<td>(398)</td>
<td>270,236</td>
</tr>
<tr>
<td><strong>Net Acquisitions of Mortgage Related Securities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>79,428</td>
<td>60,761</td>
<td>22,224</td>
<td>22,488</td>
<td>146,355</td>
<td>330,256</td>
</tr>
<tr>
<td>1987</td>
<td>63,430</td>
<td>35,132</td>
<td>52,802</td>
<td>17,528</td>
<td>133,382</td>
<td>302,274</td>
</tr>
<tr>
<td><strong>Total Sources of New Housing Credit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>202,552</td>
<td>139,475</td>
<td>22,965</td>
<td>29,389</td>
<td>173,939</td>
<td>568,320</td>
</tr>
<tr>
<td>1987</td>
<td>222,011</td>
<td>139,775</td>
<td>53,761</td>
<td>23,979</td>
<td>132,984</td>
<td>572,510</td>
</tr>
</tbody>
</table>

The following table describes the extent of asset securitization in the US as of June 30, 1991, (same source as previous table):

<table>
<thead>
<tr>
<th>(in billion US$)</th>
<th>Residential Loans</th>
<th>Automobile Loans</th>
<th>Credit Card Receivables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total debt outstanding</td>
<td>$ 2,781</td>
<td>$ 270</td>
<td>$ 233</td>
</tr>
<tr>
<td>Amount Securitized</td>
<td>$ 1,153</td>
<td>$ 27</td>
<td>$ 56</td>
</tr>
<tr>
<td>Percentage Securitized</td>
<td>41%</td>
<td>10%</td>
<td>24%</td>
</tr>
</tbody>
</table>

*Participants in the mortgage instruments' secondary market*

There are a number of participants in the market that may act or perform one or more functions in the real estate financing market. Some act as mere lenders, while others act as lenders and security creators, and others are simply active investors in the resulting securities. The following are the most important actors in the market that have helped in some way to shape the market to what it currently is.

1. Savings institutions. They comprise S&Ls, saving banks, and credit unions. In general their role is to link consumers who have funds to save or invest with those who want to borrow, thus acting as financial intermediaries. The single most important factor that has changed the structure of the savings industry in recent years has been deregulation. In the 1960s, the savings institutions and commercial banks were totally

---

1. Include Mortgage Bankers, households, corporations, and other insurance companies.
2. The Net acquisition is the sum of mortgage originations and purchases less sales.
3. Net acquisitions of mortgage related securities equal purchases less sales.
regulated as to the kinds of deposit plans and terms they could offer. In 1980, the
power to set interest-rate ceilings an authorize new types of accounts was shifted from
the individual federal banking and thrift regulatory agencies to the Depository
Institutions Deregulation Committee (DIDC) whose mission was to phase out interest-
rate ceilings and most other regulations applying to savings accounts. This was finally
implemented in 1983, giving boost to a new development of the savings industry.

2. **Pension funds.** Pension Funds were initially reluctant to invest heavily in mortgage
securities, but beginning in 1980 their investment posture changed significantly.
Through the 70s, pension funds held from 5 to 11 percent of outstanding Ginnie Mae
MBSs, and by 1986, the percentage had increased to perhaps 35-40 percent. Most
Pension Funds buy MBSs for the yield spread they offer to comparable-maturity
Treasury and agency securities. They invest primarily in the current-coupon sector of
the MBSs market, that represent a current new production mortgage securities
produced by the primary obligation market.

3. **Mutual funds.** In the early 1980s the mutual and bond funds added Ginnie Mae funds
to their stable of products
II.7. Markets for mortgage-backed securities

A. Value-chain approach
Considering the different stages (value-chain) that a particular security goes through after
the mortgages have been pooled together and are ready to be placed in the market for
their sale, we can distinguish the markets for the MBSs as follows:

1. The traditional primary mortgage market
Historically the main suppliers of mortgage funds were thrifts that initially provided
mortgages only for local citizens and obtained their funds from local depositors. This
atomization of the business caused many inefficiencies, among them, rarely did demand
and supply for funds matched, thus volatility of interest rates was large.
Because of the imbalance between local supply and demand, a new participant entered the
market, the mortgage banker. Unlike thrifts and commercial banks, mortgage bankers did
not provide funds, instead they originated mortgages and sold them to life insurance
companies and/or thrifts in other parts of the US. They provided a brokerage function that
ultimately resulted in a country-wide mortgage market, with similar interest-rates and
standardized loan terms.
The main pitfall that this scheme suffered during the 60s was that thrifts and commercial
banks were limited in the interest rate to pay to depositors. When market rates were less
than the maximum interest rates that banks and thrifts were allowed to pay on deposits,
there was a steady flow of funds into these institutions to provide mortgage financing.
However, when market rates exceeded the maximum interest allowed for deposits,
depositors withdrew their funds and invested in other instruments that paid market rates
(basically stocks and bonds).
What was needed was a mortgage market that was less dependent on deposit-taking
institutions. This could be accomplished by developing a strong secondary mortgage
market to which financial institutions would find it attractive to supply funds.

2. The primary securities dealer market
Wall Street dealers were quick to pick up on an idea where the government would
guarantee the credit of the mortgage market.
Some of the first Ginnie Mae dealer market makers were actually mortgage brokers by
origin, other joined the market for the big profit opportunities it represented. There were a
number of issues that had to be resolved to form an organized secondary trading market.
Among the most important ones was to reach a common maturity assumption for pricing
purposes. The first adopted convention was the 12-year average-life instrument which
became the pricing convention through most of the first decade of Ginnie Mae trading.
Another issue was how to book a trade for a security that could not be deferred precisely
until some time after the ticket was written. To resolve these issues the pioneering Ginnie
Mae dealers in 1972 formed the GNMA Mortgage-Backed Securities Dealers Association.
In 1974 Ginnie Mae initiated a series of auctions to sell loans it had accumulated in
portfolio. About once a month the agency made available lists of the loans that would be
offered for sale. All of the loans were eligible to be pooled as Ginnie Mae securities.
For these reasons, the loans were particularly attractive to mortgage bankers, who bid aggressively for such loans as a fast way to build their Ginnie Mae servicing portfolios. Thus for the first time, there was an auction market of sorts for mortgage servicing. By the 1980s, the outright purchase and sale of large servicing portfolios amounting to hundreds of millions of dollars had become commonplace. Wall Street dealers formed syndicates to bid the mortgage bankers for the Ginnie Mae securities they would issue from the pools of mortgages purchased in the Tandem auctions. The result was to focus the dealers more precisely on competitive pricing and mass marketing efforts. The availability of large blocks of Ginnie Mae securities issued from a common large pool attracted the attention of big institutional investors as large thrifts and pension funds.

3. Mortgage securities' secondary market
The foundations for the secondary mortgage market can be traced back to the Great Depression and the congressional legislation that followed. Congress response to the Great Depression and its adverse consequences for financial markets was to establish several public-purpose agencies. The Federal Reserve provided better liquidity for commercial banks through the Federal Reserve discount window. Liquidity for thrifts was provided by the creation of the Federal Home Loan Banks (FHLBs), that were granted the right to borrow from the Treasury, thereby providing this agency with liquidity. Another creation of Congress was the Federal Home Administration (FHA) to develop and promote the long-term financing, insurance and regulation of the mortgage markets.
During the subsequent decades, the Congress created a series of new institutions and regulations to aid the secondary market functioning. Among them Fannie Mae, Freddy Mac, Ginnie Mae, and a number of acts were created and passed respectively.
B. Evolutionary approach

If we consider instead the evolution of the secondary market for these MBSs during the last two decades, we can identify several different sub-markets according to the type of instruments that are traded in them. This particular section draws from material covered by Fabozzi & Modigliani (1992) in their book on the subject (see annex).

We distinguish the following major sub-markets:

1. Mortgage pass-through securities
2. Derivative MBS's products
3. Stripped mortgage pass-through securities
4. Asset-backed securities

1. Mortgage pass-through securities
Mortgage pass-through securities (MPTs) were the first form of pooled mortgage-collateralized securities to be issued and are the predominant form of mortgage-backed security (MBS) actively traded in the secondary market today. With a pass-through security, investors own an undivided interest in the pool of mortgages that collateralizes the MPTs. The pass-through is so called because the P&I is passed through to the investor as it is generated by the mortgages underlying the pool. Each pool has a coupon, or pass-through rate; an issue date; a final, or stated, maturity date; an average life; and a payment delay.

The first MPT was issued in 1970 under the guaranty of Ginnie Mae. Since then several varieties of pass-through securities have evolved, predominantly, those guaranteed and issued by the housing-related federal agencies. Following Ginnie Mae, Freddy Mac introduced its participation certificate (PC) program in 1971, and in 1981 Fannie Mae followed with its MBS program.

The average life -the weighted average time to the receipt of the principal repayment- is often used by investors as a proxy for the effective maturity of the MPTs. The payment delay represents the period between the time the P&I is made on the mortgages and when it is passed through to the MPT investor.

Among the most commonly used terms in the pass-through market, the most important ones are:

- **Pass-through rate.** The pass-through rate is the net interest passed through to investors after deducting servicing, management, and guarantee fees from the gross mortgage coupon. The pass-through rate is always lower than the gross weighted average coupon (WAC) on the mortgage underlying the pool, due to the servicing spread paid to the servicer, and the management and guarantee fees remitted to the guaranteeing agency. The term servicing spread refers to the total basis-point spread between the security coupon and the gross mortgage rate. The term servicing fee refers only to that portion of the spread retained by the servicer.

- **Weighted Average Coupon (WAC).** Is the weighted average of the gross interest rates of the mortgages underlying the pool as of the pool issue date, with the balance of each mortgage used as the weighting factor. A WAC is needed only when the underlying mortgages have varying interest rates.
- **Issue date.** The pool issue date is the date of issuance of the pass-through security, not the date of the origination of the underlying mortgages which can be many. Ginnie Mae pools consist of mortgages issued within the last two years prior to the pool issue date. Fannie Mae and Freddy Mac pools contain seasoned mortgages which are mortgages that have been outstanding for at least 2 to 5 years before the pool issue date.

- **Maturity date.** The pool maturity date is the maturity date of the latest-maturing mortgage in the pool. Ginnie Mae pools usually contain mortgages within a narrow range, while Fannie Mae and Freddy Mac pools contain more seasoned mortgages many time differing in years of maturity among themselves. However, cash flow and yield computations based on the maturity date may result erroneous. Thus, a commonly used measure is the weighted average maturity (WAM) that is a weighted average of the remaining terms of the underlying mortgages in the pool, as of the date of issue, and the WARM is as of the date of recalculation using the balance of the mortgage as the weighting factor.

- **Payment delay.** The payment delay refers to the time lag representing the number of days between the first day of the month following the month of issuance and the date the servicer actually remits the P&I to the investor. The payment delay differs for each pass-through type. Payment delays reduce the yield to the investor since the longer the delay, the greater the yield reduction on mortgage pools with otherwise identical characteristics.

- **Pool factor.** Pool factor is the outstanding principal balance divided by the original principal balance. In a pass-through security the outstanding principal balance changes monthly, and usually it declines as the mortgage amortizes. In pools that allow negative amortization of the underlying mortgages, the outstanding balance may increase, thus although the pool factor always starts at 1 (at the issue date) and finishes at 0 (at maturity), it may temporarily rise above 1 for pools that include negative amortization. When a pass-through investor owns only a portion of the pool, the pool factor is necessary to determine the current balance of the piece owned.

Pass-through securities are created when mortgages are pooled together, and undivided interests or participations in the pool are sold. The originator or another institution that purchases this right continues to service the mortgages, collecting payments and "passing through" the P&I, less the servicing, guarantee, and other fees, to the security holders. The security holders receive pro-rata shares of the resultant cash flows. A portion of the outstanding principal is paid each month according to the amortization schedules established for each individual mortgage.

In addition, the principal on individual mortgages in the pool can be prepaid without penalty in whole or in part at any time before the stated maturity of the certificate.

Mortgage originators (savings and loans, commercial banks and mortgage bankers) are among the most active in pooling mortgages and issuing pass-throughs. In many cases, the originator obtains the guarantee of one of the three federally sponsored agencies.

A significant volume of mortgages are directly purchased, pooled, and securitized by the agencies as well. A smaller amount of mortgages are securitized directly by private issuers,
although the vast majority of regularly traded pass-throughs are issued and/or guaranteed by federally sponsored agencies.

Agency pass-throughs most generally fall into two groups:
• those guaranteed by GNMA, and
• those guaranteed by FHLMC and FNMA.

The latter group are often referred to as conventional pass-throughs, since they are not government-insured or assumable. The nature of the guarantee made by the conventional agencies is different as well. FHLMC and FNMA are not really agencies of the US Government; rather they are government-sponsored entities. Nonetheless, their securities, like Treasury securities, presently are not rated by the rating agencies. However, the market perceives a difference in credit quality from GNMA's and, as a consequence, requires a higher risk premium for conventional pass-throughs. Normally, this translates into higher yields, with all else equal.

Within the different pass-through instruments to be found today in the market there are basically two types that given their importance, deserve special comment:
a. Private pass-through securities, and
b. Federal agency-sponsored programs.

Even though they both have similar security structures, they are traded as different securities given the variation in both the nature of the underlying mortgage contracts and the credit guarantee.

a. Private pass-through securities
Conventional mortgage pass-throughs are also issued by private entities such as commercial banks, thrifts, home builders, and private conduits. The supply of these securities, roughly $5-6 Bn. a year, is very small in comparison to that of agency pass-throughs.
These securities are not insured or guaranteed by any government agency, but their credit is normally enhanced by pool insurance, letters of credit, guarantees or subordinated interests. The great majority of private pass-throughs issued have received a rating of "AA" or higher.
The primary role of private issuers is to provide a secondary market for conventional loans that do not qualify for FHLMC and FNMA programs. Normally, it is more profitable for originators of conforming loans to use the agency programs, rather than the private conduit.
The private pass-through market in 1987 and 1988 experienced the largest increase in activity of any segment of the mortgage-related securities market. Private MBSs public offerings totaled more than $11 Bn. in 1987, almost half of them used the senior/subordinated and/or stripped-coupon MBSs structures.
The major structural trend in the private MBSs market appears to be to the senior/subordinated form of credit enhancement following the REMIC legislation that was passed in 1986.
Under a REMIC election the debt financing may include a second-class bond as a subordinated class and still have the pass-through structure to the offering. The senior/subordinated structure is more simple, less expensive than the traditional forms of credit enhancement, and avoided many risks related to downgrading of the credit of commercial bank issuers.

b. Federal agency-sponsored pass-through programs
Among the three housing-related federal agencies, Ginnie Mae, Freddie Mac and Fannie Mae, Ginnie Mae is distinguished in two key aspects:

- *first*, it is an instrumentality of the federal government, and its guaranty is that of the full faith and credit of the US. Treasury;

- *second*, Ginnie Mae uses only government-insured or guaranteed loans in its programs. Freddie Mac and Fannie Mae by contrast, have quasi-federal agency status and use primarily conventional (non government-insured) mortgages in their programs, although both issue some MPTSs backed by FHA/VA mortgages.
The following table describes the three agencies' primary MPTs programs, as described by Fabozzi & Modigliani (1992) in their book:

<table>
<thead>
<tr>
<th>Feature</th>
<th>GNMA-I</th>
<th>GNMA-II</th>
<th>FHLMC PC</th>
<th>FNMA MBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collateral</td>
<td>Primarily single-family residential mortgages. Mortgages have FHA, VA, or FmHA default guarantees. Newly issued mortgages (less than two years old).</td>
<td>Same as GNMA-I</td>
<td>Mostly conventional loans (single-family fixed-rate mortgages without government guarantees). New or seasoned mortgages. Some seasoned FHA/VA pools.</td>
<td>Similar to FHLMC</td>
</tr>
<tr>
<td>Maximum Mortgage Amount</td>
<td>$ 153,200</td>
<td>$ 153,200</td>
<td>$ 168,700</td>
<td>$ 168,700</td>
</tr>
<tr>
<td>Original term</td>
<td>15-30 years</td>
<td>15-30 years</td>
<td>10-30 years (with wide range of underlying maturities)</td>
<td>10-30 years (with wide range of underlying maturities)</td>
</tr>
<tr>
<td>Guarantee</td>
<td>Full faith and credit of US. government for timely payment of P&amp;I guaranteed by GNMA</td>
<td>Same as GNMA-I</td>
<td>Timely payment of interest and eventual repayment of principal guaranteed by FHLMC</td>
<td>Timely payment of interest and principal guaranteed by FNMA</td>
</tr>
<tr>
<td>Minimum pool size</td>
<td>$ 1 billion</td>
<td>$ 250,000 multiple-issuer pools, $ 1 million level custom pools, and $ 350,000 manufacturing housing.</td>
<td>$ 1 million for Guarantor, $50 million for Cash, $500,000 for ARMs, and $250,000 for baby pools.</td>
<td>$ 1 million ($250,000 for FNMA Majors).</td>
</tr>
<tr>
<td>Originator</td>
<td>Mortgage Bankers, savings and loan associations, savings banks, commercial banks.</td>
<td>Same as GNMA-I (multiple-issuer pools available).</td>
<td>Same a GNMA-I (single-issuer or FHLMC portfolio).</td>
<td>Same a GNMA-I (single- or multiple-issuer Majors or FNMA portfolio).</td>
</tr>
<tr>
<td>Usual servicing spreads (b.p.)</td>
<td>50 bp</td>
<td>50-150 bp</td>
<td>37.5-250 bp</td>
<td>50-250 bp</td>
</tr>
<tr>
<td>Payment frequency</td>
<td>Monthly</td>
<td>Monthly</td>
<td>Monthly</td>
<td>Monthly</td>
</tr>
<tr>
<td>Payment delay:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>actual stated</td>
<td>14 days</td>
<td>19 days</td>
<td>44 days</td>
<td>24 days</td>
</tr>
<tr>
<td>Minimum Certificate number</td>
<td>$ 25,000</td>
<td>$ 25,000</td>
<td>$ 25,000</td>
<td>$ 25,000</td>
</tr>
<tr>
<td>Number of checks</td>
<td>One check per month for each pool owned</td>
<td>One check per month for all pools</td>
<td>One check per month for all pools</td>
<td>One check per month for all pools</td>
</tr>
</tbody>
</table>

**Benefits of Federal Agency Sponsorship of MBSs Programs**

Probably the most distinguishing aspect of the US mortgage securitization scheme has been the role played by the federal agencies in assuring not only a liquid secondary market
and permanent mortgage acquirer from loan originators, but also the key contribution that their presence has provided to the credit enhancement of the issued securities. The development of MBSs by Ginnie Mae, Freddie Mac, and Fannie Mae has served three functions for the housing-finance system.

- First, ownership of mortgages can become readily transferable once the mortgages are packaged into instruments with characteristics comparable to other fixed-income securities regularly traded in the financial markets. Thus, while an individual mortgage is of uncertain maturity and risk, the federal agency guaranty converts the mortgage pool into mortgage pass-through security (MPTS) that may be compared to government bonds of similar maturity. Also, the secondary mortgage market for MBSs is able to assume many of the characteristics of other securities that include the more familiar spectrum of all the other fixed-income securities on the market.

- Second, the Ginnie Mae experiment demonstrated that elimination of credit concerns through the federal agency guaranty and broadening of market acceptance via standardized product type would bring such liquidity to the mortgage market that the cost of mortgage financing to the homeowner would be visibly reduced. Not only the interest required on the mortgage itself would be lower. Transaction costs to originate the loan have also been greatly reduced as the financial intermediaries that originate mortgages have gained access to the Wall Street-sponsored capital markets with their ability to market mortgages in bulk - literally by millions of dollars in a minute. Thus the evolution of federal agency-guaranteed mortgage securities has therefore dramatically enhanced home affordability.

- Third, the federal agencies contributed in a singular fashion to the innovation of new mortgage forms, further opening options to both home buyers and institutional investors of mortgage products.

2. Derivative MBSs products
These constitute the second major market for mortgage-backed securities in the US, and comprise a wide range of alternative products with multitude of variations according to the investor's preferences.
The introduction of derivative MBSs in the mid-1980s has dramatically changed the face of the MBSs market. Derivative products initially appeared in the form of now familiar CMO.
Modifications of the CMO structure classes as derivatives include the planned amortization (PAC) bond class of the CMO and CMO floaters. The PAC bond drastically reduces the prepayment risk to the investor of the PAC through a sinking fund structure that stabilizes the average life of the PAC within a wide range of prepayment speeds. Another refinement of the CMO structure was the creation of deep-discount-coupon bonds of CMOs collateralized by current-market-rate MBSs, or even premium-priced MBSs.
Finally, the residual of the CMO has become perhaps the ultimate derivative MBSs product of the 1980s. The introduction of stripped mortgage securities in 1986 opened up
whole new possibilities for investors. With the interest-only (IO) and principal-only (PO) components of the stripped MBS, investors have new instruments for hedging and leverage opportunities to exploit anticipated changes in interest rates.

Collateralized Mortgage Obligations (CMOs)
Collateralized mortgage obligations (CMOs) are a dynamic innovation in the mortgage securities market. They were introduced in June 1983, and since their inception they have evolved to be a $250 Bn. market. CMOs are bonds that are collateralized by whole loan mortgages or mortgage pass-through securities. In addition to the security afforded by the fully dedicated collateral, some CMO issues also possess minimum reinvestment rate and minimum sinking-fund guarantees. The cash flows generated by the assets in the collateral pool are used to first pay principal to the CMO bondholders.

A key difference between the traditional pass-throughs and CMOs is the mechanics of the principal payment process. In a pass-through, each investor receives a pro rata distribution of any principal and interest payments made by the borrower. Because mortgages are self-amortizing assets, a pass-through holder receives some return of principal each month. Complete return of principal and the final maturity of a pass-through, however, do not occur until the final mortgage in the pool is paid in full. This results in a large difference between the average life and final maturity as well as a great deal of uncertainty with regard to the timing of the principal return.

The CMO substitutes a principal paydown priority schedule among tranches for the pro rata process found in pass-throughs. In the early CMO structures, principal payments were made in a sequential basis, with all distributed principal going to one tranche until it was retired. The next tranche in the schedule then would become the exclusive recipient of principal payments. This pattern would be repeated until the last CMO tranche. Innovations in the CMO structure designed to create extremely stable average life tranches (PAC bonds) and to create floating-rate tranches (FRCMOS) have resulted in principal payments to multiple tranches simultaneously. The effect of the CMO innovation over traditional pass-throughs is to utilize cash flows of long maturity, monthly-pay collateral to create securities with short-, intermediate-, and long-final maturities and expected average lives. In addition, since the shorter tranches has to be retired before longer tranches received principal payments, the longer had a for of call protection for at least a couple of years, and the shorter ones though more subject to repayment, have a lower default risk.

CMOs generally retain many of the yield and credit quality advantages of pass-throughs, while eliminating some of the administrative burdens imposed by the traditional mortgage pass-through securities. Each of the group of bonds issued in a CMO deal is referred to as a tranche.

The shorter final maturity, enhanced call protection, and semiannual payments found on many CMO tranches make them suitable for some investors who cannot incorporate pass-throughs into their portfolio strategies. As a result, the profile of participants in the CMO market differs from that of pass-through owners, since the wide range of risk and return characteristics found within the universe of CMO securities gives them the potential to meet the needs of a broader investor group than can the more homogeneous pass-through
market. The shorter average life CMO tranches frequently meet the requirements of investors that want lower duration and faster return of principal. The longer CMO tranches offer greater cash-flow stability at the expense of a small yield give-up. The end result is that a greater array of investors is able to participate in the mortgage market because of the introduction of CMOs.

One additional innovation brought by CMOs was the payment of interest and principal on a semiannual basis rather than on a monthly basis. Monthly cash-flows generated by the collateral are reinvested by the master servicer and trustee, until the semiannual bond payment date. The inclusion of this reinvestment income means that the amount available for semiannual distribution to bondholders exceeds the sum of the six monthly cash flows from the collateral (on an absolute basis). Cash flows generated by the collateral in excess of that required to pay interest to all bondholders, is paid exclusively to the pending tranche of bondholders, starting with the first one until the last one is fully paid.

Features of CMOs:
A review of the history of CMO development demonstrates the innovations that have made CMOs an increasingly popular financing alternative and investment vehicle. There are now a multitude of variations on CMO structure, each one with special features appealing to either the issuers. the borrowers, or the investors.
Among the characteristic features of CMOs the ones to remember are:

- **Guaranteed minimum sinking fund.** The effect of the minimum guaranteed sinking fund is to place a floor on the minimum pace of bond retirement above what can be guaranteed solely by cash flows from the collateral. This feature is particularly important in a rising-interest-rate environment, when prepayments tend to decline. A bond with no sinking fund guarantee may experience a greater lengthening of its expected average life than will a bond with a minimum guaranteed sinking fund.

- **Guaranteed minimum reinvestment rate.** In CMOs that make semiannual payments to bondholders, the monthly cash flows generated by the mortgages must be reinvested until the payment date to bondholders. A guaranteed minimum reinvestment rate requires the guarantor to supplement the reinvestment income if it does not meet the minimum rate. The effect is to quicken the bond retirement vis-a-vis there were no a minimum set.

- **Credit guarantee on mortgages.** The issuer of a CMO may decide to establish a reserve fund to absorb some or all of the losses upon defaults of the whole loans or pass-throughs in the collateral pools.

- **Removal of excess cash flow by issuer.** The issuer of a CMO is always required to pay interest on CMO bonds. In addition, the issuer must pay down enough CMO principal so that the outstanding CMO bonds remain fully collateralized. If cash available on a payment date to bondholders exceeds the sum of required principal and interest payments, then this amount is termed the excess. This excess is also referred to as the CMO residual.

- **Special reserve fund for negative amortization collateral.** Some CMO offerings contain special reserve funds to supplement, if necessary, the cash flows from the portion of collateral that experiences negative amortization, such as would occur with GPMs.
This feature is generally termed the debt-service reserve fund, that has the effect to bias upward the speed at which bonds are retired.

- **Prepayment reserve fund.** In a CMO that makes semianual payments to bondholders, the issuer must pay coupon income on the entire principal balance outstanding at the beginning of the six-month period. If the reinvestment rate available on monthly principal return from the collateral is less than the coupon rate on the bonds, a difference in yield may occur since either a surplus (if reinvestment rate is higher than coupon) or a deficit (vice versa) of cash may happen. Some CMOs overcome this hurdle with a special feature that allows the issuer to make monthly principal payments to the bondholders, letting them to find the most beneficial reinvestment rate. CMO that contain this feature usually also contain prepayment reserve fund, which represents capital set aside by the issuer at the outset of the deal, and is used to supplement the reinvestment income on monthly principal received from the collateral. This supplement may be required to make interest and principal payments to bondholders.

**Special types of CMO tranches:**
Since their inception many different types of structures evolved form the original CMO form. According to interest rate considerations, issuers and investors objectives, a number of different forms are to be found today in the marketplace. Among the most commonly use forms of tranches, the most salient ones are:

- **Accrual bonds.** An accrual bond dose not receive any cash payments of principal or interest until all tranches preceding it are retired. An accrual bond thus is a deferred-interest obligation resembling a zero coupon bond, prior to the time that the preceding tranches are retired. The accrual bond then receives cash payments representing interest and principal on the accrued amount outstanding. This amount is the original principal balance plus the compounded accrued interest. Accrual bonds are purchased most frequently by investors who require the greatest degree of protection against reinvestment and call risk or who seek the greater price leverage afforded by these classes.

- **CMO residuals.** CMO residuals represent the equity interest in a CMO transaction. In general, the residual holder will receive the difference between the cash flows derived from the collateral and those applied to make payments to the bondholders and to pay trust expenses. The cash flows to the residual owner depend critically on the prepayment rate of the underlying collateral, that would eventually produce either excess or deficit cash flows.

