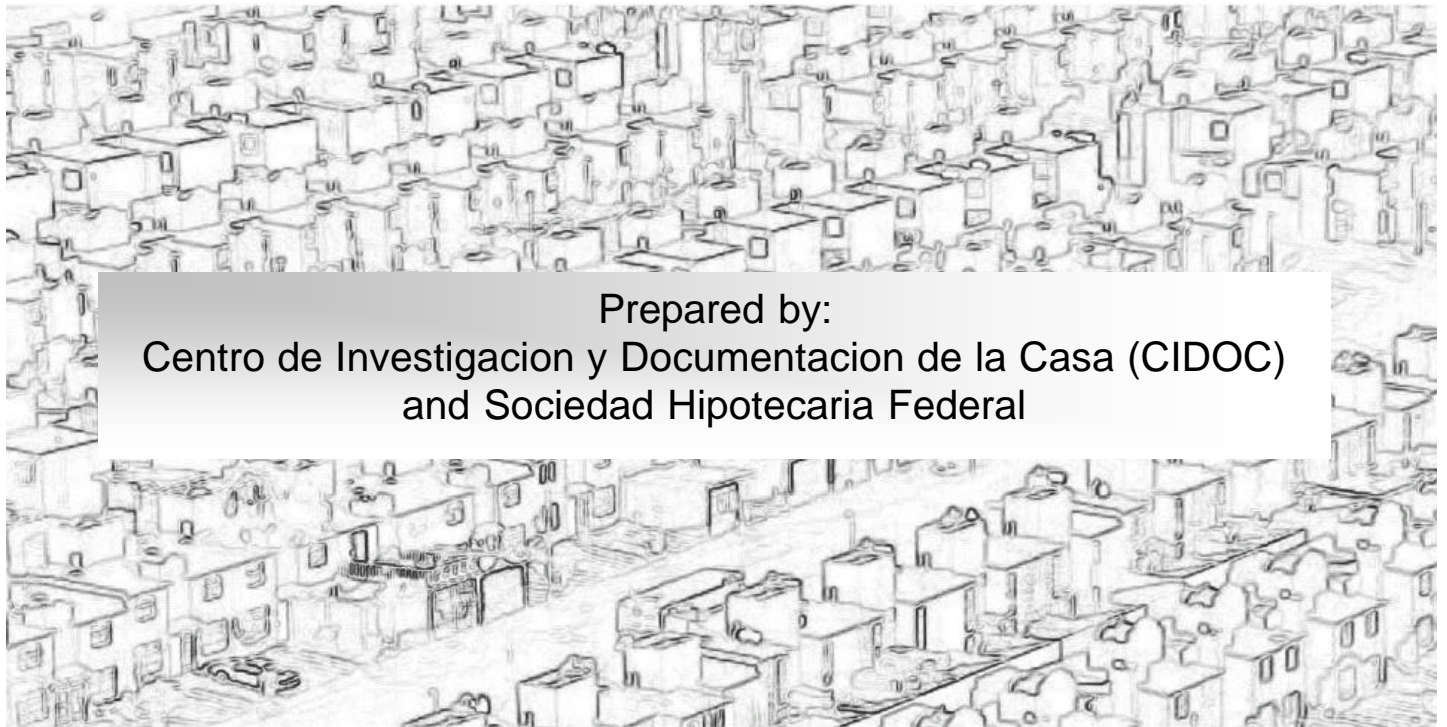


Current Housing Situation in Mexico 2005



Prepared by:
Centro de Investigacion y Documentacion de la Casa (CIDOC)
and Sociedad Hipotecaria Federal

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Contents

PRESENTATION	3
ACKNOWLEDGEMENTS	5
EXECUTIVE SUMMARY	7
Part I. Housing System in Mexico	9
Section 1. International Trends	9
1.1 Public Policy Trends	9
1.2 Main Indicators: International Comparison	11
Section 2. Housing and Housing Markets	19
2.1 Market Segmentation	19
2.2 Existing Inventory	21
2.3 Self-built homes	21
2.4 Used housing	23
2.5 Rental Market	24
2.6 Demand	25
2.7 New Construction	29
2.8 Balance between Demand and Supply	33
2.9 Subsidies	34
2.10 Non-public Organizations and Associations	35
2.11 Key Findings	36
Section 3. Mortgage Financing	37
3.1 2004 Review	37
3.2 Roles of the Public and Private Sectors	41
3.3 Secondary Mortgage Financing	48
3.4 Mortgage insurance and Financial Guarantee	52
3.5 New Products and Practices	54
3.6 Self-financing	55
3.7 Key Findings	56
Section 4. Territorial Organization and Housing provisioning	57
4.1 Normativa de la Territorial organization	57
4.2 Challenges to the Municipal Governments	61
4.3 Informal settlements	64
4.4 Best Practices	68
4.5 Major Structural Reforms/Initiatives	74
4.6 Key Findings	76
Part II. Challenges and Plans for the Future	77
Section 1. Challenges and Plans for the Future	77
Section 2. Agenda of Actions	80
Appendix A. Abbreviations and Acronyms	83
Appendix B. Statistics and Data	85
Appendix C. References	86

Presentation

In continuing with the commitment to perform an annual study of the “Housing Situation in Mexico”, we called upon an interinstitutional team to put together the 2005 version, which discusses the achievements and challenges of this important sector of the economy, not only due to the monetary value of homes, but because of its contribution to the socioeconomic wellbeing of both families and the developing areas in the country.

In identifying housing as a political, social, and economic priority, and thus, stimulating financing to achieve the historical goal of 750,000 units by 2006, President Vicente Fox’s proposal has boosted the sector’s growth significantly.

In order to achieve the expected results, substantial changes have been made in various areas, particularly regarding mortgage financing through the creation of new credit instruments and securitization schemes entered both by private institutions and INFONAVIT.

The goal of creating a document which will contain all the information and provide an integrated view of the housing sector has been structured based both on existing documentation and support from a knowledgeable group of participants.

The 2005 Study of the Current Housing Situation offers an overview of the housing sector in Mexico. It emphasizes the importance of housing as an economic catalyst which has a strong impact on the generation of resources for our country.

We believe the 2004 and 2005 studies to be useful tools for all those involved in the housing industry in Mexico. Getting this research to the main representatives of this sector and thus, supplying them with congruent and reliable information on planning, as well as best Practices which will, in turn, generate the creation of better cities, is a challenge faced by the industry.

The 2004 Study, performed together with the Harvard University *Joint Center for Housing Studies*, led other countries to become interested in knowing and perceiving the potential of the Mexican housing market, encouraging the flow of foreign capital into it. The challenge in future decades will be to sustain a growth pace that will meet the population’s housing needs.

We thank and acknowledge all those who contributed with the research, development and definition of the document, whom we have listed on the following pages. I wish to highlight the assistance provided by CONAFOVI Commissioner Carlos Gutierrez Ruiz, and Director of Sociedad Hipotecaria Federal Guillermo Babatz Torres, as well as the interest shown and contributions made by Antonio Vivanco and Ninel Escobar—their capacity and enthusiasm were a significant element in performing this study.

Sara Topelson Grinberg
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This publication was possible thanks to the participation of the following organizations and persons who contributed with their experience, knowledge and time to the development of this diagnose of the housing situation in Mexico. Without their support and participation, this project couldn't have come into being.

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Executive Summary

1. **IMPORTANCE.** The development of the housing sector is a strategic factor for any nation's economic and social growth. An efficient and accessible housing market reduces the effect and impact of informal settlements, as well as increasing the job supply and social mobility. The proper functioning of the housing market is an important medium to channel savings, generate wealth, and create new companies.
2. **MACROECONOMICS.** Over the last few years, the housing sector in Mexico has borne witness to unprecedented growth, which is largely due to solid macroeconomic performance seen in low inflation rates and a stable foreign exchange rate. This has boosted investors' confidence, which translates into a reduction of risk in the country.
3. **POPULATION AND HOUSEHOLDS.** The estimates regarding new household formation indicated that, in coming years, housing demand will continue to grow, albeit at a slower pace, peaking in 2012.
4. **USED HOUSING AND RENTAL MARKET.** Growth in the housing market throughout the country is mainly due to the production of new housing, either through self-building or through developers. However, there are other market niches, such as used housing and rental units which, over the last year, had a significant increase in their share within the sector.
5. **FINANCING.** Regarding mortgage financing, mortgage loans have become more accessible through a reduction in the risk of the payment factor, lower interest rates, longer contracts terms, and new guarantees.
6. **FINANCING.** With participation from the public and private sectors, it has been possible to diversify the existing supply on the housing market by developing new programs both for housing acquisition and for home improvement and construction.
7. **FINANCING.** Around 640 thousand loans have been placed for housing acquisition, improvement and construction in 2005, through ONAVIS, OREVIS, financial institutions, development banks and other participants.
8. **FINANCING CHALLENGE.** Despite the huge efforts made in 2004 to make housing more accessible, there is still a significant sector of the population that remains unattended—specifically, families in rural or informal sectors, particularly with incomes below 5 minimum wages.
9. **FINANCING CHALLENGE.** Greater participation is required from the private sector, which could move into an important market niche by offering microfinancing.
10. **SECONDARY MARKET AND INSURANCE COMPANIES.** Mortgage securitization as a source of funding for banks and Sofols, as well as the entry of insurance companies into the market, will be a huge step towards further developing the mortgage lending market and allowing greater competition.

11. **INFRASTRUCTURE AND LAND.** Planning land use, sustainable urban development, and dealing with the lack of basic urban services, must be a priority for local governments.
12. **PUBLIC PROPERTY REGISTRIES:** Modernization of public property registries must be worked for, by centralizing, automating, standardizing, and updating the processes.
13. **CITY MODELS.** Currently, Mexican cities show horizontal growth matching the diffused city model, which poses questions regarding their sustainability, increases costs linked to transportation within the city, and to commuting times to and from the workplaces.
14. **SUSTAINABILITY.** New housing technologies related to environmental sustainability and energy saving, such as water-saving systems, systems for recycling grey water and sewage water treatment, electrical and thermal energy savers, among others, must be incorporated.

Part I. HOUSING SYSTEM IN MEXICO

Section 1. International Trends

The development of the housing sector is a strategic factor for any nation's economic and social growth. An efficient and accessible housing market reduces the effect and impact of informal settlements, as well as increasing the job supply and social mobility. The proper functioning of the housing market is an important medium to channel savings, generate wealth, and create new companies.

In the case of Mexico, experience over the last few years shows that the development of the housing market has been a booster for economic growth independent of external demand. It has aided the creation of jobs, particularly in the construction sector, and it has generated economies of scale which reduce investment costs, in addition to contributing to the development of a capital market. The end result is the improvement in the quality of life of Mexican families.

In this sense, as part of the topics discussed in the recent Bellagio Conference (May 2005), an evaluation was made of the challenges and achievements in housing of four developing countries: Mexico, South Africa, Thailand and Kenya. Below are some of the most significant conclusions reached regarding public policies.

A unified policy indicating the ways in which housing is and can be used for social and economic development will be fundamental. A joint task between all three levels of government, as well as the private sector and philanthropic or non-governmental organizations, is suggested in order to catalyze the change in developing countries.

It was stated that it is crucial for housing professionals and developers to join forces in order to meet this challenge. Housing experts can clarify the link between the high costs of housing, the development of the labor force, its feasibility as a business, and the competitive context. Local chambers of commerce, for their part, can be influential intermediaries by helping to define a collective answer.

1.1 Public Policy Trends

Although with some problems, housing markets in developed countries are highly capable of producing successful results. In broad terms, there are nine key factors that determine the successful performance of mortgage financing systems.

1. *Macroeconomic stability.* Increases access to loans through lower and more stable mortgage interest rates.

2. *Adequate laws, underwriting systems, and judicial proceedings.* They allow households to insure their property and commit it as collateral.
3. *Robust markets for new and used housing.* The presence of numerous buyers and sellers, adequate and timely information regarding prices and features, precise and express registration and underwriting systems, and the absence of burdensome or discriminating taxes, are essential elements to guarantee the safety of homes as financing subjects.
4. *Adequate level of supply, both in volume and in price, consistent with households' income distribution.* These traits make it possible for the production process to generate land with infrastructure and services, as well as fast bidding mechanisms.
5. *Competitive primary mortgage market.* Competition breeds innovation and the use of technology. As markets expand and gain depth, the high costs of affordable housing loans decrease. The creation of risk dispersion mechanisms such as mortgage securitization can increase the credit supply to families with lower and more moderate incomes.
6. *New product development.* An adequate mortgage financing system is capable of generating a wide range of products to satisfy consumers' needs and protect them from fraudster intermediaries and low-quality products. Likewise, housing construction and renovation financing must also be driven.
7. *Information infrastructure to value the credit and collateral risk.* This is particularly important to understand the complexities of originating and managing small loans to individuals who do not have a stable income source. The lack or high costs of gaining information are a substantial obstacle to lending.
8. *Adequate household savings levels in relation to the size of the economy.* Essential as a source of funds for households' credit needs. Long-term saving, stimulated by the reforms to the pensions and insurance system, is an important source of funds for mortgage financing.
9. *Development of the mortgage capital market.* The possibility of gaining access to long-term funding via mortgage securitization could increase the availability of funds, as well as improve credit risk management. However, mortgage capital markets can function only when an effective primary market already exists.

1.2 Main Indicators: International Comparison

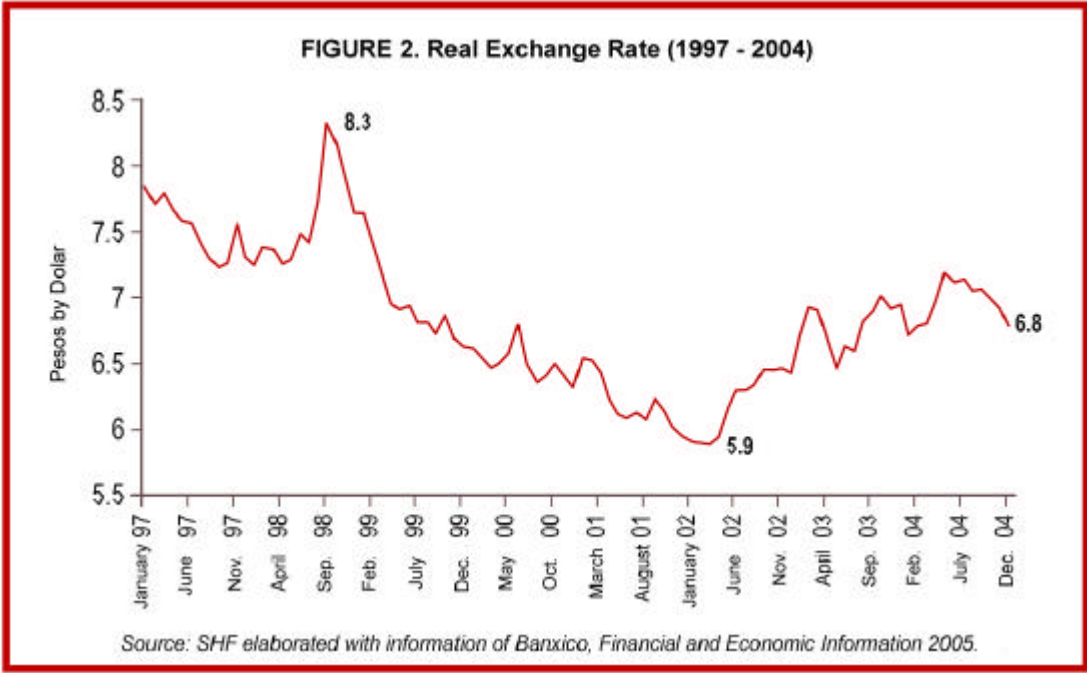
1.2.1. Macroeconomic

Over the last few years, the housing sector in Mexico has borne witness to unprecedented growth. This is largely due to solid macroeconomic performance, seen in low inflation rates and a stable foreign exchange rate, which translates into a reduction of risk in the country, boosting investors' confidence.

Reaching and maintaining low inflation levels is essential for the markets to function properly, since it allows families to keep the purchasing power of their incomes. In this sense, Mexico has had a favorable performance. From 2000 to 2004, inflation rates and core inflation had annual reductions of 1.3 and 1.5 percentage points, respectively.

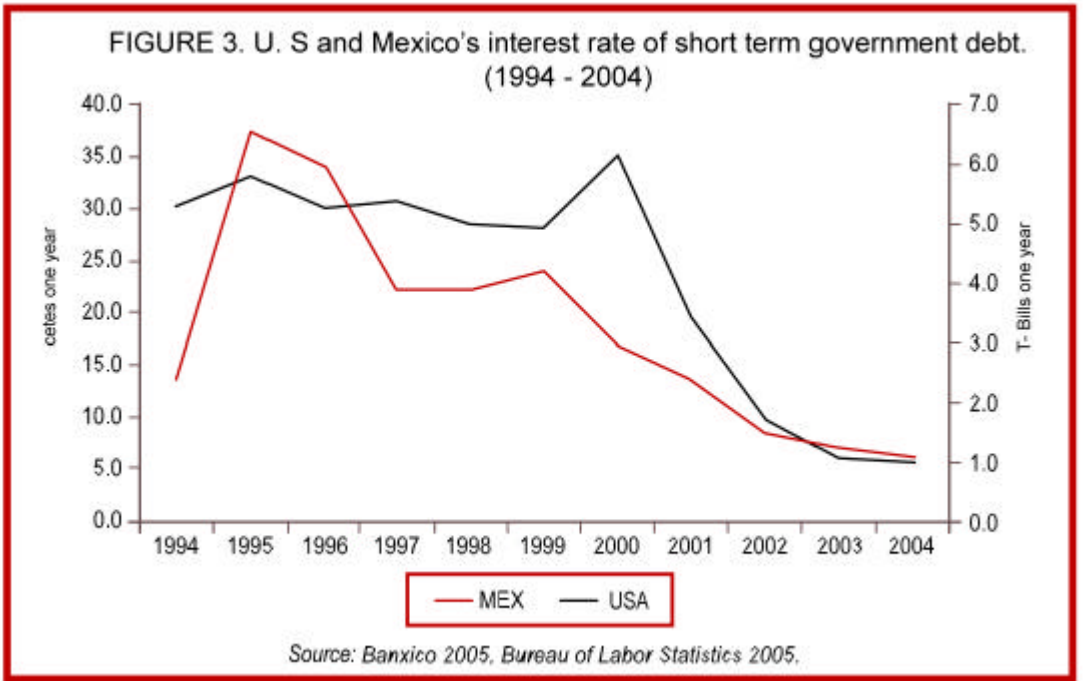


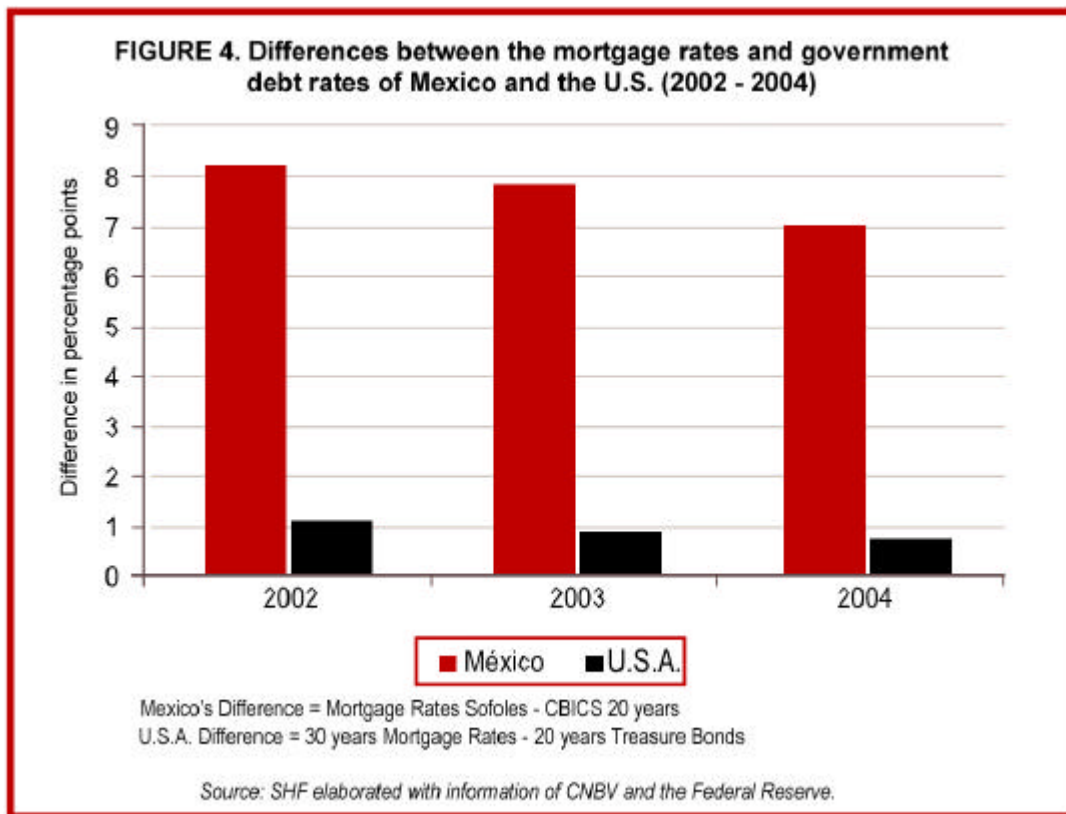
Regarding the real exchange rate, it has remained relatively stable throughout the last seven years. From January 1997 to December 2004, the real exchange rate has moved in a range of 2.4 pesos with a maximum 8.3 pesos to the US dollar in September 1988 and a minimum 5.9 pesos in June 2002. This has bred a favorable environment for macroeconomic stability which, in turn, has enabled the country's housing sector to develop even further.



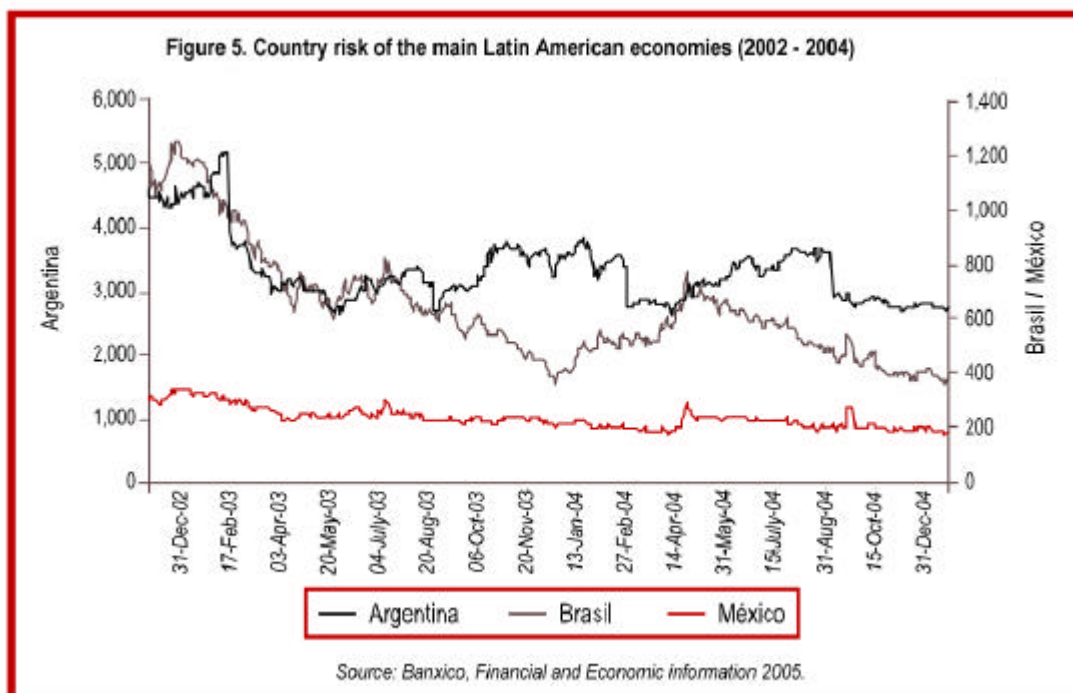
On the other hand, over the last four years, short-term interest rates in Mexico have suffered a drop as a result of both the reduction in internal inflation and the movements of international interest rates. Furthermore, the existing spread between US and Mexican short-term rates has been significantly reduced (see FIGURE 3).

Despite the reduction in interest rates, the spread between government rates (CETES) and mortgage rates is still not much greater than the one seen in more developed markets, as can be seen in FIGURE 4.





