The determinants of savings in the third pension pillar

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Introduction

The ageing of the baby boom generations will have significant implications for the sustainability of the statutory pension system (the first pillar), health care spending and taxation. That perspective is generating lively debate over the reforms which are needed in order to face that challenge. Individual pension saving – the third pillar – is one of the instruments that can remedy some of the shortcomings of the statutory system. The Belgian government realised that and introduced tax incentives twenty years ago to encourage this form of saving. This anniversary is a suitable occasion for taking stock of the progress of third pillar payments in Belgium and examining its macroeconomic and microeconomic determinants. That is the purpose of this article.

The first section aims to place the third pillar in the context of the financial assets of households. The second section explains the characteristics of the two systems making up the third pillar: pension savings and long-term savings. That section also takes a detailed look at the financial instruments which may be appropriate to each of the systems. The data used for the analysis are discussed in the third section. On that basis, the article continues with a macroeconomic study of the third pillar, with the aim of quantifying the influence of various factors (demography, participation rate, average income, rate of contributions) on its development. Next, the article examines the effect of a number of characteristics – personal or occupational – on the behaviour of households as regards third pillar participation and

contributions. The article ends by summarising the conclusions.

1. Importance of the third pillar in the household portfolio

A clear trend is apparent in the financial assets of households, broken down by counterparty: in the past ten years, the market share of insurance companies and pension funds in the accumulated savings has risen very steadily from the modest level prevailing in 1996. At the end of 2006, the reserves held by those institutions represented almost a quarter of the financial asset portfolio of Belgian households, against less than one-tenth a decade earlier. That development was largely due to the strong growth of financial investments for the formation of an extra-legal pension under the second or third pillar.

The second pillar, built up at enterprise or sector level, is financed by capitalisation of the contributions paid by employers, self-employed persons or employees to a pension institution, be it a pension fund or a company offering group insurance. The third pillar refers to the supplementary pensions arranged individually, outside the world of work, which may qualify for tax reductions.
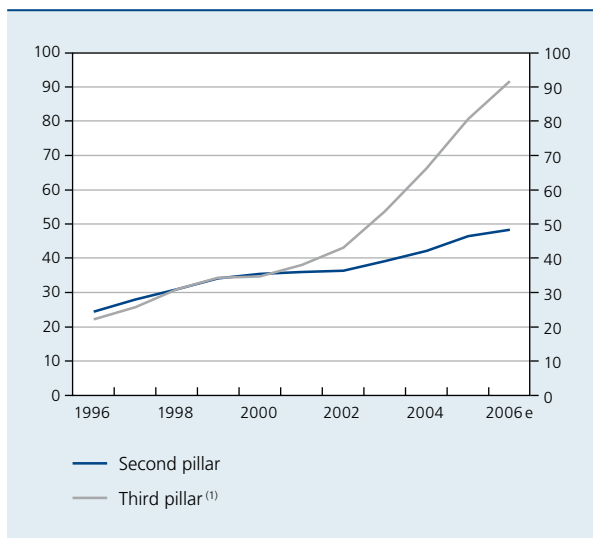
2. Characteristics of the third pillar

The third pillar of the pension system thus concerns the individual, voluntary build-up of a supplementary pension, which the government encourages by granting tax concessions. It may take two forms : pension savings and individual life insurance for the purpose of long-term savings. These systems were introduced in the second half of the 1980s. The intention was to encourage households, by specific tax incentives, to build up individual supplementary pensions. All taxpayers have the opportunity to combine the advantages offered by both forms of saving.

2.1 Pension savings

Pension savings constitute the best-known third pillar pension system, permitting the accumulation of capital by the payment of contributions to a bank (pension savings fund) or an insurance company (pension savings insurance) ; of course, bancassurance groups offer both forms. The difference between the two variants lies in the level of risk associated with the underlying products : pension savings funds offer no return guarantee, since their performance depends very much on financial market movements. However, there are various forms available with a range of long-term returns and associated risks, depending on the asset mix of the fund (equity funds, bond funds, mixed funds), and the saver has to choose between them according to his risk profile. In contrast, insurance contracts offer a guaranteed minimum return at the time of payment of the premiums, plus a bonus which depends on the profits made by the company (class 21). That certainty has a price : on average, pension savings insurance policies produce a lower return than pension savings funds.

Taxpayers must be between the ages of 18 and 64 in order to contribute to the pension savings system. In any one tax year they may effect payments into only one fund or one insurance policy with one institution. The contract must also meet a number of conditions :
– it must be effected for a minimum term of ten years ;
– payments must be made in at least five tax periods ;
– there must be provision for benefits payable to the taxpayer himself on survival ;
– there must be provision for benefits payable in the event of death to the spouse, registered partner or blood relation in the first or second degree.

In both cases, the tax advantage ranges between 30 and 40 p.c. – corresponding to the average special rate of tax – on the amounts paid in, plus the savings on the additional percentages charged as municipal tax.

The strong expansion of the reserves in extra-legal pension pillars was unevenly distributed : so far, the third pillar has clearly grown considerably faster than the second. Starting from a level which was comparable to that of the second pillar, third pillar reserves have quadrupled in the space of ten years. Up to the year 2000, the reserve formed in each pillar grew at roughly the same rate. However, in 2001, the outstanding third pillar assets outstripped the amount of the second pillar reserves. Since then, the latter have grown at a modest rate while the third pillar reserves have surged ahead, despite the adverse influence of falling stock markets between 2000 and 2002. By 31 December 2006, the second pension pillar accounted for only just over one-third of the reserves of households in the form of supplementary pensions, against over half ten years previously. According to the statistics – which leave aside all class 23 life insurance technical reserves (contracts with no guaranteed return linked to UCIs) – third pillar growth is partly due to the inclusion of insurance notes and insurance accounts. Owing to their nature and their tax status, these instruments similar to banking products also attract savings for reasons unconnected with building up supplementary pensions. The next section aims to offer a more precise definition of the third pillar in the strict sense.

The payments are subject to a maximum of 810 euro (2007 income) per taxpayer per annum.

But there is another side to the tax coin : if the taxpayer attains the age of 60 years, a "tax on long-term savings" is levied on the capital built up by way of pension savings if the payments had attracted a tax reduction, even if it was only once. In the case of pension savings funds, tax is levied not on the real capital but on the theoretical capital sum obtained by applying a notional interest rate of 4.75 p.c. to the contributions paid in (or 6.25 p.c. in the case of payments made before 1992). In the case of pension savings insurance, the taxable sum corresponds to the capital sum insured by the contract, while profit distributions are tax free. The taxpayer may take his capital out at any time from the age of 60 years. He can also continue paying contributions until the year of his 64th birthday : those contributions confer entitlement to a tax reduction, but are totally tax free on withdrawal. The tax rate applied on long-term savings is generally 10 p.c. of the taxable sum. It is even 16.5 p.c. on the part of the contract corresponding to contributions paid in before 1993. There are also special provisions applicable if the capital sum is withdrawn before the age of 60 or if the first contributions were not paid in until the age of 55 or later.

