

The Interplay of Governance and Life Insurance Development in the European Union: Insights from Old vs. New Member States before and during COVID-19

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Abstract. *The political, legal and administrative framework within a society, forged through good governance measures, plays a significant role in the economy. Life insurance is responsive to manifold factors, including a good governance framework. The general objective of this research is to assess the direct, indirect and overall interlinkages between the good governance indicators - expressed by the Worldwide Governance Indicators - and life insurance dimensions – measured by life insurance penetration in Gross Domestic Product and life insurance density - on distinctive panels of the European Union countries - old and new Member States. The methodological approach consists in applying two advanced econometric techniques, Structural Equation Modelling and Gaussian Graphical Models, to a compiled dataset, considering before and during the COVID-19 pandemic period, namely 2007-2020. The expected results reveal specific implications for each component of Worldwide Governance Indicators on life insurance dimensions, jointly with poverty, education and earnings obtained, for each panel considered, new and old European Union Member States. The results are keener for the old Member States than the new ones, in case of insurance penetration, while for the insurance density, good governance would imply more pronounced effects for the new European Union countries. Therefore, we set distinctive policies/strategies for the proper functioning of the life insurance market in connection with good governance aspects.*

Keywords: good governance, life insurance, econometric modelling, European Union, COVID-19 pandemic.

Introduction

Good governance represents the extent to which the state, through its government institutions, but also interaction with various private areas of the economy, provides the political, legal, and administrative framework to ensure the proper functioning of the society (Cooray et al., 2022; Rothstein, 2012).

In response to the evaluation of the governance implications in society, the World Bank (2021a) proposed the Worldwide Governance Indicators (WGIs), the well-known indicators that classify countries (over 200 countries) by some coefficients (ranks) according to six scales of good governance, namely: “Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption” (Kaufmann et al., 2011, p. 220; The World Bank, 2021a; Thomas, 2010).

The implications of good governance in the economic and social dimensions of society were intensively debated in the literature, focusing, mainly, on economic development, poverty lessening and budgetary transparency (Dracea et al, 2024; Noja et al., 2019, 2021; Zubair & Khan, 2014). Considering the significant implications of life insurance consumption on economic development, especially by its financial function (financial investments of life insurance assets) (Cheng & Hou, 2022; Cristea et al., 2014), numerous researchers have analyzed the connection between the life insurance field and good governance indicators (Chiang & Liu, 2020; Dragos et al., 2019; Fernando et al., 2023; Sanjeewa & Ouyang, 2020).

Different from previous studies, the general objective of our research is to assess the interlinkages between the good governance indicators (expressed by WGIs) and life insurance dimensions (expressed by insurance density and insurance penetration in Gross Domestic Product, GDP), with their direct, indirect and overall implications, on distinctive panels of the European Union (EU) countries (old EU Member States – MS, and new EU MS) considering the heterogeneity of the European countries. The methodology approach consists of applying Structural Equation Modelling (SEM) and Gaussian Graphical Models (GGM) for the data collected for the period 2007-2020, considering before and during the COVID-19 pandemic period.

After some introductory issues on the significance of governance implications on life insurance development and the justification of our research, the structure of the paper includes a literature review on the role and implications of governance credentials in a specific dimension of life insurance. To assess our objective, we then introduce the data used in our research, the methodology applied and express the hypotheses. Results and discussions follow further on each econometric model applied, and distinctive policies/strategies for the proper functioning of the life insurance market in connection with good governance aspects, in the conclusions part. The entire findings are set on the supplementary data from Appendix.

Literature review

To highlight the extent to which governance actions within European societies may influence the consumption of life insurance, measured by life insurance density (which reflects how much a person spends over a year buying life insurance), Dragos et al. (2019, p. 36) have attested that “governance effectiveness” exerted the most influential factor among the WGIs dimensions, alongside with other macroeconomic variables, such as “Gini index of distribution of incomes, education, inflation and interest rate”.

On the same line, including countries from Asia and the Organisation for Economic Co-operation and Development (OECD), Ward and Zurbruegg (2002) found favorable implications from the part of “rule of law”, respectively, the WGIs component that expresses “a measure of the

degree to which people in a country trust the legal system to settle disputes and enforce contracts” (Dragos et al., 2019, p. 39).

As regards “political stability” influence on insurance demands, Beck and Webb (2003), Ward and Zurbruegg (2002), Hussels et al. (2005) found a direct linkage between them, respectively, countries with stable political environments encourage the life insurance consumption, and reversed, countries with low political stability, negatively influence the life insurance underwriting. Also, for Asian countries, Sanjeewa and Ouyang (2020) uphold the favorable role of “government effectiveness, rule of law, and control of corruption”, as drivers of the governance environment within a society, jointly with education, urbanization, income, and life expectancy on life insurance development (using as proxy life insurance density), over a period of thirty years (1996-2017).

Investigating the implications of one of the components of WGIs, namely “regulatory quality” on the linkage between the development of life insurance (expressed by the life insurance density) and economic growth (measured by real GDP per capita) in developing countries from Europe (namely, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Poland, Romania, Russia, Slovakia and Slovenia), Chiang and Liu (2020) highlighted the interdependence between them among countries with proper regulatory quality (all of countries included in the panel, except Russia). Chiang and Liu (2020, p. 151) emphasized that “unhealthy circumstances of regulatory quality could deter the growth effect of life insurance sectors”, an essential role in its improvement is the control of corruption, as another one of the WGIs components.