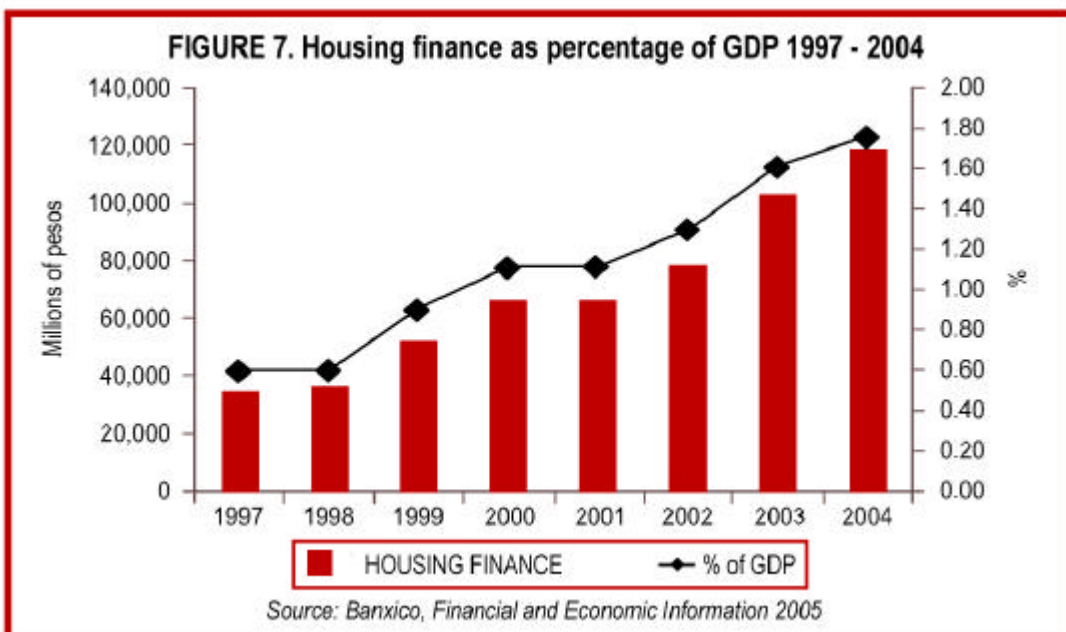
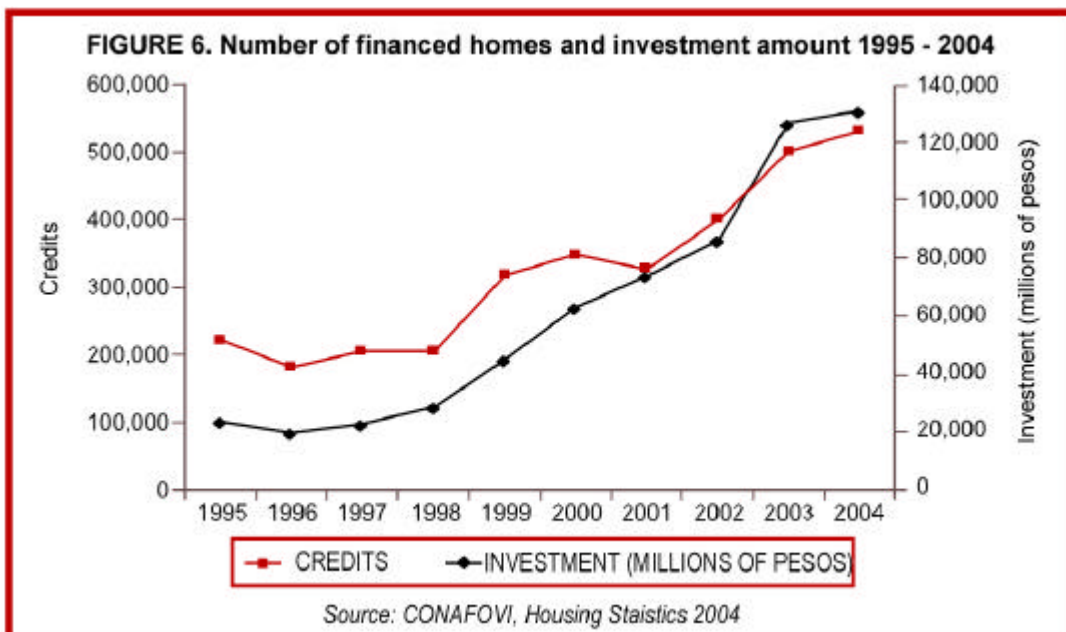
Compared to other Latin American economies, such as Argentina and Brazil, Mexico has shown better macroeconomic performance. At the end of December 2004, Mexico's country risk was 195.4 basis points, whereas for the countries mentioned above, it was 2,770.1 and 392.4, respectively.



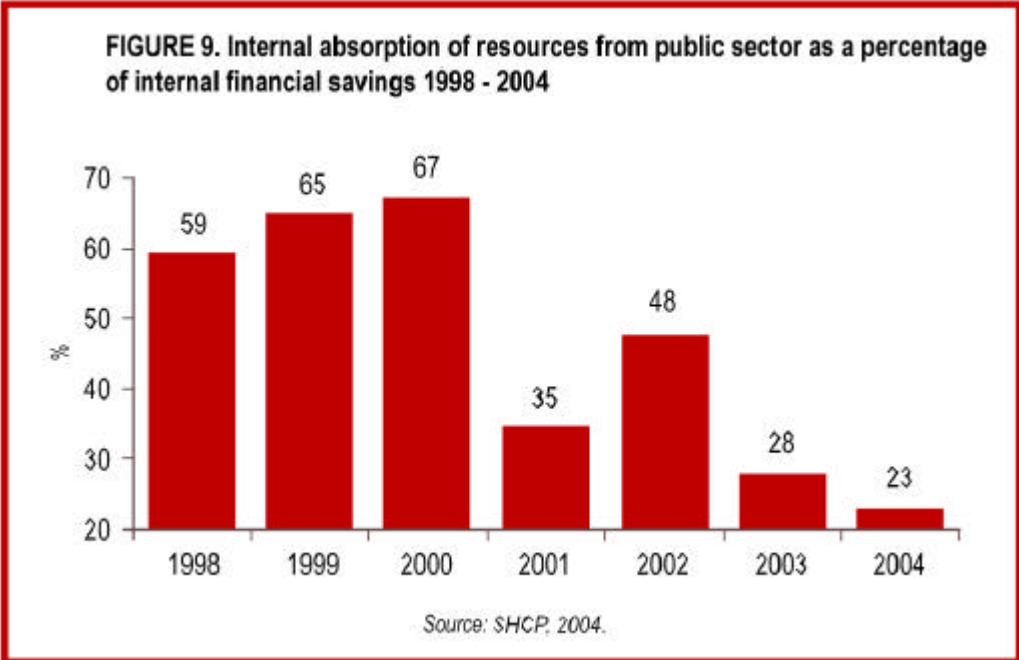
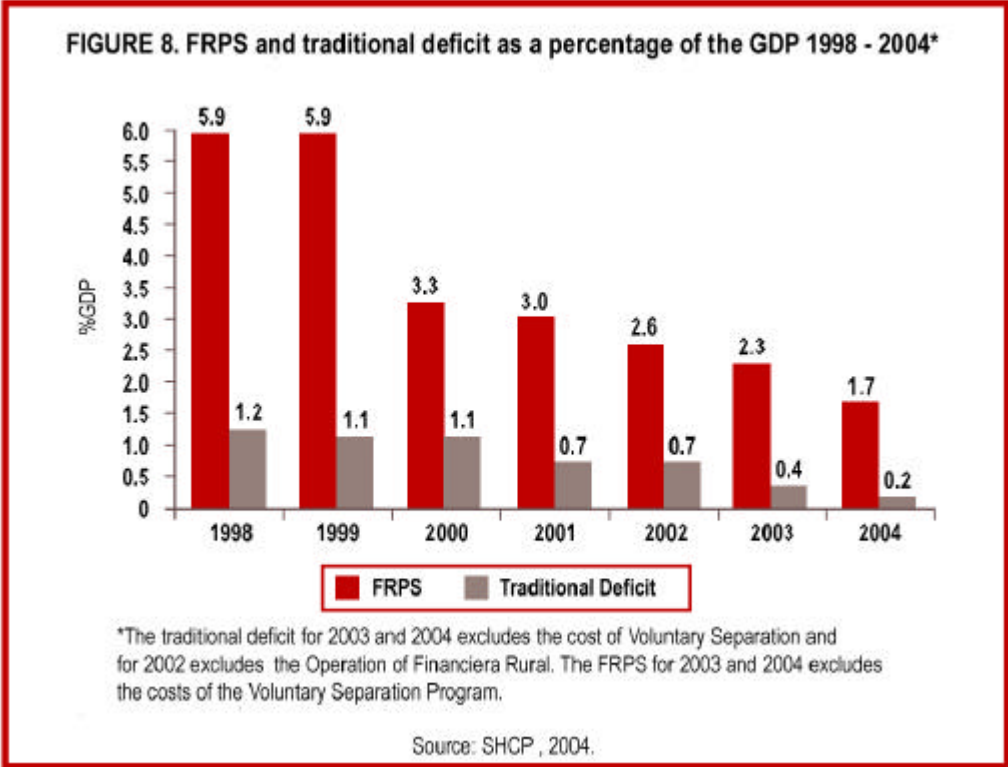
As can be seen in FIGURE 5, Argentina's country risk is graphed on the left axis, whereas Brazil's and Mexico's are on the right. When comparing the three countries, it is possible to see that the appreciation of country risk for Mexico has shown stable behavior, whereas Brazil's and Argentina's indices have shown significant variations.

1.2.2 Financial

Mexico's macroeconomic stability has made it possible to drive greater mortgage financing. This is seen in the increase of financed housing units and the sum of the investment, as well as in mortgage financing as a percentage of the gross domestic product (GDP).

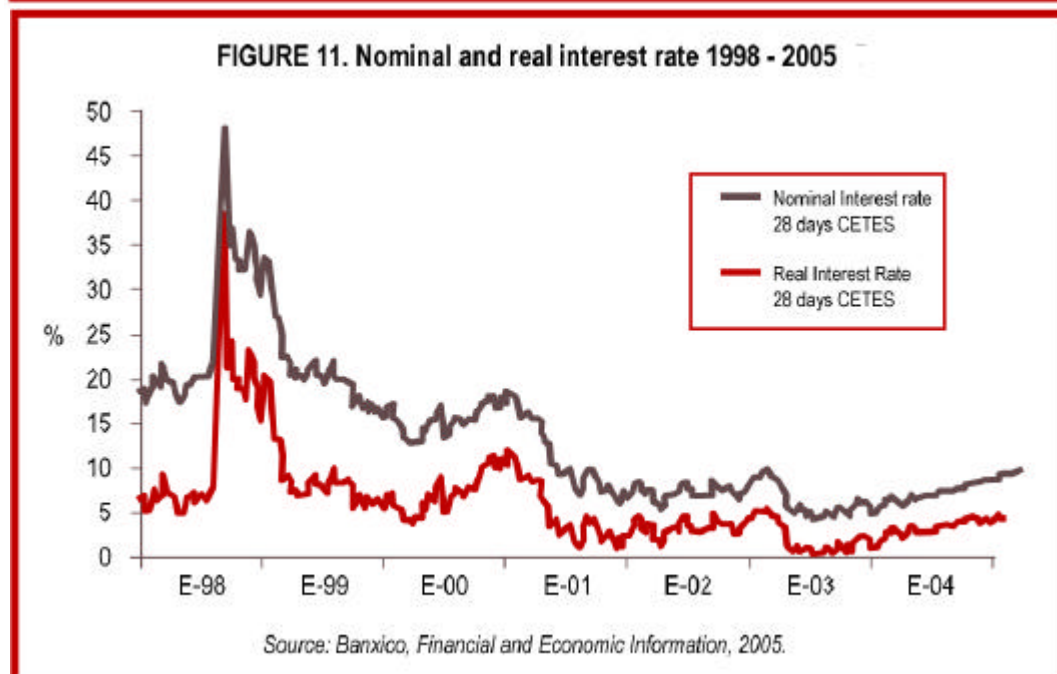
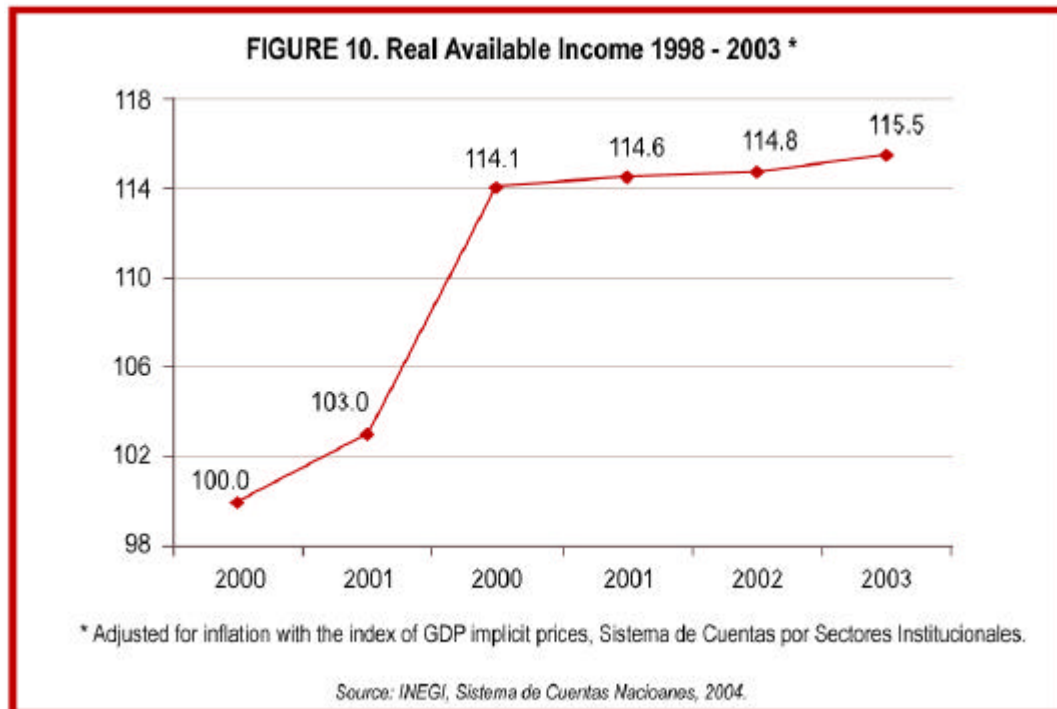


In addition, the expansion of credit has been aided by a lower absorption of financial resources from the public sector (FRPS), resulting from strengthening the fiscal discipline of the last few years.



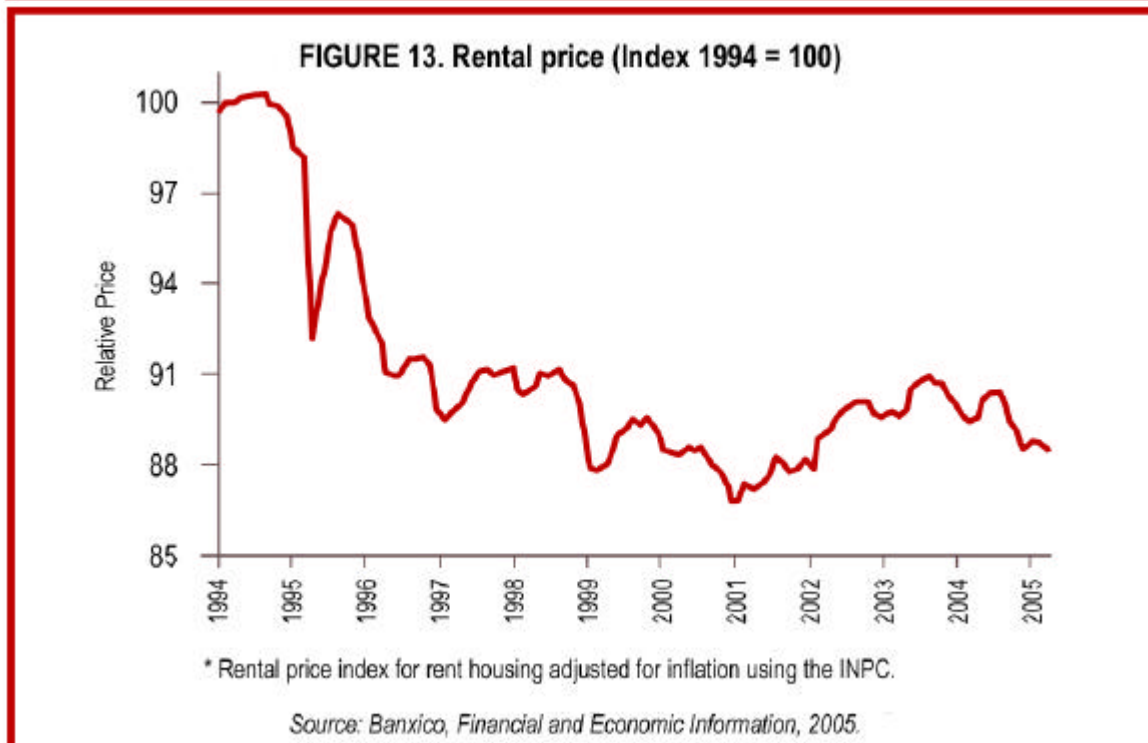
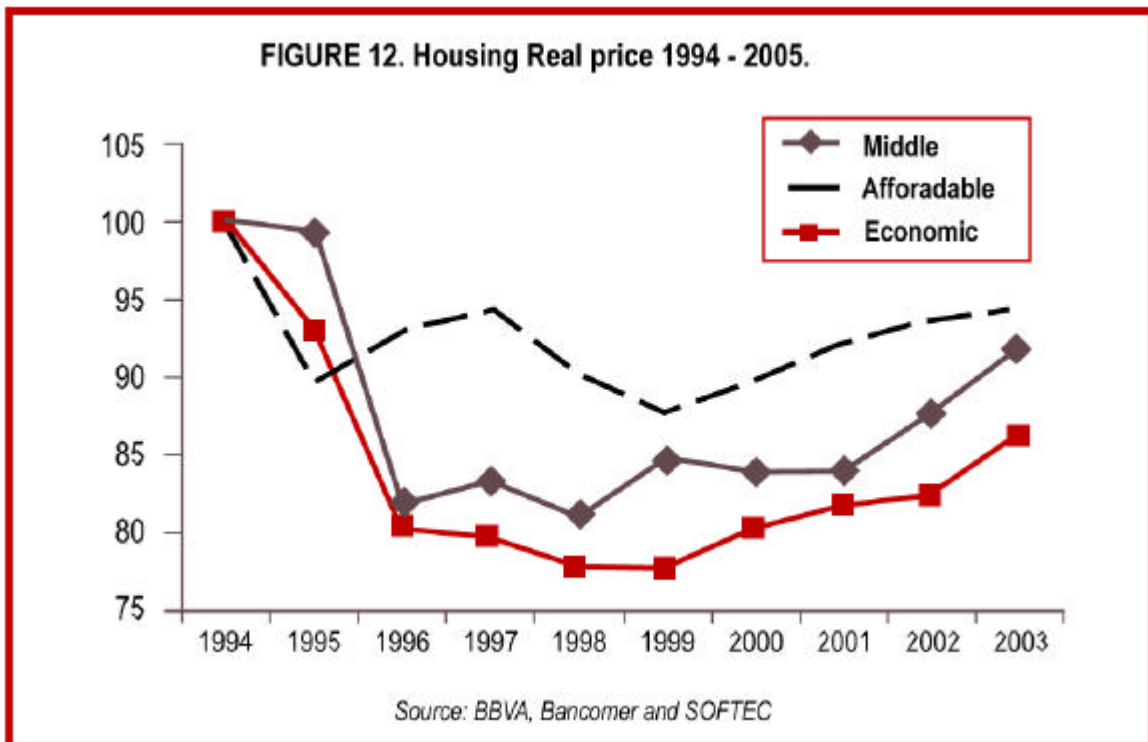
1.2.3 Real Sector

Among the most important factors that have aided the growth of the housing sector in the country are: the increase in the real primary household income¹, and the reduction of interest rates.



¹ It is a broader gauge of the current income and includes remuneration to wage earners, subsidies, mixed income from workers in the informal sector of the economy, property, land, and financial revenues, among the most important headings.

In real terms, the prices of middle, economic, and affordable housing², as well as the relative rental price of real estate, are at significantly lower levels than in 1994.



² The value of middle housing is between P\$406,000 and P\$1,060,000
 The value of economic housing is between P\$212,000 and less than P\$406,000
 The value of affordable entry level housing is between P\$86,600 and less than P\$212,000

1.2.4 Best Practices

CHILE

In 1976, the Housing and Urbanism Ministry of Chile (MINVU from its acronym in Spanish) was created, in order to establish the policies for housing, city planning, and equipping of the various regions of the country.

The supply of MINVU housing projects is focused on satisfying the population's housing needs, financed through three sources: state subsidies, applicant's savings, and mortgage lending.

The subsidy is a direct aid supplied by the State to families who do not have the financial means to acquire a home, and must meet the following requirements: be of age, not own a home, and not have received a housing subsidy previously.

Since they depend on the Housing Program, the homes can be built when ordered by the Regional Housing and Urbanization Service (SERVIU, for its acronym in Spanish) or as requested by the recipient. The selection is performed depending on the points scored by the applicants who have met the requirements and supplied the corresponding paperwork, considering the family's savings, as well as the number of family members. The results of this selection are published in national or regional newspapers.

Regarding infrastructure, road paving and services, similar plans are followed to satisfy the needs of the Chilean population.

In Santiago de Chile, several urban improvement programs are being carried out. One of them is the Inner Belt aimed at recovering urban areas that have fallen into disuse, generated by the railroad infrastructure and by abandoned industrial areas surrounding them, in order to be made into housing areas due to their optimal location and access to transportation.

Section 2. Housing and Housing Markets

2.1 Market Segmentation

There are two useful possibilities for segmenting the housing market: by type of product, or by type of demand. In the former case, six types of housing are considered, based on their value:

PICTURE 1. Housing Categories by range of price

Category	Range of price
Minimum	Less than \$86,600
Social	\$86,600 to \$212,000
Economic	\$212,000 to \$406,000
Middle	\$406,000 to \$1,060,000
Residential	\$1,060,000 to \$2,110,000
Residential plus	More than \$2,110,000

Source: SHF, 2004.

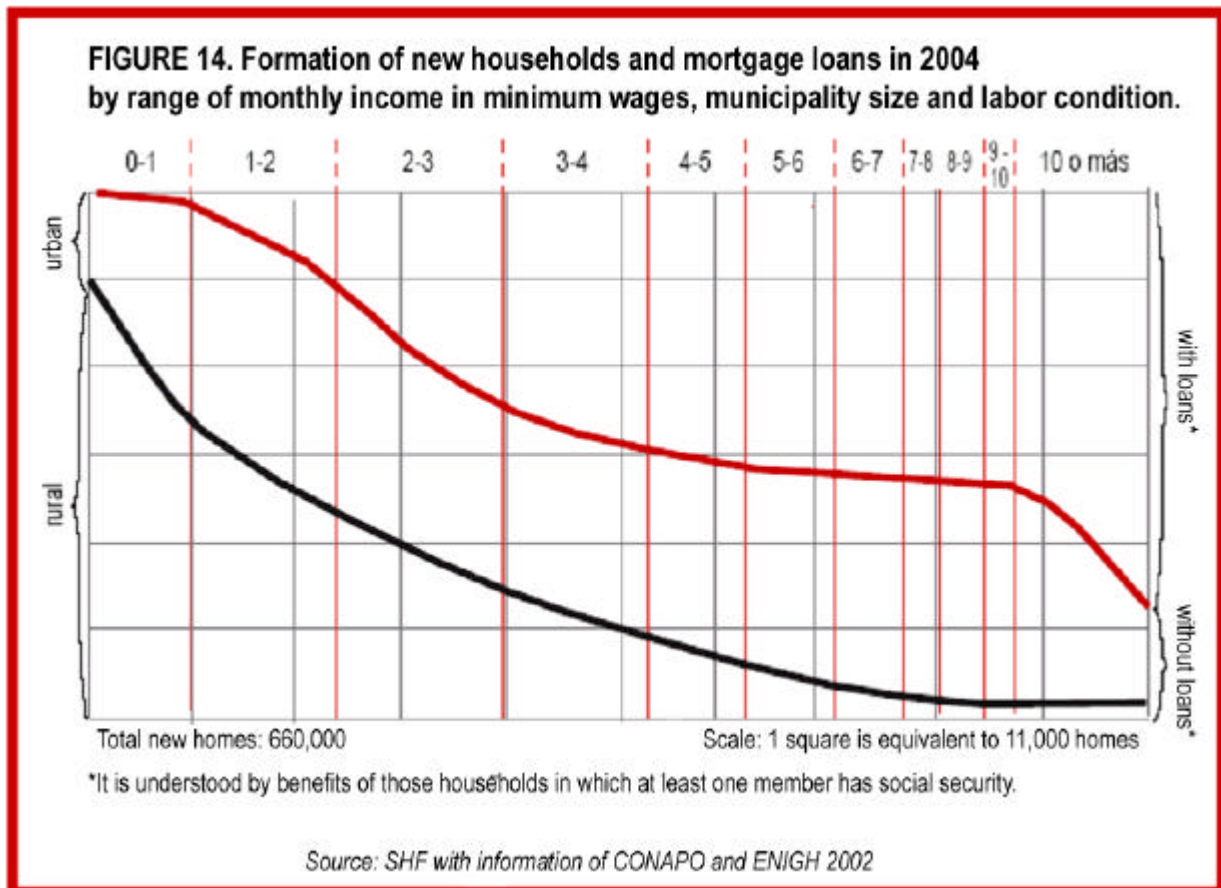
Although these data make it possible to infer the population served regarding housing, it is necessary to have additional information which will look deeper into the various needs of households and the possible housing solutions to which they have access.

For this reason, it is more convenient to have type of demand segmentation, which consists on classifying potential consumers based on various relevant characteristics. In general, it is necessary to focus on three main factors:

- a. Family income.** Undoubtedly the most important factor in choosing any housing solution, from self-building to acquiring a Residential home.
- b. Location.** This characteristic is relevant since most mortgage financing options focus on the country's urban and semiurban areas.
- c. Labor Condition.** According to current mortgage financing schemes, the fact that at least one member of the household is affiliated through their job to IMSS or ISSSTE makes it easier for them to gain access to mortgage financing. Let it suffice that, of all the mortgage loans placed in 2004, 68% were done so via INFONAVIT or FOVISSSTE.

Based on these characteristics, it is possible to measure the potential demand existing in each category and thus, determine the type of housing solution a certain type of household can reach.

In 2004, more than 660,000 new households were formed, according to CONAPO's estimated projections. For analysis purposes, below is a graph where the total area of the larger rectangle represents household formation in 2004. The squares within this rectangle each represent 11,000 new households. Provisionally, it is possible to say that this is the potential housing demand generated in the year.



The vertical dotted lines dividing the rectangle set household classification by income in minimum wages per month. Close to 40% of households nationwide have an income below three minimum wages per month, whereas only 14% earn more than 10 minimum wages.

The division of new households by type of locality is represented by the curve in the lower part of the rectangle. Of the 660,000 new households, close to 155,100 are households in a rural setting, translating into 23.5% of the total nationwide. As could be expected, most rural households are in the low-income segments. In fact, close to 70% of rural households have an income below three minimum wages per month.

The third characteristic for classifying housing demand is labor condition. In this case, it is the curve in the top part of the rectangle which marks this division. It is worth noting that it is believed that none of the rural households have any fringe benefits, whereas in the new

urban households, it is approximately 40.3% who have them. The proportion of households with benefits increases together with family income.

Summarizing, based on this segmentation of demand, it is possible to reach the following conclusions:

- a. A large part of new household formation in 2004 was among low-income families. This fact is clearer in households formed in a rural environment.
- b. Practically no rural household has any fringe benefits.
- c. At the urban level, households with fringe benefits are concentrated in the high family-income segment.

2.2 Existing Inventory

In 2004, the Real Estate Consulting Firm, SOFTEC, estimated that there are 25.1 million housing units in the country worth around 126 billion pesos. As can be seen in the PICTURE below, nearly 64% of all housing units are in the Minimum, Social, and Economic levels, whereas 73% of the housing stock's worth is concentrated in the Middle, Residential, and Residential Plus segments. This situation stresses the difference in value between the various housing categories. This relationship between value and the number of units has changed only slightly, compared to 2003.