- **Controlled amortization bonds:** The PAC structure. A PAC bond has two important features that distinguish it from a conventional CMO class. First, a PAC amortizes with a sinking fund that is predetermined as long as the prepayments on the underlying collateral remain within a broad range of speeds. Second, a PAC can make principal payments at the same time as some or all of the other CMO classes. Thus, unlike traditional CMO tranches, the PAC is not a serial-pay bond. It will receive its scheduled payments regardless of the status of its companion (preceding) classes. The most attractive feature of a PAC class to a bondholder is its enhanced degree of cash-
flow certainty, since except in extreme prepayment scenarios, the PAC bond can be expected to pay down principal according to its specified sinking fund.

- **Floating-rate CMOs.** Floating-rate tranches were introduced in 1986 and have become an integral part of the CMO sector. Floater have broadened the CMO market by attracting a large number of traditional investors in the non-mortgage related floating-rate securities. CMO floaters often offer higher yields than comparable floating-rate notes and fixed-income securities, without sacrificing credit quality. All CMO floaters are backed by fixed-rate mortgages or mortgage-backed securities. Therefore, to ensure that the cash flow will always be sufficient to pay the coupon interest, there are caps on the floating interest rates.

3. **Stripped mortgage pass-through securities**
   The secondary mortgage market's response to the challenge of structuring mortgage cash flows to meet investors needs has been varied and innovative. Stripped mortgage pass-throughs were first introduced in 1986, and involved the decoupling of the mortgage principal and interest components and recombining them in proportions that produced a coupon different from the underlying pass-through.
   The strip market moved from partial stripping of principal and interest to the point of total stripping. Stripped mortgage pass-through securities are of two types: one that pays interest only (IOs) and one that pays principal only (POs).
   The advantages of stripping are many.
   First, stripped mortgages offer an efficient way to trade prepayment risk. As the mortgagor weighs the costs and benefits of a prepayment, the holders of the corresponding stripped mortgage-backed security can trade, and therefore control, the risk associated with the mortgagor's decision. The holder of a PO security benefits from the homeowner's decision to prepay, while the holder of a IO benefits from a decision not to prepay.
   Second, since prepayments are highly correlated with interest-rate movements, holding varying proportions of IOs and POs gives investors control over the interest-rate exposure of their portfolios.
   Viewing stripped mortgage pass-throughs as a recombined package of IOs and POs is more than just a useful analytical device. Stripping makes new positions available that are unattainable through standard pass-throughs or partially stripped mortgages. The stripped structures creates value by offering investors the greatest number of choices.

4. **Asset-backed securities.**
   In 1985, the process of aggregating loans as a pool to collateralize securities was extended to the nonmortgage arena with the issuance of the first CARS, which are securities backed by automobile receivables. Credit card receivables were next in line to be securitized and sold to the market, and then followed a number of other instruments like airline receivables, oil related receivables, etc.
   Investors are attracted to asset-backed securities for the following reasons:
   - **Credit quality.** Asset-backed securities have high credit ratings, based on recourse provisions or third-party credit enhancements covering many times the historical loss rates on the underlying assets.
• **Yield.** Asset-backed securities offer investors yields that exceed those on bonds of comparable maturity and quality.

• **Liquidity.** Rapid market growth and large deal sizes have encouraged the development of a liquid secondary market, comparatively more liquid than that for corporate bonds.

• **Relatively predictable cash flows.** Most asset-backed securities carry some prepayment uncertainty, but, unlike mortgage securities, prepayments are virtually unaffected by changing market interest-rate levels.

• **Maturity.** The majority of asset-backed securities generally have final maturities ranging from five to six years at the time of the issue, with the average time to receipt of principal (average life) ranging from one to three years.

As a result of these favorable attributes, ABS have developed a diversified investor base. Asset-backed securities have been purchased by bank portfolios, trusts and investment advisors, thrift institutions, insurance companies, public and private pension funds, and corporations, both in the US and abroad.
II.8. Historic evolution of the secondary market

The material used for this section can be found in Bartlett (1992) and Fabozzi and Modigliani (1992), in the books listed in the annex.

1981 - A year of innovation
The year 1981 marked a new era in the surging secondary market for mortgage instruments. Fannie Mae introduced the first ARMs purchase program. At about the same time, the FHLBB and the controller of the currency issued regulations allowing regulated financial institutions to originate ARMs. Finally, 1981 launched the age of the conduit when RFC began operation in the private secondary market with a program to purchase mortgage loans exceeding the statutory loan limits on the maximum size eligible for purchase by Fannie Mae and Freddy Mac. Under the program, RFC originated the loans, MGIC insured them, and Salomon Brothers issued securities backed by the mortgages. In 1981 the lowest mortgage rate in Freddy Mac's primary mortgage market survey was 15 percent, with the highest rate 18.63 percent.

1984 - Federal agency programs foster standardization of the secondary market
The standardization of the mortgage market was furthered when Freddy Mac introduced tape-to-tape transfer of mortgages in a transaction of 6,600 loans from Howard Savings Bank of Livingston, New Jersey. Shortly after Freddy Mac transacted the first dial-up transfer when 1,079 loans were delivered in 12 minutes. Both Fannie Mae and Freddy Mac now routinely conduct tape-to-tape electronic transfers of large mortgage portfolios.

The Secondary Market Enhancement Act (SMEA)
In October 1984, Congress passed the Secondary Market Enhancement Act which vastly broadened Fannie Mae and Freddy Mac's programs. The SMEA defined a mortgage-related security as one that is collateralized by first mortgages in residential property, rated in any of the two top categories by a nationally recognized bond-rating service, and one sold under registration statement filed with the SEC. In addition, the security either 1) represents ownership of one or more promissory notes or either instruments that are secured by a first lien on property on which is located a residential structure, that were originated by an institution supervised and examined by federal or state authority; or 2) is secured by one or more instruments meeting the requirements set forth above that by its terms provides for payments of principal in relation to payments or reasonable projections of payments. After 1985, innovativeness in mortgage securities shifted to the primary Wall Street dealers, who used the CMO MBS structure to bring about dramatic changes in mortgage finance for massive builder-bond underwriting and to serve as a vehicle for continuing the restructuring of the S&Ls balance sheets.

The Tax Reform Act of 1986
The Tax Reform Act affected the secondary market and its participants in a number of ways. It provided a new vehicle, a real estate mortgage conduit (REMIC) for the issuance of multiple-class pass-through MBSs. REMICs provide easier access to capital markets because they are simpler and more efficient issuing vehicles than previously existing
structures for issuing CMOs. The Act minimizes tax considerations when issuing multiple-class MBSs through REMICs. The tax consequences are the same regardless of how the REMIC is structured, so issuers were quick to adopt the REMIC structure and began to issue multiple-class pass-throughs. The Act allowed Fannie Mae and Freddy Mac to issue multiple-class securities through REMICs, and both agencies now guarantee these securities. REMIC securities appeal to a broader group of investors than existing CMOs, since removes impediments that prevented certain investors (saving institutions and foreigners) from purchasing CMOs. In addition, multiple-class pass-throughs are generally more desirable investments than single-class pass-throughs because they allow better management of the prepayment risk in the underlying pool of mortgages.

- **REMICs collateral:**
  The basic and predominant type of collateral is an extremely broad category called a Qualified Mortgage. It encompasses whole loans, 100 percent participation certificates and pass-throughs, partial participations and interests in pass-throughs; stripped coupons such as stream of interest only on a mortgage, mortgage participation, or pass-throughs; stripped mortgages such as the principal and part of the interest that remains after stripping off a stripped coupon; and senior and subordinated participations in mortgage pools. It also includes certain interests in other REMIC pools.
  Qualified Mortgages must be secured by an interest in real property, thus both commercial and residential mortgage loans qualify, but not automobile loans or installment receivables.
  The second class of collateral is called a Cash-Flow Investment, that is a short-term investment in a passive, interest bearing asset made solely for the purpose of reinvesting cash flows received from Qualified Mortgages between regular scheduled payments to investors. Cash-Flow Investments need not be mortgage related in any way. They may be actual short-term securities or third-party investment arrangements such as guaranteed-investment contract.
  The third type of collateral is called a Qualified Reserve Fund, which includes longer-term investments that may be set aside if a reserve fund is required solely to fund the expenses (if any) of running the REMIC pool or to insure investors against the risk of default on Qualified Mortgages. These investments may include mortgage securities or nonmortgage securities and may also include third-party contractual guarantees to fund expenses or insure against default, such as letters of credit or pool insurance.

- **REMIC Interest Sold to Investors**
  Once the REMIC collateral is selected, interests in the pool can be created for investors. As with other aspects of REMICs, the hallmark of the law is substance, not form. Permissible REMIC interests can be called bonds, participations, pass-trough certificates, or even corporate stock or partnership interests. The important rules relate to the economic differences among different types of REMIC interests that can be sold to investors or retained by issuers.
  **Regular interests.** Are the predominant form of investor participation in REMICs, and can be thought of as the economic equivalent of bonds, although they can be issued in the form of pass-troughs as well as debt obligations. A regular interest must represent an amount corresponding to the principal of a debt obligation. It may also provide for coupon interest on the outstanding principal amount. Regular interests can be issued in multiple classes, thus in a mortgage pool subject to prepayment, the earliest mortgages to prepay
can be assigned to the fast-pay Regular Interests while the last mortgages to pay off can be assigned to the slow-pay Regular Interests, just like a CMO. Therefore, senior and junior participations in mortgage pools can be created and issued as multiple classes of Regular Interests.

Residual Interests. Are the second type of investment in a REMIC, and are statutory defined as investments that are designated as Residual Interests and that are not Regular Interests. Residual Interests are usually intended to encompass rights to payments that are contingent on a certain speed of prepayments. Residual Interests may also include the right to earnings on Qualified Reserve Funds or Cash-Flow Investments that are not needed to pay the amounts guaranteed to holders of Regular Interests.

**Mortgage-backed securities trends**

The residential mortgage market, totaling $3 trillion in outstanding as of the June 1993, has become the mother of a rapidly evolving universe of mortgage securities products that now constitute the largest and most complex aspect of the fixed-income securities market. The phenomenon of the past few years has been the introduction of all kinds of mortgage derivative products. Issuance of derivative mortgage securities using mortgage pass-throughs and whole loans as collateral proliferated since 1987. Derivative MBSs took many new forms, principally as CMOs, which have evolved into innovative structures such as floating-rate classes and deep-discount and principal-only bonds. Residuals, formerly considered by-products of CMOs, have attracted increasing interest as stand alone investments, as well as stripped MBSs.

Another variation in the secondary market was the issuance of MBSs backed by ARMs, although the securitization of the ARM has not kept pace with the market share that ARMs represent in the primary origination market. This is so in large because thrift institutions represent the bulk of ARM origination, and S&Ls generally would rather hold ARMs in their portfolio as a good match against their variable-rate liabilities than securitize them for sale into the secondary market. As the ARM continues to achieve greater acceptance in the MBSs secondary market, the volume of ARM securities is expected to increase significantly.

There are three aspects of ARMs that make them attractive to both investors and home buyers. First, the initial rate on the ARM is generally from 2 to 3 percentage points below that of 30-year, fixed-rate mortgages. Since the home buyer qualifies for the mortgage at the initial loan rate, the ARM permits a greater number of potential borrowers to qualify for a mortgage loan, or in any case obtain a larger loan than with a fixed-rate. The investor usually does not mind that the initial rate is lower, because the interest rate risk is passed to the borrower. The adjustment interval is usually monthly or annually, but may be restricted by caps that limit the possible increase or decrease. Second, the index plus margin used to adjust the rate is usually tied to a widely recognized and published index which is published weekly by the Federal Reserve Bank, or a cost of funds index published by the FHLBB. These measures make it easy for secondary market investors to price and hedge the ARM. Third, the interest-rate adjustments permitted by the ARM are capped, thereby protecting the consumer from loan payment shock during prolonged periods of rising interest rates.
II.9. History of the secondary mortgage market

A more extensive description can be consulted in Bartlett (1992) and Fabozzi & Modigliani (1992).

1914 Farm Mortgage Bankers Association formed in Ohio by 200 mortgage banks to provide mortgage financing for farmers.
1916 Federal Land Bank established to provide farm credit.
1920s Evolution of mortgage banks in Ohio to finance farm loans.
1923 Farm Mortgage Bankers Association renamed The Mortgage Bankers Association in recognition of business extension to urban markets.
1933 Home Owners' Loan Corporation (HOLC) establishes as a Federal agency to refinance the short-term balloon loans common to the era.
1934 Federal Housing Administration (FHA) formed to provide federal backing for home mortgage loans.
1938 Federal National Mortgage Association (Fannie Mae) chartered as a subsidiary of the Reconstruction Finance Corporation (RFC).
1944 Veterans Administration (VA) chartered to provide mortgage loan guarantees.
1948 Fannie Mae completes first secondary market transaction with purchase of VA loans.
1949 First private secondary market transaction with the sale of $1.5 million FHA/VA loans.
1954 Fannie Mae rechartered as a part privately held corporation, part federal.
1956 U.S. League of Savings Institutions holds organizational meeting to address secondary market concerns of S&Ls.
1957 Federal Home Loan Bank Board (FHLBB) issues regulations for FSLIC-insured institutions to purchase 50 percent participations on residential mortgages.
1963 FHLBB and FSLIC allow nationwide S&Ls to purchase conventional residential loans.
1968 Fannie Mae restructured as a private corporation and mandated to purchase market-rate mortgage loans.
Ginnie Mae chartered to oversee special assistance and mortgage-subsidy programs.
Ginnie Mae granted authority to guarantee timely payment of P&I on securities issued by lenders of FHA-insured and/or VA-guaranteed loans. Ginnie Mae guaranteed to be backed by the full faith and credit of the US Treasury.
1970 Ginnie Mae guarantees first issue of pass-through backed by FHA-insured and VA-guaranteed mortgages.
Ginnie Mae launches its series of Tandem plans to purchase mortgages below-market rates to provide affordable housing. These loans were later the source of multimillion dollar auctions under which the loans could be packaged as Ginnie Mae MBSs.
Freddy Mac chartered as the secondary marketing arm of the 12-bank FHLB system.
Fannie Mae granted authority to purchase conventional mortgages.
Secondary market activity total $16 Bn., $6Bn. of which is attributed to Ginnie Mae, Fannie Mae, and Freddy Mac.
1971 Freddy Mac issues first guaranteed mortgage participation certificate, or PC, backed by conventional mortgages.
Freddy Mac issues criteria to qualify private mortgage insurers. Action prompted private-lender acceptance of private mortgage insurance as credit enhancement for secondary market transactions, including conventional mortgages.
Freddy Mac and Fannie Mae introduce uniform loan documentations leading to standardization of secondary market transaction activity.
1972 Freddy Mac commences purchase of conventional single-family and multi-family mortgages.
Fannie Mae commences purchase of single-family conventional loans.
Freddy Mac sells first issue of guaranteed mortgage certificates (GMCs), structured to attract traditional bond buyers to the mortgage securities market.

Chicago Board of Trade open futures trading in Ginnie Mae MBSs to broaden builders and mortgage bankers in hedging activities.

Fannie Mae purchases of conventional mortgages ($2.5 Bn.) exceed for the first time FHA/VA purchases ($820 million).

Total secondary market activity exceeds $43 Bn. for the year.

Freddy Mac forms Wall Street dealer group to market its PCs, previously sales of PCs were handled by Freddy Mac's representatives.

First private issue of pass-throughs.

Conduit issuers first appeared on the heels of success of the private pass-through initiative of 1976. Conduits marketed MBSs backed by conventional mortgages assembled by many primary originators with PMI on the individual loans and a pool policy as credit enhancement to cover losses on foreclosure in excess of the base loan-by-loan PMI.

Eligibility to sell loans to Freddy Mac expanded from federally insured thrifts to include FHA-approved mortgage bankers.

Interest rates spike to reduce dramatically home affordability. Mortgage bankers, traditionally oriented to FHA/VA lending, shift to focus on conventional mortgage lending.

Ginnie Mae issuance tops the $100 Bn. mark by mid-year.

Fannie Mae introduces its guaranteed MBSs program for conventional mortgages. S&Ls are encouraged to restructure by disposing of fixed-rate mortgage assets to reinvest in ARMs and shorter-term assets. SWAP market explodes with this new trend.

Freddie Mac and Fannie Mae initiate loan swap programs whereby S&Ls may exchange loans in their portfolios for MBSs issued by the participating agency, giving birth to the Freddy Mac Guarantor as a separate MBSs program.

Fannie Mae announces eight type of ARMs it will buy.

FHLBB issues regulations for ARM loans that may be originated and sold by S&Ls.

A multiple of ARM loan types swamps the market, providing both home affordability and confusion within the secondary market. Lack of product standardization and credit concerns with issues as negative amortization raise doubts for the future of ARM lending.

Freddie Mac Guarantor activity soars to $25 Bn. in conventional mortgages swapped for PCs. Residential Funding Corporation (RFC) enters the market as the first capital markets-oriented conduit. It centers its activities in Jumbo loans that exceed the statutory loan size permitted for inclusion in agency-guaranteed MBSs programs. Salomon Brothers, operating under a broad-based shelf registration with the SEC, underwrites privately issued MBSs.

Bond market yield declines to 13.57 percent. Housing starts soars to a new high.

Ginnie Mae introduces the GNMA-II program to attract pension fund money with the availability of large, homogeneous pools and designation of a central transfer and paying agent for the GNMA-II securities.

FSLIC eliminates restrictions on S&L investing in loans outside its normal lending area.

Freddy Mac issues first collateralized mortgage obligation (CMO), which transforms the builder-bond market and accelerates the growth of conduit-based mortgage financing.

Fannie Mae discontinues its weekly auction of forward optional commitments, or standbys.

Freddie Mac initiates an ARM purchase program for mortgages indexed to the 1-, 3-, and 5-year constant maturity Treasury (CMT) index.

Fannie Mae reduces its eight ARM plans to three, all CMT-based and with caps on the annual rate adjustment. ARM loans are standardized, lending stimulus for the secondary market to develop.

Fannie Mae and Freddy Mac commence universal enforcement of the due-on-sale provision in their mortgage documents.

$85 Bn. of mortgage pass-throughs are issued for the year, while $54 Bn. in 1982.
1984  ARM mortgages represent nearly half of all residential home loans closed, according to the Freddie Mac national survey for 1984.  
Ginnie Mae MBSs issuance reaches the $200 Bn. mark.  
The Chicago Board of Trade initiates GNMA-II futures contracts.  
Freddy Mac completes the first tape-to-tape transfer of mortgages in a transaction involving 6,600 loans.  
Ginnie Mae issues its first ARM MBS backed by FHA-insured ARM loans.  
Passage of the Secondary market Enhancement Act (SMEA), which broadened the eligibility of mortgages for purchase as investments for institutional investors.  
Congress passes legislation to tax Freddy Mac.  
Freddy Mac starts the process of shifting to book-entry clearance and transfer of its PCs through the Federal Reserve Bank of New York.  
Freddy Mac introduces its 15-year PC, called Gnomes.

1985  Freddy Mac finishes implementation of the book-entry system for selling PCs and CMOs, which eliminates definitive securities.  
Freddy Mac's Accelerated Remittance Cycle (ARC) is introduced to provide lenders with increased flexibility in handling the temporary investment of principal and interest payments.  
The first security backed exclusively by multi-family mortgages is introduced by Freddy Mac.  
Fannie Mae announces its new Buy/Sell program under which it buys 15-year mortgages exclusively for resale as MBSs.  
Freddy Mac enters the foreign investor market with the sale of both PCs and CMOs to the European and Japanese markets.

1986  Fannie Mae announces Par Plus, a new mortgage purchase program that allows lenders to sell premium loans at prices above face value.  
FSLIC establishes the Federal Asset Disposition Association to help liquidate assets the FSLIC has acquired from failed thrift institutions.  
Freddy Mac issues its first CMO backed by 15-year mortgages.  
Freddy Mac introduces the first PC backed by ARMs.  
The role of Freddy Mac and Fannie Mae in the secondary market becomes the subject of industry scrutiny.  
Fannie Mae introduces a three-year rate-capped ARM program with 2 percent per adjustment-rate caps and 6 percent life-of-loan caps.  
Salomon Brothers is the top mortgage-backed securities underwriter for the first three quarters of 1986.  
A record of $48 Bn. of CMOs are offered by 50 different CMO issuers in 1986.  
Fannie Mae introduces the first stripped securities, giving investors additional ways to purchase combinations of mortgage cash flows which meet their investment needs.

1987  Fannie Mae introduces multiple-lender pools to participants in their MBSs program whereby participants can submit pool packages of at least $250,000 and receive securities backed by larger multiple-lender pools.  
Freddy Mac introduces its first stripped PC through a swap transaction.  
Freddy Mac launches an ARM Guarantor Program whereby lenders sell their ARMs to Freddy Mac in exchange for a like amount of ARM PCs representing interests in ARM mortgages.  
Fannie Mae receives HUD authority to issue REMICs (Real Estate Mortgage Investment Conduits).  
Fannie Mae begins to purchase 10- and 20-year residential mortgages on a regular basis.  
Convertible ARMs make a comeback to the marketplace. Fannie Mae begins purchasing them on a regular basis.
II.10. Summary of the US experience

As we analyzed in this section, the creation of a MBS market in the US allowed the channeling of capital markets funds (pension, savings and retirement funds mainly) to the financing of household credit in a way and volume that would have been impossible by relying on banks funds exclusively.

This financial dis-intermediation process permitted smaller firms to enter the different stages of the mortgage banking business, taking advantage of economies of scale and scope as well as allowed them to focus on their specific regional or business expertise. Now-a-days, there is a proliferation of special-purpose firms that provide a single step in the mortgage business value chain, therefore achieving unprecedented levels of efficiency and thus, cost reductions. The proliferation of mortgage securities allowed as well, new investment opportunities for institutional investors and provided new alternatives for portfolio diversification.

Additionally, the Government through the various different federally sponsored agencies (Fannie Mae, Freddy Mac, and Ginnie Mae) was able to exercise the control of the business while at the same time leaving the forces of supply and demand to act towards the business improvement and development. Through these agencies, the government was able to orient credit towards regions and market segments which it considered critical to develop, like low-income residential or rural mortgage lending. As we have seen in the US experience, the existence of federally-sponsored agencies provided the required guarantees to the system against default and insolvency that were required by the interested investors as well as a way to obtain lending costs reductions for borrowers.

We now examine the conditions existent in Argentina that could provide the ground for the implementation of a similar mortgage financing system. We should, however, always keep in mind the substantial differences that arise between both countries, mainly related to the size of the economies as well as the less developed institutional, regulatory and legal frameworks existent in Argentina.
Part III

Basic information about Argentina

III.1. Introduction

III.2. Brief history of Argentina

III.3. The Menem program

III.4. A snapshot of Argentina's society
III.1. Introduction

Argentina's economic performance during the second half of this century has been extremely poor; however, during the last few years, several administrations have introduced changes that have brought structural reforms that are producing better economic performance. These economic reforms - which affect the behavior of the public and private sectors, better protect property rights and normalize external financial relations - enable to forecast a considerably better outlook for the future.

Argentina has been a country known for the remarkable mismatch between its potential and its reality. Although the country is extremely favored with natural endowments and resources, it has not been able to maintain the economic position once enjoyed during the early decades of this century.

Most analysts attribute Argentina's economic problems to its failure to achieve a political consensus around a basic framework for economic policy. As evidence, they point to the remarkable instability in both the functioning of the political system and in the economic policies implemented. Since 1950, Argentina has had 18 presidents, and they have appointed 47 Ministers of Economy and 43 Central Bank presidents.

Argentina is self sufficient in food and energy, a vast part of its land is among the most fertile in the world, and its population is among the most highly educated in Latin America. Historically, there have been no major social, racial or religious problems and confrontations. However, these advantages were not translated into sustainable good economic performance and high quality of life. Political instability and poor economic policies deprived the country from its promising future.

The new global order

According to Thurow's (1991), during the last decade, there have been a series of economic and political changes that have modified the economic and financial rules of the capitalistic world as we know it.

A single polar system centered around the United States have given way to a multipolar one dominated by large economic blocks and increasing international trade. The United States economic leadership has been eroded, being its share of the world's GNP reduced from more than half to less than a quarter. The loss of its economic superiority is forcing the US. to balance its international accounts while running consistent payment and budget deficits with severe implications in the international financial markets.

Around the key players, regional trading blocks are emerging. The European Economic Community is becoming the largest regional market in the world. America is integrating itself by both the Nafta in the north, and the Mercado Comun del Sur (Mercosur) in the south.

Finally, Japan is increasingly strengthening its ties with its Asian neighbors forming a single Pacific market in pose of the idea of developing markets for its products. This market development process has proved to be slow and thus having recessive consequences for these dominant economies which are not able to position their products and services. The trade between these blocks will be managed rather than free. Participating in these blocks has become a vital requirement for national development.
Besides this change in the international order, the factors which determine the success of a country have also been altered. Historically, the sources of competitive advantages were natural resources, financial resources, superior technology, and skills. A coherent combination of these factors with a decent management provided a decisive strategic advantage, resulting in a virtuous circle that determined that once developed, a country had good chances of maintaining its economic standards. Currently, the importance of these factors have been lessen, being the education and access to a skilled and relatively cheap labor force the most important economic factor.

To have plentiful natural resources is now far less important than before. Across nations, fewer people are working directly in exploiting natural resources, although agricultural and primary products' production has increased in the world due to technological and productivity advances. Productivity increases together with stalled demand has resulted in decreasing world prices for commodities and the like, with a real average drop of more than 30% during the decade of the eighties as an example. So countries that relied heavily on these resources find themselves cash scarce.

Accordingly, Governments which used to rely in such revenues to promote military, economic and social programs find them increasingly more difficult to fund, causing in many cases (like in Argentina) the bankruptcy of these programs.

Regarding capital, the surge of international financial markets has made global sourcing of capital at the firm level possible. This fact makes having a large domestic capital market less important for the development of national companies. However, in the case of underdeveloped nations, a high domestic savings rate and well-functioning local capital markets can give a powerful competitive advantage.

**The case of Latin American countries**

The 1980s was a "lost decade" for Latin-American countries. Their growth stalled when their economies were seriously hurt by the decline in the price of their main exports, primary non-oil commodities, rampant inflation, political instability, growing debt together with rising interest rates, and poor economic policies.

The 1990s started promising for Latin America, especially Argentina, Chile and Mexico. These countries established successful programs for free-market reforms, which resulted, among other beneficial effects, in the reduction of inflation, sound economic growth and increased investment.

This trend was spearheaded by Chile in the mid-1080s, and followed by Mexico and more recently by Argentina.

At the same time, Brazil, the South American giant, with tremendous potential and an economy four times the size of Argentina's is marred by political conflicts and reluctance to adopt a serious plan of free-market reforms.
The following table presents basic information about Latin American countries.

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<th>Population in 1991 (M)</th>
<th>GDP in 1991 (US$ Bn)</th>
<th>GDP per Capita (US$)</th>
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<td>Bolivia</td>
<td>7.5</td>
<td>6.1</td>
<td>813</td>
</tr>
</tbody>
</table>

Source: WEFA Latin America Economic Report 1992
III.2. Brief history of Argentina

Political and institutional characteristics
Argentina is a federal republic consisting of 23 provinces and the federal district of Buenos Aires. Argentina is the second largest country in South America, and the eighth largest in the world. Argentina has abundant natural resources, in particular, the fertile plains of the Pampas. It is self-sufficient in energy and is a major exporter of food.