For the countries from Central and South-Eastern Europe, Kjosevski (2012) revealed the supportive role of rule of law (as governance institutional measure), economic development and education in increasing life insurance dimensions (measured by life insurance penetration and life insurance density), while control of corruption, government effectiveness, the dependency ratio (young and old) are not associated with life insurance development.

Chang and Lee (2012, p. 223), focusing on 92 countries from the worldwide, have revealed positive implications of governance indicators on life insurance dimensions, with the specification of declining “the role of institutions on activities in the life insurance market (...) with the evolvement of economic development”.

Summarizing the literature underpinnings, we can emphasize the following: the most used proxies for measuring the size of the life insurance market are life insurance penetration in GDP and life insurance density; there are a number of papers that have looked at the impact of good governance on the life insurance market, but a comparative analysis between the new EU countries and the old EU countries was not approached; as for the role of good governance in the life insurance market, most of the findings revealed its positive support for life insurance development.

Data, methodology and hypotheses

The dataset gathers representative indicators on good governance and life insurance fields, complemented by some control variables, distinctively for the two EU panels – old EU MS (EU-14) and the new EU countries (EU-13), for the 2007-2020 lapse of time, as presented in Table 1.

Table 1. Variables description

No.	Explanation of variables	Group of variables	Unit of Measure (UM)	Acronym	Source
1	Life insurance penetration	Life insurance indicators	% of GDP	LINSP	Swiss Re Institute (2008-2020)
2	Life insurance density		USD/capita	LINSND	
3	Voice and accountability	Worldwide Governance Indicators (WGIs)	Ranks between -2.5 and 2.5	VACTB	The World Bank (2021)
4	Political stability and absence of violence/terrorism			PSTAB	
5	Government effectiveness			GEFCT	
6	Regulatory quality			RQLT	
7	Rule of law			RLW	
8	Control of corruption			CTRLCR	
9	People at risk of poverty or social exclusion	Control variables	% of total population	PVRT	European Commission (2021)
10	Educational attainment		% of total population	EDCT	
11	Annual net earnings		Purchasing Power Standard (PPS)	ERNNG	

Source: Authors' contribution.

The summary statistics of the data are detailed in Table 2 and Table 3 for each panel, EU-14, respectively EU-13. Life insurance contribution to GDP (LINSP) over the entire period, 2007-2020, registered the highest value in the EU-14 MS - of 9.68% in Finland in 2015 (Table 2 and Appendix, Figure 2A), and the lowest in the new EU-13 countries – of 0.1% in Latvia in 2008 (Table 3 and Appendix, Figure 1A). Countries with an upward trend of life insurance premiums in GDP, over the analysed period, were only Finland and Denmark (Figure 2A). At the level of 2020 year, the highest contribution of life insurance in GDP was in Finland (of 8.90%), and the lowest, in Romania (of 0.2%). The financial allocation of inhabitants for life insurance purchasing (LINSND) registered the highest level in the EU-14 MS - of 5715.1 USD/capita in Ireland in 2007 (Table 2), and the lowest in the new EU-13 countries – of 17.7% in Latvia in 2008 (Table 3). We confront some limits as regards the missing data for the life insurance indicators in the case of three countries from the EU-13 group: Estonia, Latvia and Lithuania.

Table 2. Summary statistics for the EU-14 (old EU Member States), 2007-2020 period

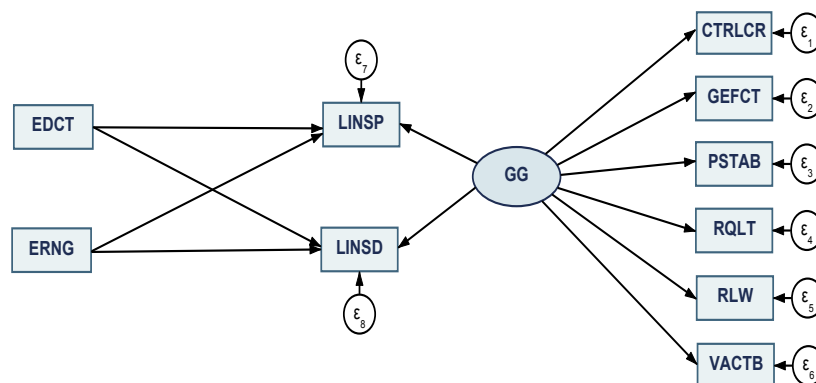
Variables	Number (N)	Mean	Standard deviation	Minimum	Maximum
LINSP	196	4.435153	2.197616	0.9	9.68
LINSND	196	2102.411	1250.309	174.8	5715.1
PVRT	194	21.32887	5.020155	13.9	36
CTRLCR	196	1.482112	0.7193274	-0.183493	2.446495
GEFCT	196	1.42136	0.5156836	0.1577258	2.353998
PSTAB	196	0.7821897	0.4449894	-0.473776	1.512313
RQLT	196	1.384623	0.4370447	0.1483869	2.050719
RLW	196	1.463172	0.5298922	0.0749528	2.129668
VACTB	196	1.311919	0.2421169	0.6187572	1.690358
EDCT	196	68.76327	11.2241	28.6	84.1
ERNNG	196	50514.23	9900.64	28852.5	72224.91
N total	196				

Source: Authors' contribution.