PICTURE 2. Number and stock housing value by house category in 2004.

House Category	Average Price	Number of Units (millions)
Minimum	\$74,000	1.90
Social	\$179,000	7.36
Economic	\$296,000	6.63
Middle	\$649,000	7.15
Residential	\$1,451,000	1.21
Residential Plus	\$3,330,900	0.83

Source: SOFTEC, 2004

2.3 Self-built homes

According to the *Glosario Alfabético* (alphabetical glossary) published by CONAFOVI, self-building or self-production is defined as the “process of building or improving housing through the family’s own effort, which may require counseling and technical training. Self-built homes are the result of building by the user of the property, even when they hire third parties formally or informally (self-management)”³.

³ Glosario Alfabético de Terminos Relacionados con el Sector Vivienda, CONAFOVI 2002.

Self-building is a slow process, since families first settle on lots and then build a temporary home. They buy building materials, hire a mason or get help from some relative to build the home gradually. After an indefinite period that may span several years, municipal services reach these homes and they become part of the city's dynamics.

Due to their informal nature, it is difficult to establish a clear dividing line between these activities and formal ones. However, the former must represent a significant proportion of annual housing production since, according to INEGI's National Accounting System, self-building represents 51% of the total. On the other hand, Cementos Apasco's and Grupo Holcim's figures show that 80% of their sales are made to retail traders who report 45% of their sales as retail.

Another source of information regarding the Social Production of Housing is the one shown in PICTURE 3, which is part of the "*Dimensión e Impactos Macro y Micro Económicos de la Producción Social de Vivienda en México*"⁴ study, coordinated by Architect Roberto Eibenschutz Hartman.

PICTURE 3. Social housing inventory 2003

CONCEPT	HOUSES	(%)
Houses at the end of 2003	24,137,357	100
Completed houses financed from 1965 to 2003	5,692,223	23.58
Self-financed middle houses	1,270,000	5.26
Residential and residential plus houses	1,990,000	8.24
Social houses	15,185,134	62.91

Source: INEGI: "Censo General de Población y Vivienda" and "The State of Mexico's Housing 2004"

Some of the recommendations in the study for self-built homes are:

- Manage to meet the demands of the social sectors that cannot access the supply of the real estate market or the programs promoted by government institutions.
- Avoid the long years of waiting for a loan for finished housing, as well as long, useless procedures for mortgage loans.
- Self-built housing is seen as an activity with no profit motive.
- It implies low indirect costs by reducing tasks and administrative expenses in the housing production stage.

⁴ Dimensión e Impactos Macro y Micro Económicos de la Producción Social de Vivienda en México, P. 143.

2.4 Used housing

According to information from the main mortgage lending institutions in the country, it is estimated that, in 2004, 64,683 loans for used home acquisition were granted, which represents 9% of all the loans placed for housing acquisition in the year.

As can be seen in PICTURE 4, banks have financed the largest amount of used homes, which makes it possible to infer that the market for buying and selling used housing is in the middle, residential, and residential plus housing segments—generally the ones financed by banks.

Another point worth highlighting is that, during 2004, INFONAVIT placed 10% and FOVISSSTE 5% of their loans for used housing. Initially, this reading is very low compared to the figures of more developed countries such as the United States, where the used housing market hugely exceeds the volume of the new housing market.

However, if we compare Mexico's figures with previous years, it is possible to see a significant advance, since a few years ago these institutes practically didn't place any loans for acquiring used housing.

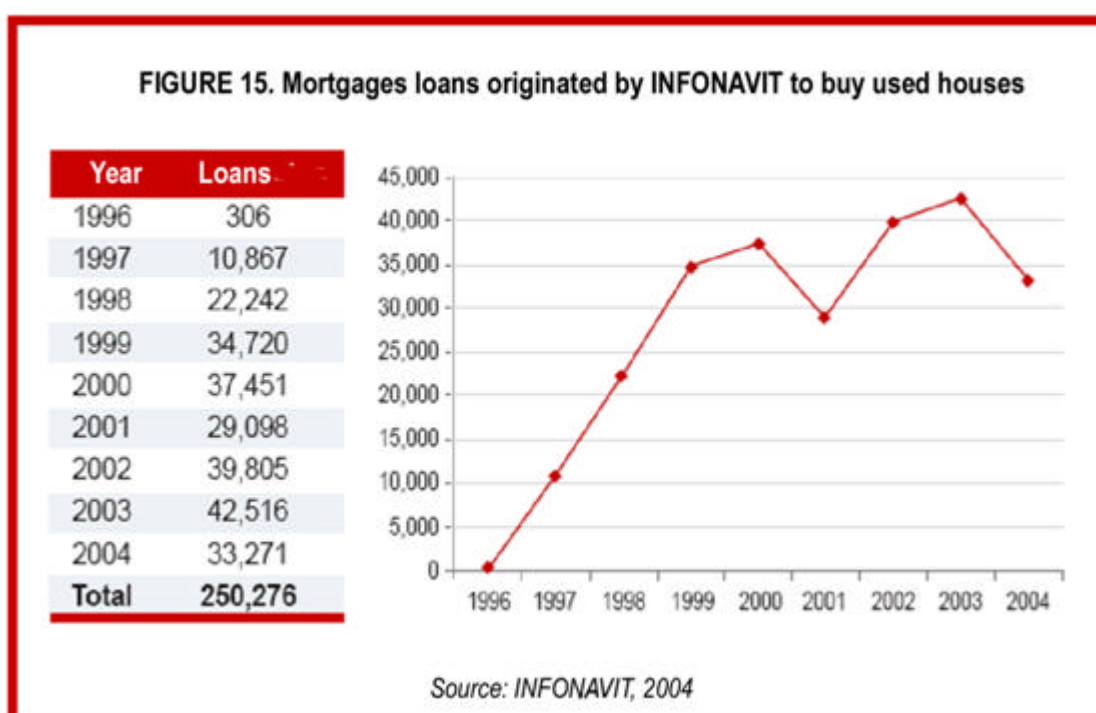
PICTURE 4. Number of loans for used home acquisition granted in 2004

Institution	Loans for housing acquisition	Loans for used homes	Percentage of used homes
Banks	35,772	18,601	52%
SHF	65,320	9,798	15%
INFONAVIT	300,812	33,271	11%
FOVISSSTE	60,252	3,013	5%
FONHAPO	29,611*	0	0%
OREVIS	18,008	0	NA
Others	21,466	0	NA
Total	531,241	64,683	12%

NA: Not available

* Includes 28,792 subsidies

Source: CONAFOVI, loans for housing acquisition, INFONAVIT, FOVISSSTE, Banamex and HSBC, percentage of used homes.



2.5 Rental Market

Development of the rental units market is essential to the generation of housing solutions other than acquisition and self-building. This type of market also helps social and labor mobility.

According to information from the 2004 National Household Income Survey (ENIGH 2004), there are nearly 25.8 million households in Mexico, of which 3.4 million live in rental units; this represents 13.2% of all the households nationwide.

Of all the rental households, nearly 50% is distributed among the following states: Mexico City, Jalisco, State of Mexico, Puebla and Veracruz, proving that the rental market develops mainly in large cities throughout the country.

Likewise, the same survey also shows that 70% of rental households have a monthly income below eight minimum wages. This reflects the fact that rental units in large cities are currently an option for low- and middle-income sectors.

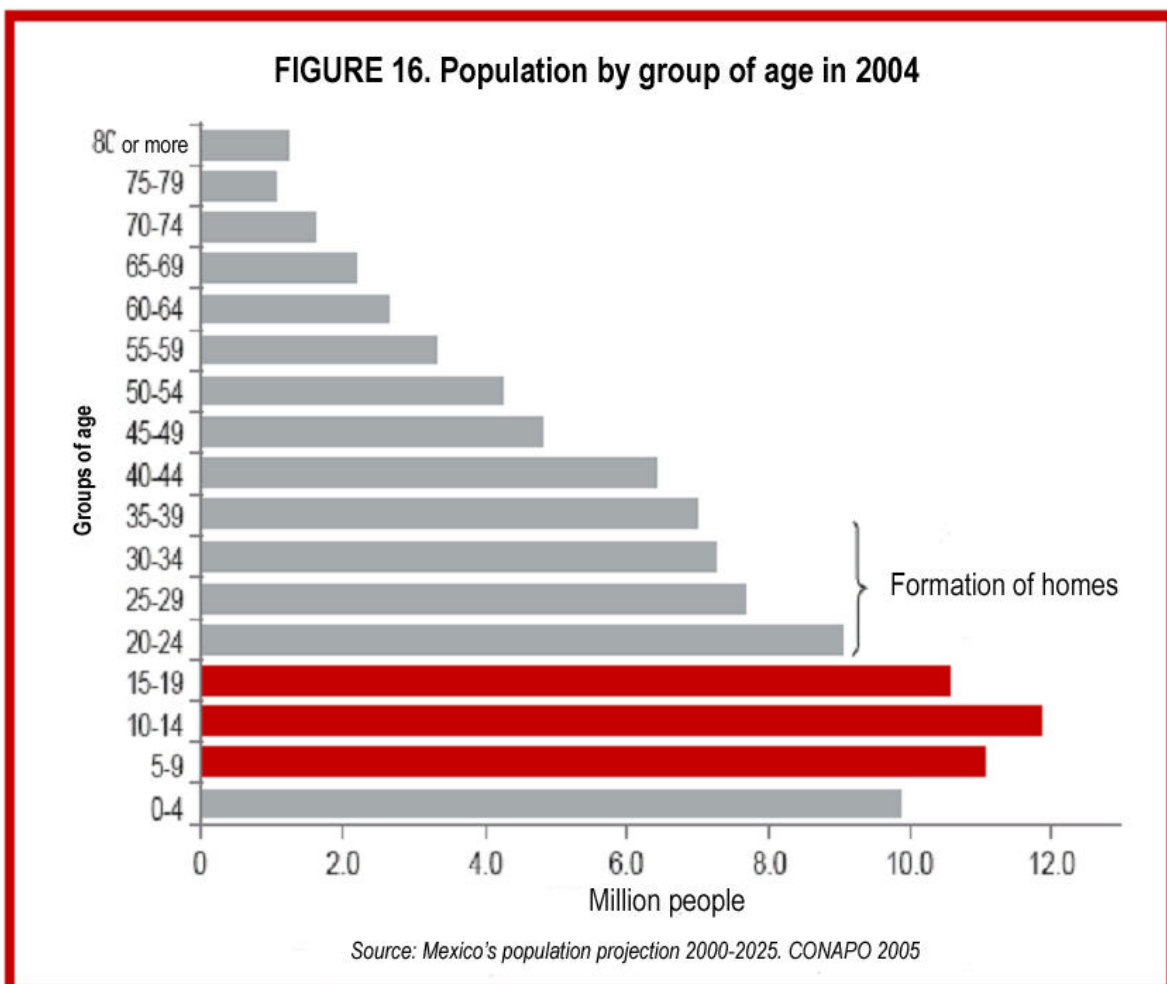
Rental housing is not promoted by developers since, in most cases, it is not a profitable enterprise. This market has ceased to be appealing to developers now that affordable housing acquisition has been boosted and developers have been given access to produce it.

2.6 Demand

The demographic trends on population growth (particularly, on household formation⁵) elimination of the existing housing backwardness are the key elements in determining potential housing demand. Likewise, household income and savings, as well as the degree of access to financing, are what defines to what degree potential demand becomes actual demand.

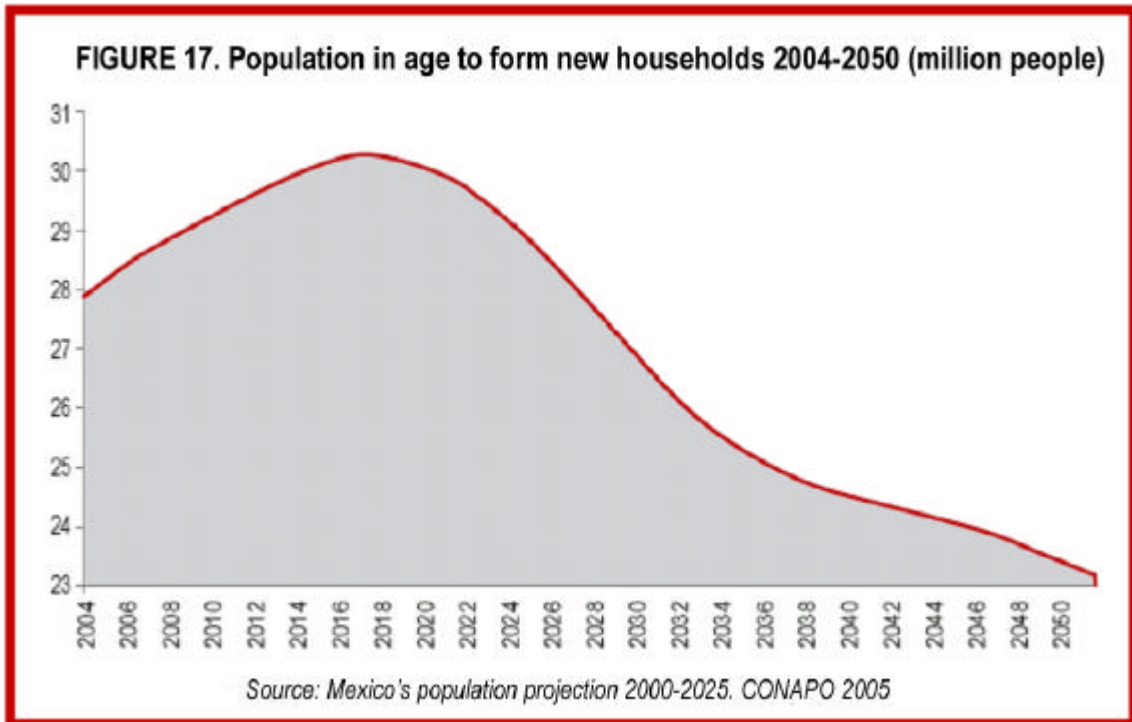
2.6.1 Demographic situation and housing backwardness

Regarding household formation, as can be seen in FIGURE 16, Mexico's demographic structure shows that the population reaching the age of household formation will increase significantly over the next 15 years.

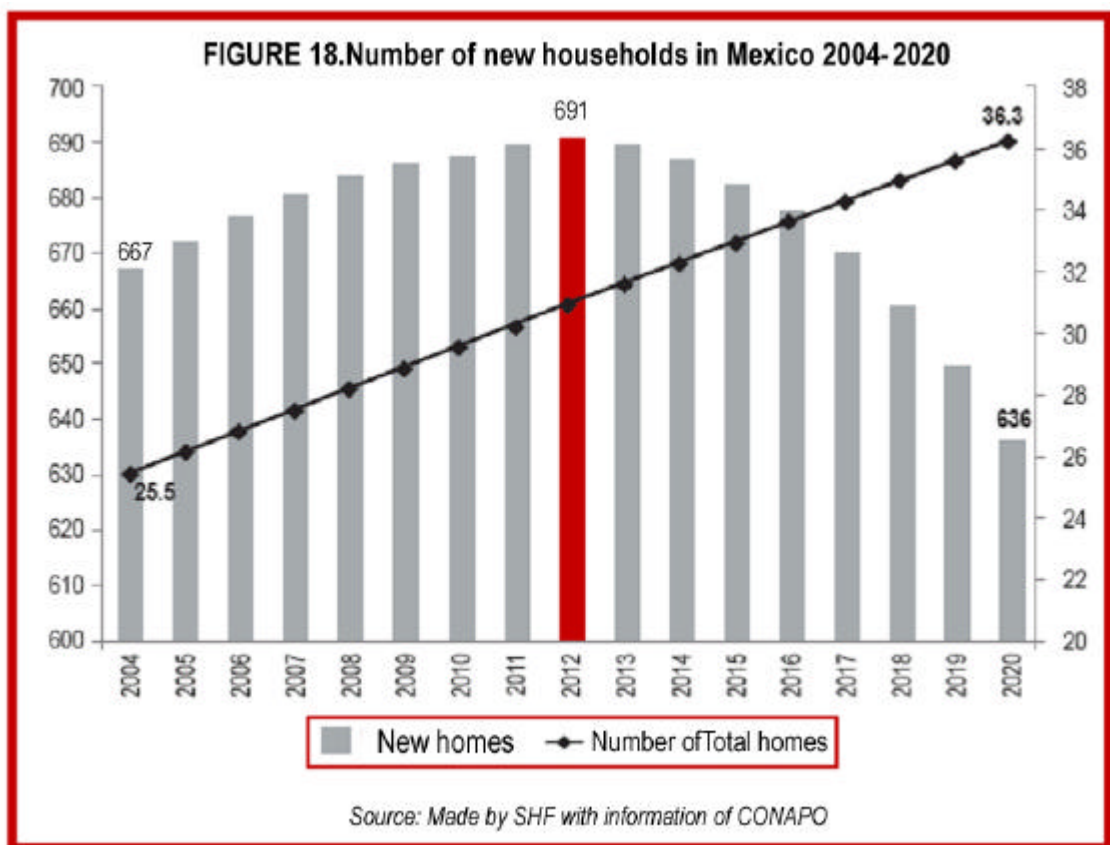


The age for household formation ranges between 20 and 34 years. According to official population projections, this age group will go from 27.8 million in 2004 to 30.0 million by 2020.

⁵ Group formed by one or more persons united or not by blood ties, who habitually live in the same home and are supported by a common income, mainly for food. Thus, there can be more than one household in the same home.



According to CONAPO's estimates, a total of 667,066 new households were formed in 2004 to reach a total of 25.8 million households. By the year 2020, it is expected that 10.8 million households will be formed for a total 36.6 million.



Regarding housing backwardness, the statistics released by CONAFOVI estimate that 4.3 million households are in a backward situation, of which 2.5 million are households whose homes require expansion and/or improvements and 1.8 million are the remainder. It is noteworthy that the backwardness is due to building or lack of services, not possession. Close to 2.1 million households would have to be added to the total backwardness figure due to lack of proprietary or rented housing.

By considering that both demographic trends and housing backwardness estimates reflect the increase in potential demand, it is necessary for the main national housing organizations to consider these estimates in designing and implementing the policies for financing.

2.6.2 Income and savings

Although the demographic trends and the housing backwardness are the main forces in determining potential demand, households' income and savings are the key elements that will allow potential demand to become actual demand.

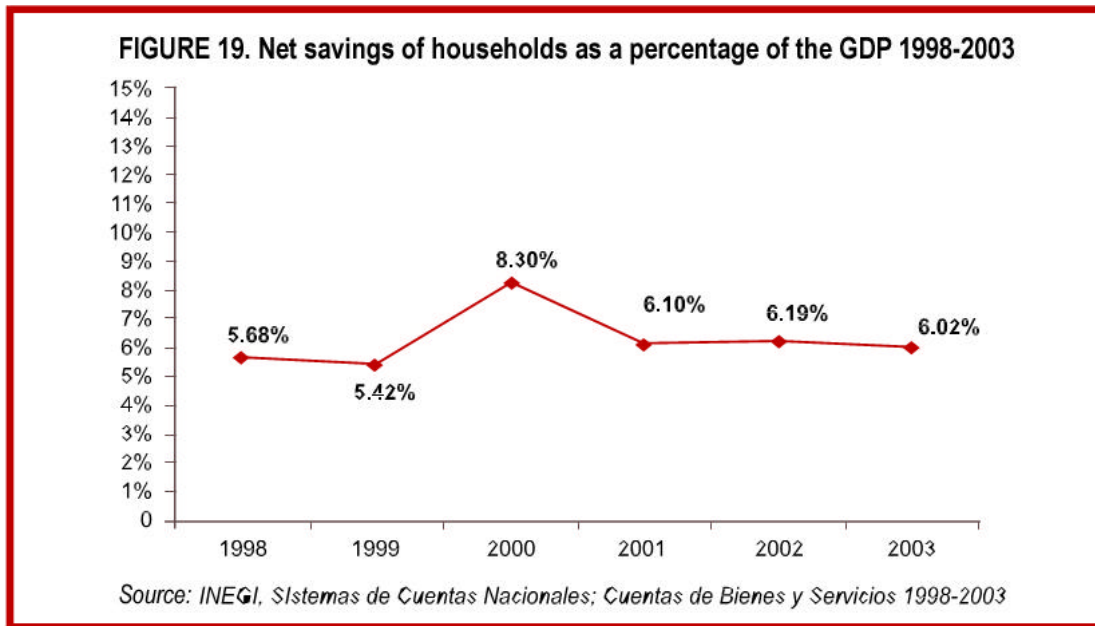
The mortgage financing system in Mexico is made up of various organizations focused on different segments of the population, based on their working conditions and income level. Regarding working conditions, there is a significant difference in the financing options for households with fringe benefits and households without. As can be expected, workers without fringe benefits will always face more obstacles in securing financing.

As for the households' income level, it is possible to see that there is a huge difference in households' income distribution, according to their working conditions. Based on data from ENIGH 2004, 76% of households without fringe benefits nationwide earn less than 5 minimum wages, whereas this reading is reduced to 41% for households with fringe benefits.

In addition to the above, it is also clear that income levels are higher in urban areas than in rural ones. 62% of rural households have incomes below three minimum wages, whereas for urban households the figure is 30%.

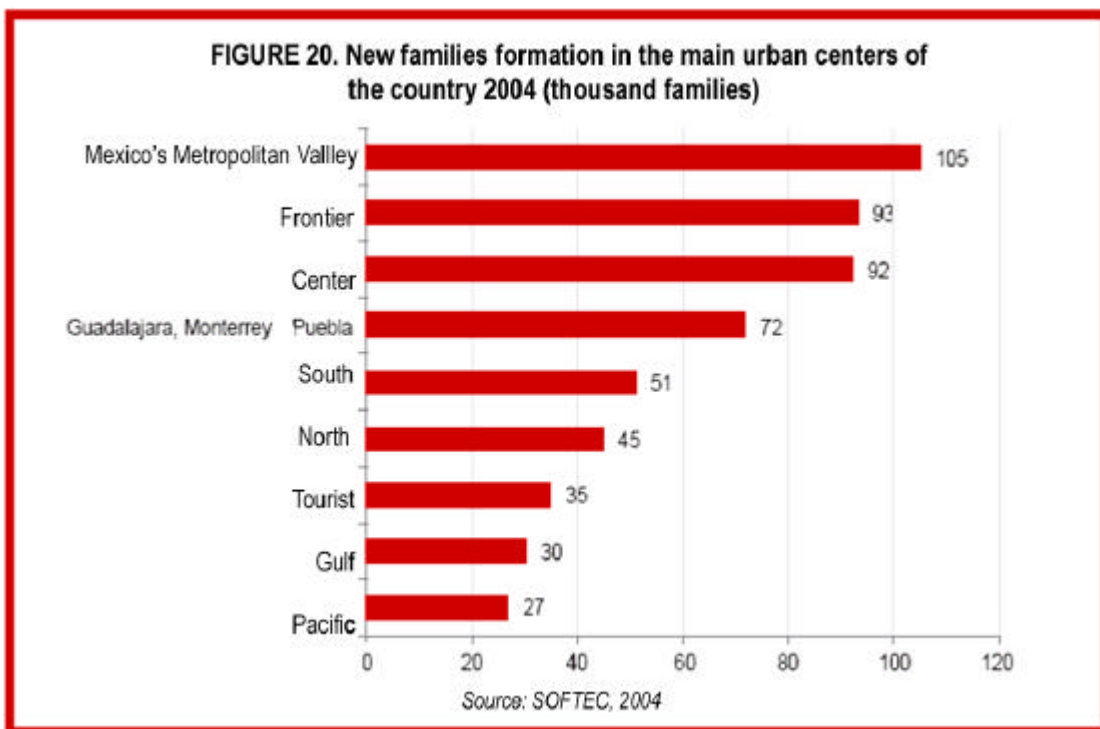
On the other hand, as can be seen in FIGURE 19, households' savings⁶ as a percentage of GDP have remained relatively stable over the last few years, excluding 2000, when there was a significant increase in family income, which led to an increase in the savings to GDP relationship. In that year alone, savings were 8.3% of GDP. In the three following years, a stable behavior in this variable showing 6.1% of GDP was witnessed.

⁶ INEGI. Sistemas de Cuentas por Sectores Institucionales, 2000-2004.

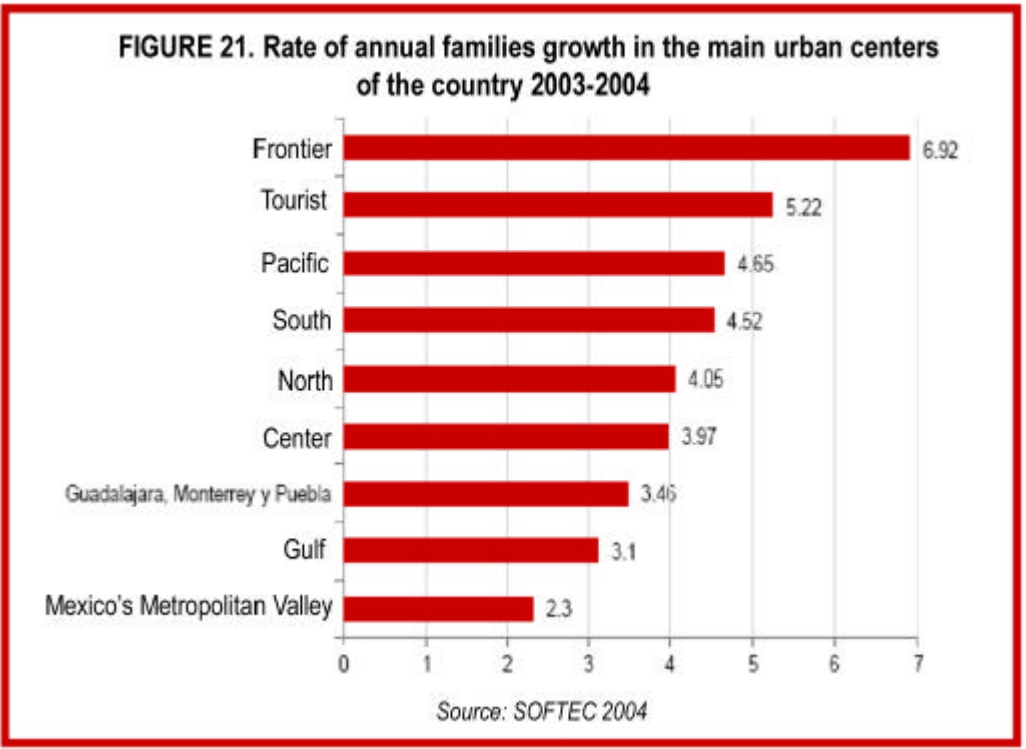


2.6.3 Geographic Distribution

In the latter decades of the last century, population growth was centered in the largest metropolitan areas of the country: the Mexico City Metropolitan Area, Monterrey, Guadalajara and Puebla. As can be seen in FIGURE 20, although these zones still contribute significantly to new household formation, there is also a new source in other regions of the country which currently account for a large part of new household formation. Such is the case of the northern border cities and the central area of the country.



