Mortgage finance in Portugal: an overview

Observatório do Endividamento dos Consumidores

1. Introduction

The Portuguese case is notable (and puzzling) on several grounds. The Portuguese mortgage market was relatively thin until the early nineties when compared with Northern Europe, a situation shared with other Southern European countries (such as Spain, Italy and Greece). But, in the last decade, it registered a remarkable boom, which put the Portuguese level of mortgage indebtedness far from its Southern European partners. In this study, an overview of the situation of the Portuguese mortgage market before financial deregulation and of the transformations that occurred in this market through the nineties is undertaken. The goal is to understand the reasons underlying this evolution and, in particular, the specific processes that generated the transformation of the Portuguese mortgage market from a relatively small and very regulated market to one of the most dynamic in Europe. Besides being important for its own sake, I believe such a study facilitates a better understanding of the way Portuguese households finance access to home-ownership.

The study is organised in six sections. In the next one, it is argued that Portuguese home-seekers, independently of their preferences, have been constrained to become homeowners and that, in consequence, the choice of the timing of access to owner-occupation as well as finding the best way to finance access to home-ownership are fundamental issues in Portugal. I also raise the issue of the importance of mortgage credit in the overall owner-occupied housing finance. In section 3, I make a detailed presentation of the Portuguese mortgage finance system. First, attention is given to a brief portrayal of the legal framework of the mortgage system after the changes that occurred in 1986 with the publication of the Decree-Law nº 328-B/86, of 30 September. The practice of the Portuguese mortgage system will be the next object of analysis. Specifically, details of the change from a thin market to the boom of the nineties are given. In this context, the Portuguese experience will be put in a European perspective. Section 4 starts to tackle the key issue of explaining the Portuguese experience of mortgage finance. In particular, the importance of two transmission channels (i.e. borrowing constraints vs. affordability considerations) over the period from financial deregulation and European integration into the mortgage market is assessed. In section 5, I argue that households pursue different housing financing strategies, which to a large degree are associated with different forms of access to homeownership, and that this should not be ignored. The last section summarizes the main findings.

2. Housing and tenure in Portugal: the central importance of the decision on how to finance access to homeownership.

An important shortage of decent and affordable housing in urban areas has characterised the Portuguese housing situation for decades. Such a shortage is not merely associated with cyclical, short-run, causes, but also long term and structural forces (Neves, 1997a and b). Although housing conditions seem to have been ameliorating significantly in recent years, housing need is still considerable. Just to give an illustrative example, according to the results of the *European Community Household Panel*, provided by the EUROSTAT, 20 per cent of Portuguese households lived in 1995 in overcrowded dwellings, a percentage only overcome by Greece and Italy. The European average was 10 per cent. In 2001, overcrowded dwellings represented 16 per cent in Portugal (INE, 2002). Several causes are at the origin of the Portuguese housing problems. I would mention the following:

- The enormous demographic pressure exerted by a consistent migratory movement to more urbanised coastal areas, in particular to the metropolitan areas of Lisbon and Porto, originated in the Portuguese sharp and persistent regional disequilibria;

- The scarcity of land in the urban areas due to speculation and inadequate urban land rules with consequent pressure on house prices;
- Significant affordability problems, manifest in a considerable gap between house prices and the financial capacity of Portuguese households;
- A macroeconomic context, which, until recently, was featured by high inflation and interest rates;
- A highly constrained tenure choice for Portuguese households.

2.1 Could Portuguese households be other than homeowners?

Since the seventies, the private rental sector has undergone a significant decline. Its weight in 1981 was still 39 per cent of the total stock occupied as usual residence but, in the following ten years, the number of private rented dwellings decreased 23 per cent. In 1991, the share of the sector was already just 27 per cent. New construction to let registered an important slow down in the mid-seventies and it represented less than 2 per cent, on average, of the total construction of new dwellings in the period 1980-93[1]. The definitive results of the Census 2001, recently made available, indicate that the share of the private rental sector continued to decline. The private rental sector represented in 2001 no more than 21 per cent of the stock occupied as usual residence. If dwellings owned by close relatives of the occupant (3.9 per cent of the total) were excluded from the private rental sector, the share of the remaining rented dwellings (owned by other private landlords) would decrease to only 17 per cent. The social housing sector has never been significant. In 1991, it represented only about four per cent of the housing stock occupied as usual residence. In 2001, its share was 3.3 per cent.

Supply constraints in the private rental market are at the origin of the decline in the importance of this sector. They are due to several reasons, namely the protracted rental controls, the strict legal regulation protecting tenants, and also the new financial and savings context which tends to divert savings from real estate. The first rental controls dated from 1910. The most influential ones, however, dated from 1948 when rents in Lisbon and Porto were frozen and more so particularly after 1974, when those housing rent controls were widened to the whole country. This freeze of housing rents persisted until 1985 (in a context of very high inflation rates), followed by rent controls still in place today[2] and contributed to undermine the profitability of housing investments, diverting investment from the private rental market. Also, the strict legal regulation protecting the tenants' rights, namely the impossibility of establishing rental contracts with a definite term[3], contributed to destroy the confidence of the landlords. Rent controls and legal regulations, in addition to bring about the withdrawal of investors from the rental market, caused a lack of

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[1] The last year for which is available this kind of information.

[2] The government decides annually the rate of increase of rents, between 75 per cent and 100 per cent of the consumer price index.

[3] This has been changed with the approval of a new legal urban rental regime in 1990 (*Regime do Arrendamento Urbano,* Decree-Law nº 321-B/90, of 15 October 1990) that permits establishing rental-housing contracts of a five years minimum term.

interest by landlords in the maintenance and renewal of their properties and also the present situation where a considerable proportion of the private rental housing stock is in serious disrepair. Meanwhile, the relative liberalisation of the rental market after 1990 has produced a dual rental sector with an old, large and low-rent sub-sector, where market mechanisms are completely absent, and a new, but small, market, characterised by high and uncompetitive rents (comparatively with homeownership).

Without an active, dynamic rental market (private or social), an important supply failure of low-cost affordable housing arose. Portuguese home-seekers, independently of their preferences for homeownership, have been compelled to buy or build their own homes. Homeownership became almost the only available alternative to those seeking a home, even in unfavourable macroeconomic contexts featured by high interest and inflation rates, as happened in the eighties. Low-income households, particularly those living in the urban areas, unable to enter the formal housing markets (and often forgotten by public authorities), have found it difficult to solve their housing needs. Some sought informal housing solutions. In practice, for the majority of home-seekers, *the housing issue has meant the need to choose the timing of access to owner-occupation and finding the best way to finance access to home-ownership, rather than decisions associated with a tenure choice between homeownership and rental housing*[4].

Unable to produce effective changes in the private rental housing market (and without any commitment to develop a stronger social rental sector), the Portuguese

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[4] About which there is a voluminous literature in Europe and in the USA, contrary to what happens with the financing decision.

governments tended to base their housing policy almost exclusively on a subsidised mortgage credit system designed to help households purchasing or building owner-occupied housing. This system was launched in Portugal for the first time in 1976 and, with several changes since then, constituted the main instrument of Portuguese housing policy until 2002. In May 2002, the new government determined the end of the subsidised mortgage system from October 1st onwards (Law No. 16-A/2002, of 31 of May). All new mortgages contracted since the beginning of October 2002 are unsubsidised.

The constrained tenure situation, together with the long-term public commitment to support the resolution of housing needs through homeownership, produced a boom in the owner-occupied sector. In 1970, only 49 per cent of Portuguese households owned their home. But the percentage of homeowners has steadily increased in the last three decades. Between 1970 and 1981, the number of homeowners increased 42 per cent and from 1981 to 1991 25 per cent. According to the Census of 1991, in that year the owner-occupied sector represented 65 per cent of the total stock occupied as usual residence. This figure, above the European average[5], represented more 8 percentage points than in 1981 – one of the highest rates of growth of owner-occupation in the European Union in that period (see Table 1).

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[5] The European average was, in 1995, 56 per cent (CECODHAS, *L'Observatoire Européen du Logement Social*, édition spéciale, June 1995).

Table 1

Owner Occupation and Mortgage Debt in the EU

	Owner-occupation as a % of total stock			**Owner-occupied dwellings with outstanding debt in % of owner-occupied stock**
	(1)			**(2)**
B♠	59 (1981)	67 (1991)	74 (1998)	62 (1992)
DK	52 (1980)	52 (1990)	51 (1999)	80 (1996)
D♦	43 (1981)	42 (1993)	43 (1998)	n.a.
GR♠	75 (1981)	76 (1991)	n.a.	20 (1993)
E	73 (1980)	78 (1990)	81 (1999)	20 (1995)
F	47 (1978)	54 (1990)	54 (1996)	48 (1996)
IRL♠	76 (1980)	79 (1990)	79 (1999)	41 (1996)
I	59 (1980)	68 (1991)	n.a.	n.a. *
L	60 (1981)	64 (1990)	70 (1997)	72 (1995)
NL	42 (1980)	45 (1990)	52 (1999)	80 (1994)
A	52 (1980)	55 (1990)	56 (1998)	54 (1995)
P♠	57 (1981)	65 (1991)	76 (2001)	22 (1991) 32 (2001)
SF	61 (1980)	67 (1990)	60 (1998)	42 (1993)
S	42 (1980)	39 (1990)	n.a.	95 (1995)
UK	55 (1980)	65 (1990)	69 (1998)	67 (1995)

♦excluding ex-DDR; ♠ percentages of the stock occupied as usual residence.
* According to Guiso and Jappelli (1996), in 1991 only 10.2 per cent of the households interviewed by the Bank of Italy Survey of Household Income and Wealth reported having mortgage debt.
Source:
(1) - Netherlands Ministry of Housing, Spatial Planning and the Environment, *Housing Statistics in the European Union 2000.* The information for Portuguese owner-occupation and outstanding debt on housing is from INE, Census 1981, Census 1991 and Census 2001 *(Resultados Definitivos)*.
(2) European Commission, Housing Statistics in the European Union 1998.

The Census 2001 show that this trend has continued, and been reinforced since the Census of 1991. The share of the owner-occupied sector grew to 76 per cent in 2001.

According to the first (and for now, the only available) *Survey on Wealth and Indebtedness of Households*, carried out in 1994 (IPEF)[6], in that year permanent owner-occupied housing would represent 56 per cent of households' total gross wealth (Neves, 1998: 7).

2.2 The role of mortgage credit in the access to homeownership

Common sense and anecdote suggest that most Portuguese households prefer owner-occupied housing. Also, the importance of the subsidised mortgage credit system seems undeniable. Nevertheless, it is doubtful that such a system is sufficient to give full account of the boom observed in homeownership in the last quarter of a century.

In Portugal, in 1991, owner-occupation represented 65 per cent of the stock occupied as usual residence, but owner-occupied dwellings with outstanding debt represented just 22 per cent of the stock occupied by the owner as usual residence (Table 1). In 2001, after a decade of boom in the mortgage market (details further below), homeowners increased to 76 per cent and owner-occupied dwellings with outstanding debt to 32 per cent. Whilst the number of households living in the

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[6] *Inquérito ao Património e Endividamento das Famílias, 1994*. A detailed analysis of this survey is presented in Neves (1998).

owner-occupied sector grew 25 per cent between 1981 and 1991, in the same period the number of owners with outstanding debt doubled. But the increase in the number of homeowners with outstanding debt represented only 55 per cent of the total growth of homeowners. Similarly, between 1991 and 2001, the number of owner-occupied dwellings increased 36 per cent and the number of dwellings with outstanding debt 92 per cent. However, in the same period, the increase in the number of dwellings with debt was no more than 57 per cent of the total increase in the number of owner-occupied dwellings.

Meanwhile, the IPEF shows that the overwhelming majority that used credit did it through the formal financial institutions (about 88 per cent [85.1+2.5] in the case of owners of dwellings built between 1977 and 1994, see Table 2). The percentage of households that used informal forms of credit to finance access to homeownership (exclusively or together with mortgage credit) has been decreasing although in the period 1977-1994 was still 15 per cent (12 per cent exclusively from informal sources and less than 3 per cent together with a mortgage). The IPEF also showed that, in 1994, the outstanding informal debt on housing was only about 3 per cent of the total debt whilst the outstanding mortgage debt represented 97 per cent. The modal maturity of a mortgage contract was 25 years whilst the correspondent figure for credit originated in informal sources was 5 years. The *Survey of Housing 1998* suggested that informal credit tends to become residual.