The dimensions of Worldwide Governance Indicators (WGIs), over the period 2007-2020, registered the highest values for the old EU-14 countries (Table 2, with the biggest mean score for control of corruption and the lowest for political stability of the environment) than the new EU-13 countries (Table 3, with the biggest mean score for regulatory quality and the lowest for control of corruption). Countries with the best WGIs scores over the entire period are Nordic countries (Sweden, Denmark and Finland), but also Luxembourg, Germany and Ireland (Appendix, Figure 4A). Opposite, countries with the lowest WGIs scores are Romania and Bulgaria (Appendix, Figure 4A).

The methodology consists of two advanced econometric procedures, for each considered panel – old and new EU MS (respectively, EU-14 and EU-13): (i) Structural Equation Modelling (SEM), for assessing overall interlinkages, direct, indirect and global, among considered variables; (ii) and Gaussian Graphical Models (GGM), on the Extended Bayesian Information Criterion (EBICglasso) and Partial Correlations (PCOR) methods, for revealing the intensity and directions of variables interlinkages.

The general representation of SEM is configured in Figure 1, with overall implications of good governance (GG) on each life insurance dimension (insurance penetration and insurance density), jointly with education and earnings. At the same time, we follow the importance of each component of GG in the life insurance framework.



Source: Authors' contribution.

Gaussian Graphical Models (GGMs) complement SEM models by allowing visualization of the intensity of relationships between variables through the lines (paths) depicted among the set of items/variables (represented in the graphical setting as circles) (Epskamp et al., 2018). A major advantage of GGMs relies on the fact that it avoids spurious correlations being based on partial correlations and as well as on the Extended Bayesian Information Criterion (EBICglasso), as the main estimation methods.

In order to assess our general objective, we check for the following hypotheses (*H*):

- *H1*: There are favorable overall implications of good governance on life insurance dimensions, well-marked for the old EU MS than the new ones, jointly with other socio-economic factors;
- *H2*: Each dimension of good governance induced a direct favorable impact on life insurance development, significantly enhanced for the old EU MS than the new ones;
- *H3*: There are overall interlinkages among good governance dimensions, life insurance development and socio-economic factors, more emphasized for the old EU MS than the new ones.

Results and discussions

Results of Structural Equations Modelling

After processing the SEM models, several robustness checks were performed based on goodness-of-fit tests, Wald tests for each equation, and Cronbach alpha for scale reliability, thus entailing the high reliability and increased robustness of the SEM models employed in this research. Detailed results of the test results are presented in Appendix, Tables A2-A4.

SEM results highlighted favorable influences (statistically significant for the threshold of 1%) of the overall good governance actions (GG), jointly with other socio-economic factors (earnings and education) over life insurance development, both for the share of life insurance in GDP (LINSPI) and the premiums paid by population for consumption of insurance products (LINSPI), and for each EU panel, EU-13 (Figure 2, Appendix, Table A1, model 1), and EU-14 (Figure 3, Appendix, Table A1, model 2).

We noticed that the influence of good governance (GG) over the contribution of life insurance to GDP (LINSPI) is higher in the case of the old EU-14 MS (mostly, developed countries) than in the case of the new EU-13 MS (developing countries). However, the situation is reversed in terms of the influence of good governance (GG) over the financial allocation of inhabitants for life insurance purchasing (LINSPI), being more marked in the case of the new EU-13 countries than in the old EU-14 states.

As for control variables (socio-economic factors), educational attainment (EDCT) unfavorable and statistically significant influenced the share of life insurance in GDP creation (LINSPI) for the new EU-13 countries (Figure 2, Appendix, Table A1, model 1), while for the old EU-14 countries, the impact over life insurance penetration was favorable, as Dragos et al. (2019) also underlined for the European countries. Annual net earnings (ERNG) favorable impacted both dimensions of life insurance development, the share in GDP (LINSPI) and insurance density (LINSPI), while for the EU-14 panel, the influence of earnings on life insurance penetration (LINSPI) was unfavorable.

Therefore, the 1st hypothesis, *H1*: *There are favorable overall implications of good governance on life insurance dimensions, well-marked for the old EU MS than the new ones, jointly with other socio-economic factors*, is fulfilled, bringing up that, as regards the amount paid by

inhabitants for buying the life insurance, good governance would imply more pronounced effects for the new EU-13 countries than the old EU-14 group of MS.

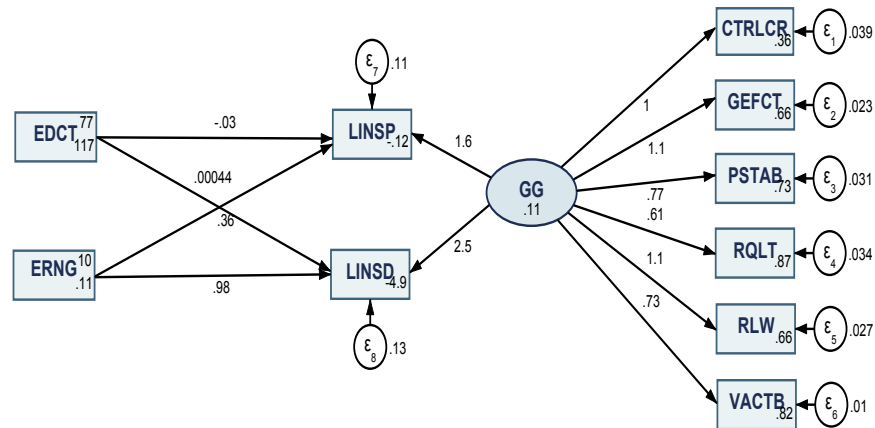


Figure 2. Results of SEM for the EU-13 (new EU MS)

Source: Authors' contribution.