Regarding the geographic distribution of population growth over the last year, FIGURE 21 presents the growth rates between 2003 and 2004 in the main urban centers of the country. The case of the northern border cities is noteworthy since they reported the highest growth rate at nearly 7%; should this growth rate continue, the population would double in ten years. On the opposite end, is the Mexico City Metropolitan Area which had the lowest growth rate at 2.3%. These figures show that, although Mexico City is still the most densely populated area in the country, its growth is less than in other urban centers throughout the country.



2.7 New Construction

According to the information presented by CONAFOVI in the document “Housing needs in Mexico 2001–2010”, it was estimated that in 2004 the country required around 707,273 new housing units. This reading considers part of the new household formation. The new housing needs will follow a growth trend over the next 5 years; 802,775 new homes are estimated by the year 2010.

Regarding supply, there are two methods for producing new housing: developer-built and self-built. Based on information supplied by SOFTEC, in 2004 of all the new homes around the country, around 50% were self-built and the remaining 50% were developer-built. As can be seen below, over the period indicated, 90% of the total new housing units were in the Minimum -Rural, Social and Economic categories. In contrast, this type of housing is only 61.3% of the value of what has been built.

PICTURE 5 Number, value and participation on new homes built during 2004 by type of housing

Type of housing	Range of price (thousand pesos)	Number of new units	Participation related to the number of units	Value of new units (millions of pesos)	Participation related to the value of houses
Minimum	<80	326,600	44.3%	\$25,498	13.7%
Social	80-200	91,403	12.4%	\$16,321	8.8%
Económico	200-380	248,636	33.7%	\$72,144	38.8%
Middle	380-1,000	51,661	7.0%	\$33,439	18.0%
Residential	1,000-2,000	13,363	1.8%	\$19,238	10.4%
Residential Plus	>2,000	5,800	0.8%	\$19,158	10.3%
TOTAL		737,463	100%	\$185,798	100%

— Source: Softec

2.7.1. Geographic Distribution

From the point of view of new housing demand, the state with the highest requirement of units is the State of Mexico, followed by Veracruz, Baja California, and Jalisco. On the other hand, states like Zacatecas, Durango, and Michoacan have the lowest requirement levels. The main factors affecting housing demand are population growth, internal and external migration, the creation of job sources, and access to financing systems.

Regarding supply, as can be seen in FIGURE 23, the cities with the highest housing unit growth are in the states of Baja California, Nayarit and Quintana Roo.

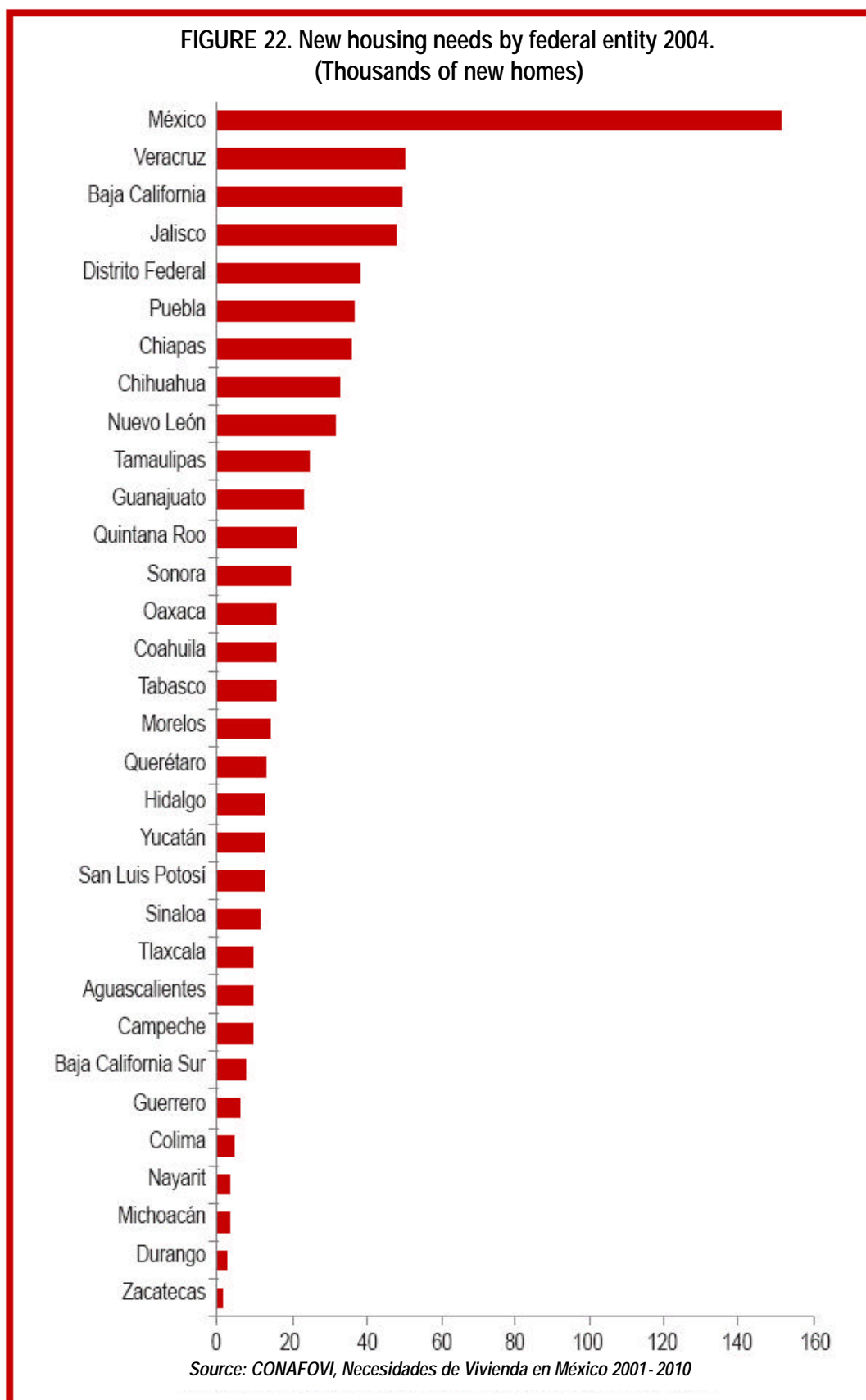
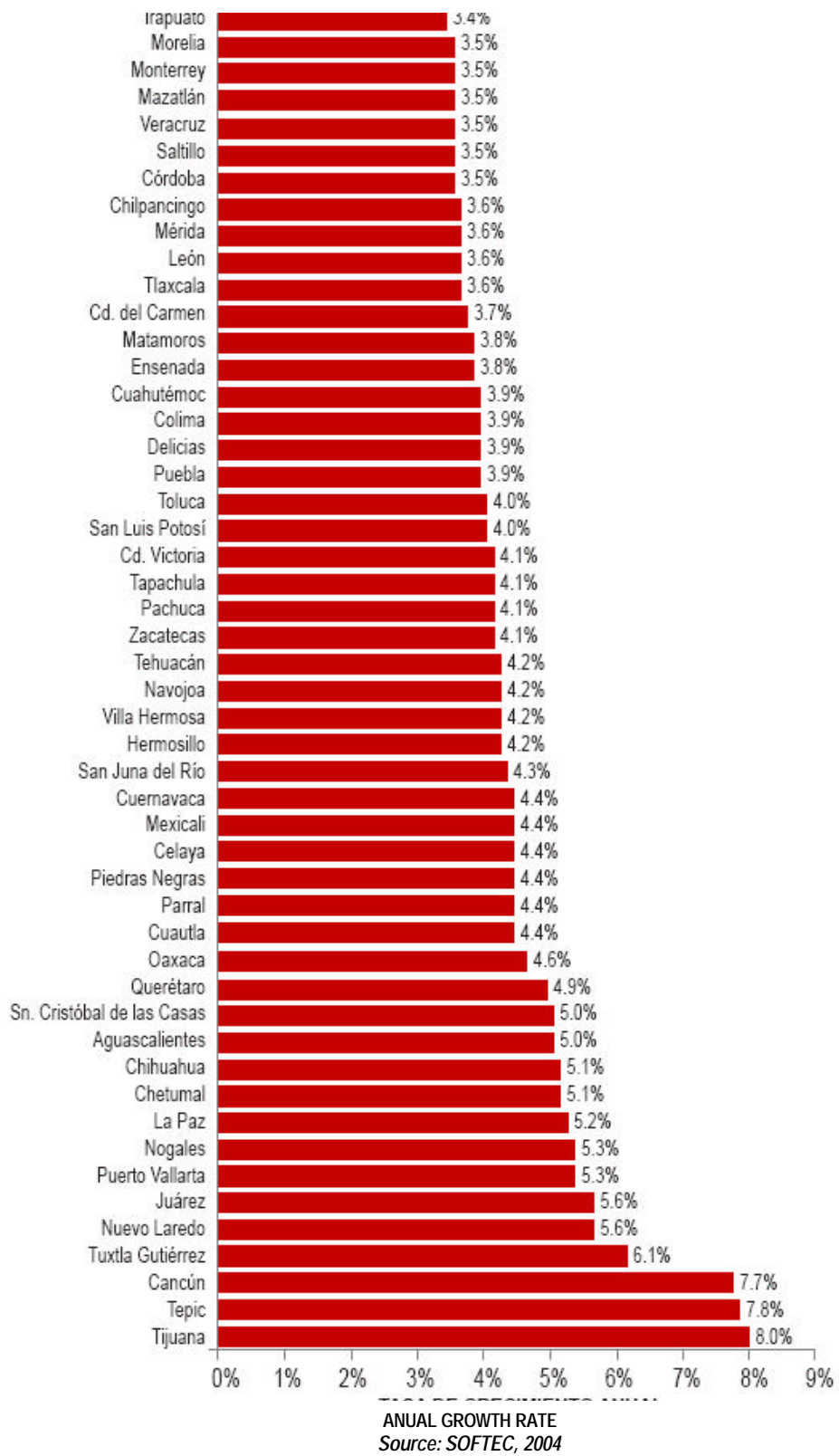


FIGURE 23. Housing Growth in Cities 2004.



2.7.2 Developers

As has been mentioned, the housing sector has been one of the most dynamic in the Mexican economy due to the wide range of options, competition, and innovation. Most families own the home they live in; this is largely due to real estate developers and access to financing.

Affordable entry level and middle housing developers buy large expanses of land, get the permits to develop it, create infrastructure, build homes, and negotiate mortgage loans to sell it to the buyers.

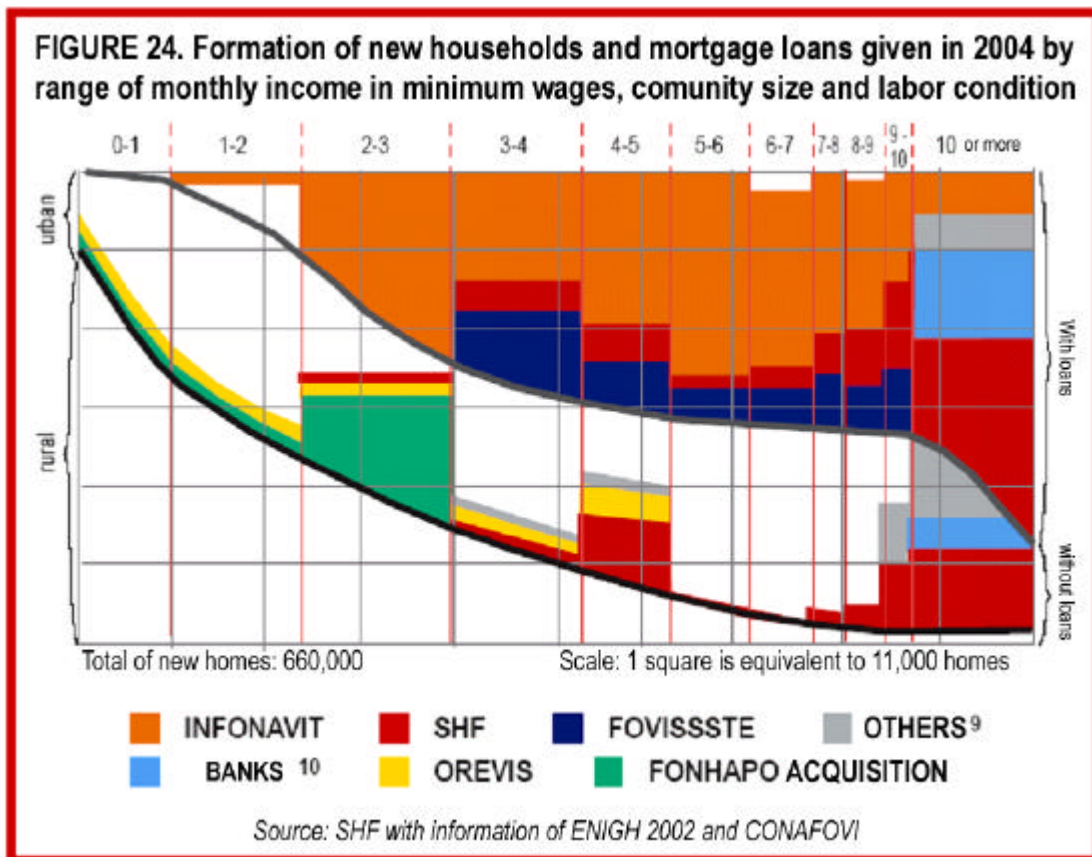
As of 1994, the developer market began to be consolidated. Corporacion GEO was listed on the Mexican Stock Exchange (BMV) and several real estate companies followed suit. There are currently several housing companies listed on the BMV: Consorcio ARA, Consorcio Hogar, SARE, URBI and Homex.

Corporacion GEO is the largest housing developer in Mexico and the one with the largest geographical coverage, specializing in homes worth from 85 to 250 monthly minimum wages. Consorcio ARA builds homes in all segments, from affordable to residential. On the other hand, Consorcio Hogar was the first Mexican company to offer housing in the US, and SARE has been an active player in the middle and social markets. Companies like SADASI, PULTE and DEMET, for their part, are present in various areas of the country, namely Mexico City and the northern border. Some of these companies have invested foreign capital from Citigroup and JP Morgan.

2.8 Balance between Demand and Supply

In Section 2.1 of this document there is a graph showing the potential housing demand for 2004, based on three features relevant to households: income level, locality, and working conditions. If this graph is used to measure the potential market and is compared to the supply of mortgage loans placed by the various housing institutions, the result is the following figure⁷.

⁷ It must be noted that the housing supply is not made up solely of mortgage loans, but there are also formal and informal cash transactions. However, the latter were not included due to a lack of information.



For households with fringe benefits, the graph shows that the potential housing demand has been almost completely covered, except for such households with incomes below two minimum wages per month. In contrast, for households without fringe benefits, there is a blatant lack of servicing for families with incomes below 2 minimum wages and for those between 6 and 9 minimum wages. Likewise, the rural sector is practically unattended by the traditional financing schemes.

2.9 Subsidies

The Mexican housing subsidy system has two main lines on a national level:

a. Direct housing subsidies

Direct subsidies are those granted with a fixed amount, be it in pesos or UDIs (Investment Units), keeping the market interest rate.

In order to include all the direct housing subsidies in one institution, the Federal Government created in 2003 National Fund for Housing Economic Support (Fonaevi), operated by National Fund for Popular Housing (FONHAPO) which is, in turn, a trust coordinated by Secretariat for Social Development (SEDESOL).*

Currently, Fonaevi manages the “Tu casa” program comprising initial housing, rural housing, and Prosavi.

The “Tu Casa” subsidy program focuses on the low-income population that needs to acquire a home or improve or expand the one they already have. In order to achieve this, direct subsidies are combined with the recipients’ contributions, available credit resources and donations. In this way, a federal subsidy is granted to build, expand, or improve housing in addition to the contributions from the local government, the recipients themselves and, that being the case, form private associations and companies. The main goal of the program is to offer the population living in extreme poverty (with a family income of up to three minimum wages) the chance to acquire a home of their own with the basic services.

The Prosavi program, on the other hand, is a special lending program funded and managed by Sociedad Hipotecaria Federal, which provides a subsidy for the down payment for acquiring a home worth up to \$167,000 pesos. This program is supported by the Federal Government, as well as the State and Municipal Governments, and financial institutions specialized in housing (Sofols—non-bank banks) who act as financial intermediaries for SHF to place the loans and manage them throughout their lifetime. The target market is households whose joint income is no greater than five times the minimum wage.

b. Implicit subsidies in housing acquisition

An implicit subsidy is a subsidy allocated with a different interest rate from the one in the market (generally below the market rate) on a loan placed by a public organization—such as FOVISSSTE—or through private equity managed by the public sector—such as INFONAVIT—be it for acquiring or improving a home. This sort of subsidy is generated through worker-employer contributions to the housing subaccount in the Workers Pension Fund.

Thus, the implicit subsidy is calculated for each of the income levels of workers granted a loan, by means of the difference between the current value of the payments made by the borrower at the subsidized interest rate and the current value of the payments made by the borrower at the market interest rate.

2.10 Non-public Organizations and Associations

The Habitat International Coalition began operations in 1976 following the United Nations’ Conference on Human Settlements in Vancouver, Canada; it is an independent, non-profit international network integrated by over 400 organizations working in habitat and housing in 80 countries around the world.

The Habitat International Coalition in Latin America brings together over a hundred organizations from 19 countries in the continent.

Its goal is to carry out activities pertaining to the social production of habitat, the right to land, to housing and to the city, as well as disaster prevention in high-risk areas.

The four organizations described below have brought the Habitat Mexico Coalition to life.

- **Center for Housing and Urban Studies (CENVI).** CENVI is an association devoted to studying urban and housing problems, social groups, and organizations in their search for solutions both for cities and for housing. Its institutional structure makes it possible to relate all its areas to two large axes: PROSHABITAT (Social Production of Low-cost Housing) and OCIM (Mexico City Urban Observatory), the latter of which was created in 1991 in conjunction with the Metropolitan University of Mexico, campus Azcapotzalco. CENVI's research projects focus on the following aspects:
 - Public policies affecting cities and housing.
 - The mortgage financing system.
 - The housing problem, irregular settlements, and urban poverty.
 - Metropolitan urban development.
 - The effects of urbanization on the environment.

In 1998, CENVI was awarded the Dubai International Award for Best Practices for the project in the city of Jalapa, Veracruz.

- **Operational Center of Housing and Population (COPEVI).** Founded in 1961 as the *Housing Department* for the Mexican Institute of Social Studies (IMES). COPEVI provides counseling in the fields of housing and settlements, helping rural and indigenous communities in handling their housing, urban, and environmental issues, all the while respecting and strengthening their identity. Likewise, it has an effect on policies and official programs, as well as on current legislation on behalf of low-income settlers.
- **Social Housing Fund (FOSOVI).** Directed by Architect Gustavo Romero Fernandez, the association develops strategies, instruments and proposals which result in actions to improve urban settlements. FOSOVIs main fields of work are programs for housing improvement, urban development, new housing and microproject funding. In addition, the association researches and analyzes urban and housing policies nationwide, as well as being an active participant in seminars and meetings with the Habitat Mexico Coalition.

2.11 Key Findings

Non-Public Organizations and Housing Associations perform an important task which, until now, has unfortunately been isolated and fragmented. It would be desirable to have deeper knowledge of it and the necessary support to allow them to achieve broader and more visible results.

Section 3. Mortgage Financing

Housing being a durable good, has traits that make its market differ from other markets; its economic transcendence is a result of families devoting most of their income to housing-related expenses (mortgage payments or repairs and maintenance). Furthermore, housing as an investment good is deemed the family's most important asset.

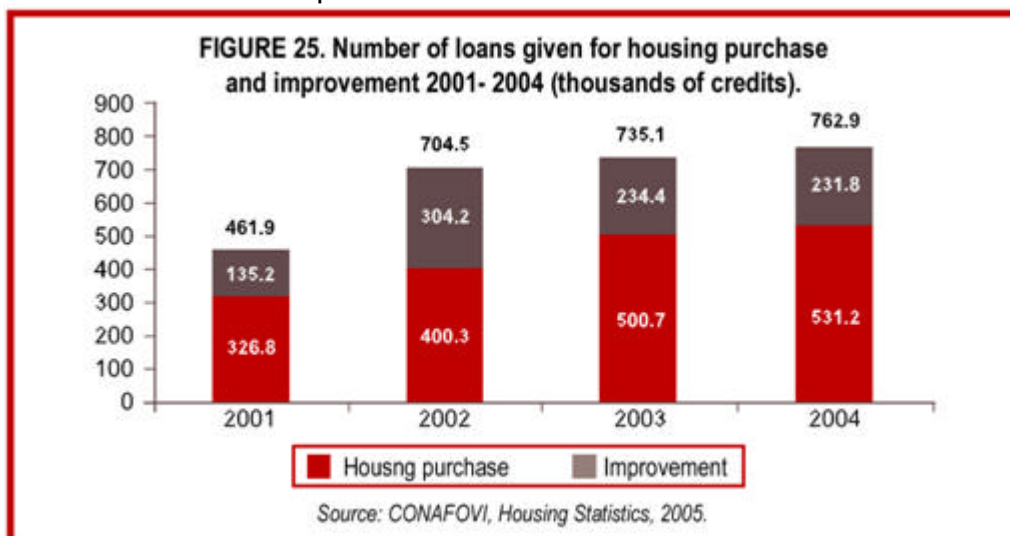
3.1 Reviewing 2004

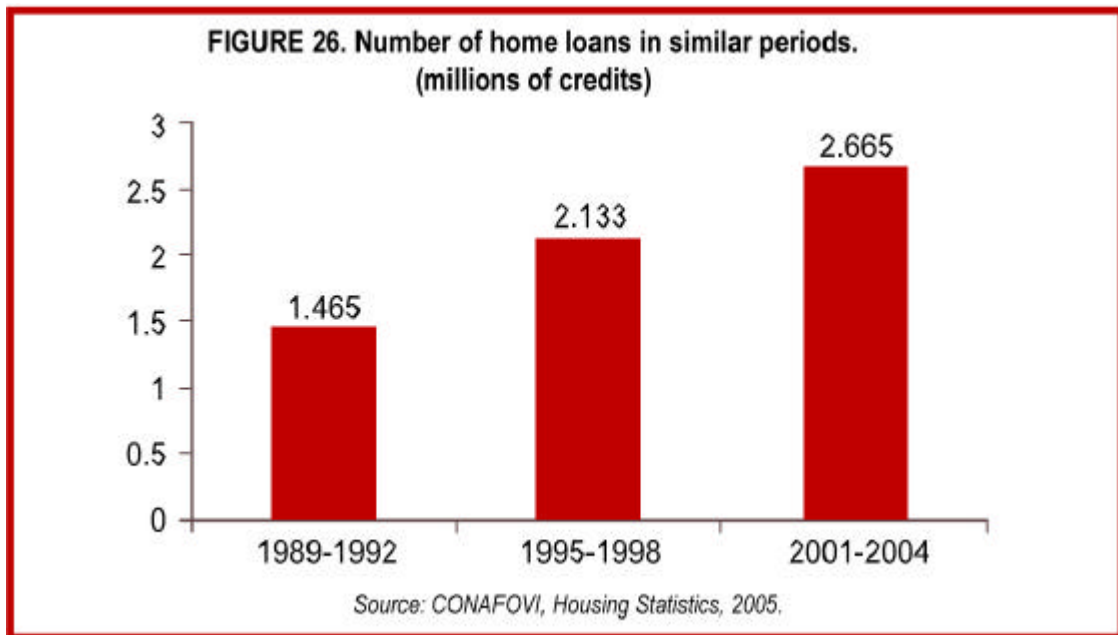
During the current administration, actions have been promoted within the sector with the fundamental purpose of creating the conditions to guarantee that any family can buy, build, remodel or rent a home, based on their financial possibilities and preferences regarding the type and locality. Legal safety measures for home ownership have been established, thus making it the family estate, with an exchange value, and taking root as a factor in territorial organization, as well as in the growth of our cities. As a result of the implemented policy, historical data have been registered regarding mortgage financing acquisition, via a diversification of accessible schemes that have made it possible to make progress in serving the new housing demand and gradually beating back the historical housing backwardness.

Financing for the Development of Housing Supply and Demand

Investment and loans placed by the housing organizations

For 2004, estimated goals for the housing financial institutions were in a range of placement between a minimum 500 thousand and a maximum 575 thousand loans and subsidies for housing acquisition, with an investment of between 112 and almost 129 billion pesos. The minimum goal indicated represents the sector's consolidation, whereas the maximum goal considers a 15% increase compared to 2003.





Based on the 2004 preliminary close, national, state, and municipal housing organizations, financial institutions, development banks, as well as other entities that provide mortgage loans as a benefit for their workers, all together placed a total of 762,985 loans in their various forms—3.8% above the reading from the previous year.

The total mortgage loans placed during the current administration—including the 2004 preliminary close—sum over 2.6 million, of which more than 1.7 million were used for housing acquisition and the remaining 0.9 for improvements and other sorts of loans. This total represents 24.9% more than the figure for the first four years of the previous administration, and an additional 81.9% over the same period in the administration before that.

The investment made into the various mortgage financing programs reached, according to 2004 preliminary data, 133.6 billion pesos, which is equivalent to 1.9% of the Gross Domestic Product (GDP). This proportion averaged 1.5% from 2001-2004, which compares favorably with the 0.7% registered in the period from 1995-1998, although still slightly below the 1.7% seen from 1989-1992—that is, the first four years of the two previous administrations.