The Constitution
The National Constitution, enacted in 1853, establishes the principal rights and responsibilities of the federal and provincial governments. Congress, composed of two houses, the Senate and the Chamber of Deputies, holds the legislative power. The Senate consists of 46 members elected by their respective provincial legislative authorities. The Chamber of Deputies has 254 members, who are elected by direct vote of the population. The President is elected by an electoral committee and holds office for a six-year period. In addition to being the chief executive, the President is the Commander-in-Chief of the armed forces. Each province elects its own governor and its own legislative authorities.

Recent historical data
After a brief conservative government period, the Argentine armed forces took power in June 1943. Colonel Juan Perón was appointed Secretary of Labor and Social Welfare. The armed forces called for presidential elections in 1946, and Perón was elected President. Perón nationalized the country's main economic concerns and gave increased influence and power to labor unions. In 1955, after almost a decade in power, Perón was ousted by the armed forces. During the following 28 years, Argentina suffered frequent changes in government and growing inflation, low productivity, slow economic growth and a steady increase in the level of public debt.

In the period following Perón’s ouster until his return to office in 1973, several governments, both elected and military, held power. In 1973, Perón returned from his forced exile and was reelected President by more than 60% of the vote. He died while in office in 1974 and was replaced by his wife, Isabel Perón, who was overthrown by the military in 1976. Several military governments held power between 1976 and 1983, when Argentina's defeat in the Malvinas War and decreased military power forced a call for elections. In 1983, the candidate for the Radical Party, Raúl Alfonsín, was elected President.

Foreign affairs and international organizations
Argentina has diplomatic relations with 137 countries and is a member of almost all international organizations. It is a charter member of the United Nations and a founding member of the Organization of American States. It is also a member of the World Bank Organization, the IMF, the IFC and the Inter-American Development Bank (IADB). In 1986, Argentina became a member of the General Agreement on Tariffs and Trade (GATT). In April 1990, Argentina signed a five-year trade and cooperation agreement with the European Community, which improved trade relations and covered industrial development and technical and scientific cooperation. Argentina has raised its diplomatic
profile in recent years, undertaking a series of diplomatic initiatives which have garnered positive responses from the world community. Among the most significant initiatives, Argentina restored full diplomatic relations with the UK in February 1991.

On the regional level, Argentina has signed the Treaty of Asunción which formally created the framework for the creation of MERCOSUR, which is a common market organization composed of Argentina, Brazil, Paraguay and Uruguay.

The current government
Carlos Saúl Menem was elected President on May 14, 1989 by 49.2% of the popular vote. Scheduled to take office in December 1989, Menem was sworn in early, in July 1989, since Alfonsin was forced out by the country's worsening economic situation.

In July 1989 President Menem sent two bills to Congress, entitled "Emergency Law" and "State Reform," which called for substantial reforms in the public sector and a restructuring of the Argentine economy. These measures involved tax reforms, rescheduling of the country's foreign debt repayment, increased autonomy for the Central Bank and a broad program of privatizations. These laws, which were passed by Congress in August 1989, are the legal framework of the current economic deregulation program and the transfer of many state-owned enterprises to the private sector.

Argentina's economy
The Argentine economy, with an estimated GDP of US$ 226.6 Bn. in 1992, has a well-balanced natural resource base and a well-educated population. However, it has had a record of low and erratic growth, declining investment rates and rapid inflation in recent decades.

The Menem administration implemented a series of reform measures, including the Economic Emergency Law and the State Reform Law, designed to achieve a major restructuring of Argentina's economy. The main features of the program included:

- Fiscal reform through privatizations of state-owned enterprises, tax reform and reduced government expenditure.
- Monetary reforms to ensure economic stability and lower levels of inflation.
- Liberalization of prices, foreign investment and foreign exchange controls.
- Deregulation of commerce and financial markets.

During the initial stages of the structural adjustment program, inflation was reduced from a monthly rate of 196.6% in July 1989 to a monthly rate of 6.5% in November of the same year. For the last 12 months ended September 1993, annual consumer price index inflation was estimated at 8%. Since the implementation of the Convertibility Plan, real GDP is estimated to have grown 8.7% in 1992 and 8.9% in 1991 from 0.1% in 1990.

Recognizing the fundamental improvement in Argentina's economic prospects, in July 1992, Moody's Investors Service upgraded its rating of Argentina's long-term Eurobond issues from B3 to B1.

The Argentine economy is showing increasing diversification of its productive activities. As shown in the following table, although the manufacturing sector is still the most important, services are increasing their participation in the economy.
Argentina's soil and climate conditions make agriculture a very important economic activity. The following is the composition of Argentina's economy by sectors.

**Gross National Product (1992 vs 1987)**

<table>
<thead>
<tr>
<th>Production Sectors</th>
<th>1992</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>6.0%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>21.9%</td>
<td>27.5%</td>
</tr>
<tr>
<td>Construction</td>
<td>5.3%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Mining</td>
<td>1.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Electricity, Gas &amp; Water</td>
<td>1.7%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Total Production Sectors</td>
<td>36.7%</td>
<td>45.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service Sectors</th>
<th>1992</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commerce</td>
<td>15.4%</td>
<td>15.4%</td>
</tr>
<tr>
<td>Transportation and communications</td>
<td>5.2%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Finance</td>
<td>16.8%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Social and Personal</td>
<td>26.0%</td>
<td>18.3%</td>
</tr>
<tr>
<td>Total Service Sectors</td>
<td>63.4%</td>
<td>53.9%</td>
</tr>
<tr>
<td>Import Taxes</td>
<td>(0.1%)</td>
<td>0.2%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

*Source: Banco Central de la República Argentina*

**Manufacturing industry**

As illustrated in the table above, manufacturing activity accounts for 21.9% of the GNP. In addition, manufacturing accounts for about 21% of the total labor occupation. Argentina produces significant volumes of chemical products, electrical components, vehicles, construction materials, textile and durable consumer goods. In 1992, approximately 35% of the national exports volume consisted of industrial products.

**Community, social and personal services**

This category includes a broad variety of services which represent approximately 26% of GNP. The official budgets for schools, research projects, development programs and transfers to companies and other private economic agents are included in this item.

**Agriculture**

Argentina is one of the most important exporters of food-related products. Agriculture represents approximately 6% of GNP and 7% of the national labor occupation. Primary products account for 30% of the total national exports. In the past years, the agricultural industry has diversified and added important technological advances.

**International trade**

Argentina has historically had a surplus in its balance of commercial trade. Revenues from international trade amounted to more than US$20 billion in 1992. Of the total of exports, 37% consisted of industrial products, 30.4% primary goods and 32% agricultural produce. In the early 1980s, the Soviet Union became the most important market for Argentine exports. More recently, exports to the Soviet Union have decreased, particularly during 1986, when the Soviet Union significantly reduced the volumes of cereals purchased.
III.3 The Menem program

In his inauguration speech on July 1989, President Carlos Menem announced as his main goal the reform of an economy that "prohibits work" by excessive state regulation. "We will refound the state and put it at the service of the people, not at the service of the bureaucracy," he declared. Government participation in the economy in 1989 surpassed 50% of GDP. The severe consequences of the hyper inflation forced public opinion and the country's authorities to admit the real causes of chronic economic problems and formulate policies necessary to solve them. Since their inception, such policies have gained increasing support from the general public.

Cavallo and the Convertibility Law

After two unsuccessful attempts to stabilize the economy, the then Minister of Foreign Relations, Dr. Domingo Cavallo became Minister of Economy. Cavallo was the intellectual driving force behind the re-establishment of diplomatic relations with Great Britain and the strengthening of ties with the US., which later inspired Argentine cooperation in the Gulf crisis. Despite Argentina's economic crisis, most observers point out that Menem did more in his initial eighteen months in office than past governments had accomplished in several years. The major accomplishments of that period include:

- Strict limitation of public expenditures (cash basis)
- Deregulation of foreign investment procedures
- Elimination of exchange and price controls
- Reduction of import tariffs
- Oil deregulation
- Elimination of 56 administrative departments and 80 sections within departments
- Forced retirement of 80,000 public employees

Closing of Banco Hipotecario (mortgage bank)

Cavallo's main change to the policies applied by his predecessors was the abandonment of fluctuating exchange rates and the adoption of a fixed rate based on a relationship of US$ 1 = A 10,000. The new rate was supported by a special law, No. 23.298, which gave it the full backing of the Argentine Congress. The implicit commitment behind the law was the promise of the government to keep a balanced budget, so as to prevent any monetary expansion not consistent with the established currency parity goals. The favorable impact of the Conversion Law was immediate. As the risk of a future devaluation apparently disappeared, the public increased its demand for local currency and interest rates fell abruptly to as low as 1% per month. This, in turn, spurred renewed economic activity and the accompanying flow of taxes to the Treasury. To many observers, Cavallo applied an Argentine version of modern "supply side" theories.

The external debt

As of year-end 1992, Argentina's estimated debt stood at $68.6 Bn. including arrears. Of the total, 41% was owed to commercial banks, 23.7% to multilateral and official creditors, 19% to bondholders and the remainder to suppliers and other private creditors.
Before Menem assumed power, Dr. Alfonsin was constantly at odds with Argentina's foreign debt creditors. As of April 15 1988, the government had stopped payment of interest on the external debt.

On the other hand and in complete contrast to the radical government before him, soon after inauguration, President Menem declared payment of the external debt a "commitment to the country." Negotiations with international financial institutions were reopened and payment of the interest on Argentina's debt resumed. In October 1989, the IMF granted Argentina a US$1.4 billion standby loan to be disbursed in six quarterly installments. The first US$ 230 million was paid in October, but by December hyper inflation was back and it became clear that Argentina would again have to renegotiate its targets with the Fund.

In May 1990, a new letter of intent was approved by the Fund which allowed for a second disbursement of US$240 million in the first week of June. The agreement was suspended, though, until Dr. Cavallo's appointment in 1991.

A new "standby" agreement was approved in July 1991 which will allow the reopening of negotiations with Argentina's creditors for a total of US$40 billion and, eventually, the application of the Brady Plan. The principal on Argentina's debt was rescheduled in 1986 and the first payment will be due in 1992.

On April 7, 1993, with the exchange of bonds for medium and long-term commercial bank debt, Argentina completed the Brady Plan restructuring arrangement which was reached on principle, one year before. Under this agreement, Argentina refinanced $27.1Bn. of its external debt with commercial banks, of which $19.3Bn. was principal, and $7.8Bn., was interest in arrears. Debt principal was exchanged for either par bonds, with a maturity of 30 years and fixed interest rates increasing form 4% in the first year to a fixed 6% after seven years. The agreements reached with both commercial banks and Paris Club creditors have been fully supported by the IMF. The table below sets forth Argentina's non-financial public sector debt for year-end 1991 through 1993, as estimated under the IMF plan (in millions of dollars).

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Commercial Banks (principal)</td>
<td>US$ 17,416</td>
<td>US$ 19,847</td>
<td>US$ 22,704</td>
</tr>
<tr>
<td>Commercial Banks (interest)</td>
<td>7,609</td>
<td>8,309</td>
<td>7,880</td>
</tr>
<tr>
<td>IMF</td>
<td>3,923</td>
<td>2,402</td>
<td>2,489</td>
</tr>
<tr>
<td>IADB and World Bank</td>
<td>7,071</td>
<td>5,136</td>
<td>5,215</td>
</tr>
<tr>
<td>Paris Club</td>
<td>9,017</td>
<td>8,835</td>
<td>8,816</td>
</tr>
<tr>
<td>BONEX</td>
<td>3,123</td>
<td>3,808</td>
<td>4,561</td>
</tr>
<tr>
<td>New Money Bonds</td>
<td>71</td>
<td>82</td>
<td>88</td>
</tr>
<tr>
<td>Euronotes</td>
<td>750</td>
<td>750</td>
<td>500</td>
</tr>
<tr>
<td>BOCON</td>
<td>7,689</td>
<td>5,219</td>
<td>0</td>
</tr>
<tr>
<td>Other bonds in foreign currencies</td>
<td>2,819</td>
<td>2,036</td>
<td>1</td>
</tr>
<tr>
<td>Other bonds in pesos</td>
<td>1,343</td>
<td>1,496</td>
<td>1,638</td>
</tr>
<tr>
<td>Other</td>
<td>1,539</td>
<td>1,097</td>
<td>2,055</td>
</tr>
<tr>
<td>Other debt to be consolidated</td>
<td>4,254</td>
<td>9,609</td>
<td>18,445</td>
</tr>
<tr>
<td>Total Non-financial Public Debt</td>
<td>66,624</td>
<td>68,627</td>
<td>74,392</td>
</tr>
<tr>
<td>Collateral (3,238)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US$ 63,386</td>
<td>US$ 68,627</td>
<td>US$ 74,392</td>
</tr>
</tbody>
</table>

Source: Banco Central de la Republica Argentina
The Argentine privatization program

One of the main objectives set by the Central Administration was the privatization of state businesses-owned and services, as was outlined by Law 23 656. Over the last several decades, the state has had control over a large number of businesses and important economic activities. The well-known inefficiency of the State brought about increasing deficits and debt in state-owned businesses, and service steadily declined in quality. In view of the fact that the state was not capable of reorganizing or managing businesses in an efficient manner, it was decided to allow the private sector to take over oil exploration, the gas company, water board, electricity company, and telephone company, as well as the airline, petrochemical companies, iron and steel works, railways and defense. All of these privatizations have already taken place, and have substantially helped to reduce both the fiscal deficit, and the amount of external debt of the country since payment in Argentine securities was accepted. The transfer of services to the private sector will allow the reduction of the state deficit and will increase productivity and efficiency in said businesses and services. The government is currently working on the sale and the granting of concessions for these businesses to private sector enterprises (national, foreign or mixed) capable of showing the capacity to operate them in an efficient and economic manner. The new private enterprises are expected to attract investments, managerial support teams, knowledge and technology essential for the improvement in quality of the services and production facilities being offered.

It is expected that privatized companies will invest US$ 36 Bn. between now and the year 2000. This strong capital inflow will revert the criticism of many public and social services conditions which due to the last decades economic deterioration, have low levels of investments and service improvements.

Argentina's economic turn-around

Just three years back, Argentina was struggling hopelessly to stop its economic decay. The country's performance was hampered by a long list of interrelated problems, including an outrageous inflation rate, chronic public sector deficits, low productivity, high tax evasion, astronomical interest rates, outflow of capitals, lack of presence in international good markets, and unemployment.

The public deficit was fueled by two million people in the state's payroll (17% of the total labor force), an insolvent social security system, state companies with enormous losses, and irresponsible provincial governments, which were unwilling to control their expenses. The Argentine economy was characterized by a persistent high inflation. It was very difficult to solve this situation because of the existence of a vicious cycle where common people lose confidence in the government due to poor fiscal policies and expectations of future devaluations and inflation cause capitals to be shipped abroad. This situation falls into a domino effect: the lack of liquidity raises interest rates and reduces credit, thus reducing aggregate demand and national output, national income and tax receipts. The latter increases the fiscal deficit, which in turn makes the government to lose credibility, more people lose confidence and the cycle starts again.
In 1930, Argentina's GDP ranked 7th in the world. By the end of the 1980s, it is 70th. Over the same period, real per capita GDP was cut in half. The share of manufacturing on GDP is at the levels of 1940.

However, in 1991, the scenario started to change dramatically. In February of 1991, with Domingo Cavallo's appointment as Economic Minister, the program of free market reforms he implemented brought about a sharp turn-around in the Argentine situation. The plan included a wide array of measures, such as the privatization of the bankrupt state enterprises, the reduction of the state sector, and the liberalization of trade. All these reforms counted with considerable popular support.

The most salient characteristic of these program was the halt put to inflation basically due to the effects brought up by the Convertibility Law. The following table describes the evolution of the CPI index during the last two decades: (Source: Ministry of Economy)

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>82%</td>
<td>175%</td>
<td>388%</td>
<td>4923%</td>
<td>1344%</td>
<td>85%</td>
<td>18%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Another consequence of the Convertibility Plan was that it forced the government to eliminate the fiscal deficit. A major effort to increase government receipts was started. Tax evasion was severely punished and prosecuted. Tax revenues has increased 50% since 1989-1990. The proceeds from privatizations also helped in balancing the budget, not only eliminating operating losses, but also by adding new tax payers to the system.

The following table describes some of the current Governments objectives that are related to the implementation of Mortgage Backed Securities in Argentina:

<table>
<thead>
<tr>
<th>Area of Interest</th>
<th>Government's Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Emphasize a construction activity friendly to the environment</td>
</tr>
<tr>
<td>Finance</td>
<td>Encourage increase in domestic savings</td>
</tr>
<tr>
<td></td>
<td>Stimulate development of national capital markets</td>
</tr>
<tr>
<td></td>
<td>Promote competition in the private banking sector</td>
</tr>
<tr>
<td></td>
<td>Increase Argentina's presence in the International Markets</td>
</tr>
<tr>
<td>Government-State</td>
<td>Professionalize the public function</td>
</tr>
<tr>
<td></td>
<td>Continue the reduction of the size of the state and reduce its intervention to essential economic activities</td>
</tr>
<tr>
<td></td>
<td>Complete the privatization program</td>
</tr>
<tr>
<td></td>
<td>Reduce privileges of the members of the Congress</td>
</tr>
<tr>
<td></td>
<td>Require their assistance to sessions</td>
</tr>
<tr>
<td></td>
<td>Continue tax-collection enforcement plan</td>
</tr>
<tr>
<td></td>
<td>Fight against corruption</td>
</tr>
<tr>
<td>Health-care and medicine</td>
<td>Modernize hospital facilities</td>
</tr>
<tr>
<td></td>
<td>Allow for private insurance companies</td>
</tr>
<tr>
<td>Retirement</td>
<td>Pass Law allowing private retirement pension funds and agencies</td>
</tr>
<tr>
<td></td>
<td>Reduce the Government's involvement in the sector</td>
</tr>
<tr>
<td></td>
<td>Fix the current state of bankruptcy in the state system</td>
</tr>
<tr>
<td>Justice</td>
<td>Pass new regulations to speed up judicial procedures</td>
</tr>
<tr>
<td></td>
<td>Punish corruption behavior and practices</td>
</tr>
<tr>
<td></td>
<td>Facilitate the judicial function evolution by flexibilazing several functions</td>
</tr>
<tr>
<td></td>
<td>Reduce the Governments' influence and control in order to obtain the complete independence of the Judicial power</td>
</tr>
</tbody>
</table>
**Political stability and consolidation of democracy**

Argentina is enjoying the strengthening of democracy with considerable backs and forths. There have been during the last decade of democracy, similar attempts by radical military groups to take the power, although all of them were suffocated with overwhelming popular support. In two years, Argentina will have its third democratic election, and it is the popular belief that a military regime is not a feasible and attractive alternative to solve the country's problems.

The country has initiated since its early democratic days, the re-inception to the international political arena. Ties with other Latin American countries, the United States, the European Community and most recently with Great Britain have been strengthened through commercial and diplomatic relationships.

Among the most important political threads, President Menem is promoting a change to National Constitution, in order to allow his reelection for 6 more years. This is causing a lot of political turmoil, as well as builds uncertainty about the continuation of the current reforms and economic path.

**The problem of the overvaluation of the Peso**

The Argentine inflation rate is still much higher than that of the United States. Therefore, given the fixed exchange rate, the Peso has been appreciating in real terms. Some observers recommend a gradual devaluation (crawling peg - R. Dornbush). However, the mere possibility of a movement in the exchange rate would destroy the fragile confidence and make the whole system to collapse.

We should consider that even though internal prices are increasing faster than those in the US., the increase in industrial efficiency and elimination of export taxes is compensating exporters for the relative depreciation of the dollars received.

**The fight against inflation**

Preventing prices from continue rising has been tough, mainly because of persistent indexation practices and rigidities in the marketing and distribution network. To ease price hike pressures, the government issued a major deregulation decree in November, 1991. This decree liberalizes the fees charged in certain professional services, such as those provided by physicians, lawyers and notaries. After its passing, the fees involved went down. Port and shipping costs fell. The increased foreign competition is limiting the rise of prices in some industries, such as food processing.

**Capital flows and macroeconomic performance**

Argentina's ability to obtain Brady-type conditions from its commercial creditors (international banks) is evidence that the structural reforms introduced during the past few years have been the most important in decades. Capital flows have dominated the behavior of the main economic variables in Argentina during the past two decades. Many factors explain these flows. When an economic actor accumulates financial assets in net terms, he is simultaneously reducing his aggregate demand to a level below his income flows. When he buys a domestic financial instrument, this reduction is aggregate demand is
compensated by an increase in demand by the recipient of credit (either another private economic actor or the public sector). If a foreign financial instrument is purchased, there is no compensation within the national economy, and total aggregate demand is reduced. Whenever the public buys foreign currency (or other financial instruments) as a form of protection against inflation, devaluations or other forms of "confiscation" of property, the following sequence takes place:

- Deposits in the domestic financial system decline with the following effects: 1) real interest rates paid on deposits increase, as financial intermediaries compete for scarce resources; 2) spreads widen because banks have to cover the rise in operating costs in a context of smaller transactions; and 3) real interest rates charged for loans rise as a result of scarcity and higher financial and operating costs.
- When credit availability is reduced, aggregate demand also tends to decline. This reduction in demand affects most goods and services. The decline in demand for tradable goods will be reflected in increased exports and reduced imports and, therefore, in an improvement in the trade and current accounts. The decline in demand for non-tradable goods will be reflected in lower relative prices for these products and in reductions of production. There will be a tendency to associate the improvement in the current account with prices (an improvement in the real exchange rate), without realizing that both effects are caused by capital outflows.
- The decline in output and in the relative prices of nontradable goods will be reflected in a decline in real GDP, national income and, consequently, tax revenues.
- Fiscal deficits will increase as a result of the decline in revenues, further damaging confidence and accelerating capital outflows.
- Capital outflows will be reflected in reserve losses (despite the improved current account), forcing the government to obtain external financing and/or devalue the currency, confirming the initial fears of economic actors. Inflation accelerates as a result of devaluations and the decline in "real" demand for domestic monetary assets. Hyper inflation takes place when "real" demand collapses.
- Higher real interest rates and lower levels of economic activity are reflected in reduced profits, particularly for producers of nontradable goods.
- Higher real interest rates and smaller profits are reflected in lower prices for all forms of capital goods (for example, stocks, land and real estate).

When capital flows are reversed, it should be expected that the behavior of the principal macroeconomic variables would be exactly the opposite. Deposits and loans should increase; real interest rates decline; domestic aggregate demand should rise; the current account deteriorates; the relative prices of nontradable goods should step up (the real exchange rate should decline); tax revenues should increase; fiscal deficits should decrease; profits should increase; and the price of capital goods should rise. This is exactly what the empirical evidence shows for Argentine economic performance during the past two decades and exactly what has been taking place since the implementation of the Convertibility program. Obviously, confidence and capital flows are variables that depend on many factors. But all of these factors can be summarized in one: expectations about the relative rate of returns for holding assets within a country or abroad.
Economic activity and employment

Economic activity has recovered steadily since 1990 and has accelerated since the introduction of convertibility. Rates of growth were on average negative during the 80s (-0.4%). In 1990, growth turned slightly positive, registering 0.4% and surged to 8.5% in 1991. While the expansion of economic activity was widespread, most was concentrated in the nontradable sectors, mainly in durable goods and construction.

Economic growth in the short term will be based almost exclusively on increases in aggregate demand (capital flows) and excess capacity. In the medium term, however, growth will depend on a successful investment process. Argentina is currently initiating this second phase. Historically, the rate of investment in Argentina has fluctuated around 20% of GDP. Comparing these figure with past growth rates shows the low productivity of this investment. On explanation is that almost half of this investment was made by the public sector (low productivity rates) and a large part of the private sector investment was concentrated in construction or sectors with low international competitive advantages.

Population growth in Argentina has hovered around 1.6-1.7% annually for the past three decades. Unemployment has rarely exceeded 8%, but underemployment is very high. This results not only from the high public sector employment levels but also from the large number of people employed in the informal sectors. Employment has surged since the convertibility was adopted, even though the number of public sector employees has been reduced. It is estimated that unemployment is now around 5%.

Monetary policy

Monetary policy under a convertibility scheme is quite simple: Monetary authorities alone control the expansion of domestic credit, while the evolution of monetary aggregates depends exclusively on the preferences of economic agents. Currently, Argentina operates as a bimoney system with peso deposits equivalent to US$ 10.5 Bn., dollar deposits of US$ 9.2 Bn., peso currency holdings estimated at US$ 5.2 Bn., and dollar currency holdings estimated at US$ 4 Bn.. In addition, it is estimated that foreign currency holdings abroad by Argentineans exceed US$ 40 Bn.. Less than two years ago, domestic currency holdings totaled less than US$ 3 Bn., and total dollar deposits were little more than US$ 1 Bn.. Most of the increase in deposits took place after the implementation of the convertibility program.

Credit has expanded significantly since average minimum reserve requirements were reduced and the composition of deposits began to include more longer-maturity time deposits. As inflation subsides, the composition and maturity of deposits are changing. Rotation of current account deposits has been cut sharply, and the average maturity of time deposits has increased from nine days to almost 40 days. Administrative costs per unit of deposit have registered important declines.

Interest rates on deposits have been reduced from 25% per month to just 1%, while spreads have decline from close to 12% per month to just below 2% per month. The reasons for these decreases include lowered expectations of a currency devaluation, lower minimum reserve requirements and taxes, and reduced operating costs as volume increases. It is expected that if capital inflows are maintained, deposits will continue to grow and interest rates will come down further. The experiences of Mexico, Chile, Korea,
and Spain indicate that a successful program should be reflected in much larger volumes of financial intermediation.

**Government**

Argentina spends in education, health care, and social security a similar proportion of its GDP as most of the developed countries. However, these resources are not used efficiently, resulting in poor returns from the investment and deteriorating educational, health-care and social security systems. Among the reasons of this poor performance, we can mention: lack of a national plan and long term objectives, bureaucratic administration of resources, loss of purchasing power due to high inflation, and aging of the population. The following table shows the proportion of expenditure in each activity, measured in % of GDP. Government expenditures in defense are falling, while education, health-care, and social security are receiving an increasing amount of resources.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Administration</td>
<td>2.6%</td>
<td>2.8%</td>
<td>3.5%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Justice</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.6%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Defense</td>
<td>3.0%</td>
<td>1.8%</td>
<td>1.2%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Internal safety</td>
<td>1.9%</td>
<td>1.6%</td>
<td>1.8%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Education, Science and Tech.</td>
<td>4.3%</td>
<td>5.1%</td>
<td>4.9%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Health-care</td>
<td>5.3%</td>
<td>5.3%</td>
<td>5.1%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Housing</td>
<td>1.0%</td>
<td>1.0%</td>
<td>0.8%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Welfare</td>
<td>0.7%</td>
<td>1.1%</td>
<td>1.0%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Social security</td>
<td>8.0%</td>
<td>8.2%</td>
<td>11.3%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Labor</td>
<td>1.2%</td>
<td>0.9%</td>
<td>0.8%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Other</td>
<td>0.8%</td>
<td>0.9%</td>
<td>1.1%</td>
<td>1.2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: 1993 Economic Report by the Ministry of Economy

**Taxes**

They are the main sources of revenue for the government. There is an emphasis on indirect taxes because of the difficulties of collecting direct taxes. Indirect taxes are mainly the VAT and sales tax on fuels and tobacco. Payroll taxes are an important government revenue and are used to fund the pensions paid by the security system and health services. Income taxes have traditionally been below 3% of GDP. The current government is putting efforts in increasing this source of funds. The majority of taxes are shared between the central Treasury and the Provinces in percentages determined by the co-participation law. The value added tax is 18%, the corporate income tax rate is 30% and the corporate asset tax rate is 1%.
III.4. A snapshot of Argentina's society

**Basic Data (1990)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population:</td>
<td>32,500,000</td>
</tr>
<tr>
<td>Active Population</td>
<td>14,584,000</td>
</tr>
<tr>
<td>Employees in the private sector</td>
<td>7,949,000</td>
</tr>
<tr>
<td>Self-employed population</td>
<td>3,500,000</td>
</tr>
<tr>
<td>Public sector (includes state owned companies)</td>
<td>2,082,000</td>
</tr>
<tr>
<td>Retired population</td>
<td>3,102,215</td>
</tr>
<tr>
<td>Average annual population growth</td>
<td>1.29%</td>
</tr>
<tr>
<td>Life expectancy (years)</td>
<td>69.4</td>
</tr>
<tr>
<td>Unemployed (1990)</td>
<td>900,000</td>
</tr>
<tr>
<td>Total and marginal unemployment</td>
<td>3,600,000</td>
</tr>
<tr>
<td>Active population percentage</td>
<td>44.87%</td>
</tr>
</tbody>
</table>

**Education**

- Average illiteracy level                                               | 7%       |
- Elementary school accomplished                                          | 3,800,000 |
- High school accomplished                                                | 1,500,000 |
- University students                                                     | 600,000  |
- Urban population                                                        | 83%      |

Source: 1993 Economic Report by Ministry of Economy

We can identify in Argentina's society three different social groups according to their incomes, occupations and living standards.

