Housing and Consumption in Spain

Paloma Taltavull de La Paz
Dpto. Análisis Económico Aplicado
Alicante University
International Economy Institute
Campus de San Vte. Del Raspeig s/n
03080 Alicante, Spain

Telf. 34.6.590.36.09, 34.6.590.35.82
Fax. 34.6.590.93.22
e-mail: paloma@ua.es

Paper presented to 8th European Real Estate Society Conference.

Alicante, Spain, June 26-29, 2001

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Paloma Taltavull
University of Alicante
International Economy Institute

Abstract

The impact of macroeconomics variables on housing market is largely analysed in the literature. The usual way where changes on economic variables are transmitted to housing market is through demand factors, affecting to, for instance, the level of household waged-income or to house building investor's expectations. Macroeconomics shocks on housing markets have not similar effects to those affecting other goods and they are different depending on geographic situation and market characteristics.

The aim of this paper is to contrast if a relationship between changes on general economic conditions, showed as changes on prices or interest rates, and housing behaviour exists and how it works addressing housing absorption. It is say, how they impact on demand-side housing factors to clean the market. To do so, we extract cycle on housing absorption and compare it to business cycle using time series techniques to demonstrate their relationship. We concentrate this analyse in Spanish market during a period from 1975 to 2000.

Results give evidence about how housing absorption use to be concentrated in some short periods generating boom and recession cycles on housing that are, in some of them, independent from business one. Expectations on inflations appears to be one of the main reasons to take housing consumption decisions, causing this characteristic phenomenon.

Introduction

One of the phenomena that brought about greater curiosity among both housing economists and politicians is the process known as housing boom. Two have occurs last twenty years in the Spanish market, during the end of eighties and nineties. Their most relevant characteristics have been an increase in both residential construction and housing prices generating an imbalance against families' purchase capability. This in turn brought about a fall in the houses' purchases approximately during four years, between 1989 and 1993. This process has been under research and only a few analyst founded explanations to this market reaction (Lopez García(1996)), and found out that relations between the increase in demand and the residential prices with the income growth exists that took place from 1986 until the end of the decade as well as with tax factors. Thus, recovery on housing demand was expected from 1994, while GNP was raising. This only happened with two year lag, by mid 1996, when the fall in interest rates began.

The fact that the factors causing the housing boom were unknown, the limited research in Spain on the analysis of residential causing demand factors, as well as the also limited statistics existing to determine the market position, give us reasonable doubts about what is happening and effects of interest rates on purchase capability, the protagonists of the recovery in residential construction.

The aim of this paper is to provide empirical evidence on the real behaviour of the housing demand in Spain and to contrast different macroeconomic arguments that explain the residential evolution, focusing on housing as one more good in the group of durable consumption. As much as the convergence process leads to a general economic

consolidation, this new situation will affect, without doubts, the future of residential demand.

This paper is organised as follows. Section two establishes some theoretical principles that relate the economic stabilisation process to the evolution of durable goods consumption. Section three shows evidence about the behaviour of inflation, per capita GNP, aggregate consumption and residential goods for Spain during the period 1974-2000. There is also a more formal contrast about housing consumption and inflation relationship. Section four contains the conclusions expressing the expectations on the future that the results of this exercise appear to show.

II. Theoretical principles

A part of the residential demand theory considers housings as a durable consumption good for families' wealth, with specific characteristics that impacts in its particular conditions about balance in the markets. This means that individuals demand housings wishing to consume a constant flow of their services and, they are seeing as an additional good by their consumption. Indeed, we're going to develop our analysis taking into account this focus[1].

Houses are a necessary good for families. They need it to consume a basic flow of their services, at least. This fact guides to the individuals towards the market from the same moment of the stabilising their familiar unit, reaching it both by buying and renting. We are not going to tackle any aspects related to this kind of access to the market. It is implicitly considered that demand use to covers their residential necessity owning their house, something which reflect the existing evidence in Spain[2].

The issue that is raised here is focused to analyse behaviour models of the users concerning both reasons and the moment in which the purchase decision takes place, as well as its periodicity. If flow of new families is considered stable over time and, indeed, a predictable and constant flow of residential demand exist in the long period, the strong growth processes of residential construction and the increase in the final prices because a demand accumulation is difficult to explain.

Literature have tried to justify the existence of housing demand booms in the market as consequence of the real and financial factor concurrence in different periods[3]. On the one hand, the economic cycle comes linked with an increase in the familiar income, that push the flow of buyers to real-estate market following their wishes to consume more quantity of housing services. On the other hand, housing as a long-time asset to invest is also another factor that explain reasons to understand why demand is concentrated in periods of economic prosperity. The increase of investment flows, portfolio diversification desires of the families and the fall in the profitability of the financial assets near the end of cycle, are other explanatory factors[4]. In a speculative process, furthermore, a part of the capital flows is diverted towards the real-estate assets (not necessarily housings) as value - refuge[5]. Thus, the sum of these effects induce to

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[1] This approach is the conventional wisdom of the housing analysis. It comes from consumeer of durable good theory of Modigliani, Brumberg and Ando, applyed to residential market. See Arcelus and Meltzer (1973) and a representative selection of articles in Quigley(1997). In Spanish books, this focus can be finded in Rojo(1986,360).

[2] Spanish housing stock of family homes has en 84% owned and 14% rented. This statistics are collect in Instituto Nacional e de Estadística(1991), Censo de Población y Viviendas. Madrid.

[3] Real Estate cycle are ussually linked with financial or tax factors. See Barrás(1994), Egebo and Liener (1990), who make a summary of the research about it, Clemhout and Nedtci (1981) or Jaffe and Rosen(1978), between others.

[4] See Poterba(1984) and, for Spain, Taltavull(1996).

[5] A summary of this aspects an be found in Smith, Rosen and Fallis (1988) and Egebo and Lienert(1991)

think that a housing boom of demand should be produced with posteriority to the first growth step of the cycle or initial recovery of the economy, i.e., concentration of the different sources of demand could take place the most advanced phases of the cycle, since the initial takeoff will be produced slowly, while employment recovers, and being pushed towards the housings demand by reasons of use.

Behaviour on residential supply appears to work with these mechanism, showing as housing development answer to economic incentives that lead the demand. However, it is no clear that demand react in similar way and there is no evidence to Spain.

Recent evidence exist on the existence processes known as "boom – recession" in the durable goods consumption cycles. De Gregorio, Guidotti and Végh (1998) have found how this processes happen in cases of economies with high inflation rates and when measures directed to the price control through the stabilisation of the exchange rates are applied.

These cycles shows different phases. Firstly, there is a demand concentration in the first moments of the economic recovery. Secondly, while the expansion is generalising, a fast reduction in the consumption of durable goods happen, inducing to a recession, first in this subsector. They find that durable goods' cycle is more pronounced than economic one, and new real income level causes that the consumers check their desired consumption level, increasing it, generating the level of durable good consume increase.

The arguments that explains this phenomenon are different and linked to each other. The key is in the existence of a **different consumption model for** the durable goods that it is influenced by the wealth effect from different ways.

The fist step of cycle is characterise by a mechanism that generate both concentration and demand boom. It is derived by a wide **wealth e**ffect related to the **fall of inflatio**n. These allow to new demand to increase their quantity of durable goods consumption up their perception about how much their real income has growth. Consumption desires increase more than before as a results of inflation reduction associated to exchange rate stability on their family income. This process accelerates the economic recovery and making the business cycle to begin.[6]

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  Factor that affect to the wealth on De Gregorio et al. (1998) terms are:

      Firtly, inflation fall resulting of stabilization policy increase real income and push up to consumption.

      Secondly, exchange rate estabilization have effect on interest rates in an open economy with freedom flows of capital. On the one hand, the parity power purchase principle define relations between diferential of inflation among economies and exchange rate:

$$?^0 = ? \ ?-? \ *$$

Where: $?^0$ change on nominal exchange rate of the currency.
$?$ inflation rate of the country
$? *$ inflation rate of the foreign country.