2.2 Long-term savings

Individual life insurance with a guaranteed return (class 21) is also regarded as a third pillar product if it is included in the tax framework for long-term savings. All taxpayers can contribute to this type of insurance with no age restrictions, though other conditions do apply. Thus, the contract in question :
– must be effected for a minimum term of ten years ;
– must be effected before the age of 65 ;
– must make provision for benefits payable to the taxpayer himself on survival ;
– must make provision, in the event of death, for benefits payable to the spouse, registered partner or blood relation in the first or second degree.

The tax deductible contributions under that system are also subject to a ceiling. The maximum is 15 p.c. of the first 1,600 euro of the taxpayer's net earned income, plus 6 p.c. of the balance of that income, up to an absolute maximum of 1,950 euro (2007 incomes). Here, too, the tax reduction is calculated at the average special rate and is therefore between 30 and 40 p.c. of the contributions paid below that ceiling.

The 10 p.c. advance levy on the capital built up by pension savings also applies to long-term savings. However, this scheme is subject to additional tax rules which make it less attractive than pension savings. For one thing, contributions paid into this scheme attract tax of 1.1 p.c., which does not apply to pension savings. Also, the insurer is charged tax at 9.25 p.c. on any bonuses paid out as a share of the profits of the insurance company, a tax which does not apply to pension savings. Finally, if the saver is already receiving a tax allowance for repayment of the capital on a mortgage loan or for other life insurance premiums (excluding pension savings contributions), the 1,950 euro maximum constitutes the total amount deductible for all these items together.

2.3 Underlying instruments

It is evident that pension savings and long-term savings each attract their own specific tax treatment. In practice, however, the same instrument may come under either of these systems, at the option of the saver. That is the case for class 21 life insurance contracts, which bancassurance groups usually offer in both forms. While the guaranteed return on those contracts must not exceed a statutory maximum of 3.75 p.c., the actual guaranteed returns are currently lower, even down to 0 p.c. for products which only guarantee the capital sum, in return for higher profit sharing. The rate fixed on the effective date of the contract used to apply to all subsequent contributions. From now on, the guaranteed return is generally determined on the date of payment of each contribution ; it can therefore be adjusted on the basis of market conditions. The profit bonus which supplements that return then varies according to the insurance company's results. In order to be able to offer a guaranteed return, insurance companies are obliged to invest the bulk of the third pillar reserves entrusted to them in fixed-income products. Thus, on 31 December 2006, bonds represented two-thirds of the investment portfolio relating to life insurance activities other than class 23. After that, the portfolio comprises equities (16 p.c.), various asset categories (12 p.c.) and units in UCIs (5 p.c.). Overall, class 21 life insurance contracts entail little risk for the saver, but that security has a price : a fairly low average return.

Unlike life insurance contracts, investment funds can only be used under the pension savings system. This concerns funds which were specially created for this system. Most of those funds invest primarily in equities. That overweighting is evident in the breakdown of the assets held by pension savings funds on 31 December 2006 : 62 p.c. shares and other equities, 33 p.c. fixed-income securities and 5 p.c. other assets (mainly deposits). This mix is

logical since it offers a more remunerative alternative to insurance products which, conversely, provide a degree of security. Savers buying units in a pension savings fund therefore incur a certain risk since neither the return nor even the capital are guaranteed. However, in recent years, more defensive pension savings funds have come onto the market; they differ in having a smaller percentage of equities in their portfolio.

3. Analysis of the third pillar data

The statistics obtained from the Belgian financial accounts relate to third pillar savings in the broad sense, extending beyond the special pension savings and long-term savings products attracting tax concessions. Furthermore, they do not lend themselves to a detailed analysis based on individual household characteristics. It is therefore useful for two reasons to use the tax return data instead. Since the savings built up under the third pillar carry entitlement to a tax reduction, provided they are declared, the tax returns constitute a statistical source which can be used for both macroeconomic and microeconomic analysis of the third pillar in the strict sense.

3.1 Description of the data

The detailed analysis in this section is therefore based on a sample of tax returns obtained from the FPS Finance.[(1)] In practice, for the period 1993 to 2003 a representative sample was composed via random selection from the personal income tax returns in each of the country's three regions (Brussels, Flanders, Wallonia). The size of the sample varies from one year to another: in 1993 it totalled 10,343 returns and in 2003 47,484. It is therefore not a panel consisting of the same households monitored over time, but comprises repeat, random samples taken from a representative population group. Owing to the actual nature of this data source, the household is used as the analysis unit (being the unit of taxation), regardless of whether it comprises a couple or a single person[(2)]. The analysis focuses on the population aged from 20 to 64 years, being the age group which pays the bulk of the contributions. For convenience, this group of taxpayers is regarded as equivalent to the population of working age.

At macroeconomic level, the tax returns comprising headings which remain relatively stable over the period considered permit analysis of the movement over time in third pillar participation and contributions. At microeconomic level, they provide numerous data which may explain the behaviour of households in regard to pension savings and long-term savings.

Despite the richness of the data source, it is subject to some limitations, the most important being that households are not obliged to declare their third pension pillar contributions. Nonetheless, a large number of them presumably do so in view of the associated tax reduction[(3)].

A second limitation concerns the ceiling on the amount qualifying for the tax allowance. Households may therefore only declare the maximum relevant for receiving the tax concession. In consequence, it may be that the amounts recorded in the database do not include all third pillar contributions. However, they currently provide the best available estimate for Belgium at microeconomic level. Furthermore, that aspect does not affect the measurement of participation in the third pension pillar.

It should be remembered – and this is a third limitation – that taxpayers are not obliged to declare certain income, such as their financial income on which the full withholding tax has already been paid. That income is therefore not taken into account in the analysis.

Finally, it is a relatively long time before the tax figures become available, which explains why the analysis period ends in 2003. However, the more recent movements can be described using alternative statistical sources.

3.2 Macroeconomic analysis

The ensuing paragraphs deal with the analysis of the third pillar from a macroeconomic angle. The data used are based on extrapolation to the whole population of the microeconomic data contained in the successive samples of tax returns obtained from the FPS Finance. The developments are examined by comparing the results from the two extreme years in that database: 1993 and 2003. No distinction is made between pension savings and long-term savings, and the third pillar is studied as a whole, since the two systems display largely similar macroeconomic tendencies.

