Retirement Assets and Aging Risks

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- Challenge in developed countries: How to manage public pension systems and to stimulate private pension income in context of demographic ageing?
- In this context, countries adopted Pension reforms to solve the problem by : reducing pension benefits, increasing contribution rate, increasing retirement age, increasing private retirement plans.
- The trend to reduce welfare system.

- 2004-2050 : public pension spending is projected to rise by 2.3% of GDP on average in the EU Member states.
- Individuals are becoming more responsible for their retirement income.
- Pension reforms could induce a risk poverty for the most vulnerable people (women, blue-collars, seniors, etc).

- How to define the most appropriate institutional framework that could lead better plan retirement?

- Aim:

➢ To analyze current policies and practices in retirement security in France in the context of pension reforms.

➢ The impact of risks and aspects of aging on the household behavior.

Outline

- Methodology
- Pension system in France
- Econometrics results
- Conclusion and policy

Methodology

- The determinants of retirement savings?
- Main Analysis – Joint Multivariate Probit models.

Methodology

- dependent variables: holding (yes/no) of each of two kinds of life insurance contact + retirement savings contracts.
- independent variables:
  - demographic – age, sex, marital status, Paris (yes/no), children present
  - socio-economic – education, income, home owner, employment status, debt, inheritances received
  - psychological -- “money problems”, job precarity, “bad carrier”
  - Public information system – estimated pension, pension record.

Bi-probit model

- $y_1^* = x_1\beta_1 + \epsilon_1$
- $y_2^* = x_2\beta_2 + \epsilon_2$

- binary dependant variables represent the probability of holding a life endowment contract (y_1^*), and the probability of holding a retirement savings contract (y_2^*).

Methodology:

- Micro data survey on income and wealth (Wealth Survey 2009-2010) – INSEE.
- The database includes a representative sample of the French population, consisting of 35 729 individuals, 15 006 households.

Survey:

- This survey gives detailed information on the financial and non-financial assets of the households
- Individuals: their income, age, professional category, education, marital situation, their status (active, inactive, retired).
- The type of assets held by (checking account, savings account, …).

The French pension system

- The French retirement system is based on a statutory pay-as-go system.

- *The supplementary schemes*, **which complement the general State regime, are financed on a pay-as-you-go basis. These compulsory supplementary pensions are financed by the ARRCO for all the employees and by the AGIRC for executives only.**

Second Pillar : occupational pension funds

- Before the 2003 : only few disposals mainly for Executives, Self –employed, farmers.
- Since 2003, 2 main collective private pension schemes open to all employees :
- - **PERCO** : corporate defined contribution scheme
- - **PERE**: offered by insurance companies upon agreement between Unions or companies.

Third Pillar : Individual retirement plan

- PERP for all employees : individual, voluntary retirement plan running under insurance directives

Individual retirement plan: PERP

- PERP is an individual, voluntary retirement plan run under insurance laws, introduced in 2004.
- Contributions: deductible from taxable income (up to 10 % of the annual revenue),
- Benefits are paid in the form of annuities and taxed at a normal rate.

Occupational scheme: PERCO

- Introduction by collective barganing or by employers;
- The PERCO: a corporate defined contribution scheme included in Corporate Saving Schemes (PEE);
- Funded scheme.