<table>
<thead>
<tr>
<th>Social group</th>
<th>Main characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper class</td>
<td>Estancieros, industrial and commercial owners, high-ranking military officers, business executives and top government officials.</td>
</tr>
<tr>
<td>Middle class</td>
<td>Self-employed professionals, white collar workers, civil servants, professors, owners of small firms and middle managers.</td>
</tr>
<tr>
<td>Lower class</td>
<td>Skilled industrial workers, street vendors, domestic servants, agricultural workers and natives.</td>
</tr>
</tbody>
</table>

According to a World Bank's report of 1984, the national income in Argentina is unequally distributed; the 10% wealthiest receives 35% of national income, while the poorest 20% gets only 4.5%. However, Argentina does not have the magnitude of poverty present in some of other Latin American countries such as Mexico, Brazil, and Venezuela.

The upper class incorporates the traditional landowners, new industrial or commercial executives and other smaller groups which traditionally maintain their high positions either via inheritance or by marrying among themselves.

Argentina has a large and heterogeneous middle class, which includes 35-40% of the total population. This class has been consistently battered by inflation and the resulting loss of purchasing power, a fact that led many of its members to become lower class.
The lower class has increased as a result of the poor economic performance of the country in the last decades since middle and lower class members are more exposed to the inflationary effects and economic decay than the upper one. According to the 1991 national census, the Argentine population totals 32.6 million, with a population growth rate of 1.5%, the lowest of Latin America. The main characteristic of Argentina's population is its concentration around the important cities, being Buenos Aires with its 11.6 million inhabitants the largest urban concentration. Close to 85% of the population is descendant from Europeans, being the remaining 15% basically Middle East, Asian and natives. 90% of the population is Catholic, 2% are Protestants and 3% Jewish. The literacy rate in 1989 was 95.5%, being 96% of the children enrolled in primary (elementary) and secondary (high-school) education.

**Health-care**
Health-care is provided by a wide range of public and private entities, including the "obras sociales", which are institutions to satisfy health-care and social needs of particular groups of workers and their families. 56.5% of the population depend on this kind of services, 7.7% have private health-care insurances, and 35.8% have no health-care coverage. The poor administration of hospitals and medical systems has resulted in a significant deterioration of the properties, equipment and service quality. The current government is fostering the management of hospitals as if they were profit-seeking private entities.

**Argentineans savings rate**
Argentina's saving rate as percentage of GDP is very low due to the economic problems of the past, and to patterns of consumption similar to those of richer countries. Argentine people are used to living beyond their means. This attitude generates a continuous need for foreign financing. A higher private savings rate would allow a faster accumulation of domestic capital, which in turn will feed an increased investment by the private sector. In order to avoid relying excessively on foreigners to finance the country's development, Argentina has to either reduce consumption or increase productivity. The reduction in consumption will increase the savings component of income. According to recent figures, the public sector is already increasing its savings rate at a pace much faster than the private sector.

**Social security**
The deterioration and lack of backing funds of the social security system has reached dramatic levels and constitute one of today's hottest and most critical issues in the political agenda. Pension payments are extremely low, forcing pensioners to depend on their families to survive. The current ratio of active workers to pensioners is at 1.7, far below the target ratio of 3. This results in continuous deficit of the system, which has been finance partly by increasing tax collection and with the proceeds of the various privatizations. Unemployment, underemployment, evasion, and fast aging of the population exacerbate the problem.

The social security system is one of the areas that most urgently needs reform. Its expansion on a "pay as you go" basis since the 1940s has been dramatic. In 1950, the
number of beneficiaries stood at 200,000; today, that figure exceeds four million. The number of beneficiaries exceeds the number of people over 60 years of age in the population, resulting in a contributor-to-beneficiary ratio of only 1:7. Individual contributions to the system amount to nearly 50% of take-home wages, while current benefits have been reduced to less than half of the amount established by law. In addition, the system has been distorted by numerous special programs. Not surprisingly, the current system is bankrupt.

The Government has recently sent to Congress a proposal that raises the retirement age from 60 to 65 and would transform the system into one based on individual pension funds administered by the private sector. The transformation would be gradual because payments will have to be continued to those who are already or soon will be retired. The proposal also includes granting authorization to eliminate employer contributions to the pension system.

The benefits expected from the reform are numerous. It would eliminate many of the special programs, increase the number of contributors to the system, improve the ratio of contributors to beneficiaries, improve resource management, create a sizable amount of long-term capital available for the financing of investment projects, and reduce labor costs by lowering the contributions to the system. It is estimated that initially, the monthly contribution to the new system would equivalent to US$ 1.5 Bn. annually and that this amount would increase significantly in the following years. The reform was under deliberation in Congress up to September 20 1993, when it was passed.
Part IV

Regulatory and Institutional Conditions for the MBS Market

IV.1. The Argentine financial sector
IV.2. Analysis of the new pension law
IV.3. The Argentine banking system
IV.4. The Argentine insurance industry
IV.5. Mortgage lending
IV.6. The Argentine construction sector
IV.7. The Argentine legal framework
IV.1. The Argentine financial sector

Argentina's financial system has changed dramatically over the past 2 years. These changes include the creation of a bimoneyetary system, a new securities law, legislation on investment funds, and taxation reforms. The Argentine government also is debating the final details for the creation of a private pension fund system.

The turning point for the financial sector may have been reached with the enactment of the convertibility Law on March 20, 1991, which included the following:
- The Central Bank would sell foreign currency at the rate of 1 Peso per Dollar.
- The Central Bank would keep gross international reserves at no less than the monetary base.
- Peso-denominated contracts could not be indexed to inflation
- The civil code was modified such that all obligations should be met in the originally agreed upon currency.
- Measures were taken to eliminate the fiscal deficit.

Since the adoption of the Convertibility Law, a new bimoneyetary system has emerged. Consequently, there are two notable features of this economy: An increased preference for dollar-denominated assets, and the increasing use of dollar as an account unit and as a mean of payment (dollarization of the economy).

Deregulation followed the Convertibility Law. Interest rate regulations and credit allocation: rules are gone. In addition, restrictions in the foreign exchange market were lifted, and banks are now allowed to perform dollar-denominated transactions.

Financial sector reform

The Argentine Financial sector has historically been subject to numerous regulations. Today the financial system operates with freedom to set interest rates and to allocate credit. However, minimum reserve requirements and taxation on financial intermediaries remain extremely high. Average minimum reserve requirements for peso deposits are roughly 38%, and taxes are equivalent to a spread of 5% annually. As a result, spreads and interest on loans are very high compared with international rates. However, a 1.2% tax on each bank check and a special tax on financial institutions (Grasfe) were eliminated.

Another important financial reform introduced in conjunction with the convertibility program is the freedom to operate in more than one currency within the domestic financial system. Banks are free to take in dollar deposits and make dollar loans. Since this reform was implemented, Argentina's financial system has operated on a bimoneyetary basis. Currently, the amounts of dollar deposits in the system is almost equal to the peso ones.

The current situation of the Argentine financial sector can be characterized by a return to international standards, lowered interest rates, strong inflow of foreign capitals in Argentine instruments and Argentina's re-inception into the world markets, evidenced by the many recent placement of Argentine debt (several sovereign bond issues as well as province and bank issues) as well as equity issues (YPF, Telefónica de Argentina, Telecom, Banco Galicia, etc.) in both the US. and European markets.
Notwithstanding, there is still a long way to go in order to obtain the desired levels of volume, market capitalization and availability of financial instruments. In general we can characterize the Argentine financial market with:

<table>
<thead>
<tr>
<th><strong>Strengths</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Return of Argentina to international financial markets</td>
</tr>
<tr>
<td>+ Improvement of national equity and debt markets</td>
</tr>
<tr>
<td>+ Repatriation of flight capital (estimated at US$ 60 Bn.)</td>
</tr>
<tr>
<td>+ Strong participation of foreign investments</td>
</tr>
<tr>
<td>+ Flight capital is a potential source of financing easier to attract the international investors, as well as more risk seeking</td>
</tr>
<tr>
<td>+ Current willingness of the Argentine people to hold domestic currency</td>
</tr>
<tr>
<td>+ Improving institutional framework</td>
</tr>
<tr>
<td>+ Deregulation of trading</td>
</tr>
<tr>
<td>+ Increased participation and influence of Comisión Nacional de Valores</td>
</tr>
<tr>
<td>+ Incorporation of the country to the Brady Plan and signing of agreements with the IMF, which will probably led to a near credit rating of Argentina</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Weaknesses</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Lack of adequate financing for small and medium firms</td>
</tr>
<tr>
<td>- Economic units are still reluctant to lend in Pesos or borrow in Dollars as a result of many years of inflation and the recent memory of the Plan Austral fiasco (economic program 1982-84 that led borrowing firms to bankruptcy)</td>
</tr>
<tr>
<td>- Recovered flight capital is mainly reinvested in short-term money market accounts or in the capital market, so it can exit the market easily</td>
</tr>
<tr>
<td>- National capital markets are still undeveloped to a great extend</td>
</tr>
<tr>
<td>- Stock market is small, thin, and isolated</td>
</tr>
<tr>
<td>- Excessive number of commercial banks</td>
</tr>
</tbody>
</table>

**The Argentine capital markets**

During the last decades, the constant macroeconomic instability affected the evolution of the local financial market, which shrunk, did not incorporate the innovations in foreign markets, and became isolated from the rest of the world. Argentina's economic units suffered the lack of convenient financing. The problem was aggravated by the impossibility to access international financial markets after the debt crisis in 1982. Until recently, Argentina's public and private sectors have financed their activities through bank loans and development credits from multilateral agencies (IMF and World Bank).

Until the recent debt crisis of 1982, when Mexico defaulted on its foreign debt, the main financing came from the international bank loans. As a consequence of the crisis, Argentina lost its access to international debt markets. High country risk given by political instability and economic deterioration increased substantially the cost of the little financing remaining. The private sector thus had only access to expensive short-term commercial bank loans.

The problem was exacerbated by the flow of Argentine funds out of the country (flight capital). According to some estimates, there were by the end of 1992, between US$ 40 to 60 Bn. held abroad by Argentineans, most of them unreported or not declared.

As a result of the debt crisis, the Argentine public sector focused on the small local market as its main source of funds. To compete against attractive international investment opportunities available to local investors and contain the flight of capital, it issued high

-- Page 99 --
yield securities in both local and foreign currency, which suffered severe price depreciation and were soon trading at 30% face value soon after being issued. This reduced even more the government's financing possibilities. In order to keep attracting capitals, the government increased the yield paid in its debt, squeezing even more the possibilities of the private sector of financing via debt issuance.

To put an end to this issue frenzy, in 1990, the government imposed a financial reform program, the "Bonex Plan", by which all government bonds denominated in local currency and the bank's mandatory reserves at the Central Bank were compulsory converted into 10-year-dollar denominated bonds, known as Bonex. These bonds represented a more predictable source of fiscal financing than the volatile and riskier local currency denominated bonds. The reform met strong criticism at first. However, the market agents gradually understood the benefits of the measure.

The convergence of all this factors resulted in the transformation of Argentina's financial market, the development of the local debt and equities markets and the new financing alternative given by the access to international sources of capital.

As a result of the improvement in the overall situation of the country, Argentina is attracting large amounts of funds in the form of both repatriation of flight capital and foreign investment. Monetary stability brought about a reduction in interest rates, which reduced financing costs for borrowers, thus stimulating economic activity. Another effect is that people are willing to hold local currency making the exchange rate to hold firm.

The activity and development of the Argentine capital market have been favored by an improved institutional framework which has increased the confidence of the agents. New authorities were appointed in the Comisión Nacional de Valores, that decided to transform the Argentine market into a much modern system according to the directives received from the government. The privatized companies added market capitalization to the Buenos Aires exchange, as well as the debt markets had seen a resurgence due to changes to corporate bonds regulations. The deregulation of brokerage commissions increased traded volume, and the elimination of the 36% withholding tax for foreign investors increased foreign investors' participation in the markets.

Since early 1991, private and public borrowers obtained financing by issuing debt instruments. They are using these funds to replace their expensive short-term borrowings. The private sector is also investing in basic infrastructure and in the modernization of their production facilities, as well as participating in the privatization process. Argentine companies once again where able to place debt obligations according to international market standards, and at very attractive terms compared to their possibilities just a couple of years before. In 1991, there were 13 international Argentine issues, which raised over US$ 2.5 Bn., including trenches placed in the domestic market as well as registered issues in the US. equity (ADR mechanism and 144A - private placements) and debt markets (Yankee bonds).

Government bonds markets

Argentina has an active government bond securities market which are regulated by the CNV in accordance to Law 17,811. The Argentine bond market is dominated by the national government's securities, especially the BONEX, which are dollar denominated and highly liquid securities. Prior to 1989, the Argentine Government had issued a variety
of indexed, austral-denominated securities that traded in liquid markets. On December, 1989, however, all Government securities other than BONEX were refinanced pursuant to the BONEX Plan into 1989 Bonex. Subsequently, the Argentine Government issued three Austra-denominated instruments: BICs, BOCE ("Bono de Consolidación Económica") and BOCREX ("Bono de Crédito a la Exportación"). On September 10, 1991, holders of BOCREX were given the option to exchange their bonds into a new government security, BOTE ("Bonos del Tesoro").

The following table gives a comparative of Argentina's sovereign debt rating to other Latin American countries' debt. (Source: Salomon Brothers Report, May 1993)

<table>
<thead>
<tr>
<th>Sovereign Debt Ratings</th>
<th>Moody's Investor Service</th>
<th>Standard &amp; Poor's</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Local Currency</td>
<td>Foreign Currency</td>
</tr>
<tr>
<td>Argentina</td>
<td>NR</td>
<td>B1</td>
</tr>
<tr>
<td>Brazil</td>
<td>NR</td>
<td>B2</td>
</tr>
<tr>
<td>Chile</td>
<td>NR</td>
<td>Baa3</td>
</tr>
<tr>
<td>Colombia</td>
<td>NR</td>
<td>Baa1</td>
</tr>
<tr>
<td>Mexico</td>
<td>Baa1</td>
<td>Ba2</td>
</tr>
<tr>
<td>Venezuela</td>
<td>NR</td>
<td>Baa1</td>
</tr>
</tbody>
</table>

The table below presents data on Argentine public bonds issued and publicly held on December 1991 and 1992, respectively.

<table>
<thead>
<tr>
<th></th>
<th>Issued</th>
<th>Public Holdings</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOCE II &amp; III</td>
<td>6</td>
<td>73</td>
</tr>
<tr>
<td>BOCREX I, II &amp; III</td>
<td>114</td>
<td>105</td>
</tr>
<tr>
<td>BIC 89, I, III, &amp; IV</td>
<td>324</td>
<td>294</td>
</tr>
<tr>
<td>BIC V</td>
<td>1,043</td>
<td>1,075</td>
</tr>
<tr>
<td>BOCATE</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>BOCON (Social Security)</td>
<td>3,888</td>
<td>0</td>
</tr>
<tr>
<td>BOCON (State Suppliers)</td>
<td>2,131</td>
<td>0</td>
</tr>
<tr>
<td>BOTE I</td>
<td>1,762</td>
<td>1</td>
</tr>
<tr>
<td>BOTE II</td>
<td>158</td>
<td>0</td>
</tr>
<tr>
<td>BONEX 82</td>
<td>0</td>
<td>374</td>
</tr>
<tr>
<td>BONEX 84</td>
<td>250</td>
<td>373</td>
</tr>
<tr>
<td>BONEX 87</td>
<td>625</td>
<td>746</td>
</tr>
<tr>
<td>BONEX 89</td>
<td>3,810</td>
<td>4,345</td>
</tr>
<tr>
<td>BONEX 92</td>
<td>1,000</td>
<td>0</td>
</tr>
<tr>
<td>Euronotes 11% / 93</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Euronotes 9.5% / 93</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Euronotes 8.25% / 97</td>
<td>250</td>
<td>0</td>
</tr>
<tr>
<td>Other Debt to be consolidated</td>
<td>9,609</td>
<td>18,445</td>
</tr>
<tr>
<td>TOTAL</td>
<td>US$ 25,480</td>
<td>US$ 26,346</td>
</tr>
</tbody>
</table>

(Source: Banco Central de la Republica Argentina)

Bonex are traded in the OTC which represents 98% of the market, and on the Buenos Aires Stock Exchange which has the remaining 2% of the market. The volume negotiated in the OTC decreased after the implementation of the Bonex Plan form an average of US$702 million per month in December 1989 to an average of US$500 million per month average for 1990. In 1992, the volume increased substantially and in August 1992, US$3,787 million of Bonex were traded. Their prominent role in the domestic financial
markets gives them quasi-currency status, and disruptions to their servicing would disrupt the whole financial system.

All Bonex series were offered to the market by the National Treasury of Argentina by public auction or open market operations, except for the 1989 issue, which resulted from a refinancing of the public debt outstanding in local currency. On September 4, 1992, authorization was given for the issue of up to US$1,000 millions of Bonex Series 11992.

**The Corporate Bond Market**

With the adoption of Law 23,576 on negotiable obligations in July 1988, the corporate bond market started to develop in Argentina. This Law was later modified in August 1991 by Law 23,962. Corporate bonds are issued in bearer or registered form, may be indexed (subject to the Convertibility Law), and may be repaid in foreign or local currency. Rates on corporate bonds may be fixed or floating, and vary substantially with market conditions and the creditworthiness of the issuer. Most negotiable obligations are dollar-denominated. A total of US$ 2.4 Bn. of corporate bonds were outstanding as of December 31, 1992.

**The Argentine Stock Market**

The Buenos Aires Stock Market (locally known as the Bolsa the Valores de Buenos Aires) was founded in 1854 and is one of the oldest in South America. There are also regional stock exchanges in Cordoba, Mendoza, Rosario and Tucuman.

The market has around 330 listed stocks, 21 of which account for 90% of the trading volume. Market capitalization is low, at 14% of GDP, since important companies are either privately held or subsidiaries of multinational firms. The market has a very low float, which averages 30-35%. Since the economic recovery, the Argentine stocks have been one of the most highly rising and profitable investment opportunities.

The market has traditionally been retail, small, thin, volatile and isolated from international currents. The market is small compared to other American markets. The number of brokerage houses far exceeds the number of listed companies.

The markets has attracted a series of investment funds. Among other equity funds targeted to Argentine stocks and traded in the international capital markets are; the Argentine Equity Fund, the Latin American Fund, the Latin American Equity Fund, the Puma Fund and others. International investors are lured by the originally low P/E ratios, the vivid experience of other successful Latin-American economic reforms, and the lack of attractive investment opportunities in the developed world. It is estimated that foreigners invested around US$ 1.5 Bn. in the Argentine stock market in 1991. There are as well as series of investment funds like Merrill Lynch's Argentine Investment Company and Citibank's Citicorp Equity Investment Fund that have realized over 35% annual returns by investing in privatized companies.

As with other macroeconomic variables, the behavior of the market is closely tied to capital flows. When capital is flowing out, interest rates rise and economic activity declines, reducing the prices of all forms of capital goods, especially stocks. The decline affects all sectors but it is particularly strong in those sectors that produce non-tradable goods. When capital flows in, on the contrary, interest rates decline, economic activity expands and the price of capital goods goes up, again especially affecting stocks. Of
course, in this context, stock prices of nontradable goods-producing firms will rise faster than the general stock index.

The trading volume in the stock exchange has increased from a daily average of US$ 3.3 million in 1990 to US$ 18.2 million in 1991 with high daily volumes of over US$ 100 million during peak periods. Simultaneously, the OTC market has evolved rapidly in trading volume, number of participants and listed companies. The listing of recently privatized companies like Telefonica de Argentina, Telecom and more recently Yacimientos Petroliferos Fiscales (YPF), contributed significantly to broaden and deepen the stock market.

Total equity issues increased from US$ 43 million in 1990 to over US$ 3 Bn. in 1993. The Price/Book ratio increased on average from 0.30 to 1 60 while the P/E had important variations because of the combined effect of rising prices and company earnings. The average P/E at the end of 1991 was 40 if calculated over historical earnings but 10-20 if considering 1992 earnings. At September 1993, Argentina's equities were trading at an average of 16-18 times earnings.

*Latin America at a glance: The macroeconomy and equity markets:*

<table>
<thead>
<tr>
<th></th>
<th>Argentina</th>
<th>Brazil</th>
<th>Chile</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Macroeconomics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP Growth</td>
<td>8.5%</td>
<td>7.0%</td>
<td>-0.9%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Inflation</td>
<td>13.4%</td>
<td>8.5%</td>
<td>1,151%</td>
<td>2,200%</td>
</tr>
<tr>
<td>FOREX rate Vs US$</td>
<td>0.99</td>
<td>0.99</td>
<td>12,241</td>
<td>270,000</td>
</tr>
<tr>
<td>Interest rate (annual)</td>
<td>23.6%</td>
<td>4.9%</td>
<td>40.0%</td>
<td>19.0%</td>
</tr>
<tr>
<td><strong>Equity Indicators</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Index</td>
<td>-46.5%</td>
<td>28.8%</td>
<td>-3.7%</td>
<td>135.0%</td>
</tr>
<tr>
<td>P/E Ratio</td>
<td>14.5</td>
<td>15.2</td>
<td>10.0</td>
<td>10.3</td>
</tr>
<tr>
<td>Market Cap. (US$ M)</td>
<td>18,633</td>
<td>32,000</td>
<td>54,336</td>
<td>100,000</td>
</tr>
</tbody>
</table>


*Risk Assessment for the stock market*

In general, risk calculations for all Latin American markets are specially difficult due to the lack of historical data, and the huge structural changes suffered by these countries during the last three decades, that deem the past observations as not more than mere speculations about the future instead of being good reliable estimators.

The following table presents both short-term (over two years) and long-term (over five years) volatilities for the five main Latin American stock markets, as well as for the S&P 500 as of September 30, 1993:

<table>
<thead>
<tr>
<th>Market</th>
<th>Short-term volatility</th>
<th>Long-term volatility</th>
<th>Significant with 90% Interval</th>
<th>Expected Volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>12.3%</td>
<td>27.4%</td>
<td>Yes</td>
<td>12.3%</td>
</tr>
<tr>
<td>Brazil</td>
<td>19.6%</td>
<td>23.7%</td>
<td>Not</td>
<td>23.7%</td>
</tr>
<tr>
<td>Chile</td>
<td>12.6%</td>
<td>9.9%</td>
<td>Not</td>
<td>9.9%</td>
</tr>
<tr>
<td>Mexico</td>
<td>8.5%</td>
<td>8.2%</td>
<td>Not</td>
<td>8.2%</td>
</tr>
<tr>
<td>Venezuela</td>
<td>13.0%</td>
<td>16.4%</td>
<td>Not</td>
<td>16.4%</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>6.8%</td>
<td>6.1%</td>
<td>Not</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

Source: Santander Investments

Short term volatility measured as standard deviation of monthly dollar returns for the last 24 months.

Long term volatility measured as standard deviation of monthly dollar returns for the last 60 months.
The National Securities Commission (Comisión Nacional de Valores) is the regulatory institution that similar to the SEC, maintains order and oversees the markets operations. It is in charge of the authorization of public offerings and the supervision of securities transactions. The CNV which was organized along the lines of the SEC in the United States in 1937, became autonomous in 1968. It regulates all agents that transact in public securities markets and has the authority to regulate and control the public offering of all securities other than the primary issue of Government securities. Substantial reforms are being introduced in the capital markets to promote foreign investment. A framework has been devised to permit the introduction of new, non-bank financial products into the capital markets, including projects for the creation of a commercial paper market, a market for negotiable instruments and a futures and options market. To promote activity in the equity market, the government has ceased the regulation of brokerage fees and has eliminated transfer taxes and stamp taxes on securities transactions. In addition, a mutual fund law was passed in May 1992, allowing greater flexibility in the portfolios of permitted investments of mutual funds. The integration of various Argentine regional stock markets is also being discussed.

The Clearing House (Caja de Valores de Buenos Aires), owned by the Buenos Aires Stock Exchange members provides central depository facilities for securities, clearing functions, serves as transfer and paying agent, handles transaction settlement of all securities, and operates a computerized Exchange Information System.

The Open Electronic Market (Mercado Abierto Electrónico) is the national over-the-counter market. All its intermediaries must be registered with the Securities Commission. Individual brokers may have a dual capacity but brokerage firms operating in the exchange market are forbidden from acting directly in the OTC market. They have established affiliated firms to operate in the OTC.
Recent legislation and regulation
As soon as the new authorities understood that the key to develop a sound and stable capital market depended on attracting a steady flow of international capitals by designing new financial products as well as developing the existing debt and equity markets, the required legislative and regulatory changes were proposed. Among the most recent ones and relevant to this study we can identify the following:

1. Investment Funds
The prior regulations that conducted the investment funds (fondos comunes de inversión) was deemed too restrictive and imposed the funds to be invested only within narrow determined product species. This situation was characterized by a general lack of attractiveness of these investment vehicles for the general public, and therefore these funds lacked sufficient capitalization and economic impact.
To solve this problem, the Congress passed in May 1992, the Law 24.083 which regulates the activity of this investment funds providing them with greater flexibility in their investment choices as well as more transparent and simple disclosure requirements. The Law was later complemented by a Presidential Decree (# 174 of February 1993) which established the CNV and the Central Bank's authority to regulate and provide all the necessary requisites for the functioning of these investment funds. This delegation of functions to the CNV gave birth to the General Resolution 240 from the Ministry of Economy, which established a new set of regulations regarding the administrative, fiscal and legal aspects of the investment funds management.
In summary, the new legislation allows greater flexibility and diversification of investment choices, including several species of asset-backed securities like the MBS proposed in this study. Market analysts expect that the new legislation would allow the market for investment funds to reach a market capitalization of US$ 5 billion as early as 1999.

2. Asset Securitization:
On August 26, 1993, the CNV approved a new regulation (Resolución General 237/93) that creates Credit Mutual Funds (Fondos Cerrados de Crédito) for asset securitization, including mortgage-backed securities. This special mutual fund is designed to hold assets originated by banks and other financial institutions and issue shares of fixed-income certificates which are channeled directly to investors through the capital markets. The goal of the securitization process is to lower the cost of funds and increase availability of instruments for the new flow of international investors, the de-regulated investment funds, as well as the entrance of institutional investors as private pension funds and insurance companies.
The main characteristics of these closed-end Credit Funds are:
- they will only be closed-ended
- the funds' assets must be homogeneous (in terms and rates)
- to start operating, the credit funds must be authorized by the CNV and also be rated by two rating agencies
- the certificates will be emitted through an initial public offering or through private placements
- the securities will be listed in the SROs
• holding certificates gives the investor the right to participate in the funds generated by the securitized assets
• floating and fixed-income securities can be issued
• the credit funds cannot contract debts.