Table 2

Formal and Informal Owner-Occupied Housing Finance in Portugal

	Dwellings built before 1960	**Dwellings built between 1960 and 1976**	**Dwellings built between 1977 and 1994**	**Total**
Number of observations (sample share in %)	4805 (52.9)	1655 (18.2)	2445 (26.9)	9086 (100)
Homeowners in the sample (as a % of the total)	26.1	100	100	60.9
Used credit (as a % of the total number of homeowners)	8.8	35.4	51.4	35.8
- Only from financial institutions	5.3 *(60.4)*	28.3 *(80)*	43.8 *(85.1)*	29.3 *(81.9)*
- Financial Institutions + others (family, friends,...)	0	1.0 *(2.9)*	1.3 *(2.5)*	0.9 *(2.5)*
- Only others	3.5 *(39.6)*	6.0 *(17.1)*	6.3 *(12.3)*	5.6 *(15.5)*

Percentages of each type of credit relative to the total number of credit users are in italic.
Source: IPEF

The picture that comes out from the figures presented in this subsection is somewhat puzzling. Those figures show a notable increase in the use of credit, but, at the same time, suggest that households that took a mortgage to acquire their homes represented a relatively low percentage of the total. How can one fit the high percentage of homeowners with the relatively small number of mortgagers? Were many home-seekers constrained from borrowing or did they choose not to enter the mortgage market? What is the real importance of mortgage credit in financing access to homeownership? These are issues that demand a detailed analysis of the Portuguese mortgage system and of its key features. It is to this that we will now turn attention.

3. The Portuguese mortgage credit system

Access to housing in Portugal has been made easier by the subsidised mortgage system. This is a credit scheme for the acquisition, building or works of maintenance, rehabilitation or renewal of *permanent* owner-occupied housing. It was launched for the first time in 1976[7], by a *Resolution* of the Council of Ministers, dated from 24th February, which created a system of incentives for the acquisition or construction of permanent owner-occupied housing. Its main feature was the possibility of granting mortgage credit with a reduction of the contractual interest rate (the public subsidy). Some changes were introduced to the system by the Decree-Law nº 515/77, of 14th December, but the central principles remained unchanged. According to the rules established by the Decree-Law no. 515/77, the loan to be granted was subject to a maximum, varying between 85 and 95 per cent of the house value, and the latter could not overcome certain maximum levels. Maturities could range from 21 to 25 years. The subsidy would decrease over time

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[7] In 1958, the Law nº 2092 had already instituted a similar scheme of incentives, but its scope was restricted to Social Security beneficiaries and civil servants.

and could never be extended for more than 10 years[8]. The subsidy as well as the maximum allowable loan-to-value and maturity were dependent on both the *per capita* income of the household (i.e. means-tested) and the cost per square meter of the total area of the house to be acquired or built. The reference parameters would be regularly updated by a joint administrative rule from the Ministers of Finance and of Construction and Public Works.

Since then, the subsidised mortgage system was subject to several changes, largely determined by the evolution of macroeconomic conditions and policies. The most important change occurred with the approval of a new structure in 1986 (Decree-Law nº 328-B/86, of 30 September), which is described in detail below. From 1986 until 2002, in spite of several significant changes that were introduced in the Portuguese mortgage credit system, some of which with a major impact on the functioning of the mortgage market, the structure of the system remained largely unaltered.

3.1 The legal framework of the mortgage credit system after 1986

The mortgage credit system, as established by the Decree-Law nº 328-B/86, consisted mainly the following three credit regimes[9]:

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[8] Portaria 752/77, also of 14th December. In the Resolution of 1976, the subsidy could be granted during the whole life of the loan (up to 25 years).

[9] In addition to these three regimes, there were special credit regimes such as loans granted under the housing-savings accounts scheme, the emigrant savings scheme and the special credit regime for disabled people.

- Subsidised young borrowers credit
- Subsidised credit (general)
- Unsubsidised credit

The subsidised credit regimes (both the general case and young borrowers only) applied when loans were used for the acquisition, construction or works of maintenance, rehabilitation or renewal of *permanent* owner-occupied housing and the household's income was less than a certain ceiling, established taking into account the number of members of the household. This is the so-called *corrected annual gross income* (income corrected for the number of members of the household). House price ceilings (dependent on building costs, location and household size) were also applied until 1991 as a condition for access to the subsidised regimes, but the Decree-Law nº 150-B/91, of 22nd April, eliminated this rule. It was reintroduced again in 1998 (Decree-Law nº 349/98, of 11 November) as a function of the income and size of the household. The Decree-Law nº 349/98 also introduced the possibility of using subsidised mortgage credit for executing works of maintenance in the common parts of condominiums. The same Decree-Law imposed additional restrictions for access to the subsidised credit regimes. Until 1998, borrowers could not have another loan for the same purpose, except if the bank accepted to make a loan contract complementary of the outstanding one. With the new rules, it was not possible to have another mortgage contract, except in case of a new loan for the conclusion of the house building or to do works of maintenance; in the latter case, the previous loan must have been contracted at least three years before. In addition, the household was not allowed to use the loan to purchase either from the borrower's parents and grandparents or offspring.

The subsidised young borrowers credit scheme was restricted to households where the sum of the ages of the couple was no more than 55 years or, in the case of a single person, his or her age was between 18 and 30 years old. Since 1990, after the Decree-Law nº 292/90, of 21 September, such a condition was changed for couples, where the age of the couple together could be up to 60 years old, with each member no more than 30 years old.

It is usual practice to make a downpayment to the seller when the deal is contracted (*"sinal"*). Under the young borrowers regime it was possible to finance this downpayment through a first loan up to 20 per cent of the dwelling's value for a year at most. Such a loan was repaid against the grant of the following main loan.

The unsubsidised credit regime was directed to all households wishing to buy, build, rehabilitate or renew dwellings either for permanent or secondary residence or to let[10], that do not fulfilled the conditions demanded for the application of the subsidised regimes. As referred, after the 1st of October 2002, this is now the only form of credit available for new loans.

In the subsidised credit regimes, the subsidy, supported by the State Budget, is computed as a percentage of a reference rate of interest[11], a percentage that is dependent on the corrected annual gross income. The latter cannot be higher than

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[10] And also for buying land for the construction of permanent housing.

[11] This was until the end of 2000 established by the government and tended to be close to the market rate of interest.

4.25 or 4.75 times the annual national minimum wage, depending on whether the amortisation is made with increasing or constant monthly payments, respectively (Table 3). When the repayment of the loan is in constant monthly payments, the subsidy can be decreasing or constant, and is always decreasing in the case of increasing monthly payments[12].

Table 3
Subsidies, as a % of the reference rate of interest,
by income brackets and type of repayment

	Income brackets			
	I	*II*	*III*	*IV*
Increasing payments	**CY≤2.75 NMW**	**CY≤3.25 NMW**	**CY≤3.75 NMW**	**CY ≤4.25 NMW**
- Subsidy (%)	40	30	20	10
Constant payments	**CY≤3.25 NMW**	**CY≤3.75 NMW**	**CY ≤4.25 NMW**	**CY≤4.75 NMW**
- with a decreasing subsidy (%)	44	32.5	21.5	10.5
- with a constant subsidy (%)	40	30	20	10

CY: Annual gross income, corrected by the number of members of the household.
NMW: Annual national minimum wage.

In all regimes, the repayment of the loan is usually made through a monthly constant or increasing payment of interest and principal (annuity), depending on the borrowers preferences. According to the Decree-Law nº 328-B/86, financial institutions should present their customers two options: (1) the borrower pays the lender an increasing amount each month with payment of only part of the interest

[12] In the case of decreasing subsidies, the subsidy remains constant in the first two years, reduces 1% in the following two years and 2% annually afterwards, while in the case of the young borrowers credit regime, after being constant in the first two years, it reduces 1% in the following three years and 2% annually afterwards.

due, pushing the remaining to a later stage of the repayment schedule and (2) monthly constant payments. The constant payments option has increasingly become the most preferred, given the larger risk of default associated with the increasing payments option[13]. After the Decree-Law nº 320/2000, of 15th December, financial institutions were only compelled to present the constant payment option to the borrower, without prejudice of other options also being offered.

Mortgage rates can be variable or constant. They are usually variable, and since the mid-nineties, most are indexed, first to the Lisbor and later to the Euribor. Indexed rates result from the sum of the (money market) reference rate with the spread practised by the bank. The rate is revised automatically, with a frequency settled in the loan contract; as a rule, quarterly or half-yearly.

The maximum loan-to-value ratio was 90 per cent in the case of the general subsidised scheme but could be up to 100 per cent in the young borrowers regime. The monthly payment in the first year of repayment could be up to one third of a twelfth of the household annual gross income in the case of increasing monthly payments (i.e. an effort rate of 33 1/3 per cent), and up to one half in the case of constant payments (an effort rate of 50 per cent). In the young borrowers scheme, the monthly payments could be higher than these ratios if the borrowers' parents (or anyone else accepted by the lender) guaranteed the repayment of the loan. Although intended to make easier the access of low-income young people to an owner-

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[13] According to information provided by the CGD, in the period 1993-1997, 82.8 per cent of the loans contracted in this financial institution were in the constant annuities scheme, being the remaining 17.2 per cent increasing-payments mortgages.

occupied home, this rule allowed the grant of subsidised loans to high-income well off households through their children.

The Decree-Law nº 328-B/86 established the maximum maturity in 25 years, but this was extended to 30 years in 1989 by the Decree-Law nº 224/89, of 5 July. The latest news in September 2002 was that the maturity of the loans would become freely negotiable in the near future.

The borrower pledges the home which is being financed as collateral, i.e. as a guarantee for the repayment of the loan. At the same time, fire insurance is required. Insurance against fire is the only scheme Portuguese households are statutorily obliged to contract when they buy or build a house with a mortgage. The value insured must correspond to the market cost of the reconstruction of the property. The borrower may take out the insurance from any insurance company he/she wishes. The insurance companies fix the premiums. Other guarantees considered adequate for the risk of the loan by the credit institution may be required. Mortgagers may contract, and frequently lenders compel them to do it, multi-risks building insurance schemes, which, besides the risk of fire, also cover other damages on the property – such as those caused by floods, landslides, earthquakes, storms or other natural phenomena, theft, vandalism, etc. In the unsubsidised credit regime, the property could be partially or completely substituted by other real estate properties or even by giving in pledge assets rated in the stock exchange market. In this case, the market value of those assets cannot be less than 125 per cent of the amount in debt at any moment in the repayment period. To reinforce the mortgage, borrowers may be required to take out life insurances, and usually they are, for the borrower and the spouse, of a value not lower than the amount of the loan. These protect against the risk of borrower's death or permanent invalidity caused by illness or accident. There are no mortgage insurance schemes to cover capital losses on the property value, and insurance schemes to cover the risks of temporarily inability to work, drop in income or unemployment of the borrower are also not common.

In order to facilitate transfers between mortgage regimes as well as from one financial institution to another, the Decree-Law nº 349/98 granted the mortgager the right to prepay (partially or in total) the loan without any penalty other than the commissions and other charges explicitly mentioned in the contract; in the case of new loans under the subsidised regimes, those charges could not overcome one per cent of the capital prepaid and this only if they were explicitly considered in the mortgage contract.

3.2 The changing basis of mortgage finance in Portugal

How did this system work in practice? In the following, some data on the Portuguese experience of the mortgage market is provided. First, I will present an overview of the evolution of the mortgage market in Portugal, with a particular emphasis on what happened in the nineties. Then, the Portuguese experience will be put in a European context.

3.2.1 From a thin market to the boom: The Portuguese experience of mortgage finance in the nineties

In the early nineties, the Portuguese mortgage market was still relatively thin. According to the results of the IPEF, in 1994, only about one fifth of homeowners (22 per cent) had mortgages outstanding. This result is consistent with that of the Census91, shown in Table 1, that 22 per cent of homeowners had outstanding debt in 1991.

