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## Macroeconomic environment and insurance industry development: The case of Visegrad group countries

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### Abstract

The insurance industry accumulates a considerable number of financial assets and represents an essential element of the sustainable economic growth in all developed countries. Theory predicts economic changes as one of the most important determinants of insurance industry development. In transition economies, the insurance industry is in a different situation due to its specific historical context. This paper focuses on an examination of the role of a macroeconomic environment in the development of insurance sectors in selected transition countries. Our sample consists of four central European countries: the Czech Republic, Hungary, the Republic of Poland and the Slovak Republic – the Visegrad Four countries. Based on our findings, we are able to confirm that the macroeconomic environment has a strong impact on the development of the insurance industry in the selected transition countries. In addition, the results suggest that the development in the non-life insurance industry is more sensitive to the macroeconomic environment.

### Keywords

Economic development, insurance determinants, insurance industry, Visegrad group.

**JEL Classification:** G22, E60, F63

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# Macroeconomic environment and insurance industry development: The case of Visegrad group countries

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## 1. Introduction

The insurance industry accumulates a considerable number of financial assets and represents an essential element of the sustainable economic growth in all developed countries. A strong and stable insurance industry could be beneficial in micro and macro stages due to its stabilization function. In transition economies, the insurance industry is in a different situation due to its specific historical context. During the last few years, European transition countries have overcome various significant changes: the introduction of a new market mechanism, entering the European Union, and also efforts to manage the effects of the global financial and economic crisis. Since the empirical research points to the existence of a causative relationship between the development of the insurance sector and the development of the country's economy (e.g., Feyen et al., 2013; Han et al., 2010; Zheng et al., 2009), these changes also have to affect the insurance sector in these countries. In these studies, the authors analyse various indicators of economic development (GDP, GNP, etc.) but other macroeconomic development determinants are of marginal interest. Determinants such as, for example, unemployment or balance of payment are rarely studied. However, these are the proxies of implemented economic policies, i.e., the result of government economic decisions. Previous research in developed countries suggests that applied economic policy could have an effect on insurance industry development (e.g., Caspersen and Jakubik, 2014). The effect in transition economies remains uncovered.

The aim of the study is to examine the role of macroeconomic determinants in the development of insurance sectors in the selected transition countries. We focus on the development of four central European countries: the Czech Republic, Hungary, the Republic of Poland and the Slovak Republic, during the period 1995–2013. These countries are grouped in an alliance of regional cooperation known as the Visegrad Group or the Visegrad Four (hereinafter referred to as V4). In the past as well as in the present, these countries represented *one civilization sharing cultural and social roots* (Visegrad Group, 2012). Their common historical

development has triggered a similar economic development regarding insurance sectors. Data for the analysis was obtained from different databases: Eurostat, OECD, Insurance Europe.

The remainder of the paper is organized as follows. In the first part, we focus on the analysis of the macroeconomic environment in V4 countries. The analysis of the transition economies' macroeconomic environment represents the basic prerequisite for understanding the development of the insurance sectors in the V4 countries. In the second part, we carry out an analysis of the development of indicators in the V4 insurance sector. In the next part of the paper, we focus on modelling the impact of individual macroeconomic indicators on the development of the insurance sectors in the V4 countries. Based on our findings, we are able to confirm that the macroeconomic environment has a strong impact on the development of the insurance industry in *selected* transition countries. In addition, the results suggest that the development in the non-life insurance industry is more sensitive to the macroeconomic environment. Conclusions and policy implications are presented in the very last part of the paper.