PERCO

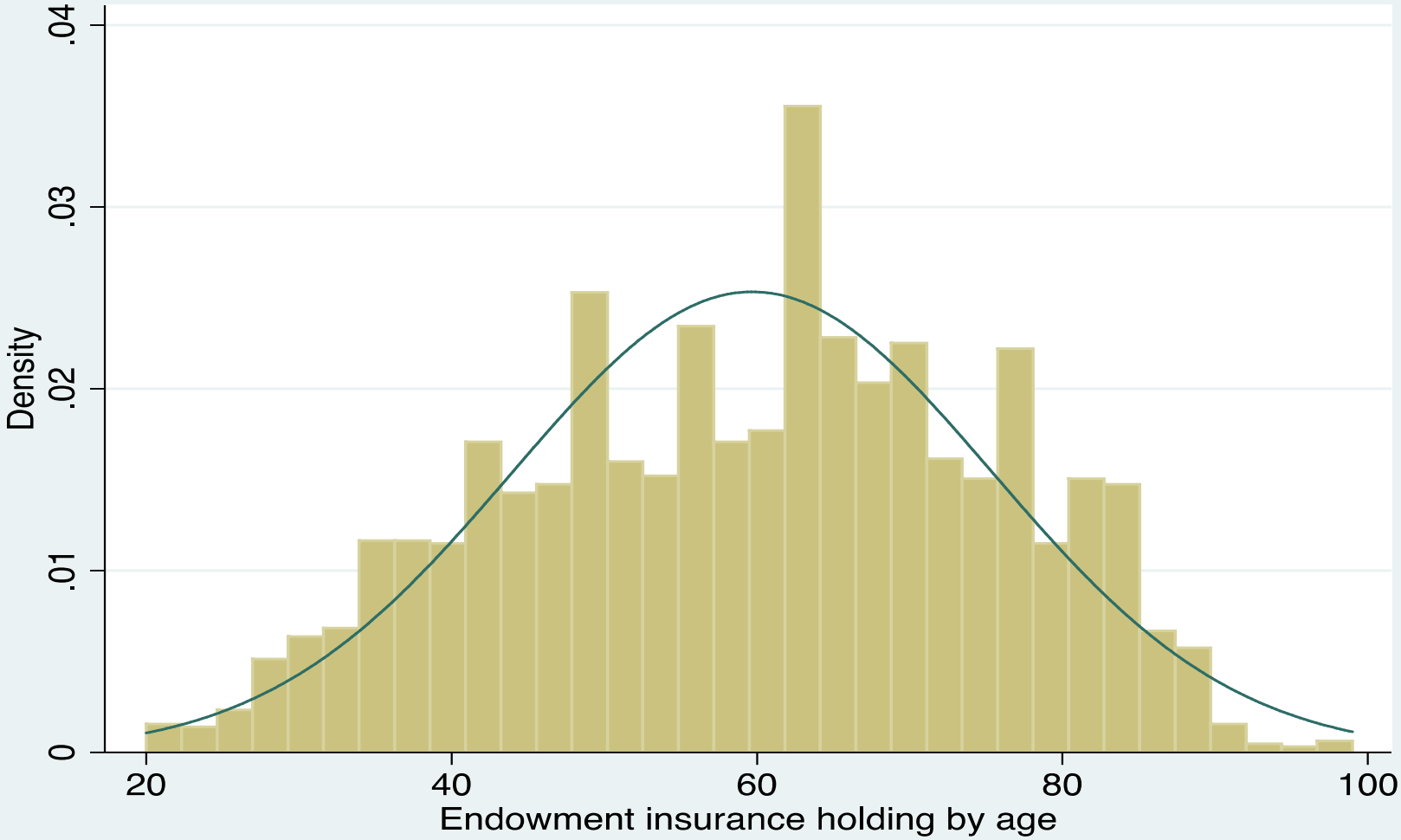
- The maximum employee’ contribution is 25% of his revenue.
- Employers could participate at the PERCO (maximum amount: 5 489 euros).