      On the other hand, interes rates are related with exchange rate. The principle of parity of interes non cobert derivated of Mundell-Fleming model shows a trend to make equal finantial rentability . We can express it like:

$$i = i* + ?^e$$

Where: i = interest rate existing in the country
$i*$ = interest rate existing in foreign country
$?^e$ = changes in exchange rate iqual to $[e_{t+1} - e_t/e_t]$. If e= nominal exchange rate.

When stabilization of exchange rate occurs, there is a tendence to interest rate fall. This make that coefficient of actualization in wealth effect function $(1+i)$ make grown the components.

      Thirdly, principle of rational expectation say that individuals could expect:

$$?^e = ?^0$$

      This means that inflation and interest rates tend to converge at a same level and the consumers act depending they think what prices and interes rate behave will be.This affect to how to fast wealth effect occurs.

$$\text{If } \; ?P/P = ?\mathbb{?} \; \implies \; ?Y/P = ?y_1$$

Being y_1 real income in year t: Y_1/P
P level of prices in each period.

Firstly, an increase in the available income causes that the users inspect their consumption equilibrium quantity, causing they revise their consumption level and tend to consume a greater quantity of durable goods. This means that greater services will be guided toward those services or, in others words, to a greater quality or price.

On the other hand, a **wealth effect** is considered when changes on any other economic aggregate has answer in the increase or decrease of the existent net wealth in the economy. The wealth is defined as the total of resources of those that an agent can prepare to consume in a moment of the time. These resources can be compound for the present returns, and the futures and the accumulated wealth. A simplified definition, in which the government's debt is not include, obviating in this focus the position of the wealth according to the theory of the Ricardian Equivalence, it could be:

$$? = [y_1 + y_2/(1+i)] + ([F(K)/(1+i)]-I_t) + b \qquad \text{where}$$

y1 real income of t period, $Y1/P$
y2 future real income expected: $Y2/P$
P level of prices in t period
F(K) finantial fund in real terms
It investment in others assets, Thus
$([F(K)/(1+i)]-I_t)$ is earning derivated of the total investment in t period..
b is wealth coming from latest period, in real terms = B/P

So, **wealth effect** from exchange policy can be see through:

1. – Some reduction in the inflation would increase real available income today to spend, but also the expected future income, the existent financial assets and the value of the accumulated wealth

$$\text{If } \; ?P/P = ?\mathbb{?} \; \implies \; ?Y/P = ?y_1 \qquad \text{and also}$$
$$?P/P = ?\mathbb{?} \; \implies \; ?Y/P = f(\,?y_2\,,\, ? \, F(K),\, ?I_t)\,,\; ?b)$$

Its growth generates income excedent to expend improving the consumption level in each period when a fall in inflation is perceived. The Wealth effect is shown as an increase on actual real income level, and it actuate without take into account the expectations, it is say, it has an immediate effect, that sustain the argument of demand accumulation: Consumption desires rise more as a consequence of an increased of real income by wealth effect and low inflation. This fact induces to different agents to rise their durable goods demand from the moment in which they perceive increases in their real income

2.- Stabilisation exchange rate policy would bring a reduction on interest rates if it is considered permanent, that is to say, if economic policy is successful in terms of the trust of the

consumers. In this case, a fall on interest rates will reduce the upgrade component of the wealth, (1+i), increasing its real value.

If   ? i ======▶   ? $(y_2/(1+i))$, and   ? $(F(K)/(1+i))$

This effect will be produce as the result of the confidence in the economic policy permanent impact.
However, if it is not success or inflation is associated to an increase on interest rates, then some wealth components will be reduced, compensating the effect before. It is say,

If   ? i ======▶   ? $(y_2/(1+i))$, y ? $(F(K)/(1+i))$

        'and limiting the wealth effect.

 Secondly, the transaction cost fall in search time terms when prices are reduced, therefore releases time for the productive activities, increases the activity level and rises global income. This implies that the individuals have the possibility to change future by present consumption and to save a part of the transaction costs from the same moment in which they see increased their real income[7]. This is a second argument to explain why consumption is concentrate in first phase of recovery.

Thirdly, mechanisms of rational expectations on future evolution both on inflation and interest rates, play an important role in the way by demand is concentrated creating boom-recession cycles. Knowing that durable goods consumption is concentrated in the time in a discrete way (such an individual buys a durable good and not other until the one which possesses has been depreciated), buyers find that a lower inflation depreciates their stock of current durable goods (Cdg) at a rate greater than they could expect[8]. It is say, in the long run,

        $Cdg^e = Cdg^a$ Being the value of $Cdg^a = Cdg(1-?)$

                        'and   ??   depreciation rate.

If   ? ? ??????????????? ?????then ?????? ?Cdg^a

And then $Cdg^e - Cdg^a$ > 0

.
        Resulting lag between actual and desire consumption is an **incentive** to advance buy decision on new durable goods, and its effects will vary depending on how the consumer consider the fall on inflation. If it is considered as **a temporary reduction**, consumer will advance the consumption decision. But if change is considered

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[7] The existence of cost in medium and long run derivated from inflationary process cannot be rejected, as sostain, Ficher (1991), De Gregorio (1994) y Barro(1995), although others think opposite, as Levine y Renelt(1992) y Levine y Zervos(1993)., referenced in   Andrés, Hernando y Krüger (1996), pág. 49. On it, exchange rate system is important to evaluate inflation is demostrated.
[8] De Gregorio et al(1998), pag. 117

permanent, then consumers will maintain their consumption model and will not advance it, being maintain the previous model.[9].

If change is not permanent, expectations shows that inflation will be higher in the consumption time. It is say,

$$????^e > ? \quad ????so, ?????^e - ? > 0$$

Being $????^e$ hoped inflation and $?$ actual inflation

And incentives to advanced consumption on durable goods, exists at a current inflation level.

On the contrary, if expectations shows the existent of confidence about inflation stability, then,

$$????^e <= ? \quad ????so, \quad ?????^e - ? <= 0$$

In this case, there are not incentives to advance consumption and temporal model will be maintained.

De Gregorio et al. 1998, thought that first effect is more important than second one, conditioning the consumption decision of a main of individuals to be concentrated in the market in the moment in which inflation is modified. Since durable good consumption growth is produced in the first phases of the economic recovery, this implies that higher income derived from the economic cycle are translated to higher wealth levels for the population, in terms of higher wages expected[10].

The second phase of the consumption cycle happens as a result of the first. The growth in the durable goods consumption is produced in the first phases of the recovery, what implies that the income earnings derived from the economic cycle are translated into better wealth levels for the population. This purchases concentration causes that, over time, a number of individuals expect the market to fall. This generates a later recession to the boom, since users will delay time in returning to purchase new assets. These successive effects are a consequence one from the other, therefore a boom - recession cycle after the changes from the initial conditions and without other explanatory factors. Consumers will not demand another durable good again until their present good will be depreciated below a minimal level. Those that have not decided to advance purchase decision will remain in the market, maintaining their temporary standard and reflecting a stable flow of demand.

Both effects are consequence one of the other; therefore boom-recession cycle is given after the variation of initial balance conditions in the economy, and without mediates other explanatory factors (Graphic 1).

. The effect of the anticipation in the purchase causes that global average consumption increase both because the time in which the decision is taken is advanced, as well as

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[9] Esta posición es coincidente con las conclusiones de Ayuso y López-Salido(1997).

[10] In fact, wealth effect is transfered by some ways. One of them is explain in foot-note number 6, but it could work by prices in some specific conditions.

individuals are not prepared to consume less quantity of assets than which they could have with current income level[11].