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(1) This section is very largely based on the article by Wuyts et al. (2007).

(2) Cohabitants are treated as single persons throughout the period considered – which is now no longer the case for registered cohabitants.

(3) Moreover, households covered by the third pillar as a result of previous payments but not making any contributions in the reference year are not included among the participants. However, according to a poll conducted in April 2007 by the insurance company Swiss Life, 95 p.c. of the persons covered by the third pillar pay contributions each year.

3.2.1 Developments between 1993 and 2003

The total third pillar contributions of persons of working age, thus covering both pension savings and long-term savings contributions, came to 1.736 billion euro in 2003. That amount was evenly divided between pension savings (893 million) and long-term savings (844 million).

In the space of ten years, third pillar contributions increased by 39 p.c. in real terms. Chart 2 shows the breakdown of contributions by age group. The movement in contributions between 1993 and 2003 varies greatly from one age group to another. There was little change in the contributions by the 20-39 age groups, whereas those in the 40-64 age groups showed a substantial increase.

In order to interpret these varying rates of change it is useful to break down the total amounts into their macroeconomic determinants. Thus, in each age group the total amount of the contributions paid during a year is regarded as the product of four factors: population size, third pillar participation rate, average income of the participants and their rate of contribution. This breakdown is expressed by the following equation:

Contributions = Population x (Participants/Population) x (Participants' income/Participants) x (Contributions/ participants' income)

or

Contributions = Population x Participation rate x Participants' average income x Contribution ratio

Each of the four ratios derived from this breakdown plays a role in the third pillar payments.

In 2003 the **population of working age** totalled 6,208,000 taxpayers, with an overall average age of 42 years.

The influence of demography on the total level of contributions was clearly small: the population of working age increased by 2 p.c. between 1993 and 2003, expanding by 122,000 persons. But it was the population structure that showed a particularly marked change over those ten years, rather than the level. The proportion of older people increased, driving up the average age – which was only 40 years in 1993. More particularly, it is the 35 to 59 age groups which expanded, owing to the ageing of the baby boom generations. In contrast, both the younger population groups and those in the 60-64 group declined. The changing shape of the age pyramid was therefore a factor, albeit a moderate one, in the particularly strong increase in contributions paid by the over 40s.

CHART 2   CONTRIBUTIONS TO THE THIRD PILLAR
(millions of euro, 2003 prices)

Age group

- 1993
- 2003
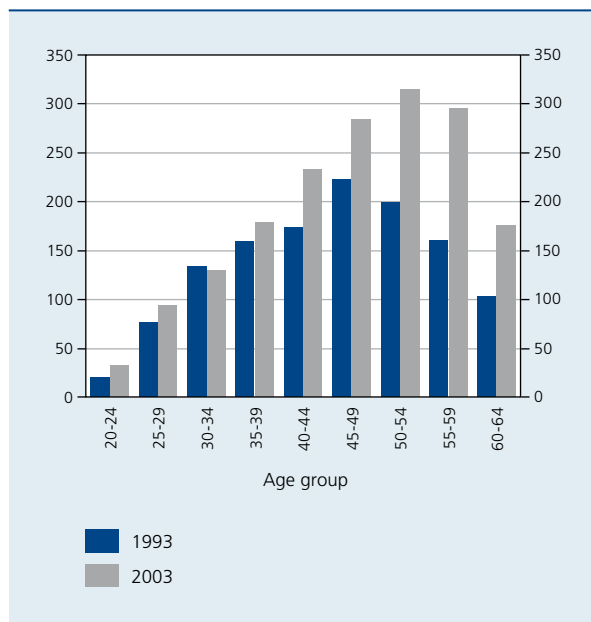
Source : FPS Finance.

CHART 3   POPULATION OF WORKING AGE
(thousands of persons)

Age group

- 1993
- 2003
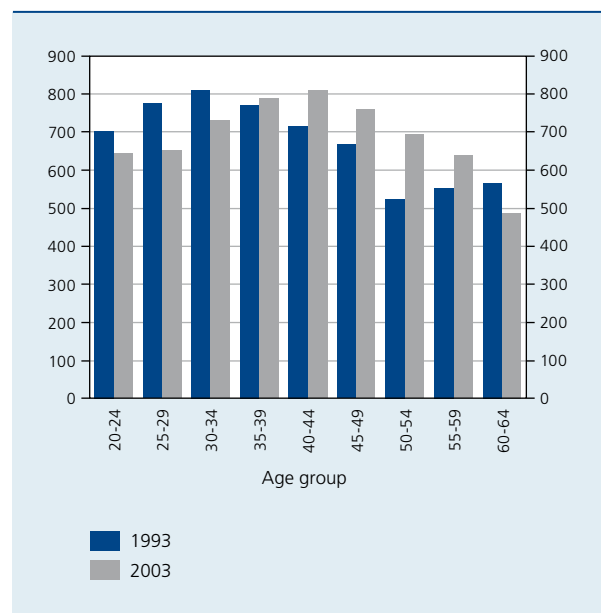
Source : FPS Finance.

The **rate of participation** in the third pillar is defined as the numbers participating in at least one of the two third pillar systems as a percentage of the population. That ratio averaged 40 p.c. in 2003. In other words, the third pillar concerned around 2,468,000 persons, of whom one-third contributed solely to long-term savings, 27 p.c. contributed to both systems simultaneously and 40 p.c. contributed exclusively to pension savings. It is hardly surprising that the youngest people had the lowest participation rate: their 10 p.c. participation rate is doubtless due to the fact that many younger people are still studying or looking for their first job. However, for the 25-29 age group that ratio is already 30 p.c. It then gradually increases, reaching over 50 p.c. for the 50-54 age group. More surprising is the subsequent decline, since the participation rate drops back below the 40 p.c. mark for the 60-64 age group. As in the case of the 20-24 age group, this lower participation rate among older people may be due to a relatively low rate of employment.

The rate of participation in the third pillar was only 29 p.c. in 1993. In the space of ten years, it has therefore increased by an impressive 11 percentage points. Its impact on the increase in the amount of the contributions is therefore undeniable, even decisive. This very remarkable increase in the participation rate may be due to various reasons. One is the increase in the employment rate recorded in the 1990s. Another explanation lies in the problem of population ageing. Since the 1990s, the

public's attention has increasingly often been drawn to the limits on the funding of the first pension pillar, in the context of the ageing of the large baby boom group. The prospect of erosion of the replacement ratio[1] on retirement also encouraged a growing number of taxpayers to put savings into one of the tax-efficient third pillar schemes. Finally, it is also likely that these schemes steadily became more widely known as a result of the advertising campaigns run by banks and insurance companies.