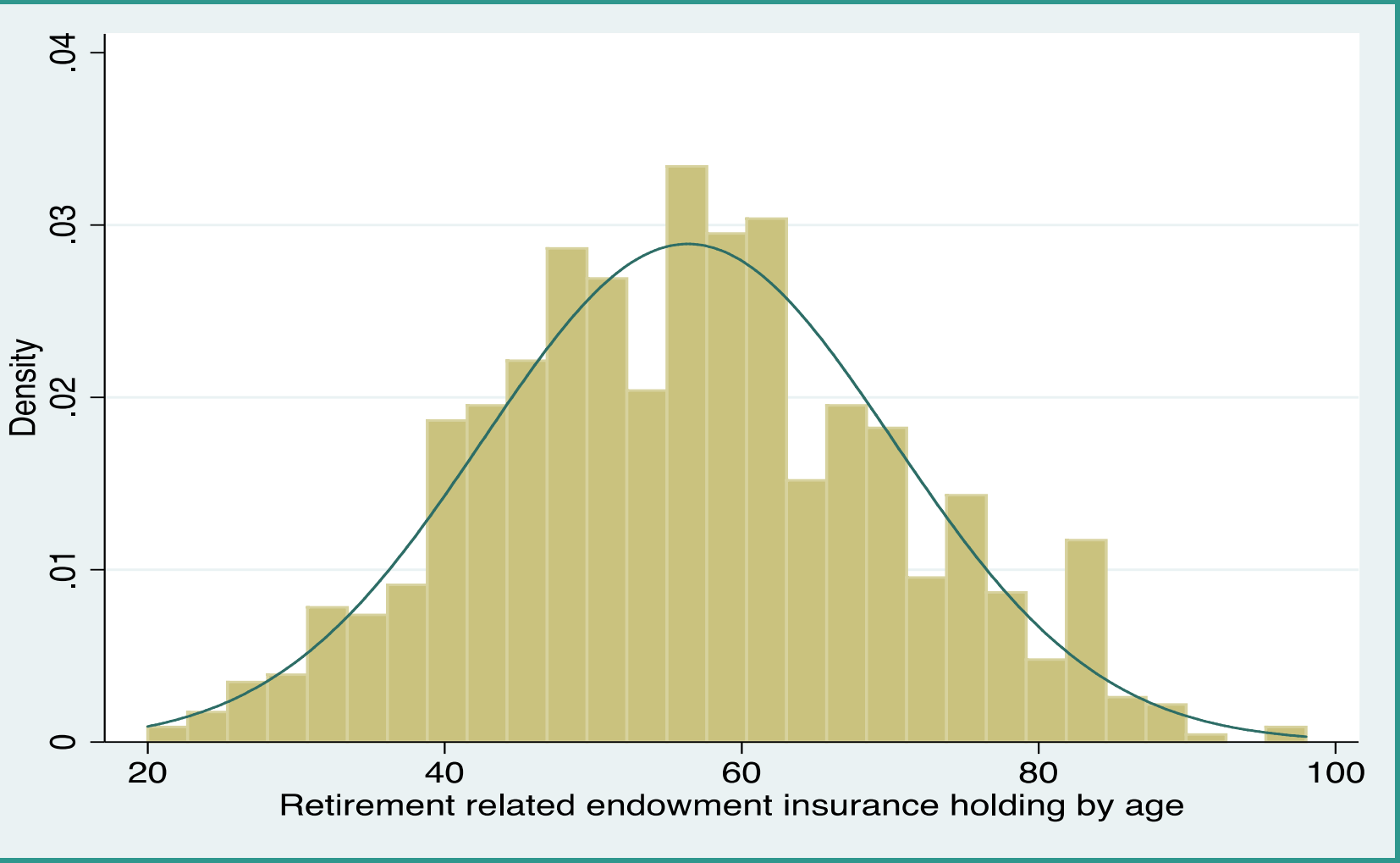
PERCO

- PERCO for all employees
- PERCO is a more flexible product.
- Perco offer a choice of investments,
- Employees can choose the amount they want to contribute and they can choose an annuity or a cash lump sum at retirement.

Holding rates according to age:

Age group	Life endowment contract	Life endowment contract exclusively for a retirement motive	Retirement savings contract
17-30	23%	5%	6%
31-40	35%	8%	17%
41-50	39%	14%	19%
51-60	42%	17%	21%
61-70	47%	10%	24%
>70	41%	6%	20%
Mean	39%	10%	19%


Density
0
.01
.02
.03
.04
20
40
60
80
100
Endowment insurance holding by age


Density
0
.01
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20
40
60
80
100
Retirement related endowment insurance holding by age


Density
0
.01
.02
.03
20
40
60
80
100
Retirement contracts holding by age

Models:

- We estimate a bivariate probit model to exhibit the determinants of retirement savings.
- The first model: we integrate as dependent variables the probability of holding a life endowment contract, for any motive, and the probability of holding a private retirement savings contract.
- The second model: dependent variables becomes the probability to hold a life endowment contract exclusively for a retirement motive + proba of holding a private retirement contract.