GRAPHIC 1. THE CONSUMPTION OF DURABLE GOODS
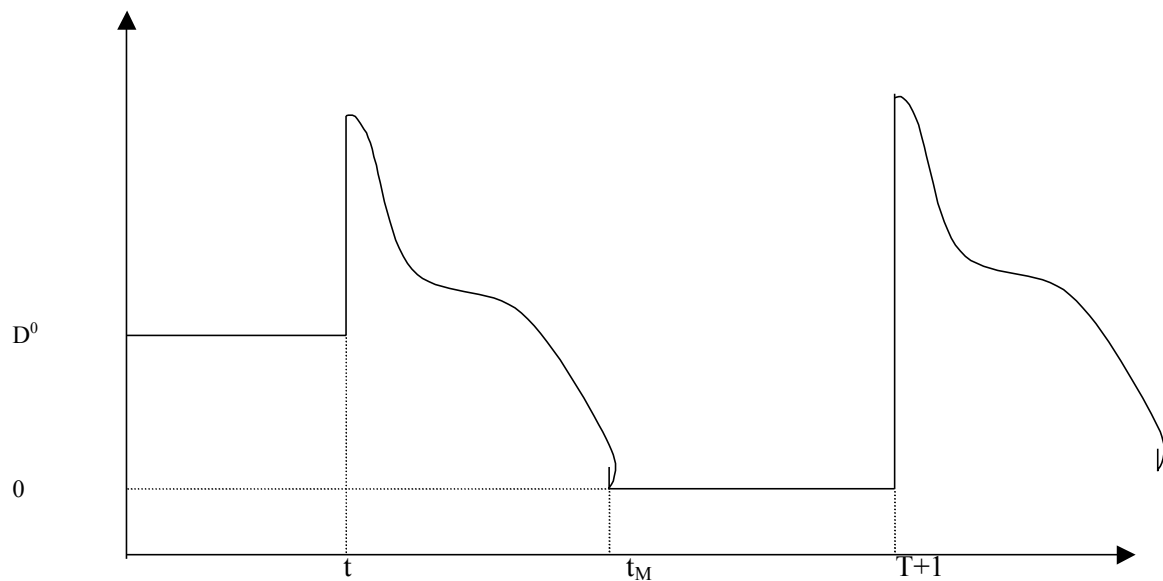
Source: De Gregorio et al.,1998, 125

The authors mention, as an example of their theoretical development, that a boom in the real-estate market is a common effect of the stabilisation policies based on revaluation processes[12]. These have been measured especially in Ibero-American countries[13], although they are generally contrasted through analysis of the prices and property values, and not in terms of real measures.

- *Initial evidence of consumption effect in Spain*

Evidence exists for Spain about the protagonist of exchange rates on the price evolution. Dornbusch and Fisher(1993) contrast how inflation is moderate on the basis of increasing exchange rates of the peseta during last decade, among other factors, and Alberola, Ayuso and López - Salido(1998) show how the depreciation of exchange rates have been able to generate inflation problems. There are evidence about cause-effects relations among inflation, exchange rates and economic growth[14], but casual relations is not produced in the same address[15], because to collect the transmission process of durable goods defined by the theory, and the channels through impulses towards the lasting consumer goods demand are driven.

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[11] De Gregorio , Guidotti and Végh(1998,123).

[12] "..A boom in real estate markets is a well-known stylised fact of exchange rate-based stabilisations..". De Gregorio and others(1998,126), This is contrast in Kiguel and Liviatán(1992) and Végh(1992), too.

[13] See Roldos(1991), Morande and Soto(1992) where Uruguay, Chile and Argentina are analysed.

[14] See Andrés and Hernando(1996), Andrés, Hernando and López-Salido(1998), Andrés, Mestre and Vallés(1997), Viñals and Vallés(1996), Andrés, Hernando and Krüger(1998) and Alberola, Ayuso and López-Salido(1996), between others.

[15] Andrés, Hernando and Krüger (1996,50), Alberola, Ayuso and lópez-Salido(1998,74).

For the aim of this paper, it is useful to take into account the findings, of the research of Ayuso and López - Salido (1997a), in where includes the effects of inflation on the consumption demand. They find evidence about the effects of expectations in the inflation evolution, on the present and future consumption decision making, and on how both are linked, also, with the interest rates existing in the financial system.

They considered five characteristic factors of the consumers utility function: the degree of patience of individuals to decide their future consumption level, the degree of risk-aversion, the level of substitution between present and future consumption, the importance of possible habits in the consumption rules and, finally, the effects on the individual utility derived from the average consumption of the society. Results obtained by these authors show that: A) The greater the degree of patience (defined as the relative weight of the future consumption in their utility function), the lower real interest rates are, given the greater present saving capability and the reduction of the profitability of the funds invested in financial assets. B) That the greater degree of risk-aversion raises the average and variability of the real interest rate ex -ante. Agents with greater risk-aversion transfer their consumption from the future to the present, incurring in a greater indebtedness today. The increase in the financing needs induces to higher real interest rates, as well as a more sensibility of users against unwished changes in their future consumption. C) For reduced values of risk-aversion, higher degrees of substitution between future and present supposes lower real interest rates (an increase in the degree of substitution has the same effect on interest rates as an increase the degree of patience of the agents). D) Individuals' consumption value is related to society consumption level, therefore if the users' utility value raises with greater average of society consumption, real interest rate decreases. E) If the utility of the agents incorporates habits, i.e. depends furthermore on previous consumption, an increase in the average and volatility of real interest rates happen.

Results applied to the Spanish economy show, firstly, that when the risk-aversion is low, the risk premium by inflation is also so. Secondly, between 1979-95, the evolution of inflation expectations appears to reflect falling movements in the average inflation with a certain time lag; this implies that, after prices rose between 1987-88, the deceleration observed from 89 could not be interpreted by the agents as a permanent movement immediately[16]. From 1989 a trend is observed about over-prediction of the inflation rate that vanished progressively according with consolidating inflation stability, and the agents perceive it as permanent.

III. Empirical evidence

To contrast the existence of a boom - recession cycle in residential consumption in Spain, similar steps like De Gregorio and others have been followed, trying, firstly, to find evidence on the factors originating the boom and, secondly, to provide a model more formal using econometric tools to contrast the behaviour of housing consumption.

Basically, in the **first step** we will prove that a boom - recession cycle takes place in association with stability of exchange rates of the peseta and with the inflation evolution. In second site, that this is advanced to the general cycle of the consumption. Finally, we will provide explanations to results in the same terms that the findings contained in the existing empirical contributions. For this analysis, economic

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[16] Ayuso y López-Salido (1997a, 60).

aggregates, as are GDP and the household consumption, measured through the variance rates of the series in real terms, will be used. In a second phase, a more formal measure of relationship between housing consumption and prices' expectation are fitted.

As a measure of housing consumption has been used statistics of number of mortgage operations in the urban real estate assets[17], also computed in annual variance rates. Reason for using these series, and not any other, is the fact that we intend to approach as much as possible, the moment in which consumers take the decision to buy a house. In addition to the existence of an important tradition related to this access formulation to the residential market[18], this indicator has been considered the best one to measure the exact moment of housing consumption, for the following reason: Given the differences between housing prices and the average annual gross income, families need to dispose of the financial assistance to formalise the purchase, financing is found to be intimately linked to both the fact and the moment of the purchase, until thus the mortgage is subscribed in the same instant of buying the house. This habit means that the number of granted mortgage operations will be a good indicator of the moment and intensity in which families decides to form their consumption desire[19].

All indicators are computed in 'per capita' terms, using INE's series of population[20]. The evolution of mortgages has been expressed as an apparent good indicator of residential assets consumption for the purpose of this study. Correlation coefficients with GNP and aggregate consumption were 0.955 and 0.933 respectively, showing higher values than the ones obtained by De Gregorio et al in the reference paper[21].