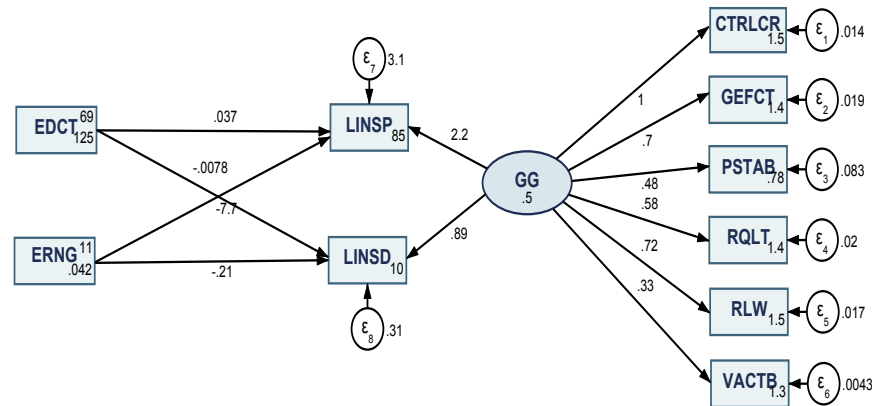


Figure 3. Results of SEM for the EU-14 (old EU MS)

Source: Authors' contribution.

Regarding the implications of each component of good governance, with the exception of the control of corruption (CTRLCR) dimension - as Kjosevski (2012) also obtained for the countries from the Central and South-Eastern Europe - each component brought a favorable and statistically significant contribution on overall GG influence on life insurance dimensions, both for the new EU-13 group (Figure 2, Appendix, Table A1, model 1), and the old EU-14 panel (Figure 3, Appendix, Table A1, model 2).

As regards the EU-13 countries, among the WGIs components, the highest implications over life insurance development were induced by rule of law (RLW, with a coefficient of 1.113), and the lowest one, by the regulatory quality (RQLT, with a coefficient of 0.611). The positive implications of regulatory quality on life insurance density were foregrounded also by Chiang and Liu (2020) underlined its role in sustaining the growing life insurance sectors. In the case of the EU-14 group, the highest influences among the WGIs dimensions were induced also by rule of law (RLW), but with a low intensity than the EU-13 panel (a coefficient of 0.724). The results are similar to those obtained for Asian countries by Ward and Zurbruegg (2002), which proved the

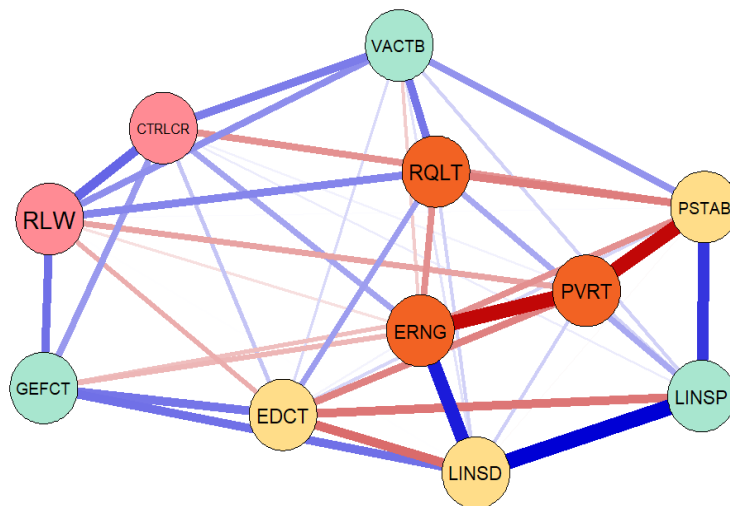
highest positive implications of rule of law on the life insurance dimensions. The lowest contributions for good governance within its implications over the life dimensions were expressed by the voice and accountability (VACTB) component of the WGIs (a coefficient of 0.329), in the case of the EU-14 countries.

Therefore, our 2nd hypothesis, H_2 : *Each dimension of good governance induced a direct favorable impact on life insurance development, significantly enhanced for the old EU MS than the new ones*, is fulfilled, except for the control of corruption dimension, for which the results were inconclusive.

Results of Gaussian Graphical Models (GGM)

To test the 3rd hypothesis, H_3 : There are overall interlinkages among good governance dimensions, life insurance development and socio-economic factors, more emphasized for the old EU MS than the new ones, we applied Gaussian Graphical Models (GGM), using EBICglasso and PCOR methods, to complement the assessing of the intensity and directions of variables interlinkages.

