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Regional Cohesion and Competitiveness in 21st Century Europe

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Recent decline in family savings rate: possible explanations

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1. Introduction

The role which savings plays in the economy is beyond the scope of discussion. Hence, the prolonged fall of the family savings rate has caused great worry in developed countries.

Thus, in the course of the last three decades the national savings relative to income ratio has undergone profound changes, especially among the industrialised countries. As Attanasio and Banks (1998) say, personal savings rates have exhibited large changes in most western economies. These changes have tended to run in the same direction for all countries, namely down. In the UK, they fell in the late 1980s but have since recovered. In the USA, they fell dramatically in the 1980s and have remained low. In Spain, this situation is especially serious with falls beyond the family savings rate.

Elsewhere too, recent declines in personal saving rates have caused concern that the generation currently in work is not saving enough to provide its retirement. Increased life expectancy and decreased fertility rates have made most unfounded pension schemes potentially expensive: either future workers will bear a great cost of supporting the current generation in its retirement, or the latter will face less generous retirement funds than it currently anticipates.

Saving theories have tried to explain this fact, pointing out possible explanations, a majority of them being provided by the Life Cycle Hypothesis, rather than the altruism model. An analysis of the altruism model's explanations could offer additional point of view in order to understand and avoid this situation which have important consequences in the sustainable growth of the countries.

First, the paper presents evidence of the importance of the different macroeconomics theories concerning the accumulation of wealth by domestic economies. Second, it is pointed out some explanations, provided by the Life Cycle Hypothesis.

Changes in family size, changes in the number of adult workers, mortality, and ageing itself, for example, may systematically alter the marginal utility of consumption over the life cycle and led to an optimal fall in consumption around retirement. As Banks et al. (1998) say, is there really a retirement-savings puzzle?

In order to offer other ideas, in the section four, some situations, provided by the altruism model, present additional explanations. Finally, some implications and conclusions are mentioned in order to avoid the decline in savings rates.

2. Decline of savings

The evolution of total savings in the economy (national savings) is a result of the behaviour of three principle classes of economic agents: companies, families and government.

Of these three components, the study of family savings has taken the most distinguished place among them, not only because of its quantitative importance, rather also for the greater reduction which, in comparison with other components of national savings, had been experienced in the 80s.

2.1. Evolution of savings at the global level

In the decades between 1950-1970 the growth of savings at a global level was continuous and intense, presenting a maximum level in the 70s just during the time of the two oil crises. At the root of the second oil crisis, savings rate fell drastically, such that during the 80s and 90s it was at a much inferior average level in contrast to that of the previous decades.

According to the IMF (1995a), the average global rate of savings in 1973-1980 represented 25% of GDP. This percentage was reduced to 22.5% in the period between 1981-1994. In 1992 and 1993, the global savings rate hardly reached the average of 21.75%.

Nevertheless, it is helpful to point out that savings behaviour has not been homogenous throughout the world. While in developing countries, the savings rates have increased in the last decade, industrialised countries have shown a decline, according to that gathered in IMF (1995b).

It may be helpful to illustrate the fact that in 1992-1993, China, Japan, and other developing Asian economies composed 34% of world savings while their participation in GDP was only 21%. Industrialised countries participate in 35% of global savings, compared to a GDP rated at 46%.

Following Schultz (1998), estimates of the determinants of savings patterns over time for East Asia using fixed country effects have reported that suggest changes in age structures are responsible for the sharp rise in savings rates in East Asia since the 1960s.

Studying U.S.A. and E.U., all measures of capital accumulation show a marked downturns that starts in the 1980s and continues into the 1990s. For example, and following Laibson (1997), U.S. personal savings as a percent of disposable personal income fell from an average of 7.3 percent from 1946-1984 to an average of 5.3 percent from 1985-1994. The 1985-1994 period had the lowest average saving rate of any ten-year span in the post-war period.

According to Gokhale et al. (1996), in the 1950, the rate of net national saving in the United States was 12.3%. In 1994, it was only 3.5%. The U.S. saving rate averaged 9.1% per year in the 1950s and 1960s, 8.5% in the 1970s, 4.7% in the 1980s, and just 2.7% in the first five years of the 1990s. Therefore, the data illustrate a dramatic long-term decline in U.S. saving in the 1980s and 1990s.

Table 1. Saving and Spending Rates (in percent).

Period	Net national saving rate	Government spending rate	Household consumption rate	Household saving rate
1950-59	9.1	21.0	69.9	11.5
1960-69	9.1	22.1	68.8	11.7
1970-79	8.5	21.4	70.1	10.8
1980-89	4.7	21.3	74.0	5.9
1990-94	2.7	20.7	76.6	3.4

Source: Gokhale et al. (1996). Authors' calculation from the National Income and Product Accounts (NIPA).