TABLE 1
CORRELATIONS
(the variables are measured in per capita terms)

	GDP	CONSUMPTION	MORTGAGES
GDP	1,0000	0,9904	0,9556
CONSUMPTION	0,9904	1,0000	0,9339
MORTGAGES	0,9556	0,9339	1,0000

Source: INE and own elaboration

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[17] Statistics of number of mortgage operations of city real estate assets are considered. They are calculates by INE from 1956. Series is homogeneous until the second trimester of 1986, and it was inspected from that date until 1997. Number of mortgages operations included housings and other real-estate assets. Nevertheless, the weight of these last is negligible upon calculating the variance rates, given the high relevancy of the housings in this financing formulation and in the urban areas. Taking the number of operations, all the problems related to the influence of the prices of the housings are obviated, obtaining a real demand indicator.

[18] The fact that a user come inteo housings market being owner in Spain has been little studied. It is considered that the custom of owning the own house is a sociological reason that explains, in fact, the greater degree of property of this country, though there would be that take into account, also, the existing incentives both from the financial assistance for the purchase of the first housing, as the taxes measures possitives to property. See Taltavull (1996) and López García (1996).

[19] Sometimes, initiated or completed houses are used to study housing demand. However, for the purpose of this paper, it is trying to measure the moment which consumption desire make come into the market like an effective act. Residential activity indicators are lagged from this time and we don't know if , in the case of the completed housing, they are part of the vacancy stock or they are being used.

[20] And its forecast to the period 1995-1997. Instituto Nacional de Estadística. Madrid.

[21] This authors find correlations values from 0.75 to 0.97. De Gregorio and others(1998,111).

Phase I.- Housing consumption, inflation and exchange rates

First phase of the research would include periods in which stabilisation and/or revaluation of the exchange rate occur together with a most intensive higher reduction of inflation, within a wide period between 1974-2000. Since 1977, the Spanish economy has experienced decreasing inflation rate, and block measures to put under way a stabilisation plan have not been applied, excluding therefore the Moncloa Agreements in 1977.

For the purpose of determining the periods that would theoretically perform the conditions shown in the reference paper, time take into account has been divided up depending on the behaviour experienced by the Peseta exchange rate. In graphic 3 we observe these along -with the different behavioural phases of inflation.

GRAPHIC 3.- EXCHANGE RATES

CONSUMER PRICE INDEX
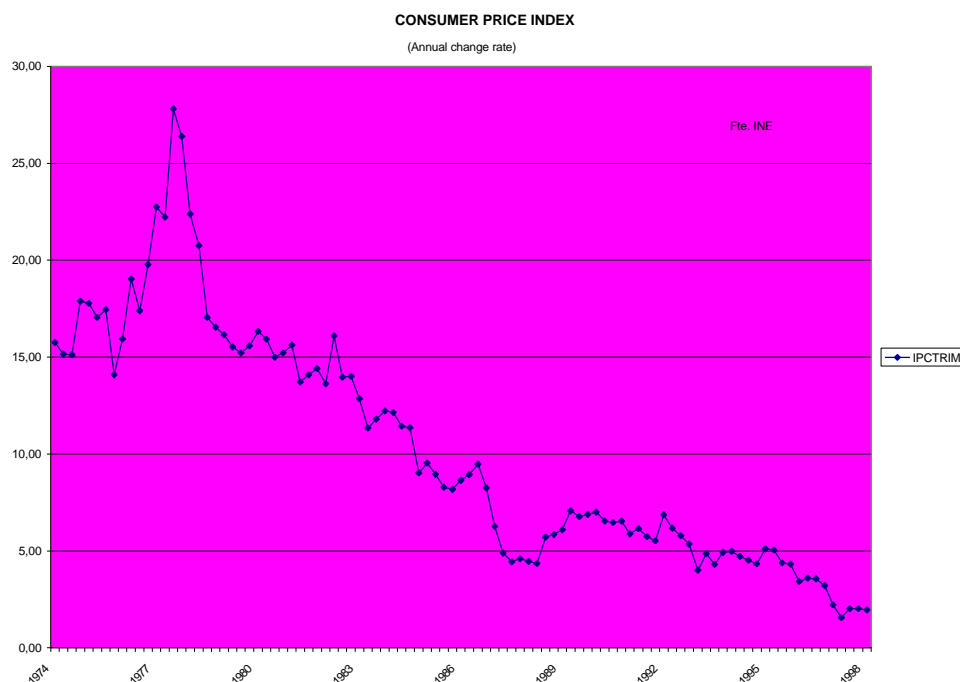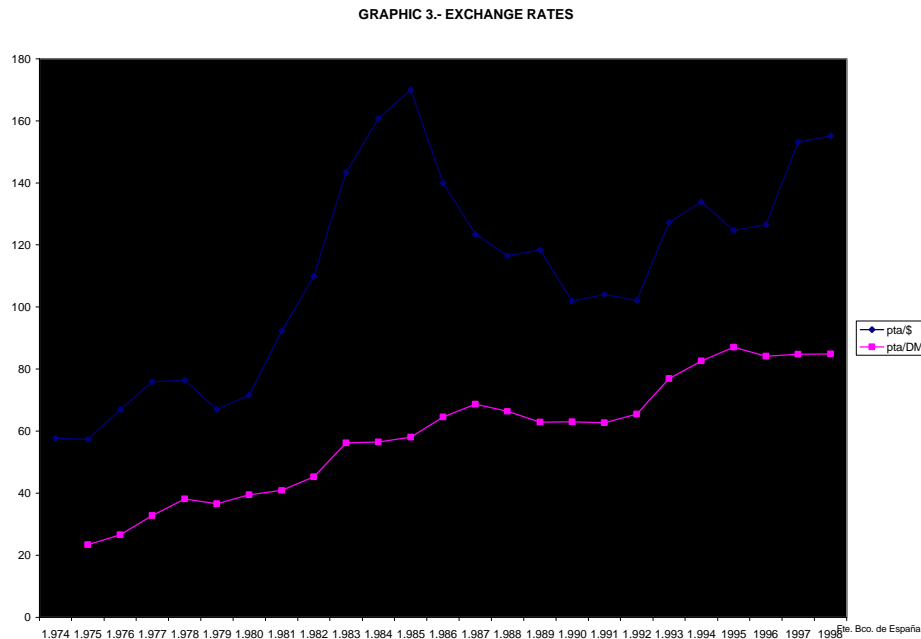
(Annual change rate)

Periods in which both events are given (high exchange rate and low inflation rate) appear in table 2. The behaviour of the analysed indicators has also been included, measured through the value of their annual growing rates. If the reference of the exchange rate the dollar is taken into account, an appreciation of the peseta takes place between 1978-80, 1986-88, 1989-92 and 1995-96. The parity Peseta/ DM has a greater stability, so that we could consider the same periods of more/less stability, with some exceptions, as in 1986-87, 1995 and in 1997, of low depreciation processes instead of appreciation.

In all the mentioned phases, inflation rates decrease, although in some of them, coinciding with periods of exchange strength, price growth is lower than the average trend. This is the case during the first phase containing the inflationary process, and also between 1986-88 and in 1992. Prices go up in 1982, 1984, 1986 and during the period, 1989-93. More pronounced reductions are found in 1977-80, 1987 -88, 1992-93 and since mid 1996.