The results for the EU-13 group (Figure 4) emphasize positive and strong intensity between life insurance contribution to GDP (LINSR) and political stability (PSTAB), but also within regulatory quality (RQLT), voice and accountability (VACTB) perceptions and poverty (PVRT). People's orientation for buying life insurance products (LINSR) is positively and intensively connected with government effectiveness (GEFCT) and earnings (EARN). Negatively associations of life insurance development indicators were induced with education (both for insurance penetration and density) which means policymakers have to orient for sustaining education for all levels. Also, earnings and political stability negatively affected poverty in the new EU-13 countries which means governments must pay more attention to the stability of the political environment.



a)

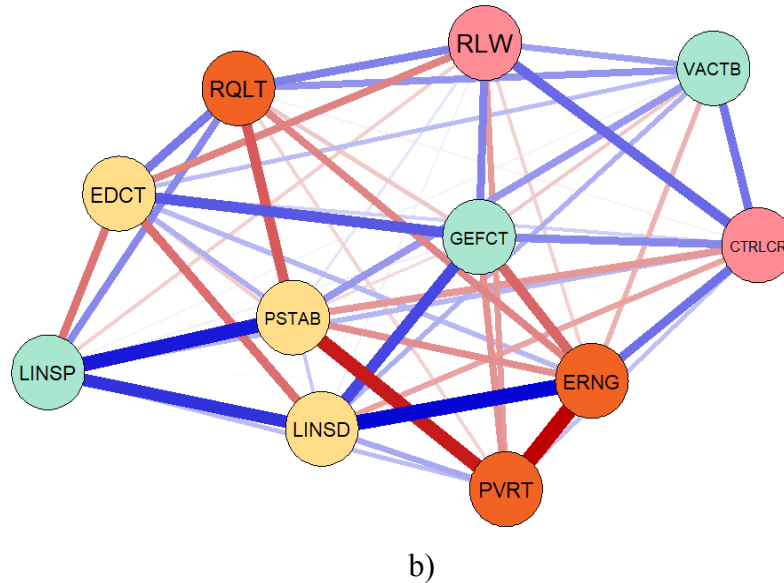


Figure 4. Results of GGM for the EU-13 (new EU MS): a) EBICglasso; b) PCOR

Source: Authors' contribution.

The results for the old EU-14 group (Figure 5) emphasize less intensity among considered variables than the new EU-13 group. Still, positive and strong intensity were registered among life insurance density (LINDS) and earnings (EARN), but negative connection with insurance penetration (LINSPI). Poverty (PVRT) is lessened by life insurance density, while voice and accountability (VACTB) perceptions and government effectiveness (GEFCT) induced negative effects in these countries.

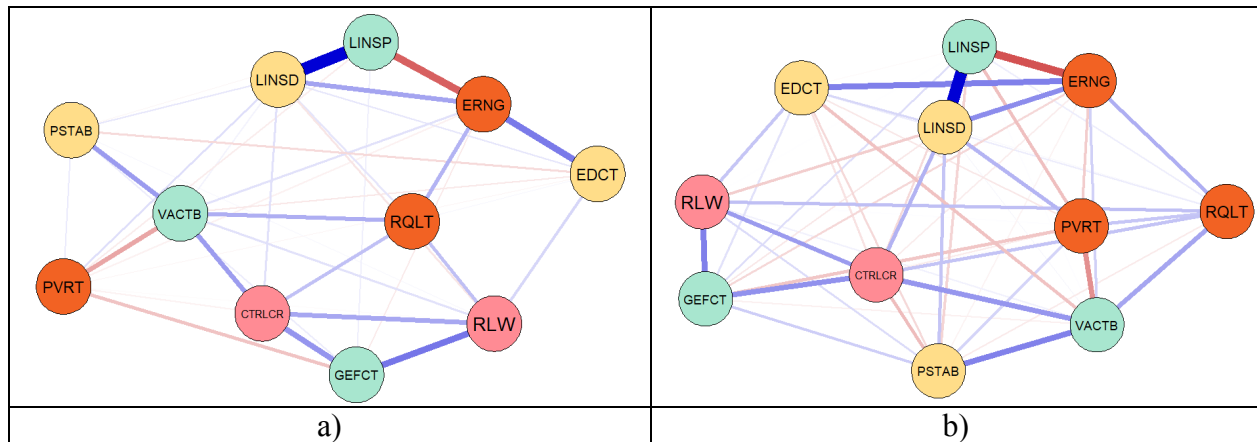


Figure 5. Results of GGM for the EU-14 (new EU MS): a) EBICglasso; b) PCOR

Source: Authors' contribution.

Therefore, we can say that our 3rd hypothesis, *H₃: There are overall interlinkages among good governance dimensions, life insurance development and socio-economic factors, more emphasized for the old EU MS than the new ones*, is not fulfilled, more pronounced effects among variables being for the new EU-13 groups, even on significant missing data for some countries.

Conclusion

In this paper, we assessed the interlinkages - direct, indirect and overall - between the good governance indicators (expressed by WGIs) and life insurance dimensions, using as proxies insurance penetration in GDP and insurance density indicators, on each distinctive panel of the EU countries, old EU MS, and new EU MS, in a comparative approach, considering the heterogeneity of the European countries. We used two advanced methodology methods, namely Structural Equation Modelling and Gaussian Graphical Models for the data collected for the period 2007-2020, considering before and during COVID-19 pandemic effects.