The fall in savings which has happened at a global level is also expressed in the states of the European Union, as can be seen in Table 2.

Table 2. Fall in savings in the European Union. Percentage of GDP

Years	National Savings	National Savings	Public Savings	Public Savings	Private Savings	Private Savings
	Spain	E.U.	Spain	E.U.	Spain	E.U.
1970	27,3	26,7	4,0	5,2	23,3	21,5
1994	18,0	19,0	-2,4	-2,2	20,4	21,2
Difference	-9,3	-7,7	-6,4	-7,4	-2,9	-0,3

Source: Raymond (1997).

This fall is fundamentally concentrated in the 70s, while in the 80s a more reduced level is established, going from 26.7% to 19% in the European Union, and from 27.3% to 18% in Spain (a reduction of 7.7 and 9.9 percentage points, respectively). After the years 1994 and 1995, savings in the European Union has steadily increased.

By breaking down gross national savings, it is evident that the fall is fundamentally due to public savings. In effect, public savings experienced a decrease of gross national savings of 7.4 percentage points in the European Union. This explains all of the decrease in national savings while in Spain, the decrease in public savings accounts for 69% of the total decrease in savings, according to the statistical annexes number 59 of the European Economy from the year 1995.

In the case of the United States, the fall in the private savings rate was relatively clear, according to Bosworht, Burtless, and Sabelhaus (1991), who indicate that the whole American society is saving generally less as gathered in Table 3 and Table 4.

Table 3. Savings rates in the United States according to the Survey of Consumer Finances. Period 1963-1985 (in age groups)

Savings rates	25-34 years	35-44 years	45-54 years	55-64 years	+ 64 years	Total
1963	14,7	11,3	17,2	14,2	11,2	14,0
1983-85	13,6	10,1	10,3	10,6	2,5	9,5
Difference	-1,1	-1,2	-6,9	-3,6	-8,7	-4,5

Source: Bosworth, Burtless and Sabelhaus (1991).

Table 4. Savings rates in the United States according to the Consumer Expenditure Survey. Period 1972-1985 (in age groups)

Savings rates	25-34 years	35-44 years	45-54 years	55-64 years	+ 64 years	Total
1972-73	9.5	12.1	16.8	22.9	14.9	15.1
1982-85	9.6	8.6	10.5	15.8	11.5	10.8
Difference	0.1	-3.5	-6.3	-7.1	-3.4	-4.3

Source: Bosworth, Burtless and Sabelhaus (1991).

2.2. Evolution of savings in Spain

Although in Table 2 one observes the strong parallelism existent between the two savings behaviours in Spain and in the states of the European Union, there exists a series of characteristics which direct the study on the situation in Spain in greater detail. In Table 5 one can more efficiently see the evolution of Gross Domestic Product and its distinct components from 1964 to 1995, divided into three periods.

Thus, one can observe, as in recent decades, that gross national savings, as a percentage of GDP, has decreased without interruption. In short, the fall in savings has been 20.6%, caused in large by the abrupt fall in public savings (a decrease of 93.7%) and secondly by the fall in family savings (a decrease of 30.5%).

The causes of the fall in public savings have been the rapid growth in public spending caused by the increase in transfers linked to the economic crisis of the 80s and 90s, just as by the extension and addition of unemployment and retirement loans. Furthermore, the rapid increase in interest payments from public debt as financial necessities increased should be pointed out.

In short, the increase in the size of the so called Welfare state, in its facet of presenting social services and transfers, has been the cause of the fall in public savings.

Table 5. Savings in the Spanish Economy: 1964-1995 (percentage of GDP).

__Averages__Differen-ces__Increments__1964-73

(A)_1974-84

(B)_1985-95

(C)_(B - A)_(C - B)_[(C-A)/A]*100__National

Savings_26,2_22,3_20,8_-3,9_-1,5_-20,6__Public

Savings_3,7_0,8_0,1_-2,9_-0,7_-97,3__Business

Savings_11,7_12,2_13,2_0,5_1,0_12,8__Family

Savings_10,8_9,4_7,5_-1,5_-1,8_-30,5__Source: Marchante (1997).

Nevertheless, that which has distinguished the Spanish economy from other countries has been the percentage fall which represents the net savings of families in GDP. This fall, including the interrupting character of such in the period between 1964 and 1973, has been greater than in other countries with a drop of 30.5% since 1964.

