

**SCIENTIFIC REPORT**  
PROIECT CODE PN-III-P1-1.1-TE-2019-0554

**ABSTRACT**

Objectives presented in the research proposal for the year 2020:

***1. Evaluation of the determinants of private health/life insurance development at the European level. Testing the influence of the cultural and institutional factors over the demand for health insurances – to be continued in 2021.***

Activities: 1.1. Research – documentation stages

- 1.2. Identifying the determinants of health insurance development based on the literature; formulation of the hypotheses to be tested.
- 1.3. Construction of the database with the explanatory variables for the health insurance demand in European countries (Insurance Europe, World Health Organization).
- 1.4. Descriptive evaluation of the data base and testing the formulated hypotheses using classical econometrics and panel data with spatial interactions

***2. Dissemination of results – to be continued in 2021 and 2022.***

Activities: 2.1. Paper presentation at The 1st INCREDIBLE International Congress on Regional Economic Development, Information Technology and Sustainable Business, 27-28 October 2020, Bappeda

- 2.2. Paper presentation at the International Conference on Management, Economics and Accounting (ICMEA 2020), Alba Iulia, 19-20 November 2020
- 2.3. Debate within The Center for Regional Geographics, UBB Cluj Napoca, November 2020
- 2.4. Article publishing in recognized databases - *International Journal of Academic Research in Business and Social Sciences (IJARBSS)*
- 2.5. Article submission at the WOS Journal *Amfiteatru economic*
- 2.6. Project site design and preparation of the scientific report

**TECHNICAL AND SCIENTIFIC DESCRIPTION**

**I) Research issues – objective 1.**

**Activity 1.1.+1.2.)** For analysing the *determinants of the private health insurance at European level* we **studied the actual literature** and we **identified the influence factors of the health insurance demand**, namely social, economic, financial, institutional and political factors. The insurance demand was measured through “insurance density”, whose values were obtained from [www.insuranceeurope.com](http://www.insuranceeurope.com).

As explanatory factors for the health insurance demand we identified:

- a) *GINI index* considered in the studies of Beck și Web (2003), Chang and Lee (2012), Li, Moshirian, Nguyen și Wee (2007), Feyen, Lester și Rocha (2011);
- b) *GDP/capita* - Carter and Dickinson (1992), Enz (2000), Beenstock *et al.* (1986); Truett and Truett (1990); Browne and Kim (1993); Outreville (1996); Ward and Zurbruegg (2002); Beck and Webb (2003); Sen (2008); Han *et al.* (2010), Chang and Lee (2012), Feyen, Lester și Rocha (2011);
- c) *urbanisation* which was identified as having a positive influence by Outreville (1996), Huang and Gao (2003), negative correlation in the studies of Sen (2008), Shi and Yan (2015), and nonsignificance in the study of Beck and Webb (2003) for a sample of 68 countries;

d) *life expectancy* was analysed by Truett and Truett (1990), Browne and Kim (1993), Beenstock *et al.* (1986); Outreville (1996); Ward and Zurbruegg (2002), Li, Moshirian, Nguyen și Wee (2007), Feyen, Lester și Rocha (2011), Chang and Lee (2012).

e) *index of financial literacy* in the studies of Beenstock *et al.* (1986); Beck and Webb (2003), Browne and Kim (1993) is not statistically significant, but in the study of Sen (2008) negatively influences the insurance demand.

f) *institutional indicators* from WorldWide Governance Indicators (Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption) - Nandha and Smyth (2013), Outreville (1996), Chang and Lee (2012)

g) *Human Development Index (HDI)* - Mare, Dragos and Dragota (2019) studied the effects of spatial diffusion and contagion for the 42 counties from Romania, concluding that HDI has a significant positive influence for the Romanian life insurance market.

i) *culture*- Hofstede (1980) proposed four cultural dimensions within a study on 117000 IBM employees and classified 40 countries. The model was improved by Hofstede & Bond (1988), Minkov (2010), Hofstede (2011), but remained in the literature as a reference of the intercultural research.

**Activity 1.3.)** The second step was represented by **data collection and database creation** for the period 2000 – 2018, having as sources the World Bank site <http://data.worldbank.org/indicator>, Insurers of Europe <http://www.insuranceeurope.eu/insurancedata>, OECD <https://stats.oecd.org/Index.aspx?ThemeTreeId=9>, WorldWide Governance Indicators <http://data.worldbank.org/data-catalog/worldwide-governance-indicators>, the site <http://geert-hofstede.com/countries.html> for the cultural indicators of Hofstede's, and the site <http://www.heritage.org/index/explore> for Index of Economic Freedom. After the collection of data, they were arranged in the required format for further processing in Geoda si Stata.

**Activity 1.4.)** Based on these data, we started the effective **analysis of the demand for health insurance**, at **European level** expressed in insurance density, from the perspective of the identified factors, with an emphasis on the socio-economic and macro-financial ones.