New financial schemes

A key element in consolidating the upward rate of housing construction and financing has been the encouragement of savings plans for housing, which make it easier to put down payments and contributions together. In 2004, the following must be noted:

Housing Financing

- As of May, the AHORRASIF program was consolidated; through it, a certificate is awarded to get a loan from any of the non-bank financial institutions (SOFOLS), to those who have fulfilled the savings commitment with any one of the various banking intermediaries incorporated into the program.
- A cofinancing program between SHF and INFONAVIT was begun, offering better credit conditions for those who wish to acquire a home for up to 480 thousand pesos.
- In May 2004, two agreements were subscribed by INFONAVIT and the Mexican Bankers Association on the one hand, and the Mexican Association of Nonbanks on the other, in order to allow the Institute's beneficiaries to combine resources from an INFONAVIT loan with those granted by a bank or a Sofol, thus gaining access to a larger sum than they would normally get with a traditional INFONAVIT loan. Under said agreements, 3,242 loans were placed in 2004.
- The Housing Improvement Microfinancing program was designed for families with incomes from two minimum wages, without having to establish a mortgage guarantee, in order to make improvements to their homes.
- The Transborder Mortgage Program began operations; by taking advantage of the Sofols' infrastructure and the collection of remittances, it has provided investment options to Mexicans residing abroad since its beginning.

Secondary Mortgage Market

The sum of circulating resources went from a little over 9.9 billion pesos—taking into account all the various financial instruments issued until December 2003, by Sofols, such as commercial paper and bonds—to over 18.1 billion pesos by December 2004, which translates into an increase of nearly 83%.

SHF took part in the buying and selling of Mortgage Backed Securities, with two placements in 2004 worth two million pesos, thus generating a fresh flow of resources to settle obligations.

Wishing to create alternate sources of financing to increase its capacity to meet the demand, INFONAVIT issued the first two stock exchange certificates in March, 2004 named *Certificados de Vivienda* (housing certificates) or "CEDEVIS". These certificates were welcomed by the market, with a demand of 1.5 times the sum issued. The first issuance was made in pesos, with a fixed nominal rate of 9.15%, and the second in UDIS, with a real fixed rate of 5.65%, in both cases graded "mxAAA" and without external credit support.

Financial Reorganization of the National Housing Organizations

Portfolio recovery and generation of reserves for bad debts

- **INFONAVIT.** By December 2004, its total portfolio reached 2.3 million loans, of which 197,062 (8.6%) were overdue, nearly 51 thousand (2.3%) had extensions, and 544,210—about a quarter part—had no labor relationship.

By September 2004, the requirement of preventive reserves to cover portfolio risks totaled 53.29 billion pesos, divided into 45.59 billion for credit risk and 7.70 billion for extension risks. In addition, following a conservative strategy, reserves for over 12.24 billion pesos have been made in order to cover potential portfolio risks.

- **FOVISSSTE.** By December 2004, the Fund managed to recover 2.49 billion pesos worth of the portfolio, which represents a 76.6% advance on the programmed annual goal.
- **FONHAPO.** Until December 2004, the Fund recovered the sum of 465.8 million pesos from its portfolio—95.4% of the programmed goal. Of the total collected, 20% was from the public sector and 80% from the private sector. By December 2004, FONHAPO had accumulated a reserve for bad debts of 750 million pesos.⁸

Development of the Sector's Productivity

Support for housing production

In 2004, the "*Fondo de Investigación científica y Tecnológica para el Fomento de la Producción y Financiamiento de Vivienda y el Crecimiento del Sector Habitacional*"⁹, comprising CONAFOVI and the National Council of Science and Technology, evaluated the proposals of the 2003 Announcement and funded 11 projects which together represent an investment of over 10 million pesos.

From the establishment of the Sustainable Housing Project, the specific agreement of execution for the first stage of the Sustainable Housing Complexes program was signed in December by CONAFOVI, SEMARNAT, the National Forestry Commission, the National Water Commission, the Electrical Energy Saving Fund (FIDE), the ONAVIS, the Mexican Chamber of the Construction Industry and the National Chamber of the Housing Development and Promotion Industry. The agreement states actions and commitments to contribute to the preservation and improvement of the environment through efficient energy, water, and forestry promotion and encouragement measures for housing developments.

On August 26, 2004, the Official Daily of the Federation published the Mexican Norm about Supervision Services and Housing Building Verification, which seeks to guarantee the quality of the products' construction and consumer services by establishing the requirements that the companies devoted to such activities must fill.

⁸ Of the loans without a labor relationship, 350,895 had no support of any kind; 93,864 were being restructured; 67,923 had already been restructured; 25,540 were in legal proceedings, and 5,988 reached legal agreements.

⁹ Cientific and Technological Research Fund for the Promotion of Production and Mortgage Financing and the Growth of the Housing Sector

Intergovernmental coordination

In 2004, 26 Modifying Agreements of the 31 Coordination Agreements for Housing and Land Development signed by 31 states were subscribed in order to extend their validity and promote the housing tax relief process, ratification of construction code, the development of state housing diagnoses, modernization of cadastres and Public property registries and the conformation of land reserves for housing.

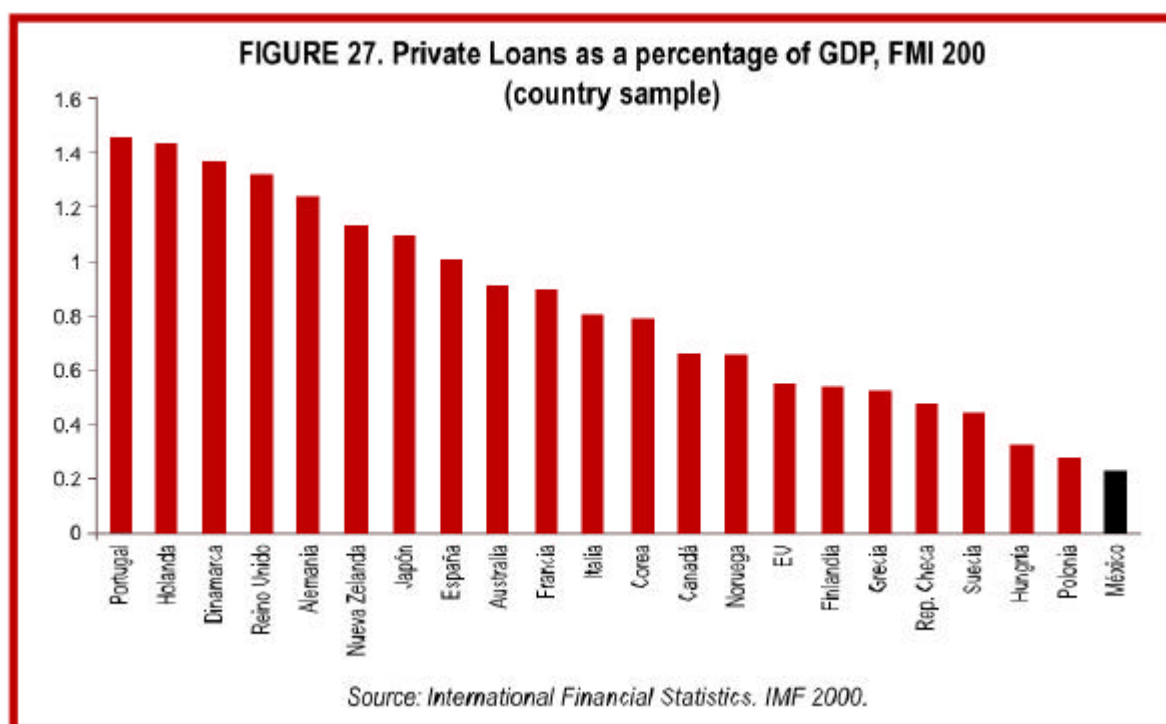
In 2004, two State Housing Councils were established, for a total of 25 councils where intergovernmental coordination is carried out with all the players in the sector in each state.

3.2 Roles of the Public and Private Sectors

Within the mortgage lending market in Mexico there are programs for all those wishing to buy, build or improve housing through the participation of both the public and private sectors.

Although nowadays the participation of public organizations in charge of providing this lending is still the greater of the two, the private sector's share over the last year has been increasing.

However, as can be seen in FIGURE 27, compared with the size of the Mexican economy, the percentage of loans placed through private equity is still small.



The following segments will give a detailed description of the financing programs and the organizations that offer them.

3.2.1 Revision of the mortgage financing system

According to Article 4 of the Mexican Constitution, every family is entitled to dignified housing; therefore, the government must establish the mechanisms and supports to achieve this. Through various public institutions, the government has organized a series of programs so that those segments of the population with low-income levels can have access to a home.

Currently, 600,000 homes are financed annually, and the goal for 2006 is 750,000. The actual actions to achieve this coordinate four organizations nationwide: SHF, FONHAPO, INFONAVIT and FOVISSSTE.

There are also various public and social policy organizations that offer housing programs in the states and municipalities. In addition, there are the Sofols, which are financial institutions registered before FOVI.

Regarding these organizations, there are clear differences in how they are funded and the sector they serve.

PICTURE 6. General financial characteristics by housing institution

Housing Institution	Funds	Given Credits	% of clients	Investment in millions	Income level	Maximum housing value
INFONAVIT	Obligatory 5% contributions of private workers salary. Contributions of the Federal Funds,	300,812*	56.60%	61,059.7	4-10.9 tmmw**	300-350 mmwMC***
SHF	Capital Markets BID and World Bank	65,320	12.30%	20,517.9	3-60 tmmw	500,000 UDIs****
FOVISSSTE	Obligatory 5% contributions of state worker's salary, Chief 5% contributions.	60,252	11.30%	14,595.3	2-7 tmmw	-----
Sofols (Own Resources) and Bank	Capital Markets and deposits (only banks)	35,772	6.70%	23,083.5	\$5,600 minimum	Desde \$116,000
FONHAPO	Federal Funds, Capital Markets and World Bank	29,611	5.60%	1,678.5	<2.5 mmwMC	117 mmwMC
TOTAL		491,767	92.5%	120,934.9		

* Does not include improvements

**Times Minimum Monthly wage.

***Minimum Monthly wage in Mexico City

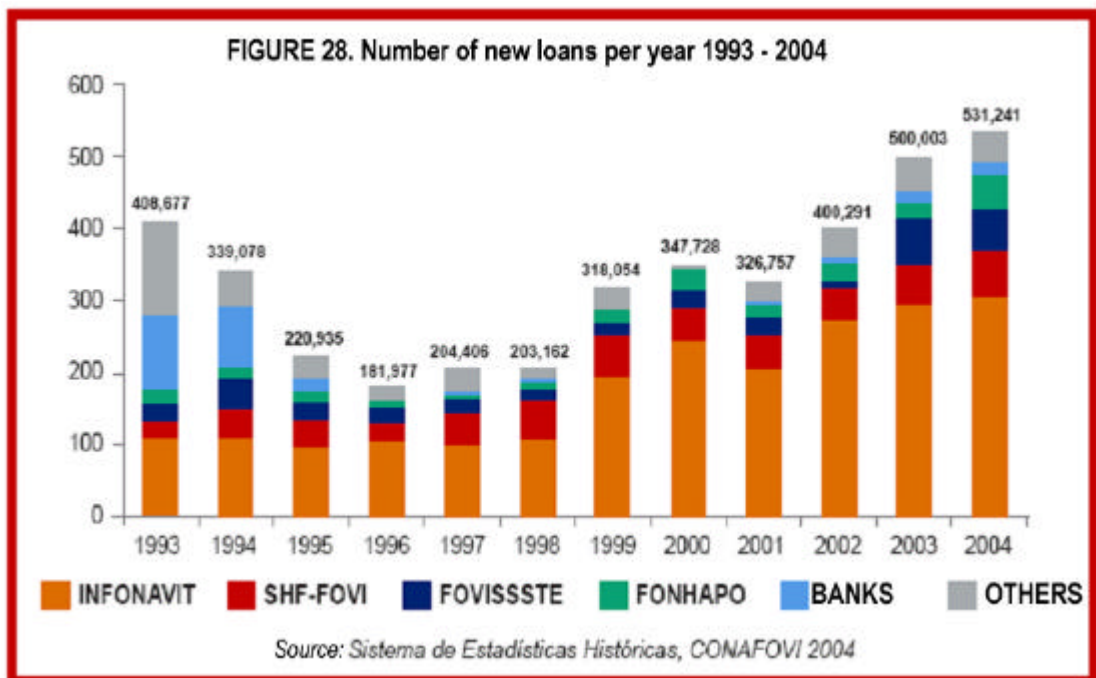
****It refers to the maximum finance amount

Note: ----- means there is no maximum value for housing.

Source: CONAFOVI, *Esquemas Financieros de los Organismos de Vivienda*, 2004.

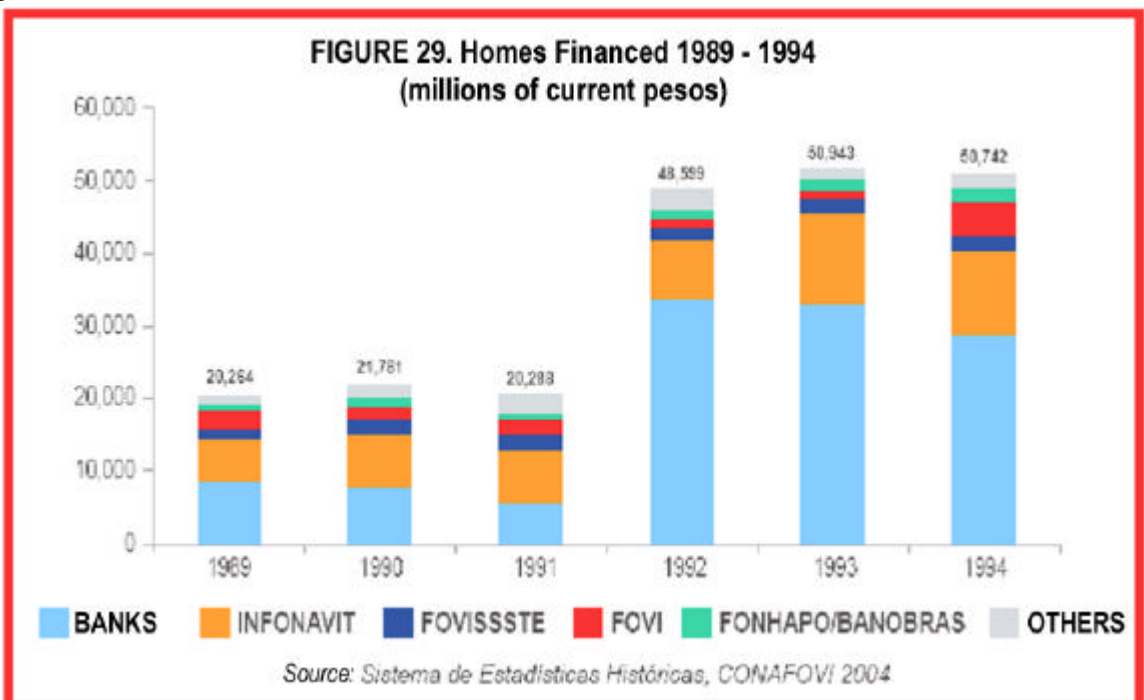
Housing Financing

As can be seen in FIGURE 28, 2004 was the year with the largest amount of loans placed in the last decade. Foremost is INFONAVIT which has represented over 50% of new loans since 1996, followed by FOVISSSTE and SHF.

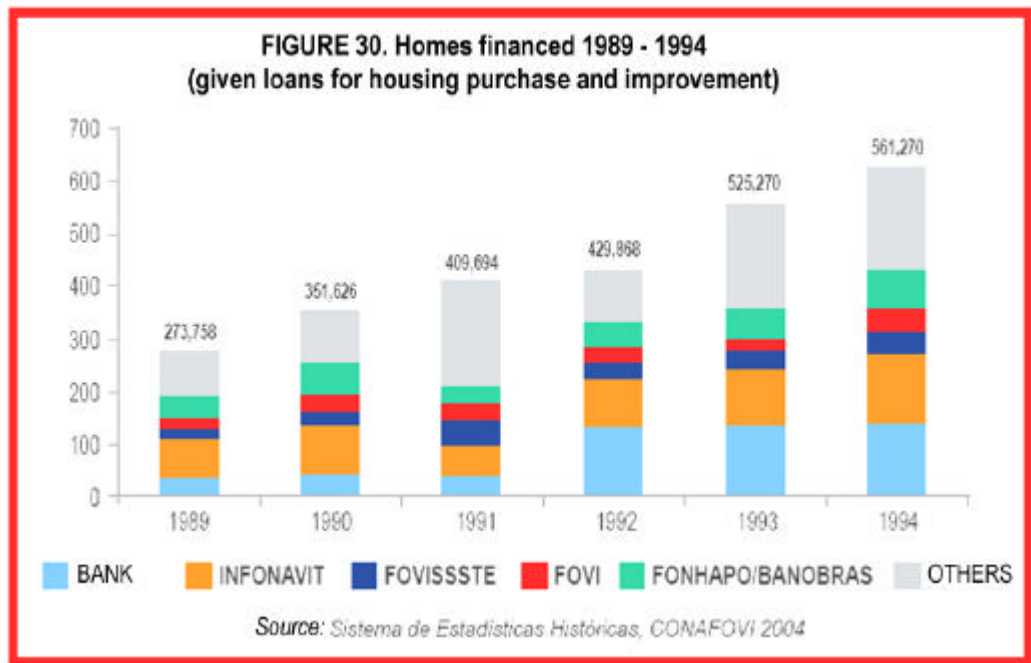


3.2.2. Private Equity: BANKS

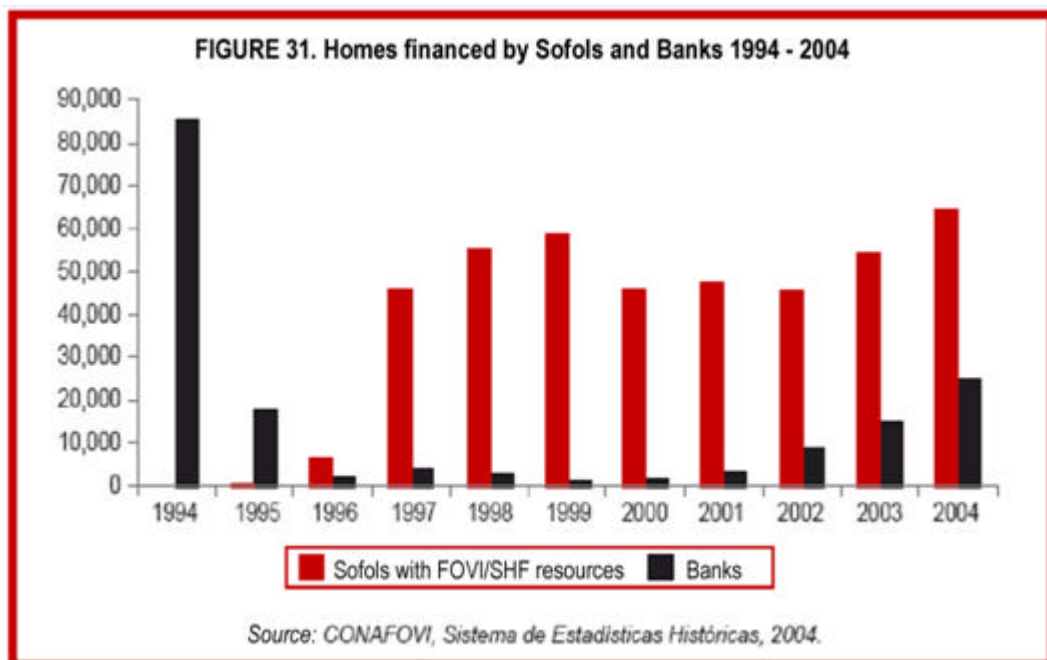
The growth of the mortgage market in Mexico is mainly due to the increase in commercial bank loans and, to a lesser extent, INFONAVIT. Banks went from placing 40% of mortgages in 1989, to 68.4% in 1992 and 55.9% in 1994.



In the same manner, the number of homes financed by commercial banks increased, although with a lower share compared to other institutions; homes financed by banks have a higher value. As can be seen in FIGURE 30, banks went from financing 13.1% of housing in 1989, to 30.1% in 1992 to 22.2% in 1994.



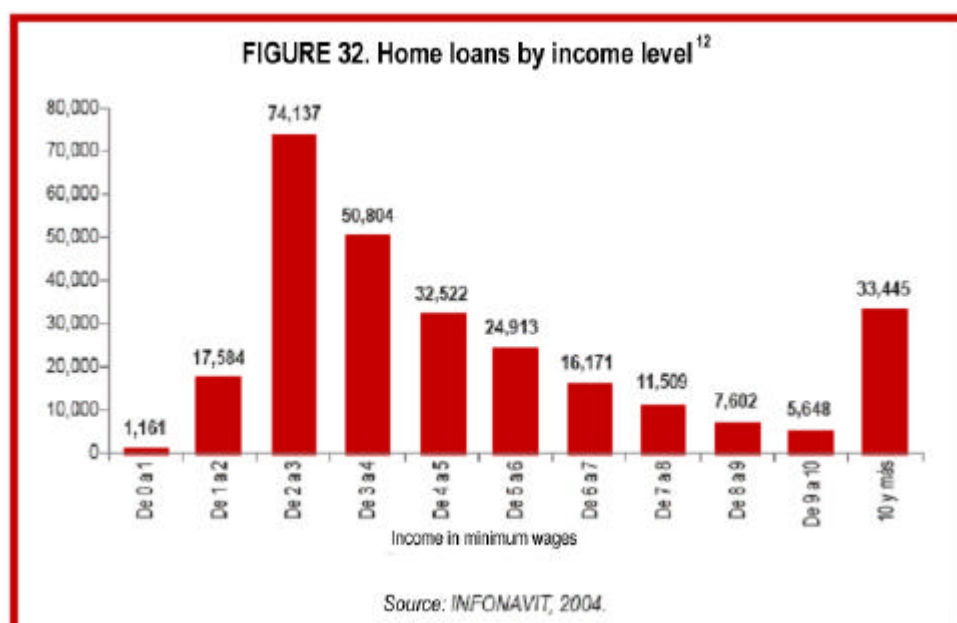
Banks were absent from the mortgage market from 1995 to 2002 due to the 1994 crisis. It was not until 2003 that commercial banks once again showed significant figures.



3.2.3. Private equity managed by the public sector: INFONAVIT

INFONAVIT, founded in 1972, is dual by nature: a social mortgage lender and a pension funds manager. It is a tripartite organization with an equal participation from employees, employers, and the federal government. By December 2004, the Institute had placed 305,975 loans—its largest annual figure ever.

Loans and interest rates are indexed to the minimum wage. Out of 12 million beneficiaries, 3 million loans have been placed, and in 2004, 306,000 were granted to be distributed among 9 million. The average price of the homes it funds is P\$280,000.00.



3.2.4 Public equity: SHF, Sofols, FOVISSSTE, FONHAPO, OREVIS

FOVI was founded in 1963 by the federal government, with Banco de Mexico initially as its trustee; it acted as a Second floor bank providing funds for low-cost housing. As of February 2002, SHF is FOVI's trustee. On October 11, 2001, the Decree establishing SHF's Organic Law was published; this society began operations on February 26, 2002 as a federal development bank.

2004 was a year of important achievements in both quantitative and qualitative terms for SHF. During the year, SHF resources were channeled to fund individual loans, beating FOVI's record of the last five years. SHF placed P\$20.5 billions net financing in loans and P\$3.4 billion in construction guarantees. The number of home acquisitions funded reached 65,320 units—a 20.5% increase compared to 2003, which translates into 11,091 more units. The number of homes with supported construction rose by 22.9%, surpassing the annual goal by 20.2%. Likewise, the number of new homes financed through non-subsidized loans rose by 36.7%, to 55,520 homes.

With the aim of providing Mexican families with more options, two new programs were created: *Apoyo INFONAVIT* and *Cofinanciamiento SHF*, which together funded 7,785 homes.

On the other hand, PROSAVI changed its procedures in 2004, leaving the management of the subsidy component to FONAEVI. During the year, 153,888 construction loans were backed, implying an increase of 28,667 homes compared to 2003.

PICTURE 7. SHF operations resume 2004

Program	Number of supported homes	Homes Percent Change 2003 - 2004
Profivi (UDIs)	50,315	24.5%
Profivi (Pesos)	5,205	2,582%
Apoyo INFONAVIT and Cofinanciamiento	7,785*	189%
Prosavi	9,800	-28%
Construction	153,888**	22.8%

p: preliminary numbers

* 7,785 loans of both programs are included in the 55,520 loans of Profivi.

**Includes individualized houses by SHF and other housing institutes.

Source: SHF, *Informe de actividades, 2004*.