The summary of our results is the following: good governance generated favorable implications on life insurance dimensions, jointly with education and earnings obtained, well-marked for the old EU MS than the new ones, as regards life insurance contribution to GDP, while for the insurance density, good governance would imply more pronounced effects for the new EU-13 countries (H_1); each dimension of good governance activities (WGIs dimensions) induced favorable impact on overall life insurance, more evidence for the old EU MS than the new ones (less for the control of corruption dimension, for which the results were not conclusive) (H_2); overall interlinkages among good governance dimensions, life insurance development, and the socio-economic factors were notably emphasized for the new EU MS than the old ones. However, education does not reinforce life insurance participation in GDP in the new EU countries, while in the old EU countries, life insurance penetration is lessened by people's earnings.

Based on the cumulative results, for the new EU countries (mostly, former communist countries), the following specific strategies and policies are needed: reinforcing overall governance institutional support, targeting political stability, rule of law (protecting the contracts rights of the insured) and government effectiveness, especially for lessening the poverty; sustaining the education for all levels, in connection with life insurance dimensions/consumption, as a barometer of economic and financial health (Kaiser et al., 2022), based on the inheritance from the communist regimes in these countries where people did not perceive the preventive support of insurance, as Dragos et al. (2019) and Sanjeewa and Ouyang (2020) also underlined.

As for the old EU countries (mostly developed countries), the following strategies/policies are recommended: better governance actions on the line on voice and accountability, government effectiveness, and rule of law, both for sustaining the life insurance dimensions and poverty lessening.

The relatively reduced sample size and limited data availability for certain indicators may represent a limitation of current research, but also the heterogeneity of the European Union Member States of each group, old and new, as regards economic development. Future research directions will be oriented for assessing after COVID-19, in a comparative approach with these results, and including digital technologies' implications on good governance and insurance activity. Also, we will focus on detailed analysis for each European Union country.

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Appendix

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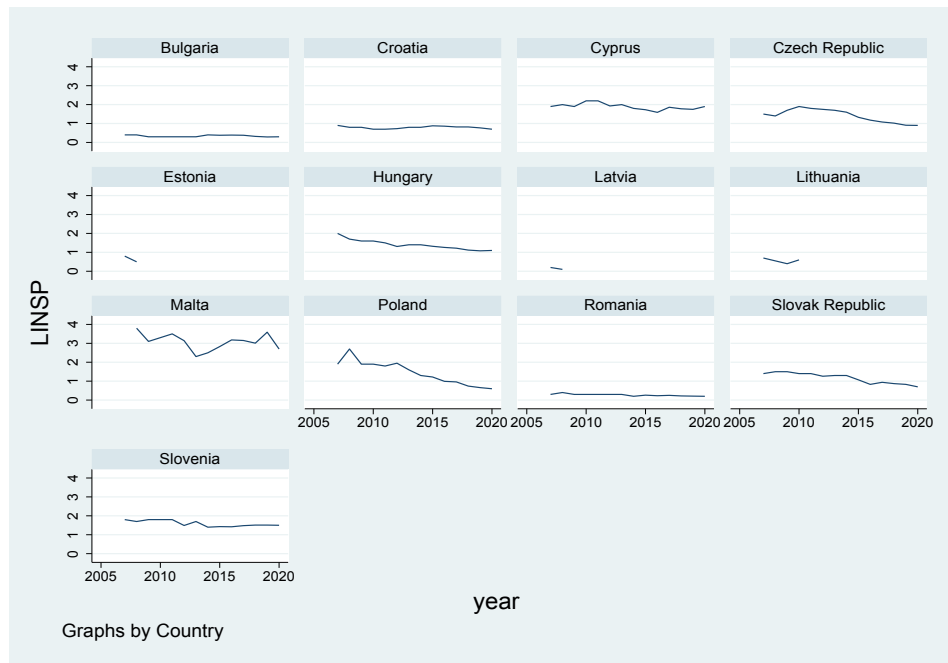


Figure 1A. Evolution of life insurance penetration to GDP for the new EU-13 countries, 2007-2020
Source: Authors' contribution.