After arranging the database, it was processed in order to test the influence of the factors considered on the convergence of the European insurance market. The tested hypotheses were:

*H1: The density of health insurance is positively influenced by the income of the inhabitants.*

*H2: The density of health insurance is positively influenced by the level of financial development of a country.*

*H3a: An east-west clustering direction can be found in the health insurance sector*

*H3b: There are significant diffusion and contagion effects*

For evaluating the three working hypothesis, we used OLS regressions and spatial econometric methods. Due to the high level of data heterogeneity and in order to treat the heteroscedasticity issues, the robust OLS regressions are used, with the White (1980) correction method.

The spatial methods are applied in the last part of the research for testing *H3*. If a clusterisation on the North- South or East –West direction appears, the coefficients of latitude and longitude must be significant in a OLS spatial regression. The sign of the coefficients also show the variable direction of action.

**The H1 and H2 were validated** because the composite indexes *HDI* and *FIN\_DEV* are both significant, either they are used alternatively or together in regressions.

For evaluating the contagion and diffusion processes we firstly constructed the maps of the effect of *LN\_DENS* over *FIN\_DEV* and *HDI*. The lack of a diffusion process of diffusion and contagion is finally confirmed by the regression analysis, because the classical OLS model is not rejected by either of the spatial diagnosis tests. **The H3 hypothesis is partially accepted (*H3a*)** – there is a significant grouping based on longitude, but there are no significant processes of contagion and diffusion (*H3b* rejected).

## **II) Dissemination of the results – objective 2.**

A. Presentation of the article PRIVATE HEALTH INSURANCE MARKETS – A SPATIAL ASSESSMENT OF INFLUENCES AND EFFECTS IN EUROPE, authors: Mare Codruța, Dragoș Simona Laura, Mureșan Gabriela Mihaela, Purcel Alexandra Anca at The 1st INCREDIBLE International Congress on Regional Economic Development, Information Technology and Sustainable Business, 26-27 October 2020, Sebelas Maret University, Indonesia, <https://conference.feb.uns.ac.id/ocs/index.php/incredible/incredible/schedConf/presentations?searchInitial=P&track=> – **Activity 2.1.**

B. Presentation of the article AN OVERVIEW OF PRIVATE HEALTH INSURANCE IN EUROPE, authors: Mureșan Gabriela Mihaela, Dragoș Simona Laura, Mare Codruța, Purcel Alexandra Anca at the International Conference on Management, Economics and Accounting (ICMEA 2020), Alba Iulia, 19-20 November 2020 <http://dime.uab.ro/sites/icmea2020/wp-content/uploads/sites/12/2020/11/ICMEA-2020-PROGRAM-FINAL.pdf> - **Activity 2.2.**

C. Debate on the topic SPATIAL EFFECTS ON EUROPEAN HEALTH INSURANCE MARKET, Mare Codruta, Dragos Simona Laura, Mureșan Gabriela Mihaela, Purcel Alexandra Anca, at the Center for Regional Geography of Babes Bolyai University of Cluj – Napoca, November 2020. <https://news.ubbcluj.ro/dezbatare-online-pe-tema-efectelor-spatiale-pe-piata-asigurarilor-private-de-sanatate-din-europa-organizata-la-ubb/> – **Activity 2.3.**

D. Publishing the article THE EFFECT OF THE PRIVATE HEALTH INSURANCES AND HEALTH FINANCING ON THE POPULATION HEALTH IN THE EUROPEAN COUNTRIES, Authors: Pintea Alexandra, Pauna Răzvan Dorel and Lazăr Paul Sorin, in the **International Journal of Academic Research in Business and Social Sciences (IJARBSS)**, [https://hrmars.com/papers\\_submitted/7762/the-effect-of-the-private-health-insurances-and-health-financing-on-the-population-health-in-the-european-countries.pdf](https://hrmars.com/papers_submitted/7762/the-effect-of-the-private-health-insurances-and-health-financing-on-the-population-health-in-the-european-countries.pdf) - **Activity 2.4.**

E. Writing the article SOCIO-ECONOMIC, MACRO-FINANCIAL DETERMINANTS AND SPATIAL EFFECTS ON EUROPEAN PRIVATE HEALTH INSURANCE MARKETS by Mureșan Gabriela Mihaela, Dragos Cristian Mihai, Mare Codruta, Dragos Simona Laura, Pintea Alexandra and submission at the WOS indexed journal **Amfiteatru Economic (AE)**. – **Activity 2.5.**

F. Design of the first version of the project web site. The web site address is <http://insurstruct.granturi.ubbcluj.ro> and includes general informations about the project, the proposed objectives, and also the obtained results in the period September – November 2020 – **Activity 2.6.**

### **Conclusions:**

For the first stage of the project reporting, all the assumed objectives were realized integrally, the budgetary expenses being made in a justified manner.

The project management was ensured by the project director who also took care of the preparation of the monthly financial-accounting supporting documents and their upload on the platform, as well as the preparation of the scientific and technical report.

Proiect director,  
Associate professor, PhD. Simona Laura DRAGOS