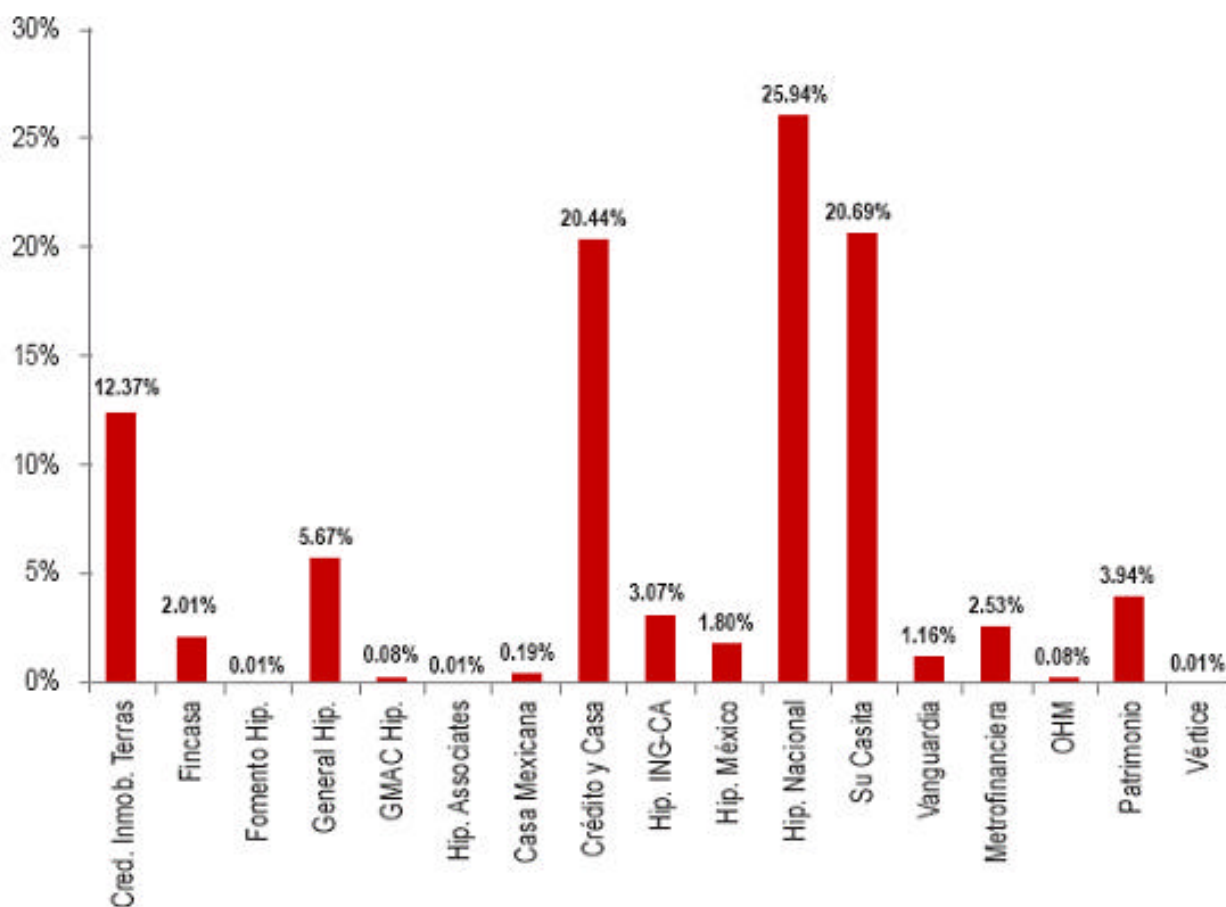
Sofols

The Sofol or Sociedad Financiera de Objeto Limitado (non-bank banks) figure was authorized in 1994 and it specializes in a single type of financing—in this case, mortgage generation and management; it cannot collect deposits from the public, so it is funded through placements of debt, government funds and bank lines of credit.

Sofols supply mortgage loans based on demand, at fixed market rates and indexed to the minimum wage. Their criteria for obtaining resources and portfolio management are homogenous, which has made it possible to securitize mortgage portfolios. In addition, their products are standardized.

The Sofols' mortgage business has registered significant development over the last years in Mexico, growing above the market held by traditional banking institutions. There are currently 17 Sofols in operation in the Mexican housing market. Between 1995 and 2004, Sofols have financed more than 5 times the number of homes financed by banks.

**FIGURE 33. Sofols participation in housing finance 2004
(total percentage of houses financed by Sofols)**



Source: Anuario Estadístico, SHF 2004.

FOVISSSTE

Also founded in 1972, FOVISSSTE is a decentralized organ of ISSSTE. This fund is in charge of managing the contributions made by the institute's affiliated departments and entities, which were established to grant mortgage loans for housing acquisitions.

The borrowers are randomly selected by drawing lots, whereas the credit allocation is made through financial institutions in the mortgage sector aided by SHF. In this task, Sofols are the main entities through which the loans are materialized with resources from FOVISSSTE.

The interest rates on the loans are lower than market rates. FOVISSSTE has placed 666,975 loans from its foundation in 1972 to June 2005, of which 518,791 are still active, out of 2.1 million affiliated workers.

FONHAPO

FONHAPO is a trust for mortgage financing for low-income families, and it is coordinated by SEDESOL. The various credit modalities are designed for the acquisition, construction, expansion and underwriting of real estate up to 90% of its value (in the case of underwriting, 100% is financed), the remaining 10% must be provided by the borrower as savings registered by the operating agent. In 2004, a total of 2,166 credits were placed.

PICTURE 8. FONHAPO's given loans 2004

Loan Type	Given Loans	Investment (thousands of pesos)
Improved homes	1,322	26,288.7
Progressive homes	16	1,172.8
Finished homes	828	121,492.9

Source: Estadísticas de Vivienda, CONAFOVI 2004.

OREVIS

OREVIS are state-run mortgage financing organizations, created as departments of the local governments. They are in charge of quantifying local housing needs, as well as encouraging promotion programs at the state and municipal levels.

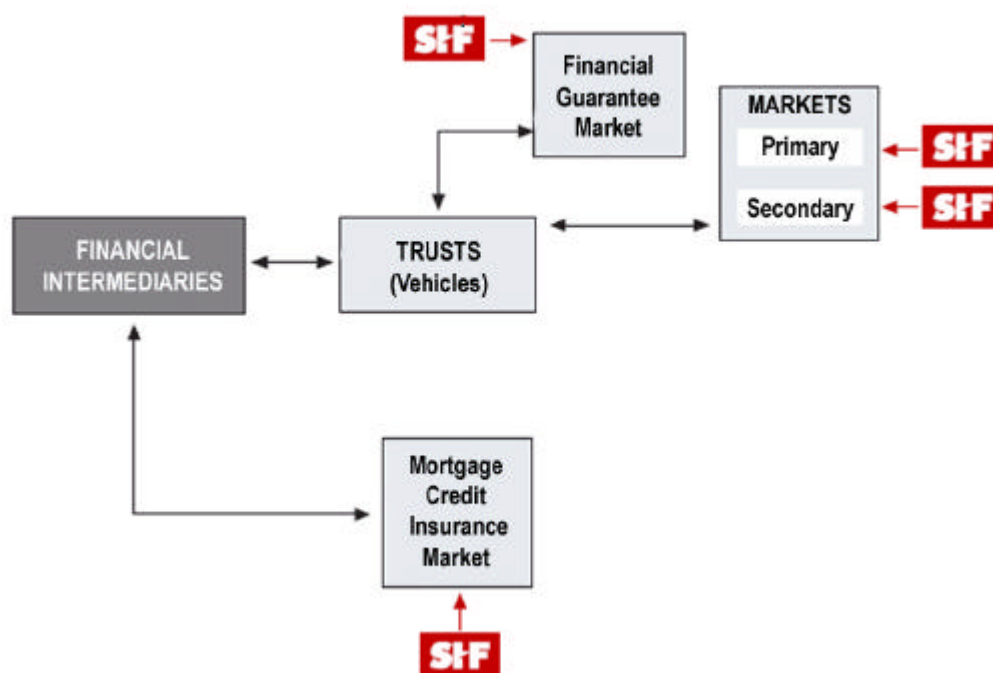
According to CONAFOVI's data, 48,651 credits were placed in 2004 for acquisition and improvement, equivalent to 6.4% of the total credits placed in the year, and an investment of 2.874 billion pesos.

3.3 Secondary Mortgage Financing

In face of greater competition from banks and the pressure on Sofols' capital, it is to be expected that securitization will become one of their main funding sources in the short run. Securitization has a twofold effect on mortgage lending:

- 1) A reduction in the funding rate in absolute terms.
- 2) A reduction in the capital requirements from the Sofol to bear the liability's growth, which then translates into a lower cost of capital (and thus a lower cost for the end consumer).

The mortgage securitization scheme has the following structure:



3.3.1 Technology

One of the sectors with the greatest progress in the use of new technologies is undoubtedly the mortgage market. As part of an initial effort, in September 2004, both Mexico's Central Bank and CONDUSEF set up on their websites a mortgage calculator that makes it possible for potential consumers to estimate the down payment and monthly installments of a mortgage. On the other hand, in July 2004, SHF designed and introduced the Credit Scoring System for all its mortgages. This tool is available on Internet for all the Sofols that are currently working with SHF.

Although these efforts represent huge progress in the housing sector, the industry is still far behind the technological advances seen in other countries. Such is the case of the US which is one of the leading countries in implementing electronic mortgages. In 2000, the US Congress passed the Federal Electronic Signatures in Global and National Commerce Act (E-SIGN) which, together with the Uniform Electronic Transactions Act (UETA), states that documents signed electronically are just as legally binding as their counterparts on paper. These laws paved the way for electronic mortgages.

Currently, in Mexico, the integration of the mortgage industry into the capital markets has increased the pressure and the need to have timely, reliable, and transparent information. In this sense, it is necessary to make an effort to achieve a standardization of information, which will make it possible to reduce costs, make the mortgage origination and

management processes more efficient, and improve investors' confidence, as well as the quality of assets.

Some of the most ambitious projects currently in operation are:

- Creation of the Mortgage Statistical Information Source (FIEH); directed by SHF, the intention is to create a reliable source of information to control, identify, describe, and monitor all the homes requiring some credit risk coverage, or else, which are securitized. The project's main goal is to centralize the information from the participants in the mortgage portfolio securitization scheme.
- Creation of the Digital Custody Center (CCD); also directed by SHF, there is a plan to create a service unit which will offer financial intermediaries the following services: a) document safekeeping, b) digitalization, and c) a database to validate the credit score.
- Creation of a national database: CONAFOVI is in the process of setting in motion a System of National Housing Statistics which will concentrate all the information from all public and private housing institutions.

3.3.2 Operations

As can be seen in PICTURE 9, in 2004, the sum of securitized credits rose to P\$4.6 billion, which means 83.9% more than in 2003. In 2005, the goal is P\$6 billion in securitized credits—a nominal increase of 30.5%.

PICTURE 9. Securitization resume by finance institution 2004.

Finance Institution	Loan Type	Number of Loans	Amount (million pesos)	% supported amount with SHF guarantee
*Su Casita	Individual	4,089	\$ 1,169.6	0.0%
GMAC	Individual	3,857	\$ 1,072.6	0.0%
Metrofinanciera	Individual	1,616	\$ 500.0	9.0%
Metrofinanciera	Construction**		\$ 855.0	14.2%
Fincasa	Construction**		\$ 1,000.0	18.0%

*Of the 4,089 loans given by Su Casita, 234 correspond to GMAC.

**Loans to construction are not taken into account because they are contracted by developers.

Source: SHF, Informe de actividades 2004.

In order to strengthen and support the development of the secondary mortgage market, the following initiatives were taken: i) development of default and timely payment guarantee contracts for the securitization of individual loans; ii) promotion of the private sector's participation in the development of the market's infrastructure, such as custody and digitalization centers, master services and multi-sofol securitization vehicles.

3.3.3 Demand

In order to cover the mortgage lending demand in the coming years, it is necessary to channel institutional investors' savings into purchasing mortgage portfolios. With a better organization of these investments through the development of the secondary mortgage market the following will be achieved:

- Participation from specialists in each stage of the lending process, thus benefitting the consumers; financial efficiency and strength, particularly, will provide better and broader distribution of the risks pertaining to lending.
- Encourage competition between bank and non-bank intermediaries in favor of the consumer through greater transparency in costs and risks.
- Having an alternate funding mechanism other than banks in order to support mortgage lending, reducing the sector's vulnerability and encouraging competition.
- Provide elements and information to bank regulators and supervisors for a better prudential regulation.

In order to speed up the secondary market's consolidation, it is necessary to:

- Begin substituting SHF long-term funding with funding through purchasing Mortgage Backed Securities (MBS).
- Support the development of Mortgage Securitization Vehicles, via SHF.
- Define in the regulation what securities will be considered MBS, thus allowing these instruments to have a specific treatment in the investment regimes of the various asset managers.
- Actively promote securitization among commercial banks, encouraging them to fund their mortgage lending through MBS placements, as well as the acquisition of MBSs from third parties.
- Generate relevant information for investors and MBS issuers.

3.3.4 Recent developments

In order to encourage mortgage securitization, SHF has implemented a series of changes in its operation. It has particularly sought to promote the standardization of loan origination and collection.

Origination: as of July 1st, 2004, the following policies have been followed:

- Credit score: credit applicants must have the minimum score required.
- Valuations: valuations for mortgage loans must follow the rules issued by SHF.
- Standard documentation: documentation in credit files according to origination policies. Especially important is proof of income.

On the other hand, changes have also been made to improve the collection system of mortgage loans that are securitized:

- **Mitigation of Loss:** Any time the loans show a delay, the intermediary must at least meet the Mitigation of Loss criteria established by SHF.
- **Periodic Information:** SHF requires that the loans with their guarantee be included in the information appendixes that the portfolio manager must submit periodically to SHF.
- **Default:** When a borrower is in default in their loan payments, they must be reported in the specific Appendix submitted to SHF.

In addition, the default guarantee product has been improved so that it matches international practices (mortgage lending insurance) and to promote both the entry of new players, as well as the securitization process.

Some of the main changes are:

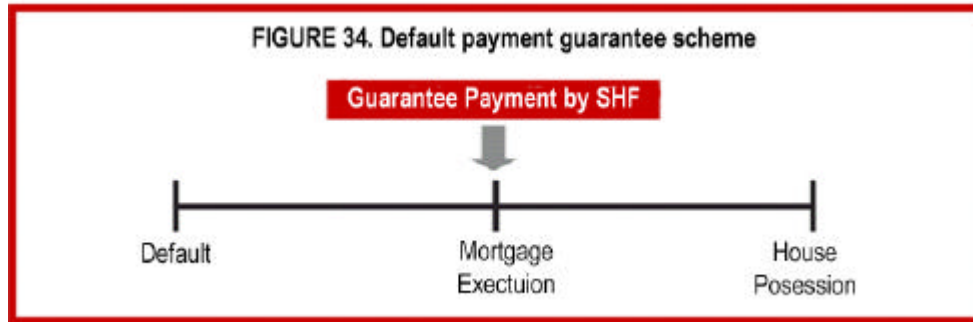
- The percentage of coverage and the down payment can be combined to represent up to 35% of the unpaid balance.
- The guarantee premiums depend on the intermediary's rating, the loan to value, and the corresponding term.

3.4 Mortgage Insurance and Financial Guarantee

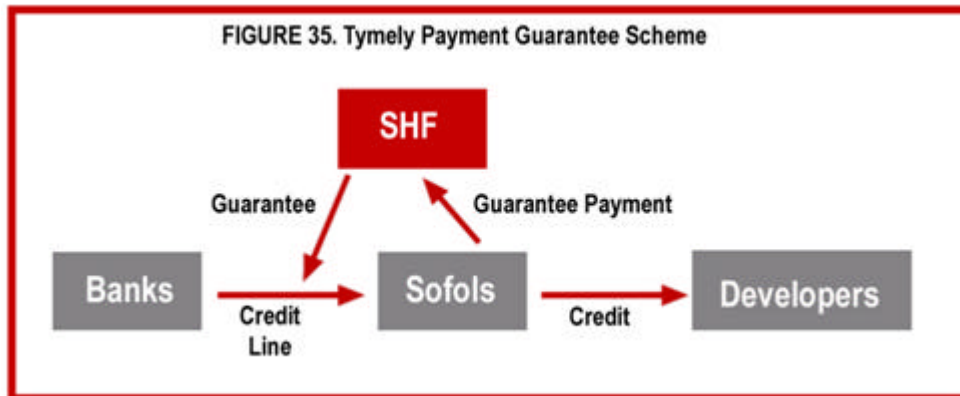
Currently, there are two types of guarantees on the mortgage market developed by SHF; the Default Payment Guarantee (GPI by its initials in Spanish) and the Timely Payment Guarantee (GPO by its initials in Spanish). These products allow SHF to spread the credit risk among private agents, simplify the capital requirements of financial intermediaries, drive standardization of mortgage origination, and encourage securitization.

GPI is designed to protect the financial intermediary from payment default on a mortgage. SHF charges a premium for this guarantee which depends on the credit's loan to value. In general, GPI has the following characteristics:

- It covers individual loans up to 35% of the unpaid balance.
- The guarantee's premium can be paid up front or in monthly installments.
- The guarantee is paid to financial intermediaries upon the mortgage's execution.



GPO is designed to protect commercial banks from payment default on construction loans. This is an important tool for encouraging the banks' return to the mortgage market. The guarnatee covers up to 85% of the lines of credit used for construction from commercial banks and Sofols. The premium on the guarantee is negotiated individually with each Sofol. In case of default by the Sofol, SHF pays the commercial bank the unpaid balance in the two days following the bank's claim.



3.4.1 Recent developments

As of July 1st, 2004, a new guarantee has been in operation, known as Mortgage Lending Insurance or “new GPI”, which can be acquired independently from SHF funding. The guarantee protects the creditor intermediary from losses caused by default by the end borrower, for up to 35% of the loan's unpaid balance. SHF reserves the right to pass the purchase of the building or loan to a third party from the date of the guarantee claim and until the latter is paid. This new product includes two options: one denominated in UDIs and the other in pesos. From its start, 25,549 guarantees have been granted, of which 89% are in the UDI program and the remaining 11%, in the peso program.

In conclusion, it is believed that this product is essential to the credit strength of Mortgage Backed Securities' (MBS), and to the standardization that the market needs.

3.4.2 Future trends

Undoubtedly, the next step in developing the mortgage insurance and guarantee market in Mexico is to allow foreign insurance companies to enter. In this sense, SHF has been in

talks with the main mortgage insurance companies in the US, such as GE Mortgage Insurance, PMI, MGIC, Triad Guarantee, United Guarantee and Republic Mortgage Insurance Corporation, which showed great interest in the Mexican market.

Although the current credit volume cannot sustain the entry of many insurance companies, it is expected that at least one will manage to break in. This is because there is a clear intention to become the first to seize the largest possible market share.

Likewise, the last few years have witnessed the entry of such insurance companies into markets like Hong Kong and Korea. This should breed great optimism in the Mexican market, since Mexico's credit volume is much higher and the credits are much better quality than in those countries.

Despite the above, it is necessary to keep in mind that, in order for companies in the private sector to begin selling this type of insurance, Congress must first modify the Mexican insurance law to make mortgage insurance legally valid, and then the insurance authority, CNSF, would have to issue the corresponding regulations. Thus, SHF, CNSF and SHCP are working together to develop specific rules to regulate the mortgage insurance market.

3.5 New Products and Practices

With the view to create new alternatives to gain access to mortgage lending, SHF, as a mortgage financing developer, has designed and implemented new products which make it possible to cover the needs for mortgage financing and contribute to the development of the secondary mortgage market. Among these alternatives are:

- **Cofinanciamiento SHF-INFONAVIT.** The goal of this program is to simplify housing acquisition with a maximum price of up to P\$480,000, allowing borrowers to reduce the down payment and the monthly installments compared to traditional credit products. It works through the documentation of two credits under the same contract and with a single guarantee.
- **Apoyo INFONAVIT.** This is a program aimed towards the acquisition of new or used housing worth between P\$166,000 and P\$860,000 allowing the reduction of the down payment required for the purchase under traditional credit programs, through the borrower's housing subaccount in INFONAVIT. This program is aimed at INFONAVIT beneficiaries with a current working relationship at the time of requesting the loan. The main advantage lies in the fact that it simplifies access to loans from banks and Sofols, by allowing a reduction of the required income to have access to a loan, since the employer's contributions are used to pay it off.
- **Savings Program.** The goal is to speed up the access to a loan for those who have the capacity to pay a mortgage but cannot prove their income. In 2004, 418 individuals entered the program.

Housing Financing

- **Microfinancing for improvement.** These are medium-term loans to make improvements to the home, such as expanding or remodeling it. It is designed for families with low incomes and without the need to provide a mortgage guarantee.
- **Transborder Mortgages.** The migrant lending program is designed to help Mexicans living in the US to buy new or used housing. The source of payment is the remittances, free of commission, regardless of the borrower's migratory status, and with the advantage that the loans are in pesos with fixed monthly payments. This program, just as the other SHF programs, is operated through financial intermediaries.

By the end of 2004, there were three financial intermediaries operating this program, and managing to place 343 loans.

In addition to these programs, on SHF's initiative, the criteria for income verification have been modified to include other documents in addition to the traditional pay slip: housing rent receipts, bank account and credit statements, invoices proving personal expenses or the purchase of raw materials; a letter from the employer, stating the additional income obtained through tips or the like, and letters from taxi owners indicating the drivers' incomes.

Without a doubt, 2004 was a year of great advances regarding the introduction of new products which increased the possibilities of gaining access to mortgage financing. However, the biggest challenge lies in boosting microfinancing programs, which focus on lower income population posing a very significant potential demand.

3.6 Self-financing

Self-financing is a marketing system consisting of the creation of groups of consumers who contribute a certain sum into a trust on a monthly basis, according to the chosen term and amount. These contributions are used in the acquisition of new goods, real estate or services, and they are allocated to the consumers either by drawing lots, seniority, points, auction, or minimum allocation. In the case of housing, the awarding of self-financing can be for acquisition, improvement, or construction.

The Department of Economy is in charge of regulating self-financing companies through the "Regulations for marketing systems via the integration of groups of consumers" and the Official Mexican Norm known as "Commercial Practices—Regulatory Elements for systems consisting of the integration of groups of consumers for the acquisition of goods and services" (self-financing).

Companies in self-financing must set up a banking trust to manage the fees paid by the members, and they are supervised by the National Banking Commission, the Treasury Department and Banco de Mexico. The operation is carried out through the signing of an adhesion contract, duly registered before the Federal Bureau of Consumer Interests (PROFECO), as per the guidelines established by the competent authorities.

There are two types of trusts related to self-financing systems:

- Closed trust. It is integrated by a fixed and exact number of participants; it becomes active once it has the required number of members, and it is liquidated once the last fee of each of its members has been collected.
- Open trust. It does not require a set number of participants and allows a constant inflow of new members and the exit of those who have completed their cycle of contribution, reception of the benefit, and debt settlement.

The monthly fee to be paid by the client is determined by the term engaged, dividing the sum into the number of months selected; to that sum are added the fees for management, life insurance, and permanent incapacity.

The advantage of this type of financing is that, if the client does not have all the capital to buy a home, they can acquire the total sum by making contributions for the engaged period, without it implying a strong disbursement in a single payment. The disadvantage of this system is that, if the client wishes to cancel the contract, they must pay a conventional penalty fee which is normally one or one and a half contributions, plus the sums paid for insurance, administrative expenses, etc.

In Mexico there are around 125 self-financing companies with contracts registered before PROFECO, but only 35 are currently in operation. Of these 35 companies, 15 are members of the the AMAPSA whose goal is to integrate them, as well as to encourage security and equality in their operations.

According to CONDUSEF, there are 80,000 consumers in the real estate sector of self-financing, of which around 40,000 are with companies in AMAPSA.

3.7 Key Findings

Despite the results obtained in 2004 by organizations devoted to offering mortgage financing on a local and national level, the rural sector is still almost fully unattended. For this reason, it is necessary to implement more social policies aimed at satisfying the housing demand in this sector.

Likewise, several programs have been started, which are good options for financial housing schemes, and cater to various sectors of the population which have so far been unattended. It is important to promote them further to increase the credit penetration and boost investment into the mortgage sector.

Through the consolidation of the secondary market and by improving the regulatory environment of mortgage lending, the costs and risks can be made more transparent and healthy competition between the intermediaries in the sector can be encouraged.

Housing Financing

The Financial Guarantee market as a credit-risk spreading mechanism and a source of resources for financial intermediaries requires that it allow the entry of foreign companies in order to develop.

Section 4. Territorial Organization and Housing provisioning

The governmental responsibility regarding territorial organization and its provisioning for housing in our country is divided among the three levels of government: the federation, the states, and the municipalities. In general terms, urban planning, providing homes for the low-income population, regularization of agrarian property, and ordering irregular settlements, are the main powers of the federal government which, together with the state governments, must foresee the national land reserve requirements, as well as drive programs to incorporate them into urban usage to cover that demand. This is not the case with the powers of the municipal level, such as implementation and management of urban policies for land use, equipping and urban infrastructure, and the collection of contributions.

4.1 Norms for Territorial Organization

The authorities participate in the urban land market in various ways, from direct intervention in offering the land and infrastructure, to the indirect, such as dictating norms and regulations regarding the types of use authorized. Each level of government's main norms and powers which influence the urban land market in the country are:

At the Federal level. The actions or powers for Territorial Organization take place in two fields: the ones oriented towards urban planning, and the ones contained in the social policies for providing homes for the low-income population; those designed for regularizing agrarian lands to incorporate them into urban development¹⁰, and the ordering of irregular settlements.

Regarding territorial organization, SEDESOL is in charge of developing the National Urban development and Territorial Organization Program (PNDU-OT)¹¹, as well as providing support and technical advice to the state and municipal authorities in developing and implementing their local urban development policies (Regional Development Plan).

With regard to the land, The General Law of Human Settlements (LGAH by its initials in Spanish) states that the federation—coordinated with the states—must foresee, on a nationwide level, land reserve needs, in addition to directing programs to incorporate these lands into urban usage and promote investment into territorial Organization.¹² To this effect, the federation is urged to coordinate with the local governments to encourage the “participation” of both the social and private sectors. At the same time, SEDESOL implements policies for subsidies aimed at purchasing land for the development of social housing via the Habitat program.¹³

¹⁰ Article 27 of the Constitution, section XIX.

¹¹ PNDU-OT defines the guidelines for a policy towards territorial organization, considering that Territorial Organization is the institutional tool which makes it possible to integrate urban and regional development into the economic and social development under sustainability conditions.

¹² Likewise, the direct regulation of settlements in urban areas comprising several states is implemented through programs of Organization in Suburban Areas.

¹³ This program was begun in 2003. In it, the federation supplies a third of the cost of the land, and the state or municipality—legal owners of the land—supply the rest, agreeing to devote 50% of the lots to housing for the poor.

At the State level. LGAH states that it is the responsibility of the state governments to legislate on Territorial Organization and create their State Program of Urban Development (PEDU), in accordance with the PNDU-OT to which the municipalities are subject. It stresses the power to authorize the establishment of population centers; create and manage land reserves; participate in the regularization of land ownership, infrastructure and urban service provision, together with the municipalities; and setting fines for defaults in land use.¹⁴ The implementation of these functions is made via the OREVIS.

Likewise, the states are allowed to receive, as a donation, or acquire lands in their urban reserves which they can develop, or have developed through concessions to the private or social sectors.

At the Municipal level. The municipal authorities are in charge of managing most of the urban policies nationwide.¹⁵ Firstly, they must develop their own Municipal Program of Urban Development (PMDU), which must follow the federal and state guidelines and be registered in the Public Property Registry (RPP). Through these programs, authorities establish the zoning of population centers for future management; they must take into consideration the opinions of the social and private sectors when creating these programs to see their feasibility for, and impact on the community.

The municipal council has direct power on the land market since it can establish, modify and grant licenses for land usage, determine population and construction densities, divide lots, controlled development areas (for instance, industrial activities), determine ecological reserves and investment in urban land ownership, as well as propose to the State the creation of population centers, as well as participating in the creation and management of reserves.