TABLE 2
HOUSINGS CONSUMPTION INDICATORS
(In annual rates growth each period)

Cycles	Period	EXCHANGE RATE	IPC	Change % on CPI	GNP per capita	CONSUMPTIONpc	HOUSING MORTGAGES pc	PREPRO	House inflation
boom-recession			Annual %						
	1974-78		20,11	24.9	2,05	2,50	1,31	--	0
A	1978-80	reval	16,81	-12.83	0,06	0,05	-3,86	20,10	3,49
	1981-82	deval	14,44	-3.6	0,02	-1,35	33,44	15,63	-20,20
	1983-85	estabil	11,52	-12.3	1,27	-0,53	6,60	9,03	-19,35
B	1986-88	reval	6,32	-12.4	4,28	4,29	35,70	5,50	11,60
	1989-91	Reval-estab	6,39	7.09	3,43	3,91	-0,32	7,66	3,91
C	1992	reval-est	6,04	3.55	0,57	2,10	15,92	6,06	-8,46
	1993-94	deval	4,58	-10.2	0,44	-0,73	22,19	5,22	-8,42
	1995-96	reval-est	**4,08**	**-12.5**	**2.44**	**1,65**	**-0.61**	**4,83**	**-10,69**
D	1997- 2000	Deval-Estab.	**2.41**	**9.53**	**3.38**	**3.50**	**15.54**	**3,38**	**11.21**

Source: INE and own elaboration

Average values representing the variance rates show how a relation exists between the different moments and the greater or least intensity of the growth of the per capita GNP and consumption. Though it is not fully performed for the first periods, valorated periods after '86 correspond to those of greater growth of both aggregate, especially consumption, whilst that of depreciation (1993-94) experiences small or negative growth rates in this last case. Correlation seems stronger regarding the evolution of the consumption than GNP. The existence of capital earnings (shows through the positive difference among the inflation in housings and the general one) shows the possible existence of an additional effect wealth owning a house, what is an additional incentive to the demand and the concentration of the same one in the most favorable periods for it (Table 2)

The relation appears to be reflected with sufficient brightness in the boom – recession cycle, with the variable used to measure residential consumption. In the first half of the period, the relation exchange rate - housing consumption appears to be the opposite, even if evolution of the inflation is observed. This implies that the

extraordinary price reduction did not bring about an increase in consumption during these years, but in the following period, 1981-82, in which construction industry experienced the hardest crisis. The greater consumption peak is reached 1981-82, and as has already been said, 1986-88 and 1992-94. A recovery in mortgages intensity since mid 1996 appears to happen though apparently truncated by a reduced growth rhythm of these in comparison with the other peak years.

In order to provide more formal evidence on the behaviour of residential asset consumption in Spain, an econometric exercise is used regressing the growth from real GNP, real household consumption and granted mortgage operations, all this in per capita terms, with dummy variables that get different periods of behaviour of the inflation exchange rate. The variables have a quarterly periodicity and dummies are defined as appears in table 3.

It indicates that the binary variables measure the phases of the cycles, in order to contrast the existence of the booms (dummies A2, B1 and C1), and recessions (dummies A1, A3, B2 and C2). The last period, inconclusive and with doubts about its behaviour.

TABLE 3
DEFINICIÓN OF THE DUMMIES VARIABLES

Cycles boom -	Period recession	EXCHANGE RATE	PRICE INDEX	NAME	Period:1974.1-1997.4 valor=1 rest=0
A	1978-80	reval	-12.83	dummy A1	1978,1-1980,4
	1981-82	deval	-3.6	dummy A2	1981,1-1982,4
	1983-85	estabil	-12.3	dummy A3	1983,1-1985,4
B	1986-88	reval	-12.4	dummy b1	1986,1-1988,4
	1989-91	reval	7.09	dummy b2	1989,1-1991,3
C	1992	reval-est	3.55	dummy c1	1991,4-1994,4
	1993-94	deval	-10.2		
	1995-96	reval-est	-12.5	dummy c2	1995,1-1996,2
D	1997-2000	estab-dev	-36.7	dummy d	1996,3-2000.4

Source: INE and own elaboration

In this initial contrast, some model are fit using dummies and their macroeconomic variables, GDP, Consumption and Housing absorption., all of them en per capita terms and annual changes, as following;.

$GDP = f\,[dummy(a_1..a_3),\ dummy\,(b_1,b_2),\ dummy(c_1,c_2),\ dummy\ d]$

$CONS = f\,[dummy(a_1..a_3),\ dummy\,(b_1,b_2),\ dummy(c_1,c_2),\ dummy\ d]$

$d_{hous} = f\,[dummy(a_1..a_3),\ dummy\,(b_1,b_2),\ dummy(c_1,c_2),\ dummy\ d]$

Results of the regressions[22] are entered in table 4.

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[22] Method of estimation was a two-step GLS procedure, being GNP, Consumption and Mortgages dependent variables being regressed with dummies variables.

TABLE 4. RESULTS OF THE REGRESSIONS

Cycles of boom-recession			IPC % change	*Dependent Variable**		
				GNP	CONSUMPTION	MORTGAGES
A	recession	dummy A1	-12.83	-0,8 (0,4)	- 1,99 (0,37)	- 0,3 (11,9)
	boom	dummy A2	-3.6	- 0,61 (0,48)	-3,39 (0,41)	25.6 (13,7)
	recession	dummy A3	-12.3	0,522 (0,43)	- 1,88 (0,36)	8,57 (12,96)
B	boom	dummy b1	-12.4	2,497 (0,44)	2,42 (0,35)	29,44 (12,9)
	recession	dummy b2	7.09	2,21 (0,43)	2,4 (0,35)	6,5 (12,8)
C	boom	dummy c1	-5.61	0,238 (0,39)	- 1,79 (0,40)	20,87 (10,5)
	recession	dummy c2	-12.5	1,128 (0,50)	- 0,68 (0,48)	1.73 (14,24)
D	boom	dummy d	-36.7	0,639 (0,55)	0,496 (0,58)	14,96 (12,17)
Observation number				107	107	107
R^2				0.9	0.84	0.57
D.W.				1,57	1,53	1,98
	* Values of regression' parameters. Standard errors between brackets.					
	Series on 'per capita' terms and annual growth rates. Coefficients are significant to standard levels					

Source: INE and own elaboration

From Tables2 and 4 it could be observed:

a) Coefficient values appear to countersign the hypothesis of the existence of three full boom-recession cycles in residential consumption within the periods marked in which inflation is slowed or decreases from 1974 onwards.
  a. A lag between inflation and consumption exist.
  b. Some substitution between consumption and housing demand could exists.
  c. Recession is result to the process of concentration on the demand.
b) Cycles beginning are coincident with first steps of economy recovery.
c) Boom on housing consumption is more variable than others.

GRÁPHIC 2. AGREGATE AND RESIDENTIAL CONSUMPTION CYCLE
(En tasas anuales de variación)
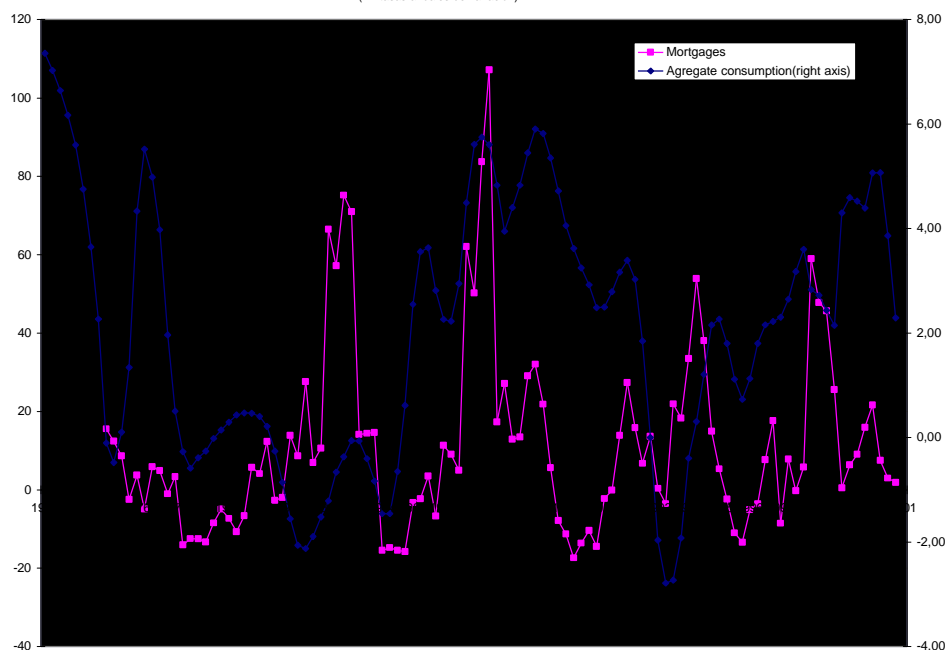
d) Two last cycles appears to be smoothers than two first.