The **average income** of third pillar participants was 24,140 euro in 2003. Logically, it increases steadily with age, peaking around the age of 45 years then showing a very marked decline from the age of 55. The reason for that decline is that the incomes of all third pillar participants are taken into account, regardless of whether they are derived from working or from social security. It is therefore clear that a significant percentage of the participants receive replacement incomes, without which the average incomes would doubtless continue increasing up to retirement age.

In real terms, the average income of third pillar participants dropped by 9 p.c. between 1993 and 2003. In contrast, during this period the average income of the total population of working age recorded a real increase of 22 p.c., reaching 17,111 euro in 2003. The income inequality between participants and non-participants persists, although it is tending to diminish. This convergence suggests that the increase in the number of participants mainly concerned the lowest income groups, pointing to a gradual democratisation of the third pillar.

The third pillar **contribution ratio** is defined as the percentage of participants' income devoted to third pillar savings. In 2003, the contribution ratio averaged 2.9 p.c. This ratio hovered around 2.5 p.c. of the income of participants aged from 20 to 54, whereas much higher ratios were recorded for the 55-64 age group. These higher contribution ratios offset the lower average incomes of the older people, so that the average level of contributions remains relatively stable. This strategy, which consists in postponing part of direct consumption, is easy to explain. First, as people grow older they think more about securing their standard of living after retirement, and are more willing to sacrifice part of their consumption for the sake of additional income in a forthcoming period. Also, the tax treatment favours the payment of contributions after age 60, as those contributions no longer give rise to tax on the capital paid out.

CHART 4   THIRD PILLAR PARTICIPATION RATE
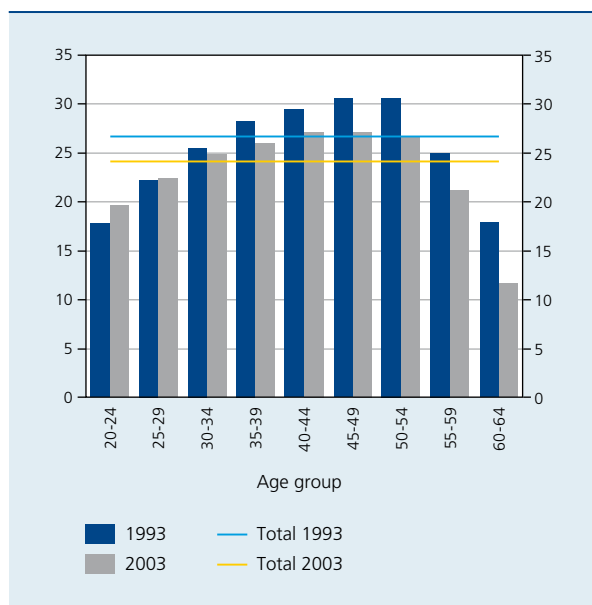(percentages of the population)
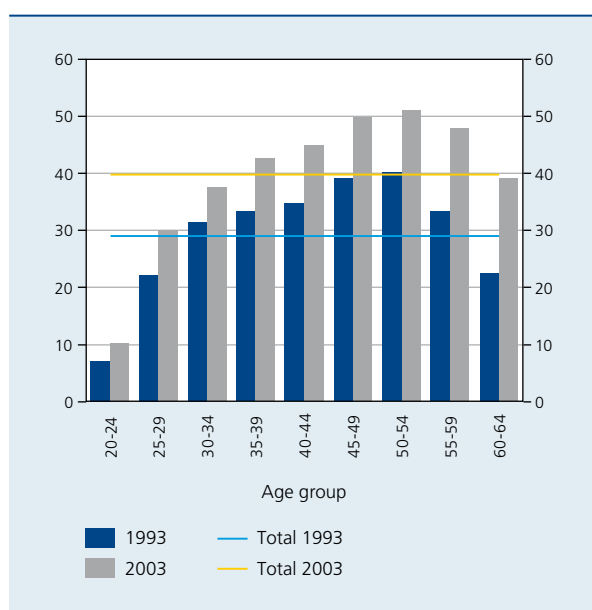
Source: FPS Finance.

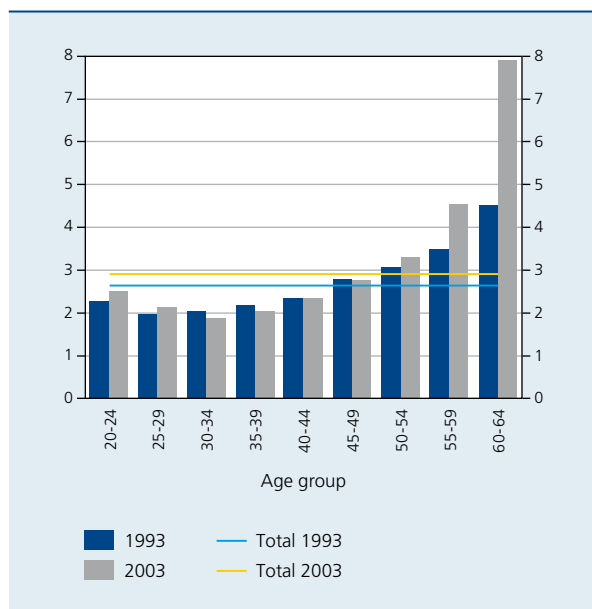**CHART 5   AVERAGE INCOME OF THIRD PILLAR PARTICIPANTS**

(thousands of euro, 2003 prices)

Source : FPS Finance.

CHART 6   CONTRIBUTION RATIO OF THIRD PILLAR PARTICIPANTS

(percentages of average income)

Source : FPS Finance.

During the period under review, the third pillar contribution ratio increased slightly. In 1993, it was 2.6 p.c. and thus gained 30 basis points over a ten-year period.

The product of average income and the contribution ratio gives the average amount of the participants' contributions. In 2003, this figure was 540 euro for pension savings and 575 euro for long-term savings. These figures can be compared with the ceilings applied in 2003, which stood at 600 and 1,800 euro respectively. It therefore seems that more use was made of the legal scope for pension savings than for long-term savings, where the ceiling also applies to other products.

3.2.2 Recent developments

The sample of tax returns currently available does not permit a survey of developments concerning the third pillar after 2003. However, the compilation of statistics obtained from the professional federations representing the third pillar players – Assuralia for the life insurance sector and BEAMA[1] for the investment fund sector – does provide some indication of recent developments in this form of savings. The results obtained point to an accentuation of the trends seen over the period 1993-2003.

Thus, pension savings payments increased very strongly from 2004 : in real terms, the increase in the contributions paid came to 62 p.c. between 2003 and 2006. It is true that the savers paying contributions into the pension savings funds are affected by the stock market situation, which has been particularly favourable since 2003. Furthermore, the tax limit applicable to the amount of the payments was increased substantially[2] in 2005, and that had a marked impact on the third pillar contribution ratio.