This situation explains that the average in net family savings in Spain has only been 7.5% of GDP throughout the last period mentioned, which goes from 1985 to 1995. In a context characterised by the increase in employment, growth in salaries in real terms and an increase in physical wealth by the real-estate boom in the second half of the 80s, a fall in savings was produced.

3. Importance of the theories concerning the households savings

A brief review is presented of the most important theories concerning personal savings and variation of motives in savings behaviour in families.

3.1. Keynesian theory

The most popular explanation in the forties and fifties was the Keynesian theory. Keynes (1936) assumed that there exists a simple relation between consumption, and therefore savings, and available income, with a marginal propensity to consume that is constant or decreasing with income, and with an average propensity to consume that is less than the marginal one and also decreasing.

3.2. Life Cycle and Permanent Income Theories

In order to broaden up and correct the previous model, the Life Cycle Hypothesis and The Permanent Income Theory were developed simultaneously and independently. Both of them have a share in the same theoretical foundation, which posits a rational optimising agent, an income encompassing a person's lifetime, and a consumption pattern that is a stable function with respect to time.

Permanent Income hypothesis

The Permanent Income hypothesis was formulated by Friedman (1957). Here the concept of income is broader than current income. Permanent income is compatible with existing wealth. The result is a function of consumption

which resembles that of the life cycle, having additional empirical assumptions referred to as the relationship among the permanent and current elements.

Friedman's model defines a direct proportionality between permanent consumption (C_p) and permanent income (Y_p):

$$C_p = k * Y_p = k * r * W, \quad (1)$$

which entails a relation between permanent consumption, wealth (W) and rate interest (r).

Life Cycle Hypothesis

In trying to overcome the limitations of the Keynesian model, Modigliani and Brumberg (1954a,b) developed the Life Cycle Hypothesis, based on the assumption that people are not short-sighted and are able to make decisions in the light of their entire life cycle.

In this regard, it is assumed that individuals maximise the utility derived from consumption throughout life, subject to budgetary restrictions, made dependent on the amount of wealth they accumulate during their lifetime. Individuals, being aware that once their productive life eventually ceases, their i

ncome will decrease considerably, will save during those productive years in order to maintain a constant level of consumption during retirement.

This entails a consumption function for every period which depends on current income, future income, inherited and accumulated wealth, age and other variables, including the agents' preferences, interests rates, and so on. Yet, not only does current income have a bearing on this, but also financial assets and inherited wealth.

Put in a simplified manner, the following consumption function shows these variables:

$$C = a * R + b * Y_e, \quad (2)$$

R being current income and Y_e the expected income.

The latter reflects the remaining variables' influence, although simplifying and taking some restrictions, such as, for instance, positing an identical number of individuals for each cohort.

This takes stock of inherited wealth and the desire to set aside wealth to leave as an inheritance, provided that certain strict assumptions can be satisfied. First, the ratio of inherited wealth with regards to income must tend to be constant and independent of per capita income. In mathematical terms:

$$R = LCW + j * LCW = LCW + IW \quad (3)$$

where wealth (R) is the addition of life cycle wealth and inherited wealth, LCW being life cycle wealth, and IW being inherited wealth.

Two additional assumptions must be satisfied for this condition to be true.

First, the share of resources that a household earmarks, on the average, for bequest should be a (non-decreasing) stable function of the size of its life resources relative to the average level of resources in its age cohort. Second, the frequency distribution of the ratio of life resources relative to average life resources for each age group should also be stable in time.

The second necessary condition to include inherited wealth in a generalised life cycle model is that the ratio of inherited wealth to hump savings, j in (2), should be constant in all individuals. Nevertheless, this relation between LCW and IW with the parameter j is neither constant, nor stable, nor steady. The value of j may drop as a result of family links becoming weaker. This occurs due to several factors, such as a high divorce rate,

children not living with their parents when they get married, women becoming incorporated into the labour market, great mobility, etc.

Some conclusions from the Life Cycle theory

The Life Cycle theory may lend support to the following implications, which can be arranged into two main areas, namely macroeconomics and microeconomics implications (Modigliani 1986, 1993).

A) Macroeconomics implications:

1. The consumption level is proportional to the income expected during the life cycle, or permanent wealth, and is independent of current income. If saving is the difference between current income and consumption at a given period, saving will be affected by current income and its possible variations. However, with long-run, constant consumption, saving also should be constant with regard to permanent income.
2. The rate of national saving depends on economic growth, both of the population and of productivity, and it is not affected by frugality and the special character of individuals.
3. In a stable economy, net saving will be zero due to the fact that the saving by people who work is exactly cancelled by the consumption of savings by those retired.
4. The saving rate depends chiefly on life-expectancy after retirement relative to the portion spent in the work force, since individuals save exclusively with a view to keeping their consumption level.