Econometrics results:

- We found a complementary income sources among the French pensioners.
- Life endowment and pension contracts are complementary.

Econometrics results:

- The composition of the household has a strong impact: living without a partner decrease the holding of retirement contracts and annuities compared to couple.
- This effect is observed for a woman living without a partner (single, widow, divorced) and also for men without a partner.

Econometrics results: Prof. Categories and homeowners

- Prof. categories: the annuity holding is weak for public employees and strong for independent.

- Homeownership: strong relation between homeownership and annuity holding, to be homeowner impacts positively the annuity holding.

Econometrics results: Diploma

- Highest degrees have significant impact on holding behaviour: Individuals with a master degree hold both life insurance and pension contracts.

Econometrics results: precarious employment/career opinion

- Having an insecure employment horizon and being dissatisfied with the professional situation tend to decrease the proba. of holding insurance contracts.
- Having precarious employement increase the proba. of holding retirement contrat.

Econometrics results: financial troubles_chilhood

- When people experienced serious household financial troubles during their childhood, they tend to less frequently hold annuities contracts or retirement contracts.

Econometrics results: pension information

Sending to the insured an estimate of their pension entitlements have a positive and significant impact on the decision to purchase an annuity for a retirement motive.

	Model (1)	Model (2)	Model (3)	Model (4)
Equation 1	life_insur1	life_insur_retir1	life_insur1	life_insur_retir2
Equation 2	retirement_saving	retirement_saving	retirement_saving	retirement_saving
Equation 1				
17-30	-0.38***	-0.51***		
	(0.09)	(0.13)		
31-40	-0.06	-0.28***		
	(0.07)	(0.08)		
51-60	-0.17**	-0.11		
	(0.07)	(0.08)		
61-70	0.12	-0.32***		
	(0.07)	(0.09)		
>70	0.13*	-0.54***		
	(0.08)	(0.10)		
Single_women	-0.02	0.01	-0.03	0.03
	(0.04)	(0.06)	(0.04)	(0.06)
Single_men	-0.07	-0.23***	-0.06	-0.20***
	(0.05)	(0.07)	(0.05)	(0.07)
Living_paris	0.10*	0.05	0.10*	0.04
	(0.05)	(0.06)	(0.05)	(0.06)
No_child	-0.09	-0.00	-0.15**	-0.07
	(0.07)	(0.08)	(0.06)	(0.07)
One child	-0.05	-0.01	-0.09	-0.04
	(0.07)	(0.08)	(0.07)	(0.08)
3 children/+	0.08	0.01	0.08	0.01
	(0.08)	(0.10)	(0.08)	(0.10)
Homeowner	0.35***	0.26***	0.34***	0.24***
	(0.04)	(0.05)	(0.04)	(0.05)
Income1 <500 euros/monthly By UC	-0.12*	-0.18*	-0.13*	-0.18*
	(0.07)	(0.10)	(0.07)	(0.10)
Income2 De 500 à 999 euros UC	-0.16**	-0.24**	-0.15**	-0.24**
	(0.07)	(0.10)	(0.07)	(0.10)
Income4 De 1500 à 1999 euros UC	0.17***	0.14*	0.17***	0.14*
	(0.06)	(0.08)	(0.06)	(0.08)
Income5 De 2000 à 2499 euros UC	0.33***	0.11	0.33***	0.11
	(0.06)	(0.08)	(0.06)	(0.08)
Income6 De 2500 à 3999 euros UC	0.42***	0.21***	0.40***	0.20***
	(0.06)	(0.08)	(0.06)	(0.08)
Income7 De 4000 à 5999 euros	0.78***	0.31***	0.76***	0.30***
	(0.08)	(0.10)	(0.08)	(0.10)
Income8 >6000 euros UC	0.85***	0.34***	0.83***	0.35***
	(0.11)	(0.12)	(0.11)	(0.12)
1/4 of the capital coming from an inheritance	0.28***	0.06	0.28***	0.07
	(0.05)	(0.06)	(0.05)	(0.06)
private_debt	-0.08*	-0.03	-0.06	-0.04
	(0.04)	(0.05)	(0.04)	(0.05)