3.3 Microeconomic analysis

In the paragraphs which follow, the analysis focuses on the individual behaviour of households in regard to third pillar savings. It aims in particular to identify the factors determining the choices facing households in response to two questions : "Shall I pay third pillar contributions or not ?" and "If I take part in the third pillar, how much should I contribute ?". By using the sample of tax returns we gain an idea of a broad range of household characteristics which constitute a corresponding number

(1) Belgian Asset Managers Association.
(2) The ceiling was increased from 620 euro for 2004 incomes to 780 euro for 2005 incomes.

of potential determinants for third pillar savings. The variables considered most relevant were selected from the tax return forms, and can be divided into two categories:

1. Personal characteristics:
   – age;
   – number of dependants;
   – region of residence (Flanders, Wallonia or Brussels);
   – property ownership;
   – marital status (married couple or single).

2. Occupational characteristics:
   – amount of income;
   – occupational status (self-employed or not);
   – labour market situation (unemployed or not);
   – whether or not drawing an early retirement pension;
   – participation in a second pillar plan;
   – participation in the other third pillar system.

In formal terms, these characteristics were systematically regarded as potential explanatory variables in four separate equations relating to four dependent variables: participation in pension savings, participation in life insurance for the purpose of long-term savings, contributions to pension savings and contributions to life insurance for the purpose of long-term savings. The parameters of these equations were estimated by regression. The sign of these parameters, and their significance or non-significance, provide an indication of the nature of the influence of each determinant[1]. The presentation of the econometric model, definition of the variables used and the computed results of the regressions are set out in detail in the annex. The paragraphs which follow summarise the main findings and suggest the most likely explanations.

3.3.1 Personal determinants

According to the life cycle theory, people aim to maintain their consumption at a constant level throughout their life. To achieve that goal, younger people incur debts (to buy their house or to finance their children's education), the middle-aged generations accumulate savings with a view to their retirement, and retired people consume their assets by dissaving. It is therefore hardly surprising that age has a positive effect on participation in each of the two third pillar systems, bearing in mind that the analysis is confined to the population between the ages of 20 and 64 years. A similar result was obtained by the Belgian analysis conducted by Peeters et al. (2003), and in the study by Munnell et al. (2000) relating to American data. In addition, the influence of **age** can be understood from the tax angle. As demonstrated by Valenduc (2003), the effective tax rate on third pillar contributions

is systematically negative because the percentage of the tax advantage on the contributions is higher than the tax rate applicable to the capital sum paid out. However, the level depends on the remaining term of the contract. The shorter that term – and consequently the older the taxpayer – the more negative the effective tax rate.

As regards the level of the contributions, there seems to be a positive link with the participant's age, at least for pension savings. In other words, all other things being equal, older people are not only more inclined to contribute to pension savings, they are also prepared to save more. However, that is not the case for long-term savings, where the amount of the contributions declines the older the participants.

At first sight, the desire to leave an inheritance for the family could encourage households with children to save more. Yet the number of **dependants** appears to have a negative effect, albeit slight, both on the likelihood of participation in the third pillar and on the amount of the contributions by participants in either system. Of course, a household with children faces heavier expenditure than a childless couple on the same income, reducing the ability to save. If money is nevertheless set aside, the savings may also be used for purposes other than building up a supplementary pension, e.g. for financing the children's higher education. Finally, there is a possibility that some couples also count on support from their children if they should get into difficulties after retirement, and therefore regard the third pillar as superfluous.

The **region** of residence has a significant influence on participation in the third pillar systems. Flemish households with the same characteristics are more likely to build up pension savings or long-term savings via life insurance contracts. Conversely, there are no noticeable differences in the behaviour of Walloon and Brussels households. The amount of the payments appears to be the same in all regions in the case of long-term savings, but Flemish households make larger contributions to pension savings. These results are interesting: since the tax incentives for participation in the third pillar are more or less the same in the three regions, regional variations in saving patterns must be attributable to non-fiscal factors. The relatively greater number of civil servants in Wallonia and Brussels

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(1) The effect identified will need to be considered "all other things being equal" or more precisely "if the other explanatory variables remain constant". For example, a distinction can be made between the effect of age and the effect of income, even though these two variables are closely connected. Similarly, received ideas should be disregarded when determining the effect of unemployment: that effect will only correspond to the influence of being unemployed or not, and therefore cannot be explained by the receipt of lower incomes, since that forms the subject of a separate variable. In contrast, the real reason behind certain effects demonstrated can therefore be sought in factors which are not included in the model's explanatory variables: these include standard of education or regional allocation of the number of civil servants.

might play a role, since civil servants receive a higher statutory pension.

Ownership of **property** has a positive influence on third pillar participation. Peeters et al. (2003) arrive at the same conclusion. That link can be explained in the case of households owning their own home who have already paid off their mortgage : they spend less than households who have to pay a monthly rent. Conversely, the correlation between home ownership and third pillar participation is counter-intuitive in the case of owners who have to pay off a loan : one might expect such households to have to meet higher expenses than tenants and thus have less capacity to save. Furthermore, whether the loan has been repaid or not, owners can look forward to retirement free of housing costs, a prospect that ought to reduce the need for a supplementary pension. There is therefore a need to look for other explanations. The first might lie in the necessarily more frequent contact between home owners and their banker or insurer, perhaps offering the latter the opportunity to promote the third pillar systems. A second theory might be that owner occupiers are more worried about the future than people on the same income living in rented housing.

Also, owners make higher pension savings contributions but pay less into long-term savings. This last element may be due to the existence of a maximum tax allowance applicable to long-term savings which is the same for both life insurance premiums and mortgage loan repayments. In other words, people paying off a mortgage loan only get a tax allowance for a small part of the life insurance premiums paid, since the loan repayments have to be deducted first in most cases because the advantage of doing so is greater and they represent a substantial proportion of the tax allowance.

As regards the influence of **marital status**, married couples seem more inclined to participate in the third pillar than single persons. They also make larger contributions. At first sight this is surprising, since a couple consumes more than a single person and therefore has a smaller capacity to save if the income is the same. However, that factor may be offset by the fact that married couples are more concerned to provide safeguards.