B) Microeconomics implications:

1. If income remains constant, individual saving rates becomes positive and constant before retirement, turning into negative (disaving) after retirement. In this context, during a person's lifetime, income, consumption and saving follow a cycle. In the first years of labour life, the individual usually falls into debt, as a result of two different motivations: keeping consumption levels above current income, and buying durable goods, such as their first house and those items necessary to form a family.

Wealth reaches its peak in the age range 60-65. Immediately after retirement, income decreases considerably: pensions are normally lower than salaries or wages. Consumption, in general, declines (vital needs and leisure opportunities fall dramatically), in spite of extraordinary expenditures related to health. By the time the individual dies, most of their wealth has but disappeared.

2. Wealth is accumulated during the total life-span, reaching its highest point immediately before retirement. After retirement, wealth begins to decrease, until it has virtually disappeared in its entirety, or at least, almost totally, admitting the uncertainty of an individual life-span.

This model yields quite appealing results. First, an agent is found who is no longer short-sighted, and is able to make optimum use of resources for a long period of time. Moreover, this model surmises only one basic purpose for saving: the setting apart of income with an aim to consume during the total life-cycle according to rational planning. In consequence, individuals save during a given period of time (labour life), and disave during another (retirement). In the end, saving fulfils the paramount purpose of accumulating wealth for retirement.

Despite these appealing features, the Life Cycle model appears hampered by its tendency to regard man as a rational subject and short-sighted, unable to see beyond his own life, and restricted to act within its own confines.

Yet, economic agents do not only take care of themselves, but also of their families and of other fellow-human beings as well. This fact explains the emergence of a new model, namely the intergenerational, altruism or dynasty model, where relationships and transfers among generations play an essential role.

3.3. Altruism model

The main distinctive feature setting apart this model, established by Barro, from the Life Cycle model, is the fact that its time frame is broader than the agent's lifetime. Here the individual's time frame includes his or her descendants and heirs. In this context, bequests as well as private income transfers made during life play an important role. Following Patxot (1994), inheritance models based on altruism take the fact that parents do care about their offspring's well-being as its basic assumption. Therefore, the parents' utility function must embody the children's utility function, deducted to a rate denoted by the greek letter β .

The utility function of the first generation, or generation 0, as it is named by the author, would be:

$$U_0 = V(c_0) + \beta U_1 \quad (4)$$

where subscripts denote generation, and U is utility during the total life of the individual. $V(c_0)$ would be utility derived from consumption, and βU_1 , utility provided by children's consumption. β will be between zero and one, assuming that when perfect altruism obtains, the resulting value will be one. By letting β be small, we can capture the idea that people are mostly self-interested, by assuming $\beta > 0$, we can investigate when and how concern for others affects behaviour and welfare.

To sum up, here an agent is found who has a finite life, but one who holds an infinite point of view with respect to consumption and utility. This fact makes the altruistic agent very different from the Life Cycle agent.

Some assumptions in the altruism model

The altruism, or intergenerational, model has sparked off considerable debate among experts in saving motives and among macroeconomics theorists. Its basic assumptions can be summarised as follows:

- 1) Agents are linked by a dynastic chain, thus expanding the time frame ad infinitum on account of the fact that each agent embodies in his or her utility function the utility functions of his or her descendants.
- 2) These private income transfers to family members must result from a desire by parents to secure their children's well-being, that is to say, they are motivated by an altruistic desire, excluding the possibility of egotistical motives, exchanges motives and accidental bequests.
- 3) In addition, the altruism model has strong neutrality predictions. As it is well known, intergenerational transfers by Government can be completely neutralised because parents internalise the effects on all future generations of such transfers. Hence, fiscal policy may have very limited effects.

3.4. Theories about precautionary savings

A four explanation about personal saving motives suggests that individuals save for precautionary reasons. In trying to explain savings in old age, the Life Cycle model has resorted to this reason as a possible explanation. Here, as in the Life Cycle model, the temporal frame under consideration is

restricted to the individual's finite lifetime.

The precautionary model states that consumers try to optimise the intertemporal distribution of consumption during their finite life.

Nevertheless, and this is a new condition, the agent faces different uncertainties during their lifetime (Deaton, 1992).

The most important or frequent uncertainties are considered to be: temporary reduction of income due to unemployment, possible illness or labour handicaps, life-span uncertainty, uncertainty caused by unexpected inflation, etc. These uncertainties motivate individuals to save with an aim at providing some cover for themselves in case of those eventualities/contingencies.

