

Precautionary Savings in Mexico

Evidence from the Mexican Health and Aging Study

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Abstract

Precautionary saving is the additional saving done by individuals to protect them financially in situations of uncertainty and reduce their vulnerability for negative shocks that may affect their consumption levels. This paper investigates the existence and extent of savings motivated by precaution in Mexico for people aged between 50 and 75. The empirical strategy is based on a test of the direct relationship between the accumulated wealth and the uncertainty generated by the social security status, in particular the availability of health insurance or a retirement pension, using data from the Mexican Health and Ageing Study 2003. The endogeneity-corrected estimates do not yield results that unequivocally support the existence of private savings as a risk protection mechanism, implying that the public protection system has an important role in reducing the vulnerability of the population studied.

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Extended abstract

Precautionary saving is the additional, private saving that consumers make in situations of uncertainty as a mechanism to ensure a certain level of future consumption. One would expect that precautionary savings are important in Mexico, given that a sizeable share of the population has no access to social security. Traditionally, health insurance coverage in Mexico has been limited, as in other Latin American countries, with insurance almost exclusively available for workers in the formal sector. Health insurance coverage rates are low and pension rights are even smaller, hence the uncertainty about the future may be greater than in countries with better social protection systems, which suggests that people have a reason to arrange their financial protection individually. However, high poverty rates can prevent people from saving, even if they want to.

In this paper we investigate whether the precautionary motive is a reason for savings among Mexicans aged between 50 and 75. We analyze the effect of uncertainty on savings in Mexico for people at different income levels. The data come from the 2003-wave of the Mexican Health and Aging Study (MHAS), a nationally representative sample of the Mexican population aged 50 or older in 2001. We take advantage of the demographic, health and wealth information collected by the survey to construct two measures of accumulated wealth: (1) net financial wealth, as a measure of high liquidity assets, and (2) net total wealth, which additionally includes less liquid assets.

Methods

Precautionary saving was introduced in the economic theory by Leland (1968) as a problem of the distribution of income between saving and consumption. The strength and magnitude of the effect of uncertainty on savings remains a topic under discussion (Carroll & Kimball 2007): empirical findings have shown mixed results, ranging from no proof of precautionary savings to conclusions that the precautionary motive explains 2%, 5% or even 50% of the accumulated wealth. In general, it has been found that the endogeneity of the variance in income and the selection of occupations generate a negative bias in the estimates, while on the other hand, there is evidence of a positive bias when not adequately controlled by the condition of business ownership.

We estimate a direct relationship between accumulated wealth and uncertainty to determine whether part of this wealth was generated with a precautionary motive, following the empirical approach used by Starr-McCluer (1996), Hurst et al. (2005), Lusardi (1997 and 1998) and Guiso et al. (1992):

$$\frac{Riqueza_i}{IP_i} = \varphi + \sigma AccesoSS_i + \sigma_1 pensionf_i + \beta' X_i + \varepsilon_i \quad (1)$$

where the dependent variable, $Riqueza/IP_i$, is one of net financial wealth or net total wealth, as a proportion of the permanent income. The coefficients σ are the main interest, they indicate the effect of the uncertainty caused by the entitlement to medical care through health insurance, $AccesoSS_i$, and the expectations to receive a retirement pension in the future, $pensionf_i$. Among the other control variables we include whether the legacy motive drives the accumulation of wealth. Recognizing that uncertainty affects people with

different wealth levels distinctly, and that a significant percentage of the population in the sample had a negative financial wealth, the coefficients are also estimated for the population in the 25th, 50th, and 75th income quartiles (*quantile regression*).

Our uncertainty measures, insurance status and pension expectations, are potentially endogenous measures of the risk of unexpected negative future income shocks, because individuals with higher savings (wealth) can devote more resources, time, effort and money to obtain health insurance coverage and retirement fund contributions (Starr-McCluer, 1996). To account for this potential endogeneity we apply a two-stage instrumental variable estimation, while in the quantile regressions we follow a control function approach.

Results

The results differ depending on which wealth measure is considered. For the more liquid financial wealth the regressions at the mean, either considering the risk variables with or without endogeneity correction, provide no evidence that individuals save to protect against future health risks or future income risk due to a lack of a pension fund. For the lowest level of the distribution, the 25th quartile, both risk indicators are significant, and in the case of health risk, the sign supports the hypothesis that health risk motivates savings. When we consider the net total wealth as the dependent variable, the coefficient of the health risk, has the expected negative sign but is not significant. The estimated coefficient for pension expectations is significantly negative, indicating that retirement is a motive for savings. When we account for endogeneity, the relationship between net total wealth and health risk is positive, which does not support the hypothesis of precautionary savings. On the other hand, the variable “pension expected” is negative and significant in the 50th and 75th quartile estimates, people who are not financially protected save more in comparison with those who are. The distinct results between wealth measures could be related to the timing of the risks. The health risk may be seen as short-term risk for lower-income people that can be faced with financial savings rather than with less liquid wealth accumulation. Likewise, the lack of a pension fund can be considered as a longer-term risk that may be covered by less liquid assets, using net total wealth as an individual substitute for a pension fund.

Following the suggestions of Hurst et al. (2005) we estimate the same regressions for people who own a business or are self-employed. The effect on savings in financial instruments found in the total sample for the 25th quartile disappears; now the coefficient of the health risk variable in the 25th quartile among those without a business is significant but positive, similar to results found by Starr-McCluer (1996) for the USA. Similarly, with respect to the net total wealth, savings and risks are positively related for the 25th quartile of those without a business and for the 75th quartile of business owners.

Concluding, the estimated relations between wealth and uncertainty do not show evidence of a robust negative relationship, that is, there is no evidence that the population in the sample protects themselves against uncertainty with their own resources.

REFERENCES

- Carroll, Christopher y Kimball, Miles (2007). Precautionary Saving and Precautionary Wealth. In: *The New Palgrave Dictionary of Economics*, 2nd ed.
- Guiso, Luigi. Japelli, Tullio. y Terlizzese, Daniele (1992). Earnings uncertainty and precautionary saving. *Journal of Monetary Economics*, 30 (2): 307-337.
- Hurst, Erik, Annamaria Lusardi, Arthur Kennickell, y Francisco Torralba (2005). *Precautionary Savings and the Importance of Business Owners*. Manuscript, Dartmouth College.
- Leland, Hayne E (1968). Saving and uncertainty: The precautionary demand for saving. *Quarterly Journal of Economics*, 82 (3): 465-473.
- Lusardi, Annamaria (1997). Precautionary saving and subjective earnings variance. *Economics Letters*, 57 (3): 319-326.
- Lusardi, Annamaria (1998). On the importance of the precautionary saving motive. *American Economic Review*, 88 (2): 449-453.
- Starr-McCluer, Martha. (1996). Health insurance and precautionary savings. *American Economic Review*, 86 (1): 285-295.