3.3.2 Occupational determinants

According to the findings obtained respectively by Munnell et al. (2000), Bernheim and Garrett (1996) and Peeters et al. (2003), households with higher **incomes** are more inclined to participate in both pension savings and long-term savings. Their contributions are also higher than those of lower income households. This seems logical :

since they have more money, they can save more. There is also a tax effect : wealthier households can save up to 40 p.c. tax on the contributions paid, whereas for lower income households the tax saving is generally only up to 30 p.c. of the payments, or even less in the special case of households paying very little tax. It is particularly important for the higher income groups to invest in a supplementary pension if they want to maintain their standard of living on retirement. Since the statutory pension is limited, the replacement ratio of the first pension pillar is in inverse proportion to final salary.

The **self-employed** are proportionally over-represented in both third pillar savings systems, a finding which tallies with the results of Peeters et al. (2003). They also pay higher contributions. That is entirely logical, since the statutory pension for self-employed persons remains less advantageous than that for employees. Until recently, it was also more difficult for the self-employed to obtain access to the second pension pillar. However, since 2003 the status of self-employed persons has improved considerably, in regard to both the generosity of the first pillar and access to the second pillar.

The **unemployed** are less inclined to participate in third pillar savings in the form of either pension savings or long-term savings. The unemployed who do participate in one of the systems also contribute comparatively less money. Where gross incomes are the same, it is surprising that there are proportionally fewer unemployed persons who want to top up their pension with a private, individual scheme, whereas their statutory pension is likely to be less generous. [1] Moreover, since little if any tax is payable on unemployment benefits, an unemployed person should in principle have a greater capacity to save than an employee with a comparable pre-tax income. However, any withholding tax deducted on the unemployment benefits is too little to render attractive the tax allowances for third pillar savings. The lack of preparation given the prospect of a lower statutory pension and a lower second pillar could also be indirectly connected with an element which does not appear on the tax return and is therefore absent from this study : the standard of education. It has in fact been demonstrated that persons seeking work have a lower average standard of education than persons in work.

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(1) Periods of unemployment and early retirement are treated in the same way as periods of activity and therefore confer entitlement to a statutory pension. The pay taken into account for that purpose is notional : it is related to the actual pay received in the year prior to the suspension of activity. That pay is adjusted to the cost of living via a revaluation coefficient. Conversely, the real pay increases which might have been granted to persons seeking work or taking early retirement are disregarded in this revaluation.

It appears that **persons taking early retirement** are more inclined to participate in the third pillar, in both pension savings and long-term savings. Conversely, they make smaller contributions than employees with the same characteristics. As already stated, persons taking early retirement are perhaps preparing for a smaller statutory pension. Moreover, their supplementary pension is likely to be lower owing to the absence of contributions to the second pillar.

Although households paying personal contributions into the **second pillar** are less inclined to effect pension savings, they are more likely to arrange individual life insurance for the purpose of long-term savings. However, for 2003 these connections were hardly significant. To make a more accurate assessment of the second pillar effect it is probably necessary to have access to data on all the employees covered, and not just those who pay personal contributions and declare them on their tax returns, because the great majority of second pillar contributions are perhaps paid by employers, not by employees. The size of the second pillar is therefore difficult to estimate on the basis of the tax figures. Be that as it may, it can be assumed that some of the households participating in a group insurance scheme or pension fund consider that they have an adequate safety net for their pension, and therefore regard the third pillar as superfluous. At least, that is the conclusion arrived at by Bernheim and Garrett (1996).

In relation to the loss of purchasing power which households may face after retirement, the reserves accumulated via pension savings or long-term savings are indeed modest. That is part of the reason why so many households (11 p.c.) pay contributions to both **third pillar** systems. The microeconomic analysis confirms this finding. Thus, there is a positive link between participation in pension savings and long-term savings. In other words, households participating in either of these systems are more inclined to participate in the other one as well. They are also prepared to pay higher contributions. The two third pillar systems therefore appear to be complementary rather than competing systems. Households try to make maximum use of the scope for tax reductions offered by the two schemes. If they have reached the statutory limit in one of the systems, the surplus is saved under the other system.

Conclusion

The macroeconomic analysis shows that there has been a substantial increase in third pillar payments in the past fifteen years. The increased rate of participation has played a decisive role in this development, which was encouraged by awareness that the statutory pension is inadequate. It is also evident that new participants have a lower average income than households which had long been participating in the system. These developments point to a tendency towards democratisation of the third pension pillar.

However, the microeconomic analysis qualifies that picture. True, various categories less able to rely on the first two pension pillars are quite justifiably more inclined to participate in the third pillar. This applies particularly to the self employed and persons taking early retirement. However, there are some other sub-categories displaying a high participation rate, even though their financial position is already sound, including after retirement: home owners on high incomes with group insurance cover are one example. In the case of these households, assured of a supplementary pension under the second pillar, the third pillar can nonetheless help to limit the loss of purchasing power after retirement.

Conversely, the majority of households still have no access to the second pillar. For that category, the third pillar is an advantageous way of topping up their statutory pension. In certain cases, it is actually the only way of securing a decent income after retirement age. However, the results of the microeconomic analysis show that, in contrast to the self-employed and persons taking early retirement, certain categories who will also have to manage on less after retirement are still nevertheless under-represented among third pillar participants: people in rented housing, the unemployed and persons on low incomes.

For some households, the lack of money makes any form of savings impossible: those households need to be able to rely on a sound first pension pillar. Some vulnerable households which are nevertheless able to save may be insufficiently informed, as the growing complexity of the financial products available for the third pillar is not improving their accessibility. It is therefore hardly surprising that a number of reports[1] draw attention to the need for financial education for savers. That should enable them to gain a better understanding of the supplementary pension products, particularly investments which offer no guaranteed return and place the risk with the investors, as in the case of pension savings funds. On the other hand, when savers have reached retirement age they should be given assistance to ensure optimum management of the funds which they obtain when the contracts mature.

(1) See in particular OECD (2005).

Annex – Econometric analysis

Two types of equation were estimated in order to study the microeconomic determinants of third pillar saving. The first concerns participation in the third pillar and the second relates to the amount of the contributions paid by the participants. These two types of equation were estimated for both pension savings and long-term savings. The dependent and independent variables included in these equations are explained in Table 1.