4. Explanations provided by the Life Cycle Hypothesis about the decline of savings

The presentation of these causes is not exhaustive. The majority of the causes mentioned in the studies do not take into consideration the importance of the altruism model. Following this tendency in other authors, we have found other possible causes presented, such that all of them can explain the fall in savings rates and shed light on their solutions, as it is collected in section 5.

4.1. The fall in growth and increase of public debt

Modigliani (1990), for example, uses data from 21 countries within the OECD from the period of time between 1960 and 1987. Applying the cycle of life model, we see that the least growth recently experienced in developed countries, together with the public deficits in countries in which they have been incurred, explains, according to Modigliani, the current fall in savings in OECD countries as well as in Spain (See Table 6).

Table 6. Savings rates and growth in 21 developed countries, 1961-1987

Period_Growth_National saving

rate__1961-70_4.9_16.6__1971-80_3.9_15.3__1981-87_2.4_10.3__Source: Author's elaboration from Modigliani (1990).

Without neglecting the importance of these two variables, we have observed that the emphasis which Modigliani puts on them as an explanation of the current situation seems excessive. Modigliani's argument is based on the fact that savings rates do not change between age groups. This would then mean that when the current baby boom generation reaches the age to save, it will save just as much as the children's parents did when they were that age. Similarly, it assumes that people who retire between 30 and 40 years of age will have the same spending patterns as the current retirees when the rhythm and standard of living of both age groups have nothing to do with each other.

Bosworth Burtless and Sabelhaus (1991), advocates of the life cycle, realised that the baby boom generation in the United States will not save in the future when they reach the same age as their parents, and that the whole American society in general is saving, according to that which can be seen in tables 3 and 4. Therefore, according to these authors, the demographic structure may be limiting in explaining the fall in savings.

4.2 The effect of social security on savings rates

To assess the effect of the existing Social Security System on national saving, one must recognise that social security affects public savings as well as private savings.

Although it is difficult to conclude something categorically, the existence

of social security can be considered as a, more or less perfect, substitute for private savings from the provisional motive.

Barro (1974) argues that individuals who have operative utility-maximising bequest motives offset fully the impact of social security wealth by increasing their saving in order to compensate future generations for the tax burdens implied by the social securities liabilities.

But, according to the position maintained by Feldstein (1974) in a pioneering article, social security decreases, as it reduces, private savings. Answering to Barro, Feldstein believes that an unknown number of individuals who are irrational or myopic may not respond at all to the provision of social security benefits.

His work is what has been called the Feldstein effect. Concerning the conflicting effects which the existence of social security could have on savings, Feldstein attempts to estimate the global effect.

He obtains estimations from the aggregate data for the United States (Social Security Bulletin) in the period between 1941 and 1946. The direct effect of the existence of social security fully surpasses the anticipation of retirement. Therefore the total effect is a sharp fall (by half) in private savings. In a recent research, Feldstein (1996) estimates that the existing social security wealth reduces overall private saving by nearly 60 percent._

4.3. The development of the Welfare State

The development of the Welfare State, by way of an always more generous social security and growing transfers in all social areas, has been able to create a paternal vision of the State. In this way, the common conscience is raised to think that in facing any problem, the State and the Public System is always there: unemployment insurance, medical care, education, subsidies for companies and sectors, etc.

This situation has been able to affect provisional savings, precautionary savings and the dynastic model, to confide before the appearance of any problem, in the State, more than in one's own capacities and help from one's family.

This situation is certainly turning out to be unreasonable as the current loan levels do not appear to be able to continue in the future. Just as Kotlikoff (1992) shows, one must make others conscious to the fact that future generations are those who will have to face the problem of maintaining a Welfare State which is impossible to sustain at this time in the current terms.

4.4. The contribution of wealth effects to the fall in savings

One determining factor in the decision to save has been seen to be the family wealth variable. This factor has taken on greater importance in Spain since the second half of the 1980s (Argandoña, 1995). The situation of the family and, in general, the whole of the private sector, experienced a clear improvement in the 80s, in spite of the fall in the stock market in 1988 by the bullish evolution of 1987 and 1988, which could move to an increase in consumption and a fall in savings, just as predicted by the vital cycle theory.

4.5. The development effect of financial markets

Borrowing restrictions, normally limited access to financial markets, have complex effects on saving. The development and liberalisation of the financial markets can facilitate falling into debt for those families that prefer it with greater ease than in past years. Therefore, it is feasible to recognise a certain influence of this variable on the fall in savings.