Phase II.- Empirical evidence on housing consumption and inflation

The second phase of empiric analysis consists on finding a relationship between the residential demand and the behaviour of inflation expectations, since it is this variable used by the theory as explanatory basis of the demand behaviour. In essence, this section tries to contrast if the factor that makes react to the demand of durable goods concentrating the consumption on the periods of boom-recession is the inflation expectations, such and as it shows it the analysed literature**.**

Process **of boom-recessions means** that;

1. Individuals concentrate the consumption in a moment of time, so, housing consumption rate rise in boom periods.

2. They advance the decision of consuming in the future, that is to say, the difference between the present consumption and the future, and the consumption grows more quickly today.

3. This happens when individuals think that the future inflation will be bigger than current one. If the rational expectations are computed on the inflation, the individuals will advance the consumption of durable goods when:

    o $\pi^e > \pi_t$ it is say $\pi^e - \pi_t > 0$

    o If individuals observe the evolution of the inflation and they revise their expectations in function of her, their reaction will take place when

    o $\pi_{t+1} - \pi_t > 0$ or $\pi_{t+1} - \pi_t)$ is rising and/or positive, so

    o $\pi_{t+1} - \pi_t) > \pi_t - \pi_{t-1}) > \pi_{t-1} - \pi_{t-2})$

4. On the contrary, the individuals will retard their decisions of purchase housing as a durable good.

5. Positive changes in inflation rates adjust to positive changes in consumption. If

    $\pi_{t+1} - \pi_t) > \pi_t - \pi_{t-1}) > \pi_{t-1} - \pi_{t-2})..$ ⟶

    $C_t - C_{t-1}) > C_{t-1} - C_{t-2})$

We could expect a **positive relationship** between inflation and durable good consumption. Note that we take as indicator of inflation expectations the inflation serie lagged on period, because individuals adjust their consumption to expected inflation.

While consumers are entering in the market, there will be a reduction in the expansion rate inside because all of them consume in a discrete way. If inflation begins to rise, consumption could be concentrated in the first moments and their demand will be reduce in the rest of period.

If   %? ??? $_{t+1}$ / ? $_t$) > %? ??? $_t$ / ? $_{t-1}$) > %? ??? $_{t-1}$ / ? $_{t-2}$)   ⟶

⟶   %? ??C_t / C_{t-1}) > %? ??C_{t-1} / C_{t-2})

It is say, the **relationship is negative**

To contrast this previous basis, the following vectors are fits.:

? (C_t) = f(? (? $_{t+1}$)) = f [(? $_{t+1}$ − ? $_t$)]

And their adjust velocity is

? $^?(C_t)$ = f(? $^?$ (? $_{t+1}$)) = f [? (? $_{t+1}$ − ? $_t$)]

Series' mesure in this way (differences) are cointegrated[23] showing a significative long run relationship between them. To estimate this relationship, an Error Correction Model is used here, which has the following expression:

$$? Y_{1,t} = ?\,?\,?\,?\,?\,\ Y_{1,t-1}] + A_1\,?\,?_{?\,?\,?\,?\,?\,?\,?\,?\,?}\,?\,?\,? \ Y_{i,t}] + ?_{1,t}$$

Where   Y is matrix of variables' vectors
             ? ?and A are parameters' matrices
             ? Y $_{1,t-1}$ shows relationship in the long term
             A$_1$?? $_{?\,?\,?\,?\,?\,?\,?\,?\,?}$??? Y$_{i,t}$] shows relationship in the short run
             ?????s a white noise vector and
             ?? is a cointegration parameter' matrix

Results appear in Table 5, showing a very **strong relationship** between inflation evolution expectation and housing consumption, both in the short and long run, and in their sensibility.

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[23] We are contrast all series with Augmented Dickey-Fuller test showing that all of them are I(1).
Usual residual test have been calculate on Error Correction Model as Breusch-Godfrey , ARCH and White test. All of them give result that do not allow to afirm that serial correlation or grown variance exist in residual, because of their low statistics values obtained. Results are disposables under request. Econometric exercise are made using E-Views software on cointegration test, that use Johansen method, 1991

	TABLE 5 –ERROR CORRECTION MODEL BETWEEN HOUSING CONSUMPTION AND INFLATION				
	Sample(adjusted): 1976:3 2000:4				
	Included 98 observations after adjusting endpoints				
	Standard errors & t-statistics in parentheses				
:	**Long run:**	$?(C_t)$	**Long run:**	$??^?(C_t)$	
	CointEq1	-0.683716	CointEq1	-1.013816	
		(0.17468)		(0.21696)	
		(-3.91419)		**(-4.67279)**	
	D(CONSHOUS(-1))	1.000000	D(D(CONSHOUS(-1)))	1.000000	
	D(CPI(-2))	7.258745	D(D(CPI(-2)))	-14.44824	
		(2.99933)		(3.95636)	
		(2.42012)		**(-3.65190)**	
	C	0.223721	C	0.156780	
:	**Short run**		**Short run**		
	D(CONSHOUS(-1),2)	-0.359390	D(D(CONSHOUS(-1)),2)	-0.463458	
		(0.14515)		(0.16240)	
		(-2.47606)		(-2.85372)	
	D(CONSHOUS(-2),2)	-0.276532	D(D(CONSHOUS(-2)),2)	-0.465247	
		(0.10102)		(0.08831)	
		(-2.73750)		(-5.26808)	
	D(CPI(-2),2)	3.642868	D(D(CPI(-2)),2)	-10.35911	
		(1.42484)		(2.33959)	
		(2.55669)		**(-4.42775)**	
	D(CPI(-3),2)	2.048993	D(D(CPI(-3)),2)	-4.602411	
		(1.22777)		(1.27029)	
		(1.66888)		**(-3.62313)**	
	C	-0.024678	C	0.110186	
		(0.39329)		(0.45331)	
		(-0.06275)		(0.24307)	
	R-squared	0.554639		0.812956	
	Adj. R-squared	0.530695		0.802790	
	Sum sq. resids	1423.991		1847.359	
	S.E. equation	3.913020		4.481070	
	F-statistic	23.16386		79.97249	
	Log likelihood	-272.4468		-282.9467	
	Akaike AIC	5.625188		5.896871	
	Schwarz SC	5.782468		6.055134	
	Mean dependent	-0.018586		0.046531	
	S.D. dependent	5.711950		10.09062	
Determinant Residual Covariance		1.086786		1.736310	
Log Likelihood		-285.0694		-305.1483	
Akaike Information Criteria		6.041807		6.513230	
Schwarz Criteria		6.408793		6.882511	

Phase III.- Empirical evidence on housing consumption and capital gains on housing

As it can be seen in Table 2, some indices of the capital gains owning houses exists, shown as the difference between inflation rate and house inflation rate. This difference, as a proxy variable of capital gains, is used here to contrast the relationship with the consumption, it is say, we contrast if changes on capital gains is a determinant of housing consumption decision.   Mechanism to influence suggest that when individuals observe housing prices growth exceed from consumption good prices in some period, then they are having capital gains if they own a house and it act as an incentive to buy a house. Specially when their expectations say that inflation will increase, they prefer to invest their money in something that maintain its values in higher levels than inflation. It is say

- o If   ? ??? $_{t+1}$ - ? $_t$) > ? ??? $_t$ - ? $_{t-1}$) > ? ??? $_{t-1}$ - ? $_{t-2}$)   and

- o ? $^?_t$ > ? $_t$, or   ? ??? $^?_t$ - ? $_t$) > 0   is   positive,   being   ? $^?_t$ housing inflation.