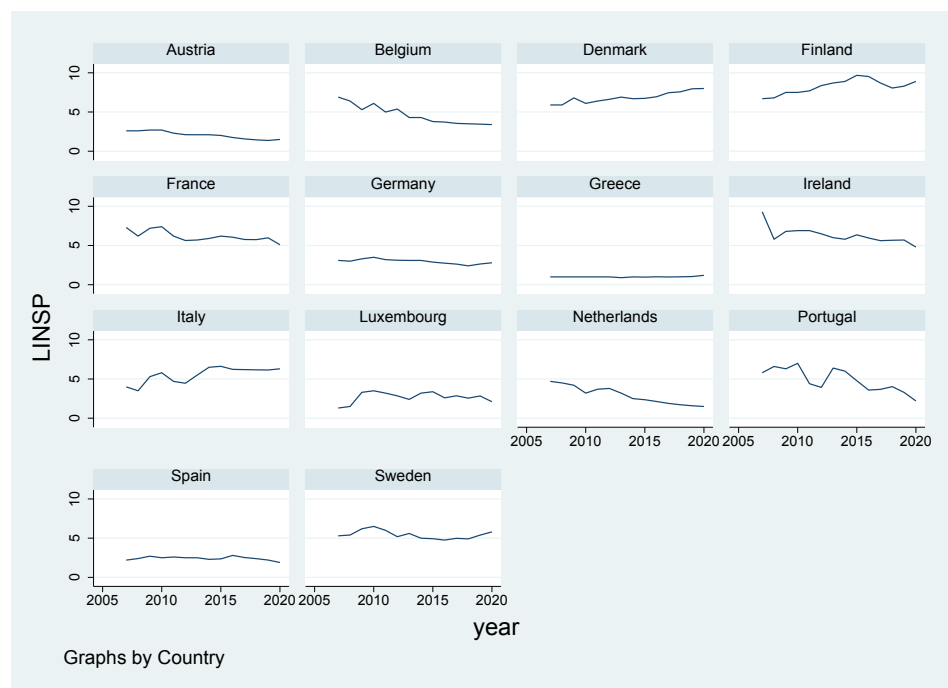


Figure 2A. Evolution of life insurance penetration to GDP for the old EU-14 countries, 2007-2020
Source: Authors' contribution.

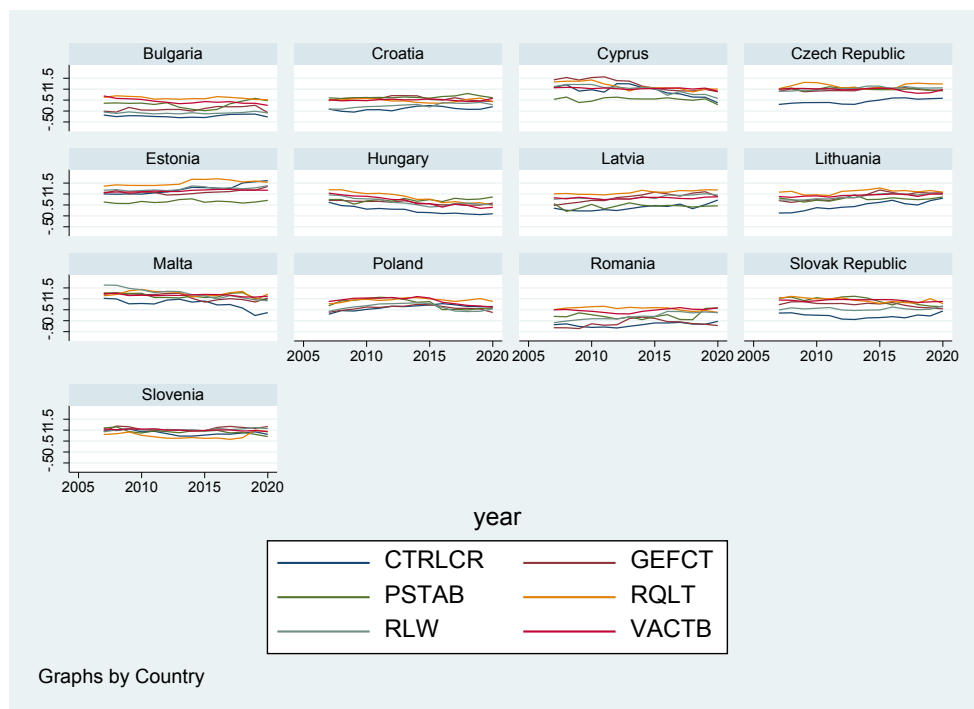


Figure 3A. Evolution of WGI components for the new EU-13 countries, 2007-2020

Source: Authors' contribution.

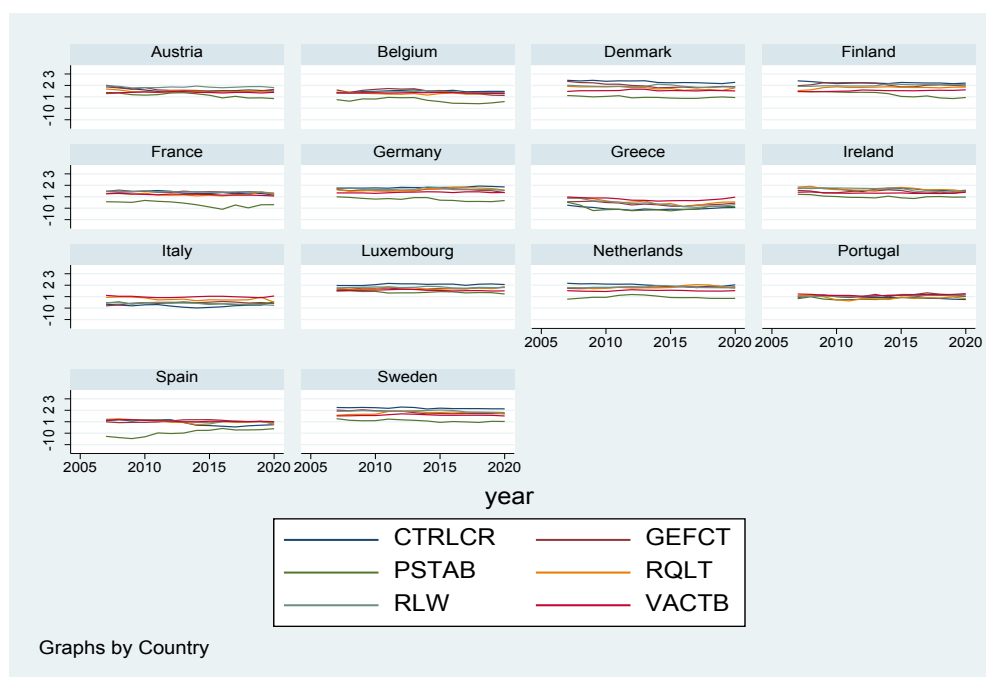


Figure 4A. Evolution of WGI components for the old EU-14 countries, 2007-2020

Source: Authors' contribution.