Table 4

Household debt ratios with permanent owner-occupied housing, 1994

(mortgage credit and credit from informal sources)

		Financial Institutions		Informal
		Debt / Value	**Current 'effort rate'**	**Current 'effort rate'**
N		1164	1161	62
Mean		24.6	14.5	14.6
95% Confidence Interval for the Mean		23.4 26.0	13.9 15.2	11.3 18.4
Percentile	10	4.2	3.1	2.3
	25	9.1	7.3	7.1
	50	25	14.5	13.2
	75	45	22.5	20.8
	90	60	33.7	35.1
	95	75	42.3	54.6

Source: IPEF and Neves (1998)

On average, mortgages on housing occupied as the usual residence (the most important source of household indebtedness, almost 80 per cent of their total debt), represented 25 per cent of the estimated house values (Table 4). In the same table, it may be seen that three quarters of the households with mortgages outstanding owed up to 45 per cent of the value of their houses and only 5 per cent would have mortgages above 75 per cent. These data, together with the relatively small percentage of owners using informal credit, also shown by the IPEF, suggests that household savings were an important source of finance of homeownership.

The mortgage market in 1988

The last available study on the mortgage market at the national level, produced by the Office of Studies and Planning of the Ministry responsible for housing (MOPTC, 1991), is cross-section based and refers to mortgages contracted in 1988 in the *Caixa Geral de Depósitos* (CGD). It is illuminating to dwell on the results of this study, namely because 1988 was the first year in which all new mortgage advances were contracted according to the rules of the Decree-Law nº 328-B/86. The following, in particular, deserve mention:

- About 90 per cent of the mortgages contracted in 1998 in the CGD were intended to purchase a dwelling (91 per cent of which were for the purchase of apartments). Mortgage advances for purchase of an apartment represented more than 80 percent of the total number of mortgages contracted in 1988. Financing of self-provision through construction of a new dwelling (96 per cent of which was for construction of family homes) represented less than 8 per cent.

- Three in five (almost 59 per cent) new mortgages contracted in the CGD were granted in the metropolitan areas of Lisbon and Porto (more than 52 per cent in the Greater Lisbon and 6 per cent in the Greater Porto). More than 80 per cent were applied in urban areas.

- More than 82 per cent involved subsidised credit (33.4 per cent under the young borrowers regime and 49 per cent under the general subsidised regime). The unsubsidised regime represented less than 16 per cent and the remaining 2 per cent were loans granted under other special regimes.

- About 88 per cent of mortgages granted under the young borrowers regime fell in the first income bracket for the determination of the subsidy (which corresponded to the highest reduction of the interest rate). Almost 73 per cent of contracts established under the general subsidised regime fell in the same bracket.

- The downpayment ratio varied significantly with the credit regime: 7 per cent in the young borrowers regime, 22 per cent in the general subsided regime and 46 per cent in the unsubsidised regime, representing, on average, respectively, 5, 13 and 21 months of households' income.

- Taking the average value of the dwellings, as evaluated by the CGD, as proxy for the transaction value of the houses acquired with a mortgage, we conclude that, on average, a household taking out a mortgage under the young borrowers regime would need 6.3 years of income to acquire the house; the correspondent figures for the general subsidised and the unsubsidised regimes would be 4.9 and 3.8, respectively. For the total number of mortgages contracted in 1988 in the CGD, the average number of years needed to acquire a house would be 4.8. Households with an income up to 2.5 annual national minimum wages (NMW) would need 6.7 years of income.[14]

- The average 'effort rate' (the ratio between the monthly payment in the first year of repayment and a twelfth of the household annual gross income) was 38 per cent in the young borrowers regime, 23 per cent in the general subsided regime and 29 per cent in the unsubsidised regime, giving a total average of 30 per cent. The average 'effort rate' was 34.4 per cent for incomes between 1 and 1.5 NMW and ranged between 23 and 26 per cent for incomes above 1.5 NMW.[15]

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[14] According to a study on house price/income ratios, undertaken by the same office of the Ministry responsible for housing (MOPTC, 1990), in the period 1984-1989, in Lisbon, a household would need, on average, 6 years of income to be able to purchase a home. This is a relatively high ratio by international standards. In 1990, the same ratio was 3.7 in Madrid, 3.8 in Athens, 4.2 in Paris, 4.6 in Stockholm, 4.7 in Vienna, 4.8 in Amsterdam and 7.2 in London, just to mention a few European cities (see Hedman, 1994: 51).

[15] The 'effort rate' for incomes up to 1 NMW (10 per cent of the households surveyed) was 70 per cent, but this number is misleading, given that such cases correspond basically to mortgagers under the young borrowers regime, where it was possible to

The effort rates obtained from the IPEF (Table 4) suggest relatively lower ratios than the ones obtained with the study from the MOPTC for mortgages advances in 1988[16]. In any case, it deserves emphasis the fact of, according to the IPEF, about 10 per cent of households with a mortgage in 1994 have debt services above 1/3 of their income.

In sum, the picture that comes out from the above figures is that of a relatively thin mortgage market in the late eighties and early nineties, largely dependent on the subsidised mortgage credit system (with a significantly high percentage of mortgages benefiting from the highest reduction in the interest rate), almost completely centred on urban areas and with loans mostly applied in the purchase of apartments. This picture, however, changed dramatically in the following decade.

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present a guarantor, usually the parents. In effect, in the young borrowers regime, the ‘effort rate’ was 80 per cent for incomes up to 1 NMW, 39 per cent for incomes between 1 and 1.5 NMW and ranged from 28 to just 18 per cent for incomes above 1.5 NMW.

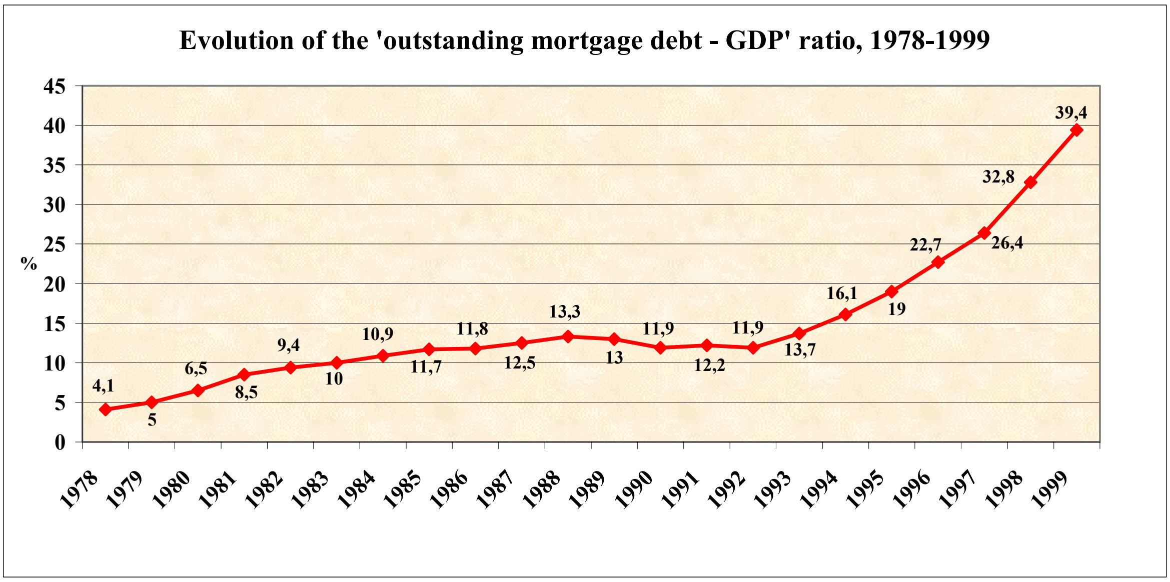
[16] However, account must be given to the fact of effort rates in the IPEF mean the debt service (payment to income ratios) *at the date of the survey* (1994), not at the date of the house purchase, and also that the IPEF was intended as a representative survey of all households, whilst the MOPTC’ study considered only mortgage advances in the CGD in 1988.

Market developments in the nineties

According to information provided by the Bank of Portugal, in December 1990, outstanding residential mortgage debt was 5,812 million euros. It increased to 42,128 million euros in December 1999, an increase at an annual nominal average rate of 25 per cent. Such an increase was particularly remarkable in the late nineties, reaching year-on-year rates of change above 30 per cent all over 1998 and 1999 (the highest rate was reached in June 1999: 38%). By the end of the nineties, outstanding residential mortgage debt had attained almost 40 per cent of GDP, whilst in 1990 this ratio was no more than 12 per cent. As a percentage of personal disposal income (without external transfers), debt on housing grew from 16 per cent in 1990 to 39 per cent in 1997, 49 per cent in 1998 and 57 per cent in 1999.

The figures 1 and 2 show two indicators of the importance of outstanding residential mortgage debt since 1978: the ratio of housing debt to GDP and the ratio of housing debt to the total debt of non-financial firms and households, respectively. The enormous increase of the ratio of housing debt to the GDP after 1992 and its positive trend all over the period is clear. In 1978, outstanding residential debt represented only 4 per cent of GDP. It increased up to 13 per cent in 1988, and after a few years of stagnation (1989-1992), it triggered growth to reach more than 39 per cent in 1999. The evolution of the ratio of housing debt to the total debt of non-financial firms and households, apart from the early nineties, also shows a significant and steady growth since 1978. From 7 per cent in that year, it increased to more than 29 per cent in 1989 and 40 per cent by the end of 1999.

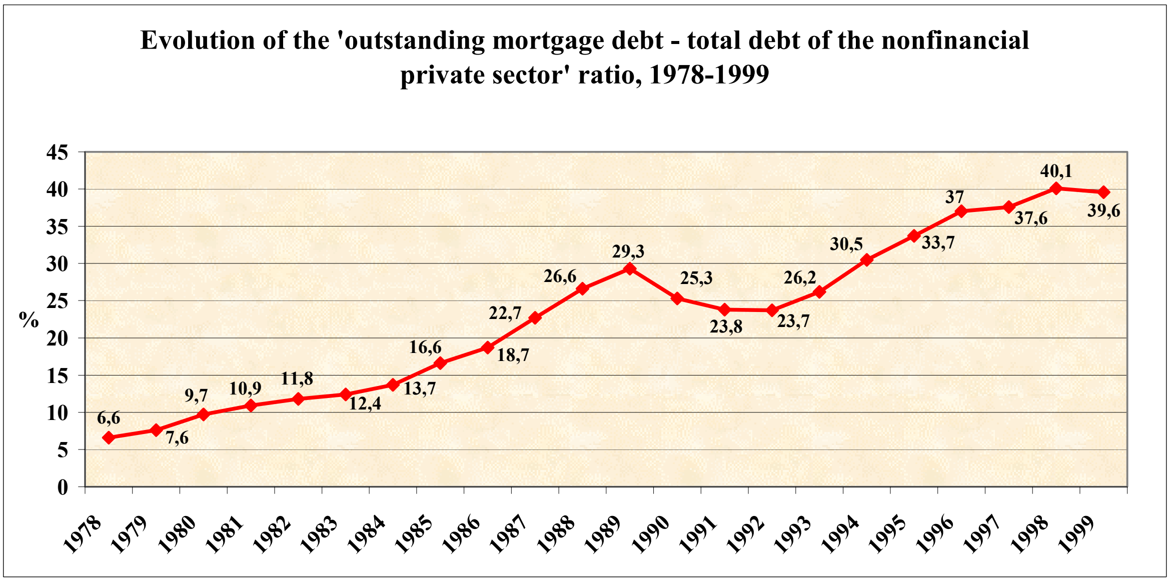
Fig. 1



Evolution of the 'outstanding mortgage debt - GDP' ratio, 1978-1999

Source: Bank of Portugal

Fig.2

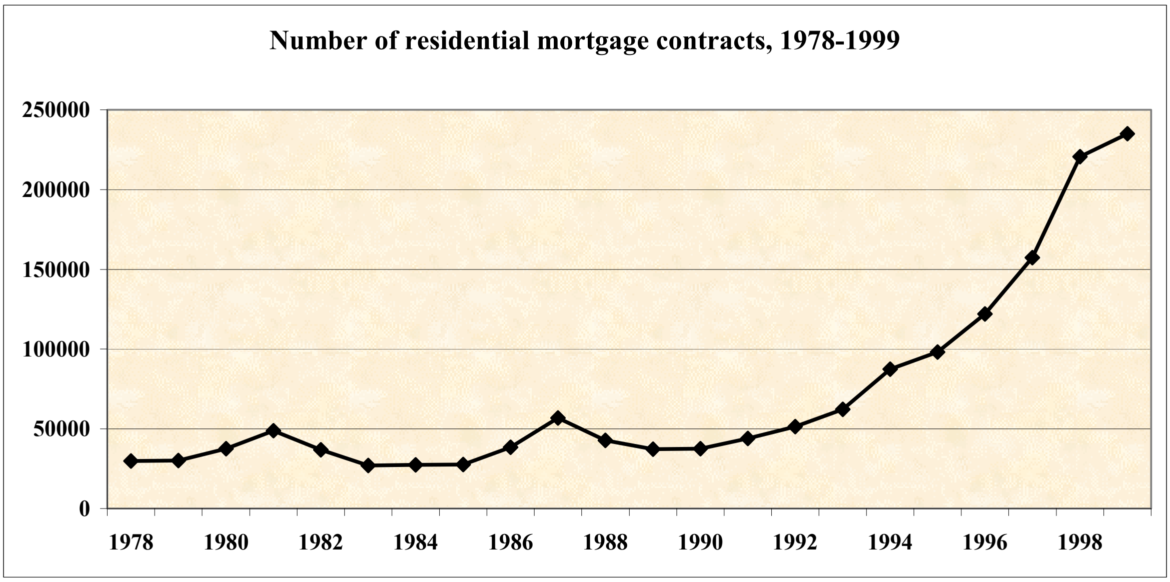


Evolution of the 'outstanding mortgage debt - total debt of the nonfinancial private sector' ratio, 1978-1999

Source: Bank of Portugal

The number of new mortgage contracts, which used to be less than 50,000/year until 1992, tripled between this year and 1997. In 1999, the number of contracts (235017) was almost 50 per cent higher than two years before (see Fig. 3).