- o Then individuals expect that housing prices hold some capital gains and invest buying homes. So if they expect that

  ? ??? $_{t+1}$ - ? $_t$) > ? ??? $_t$ - ? $_{t-1}$)   and they observe

- o   ? ??? $^?_t$ - ? $_t$) > ? ??? $^?_{t-1}$ - ? $_{t-1}$) > 0

- o They expect that

- o ? ??? $^?_{t+1}$ - ? $_{t+1}$) > ? ??? $^?_t$ - ? $_t$) > 0

Then   ? ??C_t - C_{t-1}) > ? ??C_{t-1} - C_{t-2})

- On the contrary, the individuals will retard their decisions of housing purchase. We could expect a positive relationship between capital gains on houses and housing consumption. Note that we still take as indicator the expectations to have capital gains with the serie lagged one period.

To contrast this previous basis, the following vectors are fits.:

? (C_t) = f(? ??? $^?_{t+1}$ - ? $_{t+1}$)) = f [(? $^?_{t+1}$ − ?$_{t+1}$)]

And it adjust velocity is

$$?^{?}(C_t) = f(?^{?} (?^{?}_{t+1} - ?_{t+1})) = f[?(?^{?}_{t+1} - ?_{t+1})]$$

Results of empirical exercise are in Table 6, and shows a **very strong relationship** between consumption and its trends with capital gains on housing, both in the short and in the long run.

	TABLE 6 –ERROR CORRECTION MODEL BETWEEN HOUSING CONSUMPTION AND CAPITAL GAINS				
	Sample(adjusted): 1976:3 2000:4				
	Included 88 observations after adjusting endpoints				
	Standard errors & t-statistics in parentheses				
:	**Long run:**	**$?(C_t)$**	**Long run:**	**$?^{?}(C_t)$**	
	CointEq1	**-0.511221**	**CointEq1**	**-1,4369**	
		(0.10840)		(0.14901)	
		(-4.72481)		(-9.64328)	
	D(CONSHOUS(-1))	1.000000	D(D(CONSHOUS(-1)))	1.000000	
	D(CGAIN(-2))	**19,7163**	**D(D(CGAIN(-2)))**	**12,6430**	
		-4,5697		-1,7810	
		-4,3093		**-7,0988**	
	C	0.040846	C	0.081966	
:	**Short run**		**Short run**		
	D(CONSHOUS(-1),2)	**-0.291445**	D(D(CONSHOUS(-1)),2)	0.043211	
		(0.09654)		(0.09216)	
		(-3.01905)		(0.46885)	
	D(CGAIN(-2),2)	**3,8105**	**D(D(CGAIN(-2),2)**	**9,0414**	
		-1,6540		-1,3710	
		-2,3038		**-6,5949**	
	R-squared	0.443040		0.729519	
	Adj. R-squared	**0.429935**		**0.723079**	
	Sum sq. resids	1717,0410		2570,6430	
	S.E. equation	4,4945		5,5320	
	F-statistic	33,8071		113,2792	
	Log likelihood	-255,5915		-270,7388	
	Akaike AIC	5,8771		6,2928	
	Schwarz SC	5,9615		6,3779	
	Mean dependent	-0.013750		0.027126	
	S.D. dependent	5,9528		10,5124	
Determinant Residual Covariance		1,3290		3,6364	
Log Likelihood		-262,2492		-303,0537	
Akaike Information Criteria		6,1648		7,1736	
Schwarz Criteria		6,4181		7,4287	

III.- *Results*

Results of last exercise shows that findings of De Gregorio could be applied to Spanish housing demand. Thus:

1. – There are three boom-recession cycles

A. - First one began with a recession in residential demand, in spite the coincidence of the exchange factors and favourable inflation. Boom period is produced in the following phase that conserves the price deceleration, but devaluation and negative growth of the aggregate consumption and GNP. The relation exchange rate-housing consumption appears, by so much, as inverse. It implicates that the extraordinary reduction experienced by prices was not expressed in an increase in the residential consumption. This occurs with posteriority, during 1981-82, just during the period in which the constructing sector experienced the hardest crisis.

Value of the parameters of the aggregate consumption (- 3.4) and residential (26) show two issues. The first one is that it exists a lag between the reduction of the inflation and the moment in which agents perceive it and react impelling their residential assets consumption. Second one, it is probable to produce a consumption substitution added by residential during this period.

Following recession after the boom is hopeless given, as verify De Gregorio et al in spite the coincidence of the favourable indicators. Both average growth and the regression parameter of this period gives a positive value (6,6% of growth and a rate of 8.65) in residential consumption, that because it is low than peaks it has been conceptualised as recession. It is probable that this value explain the beginning of economic recovery, in spite that evolution of aggregate consumption has a negative trend in this period.

B. - The second cycle has its peak between 1986-88 coinciding with a revaluation and another faster reduction of the inflation. In this case, aggregate consumption experienced very high rates, the same as the GNP, being generated a growth joint (both of aggregate and residential consumption) with the boom. In this case, it appear that the consumption are carried out simultaneously in the economy, outlining a strong increase in this indicator that it has been conceptualised as one of the most relevant factors of the commercial process than took place in these years in the Spanish economy.

The period of crisis happened after two years of high rate residential consumption, and coincides with a period of important economic growth and of the consumption (at rates superior to the 3.4%), an increase of the inflation and exchange stabilisation. This growth is a characteristic of the national market impulse in those years, something which can be related to a substitution process among durable and nondurable goods consumption, and change between present and future demand to residential assets (the mortgage operations decrease and consumption in these assets is postponed).

C. - Third cycle starts in 1992 until 1996, experiencing its growing phase between first year and during 1994, and diminishing following two years. It has been divided into two more periods (1992 and 1993-94) in order to differentiate the evolution of the indicative of mortgages related with the global situation of the aggregate

consumption in Spain. This distribution permits to distinguish two different paces of housing consumption. First one coincides with a high level in the household consumption and the second with a negative growth of this variable. Growing rate of mortgages in the first is 15.96%; while in the second is 22,92%. This fact clearly put the peak of the cycle in the final years of the economic crisis and the beginning of the economy recovery, when this has not been expressed still at aggregate level. Jointly, they reach a high value parameter and coincide, as cycle A, with a falling phase of the household consumption and economy recession. It is possible that a substitution process in the consumption occurs again in this period.

The negative phase appears between 1995 and 1996, with effective falls of mortgage concessions at the same time that favourable behaviour of the exchange rate and inflation but with the maintenance of the aggregate consumption growing at negative rates. Recession in this cycle appears again as a result of the previous boom.

D. - Last phase is found inconclusive, and it would have begun during the last months of 1996. It is characterised by economic growth raise at the same time that the inflation experiences a spectacular reduction (- 36.7% of average in the period) in a stabilisation -devaluation of exchange rates (with respect to the framework and dollar respectively) and similar period of growth as in the prior processes.

Independently of the relations with the others variables, accumulation in the mortgage operations in the three cited periods draw could be seen, representing the existence of growth processes followed by crisis as the defined by De Gregorio et al. These cycles **have similar features**: the booms are short in all the cases with duration of more than five quarters. They are very intensive, with growth rates higher than 33% in the first two and up to 20% in the third (as compared to increases of 2-4% in the global consumption). In addition, all of them coincide with periods in which inflation runs slowly and go followed by an important brake in the growth of mortgages.

The subsequent recession is reflected in the negative growth of this factor, between 1978-80, 1989-91 and 1995-96, and 2000 only in the first and last it also is corresponded with real falls in the global household consumption. Around the end of the eighties, the aggregate consumption was not only reduced but experienced positive rates higher than the GNP itself. This is a characteristic of the impulse of the national market over housing demand in those years, something which can be related to a substitution process between durable goods consumption as compared to nondurable, and/or a substitution between present and future demand to residential assets (the mortgage operations decrease and the consumption of these assets is postponed).