Due to their quality as complementary goods for urban land, the municipality participates in that market by providing urban infrastructure and managing the supply of the services, be it through proprietary resources (for instance, collection of property taxes) or through transfers and contributions from the federation. It is worth noting that it also has the power to subcontract basic urbanization of the lots to the private sector (for example, developers). This tends to happen in municipalities with a restricted budget, high new housing demand (especially economic) and the availability of apt reserves. In addition, it has an influence on the indirect cost of housing development in its area through the determination of taxes and rights payable for land acquisition, subdivision, and urbanization, as well as management costs to cover the locality's paperwork.¹⁶

To this effect, the problem of the governments in Mexico's various metropolitan areas, at the Federal, State, and Municipal levels, lies in that they do not have solid institutions to coordinate the public effort; for this reason, urban organization/distribution and environmental plans and programs have little effect over the orientation of urbanization; however, there have been some institutional advances and a recreation of instruments to avoid occupation of natural areas, densification of internal areas of the cities, as well as recovering the historical town center and other areas, in order to satisfy housing demand,

¹⁴ Likewise, they can agree with municipalities on the joint management of municipal public services.

¹⁵ Article 115, section V.

¹⁶ Under indirect costs CONAFOVI incorporates all tax and rights collections from license and permit payments, as well as titling payments (Tax on Real Estate Acquisitions ISAI, Public Property Registry and Notary Fees).

recover economic activities, create jobs, and promote conditions to establish economic activities related to the world market.

4.1.1 Access to urban services

Over the last few years, there has been a significant increase in the number of homes served, as well as in the coverage percentages of services such as drinking water and plumbing.

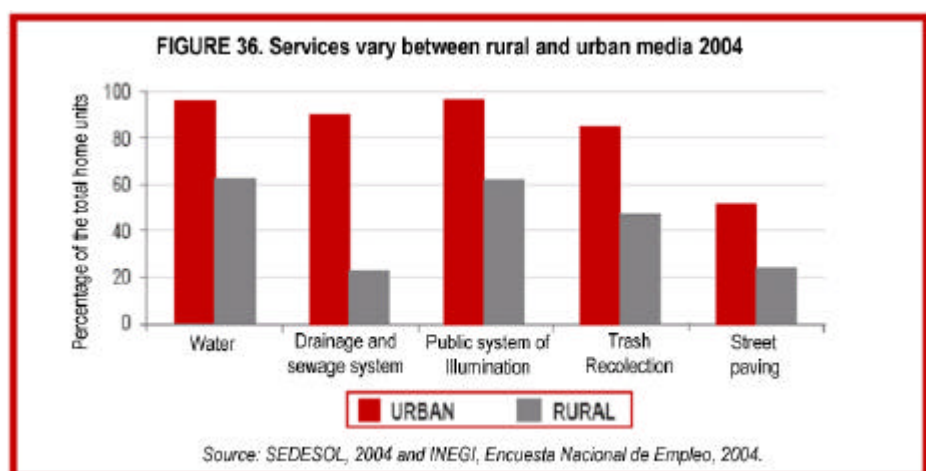
By the year 2004, out of the 103.9¹⁷ million inhabitants throughout Mexico, 89.8% had a drinking water system and 77.5% had sewage. That is, 10.6 million people (10.2% of the population) do not have a drinking water system, and 22.5% do not have sewage; 23 states in the country surpass the national average of drinking water coverage. On the other hand, regarding sewage, only 18 states are above the national average.

It is worth noting that water coverage from 1990 to 2003 has shown significant growth. In this period, the population increased by 22.7 million people and those with a water service rose by 24.8 million. 95.7% of residents in urban areas were served.

That is, of the 77.5 million people who live in areas with over 2,500 inhabitants, 74.2 million have a drinking water service. On the other hand, 70.8% of the 26.4 million people in rural areas were served.

Sewage coverage from 1990 to 2004 also showed a significant advance. In urban and semiurban areas, 90.4% of the population was served; that is, of the 77.5 million people who live in these areas, 70.1 million now have sewage.

On the other hand, nearly 38.5% of the population in rural areas was reached. Out of the 26.4 million inhabitants in these areas, 10.2 million now have sewage.



¹⁷ INEGI, Encuesta Nacional de Empleo, 2004.

4.1.2. City models

From the year 2000, 57 metropolitan areas in the world surpassed 5 million inhabitants; 44 of these are in developing countries. Of the six largest cities, only 2 are in developed countries: New York and Tokyo; the rest—Bombay, Mexico City, Sao Paulo, and Shanghai—are in developing countries.

In Mexico, until a few years ago, it was clear that our cities had taken a barely planned growth path, resulting mainly from the development of housing projects on the outskirts.

At the beginning of the 40's, Mexico City was growing at a breakneck pace. From 2 million inhabitants, it is estimated that we went to around 20 million¹⁸ metropolitans by the year 2004. New inhabitants began to settle in peripheral lots, without proper urban planning or infrastructure to support it.

When analyzing the factors that define the basic development structure of the cities, there are two predominant conflicting models, without however excluding one another: the diffused city and the compact city. As their names show, the diffused model is derived from a large expanse of land and low density, making an inefficient use of the land; the compact model is that of a complex and diverse city, with proximity of its uses, effectively using the urban land.

The "diffuse and compact" city model alternatives mentioned above, are actually complementary, so in each state's decision of urban development, it will be necessary to make an analysis to define the priorities that will make it possible to implement the planning as desired.

Mexico City has tended towards the diffused model. Most cities in our country have expanded on their outskirts over the last fifteen years with a low-density scheme: 50 homes per hectare, only one or two stories high. In this sense, it will be necessary to create stimulæ to increase density and height. Construction density could initially be doubled to 100 homes per hectare and the height could be increased to four stories, leaving 60% of the area as construction-free spaces for community life, thus reducing cities' potential growth by 50%.

Our city centers have shown a continuous process of homes moving to the outskirts, abandoning the various options of the better served and better located areas in the city.

Integral recovery of these areas is based on rescuing the housing use in a part of our heritage, motivating inhabitants in various socioeconomic levels to live in the city center, and designing attractive housing offers. Together, these factors achieve an orderly alliance between housing and economic activities, by promoting the area's potential as a tourist attraction on a national and international level.

¹⁸ Out of this volume of estimated population, 48.0% is in the Mexico City sections, and 52.0% is in the suburban municipalities.

The integration of the housing use into the Historical City Centers must begin with the rehabilitation of infrastructure and a good part of the equipping designed to fill the requirements of health, education, culture and recreation; it also implies the creation of new equipping to take care of vulnerable groups. The process requires improving the interinstitutional coordination and strengthening the agreement between the local and federal governments.

In the proposals to return to the compact city concept, city recycling plays a fundamental part. The abandoned or subused sectors of the city must be revitalized to capitalize their viability, habitability, and sustainability; in addition, these are areas with infrastructure and services necessary to repopulation.

4.2 Challenges for Municipal Governments

One of the main challenges faced by municipalities in Mexico is creating and updating the various regulations and plans that control public administration. It is noteworthy that, according to information from the Encuesta Nacional a Presidentes Municipales sobre Desarrollo Social 2002, out of the 343 cities in the National Urban System (SUN) in 2005, only 159 have regulations regarding sectioning and municipalization, although only 92 have updated it.

CITY RESUME OF THE SUN 2005* BY MUNICIPAL REGULATIONS COVERAGE AND MUNICIPAL DEVELOPMENT PLAN		
Regulation or plan	Available**	Up-to date **
Police and good governance	319	214
Interior Regulation of the municipal government	237	158
Administration regulations	144	95
Construction Regulations	225	146
Zone Regulations and land use	174	114
Municipal and subdivision regulations	159	92
Citizens' protection regulations	110	76
Civil protection regulations	229	171
Public amusement regulations	229	136
Alcohol beverage store regulations	252	171
Fire man regulations	69	32
Ecology regulations	207	150
Municipal development plan	320	n.a.

* Does not include the Delegaciones of Distrito Federal
 **The metropolitan zones are considered with coverage when at least 50% of the population lives in municipalities with the document.

Source: SEDESOL estimation with the Encuesta Nacional a Presidentes Municipales sobre Desarrollo Social
 SEDESOL-INEGI - CONAPO 2002

4.2.1 “Ejido” lands system

Towards the end of 1992, PROCEDE was set in motion as a way of fulfilling the reforms made to Article 27 of the Political Constitution of the United States of Mexico. These reforms state that legal certitude must be provided in the countryside, promoting its capitalization and protecting the agrarian nucleuses by awarding a constitutional rank to *ejido* and communal forms of land ownership. In this sense, PROCEDE is a Federal government instrument to regularize social property and provide legal backing to land ownership through smallholding certificates and/or certificates of common use as well as land deeds.

PROCEDE is carried out through a joint effort between various departments and entities of the Federal Public Administration, namely, the Agrarian Attorney’s Office (PA), INEGI, and the National Agrarian Registry (RAN). In addition, the State Governments and City Councils help with the coordination and promotion, supporting the regularization activities.

According to information from RAN, towards the end of 2004, there were 27,664 *ejidos* and 2,278 communities in the country, which together add up to 29,942 agrarian nucleuses. The *ejido* owners and communal land owners are estimated to hold around 9 million parcels and lots covering over half the national territory.

From its beginning up until last year, PROCEDE has shown significant progress, such as:

- Incorporation of 28, 709 agrarian nucleuses into the program, which represents 96% of the total nationwide.
- Demarcation of boundaries, parcels and lots in 27,019 agrarian nucleuses, equivalent to 90% of the total nationwide.
- Conclusion of technical measurement work in 26,675 agrarian nucleuses (89%). This task represents a territorial coverage of 87.1 million hectares (84% of the *ejido* and communal land), and especially, measurement work of 7’734,083 parcels and lots.
- The operative works performed have made it possible for 26,272 agrarian nucleuses (88%) to hold their Land Delimitation, Destination and Allotment Assemblies.
- Regularization of 26,031 agrarian nucleuses equivalent to 87% of the total nationwide, for which 8’421,108 certificates and deeds have been granted (4’649,590 smallholding certificates, 1’738,247 common use certificates, and 2’033,271 land deeds) which benefit 3’843,798 beneficiaries, as well as certification and/or underwriting of 76.2 million hectares.

Although there is still much to be done regarding property rights, PROCEDE’s actions have managed to provide legal backing to many *ejido* owners, who could use their property as backing and a mortgage loan and equipping guarantee, resulting in a better standard of living for the country’s rural population.

4.2.2 Indirect costs of development

Due to the lack of funds available from state and federal sources for housing infrastructure, municipal governments often feel that the costs of adding new homes are far above the municipal revenues generated and so, are unwilling to plan for and allow growth. This feeling encourages the negotiation to obtain support from developers to provide urban services. The lack of data on tax revenues and the costs borne by each level of government make it difficult to analyze the effects of development by jurisdiction.

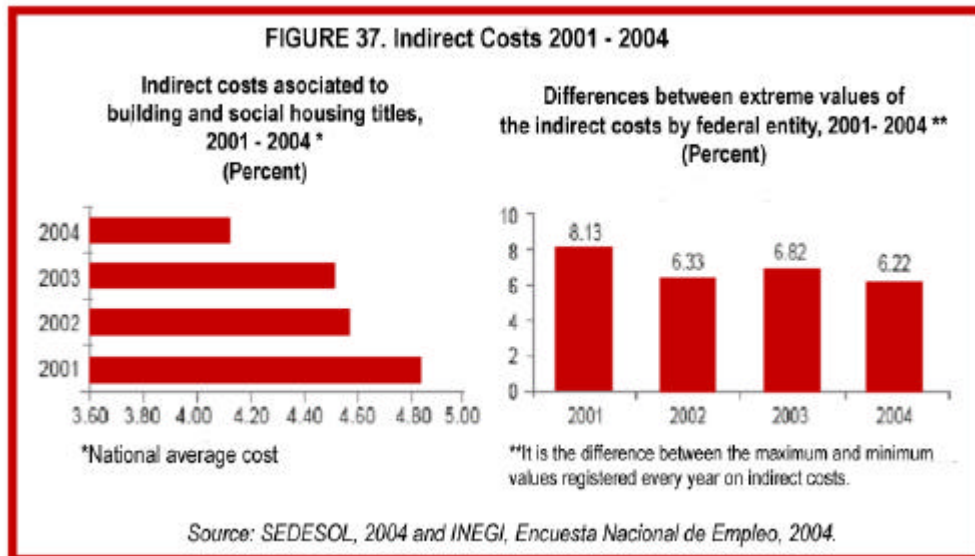
CONAFOVI tracks the indirect costs of development per state, as long as these costs are established by the law. The following chart shows that, although the national cost average is quite close to the goal set by CONAFOVI—indirect costs not exceeding 4% of the price of the home—on a state level, there are differences. What's more, these data reflect only legally established costs. It is not strange for states or municipalities to require developers to have a line for additional infrastructure, or to pay other construction fees to build a particular project. So it is likely that these data actually underestimate the indirect costs of housing development.

PICTURE 10. Indirect costs of the development vary by state (2004)²²

	National Average	States with high costs	
Land	0.37	Guerrero	0.64
		Sinaloa	0.64
		Tabasco	0.75
		Distrito Federal	0.81
Urban Services	1.08	Zacatecas	2.24
		Tlaxcala	2.62
		Morelos	2.87
		Aguascalientes	3.07
Construction	0.59	San Luis Potosí	1.42
		Jalisco	1.53
		Edo. de México	1.90
		Baja California Sur	2.07
Documentation	2.08	Zacatecas	3.35
		Yucatán	3.38
		Morelos	4.37
		Guerrero	4.50
Total	4.12	Zacatecas	6.30
		Baja California Sur	6.65
		Guerrero	6.67
		Morelos	8.35

Source: CONAFOVI 2004

In 2004, the national average of indirect costs linked to construction and underwriting of affordable housing, related to the obtention of permits and licenses and derived taxes, represented 4.12% of the value of the home, below the figure registered in the previous year. The gap per state between this indicator's extreme values was reduced by 8.8% compared with 2003.



4.2.3 Personnel planning capacity

Most municipalities have limited staff, often with little experience or training to supervise the development process. By law, mayors can serve a three-year term without the possibility of being reelected; the constant rotation of mayors, their administrative staff, and municipal councils offers limited continuity in the land use dispositions and the dispositions within which housing developers in the formal sector must function.

However, in some municipalities there are positive experiences that have made it possible to give continuity to urban development planning and the operation of municipal programs related to public services, through the creation of the Municipal Planning Institute (IMPLAN), which is a decentralized department of the Municipal Hall, whose governing organization is a citizen council, legally, economically, and operationally independent, and with powers allowing it to provide advice on the operation of urban development programs of the municipal administration, thus achieving greater transcendence and permanence for municipal projects. Currently, there are 20 IMPLANS, and the Mexican Association of Municipal Planning Institutes (AMIMP) with 12 members was recently constituted.

4.3 Informal settlements

The problem with irregular human settlements in Mexico is and has been an accurate reflection of the country's socioeconomic conditions. The main causes are both migration from the country to the cities, and the backwardness in planning an orderly urban development of the population centers.

As a result, land of social origin has been the only feasible alternative in the last few years for the poorer Mexican families seeking a place to settle down and grow.

The process of irregular buying and selling turns out to be more expensive, since *ejido* owners sell their land at a lower price than they would have been able to get legally; the buyers acquire a lot without any other backing than their possession and, in the long term, they pay more for their home on irregular lands.

On the other hand, the state and municipal governments spend up to four times more resources to introduce the basic services such as electricity, sewage and drinking water for these types of settlements.

- **SITUATION**

Informal settlements are characterized by three elements: an irregular occupation of the lot, self-production, and the scarcity or lack of urban services.¹⁹ Informal settlements do not follow the desirable norms of hygiene, comfort, or safety for everyday life, due to which they face difficult conditions; however, this has been practically the only method that has provided the poor with a home.

Affordable housing is limited due to the fact that its cost is higher than what the poor can pay. As a result, governments are continually pushed into a complex situation. Either they provide subsidies to a small group of society, or the homes are not subsidized and few people with low incomes can buy them. Often, affordable housing does not reach the poorest segment.

The groups excluded from the private formal market and the public solutions fit in perfectly in the informal sector. "Low-income sectors, in order to obtain land, are forced to enter a market of dubious land and participate in the construction of their own homes. The forms of this "illegality" vary greatly from one city to another; but informal housing still suffers initially from a lack of services, since it is outside the main networks and there are doubts as to the ownership."²⁰

- **LAND**

Lack of access to housing land due to high costs and scarce planning from the authorities has contributed to the generation of settlements with varying sizes, mainly on the outskirts of the cities, where it is easier to get land.

The irregular settlements on the outskirts have appeared from communal lands, which are usually low quality and the communities accept, or at least do not object to the invasion, since they do not use the land the invaders find adequate. These settlements have also appeared on *ejido* lands which can still be exploited, but whose legal holders have sold to go into a different line of business. In most cases, they agree to give up their land, hoping for significant monetary compensation from the government, or at least a parcel in their place of origin.

¹⁹ Azuela Antonio and Tomas Francois, "El acceso de los pobres al suelo urbano". Page 17

²⁰ Gilbert Alan / Ward Meter, Page 17

Ordenamiento Territorial y Aprovechamiento para la Vivienda

Corett is the federal government organization created in 1974 to rectify the irregular land condition suffered by families who, in most cases, went to these places, buying them in good faith, although outside the law and the city planning.

Metropolitan areas are particular “engulfers” of *ejidos* and agrarian communities surrounding them, on the edge of urban development.

Throughout three decades of work, Corett has regularized over 2 and a half million lots located in irregular human settlements originating from social property, that is, one out of every 10 families in Mexico has a Corett deed as a guarantee of their estate.

This means that over 150 thousand hectares of *ejido* and communal lands have been expropriated, translating into approximately 5 thousand hectares per year, although Corett calculates that regularization demand is at least equal to what it has already regularized.

The advantage of regularization is the certainty that the land they hold is their property, encouraging families to invest in the improvement of their homes, promote improvements for their communities, and arrange for the benefits of other social and ecological programs which dignify their living conditions.

In addition, with the incorporation of thousands of new properties each year into the municipal land registries, the local authorities collect more revenues, strengthen their finances and increase their capacity to offer more and better services to the population.

Land ownership regularization is and must continue to be, as it has been so far, a self-financiable and non-subsidized process, except for truly outstanding cases; otherwise, it would become the main trigger for new settlements.

However, the process by itself is not enough to revert the historical trend of irregular land occupation; it is necessary to reach the root of the problem and boost the generation of land reserves by involving all three levels of government and the agrarian agents.

Thus, it is necessary to focus particularly on the lands under the *ejido* or communal ownership regimes, which have lost their agrarian vocation and are being considered for the expansion of a population center, whose irregular occupation or sale is expected in the short term.

The incorporation of land reserves into social origin land provides their surroundings with spaces with service feasibility, with a use and destination defined in the urban development plans, and above all, at a much more accessible price than that offered by market conditions, which allows governments to give better use to the resources allocated to housing and services.

Another option is to promote the adoption of freehold of parceled lots.

According to Articles 81 and 86 of the Agrarian Law, it is feasible for lands formally parceled to acquire freehold which, in concrete terms, implies that they go from the *ejido* regime to that of private property.

This is possible when most of the parcels in the *ejido* have been demarcated and assigned to the *ejido* owners under the terms of Article 56, and the Assembly, with the formalities established to this effect in articles 24, 28 and 31 of said Law, decides that *ejido* owners can, in turn, adopt freehold of them.

It must be taken into consideration that most human settlements take place in communal lands and not in the parceled areas. Nonetheless, in some cases, the latter are apt for becoming land reserves.

Regularization of land ownership still has a long road ahead; however, it must continue to negotiate other types of obstacles in addition to bureaucratic paperwork; for instance, the limited number of current and updated municipal urban development plans; the mandatory consent of the agrarian agents for expropriation; the uncertainty of recovering the compensatory payment, and basically, no prescription of the right to protection in agrarian matters.

• SERVICES

The cost of providing the basic services such as water, electricity, sewage, to informal settlements is very high. The consolidation of communities in time and the government's plans proposing to regularize these settlements, favor a continued generation of this housing production system since, due to political pressures, the government ends up providing the population with services and begins a process of improving the area by applying programs to benefit the community in the long run.

The topographic traits of these *ejido* lands sometimes make it quite difficult for developers—and even the State—to introduce services at an acceptable cost, which reduces these settlements' risk of eviction. “Even when it is stated that the abundance of spontaneous settlements is strictly related to the urgent need of finding housing at a reasonable price, there is evidence to show that many invasions are stimulated by people who receive instructions from landowners who have not obtained the permit to urbanize, or are simply in the business of speculating and exploiting the city's poor, on whom they have effective control through the distribution of lands they have occupied.”²¹

• INFRASTRUCTURE

The layout of streets in irregular settlements is up to the inhabitants occupying the land, more often with an orthogonal trace they superimpose on the land's topography; in the case of very steep lots, they adapt staircase areas on the streets to access the lots.

Public transportation (taxis, combi vans, minibuses and buses) spreads towards these areas, answering to the demand generated by the inhabitants. Electricity at the beginning in these settlements is an extension of the powerlines on the closest lines of communication, which they will negotiate applying political pressure once they are established there. Water from the municipal supply wells is carried in some cases and in others, provided by hiring water tankers.

²¹ Montaña Jorge, Page109

4.4 Best Practices

Mexico is a more urban country day by day; currently, 75% of Mexicans live in some city around the country. Cities have not grown homogeneously, and the population has had to center around a few nucleuses.

Mexico's urbanization and economic development, just as in any country, has been coupled with changes in the production and consumption patterns which imply an increase in the consumption of resources and generation of waste per capita, exerting strong pressure over the environment, by putting the cities' future at risk due to depletion of our natural resources.

The United Nations Organization (UN) has decided to devote the 2005 World Environment Day to reflecting on the sustainable development of cities around the world in order to create "Green Cities".

Green Cities are those planned and following actions to satisfy the needs of the current generations, without compromising the capacity of future generations to cover their own needs.

There are plenty of examples of governments, civilian organizations, companies and industries who design and implement innovative answers to the problems posed by urbanization, in addition to working towards the creation of Green Cities. Among these examples is the Mexico Landfill Gas Model created by SEDESOL, with support from the World Bank, to reduce the emission of greenhouse gases, by proper management of solid municipal waste, and thus boost the exploitation of renewable energy sources.

- **The Mexico Landfill Gas Model**

Mexico's solid waste

The generation of waste in the country has increased by nearly 17%, from 29.5 million average tons per year in 1994, to 34.6 million in 2004. Mexican cities, as most cities in developing countries, face serious difficulties in the management of the large amounts of solid waste they produce on a daily basis.

The final dumping in sanitary landfills creates adequate conditions to prevent pollution of the air and water; however, it generates landfill gas emissions which are highly polluting due to their elevated content of methane.

Therefore, the use of adequate technologies in waste management represents an opportunity to contribute to the creation of cities who watch over their natural resources and the environment.

The Landfill Gas Model.

Landfill gas is a combination of gases—mainly methane and carbon dioxide—resulting from the decomposition of organic waste in the absence of air. Methane is a greenhouse effect

gas which is 21 times more powerful than carbon dioxide. The emissions of methane generated in Mexico by municipal solid waste have increased significantly.

In order for landfill gas to be captured and used, it is necessary for the final disposal of waste to be made in landfills or controlled sites. SEDESOL, supported by The World Bank, has developed a model proposing an option to capture and use landfill gas generated in landfills, in order to reduce the emission of this type of gas.

As a result of a pre-feasibility study in 28 potential cities, the landfill of the Monterrey Metropolitan Area was chosen, since several public and private players worked together in this area to set up an electric plant, by using the captured landfill gas produced there. This plant can generate 7.4 megawatts per hour, which is equivalent to the electric consumption of 7,400 homes with ten 100 watt light bulbs each. This energy is used for street lighting and pumping drinking and residual water in the Monterrey metro area. In addition, it has an important environmental benefit by reducing the pollutants that go into the atmosphere by an equivalent of one million tons of carbon dioxide.

Based on the positive results seen in Monterrey, SEDESOL developed the model to use and benefit from landfill gas, which it expects to implement in other cities around the country and in Latin America. Developed countries such as United States and Canada often use this type of technologies with renewable energy. In the United States, there are over 300 electric power plants which use landfill gas, whereas in Canada, 280 kilotons of methane are generated in this way each year, using 94% to generate electric power.

However, it must be noted that the landfill gas captured in landfills is not only used for electric power generation, but it can also be used directly in burners, stoves, lamps, etc.; as fuel for water heaters or other systems; as fuel for transportation or to allow cities to enter the carbon bonds markets, generating both environmental and economic benefits.²²

- **URBAN CONSULTATION IN MESA DE LOS HORNOS**

Integral neighborhood improvement in Mesa de los Hornos (Information from the Programa de Gestion Urbana Coordinacion Regional para America Latina²³)

Mesa los Hornos is a relatively new neighborhood of brick-producing artisans, who have settled on the urban boundary of Mexico City since the late 1960's. Real estate speculation has pressured the public housing programs and irregular settlements, threatening the residents with expropriation and eviction on a daily basis.

From the institutional anchorage of COPEVI with PGU ALC and the favorable situation, from the Tlalpan *delegacion's* (borough) request to perform an Urban Consultation in the Municipality, it was suggested to revitalize an old project of integral urban improvement proposed in 1989 by the settlers' organizations supported by COPEVI.

²² Countries who reduce their emission of greenhouse effect gases can sell these reductions to other countries who can credit them as if they had done them in their own territories. This is important for developed countries that, contrary to developing countries, are forced by the Kyoto Protocol to reduce their gas emissions in a specific percentage.

²³ Program for Urban Development in Latin America.

The agreement proposed the creation of a Neighborhood Improvement Program supported by seven social groups from the neighborhood, SEDUVI, Convergencia de organismos Civiles por la Democracia²⁴, and the local Government and PGU ALC.

Some of the goals of the program were to change the traditional relationship between government and citizens, giving them joint responsibility, horizontal and democratic, improve living conditions, and bring about development through a process of joint management between all the players involved, and contribute to raising the settlers' and the public servants' civic awareness.

As a result, the Consejo Coordinador de Planeacion Participativa (CCPP) was created with representatives from the settlers, the Delegación Tlalpan and the City Government; the Plan Parcial de Desarrollo Territorial Integral (Partial Plan of Integral Territorial Development) includes elements to improve the neighbors' quality of life, through the coordination, the inclusion of Mesa de Hornos in the Delegación Tlalpan Development Trust, and a group of projects that have already been started, such as rainfall drainage, streets, toy library and adaptation of the square centers. The following are being negotiated: Training Center for Women, Nursery, Social Center, a Program for new housing and another for home improvement.