Among the advantages of the new instruments for issuers and investors, the most salient are:

<table>
<thead>
<tr>
<th>Issuers</th>
<th>Investors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• It lowers the cost of debt financing.</td>
<td>• It constitutes a new instrument to channel savings and diversify risk.</td>
</tr>
<tr>
<td>• It increases the number of transactions.</td>
<td>• It simplifies risk rating.</td>
</tr>
<tr>
<td>• It increases liquidity.</td>
<td>• In general, it may cause a collateralization of the credit.</td>
</tr>
</tbody>
</table>

The same regulation allows the creation of negotiable obligations (securities) backed by credits (with or without real guarantee), mortgages, and other assets providing a steady flow of funds that would be channeled to investors in the securities. The designated "mortgage contract" (pagarés hipotecarios) require the effective transmission of the mortgages to the credit funds, which will issue shares of ownership accordingly, transferring the actual property of the mortgage loans to the investors. The credit funds will charge management commissions, as well as transfer and paying fees if corresponds. This mortgage-backed contract will function both as the legal figure for the mortgage issuance(binding contract) and as marketable instrument since it has attributes to be traded publicly in the capital markets. The simple endorsement of the contract will be required for the effective transference of the ownership rights from the bank to the credit funds, and to the investors eventually.

Although the Resolution 237/93 provided the basic legislative background for the implementation of a securitization scheme, it needed to be complemented by additional specific normative which was passed and include:

• Resolution 238/93, which was added as annex to the previous one and basically establishes the requirements for the presentation to the CNV of the issuing prospectus and documentation, the operating authorization for the depository and managing (paying and fiscal agent) firms, and other operating aspects.

• Presidential Decree 2088 of October 1993, that facilitates the transference of registerable assets (credits with a real guarantee in this case) to the closed-ended credit funds by establishing the applicability of the trustee ("fideicomiso") legal figure to the structuring of a securitization scheme. This Decree exempts the issuer and the special purpose vehicle (credit fund) of the administrative burden of notifying and obtaining the consent from the debtors to transfer the mortgages to the securitization vehicle.

• Presidential Decree 2019 of September 1993, which extends the faculty and activities of the Rating Agencies to make assessments of the credit quality of both the
mortgage pools proposed for securitization as well as of the issuer, managing company and depository institutions. This Decree not only qualifies the Rating Agencies to provide a credit and risk assessment, but also determines the requisite of having at least two independent credit studies by two different institutions for the issuance of any debt-security, including mortgage-backed securities.

- Communication "A" 2156 I of 29.10.93 from the Central Bank, which allows any bank or financial institution under the Central Banks authority to transfer, without the requirement to include their own guarantee or credit, of any mortgages, pledges or credit representative instruments from their balance sheets to a special purpose vehicle for the case of a securitization transaction. This regulation allows banks to transfer their mortgage portfolios to the credit funds for their subsequent securitization.

- Additional legislation. As of December 1993, there are numerous projects for the modifications of the underlying legislation in the Civil Code, Penal Code, Commercial Code and Tax Resolutions, that would provide the final conditions for the effective implementation of a securitization scheme.
IV.2. Analysis of the new Pension Law

The importance and potential impact of the new private pension system in Argentina is so tremendous, that I decided to treat this new legislation as a separate title within this thesis. It too reflects some of the fundamental changes that are occurring in Argentina, which will have the most substantial effects in all social, economic, financial and political sectors.

On Wednesday September 22, the Argentine Congress ratified the reform law on the National Social Security System. The recently passed Pension Law proposes the creation of a hybrid pension system, modeled to the one existing in Chile. The system will be formed by a public pension plan based on the existent one, and a plan based on individual contributions to privately administered pension funds. Under this private system, new private pension funds would be administered by either private parties or state authorities.

Salient aspects of the new plan:

- **A new option.** Workers now have the right to choose between continuing contributing to the state-run retirement system or to begin contributing to a capitalized retirement system administered by private companies. The age of retirement will be gradually raised to 65 years for men and 60 years for women. At this time, all retirees will receive a "basic universal compensation". The new pension system allows the active worker to decide whether to continue to contribute to the State pension or do so to a private one. Employers, however, will continue to contribute to the state system in order to maintain the existing retirees.

- **Compensation.** Workers who choose the new option but were contributing to the state-run retirement system, will receive a "retirement compensation" of 1.5% of their average contribution for each year of contribution or a minimum of 40% of the average salary of the economy when they retire. This is in addition to the "basic universal compensation" when the person retires.

- **Workers' and employers contributions remain unchanged.** Workers will continue to contribute at 11% of their salaries to the social security system. For the ones who choose the new option, their contribution will be capitalized for their future retirement compensation, and includes a life insurance coverage. An administrative cost will be charged by the pension fund companies. Since the state-run system will at first lose contributors, to continue financing it, employers will have to continue to contribute 16% of their employees' salaries.

- **A state player.** The state-owned Banco Nación will compete as another pension fund managing company, but with the advantage of guaranteeing to its clients a minimum return on their accounts (in pesos) or the LIBOR rate (in dollars).

- **Private pension fund managers.** In order to capitalize and administer the private funds, the figure of "Administradoras de Fondos de Pension - AFJPs" (Pension Funds Managers) is created.

- **State still assumes past obligations.** The state does not resigns to its accumulated pension obligations, and in the new system it will take care of:
  - a minimum base pension payment to all retirees,
- and an additional payment for the years that each person contributed to the state system.
The resulting pension benefit for an individual will be the sum of the minimum base, the additional payment according to the years contributed to the state system, and the benefit received from the private system for those who adhered to it. Those individuals who choose to remain in the state system will receive an additional payment for permanency that would amount to 0.85% of each years contribution to the new system.

- **Transparency and fiduciary obligations.** The Pension Fund Managers (AFJP) will be required to inform each affiliate of its account evolution and balance.

**Guarantees to the new system:**
- The funds administered by the Pension Fund Managers are never to be mixed with the capital of the managing firm. Thus, if the managing firm goes bankrupt, this will preserve the administered funds and so affiliates won't be affected.
- The Superintendencia de AFJP is created to regulate and control the new Pension Fund Managers.
- Ultimately, the Government guarantees the integrity of the funds and that of the pension payments, in case of bankruptcy or loss by any of the newly created funds.

**Analysis of the effects of the Law:**
It is the consensus, that the new pension fund law constitutes another significant step in the restructuring of the Argentine economy. Among others, the most evident effects are:

- **Attractiveness of the adherence to the new system.** Given the hybrid nature of the system it is still to be seen the amount of already contributing individuals that would eventually adhere to the new option. So far, estimates indicate that 55-60% of the contributors will choose the new program, given an estimated optimal age to switch of 45. This figures are expected to change as the definite regulation and final changes to the Law are made. The consensus is that the break-even age would eventually go from 40 to 55 years depending on a number of issues that are currently under discussion.

- **Savings will be channeled through the economy more efficiently as the contributions will be directly capitalized.** With an average salary of $600, and 4.6 million contributors, it is estimated that the new pension fund companies will collect around $220 million per month or $2.6 Bn. in one year. With the increase of the number of contributors and the accumulation of funds, the total amount of contributions by the year 2000 could reach $30 Bn.. The funds will contribute to raising the domestic savings rate which in 1992 was 14% of GDP. The effects on the markets depth could be foreseeable; increased number of securities, lower transaction costs, feasibility of new security types, and development of new institutional financial players in the market.

- **It will increase long term capital availability** that will be accessible for financing investment projects. In turn, this reduces the dependence on foreign inflow of capital. A possible effect is that it could contribute to reducing the lending rate, which is currently between 16% to 22% for most customers. A low rate would create the
potential to develop mortgage bonds, thus giving stimulus to such capital intensive industries as the construction industry.

- **The impact on government spending.** At the beginning, the change to a capitalized retirement system creates an additional deficit for the government because it loses the worker's contributions. However, over the medium term, it contributes to reducing fiscal expenditures. In 1992, the Social Security System accounted for 28.8% of the total public expenditures.

- **Possible lower labor costs.** Economic Minister Cavallo promised that if the pension law was passed the government would propose to lower labor costs. employers would use a portion of their social security contributions as a deductible towards their income tax payments. The amount of this reduction is still to be determined.

- **New jobs.** According the Chilean experience and based on the most recent estimates, the administration of the new private pension funds could mean a need for 15,000 jobs. However, most of these jobs will be occupied by current banks' personnel so the amount of new jobs would be much smaller (around 60-70%). In Chile, with 2.9 million affiliates to the private program, the sector requires 9,000 employees.

**Impact of the new Law on the security markets:**
According to the new Law, the private pension funds will be only allowed to invest in securities that meet certain risk and return requirements, and according to limits imposed by the Law. The following are the limits that the Law currently imposes over the future private pension fund administrators:

<table>
<thead>
<tr>
<th>Type of security</th>
<th>Limit (% Portfolio)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government securities issued by either the Central Bank or the Ministry of Finance</td>
<td>50%</td>
</tr>
<tr>
<td>Securities issued by provincial and/or community governments</td>
<td>30%</td>
</tr>
<tr>
<td>Corporate bonds and notes with maturities longer than 2 years</td>
<td>40%</td>
</tr>
<tr>
<td>Corporate bonds and notes with maturities less than 2 years</td>
<td>20%</td>
</tr>
<tr>
<td>Convertible bonds</td>
<td>40%</td>
</tr>
<tr>
<td>Convertible bonds issued by privatized companies</td>
<td>20%</td>
</tr>
<tr>
<td>Investments in time deposits in financial institutions</td>
<td>30%</td>
</tr>
<tr>
<td>Stocks trading in the Buenos Aires Exchange (including futures and options)</td>
<td>50%</td>
</tr>
<tr>
<td>Stocks of privatized companies listed in the Buenos Aires Exchange</td>
<td>20%</td>
</tr>
<tr>
<td>Investments in Mutual Funds registered in Buenos Aires (open or closed)</td>
<td>20%</td>
</tr>
<tr>
<td>Securities issued by foreign governments or international organisms</td>
<td>10%</td>
</tr>
<tr>
<td>Securities (equity or debt) issued by foreign companies in international markets</td>
<td>10%</td>
</tr>
<tr>
<td>Options and futures on local stocks</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Mortgage-backed Securities or any other mortgage instrument</strong></td>
<td>40%</td>
</tr>
<tr>
<td>Participation in investment funds with public trading of their shares</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Investment in direct mortgages (only with variable rate)</strong></td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: Text of new Law on Pension System

Based on the above limits imposed by the Law, it is clear that the new pension funds will have ample discretion regarding their investment choices. However, a more precise regulation and additional restrictions are expected to be passed, specially regarding the use of derivative products and investment in foreign markets.
Based on the experience of the implementation of a similar system in Chile, the new system could have a reshaping effect on the volume and depth of the Argentine capital markets.

The following table describes the magnitude of such capitalization according to the estimates of several private economic analysts in Argentina.

<table>
<thead>
<tr>
<th>(in US$ millions)</th>
<th>Contributions</th>
<th>Capital Markets (Capitalization)</th>
<th></th>
<th></th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Stocks</td>
<td>Public Bonds</td>
<td>Private Bonds</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>2,600</td>
<td>20,400</td>
<td>8,000</td>
<td>9,000</td>
<td>37,400</td>
</tr>
<tr>
<td>1995</td>
<td>4,900</td>
<td>27,850</td>
<td>8,000</td>
<td>14,300</td>
<td>50,150</td>
</tr>
<tr>
<td>1996</td>
<td>8,200</td>
<td>35,900</td>
<td>8,000</td>
<td>20,300</td>
<td>64,200</td>
</tr>
<tr>
<td>1997</td>
<td>12,089</td>
<td>42,300</td>
<td>8,000</td>
<td>27,150</td>
<td>77,450</td>
</tr>
<tr>
<td>1998</td>
<td>17,150</td>
<td>54,000</td>
<td>8,000</td>
<td>34,880</td>
<td>96,890</td>
</tr>
<tr>
<td>1999</td>
<td>23,500</td>
<td>62,500</td>
<td>8,000</td>
<td>43,500</td>
<td>114,000</td>
</tr>
<tr>
<td>2000</td>
<td>32,000</td>
<td>69,000</td>
<td>8,000</td>
<td>53,000</td>
<td>130,000</td>
</tr>
</tbody>
</table>

Privatization of the Pension Funds

The new Law that will replace the existing public pension system (in bankruptcy), by a system that contemplates both public and private pension institutions will develop a stable source of domestic financing at cheaper rates which will allow to avoid relying excessively on international funds. The local market will become larger, deeper, and much more liquid.

The case of Chile is a clear evidence of this phenomenon, where 65% of the stock market investors are Pension and retirement funds. Besides, the private pension will stimulate the development of the pension industry as well as the reliance on federal funds to maintain the increasing number of retirees.

The privatization of pension funds promises to be an important solution for the crisis in the Argentine system of retirement benefits and pensions. It would be a tool against evasion in contributions, it would eliminate inequities, and increase the amount and quality of the social benefits. According to estimates, the privatization of pension funds could produce an annual flow of US$ 2.5 to 3.0 Bn. which will be managed by qualified management.

Among other effects of the new Pension Law, it will allow financial institutions and insurance companies, with the assistance of foreign entities, to establish pension fund administrators that will manage pension and retirement contributions to be made by Argentine employees. Such funds are to be known as "Administradoras de Fondos de Jubilaciones y Pensiones" (AFJPs). The Argentine AFJPs will be modeled after those currently existent in Chile.

The introduction of AFJPs in Argentina is part of the Argentine Government's reform of the existing pension system, which has experienced difficulties due to its chronic deficits. The major sources of funds for the existing pension system are employers' contributions in an amount equal to 16% of their employees salaries and employees' contributions in an amount equal to 11% of their salaries. These two sources of funds are insufficient to cover the increasing needs of the current pension system and, therefore, the Argentine
Government has had to contribute additional funds to the pension system to cover the deficit. The Argentine pension system has failed partly because Argentine Government administrations would use the pension funds collected to cover their deficits and other Government programs rather than to earmark the funds to meet future pension payments, thus seriously impairing the pension system's financial stability. In addition, in recent years, there has been a high degree of social security payment evasion which has aggravated the pension system's funding shortfalls.

The new pension system will require employees to contribute up to 11% of salary income to an AFJP of their choice, while employers will still be required to contribute 16% of their employees salary to the Argentine Government Pension System. The AFJP will pool the employees funds and make various investments with such employee funds. The AFJP will be regulated and controlled by the "Superintendencia de AFJPs", requiring them to maintain certain capital requirements and to comply with certain investment standards set by such regulator. The reform of the Argentine social security laws will largely increase banking activities, as well as foster the capital markets' growth.

The following table describes the estimated effects of the new program on the number of contributors to the private system, and the capitalization of such contributions.

<table>
<thead>
<tr>
<th>Year</th>
<th>Contributors (millions)</th>
<th>Total Annual Contributions</th>
<th>Accumulated Funds</th>
<th>Insurance Premium</th>
<th>AFJPs' commission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>4.6</td>
<td>3,117</td>
<td>2,210</td>
<td>567</td>
<td>283.4</td>
</tr>
<tr>
<td>1996</td>
<td>5.9</td>
<td>4,110</td>
<td>8,214</td>
<td>752</td>
<td>376</td>
</tr>
<tr>
<td>1998</td>
<td>6.6</td>
<td>4,848</td>
<td>15,774</td>
<td>882</td>
<td>441</td>
</tr>
<tr>
<td>2000</td>
<td>7.1</td>
<td>5,399</td>
<td>25,088</td>
<td>982</td>
<td>492</td>
</tr>
<tr>
<td>2003</td>
<td>7.6</td>
<td>6,165</td>
<td>42,223</td>
<td>1,121</td>
<td>560</td>
</tr>
</tbody>
</table>

Source: 1993 Economic Report by Ministry of Economy
IV.3. The Argentine banking system

The banking system in Argentina is constituted by three different type of banking institutions. At December 31, 1992, Argentina's banking system consisted of 161 banks, consisting of 31 Argentine Government-owned or Argentine Government-related banks, 130 privately owned banks, two investment banks, one development bank, one mortgage bank and one savings bank.

At a federal level and acting many times as an instrument of monetary policy there is the "Banco de la Nación Argentina" which is the only national level bank.

At the state level there are a multitude of state banks basically representing provincial governments and as instruments of their political and economic actions.

Finally, there are numerous private and regional banks that have expanded their presence at both national and regional coverage. Many of these private banks are local subsidiaries of international banks like Citibank, Chase Manhattan Bank or Bank of Boston for Example. Recent years has seen an increasing affluence of these banks in the market. Others constitute either private commercial banks with national presence or regional ones targeted to provide financial services to specific areas or industries, like rural and community banks.

**Private sector banks.** Of the 130 privately-owned banks in Argentina, 60 are Argentine-owned banks, 30 are foreign-owned banks, and 40 are cooperative banks. As to December 31, 1992, private Argentine-owned commercial banks accounted for approximately 30.8% of deposits and 26.7% of loans in the Argentine banking system. Traditionally, foreign banks have had an important participation in the Argentine banking system, competing under the same conditions as Argentine-owned banks. At December 31, 1992, they accounted for 18% of deposits and 16.5% of loans outstanding. Cooperative banks are principally active in consumer banking, accounting for 9% of deposits and 6.1% of loans in the system.

**Public sector banks.** Argentine Government-owned or Government-related banks are dominated by three banks: Banco de la Nación Argentina, Banco de la Provincia de Buenos Aires, and Banco de La Ciudad de Buenos Aires. At December 31, 1992, they accounted for 39.1% of deposits and 41.4% of loans. These banks are subject to a different statutory and regulatory scheme from Argentine privately-owned banks. The main regulatory difference is that Government-owned banks have a monopoly on public sector deposits and the administration of public sector funds. Additionally, current and savings accounts of public sector entities held by provincial banks are subject to lower reserve requirements than are applicable to other accounts. Other differences are that Argentine Government-owned banks must satisfy the credit demands of public sector entities and the governments which own them (federal, provincial or local) must guarantee their commitments.

**Other banks.** At December 1992, there were two investment banks, one mortgage bank, one development bank and one savings bank operating in Argentina. These institutions
account for a relatively small portion of loans and deposits in the Argentine financial system.

**Non-bank institutions.** Other non-bank institutions regulated by the Argentine monetary authorities include 26 finance companies, 18 credit unions and two saving societies. These institutions provide consumer credit and represent approximately 1.6% of loans and 1.7% of deposits of the system.

The following table sets out selected statistics relating to the Argentine banking system as at December 1992, based on the latest available data by the Banco Central de la Republica Argentina:

<table>
<thead>
<tr>
<th>US$ millions</th>
<th>Assets % Share</th>
<th>Loans % Share</th>
<th>Deposits % Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Sector Total</td>
<td>23,345</td>
<td>42.88%</td>
<td>15,285</td>
</tr>
<tr>
<td>Federal Government banks</td>
<td>7,829</td>
<td>14.38%</td>
<td>4,262</td>
</tr>
<tr>
<td>Pro vincial and Municipal banks</td>
<td>15,516</td>
<td>28.50%</td>
<td>10,942</td>
</tr>
<tr>
<td>Private Sector Total</td>
<td>26,642</td>
<td>48.94%</td>
<td>18,074</td>
</tr>
<tr>
<td>Local Banks</td>
<td>14,343</td>
<td>26.35%</td>
<td>9,780</td>
</tr>
<tr>
<td>Foreign Banks</td>
<td>8,787</td>
<td>16.14%</td>
<td>6,046</td>
</tr>
<tr>
<td>Local-cooperative banks</td>
<td>3,512</td>
<td>6.45%</td>
<td>2,248</td>
</tr>
<tr>
<td>Other Banks</td>
<td>4,456</td>
<td>8.18%</td>
<td>3,419</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54,443</td>
<td>100%</td>
<td>36,698</td>
</tr>
</tbody>
</table>

The table below shows the top ten Argentine banks and their rank within the largest Latin American banks. We can note that Argentina has large state-owned banks. Private banks of national capital are the largest (measured in deposit volume and national coverage) within the private sector (a different situation from manufacturing where the largest firms are mostly foreign-owned). Argentine private banks are relatively small (the leader comes in 40th. place) compared to their Latin American counterparts. The main reason for this is that the national banking system is highly fragmented, although during the last couple of years there has been an important concentration trend.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Rank</th>
<th>Loans (US$M)</th>
<th>Deposits (US$M)</th>
<th>Assets (US$M)</th>
<th>Ownershi p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provincia de Buenos Aires</td>
<td>7</td>
<td>5,120</td>
<td>2,580</td>
<td>6,377</td>
<td>State</td>
</tr>
<tr>
<td>Nación Argentina</td>
<td>12</td>
<td>2,491</td>
<td>2,252</td>
<td>5,352</td>
<td>National</td>
</tr>
<tr>
<td>Rio de La Plata</td>
<td>40</td>
<td>919</td>
<td>735</td>
<td>1,518</td>
<td>Private</td>
</tr>
<tr>
<td>Galicia</td>
<td>48</td>
<td>786</td>
<td>663</td>
<td>1,278</td>
<td>Private</td>
</tr>
<tr>
<td>Ciudad de Buenos Aires</td>
<td>53</td>
<td>729</td>
<td>523</td>
<td>1,026</td>
<td>State</td>
</tr>
<tr>
<td>Credito Argentino</td>
<td>61</td>
<td>575</td>
<td>437</td>
<td>949</td>
<td>Private</td>
</tr>
<tr>
<td>Provincia del Chaco</td>
<td>62</td>
<td>574</td>
<td>77</td>
<td>661</td>
<td>State</td>
</tr>
<tr>
<td>Bank of Boston</td>
<td>65</td>
<td>544</td>
<td>478</td>
<td>899</td>
<td>Foreign</td>
</tr>
<tr>
<td>Citibank</td>
<td>66</td>
<td>519</td>
<td>436</td>
<td>883</td>
<td>Foreign</td>
</tr>
<tr>
<td>Provincia de Cordoba</td>
<td>67</td>
<td>514</td>
<td>457</td>
<td>636</td>
<td>State</td>
</tr>
</tbody>
</table>

Source: Banco Central de la Republica Argentina

During the last two years, bank profitability has shifted away from money-desk and treasury functions toward increased corporate and consumer lending. The banking environment is now one of intense competition among the sector's major players. As the economic environment improves, and with reduced inflationary expectations, banks are
expected to increase their leverage from two to four times currently to more common international levels of 10 to 14 times.

It is expected a further consolidation in the Argentine Banking sector, especially among state-owned and medium-sized banks. Menem's structural adjustment program resulted in significantly changed operating and regulatory environment for the banking sector. During the past few years, the sector has experienced intense consolidation, a some banks failed and others have been acquired.

The following table describes the composition of the Argentine financial institutions sector as of December 1992.

<table>
<thead>
<tr>
<th>Financial Institutions</th>
<th>Number of Banks</th>
<th>Number of Branches</th>
<th>1985</th>
<th>1992</th>
<th>1985</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial banks - total</td>
<td>191</td>
<td>160</td>
<td>4,605</td>
<td>4,141</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Public Banks</td>
<td>2</td>
<td>2</td>
<td>598</td>
<td>534</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provincial Banks</td>
<td>25</td>
<td>23</td>
<td>1,208</td>
<td>1,220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Municipal Public Banks</td>
<td>5</td>
<td>5</td>
<td>72</td>
<td>56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Private Banks</td>
<td>128</td>
<td>101</td>
<td>2,356</td>
<td>1,992</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Foreign Banks</td>
<td>9</td>
<td>8</td>
<td>174</td>
<td>339</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Branches of Foreign Banks</td>
<td>22</td>
<td>21</td>
<td>197</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment Banks</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mortgage Banks</td>
<td>1</td>
<td>1</td>
<td>54</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savings Institutions</td>
<td>1</td>
<td>1</td>
<td>54</td>
<td>46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development Banks</td>
<td>2</td>
<td>2</td>
<td>35</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance Companies</td>
<td>71</td>
<td>26</td>
<td>226</td>
<td>48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit Institutions</td>
<td>33</td>
<td>17</td>
<td>43</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savings &amp; Loan Associations</td>
<td>13</td>
<td>2</td>
<td>41</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>315</strong></td>
<td><strong>211</strong></td>
<td><strong>5,011</strong></td>
<td><strong>4,264</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Banco Central de la Republica Argentina

The following table describes the ranking of Private Banks as of June 1992 (US$ MM).

<table>
<thead>
<tr>
<th>Bank</th>
<th>Deposits</th>
<th>Loans</th>
<th>Branches</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rio de la Plata</td>
<td>991</td>
<td>1135</td>
<td>170</td>
<td>3,500</td>
</tr>
<tr>
<td>Galicia</td>
<td>924</td>
<td>983</td>
<td>166</td>
<td>3,899</td>
</tr>
<tr>
<td>Boston</td>
<td>690</td>
<td>778</td>
<td>38</td>
<td>1,480</td>
</tr>
<tr>
<td>Citibank</td>
<td>660</td>
<td>826</td>
<td>32</td>
<td>1,648</td>
</tr>
<tr>
<td>Credito Argentino</td>
<td>601</td>
<td>694</td>
<td>111</td>
<td>2,250</td>
</tr>
<tr>
<td>Banca Nazionale del Lavoro</td>
<td>562</td>
<td>457</td>
<td>74</td>
<td>NA</td>
</tr>
<tr>
<td>Frances del Rio de La Plata</td>
<td>495</td>
<td>516</td>
<td>63</td>
<td>1,550</td>
</tr>
<tr>
<td>Deutsche</td>
<td>404</td>
<td>532</td>
<td>40</td>
<td>1,000</td>
</tr>
<tr>
<td>Quilmes</td>
<td>396</td>
<td>382</td>
<td>78</td>
<td>1,690</td>
</tr>
<tr>
<td>Roberts</td>
<td>396</td>
<td>525</td>
<td>33</td>
<td>1,000</td>
</tr>
<tr>
<td>Shaw</td>
<td>310</td>
<td>379</td>
<td>37</td>
<td>950</td>
</tr>
<tr>
<td>Tornquist</td>
<td>255</td>
<td>308</td>
<td>31</td>
<td>900</td>
</tr>
<tr>
<td>del Sud</td>
<td>223</td>
<td>288</td>
<td>42</td>
<td>1,050</td>
</tr>
<tr>
<td>del Suquia</td>
<td>177</td>
<td>200</td>
<td>24</td>
<td>NA</td>
</tr>
<tr>
<td>Sudameris</td>
<td>171</td>
<td>192</td>
<td>24</td>
<td>NA</td>
</tr>
<tr>
<td>Mercantil Argentino</td>
<td>170</td>
<td>158</td>
<td>61</td>
<td>NA</td>
</tr>
<tr>
<td>Lloyds</td>
<td>163</td>
<td>292</td>
<td>26</td>
<td>775</td>
</tr>
<tr>
<td>Supervielle Soc. Generale</td>
<td>137</td>
<td>130</td>
<td>24</td>
<td>700</td>
</tr>
<tr>
<td>Mayo</td>
<td>135</td>
<td>95</td>
<td>31</td>
<td>NA</td>
</tr>
<tr>
<td>Banque Nationale de Paris</td>
<td>104</td>
<td>73</td>
<td>8</td>
<td>183</td>
</tr>
</tbody>
</table>

Source: Banco Central de la Republica Argentina
**Regulatory Authorities**

The principal authorities that regulate the financial institutions in Argentina are the Central Bank and the CNV (Comisión Nacional de Valores). Overseeing the commercial banks' activities and similar to the United States Federal Reserve system, there is a Central Bank (Banco Central de La República Argentina) that is the main vehicle for monetary and fiscal policy for the federal government. The Central Bank is an autonomous body, the main functions of which include the formulation and implementation of monetary policy, operation as the reserve bank, oversight of the clearing house for Argentine banks, regulation of the foreign exchange market and general regulatory supervision over all Argentine financial institutions. Similar to the United States, the Central bank monitors the system by its three most powerful actions, reserve requirements, open market transactions and the discount window.