Fig. 3



Source: Bank of Portugal and Direcção Geral do Tesouro

The average value of mortgage contracts, also registered a remarkable increase in the nineties – 6 per cent annually on average, if deflated either by the consumer price index (excluding housing) or by the housing price index[17] (see Fig. 4).

Until the publication of the more restricted rules for access to the subsidised regimes (Decree-Law nº 349/98), the expansion of mortgage credit happened mostly in mortgages contracted under the young borrowers and the general subsidised regimes (Fig. 5).

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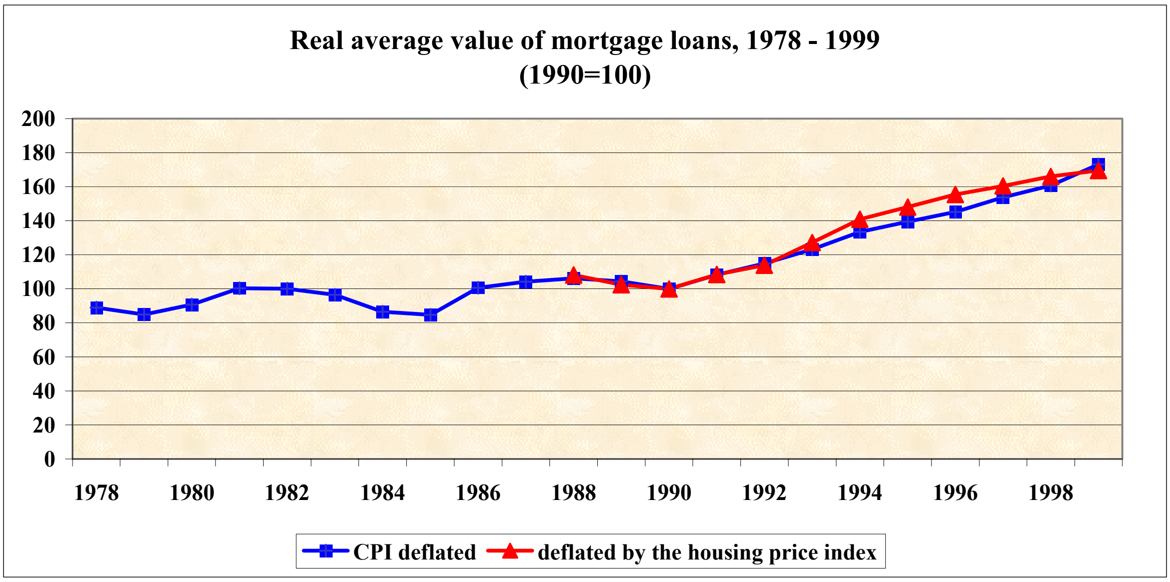
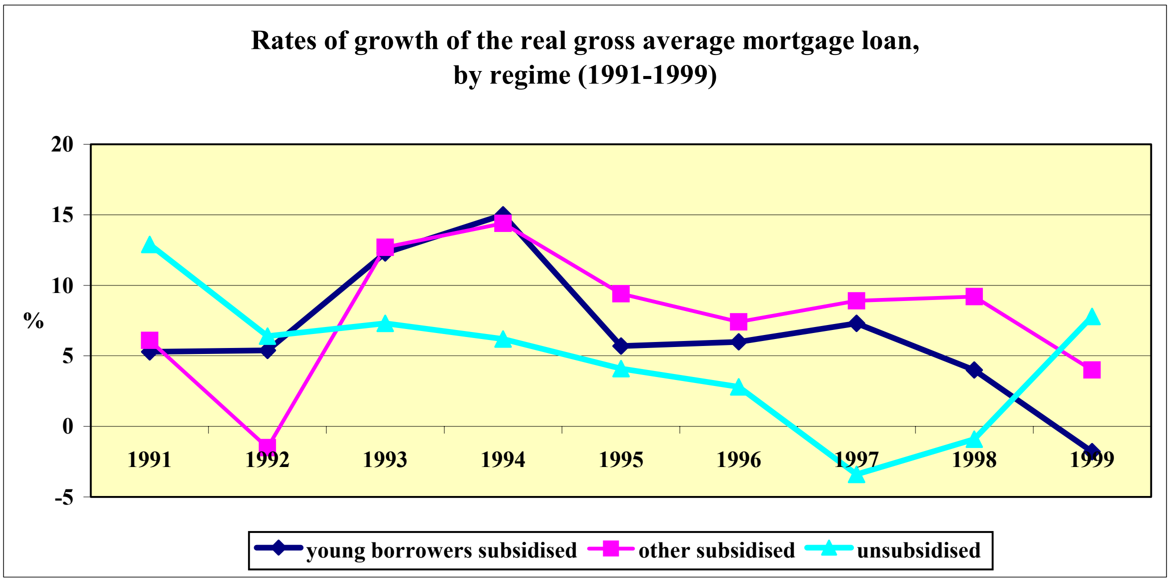
[17] This is an index computed by the Bank of Portugal, based on information on housing supply values provided by 'Confidencial Imobiliário'.

Fig. 4



Source: Bank of Portugal, Direcção Geral do Tesouro and own calculations

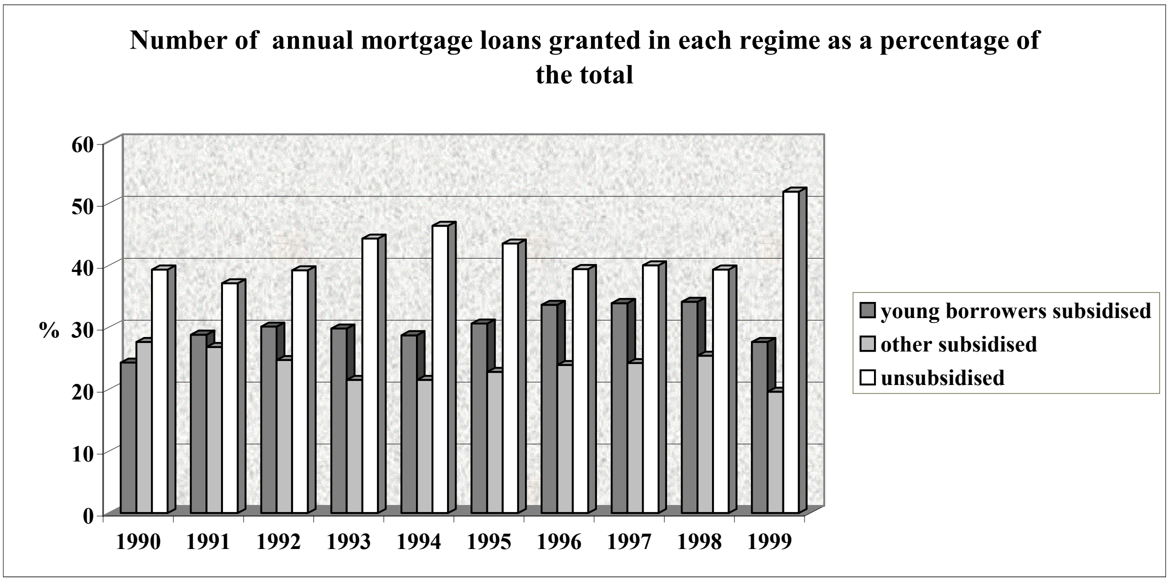
Fig. 5



Source: Direcção Geral do Tesouro and own calculations

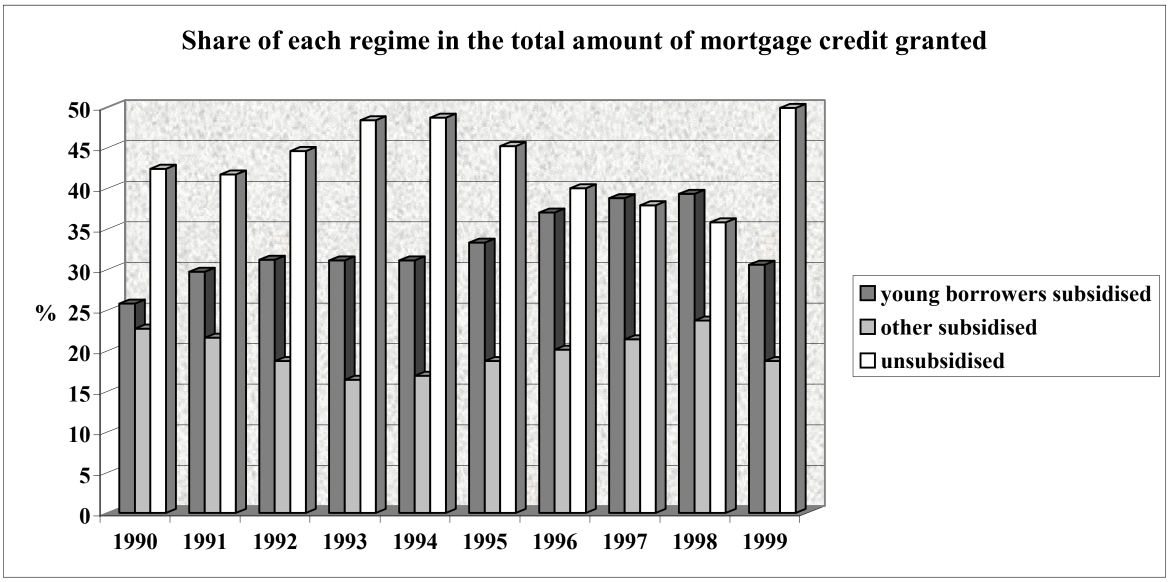
Figures 6 and 7 show the structure of the annual gross credit granted in the nineties, by regime.

Fig. 6



Source: Direcção Geral do Tesouro

Fig. 7



Source: Direcção Geral do Tesouro

In 1998, the subsidised regimes represented about 60 per cent of the contracts concluded (34.1 per cent in the young borrowers regime plus 25.4 in the general subsidised regime) and 63 per cent of the amount granted (39.3 and 23.7 per cent in each of the two subsidised regimes, respectively).

3.2.2 The Portuguese experience in a European perspective

In 1992, the ratio of outstanding residential mortgage debt to GDP was 12 per cent in Portugal, 15 per cent in Spain, 5 per cent in Italy and 4 per cent in Greece, whilst the European average was about 33 per cent[18]. This ratio was in France 23 per cent, 41 per cent in Germany, 43 per cent in the Netherlands, 51 per cent in Sweden, 53 per cent in the UK and 63 per cent in Denmark (Table 5)[19]. This picture is corroborated by data provided by the European Commission on the number of owner-occupied dwellings with mortgages as a percentage of the total owner-occupied stock. These percentages in Southern Europe are the lowest of the European Union, as shown in Table 1.

