

---

*Research article*

## The impact of population ageing on consumption in Spain: Revisiting the retirement – consumption puzzle

Antonio Cutanda<sup>1,\*</sup> and Juan A. Sanchis<sup>2</sup>

<sup>1</sup> Facultad de Economía, Departamento de Análisis Económico, Universidad de Valencia, Valencia, Spain

<sup>2</sup> Faculty of Economics, Universitat de València and ERICES, Valencia, Spain

\* **Correspondence:** Email: antonio.cutanda@uv.es; Tel: +34963828235.

---

### Supplementary

#### Appendix A

**Table A.1.** Consumption function for the active individuals' sample.

---

Total Wealth	–0.000*
	(0.000)
Regular Income	0.101**
	(0.042)
Number of members	–3.780**
	(1.686)
Number of adults	–4.213**
	(1.883)
Age head	–0.305
	(0.224)
Age head sq.	0.003
	(0.002)

---

*Continued on next page*

---

Male head	2.741*
	(1.508)
Education 1	0.442
	(1.268)
Education 2	-0.763
	(1.593)
Education 3	-0.169
	(2.113)
Education 4	-6.295
	(4.788)
Education 5	-0.392
	(2.089)
Employee head	1.399
	(1.746)
Unemployed head	-2.891
	(1.999)
Self-employed head	-4.460
	(3.793)
Multiple job employee head	-0.365
	(5.731)
Part time job head	1.817
	(1.912)
Temporary job head	1.574
	(1.336)
Year Dummies	YES
Observations	9,190
Hansen Test of overidentifying restrictions	
Chi2(3)	1.8255
<i>p</i> -value	(0.6094)

---

Notes: 1. The dependent variable in this specification is total non-durable expenditure. 2. Standard errors are in parenthesis. 3. See Notes to Table 6 for the explanation of the educational dummies. 4. The instrument set are the first lag of all the explanatory variables and the time dummies. 5. \*\*\*, \*\* and \* mean statistically significant at the 1, 5 and 10%, respectively.

**Table A.2.** Variables used in the analysis.

Non-durable expenditure	Yearly household's non-durable expenditure in euros.
Food and beverages	Yearly household's food exp. (at home and away) in euros.
Total income	Yearly household's regular income in euros.
Liquid wealth	Household's liquid wealth in euros.
Illiquid wealth	Household's illiquid wealth in euros.
D	Distance from the current time to eligibility (in years).
Eligibility	Dummy variable equal to 1 if $D \geq 0$ , and 0 otherwise.
Pensioner head	Dummy variable equal to 1 if the head of the household is a pensioner, and 0 otherwise
Pensioner wife	Dummy variable equal to 1 if the wife is a pensioner and 0 otherwise
Share of pensioners	Share of pensioners in the total sample.
Age head/Age wife	Age of the head of the household or wife (in years).
Male head	Dummy variable equal to 1 if the head of the household is a male and 0 otherwise.
Employee head	Dummy variable equal to 1 if the head of the household is an employee and 0 otherwise.
Self-employed head	Dummy variable equal to 1 if the head of the household is self-employed and 0 otherwise.
Unemployed head	Dummy variable equal to 1 if the head of the household is unemployed and 0 otherwise.
Multiple job employee head	Dummy variable equal to 1 if the head of the household is a multiple job employee and 0 otherwise.
Part time job head	Dummy variable equal to 1 if the head of the household is working in a part time job and 0 otherwise.
Temporary job head	Dummy variable equal to 1 if the head of the household is a temporary worker and 0 otherwise.
Years as full-time worker	Dummy variable equal to 1 if the head of the household is working in a full-time job and 0 otherwise.
Education 1	Dummy variable equal to 1 if the head of the household has primary education and 0 otherwise (illiterate head of the household is the reference category)
Education 2	Dummy variable equal to 1 if the head of the household has secondary education and 0 otherwise.
Education 3	Dummy variable equal to 1 if the head of the household has special and insertion programme education and 0 otherwise.
Education 4	Dummy variable equal to 1 if the head of the household has college education and 0 otherwise.
Education 5	Dummy variable equal to 1 if the head of the household has special post-secondary education and 0 otherwise.
Employee wife	Dummy variable equal to 1 if employee wife; 0, otherwise
Self-employed wife	Dummy variable equal to 1 if the wife is self-employed wife and 0 otherwise.
Unemployed wife	Dummy variable equal to 1 if the wife is unemployed and 0 otherwise.
Part time job wife	Dummy variable equal to 1 if the wife is working in a part time job and 0 otherwise.
Current value of the pension plan	Monetary value of the pension plan (in euros).
Annual contribution to the pension plan (individual)	Annual personal contribution to the pension plan (in euros).

*Continued on next page*

---

Annual contribution to the pension plan (company)	Annual company contribution to the pension plan (in euros).
Years contributing PPF	Period contributing to private pension funds (in years).
Years contributing SS	Period contributing to social security (in years).
IES	Intertemporal Elasticity of Substitution.
Number of members	Number of members of the household.
Number of adults	Number of adults of the household ( $\geq 14$ years old).

---



AIMS Press

© 2026 the Author(s), licensee AIMS Press. This is an open access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0>)