Unlike the United States history, the Central Bank has lacked since its inception of clear independence from the political power, becoming usually an instrument of political programs intended many times to finance fiscal and account deficits. This political dependence has been one of the most important sources of financial volatility and inconsistency of both monetary and fiscal policies.

**Banking Industry Developments**

Among the most important regulatory changes brought by the new government, the most salient ones are:

- **Reduction in deposit reserve requirements.** The Central Bank's reserve requirements, which were as high as 71% in January 1983, have been reduced to 40% for both checking and savings accounts, and is expected a new reduction before the end of 1993.

- **Elimination of deposit insurance.** The Central Bank has limited its role as lender of last resort. Until recently, the Central Bank bailed out failing banking institutions, even those involved in fraudulent activities. Banks may still subscribe for deposit insurance on a voluntary basis, but it is restricted to peso-denominated deposits up to a maximum of $1,000 for some saving deposits.

- **Tax reform.** On July 1, 1992, the VAT (value-added tax) was introduced. Banks' net income has been affected positively in that they get a tax benefit on their purchases.

- **Capital adequacy measures.** The Central Bank has adopted the conceptual risk-weighted assets framework of the Bank of International Settlements. It has also instituted a capital risk-weigh index based on the interest rate on the loans: the higher the interest charged, the higher the reserve requirement.

- **Dollar deposits.** In late 1992, the Central bank authorized commercial banks to accept dollar-denominated deposits for checking accounts. Foreign currency deposits should not exceed six times a bank's computable net worth.

The current performance of Argentine banks is being molded, to some extent, by their recent considerable reliance on short-term deposits and funding as a result of the hyper inflation of recent years. Bank management now face the task of adapting their management tools, skills and objectives to a considerably different economic environment. During the last 2 years, the economic measures instituted by the Menem government have increased Argentine banking activity.
Current industry trends include the following:

- Change in funding mix. During 1992, term deposits increased by 85.5% in real terms, mostly because annualized dollar-yields approached 13%. Dollar-denominated deposits grew by 57.7%. The deposit structure also changed recently. The Central Bank also required deposits to be rolled over on a 30-day basis rather than overnight. The general public did not react negatively to this mandatory lengthening. In addition, banks have increasingly accessed the international debt markets in order to obtain longer-term funds to finance asset growth.

- Revitalization of private sector credit. Coupled with a gradual reduction of inflationary expectations, banks have fostered a new profit area - consumer credit. As a result, consumer lending - auto, mortgages, personal loans, credit cards - has increased substantially. With the growth in these assets and reduced inflationary expectations, banks have started to lengthen the maturity profiles of their loan portfolios: Residential mortgages now are offered to a maximum of five years, with the average maturity at about three years.

- Alteration of profit profile. Until recently and as a direct result of the hyper inflation, banks financed mainly the public sector. Profits were tied directly to the treasury-related functions of the banks. Deregulation and liberalization of the capital markets have resulted in diminished profitability from this area.

- Increasing disintermediation. The elimination of deposit insurance has prompted bank regulators not to hinder the disintermediation of the bank assets (for example, corporate commercial paper issuance) so that risk is borne by the investor and not by the bank. The current debate over the creation of a new private pension fund system may intensify this trend. Banks have responded by creating brokerage units and capital markets subsidiaries in order to capture at least a part of this income.
IV.4. The Argentine insurance industry

The insurance industry in Argentina is constituted by a large number of insurance companies that cover all basic services from personal and business insurance, to trade, commercial and real estate coverage. During 1993, the total volume of insurance premiums charged for coverage policies was $ 4,100 million, that compared with the $ 2,000 million in 1990, suggests a huge growth in the sector. Sector analysts agree that by 1995, the size of the market could rise to as high as $ 7,500 million with only 60 firms dominating the market in contrast to the currently existent 180.

The insurance market is broadly formed by the State run company Caja Nacional de Ahorro y Seguros which is in the process of being privatized, and a large number of private companies from both domestic and foreign capital, and with regional and national coverage. The sector is controlled and regulated by the "Superintendencia de Seguros" which is a federal agency responsible for the industry's activities.

Insurance companies:

The current insurance market is formed by more than 165 companies that cover almost 90% of the market for standard insurance services, being the fifteen largest ones as of December 1993:

<table>
<thead>
<tr>
<th>Insurance Company</th>
<th>Market Share</th>
<th>Insurance Company</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caja Nac. de Ahorro y Seguro</td>
<td>12.25%</td>
<td>Segunda</td>
<td>2.33%</td>
</tr>
<tr>
<td>Sud America Vida</td>
<td>5.92%</td>
<td>Sancor</td>
<td>2.06%</td>
</tr>
<tr>
<td>Omega</td>
<td>4.48%</td>
<td>Mapfre Aconcagua</td>
<td>1.99%</td>
</tr>
<tr>
<td>Buenos Aires</td>
<td>3.55%</td>
<td>Vision</td>
<td>1.66%</td>
</tr>
<tr>
<td>Bernardino Rivadavia</td>
<td>2.84%</td>
<td>Estrella</td>
<td>1.64%</td>
</tr>
<tr>
<td>San Cristobal</td>
<td>2.71%</td>
<td>Providencia</td>
<td>1.62%</td>
</tr>
<tr>
<td>Belgrano</td>
<td>2.53%</td>
<td>Iguazu</td>
<td>1.55%</td>
</tr>
<tr>
<td>Federacion Patronal</td>
<td>2.37%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Revista Negocios, November 1993.

Relationship between insurance industry and the capital markets

Even though the insurance industry in Argentina counts with numerous ties with the financial markets through holding and partnership relationships with some major banks and economic groups, so far, the industry lacks adequate specific regulation and solvency to cope with today's market needs. For these reasons we should not expect at least for a couple of years, to see great involvement from Argentina's insurance company's in the financial markets. For the case of this analysis, this practically eliminates the possibility that insurance companies provide some kind of credit support or enhancement for our securitization scheme.

However, if the de-regulation of the insurance business and the implementation of the new private pension fund system, that includes life and early retirement insurances, has the expected boost in the activity, we should see in the future a large increase in insurance firm's presence in the capital market's as institutional investors. Among the most obvious products to be held by them, mortgage-backed securities are one of the main choices.
IV.5. Mortgage lending

The adoption of the Convertibility Plan in April 1991 resulted in an almost three-fold increase in the level of deposits, in real terms, in Argentina (the remonetization) during the following two years, thereby dramatically increasing banks' lending capacity. At the same time, the growth and the price stabilization of the Argentine economy have resulted in a significant increase in the demand for capital investment and for goods and services, and therefore, for general credit. Lending to consumers and small and medium-sized companies in Argentina has gradually resumed with the process of remonetization.

In such an environment, demand for consumer loans is expected to grow at a faster rate than the aggregate demand for loans in the whole Argentine economy. The high inflation rates, high interest rates and shorter amortization periods for residential mortgage loans during the past 10 years have limited the availability of fund for residential mortgage type loans. However, the banking industry expects that the residential mortgage loan sector will grow significantly due to an un-met demand for housing in Argentina, reduction in inflation and interest rates and the overall growth of the economy.

Currently, the mortgage lending is characterized by the coexistence of private originators (mainly residential and medium-sized firms) and state sponsored programs designed to provide soft credit to particular economic sectors.

*State sponsored mortgage lending programs:*
There has being traditionally in Argentina, a number of state-sponsored programs that intended to provide convenient credit terms for the construction, agriculture, small-sized firm, and residential mortgage. However, many of these programs have been interrupted due to the economic problems suffered during the 80s. Currently, the most active programs are:

- **Rural Mortgage Bonds** (Cédulas Rurales Hipotecarias - CRHs). The CRHs are directed to the agricultural sector in order to achieve medium and long-term financing. Among the main characteristics of the program, it includes: The first issue will be of US$300 million, and the way it operates is the Banco Nación Argentina will take a mortgage on the fields in exchange for the bonds, up to 70% of the properties' market value can be borrowed (LTV), it is intended to benefit all producers (individual or legal persons) belonging to the agricultural sector, in order to be used for the cancellation of financial and commercial liabilities as well as to modernize their production process and machinery. The bonds will have a maximum maturity of 7 years, with six annual amortization installments being the first paid after the second year, interest will be fixed at 7.9% for the first two years and at LIBOR + 290 b.p. thereafter. The mortgage cost will be paid by the Federal Government, which should not exceed 1% of the mortgage amount.

- **FONAVI.** FONAVI is a federal housing program destined particularly to low income people across the whole country. FONAVI (Fondo Nacional de la Vivienda) is based on distributions form the federal government to each province, which administers it according to a set of standards.
Banco Hipotecario Nacional - BHN:
Until the early 80s, the BHN was the main vehicle (only mortgage bank in Argentina) for the origination of mortgage credit for both individuals and small-sized firms. A decade of economic turbulence caused its almost paralization and bankruptcy. It used to depend almost entirely on federal funds for its existence, since rarely any mortgage was recovered or paid back.
In 1990, the Argentine government decides to:
- Close 30 of the BHN's branches, with a personnel reduction to 1,235 from a total of 3,977.
- Initiate a program for the sale of all existent real estate in its portfolio (132) for a total of $40.5 million.
- The remaining mortgages in its portfolio ($702 million) are contracted to the private sector to be collected, providing a monthly collection of $20 million.
- The BHN is given the faculty to act as both a regulatory agency for the mortgage banking operations in the country, as well as one of the sources of mortgage credit to the public.

For the latter, provide mortgage loans, the BHN is authorized to issue a new type of dollar-denominated bonds (TIAVI - Titulo de Ahorro para la Vivienda), which is intended to finance the institutions needs for lending funds. The first issue of TIAVI for a total of US$ 48 million had a maturity of 4 years with an interest rate of LIBOR plus 200 b.p.
The basic objective of the BHN - TIAVI program is to:
- Provide financing to qualified construction firms for the development of low income residential complexes.
- Provide individual mortgage loans for single family residential, with a maturity of 15 years, an interest rate of LIBOR plus 500 b.p., and a maximum loan value of US$ 40,000.

The underlying idea behind the BHN's TIAVI program is that any individual who desires to access to a mortgage credit (15 years at Libor + 5%) has to purchase for a minimum period the TIAVI bonds as a qualifying requisite. For this reason as well as for the small size of the three issues of TIAVI outstanding (total issued US$ 128 million), the bonds have very low market liquidity.

The BHN - TIAVI program had mixed results, since although the credit facilities were always oversubscribed, the credit it provided was restricted and difficult to obtain. On August 27, 1993, the third series of TIAVI Bonds were issued for an amount of US$ 50 million with an annual rate of LIBOR + 200 b.p. This bonds are intended to provide qualifying individuals with a vehicle to obtain home-financing as well as a savings conduit.

Among the objectives established by the current management of the BHN, there are however two that have great potential importance for the future of a securitization scheme in Argentina.
These are according to their senior management:
1. Standardization of mortgage terms. Develop a series of standards for mortgage contracts in order to obtain the required uniformity of characteristics in the loans.
only the BHN will establish them for its own loan production, but through its regulatory authority over loan originating institutions, have all mortgage providers to adopt them. By doing so, the goal of the BHN is to establish a distinction between “conforming” and non-conforming contracts that would therefore provide not only the required volume of contracts, but also start to generate key statistics for loan evaluation and analysis, like default, prepayment and other.

2. **Loan purchase program.** Once that a series of standards have been adopted by the market in the loan production, the idea of the BHN is to purchase mortgage loans from small and private originators (like Fannie Mae and others), pool them together, and securitize them accordingly. However, the BHN will provide no additional guarantee other than the credit enhancement attainable by the securitization and the various methods it provides (escrow accounts, two-tier structuring, etc.).

As the ultimate goal, the BHN wishes to establish itself as the primer loan originator as well as pooler and mortgage-backed security issuer.

**Residential mortgage lending:**

Currently, there are a number of banks, primarily private ones, that are offering mortgage loans. The surge in mortgage lending was initiated short after the Convertibility Law was passed, that allowed among other things the issuance of dollar-denominated mortgage loans. At first, there were only a few banks that pioneered the market with short-term loans (3-5 years), with low LTV ratios (less than 50%), and at fairly high interest rates in dollars (22-24%).

As competition increased, and new players entered the market, rates fell sharply, maturities were lengthened, and new loans were created. Currently there are many variations in loans, ranging from maturities of 5 to 20 years, fixed and adjustable rate, both peso and dollar denominated, and with varying qualifying requirements. According to estimates by the CNV there are more than US$ 2 Bn. of outstanding mortgages issued, basically to individuals and medium-sized companies. This are currently treated as on-balance sheet operations by the issuing banks, until new conduits are designed to pass them through to other investors.

The following points describes some of the available mortgage programs currently in Argentina (at December 1993), and give an idea of the stage of development of the market:

- **Banco de Galicia.** Galicia was one of the first to enter the mortgage origination market due to its strong presence through its branch network (second largest) throughout the country. The Bank makes secured and unsecured personal loans with a stated maturity from 3 to 18 months in either pesos or dollars. In addition, it provides individual financing for the purchase of private homes in dollars only. At December 31, 1992, Galicia had 2,992 residential mortgage loans outstanding secured by properties located throughout the country, having an aggregate principal amount of $ 149 million (8.8% of the banks loan portfolio). Generally, residential mortgage loans have
a stated maturity of between three and seven years, pay an annual fixed interest rate and charge a front commission. Galicia's policy is to limit the LTV ratio to 50%, second mortgage loans are not permitted.

- **Banco Rio de La Plata.** Banco Rio was one of the first to pioneer in the origination of mortgage loans. They provide similar loan types as Banco Galicia does, and bases its competitiveness on its large branch network. As of March 31, 1992, the bank had US$ 94 million in family loans in its books.

- **Banco de Crédito Argentino.** Since September 1991, this bank has provided dollar-denominated mortgage loans of up to five years maturity principally to individuals and medium-sized businesses. The bank's policy is to maintain 50% LTV ratios, and all mortgages are secured by the relevant property. The bank believes that, under current economic conditions in Argentina, demand for mortgage loans will continue to increase. The bank increased its lending of mortgage loans from US$ 12.7 million as of December 31, 1991, to US$ 91.9 million as at December 31, 1992.

- **Bank of Boston.** Recently this bank launched a new 20-year mortgage credit line. Up to this development, the longest loan term on the Argentine market was 15 years. Bank of Boston's loans carry a 16 to 19% interest rate (fixed) with a maximum loan value of US$ 200,000 and an LTV ratio of 50%. The bank plans to finance the credit line with foreign funds drawn from its home office in Boston.

- **Banco de la Provincia de Buenos Aires.** This state bank has also recently moved onto the mortgage credit market with a savings and loan plan by which those seeking a mortgage will have to first accumulate 25% of the amount requested for a 24-month period. These mortgage loans will be for 8 years at an annual interest rate of 12%.

- **Banco Exprinter.** In October, 1993, the Banco Exprinter decided to enter the mortgage credit market with an aggressive move, provide peso-denominated loans. These loans will be for 5 years with a fixed interest rate of 24% annual, will be peso-denominated. Although there are lower rate loans available in the market, for example at 20% in pesos, they have been fairly unsuccessful since the public wants to know with certainty what their payments will be.

In addition to the described banks, there are a number of other commercial banks who provide mortgage lending in similar terms to the described above.

**Allowance requirements**

So far, and given the lack of specific regulation that govern mortgage loan origination, most lenders have treated mortgage loans in a similar fashion to their rest of loan portfolios.

On a monthly basis, banks are required to classify their loan portfolios according to the Central Bank's criteria and submit their results to the Central Bank, which reviews classifications for each bank from time to time. In the case of the biggest private-owned banks, at December 1992, the total amount of loans that classified as in insolvency, judicial proceedings or in liquidation totaled to around 2% of total outstanding loans.

For secured-type loans as mortgages, the Central bank establishes that a minimum initial loss allowance of 1.5% of the value of the loan must be established for the first 24 months
of the mortgage's life. Thereafter, the allowance must be increased or decreased monthly by an amount equal to 0.25% of the loan, depending on the individual status of the mortgage loan and general credit characteristics.

The significant changes in the lending environment since the Convertibility Plan does not foster the use of historical loss experience in the determination of the general loan loss reserve. Rather, lenders and the regulatory authorities review the changes in the composition of the mortgage portfolio and any trends or concentration of credit. In general, mortgage loans, though secured, are deemed as more risky than commercial loans since they carry new inherent risks (real estate for example).

The following table provides an indication of the credit quality of the major private banks outstanding loans (all loans, not just mortgages) as of December 1992:

<table>
<thead>
<tr>
<th></th>
<th>(US$ in millions)</th>
<th>Banco de Galicia</th>
<th>Banco Francés</th>
<th>Banco Río</th>
<th>Crédito Argentino</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance Sheet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Assets</td>
<td></td>
<td>2,498</td>
<td>1,042</td>
<td>2,629</td>
<td>1,196</td>
</tr>
<tr>
<td>Total Loans</td>
<td></td>
<td>1,662</td>
<td>735</td>
<td>1,723</td>
<td>732</td>
</tr>
<tr>
<td>Total Loan Loss Reserve</td>
<td></td>
<td>29</td>
<td>20</td>
<td>33</td>
<td>29</td>
</tr>
<tr>
<td>Total deposits</td>
<td></td>
<td>1,536</td>
<td>656</td>
<td>1,453</td>
<td>611</td>
</tr>
<tr>
<td>Total Equity</td>
<td></td>
<td>261</td>
<td>177</td>
<td>452</td>
<td>209</td>
</tr>
<tr>
<td>Net Income</td>
<td></td>
<td>23</td>
<td>24</td>
<td>41</td>
<td>25</td>
</tr>
<tr>
<td>Asset Quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonperf. Loans/Total Loans</td>
<td></td>
<td>2.51%</td>
<td>2.49%</td>
<td>1.74%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Loan Loss Reserve/Total Loans</td>
<td></td>
<td>1.74%</td>
<td>2.71%</td>
<td>1.87%</td>
<td>3.97%</td>
</tr>
<tr>
<td>Loan Loss Reserve/Nonperf.</td>
<td></td>
<td>69%</td>
<td>108%</td>
<td>107%</td>
<td>78%</td>
</tr>
<tr>
<td>Loans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Charge-offs/Average Loans</td>
<td></td>
<td>0.59%</td>
<td>0.08%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Capital Adequacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity/Assets</td>
<td></td>
<td>10.45%</td>
<td>16.96%</td>
<td>17.21%</td>
<td>17.44%</td>
</tr>
<tr>
<td>Equity &amp; Reserves/Total Loans</td>
<td></td>
<td>17.44%</td>
<td>26.76%</td>
<td>28.16%</td>
<td>32.47%</td>
</tr>
</tbody>
</table>

Source: Banco Central de la Republica Argentina.
IV.6. The Argentine construction sector

This sector has been seriously affected by the lack of private and public investment. However, it has become one of the most active sectors since the improvement in the economic situation.

According to private sector sources (Argentine Construction Chamber), construction increased by 21.4% in 1992 and 21.6% in 1991, rebounding from the declines experienced following the hyperinflationary, recessionary period lasting through 1990. Growth in construction activity remained strong in the first quarter of 1993. The number of building permits issued grew by 4% and total cement sales increased by more than 12% in the first quarter of 1993 as compared with the first quarter of 1992.

Based on the latest figures published by the Ministry of Economics, the construction sector increased by 65% since the beginning of 1991, practically doubling the growth of the overall economy for the last two years (measured in GDP). If so, the construction sector has been one of the most growing areas of the economy since the inception of the convertibility plan.

The same official source estimates that the sector will grow by north of 12% for the year 1994, estimating a leveling after that at a growth rate of 10% for the rest of the decade. Many analysts are quick to explain that the high growth rates experienced have more to do with a catch-up of the construction industry which was considered to be depressed due to the last decades of economic decay.

In this respect, industry participants are expecting the construction sector to keep on growing favored by the increasing availability of mortgage financing, as well as for the possibility of accessing the capital markets through a securitization scheme and the expected supply of funds from the newly created private pension funds (AFJP).

Real estate purchasing

Historically, the real estate sector has been seriously dependent on the existing economic conditions, and especially of the credit availability. Housing for low income people has been an important concern to all governments which fostered housing development by both federal and provincial programs, mainly funded by the national government.

Housing for the medium and high income population has been neglected by all official programs, and left to the efforts of a small private sector which was unable to provide the required financing for either housing finance or construction development.

The main effect of this lack of government involvement and decades of economic problems, was the lack of sufficient financing for residential housing, creating a net deficit of housing in all urban areas, and specially the city of Buenos Aires.

The traditional real estate market in the city of Buenos Aires for medium to high income individuals is characterized by the requirement of 100% cash payment requirement when purchasing new homes, a sector that has always been dollar-denominated (real estate is valued in dollar terms), a large fluctuations in price according to economic conditions. The effects of such credit lack and the general deterioration of personal incomes makes own housing almost out of reach for the general public.
IV.7. The Argentine legal framework

Not being the exception to the rule of economic, political and legislative deterioration, the legal system of Argentina suffered from decades of turbulence, instability, social and labor conflicts and mainly of a huge and deep stagnancy in its natural evolution. It is characterized by the costly, ineffective and extremely slow treatment of cases, inadequate legal protection of proprietary rights and increased interventionism by part of the different governments.

Argentine laws and judicial procedures should be profoundly revised to incorporate new institutions and modern practices and to provide a stronger legal protection for the parts involved in the contract. The independence of the judicial power from both the legislative and executive (government) powers should be fostered and implemented. Deregulation of most activities to foster competition and efficiency should be fostered, in the capital markets and financial services industry case, a deep re-evaluation and redesign should be promptly initiated by both the specific regulatory authorities and the backing legal procedures.

Protection of property rights

Public and private sector economic reform is a necessary but not sufficient condition for a successful stabilization process and for sustained growth. Protection is needed against government actions that may affect property rights as well. In the past, holders of financial assets (as well as other assets) have been subject to periodic losses as a result of arbitrary government measures. Inflation and devaluations have been the traditional methods by which the government obtained transfers of real resources from the private sector. On many occasions, these transfers took the form of ad-hoc taxes, forced conversion of deposits into public debt instruments or forced conversion of dollar deposits into national currency.

Argentines have reacted to these periodic "confiscations" by transferring their savings abroad. These capital outflows have been reflected in lower levels of aggregate demand, lack of funds for investment and credit rationing. Structural reforms should contribute to reducing the fears of economic actors, but this process may take a long time. Confronted with this situation, the current economic authorities looked for ways to ensure economic actors that they would not use inflation or other discretionary measures as a means of financing the Government. The reintroduction of full currency convertibility was the method chosen to signal the government's intention to guarantee property rights.

The convertibility program became Law after Congress approved it in Marc., 1991. It establishes the obligation of the Central Bank to sell dollars in exchange for domestic currency at a fixed rate of 1:1. The scheme is similar to the gold standard and the gold exchange standard used by many countries in the past. The main difference is that the Convertibility Law mandates a 100% backing of the full monetary base. The main objective is to give confidence to holders of domestic financial assets about the stability of the unit of account. It permits them total freedom in the selection of their portfolios. In addition, it prohibits the Government from printing money without backing, which would
destroy the confidence-building potential of the plan. Given this printing prohibition, there can be no expansion of domestic credit, and an operational surplus large enough to cover the full servicing of domestic and foreign debt must be maintained.

An important aspect of this plan is that monetary authorities have exclusive control over the expansion of domestic credit (direct credit of the Central Bank to the public sector, the financial sector and the public). In addition, the size of monetary aggregates (M1 and M2) is decided only by the preferences of economic actors who choose between domestic and foreign currency-denominated assets.

The fixing of the exchange rate by Law may appear as a serious imposition of rigidity on the working of the economy and as a reduction in the degree of freedom permitted to the economic authorities. However, as with countries belonging to the European currency band, this is not the case, because changes in relative prices can be achieved through modifications of other variables not used as the unit of account of the system. The only rigidity is that the government is prevented from using inflationary taxes as a form of financing deficits. This is exactly the rigidity required to give people confidence that their property rights will be respected.

However, the eradication of inflation is not enough to protect property rights. In the past, ad hoc measures and the judicial system had also impinged upon property rights. It is important to eliminate ad hoc measures and ensure that the rights of debtors and creditors will be treated equitably. The tradition of protecting debtors at the cost of the right of creditors has been one of the causes of capital outflows. While protection of debtors, usually the weaker party, is important, it should not be achieved by weakening the rights of creditors. Creditors, looking for places to invest where their rights are protected, will generate capital outflows under such circumstances.
Part V

Action Plan and Implementation

V.1. Alternative perspectives
V.2. Preliminary considerations
V.3. Basic securitization schemes
V.4. Role of each participant
V.5. Transaction and investors' safety
V.6. Necessary conditions for the implementation of a securitization scheme
V.7. Joint efforts requirement
V.8. Implementation stages
V.9. Investor base development
V.10. Accessing the international capital markets
V.11. Diagnostic for the MBS implementation
V.1. Alternative perspectives

The starting point for the implementation of a MBS market in Argentina encompasses the perspective from where such development should be initiated. Even recognizing the many existent constituencies and parties' (mainly banks) objectives, some thought should be given to the format that such market regulation should take.

The basic functions of the financial system are essentially the same in all economies. However, for reasons that have to do with size, complexity, and available technology, as well as differences in political, cultural, and historical backgrounds, the institutional mechanisms by which these functions are performed vary considerably among countries. Therefore, a functional approach to analyzing (or shaping) the financial system and its economic performance may provide a more useful organizing perspective than an institutional approach, especially in an environment with rapid technological changes, movement toward increasingly global connections among financial markets, or risks of destabilizing economic shocks (like in Argentina). Even more, financial functions have proved to be more stable and solid over time than institutions, which tend to decay and end their lives.

Therefore and since the implementation of the MBS markets in Argentina requires a number of regulations to be passed, regulators should inevitably consider a change in the format of regulation from "institutional" to "functional" if it intends to develop a market that will transcend to Argentina's current institutions.

This change of view should be translated into designing a MBS market based solely on the function that it is intended to accomplish rather than on the benefit or individual objectives of Argentina's current institutional actors. Although, this may seem "naive" it is the trend followed by many regulatory bodies in the world, and specially by the Japanese Ministry of Finance with its reform to the Banking and Financial markets initiated in 1990. Transition periods could be arranged so that institutions could accommodate their objectives to those of the regulatory agents.

Functional regulation also reduces the opportunities for institutions to engage in "regulatory arbitrage", which wastes real resources and can undermine the intent of the regulation. Functional regulation thus promises a more level "playing field" for all providers of the product and service and thereby, reduces the opportunities for rent-seeking and regulatory capture.

The adoption of a functional approach will largely favor the future access of the MBS market for international capitals, since product standardization and financial functions in the international market tend to be more uniform that the institutions that provide them. The perceived benefits of functional regulation might seem to support widespread coordination and standardization of financial regulations across national borders. This is undoubtedly a perceived trend, and one that emerging countries like Argentina "need" to follow if they wish to accommodate to and therefore integrate the leading economies financial markets.
V.2. Preliminary considerations

An implementation of a securitization scheme in Argentina requires a prior review of several components of the nature of these structured securities.

First, an assessment of the relative importance and credit quality of both the underlying mortgages and of the related parties in the transaction, including the credit and liquidity support providers, the servicer, interest rate or currency swap counterparts, and the investment held in the trust or special purpose vehicle (SPV).