Meanwhile, in 1996, the value of mortgages per capita was still relatively low in all Southern European countries, but Portugal registered the highest European annual growth rate of the deflated value of mortgages outstanding between 1990 and 1996 (Fig. 8).

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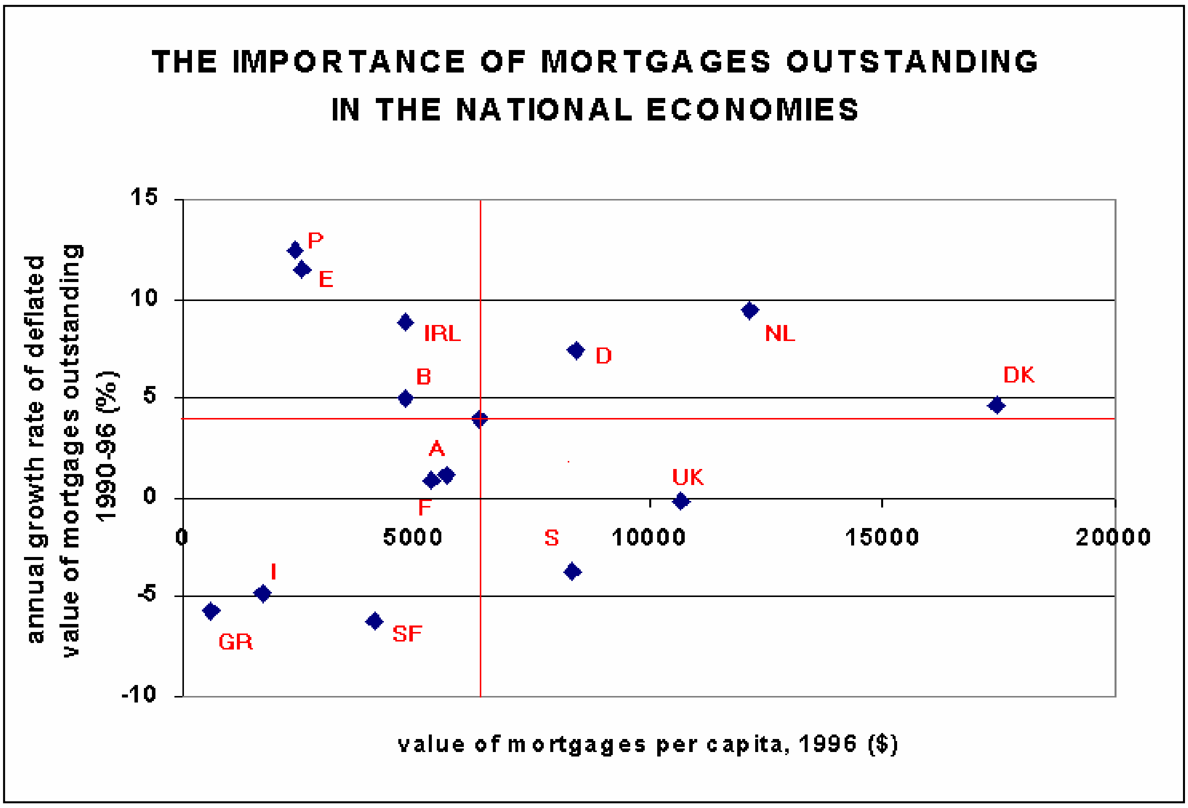
[18] The figure for the European average was provided by the European Mortgage Federation, *Hypostat 1983-1993*, 1994. See the next footnote.

[19] These figures are merely illustrative. International comparisons must be read with caution given the different criteria used in each country.

Fig. 8



Source: Datamonitor

As may be noted in Table 5, in 1992, in a EU-15 ranking of mortgage-GDP ratios (apart from Luxembourg), Portugal was the 11th. Only Italy, Greece and Austria[20] had lower ratios. In 1998, Portugal was already the sixth in the ranking (Spain, notwithstanding the high increase of its ratio remained in the 10th position).

[20] Some Austrian experts, for instance Christian Donner, are very critical regarding the EMF figures for their country.

Table 5

Outstanding residential mortgage debt as a % of GDP in Europe

	1990	1992	1995	1996	1997	1998	1999
B	20.3	20.5	21.1	21.6	23.2	24.8	27.1
DK	n.d.	63.3	58.9	58.7	66.5	69.4	68.4
D	42.5	41.0	46.2	48.6	51.1	53.0	53.0
GR	5.3	4.3	4.5	5.2	5.8	6.5	7.7
E	14.2	14.9	17.6	18.5	21.9	24.3	27.3
F	23.8	23.0	20.9	20.4	20.5	20.4	20.0
IRL	18.9	21.6	23.0	26.6	25.8	27.5	29.9
I	5.0	5.3	7.6	7.5	7.4	7.8	7.8
NL	40.0	43.2	48.2	53.0	57.9	62.3	67.3
AT	4.4	5.5	5.2	5.1	5.1	5.0	4.8
P	**11.2**	**12.1**	**18.6**	**22.2**	**26.0**	**33.3**	**39.4**
SF	31.7	33.9	32.6	31.2	29.4	30.3	n.a.
S	47.3	50.8	60.2	55.3	53.6	48.9	50.7
UK	54.5	52.8	54.6	60.9	56.8	53.0	58.7

Source: European Mortgage Federation, *Hypostat 1990-2000*, 2001. Own calculations for Portugal, based on data provided by the Bank of Portugal

It is thus safe to conclude that the Portuguese boom in mortgage finance that took place all over the nineties, particularly in the second half of the decade, is remarkable, not only for what it means in terms of structural change relative to the former situation, but also in a European context. The Portuguese boom in mortgage finance in the nineties is only paralleled by the Dutch experience.

4. How to explain the Portuguese experience on mortgage finance?

Data on the evolution of mortgage finance in Portugal seem to reflect the following basic threads of the Portuguese situation, some of them influencing the mortgage market in at least the last quarter of a century:

- *A clear policy option since 1976 favouring access to homeownership*. Support to ownership has been provided mostly through the application of the subsidised mortgage credit system.

- *A legal framework allowing use of subsidised mortgages by well off households.* Between 1991 and 1998, there was no ceiling to the value of acquired houses as a condition to access subsidised loans. This, combined with the possibility of, under the young borrowers subsidised regime, (i) taking out mortgages up to 100 per cent of the house value (ii) having monthly payments-to-income ratios above the usual 1/2 or 1/3 levels[21], opened the door to a large-scale use by high-income households of subsidised mortgages with the highest reduction in the contractual mortgage rate to buy high-valued houses.

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[21] Such a possibility, as seen, required that parents or other people accepted by the lender supplied a guarantee of repayment.

- *A close relationship between the mortgage system and macroeconomic conditions and policies*. Indeed, such a close relationship seems to be a feature of the Portuguese housing system globally[22]. In the seventies and eighties, macroeconomic conditions and policies were adverse on several grounds, namely strict credit limits and very high inflation and nominal interest rates. In the nineties, inflation and interest rates registered an impressive decline.

- *A deep financial deregulation process associated with the Portuguese integration in the European Union*. Since 1986, when Portugal joined the at the time 'European Economic Community', a highly regulated and underdeveloped financial system (including its mortgage component) has been subject to deep changes toward innovation, liberalisation and increased competition. To a great extent, the evolution of the mortgage market in Portugal in the last fifteen years or so has been a result of the nominal convergence process with the other countries of the European Union, first mainly linked to the need of integrating the single market and, after, in order to integrate the European exchange rate mechanism and to participate in the euro project.

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[22] In an analysis of the evolution of housing investment in Portugal between 1958-1991, Neves (1997b: 25) concluded that housing investment behaved pro-cyclically. Although this does not in turn imply that each and every part of the housing sector more broadly defined is pro-cyclical, it suggests that the housing sector might have not had autonomy from the rest of the economy and that its behaviour has been linked to the fundamentals of the national economy (see also Neves, 1997a: 42-55).

4.1 Financial liberalisation and the European integration

The Portuguese financial deregulation process started in December 1983, with the reopening of the banking sector to private institutions (Decree-Law nº 406/83, of 19 December) and occurred on several grounds.

Strict credit limits for the overall financial system were in place since 1978. They started to be indicative and only applied to commercial banks, but the policy of credit limits was extended a few months later to the *Savings and Investment Institutions* and to the main *'Caixas Económicas'* and since July 1978 became *imperative* to the financial system globally. In April 1986, the credit limits were loosened, becoming only imperative in even months (in odd months, credit limits were indicative). In March 1990, a merely indicative target for the growth of credit in each semester in the overall financial system (the so-called 'Other Monetary Financial Institutions'), identically distributed by each financial institution, replaced the former imperative limits, which were settled for each institution according to its share in the total resources. Even this indicative recommendation was completely abolished after the 1st of January 1991.

Meanwhile, having in view the substitution of the policy of credit limits by one of indirect monetary control, in September 1988 the Bank of Portugal also initiated a process of liberalisation of interest rates. At that date, the administrative determination of a maximum rate for lending operations, apart from lending for housing purposes, came to an end (Notice nº 5/88 of the Bank of Portugal, of 15 September). The Bank of Portugal continued to settle the lending rate for housing purposes until March 1989, when market determined mortgage rates also replaced discretionary fixed ones (Notice of 17th of March 1989, published in the "Diário da República" of 18 March). Mortgage rates have since been freely negotiable between banks and borrowers.

Until 1986, only three "special credit institutions" (Caixa Geral de Depósitos, Crédito Predial Português and Montepio Geral) were allowed to grant loans for housing acquisition. With the Decree-Law nº 34/86, of 3 March, commercial banks were allowed to grant medium and long term loans for housing purposes, although restricted to the unsubsidised credit regime. It was only in 1992 (after the publication of the Dispatch nº 214/92, of 20 April), that the possibility of granting subsidised credit (under either the young borrowers or the general subsidised regimes) was opened to commercial banks as well. In 1992, the Decree-Law nº 289/92, of 31 December, transposed the European Second Directive of Banking Coordination (89/646/CEE) to the Portuguese legal order. This brought with it the institutionalisation of the concept of a *universal bank*, which contributed to an increasing diversification of the range of financial operations undertaken by the banks and to the development of cross selling. Opening a branch of a bank also became easier, with the former need of permission replaced by a simple registration. The number of banks acting in Portugal increased from 23 in 1986 to 36 in 1992, 47 in 1995, 61 in 1997 and 62 in 1999 (28 of which were foreign banks[23]). Anyway, in spite of an increased and aggressive competition among lenders, the mortgage

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[23] They were 17 in 1995. Even so, the share of foreign banks in the mortgage market is relatively negligible.

market continues to be dominated by a small number of banking groups. In December 1998, the three most important groups in terms of residential mortgage finance had a share of almost 64 per cent of the market (the share of the five major groups was 84.5 per cent and the ten largest groups represented 98.6 per cent of the market)[24].

The first consequence of the process of financial liberalisation was a tremendous increase of competition on prices, both in lending activity and in attracting savings (e.g. interest rates on time deposits). The competition on lending rates was particularly noticeable in the case of mortgage lending, where financial institutions have competed aggressively in order to expand their market shares. For banks, the mortgage market became a *target-market* and mortgage rates a *strategic* variable. This was so mainly because the mortgage market was seen as having a great potential to grow (given the low level of households' indebtedness in the early nineties) and the possibility of this market act as the centre of a cross selling activity. Other reasons may be pointed out, namely the fact of a mortgage contract usually allow the establishment of a long-term relationship with clients, the mortgage market be a segment of the banking activity with a relatively low risk[25], and, last but

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[24] See "Box VIII.1 – Competition in Mortgage Lending to Private Individuals", in Bank of Portugal (1999a: 186-188).

[25] This is the result of a mortgage contract offer the bank a guarantee constituted by the house itself and also because, in Portugal, house prices have shown a long-term positive trend.

not the least, the fact of mortgage loans contribute with only 50 per cent of their value to the computation of the solvability ratios of the banks[26].