This could mean that residential boom process implies recession.

2. - The beginning of the cycles is coincident or is advanced to the first economic recovery phases:
An issue is raised after the results of this table, and consists of the coincidence of two of the three booms with periods of recession on Spanish economic growth: 1981-82 and 1993-94. Only between 1986-88 the growth paces were very high. These coincidences appear to mean that residential consumption is advanced in the time to the global recovery of the economy, and is concentrated in those first moments.

Coincidence among boom-recession cycle beginning and first moments of the economic recovery can be observed representing graphically the variables in a double shaft table (graphic 4). It show when residential assets consumption accelerate in 1982 at the same time that GNP and before aggregate consumption. This returns to happen, now simultaneously, in 1987 and in 1994. Previously it is produced a recovery in 1992 that is slowing down during 3 quarters.

3. - The boom cycle in the residential consumption is more pronounced than aggregate consumption's ones

Residential consumption cycle is, furthermore, much more pronounced that aggregate consumption's one, as show also the data of the table and as can deal principal in graphic 3. This figure shows three boom-recession cycles found according to the evidence. It is seen also how two firsts are more intensity and how the last one has been smaller.

GRAPHIC 5. RESIDENTIAL CONSUMPTION CYCLES

(En tasas anuales de variación)

Source: INE
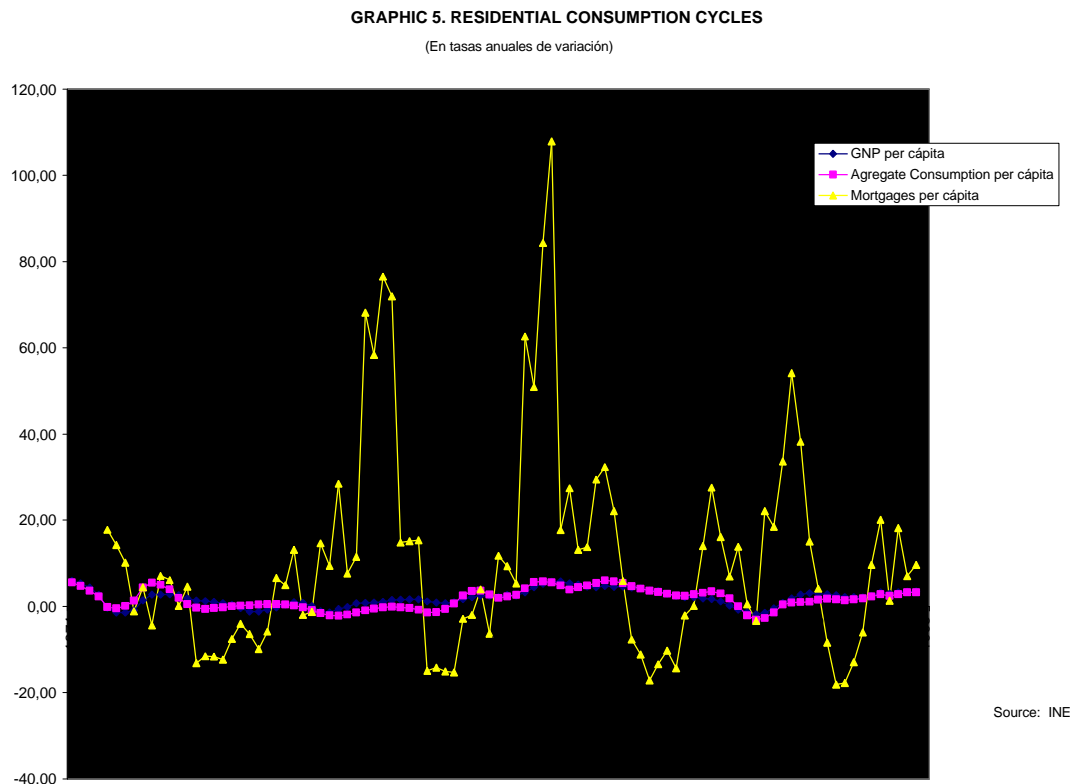
Some explanations of the results

Connecting these findings to the explanatory factors of consumption obtained by Ayuso and López-Salido (1997a), the boom - recession cycles contrasted would come explained by a high risk-aversion in the behaviour of residential users. They could have increased risk premia derived from their experience in high inflation periods. This is why they advance their durable goods consumption in the moment in which they

perceive an increase in their real income derived from the wealth effect that has been generated, at the same time, by slowed inflation. Expectations on the future stability of inflation were negative, what impels them to carry out the consumption before prices grow, and affecting residential assets prices. The high risk-aversion influences interest rates outstanding in the mortgage market.

This result is supported by Alberola et al.(1998), too. In their paper, they demonstrate how nominal perturbances in Spain explain 40% of the variability in the short-term exchange rate, and 57% long-term, as well as changes in relative prices and a small proportion in the real exchange rate. This indicates that the exchange rate depreciation has been an especial protagonist in the generation of inflation problems in Spain[24]. As has already been said, the continued effects of monetary policy may have influenced the expectations of users, so that these have advanced their purchase decisions as a consequence of their risk –aversion, upon observing the greater growth in housing prices than inflation and, due to the desire to own a house by reasons of use (necessity). Moreover, the expectations have been able to affect the high rate of substaintenibility between present and future consumption, derived from the continued effects between inflation and the revision of their expectations on price increases.

A second explanation of the boom-recession cycle, would consist in that individuals choose to satisfy their consumption desires by owning the houses where they are going to live. This behaviour derives from the social custom of owning the residential unity for the family (and a second residence) since this role raises the utility level of individuals with regards to residential consumption, and also represents a part of an established social pattern. This reason is strongly related to investment purposes, specially taking into account the existence of a wealth effect during all period (table-2) and consumers have had more reasons to buy a house than only use desires. They found that could increase their wealth accumulate buying houses and they did it when economic conditions, in terms of inflation and its impact on house capital gains, leave them to do it.

V. SUMMARY

This paper presents empirical and formal evidence on the existence of three processes known as boom - recession cycles in the residential asset consumption in the Spanish economy, within the period 1974-2000. The analysis builds on the theoretical basis represented by the effects that a stabilisation process of exchange rates have on the reduction of inflation and the generalisation of a wealth effect that affect to families' durable consume. Its results show that durable goods consumption concentrates and is advanced in the first periods of economic recovery, which generates the boom. Later, this concentration reduces the number of individuals that wish to consume, thus originating the recession.

The empirical exercise demonstrates that there have been three complete booms - recession cycles in the Spanish economy in 1981-82/1983-85, 1986-88/1989-91, 1992-94/1995-96 and 1997/2000. All of them reached growth pace in residential consumption demand superior to 20%, as compared to maximum increase around 4% in household

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[24] Alberola, Ayuso y López Salido(1998, 76)

consumption. It is also shown how consumption is around advanced to the general recovery and the two last cycles are been less strong than the first two.

Some explanations to this phenomenon have been suggested. Firstly, a lower value of the last period coefficient can be reflecting a reduction in the intensity of residential demand by reasons of use in the Spanish market. Secondly, it can also reflect a change in expectations of residential users and a reduction in premium the inflation risk, which encourages a greater rate of substitutability of future by present consumption. Finally, the Spanish housing users can also have reduced their degree of risk-aversion, given the lower level of interest rates and their future stability, which enables to them to delay their present consumption to later periods.

Additionally, the existence of an increase in relative prices of housings with respect to the other assets is pointed out, which can have influenced the slow-down in consumption desires, something which in turn would have influenced their deceleration ab initio of the process.

The possibility of the fact that a boom - recession cycle begins again depends on the maintenance on these factors, that will determine whether it could be produced in the future, a constant users' flow entering the market concentrates during this time. The evolution of inflation seems to be an important factor that shows whether these facts could take place again.

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