## 2. The economic background and literature review

Since the fall of the Iron Curtain in the year 1989, the V4 countries have gone through a significant phase of transformation during which they have reformed their economic system from a centrally planned economy to the market economy used in Western European countries (Martiš, 2012). This process of transition was not a simple one (Theil, 2001). It was a *long-term process of socioeconomic, spatial, and cognitive transformation of human actors and their physical environment, and rapid short-term changes in political institutions and public policies* (Tökés, 1996). The changes affected the entire character of the social structure and understandably have impacted on the economic level of these countries. During the association with the former Soviet Union, categories such as a liberal market or private ownership were merely theoretical concepts. After the change of

regime, these countries started to encounter rapid economic growth. These changes have brought along formerly unknown phenomena. Inflation, unemployment and the import of foreign goods and services *surprised* the local governments and inhabitants. Their reaction came in the form of state intervention covered in economic policy focusing on the macroeconomic stability characterized by continuous economic growth, a low inflation rate, a zero or positive balance of trade and a low rate of unemployment (the prevailing trend is a stable rate of employment) (Marcinčin and Morvay, 2001; Samuelson and Nordhaus, 1992). Economic growth measured as an increment of gross domestic product (hereinafter referred to as GDP), inflation rate measured as changes in the price level, balance of trade measured as balance of international payments and unemployment rate measured as the ratio of unemployed to the economically active population represent tools for macroeconomic analysis and offer systematic and objective information regarding the countries' economic development. These indicators represent peaks in Kaldor's Magic Square and we will use these indicators in our further analysis.

In the V4 countries between the years 1995 and 2013, the economic environment did not show all of the characteristics of macroeconomic stability in the context of the four mentioned macroeconomic indicators, namely the GDP growth rate, unemployment, inflation and balance of payment (e.g., Ducháčková et al., 2009; Mankiw, 2002; Ozturk, 2009). On average, all four countries experienced positive economic growth, negative balance of payments, a higher increase in consumer prices and quite a high number of unemployed inhabitants. At the beginning of the observed period, the implemented economic policies focused mostly on the transition from a centrally planned to a market economy. The restructuring of the economy and industry with the implementation of essential reforms were among the results in the individual countries (Spišáková and Pétrová, 2011). Later, one of the main goals of the V4 economic policy was adhering to the Copenhagen criteria and entering the European Union. The economic changes and reformation efforts led to faster GDP growth in the V4 countries. Targeting inflation in an effort to meet the Copenhagen criteria together with the economic growth during the observed time frame led to a significant decline in inflation. Furthermore, the economic and monetary policy of the Slovak Republic has also been oriented towards accepting the European currency and entering the Eurozone. The Republic of Hungary did not implement essential and, for optimal economic development, necessary reforms (e.g., a reform of the pension system, and reform of the public and banking sectors' economic policy) during the

growth period (Hošoff and Hvozdíková, 2009). After 2009, during the financial crisis, the economic policy of the V4 countries was oriented towards stabilizing public finances, stabilizing the financial system, supporting economic growth via investments, more efficient use of Eurofunds, higher support for small and medium-sized enterprises and involving the private sector in areas of research (Spišáková and Pétrová, 2011).

During the observed time frame, we registered several phases of GDP development. At first, a high growth rate of GDP during the period 1995–1997 related to economic recovery after the transformation. The expansive growth led to macroeconomic instability, which manifested itself in the decline of the GDP growth tempo in the years 1998–2002. The 2002–2008 period can be characterized by an above-average GDP. From the viewpoint of an individual country analysis, the Slovak Republic is the country with the highest GDP growth dynamics, followed by the Czech Republic and Poland. This development is caused significantly by the liberalization of trade with the EU membership (Gogoneață, 2012).

Besides the year-on-year GDP changes, the inflation rate during the observed period also developed abnormally in the analysed countries. It was positively affected by the monetary policy of the central banks that were focusing on meeting the Copenhagen criteria via inflation targeting, which led to a considerable decline in the rates of inflation (Lukáčiková, 2010). During the years 1995–2001, inflation was a problem for the analysed countries, mostly for Poland and Hungary.

Unemployment represents the most significant problem for macroeconomic stability in the V4 countries, especially in Poland and Slovakia during the 1998–2007 period when the rates reached 18 to 20 %. This is not only an economic problem, but a social one as well. In addition, in almost all V4 countries public sector employment is highly correlated with the economic cycle, while private sector employment does not show this relationship. Poland is the only country excluded, as employment is not related to the economic cycle (Bilka and Bodľa, 2012). Consequently, Poland also had a stable unemployment rate in the crisis period.