In the 2nd of May 1998, as the end result of a successful nominal convergence process with the other EU countries, initiated some years before, the European Union Council confirmed the Portuguese participation in the euro area. The participation in a wide and rather stable monetary area, which concentrates a major share of the Portuguese foreign economic relations, represented an important structural change. It acted as a supply shock on the potential output growth and also as a cultural shock. The new and more liberalised environment of the Portuguese economy, in an improved macroeconomic context, entailed strong implications on expectations regarding the evolution of the main macroeconomic variables, namely income growth and interest rates (both nominal and real).

In truth, financial deregulation and the European integration of Portugal are having a tremendous impact on the Portuguese financial system, including on residential mortgage finance. Competition between lenders is now fierce and there are no more the long waiting periods to obtain a mortgage loan as happened until the early nineties[27]. Interest rate spreads, which were very high, were considerably

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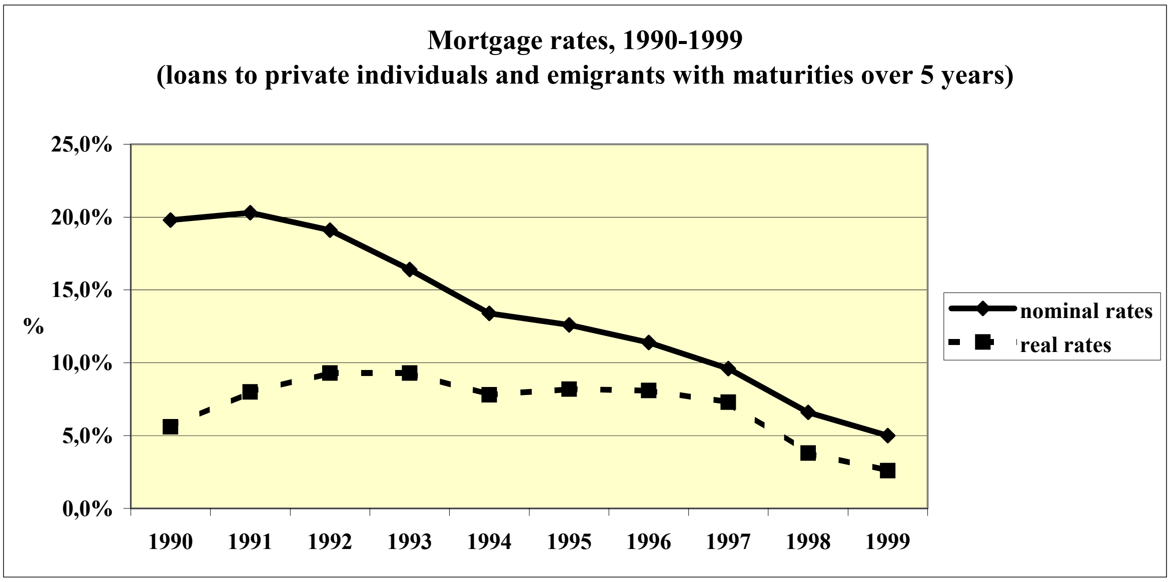
[26] Since July 2000, by determination of the Bank of Portugal, in the case of contracts with loan-to-value ratios above 75 per cent, the amount overcoming that value counts in full to the computation of the solvability ratio (Bank of Portugal, 2000b: 36-37).

[27] According to the results of the “BASEF.99 Banca”, a survey produced by the private firm MARKTEST, in 1999, 60 per cent of the respondents who had purchased their home with a mortgage had got an answer to their request in less than a month. This percentage rises to 76 per cent if those who did not know or did not answer the question are ignored.

reduced. On average, the margin of intermediation in the mortgage credit decreased from 5 per cent in 1993 to 2.7 per cent in 1999 (see Matias, 2002: 103). Nominal mortgage rates declined from about 20 per cent in 1991 to 5 per cent in 1999 (Fig. 9). Between 1996 and 1999, also the real mortgage rates have reduced significantly (from 8 per cent in 1996 to less than 3 per cent in 1999).

Fig. 9



Source: INE and Bank of Portugal

Such a reduction in interest rates was mainly an effect of increased credibility of domestic policies of macroeconomic stability, strengthened as the participation of Portugal in the euro area was becoming ever more certain. Increased credibility was due to the impossibility of exchange rate devaluation in the new euro context as well as to the reduced ability of national authorities to manipulate the public budget. As a result, the associated risk premium incorporated in interest rates was eliminated. The important decline of nominal interest rates through the nineties was interpreted as largely irreversible as the participation in the euro was becoming closer and, in consequence, its effects might have been reinforced by this circumstance.

Now, the important issue is to understand how financial liberalisation and the integration of Portugal in the EU impacted the mortgage market, that is, what were the channels through which the effects generated by those changes were transmitted to households' demand for mortgage finance.

4.2 The transmission mechanisms from financial deregulation and European integration into the mortgage market: the 'availability of credit' vs. 'mortgage affordability' channels.

The situation depicted above suggests that the main reason for the Portuguese relatively low level of mortgage indebtedness in the early nineties, and its significant growth all over the decade, relied on supply-side imperfections, *from within as well as from without the mortgage market*, that financial innovation and deregulation and the process of European integration contributed to overcome. In such a context, it is no surprise that nonmarket institutions, such as informal finance and intergenerational transfers, have developed. One question, however, needs to be answered: how were the effects of financial liberalisation transmitted to the mortgage market? Were they transmitted through a more supply-side based 'availability of credit' channel, by means of loosened borrowing constraints, as Guiso *et al.* (1994) suggested for the Italian case? Pereira (1999: 41), in a study of the impact on long-term growth of the participation of Portugal in the euro, suggested that the most important channel through which joining the Euro would affect the Portuguese economy was a reduction in long-term interest rates. Was the key channel one working through household decisions, based on prices and affordability considerations?

4.2.1 Borrowing constraints

Two very different approaches have been used to check for the presence and importance of borrowing constraints. One focuses on institutional mortgage qualification criteria and has been mainly associated, at least in the American literature (or under its influence), with the work of Linneman and Watcher (1989). The other approach follows Jappelli (1990) and is mainly associated, in the mortgage market field, with Duca and Rosenthal' s (1994) paper. It is based on direct observation of credit-constrained households through the answers given to survey questions. More precisely, constrained households are identified as those who had their request for credit rejected by financial institutions and also those 'discouraged borrowers' who, although having thought to apply for a loan, changed their minds because they expected to be turned down.

Both approaches have problems. Without any pretence of exhaustiveness, these should be mentioned. First, it is very difficult, in the Linneman and Watcher's case, to fix a threshold above which the loan-to-value or the payment-to-income ratios, for instance, become too high and make inevitable the refusal of a request for credit. On the other hand, Jappelli's and Duca and Rosenthal's approach is also problematical. One may doubt whether low-income households, for example, with few resources, may be reasonably interpreted as constrained borrowers, when the latter means a quantitative restriction in the mortgage market that the sole mechanism of prices is unable to overcome (for instance, because of moral hazard or adverse selection). A useful survey of these two approaches can be found in Follain and Wong (1995).

The Portuguese *Survey of Housing 1998* was designed to enable identification of mortgage constrained-households in the Jappelli's sense. Yet, in addition, homeowners that did not take out a mortgage were asked to give reasons for their behaviour. Table 6 show these results for first-time homeowners that have moved between 1988 and 1998. Also, would-be homeowners, still unable to enter the owner-occupied sector at the date of the survey, were required to report their experience of discouragement or of unsuccessful attempts to get a mortgage in the previous five years. These are shown in Table 7. Homeowners who reported either having been discouraged from applying for a loan or their application rejected, represented only 1.5 per cent of all non-mortgage users in the period 1988-1998. This suggests that mortgage-constrained homeowners in Jappelli's sense might be negligible, and, taking the respondents' answers as good, this is certainly the case regarding the percentage of rejected applications. Nonetheless, the relatively high percentage of respondents reporting not having applied because they had alternatives that were more advantageous or because of 'other reasons' does not allow discarding the possibility that some of these cases might be 'discouraged borrowers'. In any case, *the relatively low percentage of potential borrowing constrained homeowners over the period 1988-1998* (see Table 6) *does not give any support to the hypothesis* *that mortgage-borrowing constraints might be at the origin of the relatively thin mortgage market until the early nineties*.

Table 6

Reasons for first-time owners not having taken out a mortgage

(in percentage)

	1988 - 1992	1993 - 1998	1988 - 1998
Didn't apply			
- No needed	73.5	70.3	72.4
- Had more advantageous alternatives	13.6	15.3	14.2
- Anticipated a negative answer	0.9	0.3	0.7
- Other Reasons	12.0	12.0	12.0
Application refused	0.1	2.2	0.8
	100	100	100

Source: INE, Survey of Housing 1998

Table 7

Non-owners that in 1993-1998 were refused a mortgage or discouraged from applying

(in percentage of the total number of non-owners)

❑ **Thought to apply but didn't because expected to be refused**	**3.6**
❑ **Application refused**	**1.6**
Main reasons for inclusion in at least one of the above two situations:	
- Insufficient monthly income to repay the loan	65.1
- Not enough savings for the down payment	12.2
- The bank would grant the mortgage but the amount was insufficient	4.3
- No permanent job	4.1
- Other reasons	14.4

Source: INE, Survey of Housing 1998

4.2.2 *Mortgage affordability*

In 1998, the Bank of Portugal started to compute an "Accessibility Indicator" and provided values for this indicator for all years since 1991(see Bank of Portugal, 1998: 71-72). This indicator is regularly made available since then. The 'Accessibility Indicator' (*AI*) is defined as the percentage change of the ratio of disposable income (*DI*) in a given period to the amount of the debt service (*S*) in the same period, for a given loan amount and maturity, that is:

$$AI = (DI/S)_t / (DI/S)_{t-1} - 1$$

The inverted effort rate, *DI/S*, may be written as

$$\frac{DI}{S} = \frac{DI}{f(r_m).C} = \frac{DI}{f(r_m).\alpha.P_h.H} = \frac{\frac{DI}{def}}{f(r_m).\alpha.\frac{P_h}{def}.H}$$

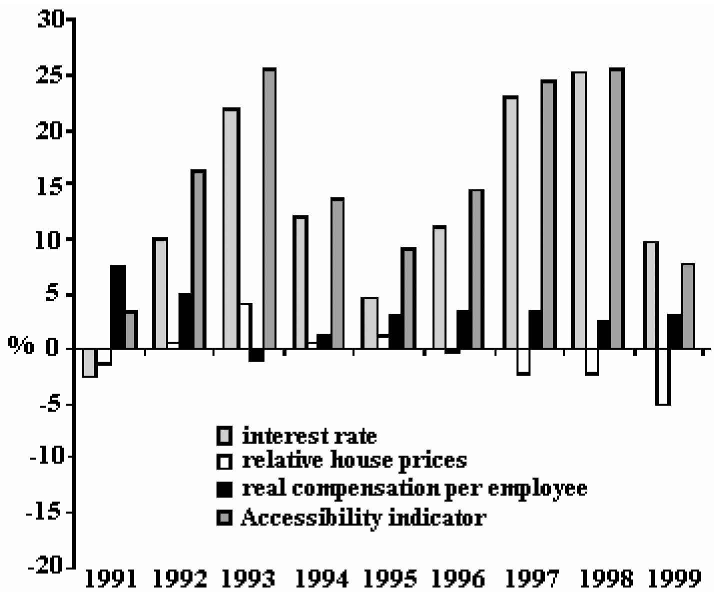
where *C* is the amount of the loan, $f(r_m)$ is the value of the constant payments per unit of financing, r_m denotes the mortgage rate for a loan with a maturity of 25 years, α is the LTV ratio, P_h is the average house price per square meter, *H* is the average house size and *def* is the private consumption deflator.

Assuming LTV ratios and the average house size as constant, the 'Accessibility Indicator' becomes:

$$AI = \frac{f(r_{m_{t-1}})}{f(r_{m_t})} \left[\frac{\frac{P_{h_{t-1}}}{def_{t-1}}}{\frac{P_{h_t}}{def_t}} \right] \left[\frac{\frac{DI_t}{def_t}}{\frac{DI_{t-1}}{def_{t-1}}} \right] - 1$$

Therefore, this indicator measures the change in the capacity of households to purchase a home with a mortgage loan as the joint effect of a change in the nominal mortgage rates, in the relative price of housing (as to the deflator of private consumption) and in real disposable income. Positive values of the indicator mean improved affordability conditions for households compared to the previous year. Fig. 10 shows the results obtained by the Bank of Portugal for the 'Accessibility Indicator' between 1991 and 1999.