• “HACIENDA DE LAS TORRES” DEVELOPMENT, CD. JUAREZ, CHIHUAHUA.

In Mexico, an example of Best Practices in the introduction of ecotechnologies is in the “Hacienda de las Torres” Development in Ciudad Juarez, Chihuahua, developed by Condak-Pulte. It has 1,172 homes of which the company decided to adapt 95 with various systems for the efficient use of water, energy, and air conditioning.

The basic focus was saving electric energy and systems to solve the serious water supply problem in the region.

The water-heating systems using gas represent a significant expense of energy, so solar heaters were installed on the roofs of the houses to keep the water temperature at the same level or higher than conventional systems. Over a one-year period, there was no need to use gas heaters.

Simultaneously, water-saving devices were installed in dual flow shower heads which increase the water pressure, saving 40% of the liquid, and in toilets, a device that saves three liters per discharge, generating a 50% total saving in water consumption.

A grey water treatment plant was installed, which supplies water for irrigation and outdoor use for the whole complex.

To help air conditioning in summer, a system was implemented which injects natural fresh air through underground plumbing and lets out the hot air from within through a flue, generating a suction effect.

²⁴ Civil Organization in favor of Democracy.

The temperature was recorded on a weekly basis using thermometers in both types of houses, showing a reduction of up to 4°C in the houses with the technology mentioned above.

As a complement, a white elastomeric waterproofing membrane was used, which works as insulation; it can reflect up to 80% of the sun's rays, creating a more comfortable environment within.

In the cold months, there is a hot-air injection system based on a box on the roof of each house, directly exposed to the sunlight and isolated, preventing the stored heat from being lost in the course of the day. Afterwards, it is injected into the house via an electric extractor and a PVC network which has a recirculation system to make it even more efficient. The system made it possible to record a temperature +2°C above the temperature in the typical houses.

Last, conventional light bulbs were substituted by saver light bulbs which only need 15 watts to provide the same illumination as a 75 watt bulb, and with 10 times more useful lifetime than a conventional one.

The impact on the home's cost, due to the integration of these ecotechnologies is a 7% increase, which moves us to verify the savings in the medium and long term to check its financial feasibility, with constant monitoring being necessary to properly evaluate the cost-benefit tradeoff.

The results have been positive; users have become aware of the feasibility of these systems and, at the same time, it becomes clear that environmental awareness does not require complex and expensive technologies. There are answers accessible to affordable housing.

4.4.1 Challenges to Sustainability.

Housing construction requires various materials and products which, once the homes are inhabited, use up a high percentage of water and energy, with considerable effects on the quality of air, water, and soil.

Transforming the way of building and living in order to satisfy the environmental, political and social goals of our country through the development of technologies, building practices, housing and the efficient use of resources, taking advantage of the environment without degrading it, is a challenge we must face.

Housing can respect the environment if, before it is built, it is designed to be supplied with renewable energy sources, and built with natural materials. Regarding the urbanization model, it must be taken into account that the compact model offers greater sustainability than the diffused model (see chapter 4.1.2 *City models*).

Within CONAFOVI's 2001-2006 Sectorial Housing program, a Sustainable Housing Program has been developed, with the general goal of creating a sustainable housing program which will make it possible to have a better housing and family quality, offering greater comfort and health, and guaranteeing the protection of the environment and natural resources. The idea is to integrate into the sustainable projects the local governments' participation to promote them and support the building of homes. The creation of technical

Ordenamiento Territorial y Aprovechamiento para la Vivienda

norms has been proposed to determine the criteria for applying ecotechniques in housing, based on the country's bioclimatic conditions.

"Self-sufficient housing is defined as an adequate place for the members of a family to live, with the necessary spaces and services for their comfort, regardless of the area and the outdoor environmental conditions; that is, the unit must have systems which create and transform energy and other elements necessary for human survival while disturbing nature as little as possible."²⁵

The housing must be created to adapt to the needs, means, and customs of each area where it is built.

In order to obtain economic, ecological, and feasible housing anywhere, it is necessary to study each of its elements. Some of the principles of sustainability as a fundamental condition are:

- Preferring local, natural, abundant, renewable and acceptable materials for the location.
- Applying the principle of reuse of resources in all the materials possible, reducing waste and preventing the creation of pollutants or products harmful to the environment.

Below are some important recommendations to keep in mind in housing construction, which will benefit the care and rational use of our natural resources and habitat.

WATER

Over 87% of our planet is covered by water, but out of all this water, only 3% is fresh water, and due to dissolving and pollution, only 0.3% is drinkable, unpolluted.

Very few places have drinking water apt for human consumption, since most of it is polluted with human and animal waste, industrial effluents, agrochemicals, losses, buried trash of all sorts, etc. Nor is it apt for direct consumption, due to the toxic salts in the areas, wells infiltrated by human and industrial waste, all the agrochemicals that sooner or later pollute underground water.

It is advisable to:

- Use water-saving devices in furniture and accessories.
- Separate drainage systems for sewage and grey or soapy water.
- Use of treated sewage for irrigation.
- Collect and use water from rainfall.
- Sewage treatment plants.
- Permeable finishes on pavement.

Rain water is distilled water which, when falling on the rooftops, drags the dust accumulated on them. It is then transported through pipes to a cistern where heavy particles settle at the bottom; that is, this water is basically free of pollutants if the system's

²⁵ Samita, Cesar. *Viviendas Autosustentables*.

hygiene is maintained. This makes it possible to have drinking water without having to set up complex and expensive devices. With a chlorinator (chlorine dosage measure) in a small amount, we can be certain that it will have no live bacteria. The system is completely automatic and has a warning light and alarm to let us know when the chlorine is running out. This water has no salts which it would be expensive to treat, it has no chance of being polluted by chemical, industrial, agrarian, or other effluents; therefore, it is the most efficient, safe and economic method of permanent water supply.

ENERGY

Recommendations:

- Bioclimatic housing design, from orientation, sunning and ventilation.
- Thermal and insulating building materials.
- Use of ecotechniques for air conditioning.
- Compact fluorescent lamps for indoor and outdoor lighting.
- Solar energy water heaters.

4.4.2. Sustainable technologies

In the last decades we have witnessed a significant increase of the population, giving rise to the discussion about the possibility of sustaining both the current development and the natural resources available on our planet. Mexico is no exception.

Technology has provided access to new materials and techniques which have given rise to sustainable alternatives. The viability considerations are related to benefits in environmental protection and energy saving.

By implementing new energy saving mechanisms and new materials, it is possible to have sustainable housing by incorporating various devices such as: water savers, grey water recycling systems and sewage treatment, and electric and thermal energy savers.

- **WATER SAVERS**
 - Water saver shower head: Greater water pressure with less consumption in showers. Saves 40%.
 - Water saver washers: Placed in all faucets, they produce greater pressure with less consumption.
 - Saving disposals: Saves three liters of water per WC discharge.
- **GREY WATER TREATMENT. Water savers**
 - Independent drainage network: Water from the shower is directed to the water treatment plant through an independent network.
 - Grey water treatment plant: The water treatment plant is connected to an irrigation system which uses water processed in the plant to water the parks.
- **ENERGY SAVERS. Electricity and gas savers.**

Ordenamiento Territorial y Aprovechamiento para la Vivienda

- Solar water heater: Water is heated through a system of solar cells and deposited in a storage tank which, in turn, connects to the gas water heater, enabling its pilot light to remain off.
- Saver light bulbs: These bulbs provide the same light as a normal 75 watt bulb while only consuming 15 watts. They last ten times longer than a normal bulb, and save 50%.

4.5 Major Structural Reforms / Initiatives

MUNICIPALITY INITIATIVES

The Federal government subsidizes housing acquisition for the the low-income population with tax revenues, via three programs and institutions: SEDESOL's VIVAH program, SHF and FONHAPO's home improvement programs.

FONHAPO is working on designing a program that will make it possible to intensify the grant of mortgage loans to people who do not earn a salary and live both in urban and rural areas. This reform is being carried out by instruction of President Vicente Fox Quesada, backed by the officers of this organization and other government institutions (March 21, 2005, La Vivienda Hoy Panorama Mexico, Year 3, No. 27).

4.5.1 Public Registry Modernization Program

CONAFOVI is promoting a program aimed at getting the public property registries in the country inserted into the economic context of each state, redefining the RPP's role as a fundamental institution in helping citizens' confidence that their real estate property rights are fully guaranteed via its function and as an institution capable of providing strategic information for the state's economic planning and development.

An integral concept of what RPP modernity means has been developed and manifested in the document entitled 'Principios de Modernidad Registral' created by CONAFOVI with the assistance of the Colegio de Registradores de España and discussed with the Mexican Notary, which acknowledges the institution's legal origin, confirming the civic and economic reason for it.

In addition to promoting a legal framework congruent with the current reality, there is a proposal for the establishment of registral services by electronic means, professionalization of the registral function, legal recognition of electronic registers, and a financial policy that will guarantee the functioning of RPP; all of this within a quality management and continuous improvement system. Likewise, within these principles is recognized the importance of preserving the collection of documents that these institutions currently have.

Significant progress has been made in the RPPs of Baja California, Colima and Sonora, which were the first states to enter the program. In the case of Colima, for instance, the registration of INFONAVIT loans and of *ejido* lots as private property through the complete ownership mechanism has been done via Internet since September and October 2004.

On the other hand, Internet services for notaries and the transfer of information on developments by the developers, has been a free practice since 2004 in the Baja California RPP.

In the case of Sonora's RPP, significant progress has been made in the connection of RPP information with information from the state Land Registry. These works will make it possible to guarantee that property rights registered in the RPP match the rights in the Land Registry.

Various modernization actions have been taken, backed by CONAFOVI, in Mexico City, Michoacan, Hidalgo, San Luis Potosi and Sinaloa, and there is work being done to set up modernization projects in the states of Nuevo Leon, Tamaulipas, Campeche, Tabasco, Yucatan, Guanajuato, Veracruz and Coahuila.

4.6 Key Findings

Based on what we have stated above, we will emphasize some points that must be attended in order to improve both housing and the city.

The provision of infrastructure in urban, semiurban and rural areas has increased over the last few years; however, there are variations in regularization and financing, which cause an imbalanced distribution of services among different communities. Backwardness in the outlying areas is due to the lack of coordination between the state and municipal governments and the participation of developers to provide the communities with the basic services and infrastructure. Thus, a regulatory policy is necessary to unify the provision of services in all areas.

It is suggested to return to the compact city model (from duplex to eight stories in housing), due to the benefits offered by rescuing the existing space and infrastructure, already integrated into the central areas, and optimizing the use of developing areas. Revitalizing subused or abandoned spaces (industrial areas) would benefit the city by preventing its continuing expansion and exploitation of natural resources.

Information regarding informal settlements is very general. As has been stated in Section 2, there are statistical data on the number of informal homes throughout the country; however, there is a lack of information concerning infrastructure, equipment and the securing of basic services. As a result of a greater number of credit instruments and product diversity in housing, and a stimulus towards urban organization in various states and municipalities, the current perception is that there is a slight decrease in the appearance of irregular settlements.

Sustainability applied in housing projects is essential to protecting the environment. It is necessary to acknowledge that housing can be environment-friendly, if the use of sustainable technologies to save energy and water, and offer proper waste management is included from the start. Currently, institutions such as CONAFOVI promote programs which provide information on the use of these technologies and methods, as well as their benefits.

Programs such as SEDESOL's HABITAT are worth noting, for its goal is to improve informal settlements; or else, the public registry modernization program, whose priority is to insure ownership through quick, reliable, and accessible registration.

Part II. CHALLENGES AND PLANS FOR THE FUTURE

Section 1. Challenges and Plans for the Future

Although the last few years have borne witness to huge efforts—both from the public and private sectors—in order to develop the Mexican housing market, there are still huge challenges ahead. Below are described some of the main challenges we must face at the level of housing and mortgage financing:

Modernizing the Public Property Registries

Regarding property rights, our country is still far behind. This has hindered the development of financial markets and particularly, of the mortgage financing market, since financial institutions believe mortgage lending to be riskier than the developed credit markets. The root of this problem lies partly in the inefficiency of registration systems. Real estate transactions require too much time for their registration, which is manually done and recorded in books and volumes. Currently, only 4 states have an electronic folio.

To this effect, CONAFOVI, together with other housing institutes, has designed a program to modernize public registries, which is currently being implemented in some states. Namely, Sonora, Colima and Baja California, are carrying out pilot tests to assess the program's effectiveness. The medium-term challenge is to achieve a greater level of centralization, automatization, standardization, and updating in the registration procedures. This will manage to provide legal security to families regarding their home ownership, as well as reducing the backlog in housing underwriting.

Expansion and improvement of the housing access mechanisms

The rural sector is, without a doubt, the most challenging as far as access to mortgage financing is concerned. There is no real diversity in the types of programs and products offered, which does not fill the various needs of the existing families. For this reason, it is necessary to pay greater attention and solve the rural problems, partly to prevent the existing migration towards the cities, and partly to promote the economic development of marginalized communities. This posed a challenge for OREVIS in the establishment of programs which will enable self-building or home improvement in this sector of the population. Likewise, the participation of the private sector is highly important to make it easier to find market opportunities through offering microfinancing.

Although the poorest strata of the population are concentrated in the rural sector, the urban sector also poses huge obstacles for mortgage financing. One of the largest problems is the informality of a large part of workers, which makes it impossible for them to prove their incomes and, as a result, limits their access to financing. To solve this problem, SHF has designed various credit programs focused on informal workers. The short-term challenge will be spreading these programs and improving credit conditions.

Last, another challenge is the inequality in interstate housing development. According to SHF data, in the 2000-2004 period, the states of Nuevo Leon, Jalisco, Coahuila and Baja California reached an average annual increase of over 10% in credits placed, whereas Oaxaca, Chiapas, Mexico City, Yucatan, Sonora and Sinaloa showed negative growth rates. The reason for these decreases lies in a lack of promotion by state authorities, the lack of lots for construction and the credit ceilings.

Harmonization of urban development policies with mortgage lending policies

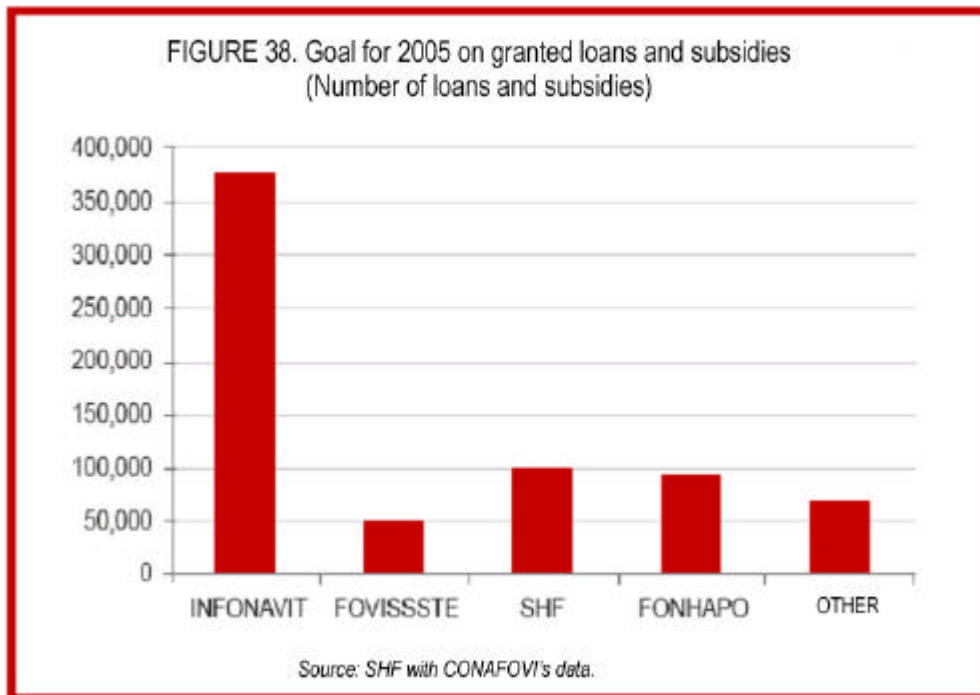
Regarding national urban development policies, the entities responsible are: at the federal level, SEDESOL, through the Undersecretaryship of Urban Development and Territorial Organization, and at the local level, the state and municipal governments. These organizations are coordinated to reach the goals established in the Programa Nacional de Desarrollo Urbano y Ordenación del Territorio.

Among the main challenges to this program are:

- Eliminating regional inequality.
- Implementing the region-city synergy.
- Generating land for urban and housing development.
- Fighting the vulnerability of human settlements to natural disasters.

On the other hand, the organizations in charge of providing mortgage financing are: at the federal level, the ONAVIS, and at the local level, the OREVIS. The functioning of these organizations is regulated by the Sectorial Housing Plan.

Based on CONAFOVI's estimates, by the year 2005, a total 640,000 mortgage loans and subsidies are expected to be placed, translating into an investment of P\$143 billion.



Although at a regulation level there must be coordination between urban development and financing policies, the future challenge is to achieve real integration of all the spheres involved in the housing sector. The objective is to achieve a balance between satisfying the population's housing needs, sustainability of human settlements, and the environmental protection.

Section 2. Agenda of Actions

Some of the actions to be taken within the areas of opportunity in the housing sector are:

- **Secondary market.** Selling mortgage portfolios recently originated by Sofols is now feasible due to:
 - The successful issuance of previously originated portfolio;
 - Implementation of the new Default Guarantee (equivalent to the Mortgage Lending Insurance or SCH by its initials in Spanish);
 - the new credit subscription process (comprehensive revision of 100% of the originated portfolio);
 - Application of credit rating via SHF's credit scoring.

Through securitization of recently originated portfolios, it will be able to:

- Provide a safe and continuous funding source to Sofols.
- Promote the reduction of intermediation margins and the mortgage interest rates.

Likewise, the following actions are being taken to encourage securitization of mortgage loans:

1. Defining the rules for market agents.
 2. Reviewing the Price Provider valuation Models, including structures and risk factors used to determine the value of MBS.
 3. Provide the issuers and investors' market with mortgage databases so they can develop methodologies to evaluate the current structures.
 4. Back negotiations with rating agencies to obtain the optimal structure while keeping the highest rating.
 5. Keep GPI in mind when calculating the capital charge in loans that have it. This change is in the process of being integrated into the Ministry of Finance's bank capital rule.
- **Used housing market.** Since new housing has efficient financing and distribution sources, promoting used housing financing will make it possible to increase the demand for housing, while generating a greater number of homes available per placed credit. In this sense, it is important to drive housing mobility, through programs and legal adaptations which will simplify financing for the acquisition of used housing.

- **Mortgage Brokers in Mexico.** Organizing, inducing, and promoting specialized mortgage brokers, giving them access to computer tools such as Credit Scoring and pre-qualified mortgage client portfolios; standardizing the origination practices in the premium mortgage market in Mexico. Some of the main advantages of the Mortgage *Brokers* entering the market are:
 - Assist in reaching the unattended demand.
 - Service dynamism in geographical groups.
 - Opening new mortgage financing opportunities for purchasing/improving, expanding or refinancing used housing, in unattended or underserved segments.
 - Support in mechanisms and technology which will simplify access to mortgage lending and the flow of credit towards sectors with less resources.
 - Greater timely information to help promote adequate competition, causing prices, interest rates, and transaction costs to go down.
- **Credit Scoring.** Around 15% of applications presented are rejected due to credit scoring, so SHF is applying more modern tools to strengthen the quality of credit portfolios, prioritizing accessibility. AHORRASIF was created to allow rejected individuals to have access to credit, as well as the possibility to obtain the loan with a greater down payment. Thus, authorization of the credit profile is essential to securitize the credits without a credit history of each of the borrowers.
- **Access to microfinancing** for those who earn less than three minimum wages.
- **Land.** The acquisition of land reserves for social housing is pending and urgent to avoid irregular settlements.
- **Sustainability.** The design and implementation of sustainable projects both at the urban level and at the level of each home, specifically regarding efficient use of water and energy, waste management, and the creation of green areas to protect the environment.
- **Densification.** Encourage housing schemes with greater density and medium height which will help control the spread of the “urban stain” and of the cities, and efficient planning based on mixed uses in established areas.



Appendix A. Abbreviations and Acronyms

ABM	Asociacion de Banqueros de Mexico.
AFORES	Administradoras de Fondos para el Retiro.
AMAPSA	Asociacion Mexicana de Administradores y Desarrolladores de Sistemas de Autofinanciamiento
AMPI	Asociacion Mexicana de Desarrolladores Inmobiliarios.
AMSFOL	Asociación Mexicana de Sociedad Financieras de Objeto Limitado.
BANOBRAS	Banco Nacional de Obras y Servicios Publicos.
BANSEFI	Banco del Ahorro Nacional y Servicios Financieros.
MBS	Mortgage Backed Securities.
CANACEM	Camara Nacional del Cemento.
CANADEVI	Camara Nacional de la Industria de Desarrollo y Promocion de Vivienda.
CCD	Centro de Custodia Digital.
CEPAL	Comision Economica para America y el Caribe.
CFE	Comision Federal de Electricidad.
CIDOC	Centro de Investigacion y Documentation de la Casa.
CIHAC	Centro Impulsor de la Construccion y la Habitacion.
CMIC	Camara Mexicana de la Industria de la Construccion.
CNA	Comision Nacional del Agua.
CNBV	Comision Nacional Bancaria y de Valores.
CODEVISU	Convenio de Coordinacion para el Desarrollo de la Vivienda y del Suelo .
CONACYT	Consejo Nacional de Ciencia y Tecnologia.
CONAFOVI	Comision Nacional de Fomento a la Vivienda.
CONAPO	Consejo Nacional de Poblacion.
CONAVI	Consejo Nacional de Vivienda.
CONSAR	Comision Nacional del Sistema de Ahorro para el Retiro.
CONDUSEF	Comision Nacional para la Proteccion y Defensa de los Usuarios de Servicios Financieros .
COPARMEX	Confederacion Patronal de la Republica Mexicana.
COPEVI	Centro Operacional de Vivienda y Asentamientos, A.C.
CORETT	Comision para la Regularizacion de la Tenencia de la Tierra.
ENIGH	Encuesta Nacional de Ingreso y Gasto de los Hogares.
FCARM	Federacion de Colegios de Arquitectos de la Republica Mexicana.
FECIC	Federacion de Colegios de Ingenieros Civiles.
FIEH	Fuente de Informacion Estadistica Hipotecaria.
FIFONAFE	Fideicomiso Fondo Nacional de Fomento Ejidal.

FIVIDESU	Fideicomiso de Vivienda, Desarrollo Social y Urbano.
FOGA	Fondo de Garantía y Apoyo a los Creditos para la Vivienda.
FONAEVI	Fondo de Apoyo Economico para la Vivienda.
FONHAPO	Fideicomiso Fondo Nacional de Habitaciones Populares.
FOVI	Fondo de Operación y Financiamiento Bancario a la Vivienda.
ISSFAM	Instituto de Seguridad Social para las Fuerzas Armadas Mexicanas.
FOVISSSTE	Fondo de Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado.
IMSS	Instituto Mexicano del Seguro Social.
INEGI	Instituto Nacional de Estadística, Geografía e Informática.
INFONAVIT	Instituto del Fondo Nacional de la Vivienda para los Trabajadores.
ISSSTE	Instituto de Seguridad y Servicios Sociales de las Trabajadores del Estado.
MINVU	Secretaría Ministerial de Vivienda y Urbanismo de Chile.
OCDE	Organización para la Cooperación y el Desarrollo Económico.
ONAVIS	Organismos Nacionales de Vivienda.
OREVIS	Organismos Estatales de Vivienda.
PEMEX	Petróleos Mexicanos.
PGU ALC	Programa de Gestión Urbana para América Latina y el Caribe
GDP	Gross Domestic Product.
PISO	Program de Incorporación de Suelo Social.
PSV	Programa de Separación Voluntaria.
PROFECO	Procuraduría Federal del Consumidor.
PROSAVI	Program Especial de Crédito y Subsidios para la Vivienda.
PROFIVI	Program de Créditos sin Subsidio.
PROVIVAC	Órgano Oficial de la Federación Nacional de Desarrolladores Industriales de la Vivienda.
RAN	Registro Agrario Nacional.
RFSP	Recursos Financieros por parte del Sector Público
SAR	Sistema de Ahorro para el Retiro.
SE	Secretaría de Economía.
SEDESOL	Secretaría de Desarrollo Social.
SEMARNAT	Secretaría de Medio Ambiente y Recursos Naturales.
SHCP	Secretaría de Hacienda y Crédito Público.
SHF	Sociedad Hipotecaria Federal.
SOFOLS	Sociedades Financieras de Objeto Limitado.
SUN	Sistema Urbano Nacional.
SRA	Secretaría de la Reforma Agraria.
UDI	Unidad de Inversión.
VIVAP	Programa de Ahorro y Subsidios para la Vivienda Progresiva.

Appendix B. **Statistics and Data**

- For Section I, in the segments on macroeconomic and financial indicators, the data from Banco de Mexico was used regarding: Interest rates, exchange rates, Gross Domestic Product, investment, inflation and country risk.
- For Section II, in the segments on Demography and Geographic Distribution, data from CONAPO was used regarding population structure, on the number of households and population in the agegroup of household formation to make projections to the year 2020, as well as the data for household formation estimates per state. For housing backwardness, new housing and improvement, CONAFOVI data was used.
- For the section on Roles of the Public and Private Sectors in Section 3, international statistics from the OECD were used, regarding the number of loans as a percentage of GDP of member countries.
- For the section on the revision of the mortgage funding system, historical statistics from CONAFOVI were used regarding credits placed per organization and per year from 1993 to 2004, and data from Banco de Mexico regarding the sum of investments in housing per organization.
- The information used in the private equity segment regarding placements by Sofols and commercial banks was obtained from SHF and AMSFOL. And for the section on private equity managed by the public sector, information from INFONAVIT was used regarding the value of purchased homes per income level.
- In the section on public equity, statistical information and data from SHF were used, in addition to data from AMSFOL and CONAFOVI.
- In sections 3.2, 3.3 and 3.4, information generated by SHF was used.
- For Part II, Main Housing Challenges in Mexico, data from CONAFOVI was used to generate the goals for 2005.

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