Diplome_Master	0.13*	0.03	0.12*	0.02
	(0.07)	(0.08)	(0.07)	(0.08)
Diplome_HS	-0.01	-0.02	-0.02	-0.02
	(0.07)	(0.08)	(0.07)	(0.08)
No diploma	-0.20***	-0.04	-0.22***	-0.05
	(0.05)	(0.07)	(0.05)	(0.07)
public	-0.08*	-0.14**	-0.08*	-0.14**
	(0.04)	(0.06)	(0.04)	(0.06)
independant	0.30***	0.33***	0.29***	0.35***
	(0.05)	(0.06)	(0.05)	(0.06)
Precarious_employ	-0.07	-0.17***	-0.06	-0.20***
	(0.05)	(0.06)	(0.05)	(0.06)
Not satisf_career	-0.12**	-0.10	-0.12**	-0.10
	(0.06)	(0.08)	(0.06)	(0.08)
Fi_trouble_childhood	-0.11***	-0.13***	-0.11***	-0.14***
	(0.04)	(0.05)	(0.04)	(0.05)
Pension estimation	0.13	0.16	-0.07	0.19***
	(0.08)	(0.10)	(0.06)	(0.07)
Pension statement	0.07	0.09	0.03	0.13*
	(0.06)	(0.07)	(0.06)	(0.07)
disability	-0.29*	-5.17	-0.33*	-5.21
	(0.17)	(4151.38)	(0.17)	(4929.30)
age			0.01*	0.06***
			(0.01)	(0.01)
age2			-0.00	-0.00***
			(0.00)	(0.00)
_cons	-0.27***	-0.95***	-0.83***	-2.58***
	(0.10)	(0.12)	(0.21)	(0.31)
athrho				
	0.13***	0.08***	0.14***	0.08***
	(0.02)	(0.03)	(0.02)	(0.03)
N	5927.00	5820.00	5927.00	5820.00
bic	13781.84	10525.05	13736.36	10467.75
ll	-6599.90	-4972.11	-6603.22	-4969.47
chi2	1190.64	730.16	1186.36	730.31