Table A1. Detailed results of SEM for EU-13 and EU-14 panels

Variables	SEM 1 (EU-13)	SEM 2 (EU-14)
LINSP		
EDCT	-0.0297*** (0.00288)	0.0370* (0.0175)
ERNG	0.364** (0.121)	-7.666*** (1.025)
GG	1.644*** (0.150)	2.225*** (0.240)
_cons	-0.117 (1.268)	84.76*** (10.38)
LINSR		
EDCT	0.000436 (0.00328)	-0.00778 (0.00551)
ERNG	0.979*** (0.138)	-0.208 (0.324)
GG	2.463*** (0.189)	0.894*** (0.0759)
_cons	-4.932*** (1.455)	10.19** (3.280)
CTRLCR		
GG	1 (.)	1 (.)
_cons	0.363*** (0.0342)	1.482*** (0.0512)
GEFCT		
GG	1.109*** (0.0706)	0.700*** (0.0165)
_cons	0.658*** (0.0353)	1.421*** (0.0367)
PSTAB		
GG	0.771*** (0.0632)	0.477*** (0.0299)
_cons	0.733*** (0.0275)	0.782*** (0.0317)
RQLT		
GG	0.611*** (0.0586)	0.583*** (0.0160)
_cons	0.874*** (0.0242)	1.385*** (0.0311)
RLW		
GG	1.113*** (0.0723)	0.724*** (0.0158)
_cons	0.658*** (0.0359)	1.463*** (0.0378)
VACTB		
GG	0.730*** (0.0471)	0.329*** (0.00775)
_cons	0.816*** (0.0233)	1.312*** (0.0172)
/		
var(e.CTRLR)	0.0390*** (0.00560)	0.0139*** (0.00242)

Variables	SEM 1 (EU-13)	SEM 2 (EU-14)
var(e.GEFACT)	0.0228*** (0.00367)	0.0194*** (0.00232)
var(e.PSTAB)	0.0311*** (0.00425)	0.0831*** (0.00855)
var(e.RQLT)	0.0337*** (0.00441)	0.0199*** (0.00225)
var(e.RLW)	0.0267*** (0.00439)	0.0167*** (0.00210)
var(e.VACTB)	0.0103*** (0.00165)	0.00425*** (0.000511)
var(e.LINSP)	0.107*** (0.0164)	3.108*** (0.317)
var(e.LINSD)	0.126*** (0.0220)	0.308*** (0.0317)
var(GG)	0.113*** (0.0185)	0.501*** (0.0520)
N	130	196

Standard errors in parentheses: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: Authors' contribution.

Table A2. Cronbach's alpha for the SEM models

Variables	SEM 1 (EU-13)		SEM 2 (EU-14)	
	observation	Alpha	observation	Alpha
LINSP	146	0.9163	196	0.9543
LINSD	146	0.9145	196	0.9369
CTRLCR	182	0.9190	196	0.9269
GEFACT	182	0.9176	196	0.9283
PSTAB	182	0.9289	196	0.9372
RQLT	182	0.9255	196	0.9276
RLW	182	0.9147	196	0.9279
VACTB	182	0.9160	196	0.9273
EDCT	182	0.9523	196	0.9447
ERNG	167	0.9296	196	0.9419
Total scale		0.9311		0.9418

Source: Authors' contribution in Stata.

Table A3. Wald tests for equations associated with the SEM models

Variables	SEM 1 (EU-13)			SEM 2 (EU-14)		
	Chi ²	df*	p-value	Chi ²	df*	p-value
CTRLCR	0.00	0	-	0.00	0	-
GEFACT	246.99	1	0.000	1796.28	1	0.000
PSTAB	148.71	1	0.000	254.21	1	0.000
RQLT	108.83	1	0.000	1324.50	1	0.000
RLW	237.25	1	0.000	2088.83	1	0.000
VACTB	240.40	1	0.000	1798.43	1	0.000
LINSP	385.22	3	0.000	103.43	3	0.000
LINSD	400.37	3	0.000	192.42	3	0.000

* df - Degrees of freedom

Source: Authors' contribution in Stata.

Table A4. Goodness-of-fit tests for the SEM models

Explanations	SEM 1 (EU-13)	SEM 2 (EU-14)
Likelihood ratio		
Model vs. saturated χ^2_{ms} (32)	399.053	647.887
$p > \chi^2$	0.000	0.000
Baseline vs. saturated χ^2_{bs} (44)	1660.252	2886.625
$p > \chi^2$	0.000	0.000
Information criteria		
AIC (Akaike's information criterion)	1095.911	1916.466
BIC (Bayesian information criterion)	1176.202	2008.253
Baseline comparison		
CFI (Comparative fit index)	0.773	0.783
TLI (Tucker–Lewis index)	0.688	0.702
Size of residuals		
SRMR (Standardized root mean square residual)	0.032	0.028
CD (Coefficient of determination)	0.991	0.993

Source: Authors' contribution in Stata.