TABLE 1   DEFINITION OF THE VARIABLES

Dependent variables	Definition
Part_Pension_Sav	= 1 if the household participates in pension savings, otherwise = 0
Part_Life_Ins	= 1 if the household participates in long-term savings, otherwise = 0
Pension_Sav	amount declared by way of pension savings (in euro)
Life_Ins	amount declared by way of long-term savings (in euro)

Independent variables	
Age	age of the household's main declarant (in years)
Married	= 1 if the tax return concerns a married couple, = 0 for single persons
Unempl	= 1 if the main declarant is unemployed, otherwise = 0
Self_Empl	= 1 if the main declarant is self-employed, otherwise = 0
Dep_Pers	number of dependent persons in the household
Prepension	= 1 if the main declarant has taken early retirement, otherwise = 0
Total_Inc	sum of salaries, unemployment benefits and self-employed income (in thousands of euro)
Home_Owner	= 1 if the household owns property, otherwise = 0
Part_Second_Pillar	= 1 if the household participates in the second pillar, otherwise = 0
Second_Pillar	amount declared under the second pillar (in euro)
Region_Fl	= 1 if the household lives in Flanders, otherwise = 0
Region_Wal	= 1 if the household lives in Wallonia, otherwise = 0

The equations using these variables are as follows:

$Part\_Pension\_Sav_i =$

$$c_0 + c_1 Age_i + c_2 Age_i^2 + c_3 Married_i + c_4 Unempl_i$$
$$+ c_5 Self\_Empl_i + c_6 Dep\_Pers_i + c_7 Prepension_i$$
$$+ c_8 Total\_Inc_i + c_9 Home\_Owner_i$$
$$+ c_{10} Part\_ Second\_Pillar_i + c_{11} Part\_Life\_Ins_i$$
$$+ c_{12} Region\_Fl_i + c_{13} Region\_Wal_i + u_i$$

$Part\_Life\_Ins_i =$

$$c_0 + c_1 Age_i + c_2 Age_i^2 + c_3 Married_i + c_4 Unempl_i$$
$$+ c_5 Self\_Empl_i + c_6 Dep\_Pers_i + c_7 Prepension_i$$
$$+ c_8 Total\_Inc_i + c_9 Home\_Owner_i$$
$$+ c_{10} Part\_ Second\_Pillar_i + c_{11} Part\_Pension\_Sav_i$$
$$+ c_{12} Region\_Fl_i + c_{13} Region\_Wal_i + u_i$$

$Pension\_Sav_i =$

$$c_0 + c_1 Age_i + c_2 Age_i^2 + c_3 Married_i + c_4 Unempl_i$$
$$+ c_5 Self\_Empl_i + c_6 Dep\_Pers_i + c_7 Prepension_i$$
$$+ c_8 Total\_Inc_i + c_9 Home\_Owner_i$$
$$+ c_{10} Second\_Pillar_i + c_{11} Life\_Ins_i$$
$$+ c_{12} Region\_Fl_i + c_{13} Region\_Wal_i + u_i$$

$Life\_Ins_i =$

$$c_0 + c_1 Age_i + c_2 Age_i^2 + c_3 Married_i + c_4 Unempl_i$$
$$+ c_5 Self\_Empl_i + c_6 Dep\_Pers_i + c_7 Prepension_i$$
$$+ c_8 Total\_Inc_i + c_9 Home\_Owner_i$$
$$+ c_{10} Second\_Pillar_i + c_{11} Pension\_Sav_i$$
$$+ c_{12} Region\_Fl_i + c_{13} Region\_Wal_i + u_i$$

The estimated results are set out in Table 2 (participation) and Table 3 (contributions). The equations relating to participation are of the logit type. In both cases, the significant coefficients (at the 5 p.c. level) are shown in bold.

TABLE 2a PARTICIPATION IN PENSION SAVINGS

	Part_Pension_Sav					
	1993	1995	1997	1999	2001	2003
C	−7.593	−7.169	−6.168	−5.268	−4.728	−4.370
	(0.497)	(0.485)	(0.451)	(0.377)	(0.286)	(0.189)
Age	0.202	0.192	0.121	0.116	0.090	0.080
	(0.024)	(0.024)	(0.022)	(0.019)	(0.014)	(0.009)
Age^2	−0.002	−0.002	−0.001	−0.001	−0.001	−0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married	0.070	0.127	−0.015	0.045	0.035	0.084
	(0.078)	(0.078)	(0.072)	(0.067)	(0.049)	(0.034)
Unempl	−0.364	−0.207	−0.103	−0.088	−0.263	−0.215
	(0.085)	(0.081)	(0.076)	(0.070)	(0.053)	(0.034)
Self_Empl	0.450	0.252	0.347	0.105	0.229	0.193
	(0.085)	(0.086)	(0.082)	(0.081)	(0.059)	(0.046)
Dep_Pers	−0.080	−0.055	−0.021	−0.088	−0.064	−0.120
	(0.033)	(0.032)	(0.031)	(0.030)	(0.021)	(0.015)
Prepension	−0.149	0.102	−0.071	0.064	0.029	0.221
	(0.153)	(0.151)	(0.145)	(0.135)	(0.111)	(0.075)
Total_Inc	0.022	0.022	0.022	0.019	0.020	0.019
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
Home_Owner	0.570	0.621	0.485	0.649	0.600	0.667
	(0.073)	(0.072)	(0.069)	(0.064)	(0.046)	(0.032)
Part_Second_Pillar	−0.128	−0.283	−0.153	−0.160	−0.180	−0.066
	(0.099)	(0.097)	(0.087)	(0.081)	(0.061)	(0.043)
Part_Life_Ins	0.557	0.595	0.522	0.621	0.548	0.606
	(0.084)	(0.072)	(0.064)	(0.058)	(0.042)	(0.030)
Region_Fl	0.373		0.706	0.495	0.581	0.611
	(0.115)		(0.121)	(0.107)	(0.078)	(0.054)
Region_Wal	−0.014		0.287	0.089	0.016	0.066
	(0.123)		(0.127)	(0.113)	(0.083)	(0.057)