The existing data seems to confirm these affirmations: the intensity of the process of falling into debt of families in the 1980s coincides with the movement in favour of greater liberalisation of financial markets in western countries.

For example, according to Attanasio and Banks (1998), British consumers found it progressively easier to borrow and had access to a much wider spectrum of financial instruments. This financial liberalisation was one cause of the consumption boom of the late 1980s.

Laibson (1997) suggests that financial innovation may have caused the ongoing decline in U.S. savings rates, since financial innovation increases liquidity, eliminating commitment opportunities.

Following this author, the 1980s was a period of rapid expansion in the U.S. consumer credit market. Increasing access to instantaneous credit has reduced the effectiveness of commitment devices like illiquid assets. One example of the expansion in instantaneous credit has been the growth in credit cards. In 1970, only 16 percent of all U.S. families had a third party credit card. By 1989, 54 percent had one.

4.6. The effect of an ageing population

According to Attanasio and Banks (1998), annual population growth, averaging 1.1% in the 1960s in the OECD, fell to 0.8% in the 1980s and is projected to slow down to 0.2% by the 2020s.

Fertility rates have fallen sharply in OECD countries, and are project to stabilise only by 2025. Life expectancy will probably rise in most OECD economies, by four to five years.

These trends imply ageing populations. This ageing population can explain, according to the life-cycle supporters, a reduction in the savings rate. If age groups which save the least or disave carry more weight in the society, aggregate savings should decrease.

Nevertheless, it is not that clear that retirees do not save or save less, just as shown by García-Durán (1992), Patxot (1994), Raymond et al. (1995), Lera (1997, 1999) and Garriga (1998) in Spain, Börsch-Supan (1993) in Germany, Danzinger et al. (1983), Mirer (1979), Menchik and David (1983) in USA, Ando and Ferris (1988) in Italy and Japan, Schultz (1998) in Taiwan, etc. In Section 5, it is presented a more detailed discussion.

The explanation given by the OECD seems more plausible in that, possibly, the most negative effect of an ageing population on a gross national savings rate is produced not by the possible lesser savings rate among retirees, but rather indirectly, as a result of the consumption by the retired population (among other goods received from the state) as in public health, that receives retirement money but does not produce GDP.

4.7 Savings and direct taxes

The rapid progression of family taxes in the most recent decades is considered, also, as one of the determinant factors in the fall in savings rates among families in the majority of western countries.

In Spain, the increase in fiscal pressure (income and family wealth taxes) expressed as a percentage of available gross family income has gone parallel to the fall in the family gross savings rate, above all in recent years (Argandoña, 1995).

Finally, Attanasio and Banks (1998) find little evidence for the assertion that tax incentives to promote national saving are needed now to stave off a future drought in household saving.

4.8 Savings and spending on lasting consumption goods

The restoration of stock in lasting consumer goods in Spain, after 1985,

should have contributed to reducing the gross family savings the years immediately following.

Given that the renovation of this stock was very slow during the period of economic stagnancy, an accumulation of purchases could have been produced. These could be called postponed purchases, which are created when the economy began its recuperation at the beginning of the 1990s.

4.9. Other reasons

Personal saving rates are significantly and positively correlated with inflation. In the UK the unemployment rate also has a positive correlation, while in the USA the same is true for the growth rate of real personal disposable income.

Another issue has been the dramatic increase in wage inequality, in both the UK and the USA. The effect of increased inequality on aggregate saving rates is unclear. It is widely believed that "wealthier" people save more of their income: if the rich get relatively richer, aggregate saving should increase. However, richness should reflect lifetime not current income.

Also, according to Gokhale et al. (1996), most of the decline in U.S. saving can be traced to two factors. First, the government's redistribution of resources toward older generations with high consumption propensities from younger ones. Second, a dramatic rise in the consumption propensities of older Americans to consume out of their remaining lifetime resources.

5. Altruism explanations

We have seen different reasons that could explain the fall in savings.

Surely all of them play an important role in explaining the fall in savings. But given the complexity of savings, none of them are sufficient to completely explain the evolution of family savings, given its heterogeneity.

The decline in fertility has been accompanied by a change in the average family size and by an increase in the percentage of single households.

This will affect aggregate saving if single households have different motives for saving or face different risks on lifetime needs, as in the next paragraphs we will see.

What additional factors can help us explain this situation? From the altruism theory, the loss of family ties or links could have seriously and profoundly affected the savings rate.

On one hand, the savings value in a current society has been impaired by the ideas of consumption and the Keynesian inspiration to consume, as demonstrated by Cabrillo (1991).