Second, will the cash flow of the assets, supplemented by credit and liquidity supports, meet the terms of the securities and any necessary transaction related expenses.

And third, is the transaction structured in a manner which in all circumstances provides the debt holders with a legally valid right to the assets and the timely payment of the cash flows they generate.

These can be broadly classified into credit, cash flow, and legal risk components, each of which is central to the determination of creditworthiness and hence value of the whole operation.

1. Credit risk component.
   The creditworthiness of structured securities and transactions is based primarily on the quality of the assets securitized, the quality and amount of credit and liquidity support, the credit of the seller, the credit and quality of the servicer of the loans, the credit of parties that provide protection from currency and interest rate risks, and finally, the quality of an reinvestment rate on the temporary investments held by the trust (SPV) that would latter be redistributed to investors (monthly accruals).

2. Cash flow risk component.
   It basically reflect the ability of the cash flows generated by the underlying mortgages to meet the interest and principal payments to be made to investors. It is closely related to the trust management's ability to reinvest accrued receipts until the time they are passed onto investors, control and monitor prepayments, defaults and keep safety provisions for unexpected cash flow problems.

3. Legal risk component.
   This component has basically to do with the institutional aspects of the SPV, its independence from its holding institution, the necessary requirements for third party control, as well as with the legal figure of the operation that would allow the transference of the ownership of the mortgages to investors. The whole idea behind the securitization is to create securities whose creditworthiness is largely independent from the seller of the assets. This separation that allows rating agencies to focus solely on the underlying mortgages and not on the transaction parties, is achieved by effectively reducing risks related to a seller's bankruptcy.

For these reasons, the Argentine regulation that considers the creation of the credit mutual funds as the SPVs for the securitization should specifically determine the independence of the SPV from its holding institution in the event of bankruptcy proceedings (of the holding).
V.3. Basic securitization schemes

The author's intention in this section has been to describe several alternative structures and schemes that are applicable at the moment of determining a practical proposal for a securitization scheme. Consequently, the section starts describing a basic simplest format or "plain vanilla" scheme followed by some alternatives and variations on the basic components of the transaction.

Simplest pooling scheme:
The following diagram provides the reader with a quick idea of the traditional "plain vanilla" structuring of a securitization transaction.

![Diagram of securitization process]

The main advantage of investing in a pool of mortgages over investing directly in a single underlying mortgage can be viewed as:

<table>
<thead>
<tr>
<th>Aspects</th>
<th>Investing directly in a mortgage</th>
<th>Investment in a pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td>One mortgage</td>
<td>Multiple types of mortgages</td>
</tr>
<tr>
<td>Collateral</td>
<td>Real estate assets</td>
<td>A credit pool</td>
</tr>
<tr>
<td>Risks nature</td>
<td>Concentrated</td>
<td>Diversified</td>
</tr>
<tr>
<td></td>
<td>Difficult to measure</td>
<td>Easily measured</td>
</tr>
<tr>
<td>Secondary market</td>
<td>Limited</td>
<td>Broad</td>
</tr>
<tr>
<td>Liquidity</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

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Alternatives and variations over the simple format:
There are a number of alternative schemes that could be considered as candidates when
developing a securitization business proposal. Among the many variations that one could
readily find, the most important decisions are based on the following factors:

1. Identity of the issuer:
   - Originating bank - credit exposure
   - Closed credit fund (SPV)
2. Transaction structuring:
   - Domestic
   - Off-shore
3. Credit enhancement mechanism:
   - Third party
   - Internal credit enhancement
   - No credit support

Therefore, we continue by analyzing some of the alternatives to the basic scheme by
exploring the different variations on the key components.

1. Issuing agency
There has been numerous types of structure design relative to who issues the final
instruments to the market. Many times it is the same institution (lending bank) that issues
the securities to the market becoming intermediary and liable for the payment of the
instruments cash-flows. It can be made through a trustee which receives the assets and
issues the certificates to the public. Additionally, it can also be structure via the creation of
subsidiary firms that act as bridge for the refinancing, which receive the assets and issue
the securities.
As we have seen from previous chapters, given the recently passed regulation (Resolution
237/93 and others) as well as the bank's motivation to do off-balance sheet transactions,
we should expect the use of special purpose vehicles to be the most commonly used
structuring.
Notwithstanding, this does nor preclude the originating bank to provide some kind of
credit enhancement to the issue by either a letter of credit, sinking fund or
overcollateralization mechanisms.

2. Transaction structuring
Given the current lack of experience an complete regulatory treatment necessary to
perform whole domestic issues like the one described in the simplest securitization
scheme, we could expect to see some of the first issues to be structured in and off-shore
type of scheme. As described below, this type of transaction avoids dealing with Argentine
regulations and legislative framework since the SPV is established abroad, the securities
are listed in an international exchange, and the applicable legislation depends on the
market where the securities are to be placed and can be chosen by the issuer.
Sample off-shore transaction:
Given the lack of a full legal and regulatory framework, we should expect many of the first securitization transactions to be off-shore structured in contrast to an on-shore (fully domestic) one. The advantages of an off-shore scheme over a purely domestic are the avoidance of sovereign risk premiums, faster execution, as well as the possibility to act according to foreign rules and laws.

The following diagram describes the basic format that an off-shore scheme would take for a mortgage securitization proposal:

![Diagram](attachment:image.png)

This diagram represents a sample of an off-shore type of structuring, where the originating institution forms an off-shore trust (Cayman) where it then transfers the loans to be latter securitized and offered to the foreign market. Special international securities regulations and laws needs to be taken into consideration at the moment of deciding whether an off-shore alternative is more convenient.

3. Credit enhancement mechanisms
Finally, among the most important components of the securitization scheme that needs to be decided upon when defining the issue's structuring, credit enhancement mechanisms is of essential importance. For these reasons, the author has given special importance to this section.

There are a number of different ways to obtain the credit enhancement required for a successful mortgage loan securitization. Usually, we can distinguish two different types of mechanisms:

a. Internal credit enhancement provided by the pooler when structuring the transaction. These usually take the form of pool restructurizations (elimination of undesirable loans, unwanted concentrations, and loss probability reduction by setting pre-determined standards), setting reserves or recourse mechanisms against the originator of the

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mortgages (whereby the originators absorb some losses before any third party credit enhancer becomes affected), and finally, by setting termination triggers (which prevent the SPV from doing more business with an originator if its default rates falls below a certain level). This internal credit enhancement usually acts as both a preventive measure and a first cushion for SPVs to avoid cash flow problems.

An alternative structure that is being used more frequently, is for the whole transaction to be structured with a layer of subordinated debt (mezzanine structuring) effectively replacing the bank or insurer. Investors in this subordinated bond will only be repaid after the investors in the senior bonds are fully repaid, in return for which they obtain more attractive yields. This structure is being increasingly used by mortgage security private issuers, as well as by other asset-backed security structures as auto-receivables.

In addition to subordinated structures, other credit enhancement techniques as overcollateralization, replenishment features, additional guarantees and credit facilities are being increasingly issued in structured financing.

b. Third party credit enhancement. After the internal enhancement mechanism are set, usually third party credit enhancement is obtained. It can be obtained for a specific portion of the total mortgage value (partial insurance) or for the full value. Such credit enhancement is usually provided by a federal program, private insurance companies or other banks.

Banks usually provide this enhancement by an irrevocable letter of credit to the transaction. When called upon, the banks usually obtains rights over all future cash flows in the transaction which would otherwise have returned to the originator.

Alternatively, credit enhancement can be provided by an insurance company issuing a performance guarantee, whereby it agrees to deliver cash in lieu of defaulted receivables. Unlike credit enhancement provided by a bank, an insurance company will typically only acquire rights over any future cash flows arising from the defaulted loans alone.

The following chart depicts the whole credit enhancement scheme as described above, including both internal and third party enhancement as well as the interaction between them.

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In general, credit enhancement facilitates the transfer of assets by reallocating a portion of the asset's credit risk to a third party or enhancement vehicle. The enhancement is usually the second layer of loss coverage, with the mortgage loans excess yield or a cash reserve/discount being the first layer. Thus the creditworthiness of the enhancer vehicle or institution becomes the focal point of attention for investors.

**More on third party insurance**

This section analyses the role that third party insurance plays in reducing the credit risk of the operation, and in particular, intends to bring some insight about the possibility of initiating a government sponsored insurance program. To do so, we have focused specifically on the possibility of implementing an US-like program (FNMA, GNMA or FLMA) or to a more comparative scale, the National Mortgage Market Corporation (NMMC) similar to the Australian model.

**The Australian experience:**

The securitization market in Australia has operated to a limited degree on varied bases for a number of years but it began to gather increasing momentum around the middle of 1986. One of the main reasons for this boost was the establishment of corporations as the Australian Government owned and guaranteed Housing Loans Insurance (HLIC), the NMMC (National Mortgage Market Corporation) sponsored by the Government of Victoria, the First Australian Mortgage Acceptance Corporation (FANMAC) sponsored by the Government of New South Wales, the MGICA Securities Ltd. sponsored by Australia's largest insurance company, and the SECPAC (Security Pacific Securities Australia Limited) sponsored by private Security Pacific Australia Limited.

The Australian property market had been stable previous to 1986, and confidence was running high. This positive environment fueled by the availability of funding at competitive rates, provided a nucleus for establishing the market. The major financial institutions were initially reluctant to involve themselves in securitization other than as issuers or potential issuers of MBS. But after an important market and industry slump in 1990, the larger financial institutions as well as the big players in the private insurance sector started to venture onto more varied roles within the securitization operation, in particular, insurance provision.

Given HLIC's triple-A rating for being a Government guaranteed institution, it became the chosen pool insurer for the other programs like NMMC and FANMAC which were state-sponsored. To compete with HLIC, MGICA initiated the private insurance front with a double-A rating, and changed its name to Australian Mortgage Securities Ltd. (AMS).

Both private and government insurers provided the springboard towards the industry development. Their enhancements included both pool and primary mortgage insurance, cash flow insurance (guaranteeing timely payments to investors) and early repayment damages insurance.

A majority of issues to date in Australia have been respect to three-to-five-year fixed interest loans. With some exceptions, they have been bullet mortgages with no provisions for early repayment of principal, except at a premium. The break funding costs ("early repayment damages") has been set at an amount sufficient to cover any shortfalls between
the reinvestment interest on prepaid loan funds and the coupon rate on the bond to the end of its life.
Early repayment damages were calculated by insurers based on a record number of distress sales brought about by the recession of 1990, low property prices, and a large fall in interest rates.

**Design of a similar model for Argentina:**
So far, the government by itself has denied the provision of a similar insurance scheme in Argentina, although this debate has not yet being discussed in deep.
On the other hand, both rating agencies and large life insurance companies are aligning their forces to the event that the MBS market develops, in order to be the first ones to provide credit, prepayment, and cash flow insurance. However, as we have determined earlier, it will take several years before the insurance industry will be prepared to provide credit support to these types of transactions.
Therefore, as we can note in the current projects that are under study by Argentine banks and other financial institutions, the two mechanisms that will be most commonly used for the first transactions will be either:
- Junior/Senior structures
- Credit enhancement provided by bank's through credit agreement contracts
- Escrow accounts
- Over-collateralization and replenishment

Most probably, the initial issues to be seen will provide a combination of these while a more definite credit enhancement mechanism is available.

**Summary of alternative structures:**
We have analyzed several alternatives regarding identity of the issuer, transaction structuring and credit enhancement. There are however a number of additional ways in which a securitization scheme could be varied according to among others things:

a. Type of securities to be issued.
   - CMOs
   - Plain shares or participations
   - Pass-through securities
   - Stripped securities
   - Hedging mechanisms

b. Identity of the managing and depository institutions.
   - Third party
   - Same as originating institution

c. Placement and offering formats
   - Fully domestic
   - Fully international, or a combination of the two.
V.4. Role of each participant:

Having described several alternative securitization transaction structures, we analyze in this section the roles of each particular party involved according to common practice and existent regulations. Each party's role highly depends on the transaction structure selected, but in general terms can be characterized as follows.

We distinguish in the transaction the following key participants:

1. Originating institution
The originating institution given its nature of promoter of the transaction (commercial banks or Banco Hipotecario Nacional) performs a number of different roles during the whole transaction. These are mainly control and together with the investment banks designer of the whole securitization transaction.

Originally the originator is responsible for producing or purchasing a mass of mortgages that would latter be transformed into a securitizable pool of mortgage contracts. During these stage, the originator is responsible for the selection and preliminary evaluation of the terms of the contracts, having special care for selecting mortgages that conform with the standards pre-established for the issuance.

At a second stage, the originator is responsible for the presentation to authorities of all documentation and evaluations of the mortgages as well as for the selection of the two rating agencies, managing and depository institutions, and the creation according to Argentine law of the special purpose vehicle.

Finally, and once the authorization from the Central Bank and the CNV are obtained, the originator will transfer the pool of mortgages to the Closed Credit Fund (or other SPV) in exchange for the future proceeds from the securities placement. In case that an underwritting agreement with the financial advisors is applicable, the proceeds could be anticipated to the originator by the investment bank.

2. Regulatory authorities
In Argentina's case, these constitutes mainly the Central Bank and the CNV which make sure that all legislation and regulation are being followed by both the originator as well as other involved parties as the financial advisors, credit rating agencies, insurance companies, and managing and depository institutions.

The authorities' role go beyond the initial structuring and placement, and extend to the control of the secondary market, termination of the fund once the issue matures, as well as the timely payment to investors of principal and interests.

In addition to the two authorities described above, the transaction is also subject to Argentina's legal body, fiscal and tax treatment as well as bankruptcy proceedings.

In the case of international offerings, several different regulatory authorities (like the SEC in a US offering) will exercise control over the issue and subsequent secondary market activities. For global or euro-offerings, different considerations apply, as described later in the section "Accessing the international capital markets".
3. Special purpose vehicle

The basic role of the SPV, that in Argentina's case would be represented by the Closed Credit Funds (CCF) can be easily understood by the following chart.

![Diagram of Closed Credit Fund]

To understand the key role that these CCFs (closed credit funds) will have in a securitization scheme, it is important to determine their most important characteristics as:

<table>
<thead>
<tr>
<th>Item</th>
<th>Considerations</th>
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</thead>
<tbody>
<tr>
<td>CCF's Assets</td>
<td>- closed ended fund with expected liquidity and public offering</td>
</tr>
<tr>
<td></td>
<td>- homogeneous assets/mortgage loans</td>
</tr>
<tr>
<td></td>
<td>- with or without third party guarantee</td>
</tr>
<tr>
<td></td>
<td>- originated and transferred by other financial institutions</td>
</tr>
<tr>
<td></td>
<td>- integrally affected to the payment of principal and interest</td>
</tr>
<tr>
<td></td>
<td>- Any guarantees will be registered with pertinent authorities</td>
</tr>
<tr>
<td></td>
<td>* in the depositors name</td>
</tr>
<tr>
<td></td>
<td>* in the funds name</td>
</tr>
<tr>
<td>CCF's ownership shares</td>
<td>- give right to a share of the cash flows from the underlying loans</td>
</tr>
<tr>
<td></td>
<td>- various types of securities are allowed to be issued, including;</td>
</tr>
<tr>
<td></td>
<td>* fix and variable rate</td>
</tr>
<tr>
<td></td>
<td>* with or without guarantee</td>
</tr>
<tr>
<td></td>
<td>* different maturities</td>
</tr>
<tr>
<td></td>
<td>* various financial structures allowed, CMO's, Mezzanine, etc.</td>
</tr>
<tr>
<td>Investor's safety</td>
<td>- CCFs have shared property of the assets, however, it cannot be leveraged</td>
</tr>
<tr>
<td></td>
<td>- the depository institution is in charge of;</td>
</tr>
<tr>
<td></td>
<td>* maintaining the physical securities and keep ownership records</td>
</tr>
<tr>
<td></td>
<td>* collects the integration proceeds</td>
</tr>
<tr>
<td></td>
<td>* makes principal and interest payments to investors</td>
</tr>
<tr>
<td></td>
<td>- the managing institution administers and decides on key issues</td>
</tr>
<tr>
<td></td>
<td>- the securitized loans are legally bounded to the payment to investors</td>
</tr>
<tr>
<td></td>
<td>- the portfolio of loans will be rated by 2 independent agencies</td>
</tr>
</tbody>
</table>

4. Management firm (Sociedad Gestora)

In general, during the process of determining and structuring a securitization transaction, the recently passed Resolution 237/93 establishes that a management firm (manager) must be appointed.
This role can be either performed by a subsidiary of the issuer (mortgage pool owner or originator), or a complete third party.

We can summarize the manager's role as:

- Direction and management of the fund and its assets.
- Exercise the collective representation of the investors (shareholders).
- Provide the CNV, exchanges and other authorities the required periodic reports on collections from mortgage debtors and payments of interests and principal to investors, as well as any problems that could arise.
- Could administer several funds, with the exception of maintaining them separate and independent of each other.

5. **Depository institution (Sociedad Depositaria)**

Among the key functions of the depository institutions, they encompass:

- Provide the transference of the assets (loans) that constitute the funds.
- Provide custody on the basis of a trustee agreement ("dominio fiduciario") according to Argentine Law, of all documentation representative of the ownership of the mortgage loans.
- Collect the integration funds when the securities are placed among final investors.
- Make principal and interest payments to investors, and inform the managing firm.
- Keep records of securities' (shares) ownership among investors.
- Issue any documentation required by investors regarding their holdings.
- Prepare and sign the subscription contracts and documentation.
- Exercise control over the managing firm regarding the fulfillment of all regulations imposed by the CNV and other authorities.

6. **Rating agencies**

The recently passed Resolution 237/93 of the CNV dictates that at least two independent and qualified (authorized to operate by the CNV) rating agencies must provide an evaluation and risk analysis of the securitization proposal. This evaluation should not only analyze the mortgage pools characteristics (terms of the contracts), but also provide an assessment of the soundness and credit risk of the issue structure.

Also, in a periodic basis, the managing firm should ask these two rating agencies for evaluations as to the evolution of the fund's solvency, regularity of payments, as well as the manager's and the depositors performance.

The goal of the CNV in establishing this rating requisite was to provide the MBSs market with the benefits given by these agencies:

- Save investor's time, effort and money in analyzing the securities.
- Allow the optimization of the investment portfolio's return.
- Facilitate the development of the capital market according to standard terms and conditions.
- Provide transparency to the market with equal information access to all players.
- Provide at a reduced cost, large quantities of valuable information for investor's, issuers and regulatory authorities.
V.5. Transaction and investor's safety

The recently passed regulation by the CNV allowing the creation of Closed Credit Funds by commercial banks or other financial institutions, provides the figure of a special purpose vehicle (SPV) required for the implementation of a mortgage securitization scheme. There are four major sources of risks to which the SPVs are exposed to:

1. **Credit risk** relating to the performance of the underlying mortgage loans, which might cause the SPV to experience cash shortfalls.
   The primary function of the securitizer is to protect the SPV, the investors, and the credit enhancement and liquidity providers against losses arising from credit risk. A thorough analysis of the mortgage loan portfolio is usually the first step in this direction, and it is usually based on historical performances and ratios for similar portfolios of loans. The adequate provisions for default, prepayment and liquidity should be made. The usual steps taken in this respect by the securitizer involve:
   a- restructuring the pool of receivables to obtain a Securitizable portfolio (by eliminating undesirable loans, unwanted concentrations of one type of loan, and reducing the loss probability to certain predetermined standards);
   b- setting levels of reserves and recourse to the originator to absorb a certain level of losses (usually this recourses obliges originators to absorb some level of losses before any third party credit enhancer becomes affected, by establishing a first loss deductible or spread account with a cash deposit or an over-collateralization);
   c- setting triggers which will eliminate further asset substitutions if the portfolio performance should deteriorate (this prevents the SPV from purchasing additional loans from the originator if the originator's overall portfolio default rates exceeds a certain level); and
   d- determining the appropriate level of external credit enhancement to give the transaction the required credit rating (that will cover losses in the event that the internal reserve or recourse provisions do not cover for the losses). Both partial (a 10-15% of the principal value of the assets) or a complete (for 100% of the assets) are usually available for structuring mortgage securitization, and are provided by either federal programs, private insurers, or other banks.

2. **Structuring risks** which include the effectiveness of legal transfer of the title of the assets, the fiscal neutrality of the transaction, and the satisfaction of the requirements of the regulatory authorities.

3. **Operational risks** of weaknesses in the operation of the SPV, which might increase costs or incur losses. Since it is expected that a large number of SPVs remain dependent in many ways to the Argentine institutions that created them, it is important to pay specific consideration to the exposure of the SPV to the economic condition and operational procedures of the related institution.
   In particular, not only the general financial position of the holding company matters, but also special consideration and control should be made to management systems and controls. If the SPV is managed by the holding institution, controls should be made periodically by both internal and external audits.
4. Financial risks deriving from unexpected cash-flows, such as pre-payments, delinquencies and interest and currency mismatches. In addition to the above risks, SPV management should deal with pool servicing:
   a- liquidity risks or shortage of funds to pay investors (usually dealt with by obtaining lines of funds from banks),
   b- pre-payment risks that may unbalance the sources and uses of cash from the SPV (usually dealt with by purchasing additional loans or securities with same characteristics),
   c- interest rate risks, that may cause SPVs a mismatch between the bases on which interest accrues on the assets and on the associated funding,
   d- foreign exchange risks which become specially important if Argentine MBS are placed in the international markets (many mechanisms provide shelter for this exposure),
   e- cash reinvestment risks, to which any surplus of funds retained by the SPV may be exposed, for example if the mortgages accrue on a monthly basis, and the interest on the securities are paid on a semiannual basis.

Legal, fiscal and regulatory issues affecting the SPVs:
The designed structure for the mortgage securitization needs to meet legal, fiscal and regulatory guidelines set forth by the Argentinean government and authorities. We can distinguish each components implications for the SPV as follows:

- **Legal.** The SPV and its management need to make sure that the following legal issues are addressed;
  - the transaction must reflect a true sale according to Argentine law,
  - the SPV must be in solid economic condition and remote from bankruptcy,
  - the ownership transference must be perfected to avoid cash collection problems,
  - any commingling of funds between the SPV and the originator must be minimized,
  - the underlying mortgages will be free of any pledge by the originator or its creditors.

- **Taxation.** In order to maintain the levels of return required, any possible tax incidence must be kept to a minimum during all the stages of the transaction. The structure must be designed to avoid the impact on the SPV of any of the following taxes:
  - corporate tax (on any profits of the SPV),
  - withholding taxes (on any cash flows to or from the SPV),
  - capital gains taxes (on any gain or losses on asset realizations by the SPV),
  - taxes on value added (on asset transfer or servicing), and
  - stamp or transfer duties on asset transfer (recently avoided in Argentina).

- **Regulatory.** Any proposed structure must comply with the following;
  - Argentine general property laws.
  - Regulations by the CNV.
  - Regulations by the Argentine Central Bank.
  - International securities legislation, if applicable.
V.6. Necessary conditions for the implementation of the securitization scheme

This section deals in detail with additional legal, regulatory and accounting issues which are relevant to the securitization scheme proposed.

Asset-backed financing is a new concept for Argentine financial institutions, that is being rapidly explored by both originators and financial intermediaries. So far there has been a series of attempts to securitize from air transportation to credit card receivables with mixed results. The basic impediment is the lack of an experienced and clear market to absorb these instruments as well as the low standardization of the developed instruments. The proposed scheme intends to provide some insight into the development of a market for mortgage securities based on common terms and product characteristics.

1. Backing regulation

During the last three years, a number of regulations were passed by both the Ministry of Economics and the CNV intended to shape Argentina's capital markets to the world's leading capital markets models (mainly the US).

Following the Convertibility Law principles, both peso and foreign currency denominated securities can be issued. However, special consent from the CNV is still required by Argentine entities to place new issues in either the local or international markets.

Among the relevant regulations for these study, the Law for Public Debt Securities ("Ley de Obligaciones Negociables"), Regulations allowing Credit Rating Agencies to operate, Insider Trading and Prosecution regulations were passed, as well as the mentioned 237/93. On August 26, 1993, the CNV approved a new regulation (Resolución General 237/93) that creates Credit Mutual Funds for asset securitization. This special mutual fund is designed to hold assets originated by banks and other financial institutions and issue shares of fixed-income certificates which are channeled directly to investors within the capital market. The goal of the securitization process is to lower the cost of funds and increase availability.

The same regulation allows the creation of negotiable obligations (securities) backed by credits (with or without real guarantee), mortgages, and other assets providing a steady flow of funds that would be channeled to investors in the securities. The designated "mortgage contract" (pagarés hipotecarios) require the effective transmission of the mortgages to the credit funds, which will issue shares of ownership accordingly, transferring the actual property of the mortgage loans to the investors. The credit funds will charge management commissions, as well as transfer and paying fees if corresponds.

This mortgage-backed contract will function both as the legal figure for the mortgage issuance(binding contract) and as marketable instrument since it has attributes to be traded publicly in the capital markets. The simple endorsement of the contract will be required for the effective transference of the ownership rights from the bank to the credit funds, and to the investors eventually.

The recently passed resolution 237/93 of the CNV intended to provide the basic grounds by allowing the creation of SPVs as Credit Mutual Funds as well as the transference of mortgage loans to be latter securitized.
It aims to promote and liberalize the secondary mortgage market by broadening the range of potential issuers and clearing the way for the removal of mortgage loans from the balance sheets of the originators through this special SPV mechanism. These SPVs are given the form of insolvency remote institutions, independent from its holding company, and to be managed by a management company (Gestora).

2. The assets
   - Types and transferability of assets/receivables
     According to the recently passed regulations, there are no "general" constraints on the removal of assets and debts from a balance sheet. The principle under Argentine Law, is that assets can be assigned absolutely, although this must be done on an arm's length basis. It is, therefore, acceptable to remove any asset/mortgage loan from the balance sheet of the originator and replace it with the cash consideration received from the SPV for the assignment.
     There appear to be no particular rules which must be observed to obtain off-balance sheet treatment provided that there is a genuine sale.
     Under the Argentine law, and specifically dictated by the new Resolution 273/93, the benefit of a mortgage contract can be re-assigned (transferred) without the assignor obtaining the consent of the other contracting party (the borrower). Furthermore, there is not even any requirement in the case of such as assignment to notify the other party that the transfer has taken place. However, failure to notify means that payment by the debtor to the assignor will discharge his obligations.
     However, even though it is possible to assign the benefit of the contract without consent, if the assets to which the mortgage refers are subject to some security to which needs registration, notification to the borrower will be necessary. For such a right to be transferred the relevant register would have to be changed to show the new assignee.

   - Real transfer of property
     In order to obtain the desired objectives, it is necessary that the Mortgages (loans) be really and effectively transferred from the banks to the trustee. In effect, it is required that the transference include both the principal contract (loan contract) and its accessory (the actual mortgage contract).
     According to the Argentine laws, it is necessary that in order to be able to transfer these rights, it is necessary to notify the debtors about such transmission. This poses a restriction that could be saved by: Either a notification by the Originating Bank to all debtors about the transference, in which case there could be substantial administrative costs, or a more attractive alternative would be to design either a contract or a law exempting the banks from such notification, and that could eventually allow the free transference of these contracts.

   - Registration of the Mortgage Contracts
     According to the existing Laws, the transference of the rights on a mortgage has the same formalities and restrictions than its origination. It has to be done with a public notary and be registered with the respective authorities in order to have legal effect. Given the local nature of many regulations regarding contract transferring, and given that special laws are
over the general ones, any modification to the regulations would have to be done at the National level in order to be effective in all jurisdictions.