PARTICIPATION IN LONG-TERM SAVINGS

	Part_Life_Ins					
	1993	1995	1997	1999	2001	2003
C	**−2.969**	**−3.331**	**−3.967**	**−2.665**	**−3.648**	**−3.875**
	(0.493)	(0.432)	(0.420)	(0.367)	(0.291)	(0.200)
Age	0.049	**0.083**	**0.101**	**0.040**	**0.084**	**0.093**
	(0.026)	(0.023)	(0.022)	(0.019)	(0.015)	(0.010)
Age^2	**−0.001**	**−0.001**	**−0.001**	**−0.001**	**−0.001**	**−0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married	**0.430**	**0.521**	**0.335**	**0.272**	**0.224**	**0.151**
	(0.097)	(0.085)	(0.076)	(0.072)	(0.052)	(0.037)
Unempl	−0.158	−0.168	−0.254	−0.213	−0.288	−0.232
	(0.089)	(0.079)	(0.076)	(0.073)	(0.056)	(0.037)
Self_Empl	**0.249**	0.172	**0.173**	**0.315**	**0.369**	**0.476**
	(0.103)	(0.089)	(0.084)	(0.080)	(0.060)	(0.046)
Dep_Pers	**−0.108**	**−0.107**	−0.041	−0.039	**−0.050**	**−0.088**
	(0.041)	(0.034)	(0.031)	(0.030)	(0.022)	(0.016)
Prepension	0.374	−0.007	0.324	**0.391**	**0.359**	**0.436**
	(0.242)	(0.222)	(0.184)	(0.159)	(0.128)	(0.086)
Total_Inc	**0.010**	**0.007**	**0.014**	**0.012**	**0.009**	**0.012**
	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Home_Owner	0.164	**0.453**	**0.398**	**0.701**	**1.027**	**1.005**
	(0.088)	(0.077)	(0.071)	(0.068)	(0.051)	(0.035)
Part_Second_Pillar	**0.246**	**0.355**	0.102	**0.186**	0.085	0.012
	(0.108)	(0.092)	(0.084)	(0.079)	(0.061)	(0.043)
Part_Pension_Sav	**0.541**	**0.572**	**0.500**	**0.615**	**0.565**	**0.610**
	(0.084)	(0.072)	(0.065)	(0.058)	(0.043)	(0.030)
Region_Fl	0.201		**0.321**	0.167	**0.208**	**0.110**
	(0.132)		(0.114)	(0.105)	(0.080)	(0.055)
Region_Wal	−0.017		0.021	−0.014	−0.030	−0.092
	(0.141)		(0.121)	(0.111)	(0.084)	(0.058)

TABLE 3a   PENSION SAVINGS CONTRIBUTIONS

	Pension_Sav					
	1993	1995	1997	1999	2001	2003
C	**−243.944**	**−215.679**	**14.370**	69.608	190.763	231.852
	(114.714)	(108.216)	(100.834)	(80.512)	(61.254)	(41.587)
Age	**24.193**	**23.436**	**13.854**	**14.028**	**10.318**	**6.576**
	(5.336)	(5.189)	(4.726)	(3.935)	(2.922)	(2.015)
Age^2	**−0.202**	**−0.169**	**−0.093**	**−0.114**	**−0.074**	−0.031
	(0.060)	(0.059)	(0.054)	(0.046)	(0.033)	(0.023)
Married	**270.365**	**293.472**	**286.026**	**301.860**	**343.521**	**330.520**
	(17.057)	(16.611)	(14.688)	(13.205)	(9.432)	(6.601)
Unempl	−56.903	−57.192	−47.420	**−48.303**	**−49.711**	**−40.122**
	(19.632)	(17.796)	(16.223)	(14.265)	(10.941)	(7.047)
Self_Empl	**65.148**	**50.381**	**36.997**	27.374	−1.890	**35.195**
	(17.258)	(17.002)	(15.626)	(15.254)	(10.745)	(8.238)
Dep_Pers	0.307	−0.701	−17.313	−20.116	−7.127	−19.394
	(7.307)	(7.009)	(6.378)	(5.909)	(4.186)	(3.021)
Prepension	−16.890	−10.358	**−62.164**	−48.424	−36.838	−43.136
	(32.572)	(30.712)	(29.071)	(26.111)	(20.942)	(13.476)
Total_Inc	**1.389**	**0.932**	**2.031**	**1.019**	**0.651**	**1.544**
	(0.310)	(0.225)	(0.262)	(0.186)	(0.107)	(0.112)
Home_Owner	29.028	4.924	23.906	20.529	**20.597**	**24.110**
	(16.444)	(16.155)	(14.970)	(13.395)	(9.629)	(6.551)
Second_Pillar	−0.029	0.010	−0.011	−0.013	0.000	**−0.018**
	(0.015)	(0.010)	(0.012)	(0.010)	(0.007)	(0.006)
Life_Ins	**0.045**	**0.044**	0.046	0.044	0.049	0.048
	(0.014)	(0.011)	(0.009)	(0.009)	(0.006)	(0.004)
Region_Fl	**56.030**		16.925	42.954	**32.826**	**60.010**
	(25.128)		(26.252)	(22.176)	(16.146)	(11.121)
Region_Wal	8.990		−30.918	1.276	**−57.243**	−10.023
	(26.979)		(27.565)	(23.320)	(17.190)	(11.759)

			Life_Ins			
	1993	1995	1997	1999	2001	2003
C	**475.390**	160.134	161.998	206.336	**646.030**	**844.574**
	(239.301)	(219.407)	(236.803)	(196.916)	(164.567)	(120.311)
Age	−10.308	0.298	−1.514	−5.137	**−24.150**	**−36.642**
	(12.529)	(11.598)	(11.912)	(9.973)	(8.105)	(5.928)
Age^2	**0.305**	0.195	0.247	**0.315**	**0.545**	**0.709**
	(0.154)	(0.141)	(0.143)	(0.121)	(0.095)	(0.070)
Married	46.791	**73.664**	**77.908**	92.398	107.575	53.358
	(41.854)	(37.364)	(36.547)	(33.291)	(25.491)	(19.059)
Unempl	−70.581	−28.050	−35.565	−24.666	−43.423	**−47.860**
	(40.646)	(36.250)	(38.666)	(35.855)	(29.023)	(20.334)
Self_Empl	**106.922**	**117.910**	−20.265	55.286	**80.440**	31.037
	(45.474)	(39.048)	(40.184)	(36.510)	(27.751)	(22.072)
Dep_Pers	−12.905	−27.825	−25.033	−23.255	**−44.483**	−12.147
	(18.745)	(16.246)	(15.429)	(14.563)	(11.072)	(8.359)
Prepension	**−371.058**	−79.459	**−238.962**	**−239.175**	**−230.829**	−79.090
	(109.807)	(105.215)	(93.300)	(79.417)	(64.391)	(44.696)
Total_Inc	**2.884**	**4.796**	**3.623**	**2.283**	**3.008**	**3.340**
	(0.959)	(0.768)	(0.707)	(0.460)	(0.438)	(0.328)
Home_Owner	**−139.064**	**−199.013**	**−209.428**	**−267.709**	**−283.956**	**−288.401**
	(38.315)	(32.677)	(33.489)	(31.361)	(24.612)	(18.253)
Second_Pillar	0.034	**−0.090**	−0.006	−0.004	0.016	−0.004
	(0.050)	(0.033)	(0.036)	(0.024)	(0.026)	(0.0019)
Pension_Sav	**0.348**	**0.445**	**0.394**	**0.377**	**0.327**	**0.383**
	(0.048)	(0.039)	(0.038)	(0.033)	(0.024)	(0.017)
Region_Fl	−28.343		44.782	57.123	−1.631	−12.159
	(60.461)		(58.692)	(52.307)	(40.902)	(29.831)
Region_Wal	−39.785		33.610	42.136	−30.558	−25.796
	(64.662)		(62.204)	(55.104)	(43.187)	(31.327)

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