Within the scope of economic policy, the last goal of Kaldor's Magic Square is represented by the balance of payments. It shows *all transactions between the residents of that country and the rest of the world* (Sloman and Wride, 2009, p. 389). Most of the V4 countries had open economies during the observed time frame. The liberally oriented trade policy of the Slovak economy has become the most open within the V4 group, followed by Hungary and the Czech Republic (e.g., Pokrivčáková 2006; Sivák and Staněk 2011;

Šikulová 2007). An exception is the Republic of Poland, whose openness is significantly smaller than the rest of the V4 countries, giving it a comparative advantage of a strong internal market and much smaller dependency on external environment development (Sivák and Staněk, 2011; Šikulová, 2007). Between 1995 and 2004, the V4 countries had on average a negative or zero sum balance of payments. Since 2004, all V4 countries have shown a positive balance of payments. The establishment of the automobile industry in all of the analysed countries together with the relocation of electro-technical industries from western Europe and Asia to the V4 countries stimulated their economies. The final production was mostly targeted at foreign markets, which create a substantial balance of payments surplus. An exceptionally high level of participation in foreign trade simultaneously creates a very strong dependency on the external environment. In addition, the V4 group exports are insufficiently diversified, consisting mostly of the automobile, electro-technical and steel industry (Pokrivčáková, 2006; Šikulová, 2007). With the onset of the worldwide recession and because of the decline of the goods and services export from the V4 countries, most of the countries suffered from *imported* recession (Sivák and Staněk, 2011).

Descriptive statistics of indicators in the V4 countries during the period 1995–2013 are shown in Table 1.

**Table 1** Economic indicators of V4 countries 1995–2013

	Mean	St. dev.	Max.	Min.
<i>GDP growth (growth rate)</i>				
Czech Republic	2.53	3.04	-4.84	6.88
Hungary	2.07	2.79	-6.56	4.94
Poland	4.23	1.88	1.25	7.20
Slovak Republic	4.16	3.54	-5.49	10.83
<i>Current account balance (in percentage)</i>				
Czech Republic	-3.35	1.72	-6.16	-0.96
Hungary	-4.65	3.67	-8.47	2.89
Poland	-3.78	1.95	-6.51	0.61
Slovak Republic	-4.93	3.78	-9.02	2.58
<i>CPI (growth rate)</i>				
Czech Republic	3.96	3.16	0.11	10.70
Hungary	9.04	7.19	1.73	28.31
Poland	6.73	7.25	0.68	27.95
Slovak Republic	5.45	3.23	0.96	12.04
<i>Unemployment rates (in percentage)</i>				
Czech Republic	6.71	1.54	3.89	8.78
Hungary	8.21	1.96	5.58	11.17
Poland	12.85	4.31	7.04	20.03
Slovak Republic	14.54	3.04	9.58	19.46

Source: OECD (2015a) and Eurostat database

These changes in the macroeconomic situation added to the growth of economic advancement and caused an increase in the effective demand and the incomes and wealth of individual subjects in the analysed countries. It enabled the use of modern technological processes in the economy, and raised the consumption of basic and luxurious goods and services, including insurance. Consequently, the prerequisites for the development of insurance sectors in the V4 countries were created.

### 3. The development of the V4 countries' insurance sectors

In the past 20 years, the insurance sector in V4 countries has overcome significant changes. As these changes have not been limited to the insurance industry, they have been more intensive due to the political, economic and social development. We acknowledge changes in the structure of insurance risks, in the insurance products portfolio, the amount of written premium, the methods of selling insurance products and insurance company management (Cummins and Venard, 2007).