But it is not only that savings has been lost, but thanks to Keynes, its social and personal value has been lost just as the sense of savings itself. Within modern families, in those which the number of children has substantially decreased, with a generalised increase in divorce which generate a profound instability in family institution, as demonstrated by Buchanan (1994) narrow familiar links.

This can be explained, for example, by the fact that savings rates in Japan are so high: the family is the core of Japanese society, parents live with their children, etc., as it is shown in Table 7, where it is compared Japan to USA.

Table 7. Relation between savings rates in USA and Japan, according to the familiar structure (in percentage)

Familiar structure_United States_Japan__Retirees in family_20_63__Retirees without family_70_27__Savings rates_3,2_12__Source: Garriga (1998).

Also, female labour supply is relevant for saving behaviour. First, it affect household income. Second, if the precautionary savings is important, female participation in the labour market may reduce uncertainty about household income, and therefore, decrease savings. And the female labour is related to the new familiar instability.

Furthermore, family institutions have been substituted in certain ways by the State, in a way in which the co-operative incentives and behaviour which the family has created, have been substituted by the Welfare State (Cabrillo, 1996).

I would like to focus on two aspects. First, the influence of age on the savings rates. Second, the influence of familiar values in the saving behaviour of households.

5.1. Influence of age on the savings rates

To start with, García-Durán (1992) in Spain, studies the savings behaviour reflected in the Survey of Family Budgets in 1981, analysing the relationship between savings and age in addition to other variables. From his results, it can be deduced that the average savings of the population increases with age after 36 years, although it does diminish after age 80. Another contrast is that provided by Patxot (1994) coming from the Basic Survey of Family Budgets and from the Continuous Survey of Family Budgets in the period from 1985 to 1990. It is seen how adults of 65 years consume less and, therefore, save a greater proportion of their available income than the rest of the population.

Finally, the author carries out a temporal analysis with the aim of contrasting the results according to the Continuous Survey of Family Budgets from 1985 to 1989. The conclusion which she obtains is that the consumption rate decreases for all age groups, which is to say, savings increases.

Other empirical contrasts have been carried out in other countries. In Germany, Börsch-Supan (1993), which measure savings as a flux in net stock purchases, from the data of a survey (Einkommen und Verbrauchsstichproben) which obtains that savings rates do not decrease as age increases.

In the United States, Danzinger et al. (1983) obtain similar results.

Maddison (1992), Avery and Kennickell (1991), and Hayashi, Ando and Ferris (1988), have shown how adults of 65 years of age continue to save, probably motivated by the wish to leave inheritance to one's descendants.

Recently, Deaton (1997), Hurd and Lee (1995, 1997), and Schultz (1998) have examined the variation in savings rates according to the age of the household head. For example, Schultz (1998) has examined Taiwan with data from the Survey of Personal Income Distribution from 1976 to 1995. There is a tendency for the savings ratio to increase at the end of the employed life cycle, between about ages 45 and 65._

5.2. The influence of the familiar values in the households savings behaviours

Finally, it is wished to measure in some way the influence of the familiar values and composition in the savings behaviours of the families. The impact of familiar links in the savings rate and in the savings behaviours could be very important and offer additional explanations in the altruistic framework.

The loss of familiar values and a gradual family dissolution, provoked by the increasing number of divorces, the reduction in the number of children, the increasing independence of children, the incorporation of woman to labour market, etc., can explain the loss of importance of altruistic

motive. Therefore, family dissolution could have a significant negative impact on saving.

Tables 8 and 9 are good examples of the impact of familiar links in the savings rates and in the savings behaviours.

Table 8. Savings motives according to marital status of people who answer the survey and who are more than 55 years old (in percentile values), in Navarre, Spain.

Savings motives_Singles who are more than 55_Couples who are more than 55_Widows who are more than 55__Foresight_5,3_19,6_15,2__Precaution_42,1_33,0_24,2__Finalist_-----_2,7_9,1__Bequest_-----_25,0_15,2__Independence_-----_7,1_15,2__None/Others_52,6_12,5_21,2__Base_19_112_33__Source: Lera (1999).

On the one hand, when the familiar links are narrower and the familiar institution is formed only by a person or a couple, savings tend to diminish. This situation can be observed by looking at the percentage of singles who are more than 55 years old and who indicate the motive "none/others" in Table 8, and in the different consumption rates, in Table 9.

Table 9. Households' consumption rates in Spain (with and without grandparents) Years_1985__1989__Grandparents_With_Without_With_Without__Total households_0,9282_1,0377_0,8968_0,9788__Source: Patxot (1994).