It is otherwise possible to circumvent these restrictions through two possible alternatives: 

a. The Originating Bank transfers the credit and the mortgage contracts to the trustee, without actually registering the transfer with the authorities, so that for third parties, the beneficiary of the mortgage would still be the originating bank. The originating bank would simultaneously sign a mandate contract with the trustee, determining that the rights on the mortgage are in the originators' name, but acting in representation of the trustee with all the implications that this means.

b. That the originating bank transfer the credit contract (loan) to the trustee, but not the mortgage contract, including in the transfer contract a clause by which those credits that need to be judicially executed be reverted to the originating bank. Both these alternatives allow the effective transference of the portfolio from the bank to the trustee.

3. Basic structural considerations

Legal Aspects

Argentine law 19.550 which covers all societary legal aspects recognizes the figure of a trust under the title of "Sociedad en Fideicomiso", so the new Resolution 237/93 builds on this premise to allow mortgage originators to establish so called "Credit Mutual Funds" (Fondos Comunes Cerrados de Crédito) as the vehicles for asset securitization.

The new regulation determines that since these trust institutions will only be close-ended, a new Fund must be created for each issue. Consequently, the Fund's assets must have the same maturity as the bonds it issues. Substitution of assets is only permitted if expressly contemplated by the issuing documentation but is limited to recourse, prepayment and other cash flow problem provisions.

The Funds will be administered by a management company (Sociedad Gerente), which requires special approval by the Ministry of Economics and the CNV for its creation and operation. Minimum capital requirements as well as required control and administration mechanism will be carefully controlled by the CNV previous to the authorization.

Securitizable mortgages

The Resolution 237/93 does not specify the characteristics of the mortgages that could qualify for transference and securitization. However, it is expected that the CNV will pass complementary regulation that could eventually restrict the qualifying loans to:

- loans granted for purchase of land or constructed property;
- loans granted for the purchase of land which has been built on;
- loans granted for the construction of building on the relevant land; and/or
- loans granted for the improvement of buildings on the relevant land.

In addition, only first mortgages would be allowed, which would have to relate to the whole property (land and building) and must not be subject to any charge or any other encumbrance.
And additional characteristic of the to be issued securities, is that they are not subject to the cost (notarial fees, stamp duty, and registration expenses) that the assignment of mortgages is.

4. **Insolvency**
In the event of insolvency of the originator, it is very important to be aware of the Argentine mechanisms regulating bankruptcy proceedings, as the outcome can depend on the discretion of the judge. An Argentine judge may determine that the originator became bankrupt at an earlier date than the official initiation of the bankruptcy proceedings (the black period). If this occurs, any transaction (whether or not for value) after the date of actual bankruptcy (as determined by the judge) will be void. Unless the assignment has been notarized, the issuer (which now finds itself a creditor of the originator) will rank relatively low among the unsecured creditors.
For this reason, a more definite regulation and legal framework should be established by the authorities as to avoid and reduce the courts discretionary retroactive powers relative to the mortgage loan transfer, effects of recourse legislation and trustee relationships.

5. **Security**
Under Argentine law, assets can be charged and security interests created without any special considerations. A limited number of security interests and charges are regulated by Argentine law, which draws a distinction between moveable assets ("bienes muebles") and real property ("bienes inmuebles").
In the case of movable assets, the possible charges are the "Prenda" (a pledge which requires possession of the relevant asset or document representing it); an "hipoteca mobiliaria" (where transfer of possession is not required but registration is) and a limited number of "Prendas sin desplazamiento" (pledges which do not require transfer of the relevant assets or document representing it).
In the case of real property the basic form to express security interest is the "hipoteca" (mortgage) which is perceived as a guarantee (secured on immovable property) of the performance of an obligation, which must be monetary in nature or capable of quantification in monetary terms.

6. **Tax considerations**

a. **Withholding tax.**
The general rule under Argentine law (Obligaciones Negociables) is that any interest payment or capital gain, where the payment is made by one Argentine resident to another, gives rise to an obligation on the part of the payer to withhold a percentage (normally 12%). A major exception to this arises when the payments are made to a financial institution registered with the Banking authorities. The exception therefore applies to institutional mortgage lenders. Consequently, payments made by mortgage borrowers in respect of their loans will be free from withholding taxes. However, payments from the originator/mortgage lender to the issuing company (SPV) are subject to withholding tax where the issuing vehicle is an Argentine vehicle and is not itself a registered financial entity.
Special withholding tax regulations will apply when the issuing vehicle is based outside of Argentina, and subject to the terms of the relevant tax treaty between Argentina and the country in question. Currently, no withholding taxes are retained when the international offering is made via Cayman Island regulation, the most commonly used base today.

b. *Stamp duty and transfer tax*
Both stamp duty and transfer taxes are payable in Argentina and their applicability strongly depends on the type of security and the nature of both the issuing vehicle and the investors.

c. *Other taxes*
The applicability of other taxes to the transaction depends on a number of factors as; the transaction structuring, type of offering and identity of the investors. The appropriate considerations should be made in each case to assure investors and attractive after tax return as well as avoid double taxation situations. In general, the particular tax treatment for these kind of securities has not been determined, therefore we should consider the tax treatment provided to generic debt obligations under Argentine laws.

7. **Main market and financial problems**
In addition to the legal problems described previously, there are a number of additional problems which need to be solved or at least considered.
- **Bad loans.** When the originating bank transfers the portfolio of "good" mortgage contracts to the trustee, there would be a number of "bad" contracts remaining in the banks books which could eventually result in increased restrictions by the banking authorities with respect to the originators capitalization.
- **Capitalization.** A second problem arises with respect to the level of capitalization required for the portfolio that is being transferred, once this is partially guaranteed or subordinated.
- **Conflicts of interest.** In general, authorities are reluctant to the originating bank being at the same time the transfer, paying and fiscal agent for the securities and backing mortgage contracts. It should be taken into consideration that the originating banks are the ones with more information, knowledge and experience in their portfolios and clients. There are no Argentine institutions that specifically provide these services. Originating banks will be reluctant to provide other banks with access to their portfolio and client databases. It is possible to establish the necessary controls (sort of chinese wall) that would protect both sides.
- **Secondary market.** Authorities might be worried on the eventual secondary market and liquidity that these instruments might have.
- **Rating agencies.** Existing rating agencies in Argentina have no experience in this kind of operations, and could result in some complications and eventual default problems.
- **Banking Secrecy.** One of the problems posed by the securitization of contracts is the eventual violation to the banking secrecy that could happen during the transference of the loan and mortgage contracts to third parties. To solve these problem, a special authorization by the banking authorities should be obtained for these type of transactions as well as a steady flow of information should be created.
V.7. Joint efforts requirement

The securitization of mortgage portfolios is gaining increasing interest inside the financial community. The objective looked for is the prompt realization of the portfolio of mortgages, the generation of new funds and the improvement of the capitalization index of many of financial institutions.

A successful implementation of Mortgage Backed Securities in Argentina would require the conjunction of the efforts of a number of economic actors:

- The Argentine Government.
- The capital markets regulatory authorities - CNV.
- The legislative power, represented by the Congress.
- The group of banks interested in unloading the loans from their balance sheets.
- The financial community as a whole, in particular the new institutional investors.

Ideally, each group should provide human resources for the formation of a commission with the objective of analyzing the actual feasibility and the implementation process.

As we have seen from the previous sections, much of what needs to be developed in order to allow these kind of transactions has already been treated. However, there are a number of unresolved issues that are still pending like:

- A broader legal treatment of the securitization mechanism, in particular its effects over property and property transfer legislation, bankruptcy laws and investor protection mechanisms.
- A clearer definition and instrumentation of the trustee figure (fondo en fideicomiso) as well as the regulations that determines its functions, obligations and rights.
- More detailed regulation regarding the mortgage-backed securities secondary trading operatory, as well as special emphasis on the possibility for MBS's derivative products.
- Precise fiscal and tax treatment for the securities according to the investors' nature and nationality.

These are just some of the key pending points where more definition is needed and that are being currently analyzed by the involved parties. Notwithstanding, there are several attempts under way to structure securitization transactions, although these are more oriented to the securitization on an off-shore basis and with private placement, of car and transportation receivables.
V.8. Implementation stages

Design of a basic scheme
The propose scheme follows that common to the US and other international markets where: A bank or other authorized institutions in direct contact with borrowers originates mortgage loans. It then sells the loans to an investment bank or an affiliate of the banks (credit trusts) that pools and structures them, often together with loans made by other banks, into a security.

To make the security more acceptable to investors, another firm (an insurance company, the same originator, the Banco Hipotecario Nacional or the Government itself through a federal agency) guarantees the security against credit losses.

The security is then sold to investors such as individuals, the recently created pension funds, other banks, and in the international capital markets. The originator or other institution services the loans for a fee, passing payments to the pooler who distributes the funds to investors.

The basic participants in these scheme include among others:

- **Originating bank.** Commercial banks that currently have mortgages in their portfolios.
- **Trustee or issuer.** The credit institution distinct from the originating bank, that receive the loans on a trustee basis, and places the securities among investors.
- **Placing agent.** Would be the brokerage or investment banks that would structure the operation, underwrite it and place the securities in the market.
- **Regulatory authorities.** In Argentina's case, it would consist of the Comisión Nacional de Valores, and a banking authority that would oversee the operation of the market, and could eventually provide guarantee.
- **Rating agencies.** Would be the institutions (two) that qualify for risk assessment of both the issuers (trustee) and the issue's credit risk.
- **Investors.** Would be the public or institutions who acquires the securities.

In addition to these, there could be the need for different institutions that could eventually provide risk coverage (insurance), and/or fiscal, transfer and paying agents responsible for the management of the portfolios and respective issues.

**Transaction flow**
The activities that would be included in a typical securitization transaction would basically consist of:

1. Obtain the authorization of the proposed transaction scheme from the Regulatory Authorities, including the fulfillment of the legal and financial requirements.
2. Once the authorization is obtained, the Originating Bank would have to select, package, standardize and bundle the portfolio of mortgages to securitize.
3. Simultaneously, the Originating Bank would have to determine the characteristics of the issue pretended, and in particular the financial analysis with respect to the size, interest rates, general terms, amortization structure, as well as the eventual guarantee or coverage that would be included.
4. Once the mortgages are bundled and pooled, the Originating Bank will have to contract the service of two or more Rating Agencies which will give an assessment of both the issue and the issuer's credit rating.

5. The originating bank will submit to the authorities a valuation of the portfolio to securitize, which will be controlled and audited previous to its final authorization.

6. The Originating Bank will determine the Trustee (Closed Credit Fund) Institution that would be issuing the securities, as well as determine the terms and conditions of the Trustee (Fiduciary) contract and of the issuing prospectus according to the Resolutions 237/93 and its annex (Resolution 238/93).

7. The Originating Bank will have to prepare the contract for the provision of administrative, paying, fiscal and transfer services by itself or by a third party contracted ad-hoc.

8. The selection of a Common Representative for the holders of the securities, should be made at this time.

9. The Trustee should petition to the regulatory authorities, the formal authorization to go ahead with the issue. This petition should be presented together with all above mentioned documents.

10. Simultaneously, the Placing Agent should forward a similar petition to the Comisión Nacional de Valores, in order to get the registration of the securities as well as of the issuing parties, that would allow the subsequent public offering.

11. Once the authorization from the CNV is obtained, a petition should be forwarded to the Mercado de Valores de Buenos Aires, for the registration and listing of the securities in the public markets.

12. Once all the authorizations and registrations are obtained, the Trustee, service and representation contracts are signed by the parties involved.

13. With the subscribed contracts, the Trustee, the Common Representative and the Banking Commission proceed to register the issue with the Public Commerce Authorities (Registro Publico de Comercio).

14. Simultaneously, the Placing Agent proceeds to register and deposit the actual physical certificates with the Depository Institution (as selected by the issuer).

15. During this whole process, the Placing Agent should prepare the initial prospectus (red herring) for the issue, in order to be distributed between potential investors.

16. Once all this process is concluded, the Placing Agent proceeds to price, market and actually place the securities. The final liquidation is done.

This process contemplates only the stages necessary for a domestic offering. In case of a simultaneous or purely international offering, different stages should be considered.
V.9. Investor base development

We should expect that the early transactions in the Argentine mortgage-backed securities market be highly exploratory and characterized by a relatively illiquid secondary market. The process of opening a new market has never been an easy one, even for securities which may provide attractive investment opportunities as well as economic soundness. Therefore, we could expect the first placements of MBS in Argentina to be fatally priced in order to provide attractive yields to investors. As the market develops and more issues hit the street providing the necessary liquidity, we would expect investors to rise the learning curve as well as become more experienced in managing the risks inherent in the nature of the MBS. Given today's fairly high rates (high borrowing rates) charged by mortgage originators, we could consider that available yield is present to be passed on to the securities investors.

The same learning and market life-stages could be expected to occur from the international investor community. Although, US and European investors are more seasoned in the mortgage securities market, they will show hesitant behavior at first, until the market becomes sufficiently liquid, deep and transparent that would lure them to participate. If current worldwide interest rates stay at their lowest levels, international capitals could find in Argentina's MBS market the required level of rates of return together with a fairly secured instrument.

Initial market for Argentine MBSs:
At first, given the markets lack of liquidity and an investor base that had not been cultivated, the most logical investors for Argentina's MBS would be the same financial institutions, both loan originators and non-originators. It could be surprising to believe that the same banks which originate the MBS would be thought of as potential investors, but we believe that banks will be attracted to pursue the securitization scheme even if at first no third investors are present because: Securitization allows banks to provide liquidity potential to their loan portfolios which otherwise would be very different to un-load. At the same time, securitization allows banks to diversify their risk exposure by substituting self-originated mortgage securities with other banks securities.

As the private pension system in Argentina starts to provide the expected investment funds (US$ 2.5 Billion per year), banks would be gradually substituted by the new pension money which is, we believe, the natural investor base given its investing horizon as well as its risk profile.

An important additive that can be included in the early issues in order to attract banks to invest in the securities, could be the inclusion of a Put option in favor of the investing bank, that would allow them to convert their investment into banking asset (a mortgage loan in this case). For example, a 10 or 15 year MBS could include a 5 to 7 put option that would enhance the value for investing banks.

This initial concentration of paper could have important effects to boost demand for the securities, but should be avoided once the market gains sufficient strength. This is specially important since a high investor concentration could shift the pricing power and market influence to this reduce number of players. Such event would bring costly problems to the
markets developments as well as jeopardize its long run operation and success. Regulatory authorities should be well aware of this, and after a certain market establishment period, issues that look more like private placements instead of well scattered public placements constitutes an early sign.

Therefore, to avoid these problems early on, various sources of investment sources should be cultivated, specially individual investment, individual investment conduits as for example Mutual Funds or Investment Funds ("Fondos Comunes de Inversión"), international investor participation, as well as corporations.

**Institutional investor's presence:**

Once the first couple of issues have been placed and as other institutional investors start to get familiar with the product and markets, both Argentine and foreign institutional investors would eventually become the most active market investors given their:
- analysis capability and experience in sophisticated securities, and
- ability to assume risks posed by complex financial structures.

Their presence will provide the secondary market with the strength and stability required, as well as will be the demandants of more sophisticated and innovative products.

Among the Argentine institutional investors that we could expect to find in the future, the most important ones are:

<table>
<thead>
<tr>
<th>Institutional Investors</th>
<th>Rationale</th>
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| AFJP's                  | - Expected to provide $ 250 million/month of investment funds  
                          | - Highly sophisticated investors  
                          | - Long term investment horizon  
                          | - AFJP's regulation allows for such investments in MBSs |
| Investment Funds        | - New Law provides greater investment flexibility  
                          | - Huge growth in market capitalization is expected |
| Insurance companies     | - Currently under a de-regulation and industry re-definition  
                          | - Will eventually increase their presence in the capital markets  
                          | - Expected growth 1993-97 of 70% |
| Banking institutions    | - Own investment as well as for depositors  
                          | - Push own securitization issues  
                          | - Diversify risks in real estate portfolios |
V.10. Accessing the international capital markets

This section analyses the conditions under which Argentine MBS would be able to access the international capital markets. We focus the analysis on the US market which has proven to be the main source of investing funds for emerging markets. Also, given the development achieved by the MBS's markets in that country, we should expect US investors to be initially the most interested in buying Argentine MBSs.

Within the US market, we consider two alternative cases:
- Public listing of the Argentine MBSs in the US exchanges or NASDAQ.
- Private placements under the rule 144-A.

Finally, we explore the appeal of the so-called "Euro-market" as third alternative to placing these securities.

Access to the US market

Argentine MBS's issuers may be involved in the US market in various ways. The MBS may be bought by US investors even though the securities may be listed and quoted in a foreign currency and traded only on Argentina exchanges. If the issuer of the securities does not take any actions in or with respect to the US market, the purchase of MBS by a relatively small number of US investors will not, in and of itself, subject the issuer to US regulation.

As a general rule, a foreign issuer encounters US regulation when it takes steps to promote its securities in the US market. In this sense, a public listing of securities in a US market is usually more regulatory stringent than a private placement which avoids some of the regulation associated with a public listing or issuance.

Legal framework for a public listing.

The US securities laws are designed to protect US investors by promoting public disclosure of material facts with respect to offerings of securities and subsequent trading in such securities. The securities laws also provide for substantial regulation of the securities markets, trading practices and persons dealing in securities. In that respect, the SEC is the federally sponsored agency responsible for enforcing the federal securities laws.

Among other regulations to be considered when planning the access to the US market, Argentine issuers of MBSs should consider the following:
- The Securities Act of 1933
- The Securities Exchange Act of 1934
- The Trust Indenture Act of 1939
- The Investment Company Act of 1940
- Any specific rules imposed by each specific exchange

Given these many regulations as well as other market characteristics, traditionally, fixed-income securities from emerging markets are usually done via;
- Private placements, or
- Euro-market placements.

These two alternatives usually circumvent many of the regulations and requirements established by the described Acts, as well as provide additional market benefits.
Offering securities in the US
An Argentine issuer making an offering of securities in the US must, like US issuers, either register the securities being offered with the SEC under the Securities Act to utilize an alternative available exemption from registration. Exemptions are available for certain types of securities and for certain types of transactions.

1. Registered public offerings
In general, public offerings in the US (i.e. offerings of securities for which no exemption is available) must be registered with the SEC under the Securities Act. In addition, if the securities are to be listed on an exchange or quoted on the NASDAQ, the issuer must also register those securities under the Exchange Act.

The offering process. The process of making a public offering involves preparing and filing a registration statement with the SEC which must declare it effective before any sales can be made. After filing, but before effectiveness, offers, but not sales, can be made by means of a preliminary prospectus (red-herring) filed as part of the registration statement. After the SEC declares the registration statement effective, typically on the day of the pricing, underwriting agreements are signed and the securities are sold with settlement five days latter. A copy of the final prospectus must be then delivered to each investor, together with a confirmation of sale, prior to payment.

After the primary placement is made, periodic disclosures and reporting by the issuers are necessary and required. For these reasons, debt offerings from emerging markets are rarely listed on a public basis.

2. Exempt securities - Private placements
According to the US regulations, there are a number of securities that are exempt from the registration requirements of the Securities Act, including commercial paper and securities issued or guaranteed by banks. Agencies and branches of non-US banks can benefit from the exemption provided for bank securities under certain conditions, but not the foreign bank itself.

The most typically used exemption by foreign issuers making offerings of securities in the US is the so-called "private placement" exemption - a "transaction by an issuer not involving any public offering".

Requirements
As a general rule, the requirements for private placements by foreign and US issuers are similar in nature. A properly structured private placement is exempt from the registration requirements of the Securities Act, although rules for liability for false or misleading disclosure would still apply. For an offering to be private, the investor must purchase the securities without a view to their distribution in the US or to US persons. Typically, privately placed securities are illiquid because investors must hold the securities for certain minimum holding periods (generally, two or three years) prior to public resale. Private resales are permitted but are subject to significant restrictions. Many of these resale restrictions could be lessened by the Rule 144A.
Rule 144A Resales

Rule 144A provides a non-exclusive harbor from the registration requirements of the Securities Act for private resales to eligible institutional purchasers of privately placed securities that meet the requirements of the 144A rule. Rule 144A is not available to issuers and does not affect the initial placement of securities by issuers. Rule 144A does, however, enable securities professionals to purchase an issue of securities from an issuer for immediate resale to "qualified institutional buyers" (QIBs) who in turn will be able to resell such securities to other QIBs without further restrictions which are common in private resale transactions such as holding periods and opinions of counsel.

There are basically four general rules for a Rule 144A transaction:

- The securities must be resold only to a QIB
- The seller must take reasonable steps to ensure that the purchaser is aware that the seller may be relying on Rule 144A
- The securities must not be, when issued, of the same class as securities listed on a US exchange or quoted in NASDAQ
- Issuers not subject to the reporting requirements of the Exchange Act or exempt from reporting must agree to provide holders and prospective purchasers with certain current information about the issuer.

However, because Rule 144A transactions are exempt from SEC registration and review, issuers have more flexibility to take advantage of market opportunities (windows).

Advantages and disadvantages of private placements:

In contemplating the issuance of Argentine MBSs in the US market, there are a number of trade-offs to be considered between private placements and public listings.

- **Market penetration.** SEC registration provides deeper market penetration since offers and sales can be made to any person in the US and securities can be traded freely thereafter with no restrictions. Private placements limits offers and sales to QIBs (for 144A transactions) or to accredited investors (for standard private placements) and resales are restricted.
- **Liquidity.** Although the secondary market for Rule 144A securities among QIBs has been developing, resales are still subject to documentary transactions, and often it is difficult to establish who the security holders are given the lack of public records.
- **Offering documentation.** Registered securities often involve preparation of documentation in compliance with the SEC's extensive disclosure requirements, which is not necessary for private placements.
- **Ongoing compliance.** SEC registration entails filing periodic reports and complying with the other provisions of the Exchange Act. Private placements are exempt from these burden.
- **Transaction costs.** Accounting, legal and printing costs are usually significantly lower in the case of private placements where disclosure of information is not as stringent. In addition, listing expenses and filing fees increase the overall cost of registering and listing the securities.
3. **Global offerings**
Many Latin American issuers have entered the international capital markets by making offerings of their securities simultaneously in the US and in other parts of the world, often combining these international offerings with a local offering in their home market. These "global" offerings are generally conducted with separate underwriting groups for the local, US and international portions of the offering. From a legal perspective, the offerings must be structured to comply with the appropriate legal requirements in each jurisdiction in which the securities are offered.

In these cases, the SEC's Regulation S sets forth the circumstances under which securities may be offered and sold outside the US without compliance with the registration requirements of the Securities Act. To the extent the non-US portions of the global offerings are structured to comply with Regulation S, they will not be subject to SEC registration and will not be integrated with the US portion of the global offering. As a general matter, securities offered and sold in accordance with Regulation S can be resold in the US freely after a 40-day restricted period.

4. **The Euro-market**
The term Euro-market commonly refers to the international capital market outside the issuer's home country and the country in whose currency the issue is denominated. Euro-offerings are usually an important alternative for Latina American issuers entering the international capital markets for the first time. In addition to a broad investor base, many countries other than the US have more flexible securities laws with less restrictions on the manner in which the offering can be conducted and may require less disclosure than that required in the US.
For these reasons, the Euro-market has been the first priority arena for almost all Latin American debt issuers for the last decade.

**Legal framework**
Unlike a purely domestic issue which involves only local law in the issuer's home country, a euro-offering is by nature a cross-border transaction and the issuer and the underwriters must therefore examine the securities laws of all relevant jurisdictions in order to establish what steps need to be taken in order to ensure that the offering will comply with all such laws.
Similar to the US law, many other jurisdictions impose more stringent requirements when the securities are to be offered to public or individual investors than when they are offered to sophisticated institutional ones. Since euro-offerings are usually offered to sophisticated investors, it is generally not necessary to comply with the public offering rules in all jurisdictions.

Once again, Regulation S affords euro-offering issuers an exemption from the registration requirements of the Securities Act. Accordingly, euro-offerings (including the non-US portion of a global offering) should be structured to comply with Regulation S.
**US tax considerations**

One important feature of the euro-market is that investors expect to be able to hold their securities anonymously. Debt securities are therefore typically issued in bearer form and interest is received by clipping coupons attached to the security and presenting them to paying agents of the issuer. In order to prevent the tax avoidance on bearer debt obligations, the US tax rules preclude the issuance of bearer securities in the US or to US persons by imposing sanctions to both the issuer and the holder. Therefore, debt instruments offered or sold in the US must, however be in registered form. So, in offerings that include US and "euro" tranches, the common procedure is to issue bearer instruments outside the US and registered instruments in the US.

**Listing**

Most euro-bond issues are listed on either the International Stock Exchange in London or the Luxembourg Stock Exchange. Secondary market trading however, generally takes place outside the stock exchanges on which they are listed, typically over the telephone through traders in all major financial centers (i.e. New York, London or Tokio).
Thus unlike the listing on the NYSE, AMEX or NASDAQ, the listing of a euro-bond issue is not intended to provide bondholders with a market in which to trade the bonds, but rather satisfies a restriction to many institutional investors which are prohibited to acquire securities unless they are listed on a recognized exchange.

**Summary of international capital markets access**

As we have seen, often listing a debt instrument like MBS on a major US exchange or quoted in the NASDAQ is not only expensive but also imposes a series of disclosure restrictions which may be difficult to overcome.

For these reasons, typically, Latin American debt issues are targeted towards either a "private placement" or a euro-offering, if not both simultaneously.

Consequently, we should expect the first issues to be placed privately until sufficient volume and secondary market liquidity becomes an issue to investors when we should expect to see euro-offerings to be more common.
V.11. Diagnostic for the MBS implementation

Having analyzed the current conditions in Argentina as well as the many developments that have occurred during the last two years relative to the implementation of a mortgage securitization scheme, the author considers that:

1. Development of a local public market.
It seems clear after this study that the market for mortgage securities will be a reality in Argentina within the next year, provided that the stable economic conditions prevail. If these conditions do not subsist, the development would probably be delayed although not indefinitely. Both mortgage originators (banks) and regulatory authorities (CNV and banking authorities) have clearly demonstrated their commitment to the project.
Although the market for the MBS is not yet clearly defined and funded, it is expected that with the implementation of the private pension system in Argentina, the natural institutional investors for these securities will arise.
As of December 1993, there have already been several projects as to the feasibility of a securitization scheme mainly sponsored by commercial banks that start to look for an off-balance sheet financing alternative. Although no concrete proposals were yet presented to the CNV for approval, several institutions have already expressed their intention to do so within the next months.
As of December 1993, Citibank was one of the leading firms in this area, being able to structure an off-shore (via a Cayman trust fund - Trinity Fund) asset securitization transaction, backed against automotive pledges from Argentine transportation companies. These securities (US$ 50 M) were privately placed among Citibank's network of investors.

2. International market reach
Provided that the general euphoria for emerging market securities continue, as well as economic conditions in the developed markets (low interest rates and de-regulated international investments) we could expect that Argentine mortgage-backed securities attract foreign investors, due mainly to their secured condition (asset collateral).
We could expect to first see international capitals investing in domestic placements, as a first learning step towards subsequent international placements.
It seems that the international market reach could be attained within the next 2-3 years if general economic conditions in Argentina keep improving, as well as strong efforts are dedicated to adequate the securities terms and characteristics to US market standards, as well as provide dollar-denominated securities.

3. Multi-country securitizations -- Development of a Latin American market
If other Latin American countries follow a similar approach to securitization as the one described (which they are doing, specifically Mexico and Chile), it could be expected that International investors would be lured to invest and create specific mortgage securities investment funds that would provide an additional alternative for diversification of risk.
This seems a more unrealistic scenario, although it could become reality. So far, MBS markets tend to remain within their national boundaries, even though the US and UK markets attract considerable international investor's attention.
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