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# HABILITATION THESIS

## Life insurance demand at individual and macroeconomic level

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## SUMMARY

The present habilitation thesis resumes my research activity following the successful joint PHD defence in 2008 at the Babeş-Bolyai University from Cluj-Napoca, Romania, and Orleans University from France, in the domain of Finance.

**The first part of the thesis** includes applications analysing the role of economic, socio-demographic, behavioural and institutional factors over the life insurance demand from two perspectives: macroeconomic and individual level. This part is grouped in three sections: **Section A**: Institutional drivers of life insurance demand; **Section B**: The role of socio-economic factors and insurance literacy over the life-insurance demand in emerging countries; **Section C**: Socio-demographic and behavioural factors in life insurance and private pensions at individual level.

**Section A** includes applied contributions regarding the effect of institutional factors on the European's Union life insurance market, using cross-section regressions and spatial effects and also panel data.

*The first part of section A* is entitled *The Role of institutional factors over the national insurance demand*. A survey of economic literature about the factors of influence for the insurance demand has been made, in order to emphasize the differences between the two lines of insurance business: life and non-life. This study evaluates the institutional determinants of the insurance demand using OLS Multiple Regressions models on a sample of 31 European countries. The econometric estimates, show that a country's level of corruption is decisive for the development of the non-life insurances. For the life insurances, business freedom, fiscal freedom and government spending are the most relevant explanatory variables. The study emphasizes the mechanism through which the significant institutional factors influence the insurance density from a country.

*The second part of section A* is entitled *Institutional and cultural factors on the European Union's life insurance market*. Starting from the idea that interactions exist in the European Union, we have implemented Spatial Econometrics methods to assess the occurrence of absolute, conditional or club  $\beta$ -convergence on the EU life insurance market. The life insurance density was used as a proxy for the development of the life insurance market in our analysis for 27 EU countries, during the period 2002 – 2014. The absolute  $\beta$ -convergence was accepted by the spatial regression analysis. Spatial influences were accounted for by using the longitude and latitude as exogenous variables, together with the spatially lagged variable for the dependent. From all the economic, cultural and institutional determinants considered in our analysis, only the Hofstede's uncertainty avoidance index proved to be statistically significant. The positive correlation coefficient between this cultural dimension and the growth rate of life insurance density in the European Union proves that countries with a higher level of uncertainty avoidance will experience higher growth rates.

*The third part of section A* is entitled *Different effect of institutional factors over life insurance in emerging and developed countries from Europe*. The study investigates the influence of institutional factors over the life insurance demand for 32 European countries, considering the socio-demographic and economic determinants as control variables. Using a panel data approach, we find that life insurance demand is influenced differently by institutional indicators, from Worldwide Governance Indicators database, in emerging and transition markets compared to the developed ones. The sound legal environment from developed countries, where the level of rule of law is very homogeneous and very high, makes it non-significant for the life insurance demand. For developing countries the enforceability of contracts, the justice independence and the time efficiency of judicial process positively influence the decision of citizens to buy life insurance contracts. The effect of income distribution over life insurance density varies across those two categories of countries. For transition and emerging markets we find a positive relation between life insurance density, income distribution and level of urbanisation. In developed countries because of the high level of incomes, life insurance became a common good, not a luxury one, which makes the income distribution not being a highly significant factor. For emerging and transition countries policymakers should concentrate more on

strengthening the trust in the insurance sector for reducing the gap with developed countries.

*The fourth part of section A* is entitled *Institutional drivers of life insurance consumption: a dynamic panel approach for European countries*. The motivation behind this study resides in the heterogeneous development of life insurances across 31 European (developed and former communist) nations, over the period 2002 - 2012. We use the dynamic panel methodology for explaining the main institutional drivers of life insurance consumption. The results show that the most significant institutional factor is governance effectiveness. Among the economic and demographic factors the interest rate and fiscal freedom exert a negative effect on life insurance consumption. Our outcomes can be the basis for improving governance policies in former communist countries, for creating an institutional system of right incentives on the market.

**Section B** analyses the life insurance demand in emerging countries, emphasizing the influence of socio-economic factors like income, education, urbanization, unemployment and insurance literacy.

*The first part of section B* is entitled *Insurance demand: the different effects of influence factors in emerging countries from Europe and Asia*. Considering the fact that urbanization, incomes and their distributions and the education of the population are relevant factors for the development of insurance sector, this study estimates the different effects of the previously mentioned factors for life and non-life sector. We use econometrics of panel data on seventeen emerging economies from Asia and Europe over a 10-year period. We show that urbanization influences significantly the life insurance demand in Asia, but not in Europe. Also, education is significant only for the non-life in both regions and income is non-significant in Asia for non-life sector.

*The second part of section B* is entitled *Insurance literacy and spatial diffusion on life insurance market: a subnational approach for Romania*. In most countries from Eastern Europe the life insurance market is poorly developed, in respect to the level of income of its citizens. Most of the academic literature investigating the determinants of this market focuses on cross-country or individual level studies. Our research

assesses the specificities on the life insurance market at sub-national level, more specifically at county level. The behavioural mechanisms are highlighted through cross-section linear regressions with spatial interactions, on a database for 42 counties of Romania, in 2015. An important result is the positive effect of insurance literacy, estimated through a national survey, over the life insurance demand. Another significant result is the spatial diffusion process identified for the life insurance density, between neighbouring counties. Among the control variables we identified the significant positive impact of income and urbanization over the life insurance demand and a negative one for the unemployment rate.

**Section C** includes two studies at individual level for the Romanian market of life insurance and private pensions, emphasizing the effect of socio-demographic and behavioural factors. Both studies are based on sample data.

*The first part of section C* is entitled *The determinants of the demand for life insurance and private pension in Romania*. Using a self-designed questionnaire and a related national survey conducted in 2010 for major urban population holding one or both financial products, we analyze their financial, social and demographic determinants. Our study contributes to the literature by focusing on four financial characteristics: investment, protection, uncertainty and waste of money and we prove that these variables are the most significant variables in our binary logit models. The results suggest that annuities are held less than life insurance policies, mainly by single persons, for investment purposes, and are negatively related to age and positively related to income and the number of dependents. Life insurance participation increases with age, wealth and education and is strongly correlated with variables related to the bequest motive: married men, with children, and declaring “protection” as prevailing argument for choosing this financial product.

*The second part of section C* is entitled *The effect of behavioural factors and knowledge on the intention and decision in life insurance and private pension*. In this study we test several hypotheses about the influence of behavioural and socio-demographic factors on buying a life insurance policy or a private pension. Data was gathered from a sample of 1579 individuals, representative for the Romanian consumers. We designed a questionnaire which emphasizes four distinct categories of determinants: socio-demographic factors, general behavioural factors and specific

behavioural factors, as well as a self-constructed index of insurance knowledge. Through logit regression models we highlight a different mechanism which distinguishes between intention and decision for both life insurance and private pensions. We show that specific behavioural factors and insurance knowledge are highly significant for the decision, but not significant for the intention to buy both types of products.

**The second part of the thesis** reviews my career evolution plan, emphasizing my orientation in research activities. My principal area of research in insurance and pensions considers the following directions: (1) methodological developments by using spatial panel data and longitudinal data; (2) testing financial behaviours found in other fields for insurances; (3) applying the mechanism of studying life insurances to other types of insurances. Future researches will include mainly applied developments on those three domains already mentioned. I will insist on identifying novel behavioural variables influencing insurance purchasing (even coming from psychology or other sides of the human behaviour) and on analysing if there exist a convergence in the development of different categories of insurance products.

**The third part of the thesis** includes the references list.