On the other hand, while bequest motive achieves crucial importance when a family exists, precautionary motive declines if the family can cover the expenses caused by the uncertainty (illness, unemployment, etc.).

6. Implications and conclusions

The analysis of the decline in savings rates is very important in terms of growth, inversion and real convergence, in an European context, and concerns the capacity to explain accumulated wealth.

Nevertheless, the debate among the main theories on saving not only concerns the capacity to explain accumulated wealth but also several important implications. Finally, the analysis of the causes can offer different explanations according to the theory selected.

6.1. Economic Policy implications

The initial impetus for this inquiry into the motives for private transfers stemmed from concerns about the effect of government redistribution programs (social security, etc.) on economic welfare and about the effects of public redistribution policy.

Imagine that for some reason taxes are reduced in the present or transfers are increased. People who benefit from this action under the altruistic framework know that their descendants will have to support it by means of higher taxes in the future.

As the individual considers not only his own utility but also his descendants' utility (see (4)), the agent will consider the loss of utility caused by the future increasing tax. In order to compensate for it, he will leave the necessary amount as an inheritance.

With a pay-as-you-go social security system, as pensions increase the agent is conscious of the extra taxes his descendants will have to pay, and as a result he will try to save this pension increment with the idea of leaving it to his descendants as a compensation for the new future tax.

Therefore, in an altruistic framework people make an intergenerational redistribution. This implies that government redistribution policy is at least partially counteracted, reducing its effects on savings and the distribution of income.

6.2. Conclusions

In the course of the last three decades the national saving to income ratio has undergone profound changes, especially among the industrialised countries. These changes have tended to run in the same direction for all countries, namely down. Saving theories have tried to explain this fact, pointing out possible solutions. Almost all the solutions have been provided by the so-called Life Cycle Hypothesis, rather than the altruism model.

Modigliani (1990) demonstrated that the saving rate depends critically on the rate of growth. If the rate of growth declines and budget deficit increases, the saving rate will also decline. But this argument is only true if the saving rate is constant for most age groups.

Nonetheless, Bosworth, Burtless and Sabelhaus (1991) have pointed out that American society is saving less and their survey data show the decline in savings for almost all age group (see tables 3 and 4). In summary, aggregate saving falls because saving decreases within each age group. Other possible reasons are the following: social security effects as reported by Feldstein (1974), the fact that the relative size of the retired population is climbing, the recent inflation experience, financial market development and an easier access to credit, an increase in quick fiscal policy, a rise in the unemployment rate, etc.

In the altruistic framework, it can be said that saving not only has lost its social value but also that the meaning of saving has been lost. The high divorce rate and closely linked rise in the number of marriages, the substantial decline in the number of children, and the increase in the number of retirement homes have contributed to family dissolution, which has a significant negative impact on saving. Consequently, bequest motive falls.

In addition, the existence of a Social Welfare State, with the slogan "from the cradle to the grave", leads people to reduce the amount they would have saved in order to guarantee a minimum consumption during retirement. Hence, by the Life Cycle Hypothesis, foresight motive declines. The individual is seen to be motivated to reduce those savings which otherwise would have been reserved for the changes in income during one's years in retirement.

Similarly, confronted with any unexpected event, the State offers an increasingly generous social security, with which savings by the provision motive as well as the money to cover oneself in any contingency is reduced. In this framework, the fact is that future generations will have to be in charge, by means of strong tax increases, of maintaining the current standard of living, regardless of whether the dynastic motive loses importance.

It is therefore that the fall in savings can be so profound as the solution is difficult, tedious and costly. While family values and savings are not promoted, one becomes conscious that the current situation is not viable in the long run. One also assumes the cost that this situation will have in the future. It will not be possible to generate a substantial and prolonged increase in savings rates.

In conclusion, the possible solutions are very intricate, and the decline

in the familiar savings rate can be described as very deep and dangerous. The more that familiar values and savings are promoted, the more important and prolonged will be the increase in savings rates.

7. References

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- _ The magnitude of the estimated effect of the change in age compositions on savings rates is on the order of 10% of GNP in a period of two decades.
 - _ The decline in savings in the United States has been associated with an equally decline in domestic investment. Since 1990, net domestic investment has averaged 3.6% per year, compared with 8.2% in the 1950s, 7.9% in the 1960s and 1970s, and 6.1% in the 1980s. See Gokhale et al. (1996).
 - _ The decline in the size of the domestic capital stock depends also on the extent to which a lower rate of saving induces an increased net inflow of capital from abroad.
 - _ For example, in its total sample of 1976 households the average savings

ratio is 17 percent, implying that the older households (age 61 or more) are saving about half again as much as other household.