Fig. 10
Accessibility Indicator of Households to Mortgage-financed Housing
(year-on-year rate of change)



Source: Bank of Portugal (2001: 208)

It is obvious, first, the persistent improvement of affordability conditions all through the nineties. The indicator took positive values in all years. Apart from real house prices in the late nineties, in general all components of the indicator have contributed positively to the improvement of affordability conditions. The information on the house price index and on the real rates of change of households' disposable income, both provided by the Bank of Portugal, suggests a reduction in the house price/income ratio in the nineties. In effect, whilst house prices, deflated by the consumer price index, rose between 1990 and 1999 at an annual average rate of 0.23 per cent (5.36 per cent in nominal terms), in the same period real disposable income of households increased 2.4 per cent on average each year. But the most significant determinant of the rate of change of accessibility of households to the acquisition of a mortgage-financed home is, undoubtedly, the changes in the interest rate.

Of course, it cannot be discarded the possibility that such regularities are simply the result of a spurious relationship between variables. Anyway, the few studies that have been undertaken on the Portuguese mortgage market suggest mortgage rates might be crucial. It is the case of an econometric study on the real demand for mortgage credit carried out by the Bank of Portugal and briefly described in the 1999 Annual Report of the Bank (Bank of Portugal, 2000a: 211-214)[28]. In this study, the chain rate of change of the real demand for mortgage credit was estimated on the basis of quarterly data for the period 1991-1999 and applying the error correction models' methodology. As explanatory variables, the study included the lagged change in real residential mortgage loans and a factor intended to capture deviations between the actual credit level and the long-term equilibrium levels that arise from a long-term relationship the model assumes to exist between

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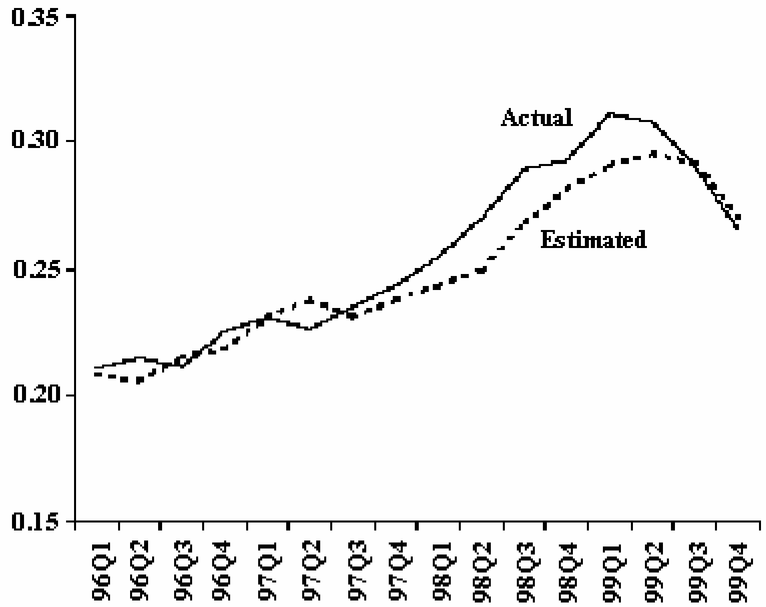
[28] Unfortunately, it was impossible to get access to additional details on this study beyond the ones provided in the annual report.

real mortgage loans, GDP, the real interest rate on loans to households with a maturity of over 5 years and the inflation rate. There was no evidence of structural break in the estimated regression and the results seemed to fit reasonably well with the observed data, although slightly underestimating the change in mortgage demand between 1997 and 1999 (see fig. 11).

Fig. 11

Domestic Bank Mortgage Loans to Households

(nominal values, year-on-year rate of change)



Source: Bank of Portugal (2000a: 213)

Such an underestimation of the change in mortgage demand was attributed, among other factors, to not taking into account the difference between mortgage regimes, namely the young borrowers subsidised regime, and the change in expectations caused by the participation in the euro. The researchers from the Bank of Portugal concluded that “the explanation for the recent strong growth of credit in

Portugal resulted chiefly from the behaviour of its traditional explanatory factors: income and interest rates." (Bank of Portugal, 2000a: 214).

Such a conclusion confirms the result already got about the significance of interest rates in an unpublished study undertaken by a financial institution, the *Caixa Geral de Depósitos*, on the evolution of the mortgage demand in the eighties (demand measured by the applications made to the three financial institutions then operating in the mortgage market). According to the results of this study (see Reis and Rodrigues, 2000: 116), the average monthly payment per unit of mortgage financing was the most influential variable on the annual change in demand, higher than the joint effect of all other variables considered in the model. The right-hand side variables considered in the study were the average monthly payment per unit of mortgage financing (in the most subsidised income bracket), the number of new households, the number of new dwellings to sale, the number of new dwellings to rent and the ratio of the average change in disposable income to house prices. The average monthly payment per unit of mortgage financing, together with other two variables, the number of new dwellings to sale and the number of new dwellings to rent, 'explained' 92 per cent of the change in mortgage demand. Households' income and house prices were not found significant.

The growth of indebtedness all over the nineties entailed, in aggregate, an increase in the degree of effort associated with the repayment of debt. The Bank of Portugal (1999b: 30) estimated that the total debt service of households (credit for housing and other purposes) would have increased from 8.8 per cent of disposable income in 1990 to 21.5 per cent by the end of 1998 (and about 1.3 to 2.3 plus in

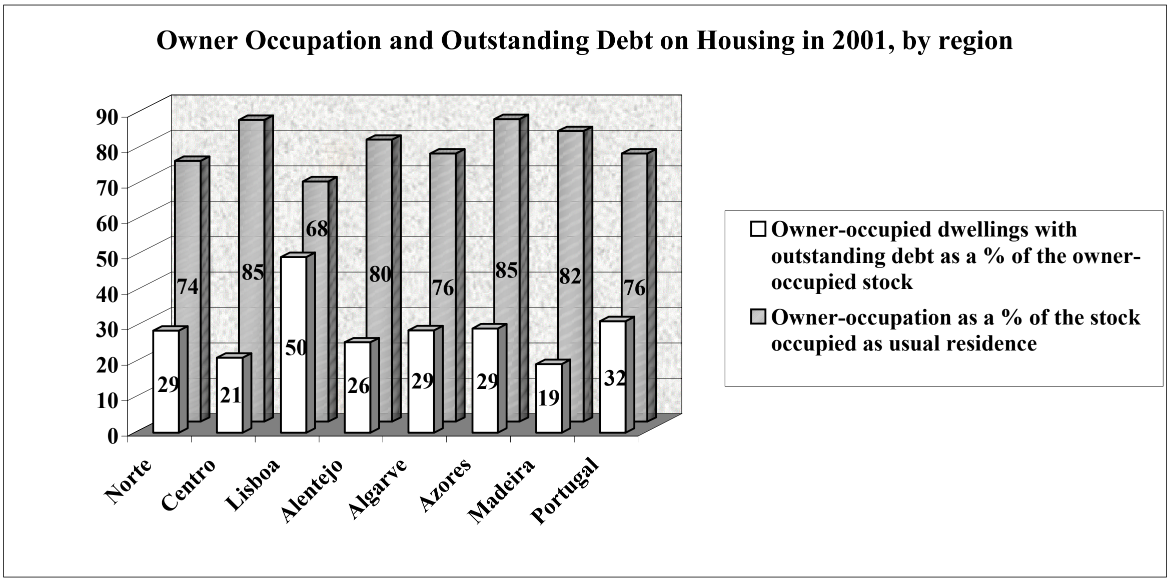
1999; Bank of Portugal, 2000a: 197). But the important decline in interest rates through the nineties enabled Portuguese households to increase their level of indebtedness without deterioration at the level of interests paid. According to the Bank of Portugal (1999b: 30), the share of interest has remained quite stable throughout the decade, representing about 4-5 per cent of the disposable income.

Therefore, it seems fair to conclude that *evidence on the Portuguese case* (with origin in different sources and for different periods) *is largely consistent with the hypothesis that interest rate changes, and their effect on affordability, constitute the key channel through which financial liberalisation and the European integration process impacted the mortgage market.*

5. Form of access to homeownership and financing strategies

Let us now return to the issue of confronting the high level of owner-occupation in Portugal with the relatively low number of owner-occupied dwellings with outstanding debt, which remains even after the boom that occurred in the mortgage market in the nineties (see Table 1 and also figure 12, which shows the levels of owner-occupation and the share of dwellings with outstanding debt in 2001, by region).

Fig. 12



Source: INE, Census 2001 [Recenseamento Geral da População e Habitação – 2001 (Resultados Definitivos)]

Since the last cross-section based study on mortgage advances, undertaken by the Office of Studies and Planning of the Portuguese Ministry responsible for housing (MOPTC, 1991), studies on mortgage finance and indebtedness tend to use only aggregate values. It is the case of those produced by the Bank of Portugal. However, this conceals the existence of very diverse situations. Evidence, before and after financial deregulation, suggests there are important differences in the way Portuguese households finance access to homeownership.

According to information provided by the CGD, between 1993 and 1997, more than 70 per cent of mortgages contracted with CGD were located in urban areas: almost half in the metropolitan areas (35.8 per cent in the metropolitan area of Lisbon and 11.4 per cent in the metropolitan area of Porto), 13.4 per cent in the chief towns (excluding Lisbon and Porto) and 10.4 per cent in a set of other urban municipalities[29]. The *Survey on Wealth and Indebtedness of Households* (IPEF) also pointed to a large regional concentration of credit: 49 per cent of the total number of households with outstanding debts was from the region of 'Lisboa and Vale do Tejo' (LVT). This results were confirmed by the *Survey of Housing 1998*.

Table 8
Homeowners with mortgages and total number of homeowners, by regions NUTS II, in percentages *

	Homeowners with mortgages	Homeowners (total)
Norte	26.2	29.8
Centro	12.7	21.9
LVT	51.1	37.3
Alentejo	5.2	6.7
Algarve	4.9	4.4
Total	100	100

* only included homeowners who purchased, owner-developed or purchased and renewed/reconstructed their permanent home.
Source: INE, Survey of Housing 1998.

The figures presented in Table 8 show that, in 1998, more than half of mortgagers with outstanding debt were located in LVT (the most urbanised region in the country), whilst homeowners from this region (having purchased, owner-

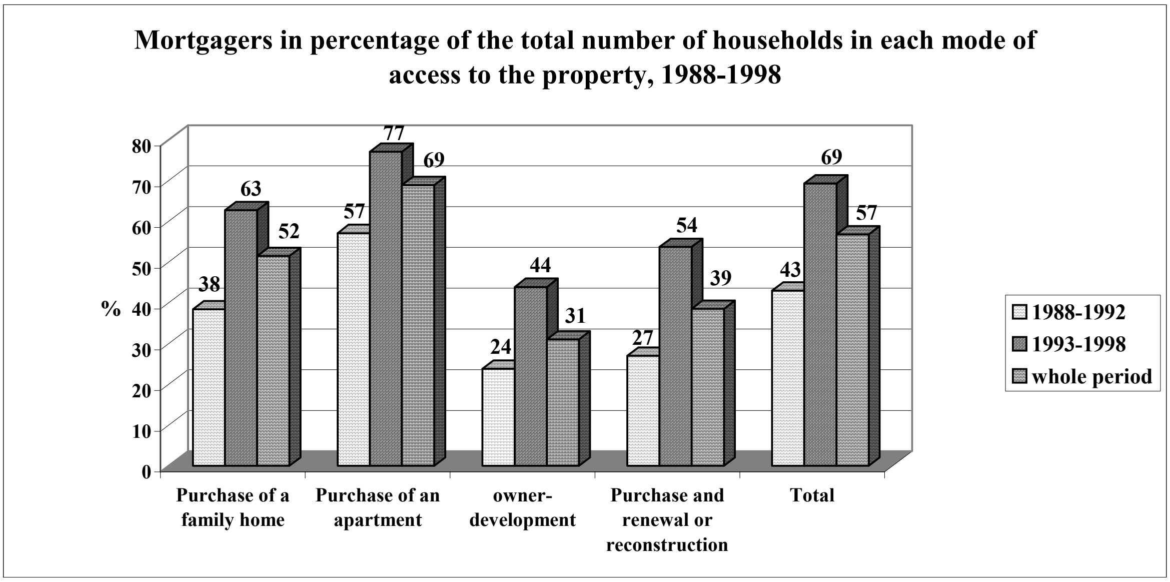
[29] Abrantes, Albufeira, Alenquer, Caldas da Rainha, Chaves, Covilhã, Elvas, Entroncamento, Espinho, Estremoz, Figueira da Foz, Guimarães, Ilhavo, Lagos, Loulé, Olhão, Palmela, Peniche, Peso da Régua, Portimão, Santiago do Cacém, S. João da Madeira, Sesimbra, Silves, Sines, Tomar, Torres Novas, Torres Vedras e Vila Real de Sto. António.

developed or purchase and renewed or reconstructed the home) represented only 37 per cent of the total. In opposition, in the 'Centro' region, with a much lesser rate of urbanisation, mortgagers with outstanding debt represented less than 13 per cent whilst the share of the region in the total number of homeowners was 22 per cent.