Standard errors in parentheses
* p<0.10, ** p<0.05, *** p<0.01

	Model (1)	Model (2)	Model (3)	Model (4)
Equation 2	retirement_saving	retirement_saving	retirement_saving	retirement_saving
Equation 2				
17-30	-0.52***	-0.50***		
	(0.12)	(0.12)		
31-40	-0.13*	-0.12		
	(0.07)	(0.07)		
51-60	-0.03	-0.02		
	(0.08)	(0.08)		
61-70	0.10	0.10		
	(0.08)	(0.08)		
71 et +	0.05	0.06		
	(0.08)	(0.09)		
Single_women	-0.18***	-0.19***	-0.18***	-0.19***
	(0.05)	(0.05)	(0.05)	(0.05)
Single_men	-0.04	-0.05	-0.03	-0.04
	(0.05)	(0.05)	(0.05)	(0.05)
Living_Paris	-0.16***	-0.17***	-0.16***	-0.17***
	(0.05)	(0.06)	(0.05)	(0.06)
No child	-0.20***	-0.19***	-0.22***	-0.22***
	(0.07)	(0.07)	(0.07)	(0.07)
1 child	-0.09	-0.09	-0.11	-0.11
	(0.07)	(0.07)	(0.07)	(0.07)
3 children	-0.14	-0.16*	-0.14	-0.16*
	(0.09)	(0.09)	(0.09)	(0.09)
homeowner	0.09*	0.09*	0.07	0.07
	(0.04)	(0.05)	(0.04)	(0.04)
Income1 <500 euros	-0.01	0.02	-0.01	0.01
	(0.08)	(0.08)	(0.08)	(0.08)
Income2 500 à 999 euros mensuels par UC	-0.02	-0.01	-0.02	-0.01
	(0.08)	(0.08)	(0.08)	(0.08)
Income4 1500 à 1999 euros mensuels par UC	0.23***	0.25***	0.22***	0.24***
	(0.07)	(0.07)	(0.07)	(0.07)
Income5 2000 à 2499 euros mensuels par UC	0.31***	0.32***	0.30***	0.31***
	(0.07)	(0.07)	(0.07)	(0.07)
Income6 2500 à 3999 euros mensuels par UC	0.42***	0.43***	0.40***	0.42***
	(0.07)	(0.07)	(0.07)	(0.07)
Income7 4000 à 5999 euros mensuels par UC	0.64***	0.64***	0.61***	0.61***
	(0.09)	(0.09)	(0.09)	(0.09)
Income8 6000+ euros mensuels par UC	0.71***	0.73***	0.69***	0.71***
	(0.10)	(0.10)	(0.10)	(0.10)
1/4 of the capital coming from an inheritance	0.02	0.02	0.02	0.02
	(0.05)	(0.05)	(0.05)	(0.05)
debt	0.08*	0.08*	0.07	0.07
	(0.04)	(0.05)	(0.04)	(0.05)
Diplom_master	0.10*	0.10*	0.10*	0.10*
	(0.07)	(0.07)	(0.07)	(0.07)
Diplome_HS	-0.13*	-0.13*	-0.13*	-0.13*
	(0.07)	(0.07)	(0.07)	(0.07)

No diploma	-0.13**	-0.12**	-0.14**	-0.14**
	(0.06)	(0.06)	(0.06)	(0.06)
public	0.04	0.04	0.04	0.04
	(0.05)	(0.05)	(0.05)	(0.05)
independant	0.33***	0.33***	0.33***	0.33***
	(0.05)	(0.05)	(0.05)	(0.05)
Precarious_employ	0.14**	0.14**	0.14***	0.14***
	(0.06)	(0.06)	(0.05)	(0.05)
Not satisf_career	-0.23***	-0.23***	-0.24***	-0.24***
	(0.07)	(0.07)	(0.07)	(0.07)
Fi_trouble_childhood	-0.09**	-0.09**	-0.09**	-0.10**
	(0.04)	(0.04)	(0.04)	(0.04)
Pension estimation	0.06	0.04	-0.06	-0.08
	(0.09)	(0.09)	(0.07)	(0.07)
Pension statement	-0.01	-0.01	-0.05	-0.04
	(0.07)	(0.07)	(0.07)	(0.07)
disability	0.07	0.00	0.13	0.05
	(0.19)	(0.20)	(0.19)	(0.20)
age			0.05***	0.05***
			(0.01)	(0.01)
age2			-0.00***	-0.00***
			(0.00)	(0.00)
_cons	-0.91***	-0.93***	-2.35***	-2.36***
	(0.11)	(0.11)	(0.26)	(0.26)
athrho				
_cons	0.13***	0.08***	0.14***	0.08***
	(0.02)	(0.03)	(0.02)	(0.03)
N	5927.00	5820.00	5927.00	5820.00
bic	13781.84	10525.05	13736.36	10467.75
ll	-6599.90	-4972.11	-6603.22	-4969.47
chi2	1190.64	730.16	1186.36	730.31

Standard errors in parentheses
* p<0.10, ** p<0.05, *** p<0.01

Conclusion:

- The retirement vehicle and annuities are complementary among retired people.
- Psychological aspects influence the decision to hold a long-term retirement-related asset.
- When households are better informed, they seem to adapt to economic and demographic issues.

Policy

- Support education/training for workers and retirees.
- Support pension information.
- Support collective pension plans by encouraging private firms' participation
- Push for insurance expansion for low-skilled workers
- Encourage retirement savings through sponsored mechanisms targeting women and single parents.

Thank you.