

# Chapter 11

## Insurance in Italy: A Spatial Perspective

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### ABSTRACT

*The authors analyze the demand for life and non-life insurance across 103 Italian provinces in 1994-2004, assessing the determinants of insurance consumption in the light of the empirical literature and the distinctive features of the Italian market, which they thoroughly describe. The authors discuss common issues in the empirical literature on insurance development, presenting the sub-regional perspective as a partial solution; at the same time, they elaborate on the peculiar issues arising from the use of sub-regional data: spatial heterogeneity and spatial correlation. They describe the evolution of provincial heterogeneity and of the spatial features of the data over the observation period. In order to control for both unobserved heterogeneity and spatial correlation, they specify a spatial panel model with random provincial effects and macroregional fixed effects, which is estimated by maximum likelihood. The chapter carefully assesses the properties of model residuals, concluding that the specification allows for reliable inference on the drivers of insurance consumption. It concludes describing the empirical findings and giving some suggestions for future research.*

### INTRODUCTION

In this paper we analyze the determinants of insurance consumption in Italy across its 103 provinces (corresponding to NUTS-3 regions) in the decade 1994-2004. We consider both the life and non-life classes, excluding mandatory motor third party liability (MTPL).

The importance of insurance in the Italian economy is heterogeneous both at the sectoral and geographic level. Non-life insurance, excluding MTPL, is underdeveloped by European standards, and the situation hasn't changed so much from the early Nineties to date, with overall penetration ratio (premiums/GDP) stagnant. Life insurance penetration, on the contrary, has increased fivefold

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over the observation period, driven by substantial changes in distribution and product mix. Regional differences, though, have remained striking for both classes and relatively stable. In a nutshell, both insurance density (premiums per capita) and penetration are much lower in the Southern part of the country.

We aim at describing the different levels of development in the Italian insurance market at the provincial level and assessing the determinants of insurance consumption, in the light of the empirical literature on the subject as well as the strong regional heterogeneity in economic and socio-demographic characteristics, which is a well-known feature of our country.

Our work is introduced by presenting some relevant facts of the Italian insurance sector; an analysis of heterogeneity of Italian territory at large and from the point of view of insurance consumption is followed by visual assessment and formal tests for spatial dependence in the response variables as well as in the potential determinants of insurance consumption. High differentiation and strong spatial dependence among neighbouring provinces are found both for insurance consumption and for the relevant drivers.

We proceed sketching the main results in insurance demand theory, focusing on which are expected to be the main drivers of consumption and realizing that some are difficult to observe. A brief survey of existing empirical literature highlights data limitations to joint modeling of supply and demand and provides a further basis for selecting the relevant information set.

Compared with existing cross countries analyses, we believe a regional study may help shed some light on the determinants of insurance consumption at the individual-specific level in an homogeneous environment as regards system-specific ones. In fact, since more developed countries tend to have both higher income and life expectancy as well as a more developed financial system and so forth, in cross countries studies it is difficult to disentangle the system-specific ef-

fects from those of income, age and the like. From this point of view Italy, a developed country that has nevertheless become a case study in regional (relative) underdevelopment, provides an ideal testing environment.

To efficiently exploit both the cross sectional and temporal variation in our dataset we estimate random effects panel data models of life and non-life insurance consumption, taking into account the observed heterogeneity and spatial dependence among neighbouring provinces. We find that the error spatial correlation is significant only for the life insurance model. Moreover as expected by theory, income and wealth result to be important determinants of insurance consumption. One interesting result of the analysis is that trust and legal system inefficiency, which plagues many Italian regions, turn out to significantly limit the scope of insurance. Finally, consistent with the view of life insurance as a primary mean of protection for one's dependents, the share of the young on the active population has a positive effect on life insurance consumption.

## **BACKGROUND**

The economic rationale behind life and non-life insurance is much different; so are theoretical models of consumption. Purchasing non-life insurance, a customer buys an indemnity for future losses against paying a fixed price, the premium, today, thus transferring future wealth from an uncertain to a certain state. Theoretical models of non-life insurance demand, starting from the seminal paper of Mossin (1968), predict that for a given level of risk exposure insurance demand is increasing with risk aversion, probability of loss and total wealth (even though whether the propensity to insure (i.e., the desired coverage as a percentage of the wealth at stake) should increase or not, depends on the behaviour of risk aversion). Moreover, while (by Mossin's Theorem) full coverage is optimal under the fair actuarial

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