The IPEF also displayed important differences in the way households finance access to ownership of flats and detached houses. According to the results of this survey, 70 per cent of flats built between 1977 and 1994, would have been purchased using credit whilst only 42 per cent of semi-detached or terraced houses, built in the same period, and 28.5 per cent of detached houses, would have been acquired with credit. Considering again only homes built between 1977 and 1994, whilst 93.4 per cent of the owner-occupied flats bought with credit were exclusively mortgage-financed and 4.4 per cent used only credit from informal sources, in the case of family homes taken together (detached, semi-detached and terraced houses), those figures were 67.9 and 28.9 per cent, respectively.

Although some inconsistency may exist in the numbers provided by the IPEF and the *Survey of Housing 1998*, the picture that comes out of the latter is basically the same. The figure 13 shows that, in spite of a huge increase in mortgage use after financial deregulation in all forms of access to homeownership, different financing strategies are apparent and remain after financial deregulation. Between 1993 and 1998, whilst 77 per cent of purchases of apartments were mortgage-financed, only in 44 per cent of the homes developed by the owner a mortgage was taken out.

Fig. 13



Source: INE, Survey of Housing 1998.

According to the *Survey of Housing 1998*, purchase of apartments represented about half of the dwellings occupied as the main residence between 1988 and 1998. One in five dwellings were owner-developed. Access through intergenerational bequests or gifts was not negligible, representing 13 per cent of the total (bequests, 9 per cent, and gifts 4 per cent). Table 9 shows the distribution of the various forms of access to homeownership by region and distinguishing the pre-deregulation period (1988-1992) from the post-deregulation one (1993-1998). It is obvious that purchase of flats is increasing, in opposition to what happens in owner-development, and that important regional differences exist in the forms of access to property.

Flats and family homes are two distinct modes of space occupation. They are associated with differentiated modes of urbanisation and of promotion that should be taken into account in the analysis of the owner-occupied housing finance system. It is usual to consider the development of non-market institutions as the answer economic agents give to market failures (Guiso and Jappelli, 1991: 103). Meanwhile, such a view might not be completely accurate. Non-market institutions, such as those associated with intergenerational gifts and loans or the self-provision of owner-occupied housing, may arise not simply as a solution to 'market failures', but have its own economic meaning and rationality. One may wonder, in effect, whether non-market forms of housing provision and/or financing are simply a result of deficiencies of the market ('impurities' that an improved market would overcome) or rational alternatives to the market, because of specificities they present that make them more suitable to particular households and social contexts. Among those specificities, one may count, for example, the possibility that appeal is made to so-called 'sweat-saving' and aid from neighbours and friends in the building construction, this way enabling reduction of costs. It is also the case that self-provision, insofar as it gives greater control to the owner regarding the timing of the several stages of the construction, allows increased flexibility in raising the necessary funds to finance access to homeownership.

Table 9

Forms of access to owner-occupied housing since 1988, by access year and NUTS II, in percentages

			Form of access to homeownership							
Access Year	**Region**		**Purchase of a family home**	**Purchase of an apartment**	**Owner-development**	**Purchase and renewal / reconstruction**	**Bequest**	**Gift**	**Other**	**Total**
1988-1992	**Nuts II**	**Norte**	8.0	31.5	38.0	5.4	11.3	5.0	0.7	100
		Centro	11.6	26.4	35.9	4.8	16.7	4.2	0.4	100
		LVT	8.0	64.5	15.7	0.8	5.7	5.1	0.3	100
		Alentejo	23.5	25.0	22.0	11.0	11.5	6.0	1.0	100
		Algarve	20.7	39.3	17.9	4.8	17.2			100
	Mainland		**10.1**	**43.1**	**27.3**	**3.9**	**10.4**	**4.7**	**0.5**	**100**
1993-1998	**Nuts II**	**Norte**	14.1	47.1	22.4	4.2	7.9	4.0	0.3	100
		Centro	16.2	35.5	22.8	4.2	14.9	4.9	1.5	100
		LVT	5.4	70.3	13.5	2.3	4.3	2.2	2.0	100
		Alentejo	25.9	29.3	13.8	7.5	16.7	5.2	1.7	100
		Algarve	18.9	53.5	11.9	2.5	10.7	2.5		100
	Mainland		**11.3**	**55.1**	**17.6**	**3.4**	**8.0**	**3.3**	**1.3**	**100**
total	**Nuts II**	**Norte**	10.9	39.0	30.6	4.9	9.6	4.5	0.5	100
		Centro	14.0	31.0	29.4	4.5	15.8	4.5	0.9	100
		LVT	6.6	67.7	14.5	1.6	4.9	3.4	1.3	100
		Alentejo	24.6	27.0	18.2	9.4	13.9	5.6	1.3	100
		Algarve	19.7	46.2	15.1	3.9	13.8	1.3		100
	Mainland		**10.8**	**49.3**	**22.3**	**3.7**	**9.1**	**4.0**	**0.9**	**100**

Source: INE, Survey of Housing 1998.

6. Conclusion

The evolution of the Portuguese mortgage market in the nineties is remarkable both for what it means in terms of structural change relative to the former situation and in comparison with most of the other European countries. As was shown in this study, in a few years, the Portuguese mortgage market changed from being a relatively small and very regulated market to one of the most dynamic in Europe. In this context, a crucial question emerges: how financial deregulation and the Portuguese integration in the EU affected the mortgage market, or to put the issue in more workable terms, what were the key transmission channels through which deregulation and changes in the macroeconomic conditions and policies impacted the mortgage market? Guiso *et al.* (1994), for instance, suggested that the answer could lie on the extension of the restrictive role of borrowing constraints in countries such as Portugal or Italy and their loosening after deregulation. The interest on the issue goes beyond merely historical reasons. It matters for a better understanding of the way the mortgage market functions.

Strict credit limits imposed in Portugal between 1978 and 1990 suggest that borrowing constraints might indeed have been particularly acute in Portugal in that period. Surely, borrowing constraints are a likely relevant causal factor responsible for the small number of Portuguese households that took out mortgages until the early nineties. However, evidence on the main features and recent evolution of the Portuguese mortgage market, collected from a thorough reading of different statistical sources and available studies, suggests that other factors should also be considered. Changes in the mortgage market in the last decade were certainly supply-side originated, but as the analysis undertaken in this study indicates, it seems that they have mainly worked through a demand-side transmission channel, based on affordability considerations, rather than through a mere supply-side 'availability of credit' effect, which would result from a simple loosening of borrowing constraints.

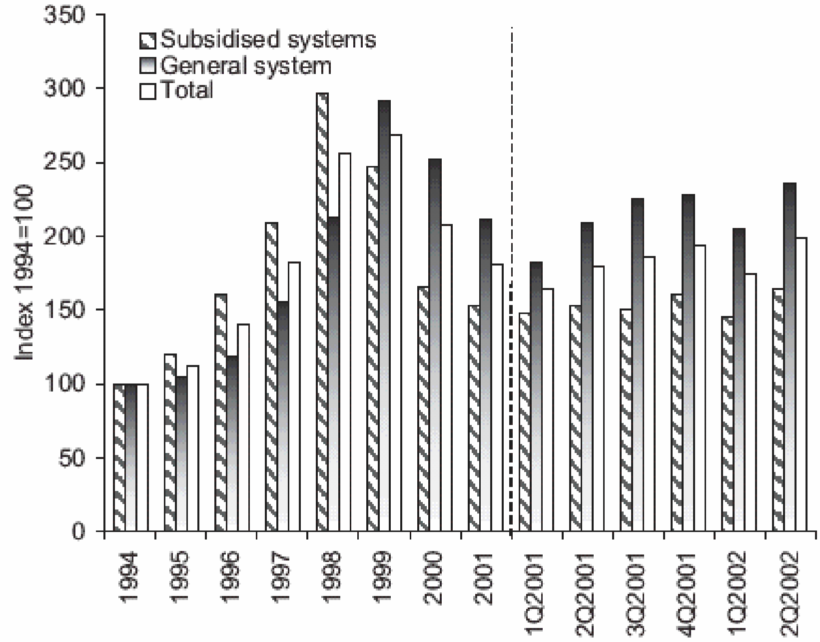
In July 1999, the boom in the mortgage market started fading way. Between the third quarter of 1999 and the first quarter of 2001, there was a significant reduction of new mortgages contracted and it seems that, after the boom, the Portuguese mortgage market has reached a new, higher level than that before deregulation (see fig. 14). This more recent experience was mainly linked to the behaviour of interest rates (and its consequent impact on the 'accessibility indicator', see fig. 15) as well as to a huge drop of consumer confidence. The strong linkage between the interest rate behaviour and the mortgage market also in the downturn is largely consistent with the view maintained in this study regarding the importance of affordability considerations.

The analysis undertaken in this study also showed that households adopt different mortgage financing strategies, apparently linked, to a large degree, to the various forms of access to the property.

The main implication both findings bring to research on the mortgage market is the need to undertake investigation focused on disaggregated data, preferably at the level of the household's decisions. A move from basically time-series analysis into survey data analysis is unavoidable.

Fig. 14

Number of New Mortgage Contracts



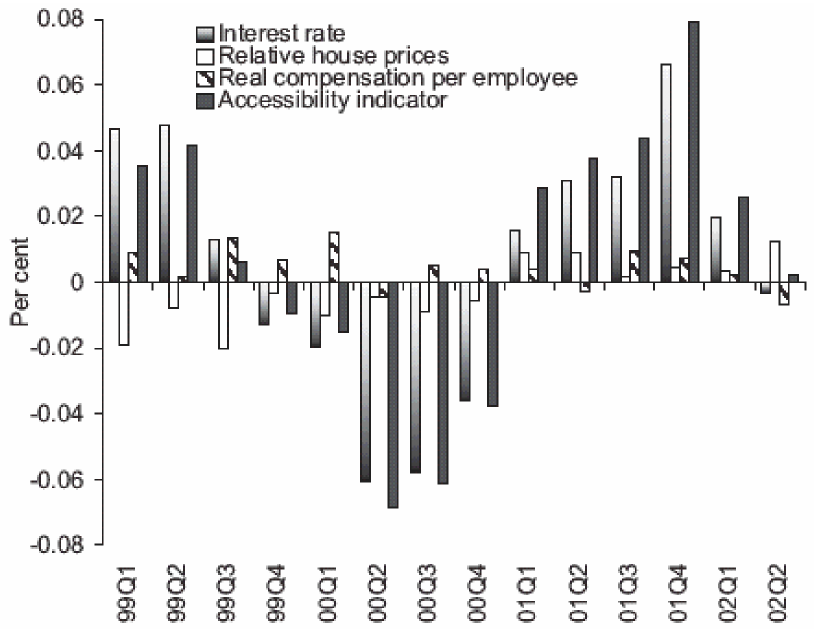
Note: Quarterly figures for 2001 and 2002 have been annualised.

Source: Bank of Portugal (2002: 53)

Fig. 15

Accessibility Indicator of Households to Mortgage-financed Housing

1999 (1st quarter) – 2002 (2nd quarter), chain rate of change



Source: Bank of Portugal (2002: 53)

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