Recognition, understanding and comparison of these changes are based on the analysis of a particular insurance sector's indicators. The following indicators were used frequently in previous research: the amount of gross written premiums; the growth of gross written premiums; the amount of insurance claims; the number of employees in the insurance sector and the ratio of gross written premiums per one employee; the ratio of life or non-life insurance within the total amount of written premiums; insurance penetration; insurance density; the number of insurance companies and number of foreign insurance companies operating in the national insurance sector; and a country's share in the OECD or European Union (e.g., Cristian, 2010; Ducháčková et al., 2009; Ducháčková and Daňhel, 2006, 2010; Han et al., 2010; Kafková and Kracinovsky, 2008; Tipurić et al., 2008; Sankaramuthukumar and Alamelu, 2012; Pye, 2005, Zheng et al., 2009; Medved' and Kavčič, 2012; Beck and Webb, 2003; Browne and Kim, 1993; Chui and Kwok, 2008; Li et al., 2007; Zhang and Zhu, 2005). The total insurance sector development and the development of separate life and non-life insurance sectors are studied through these indicators.

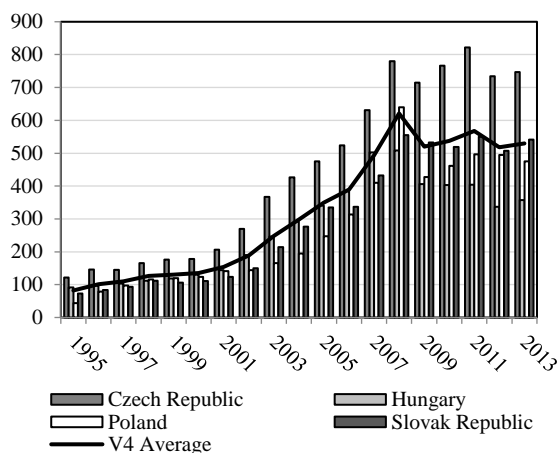
The most usual and simplest indicator of insurance industry development is the gross written premium. It can be defined as the *total premium written and assumed by an insurer before deductions for reinsurance and ceding commissions* (IRMI Research Analysts, 2012). Using this method, the overall status of the insurance sector in a given country can be measured. However, the gross written premium has

several shortcomings. Its level is significantly influenced by the size and population of the country as well as its economic level (Zheng et al., 2009). The absolute value is a limitation when comparing individual countries. That is why many studies work predominantly with weighed indicators – insurance density and insurance penetration (e.g., Ducháčková and Daňhel, 2006; Ducháčková et al., 2009; Han et al., 2010; Majtánová et al., 2009; Pye, 2005; Tipuric et al., 2008; Njegomir and Stojić, 2010; Medved' and Kavčič, 2012). Insurance density measures the average sum that an average citizen of the studied country spends on insurance in one year. Citizens' average expenditure on insurance is what determines the state of insurance sector development within a country and the standard of living in the country. It only reflects the development of the insurance sector and does not reflect the general economic development (Zheng et al., 2009). To measure the development of the insurance sector taking into consideration the development of the economy of a country insurance penetration is used. Insurance penetration directly compares the insurance sector with the economic sector and it represents the share of gross written premiums in the gross domestic product of the country (e.g., Cummis and Venard, 2007; Zheng et al., 2009). The weakness of this indicator is its sensitivity to GDP development. If GDP varies significantly, insurance penetration could be very variable even if that insurance industry does not change very much. Although these weighted indicators are not perfect, they represent appropriate proxies of insurance industry development and we use them in our analysis to study the changes in the insurance sector in V4 countries from 1995 to 2013.

Based on the insurance density distribution in the V4 countries, these countries belonged amongst the developing countries (Han et al., 2010). In developed countries the life insurance density is on average higher than the non-life insurance density (Sankaramuthukumar and Alamelu, 2012). In contrast, non-life insurance dominates the industry in V4. When compared to the average in the EU-15 countries<sup>1</sup>, the total insurance density is very low in V4 countries. The citizens of the V4 countries spend less of their income on insurance. Even including price level differences, the number of sold insurance policies is much lower in V4. In general, a continuous trend of growing average expenditure on insurance by citizens can be seen in the V4 countries. From 2001 up until the financial crisis, this increase was very steep, driven by an increasing number of insurance companies and offers of insurance services. The cut-off is the year 2008, when the financial crisis

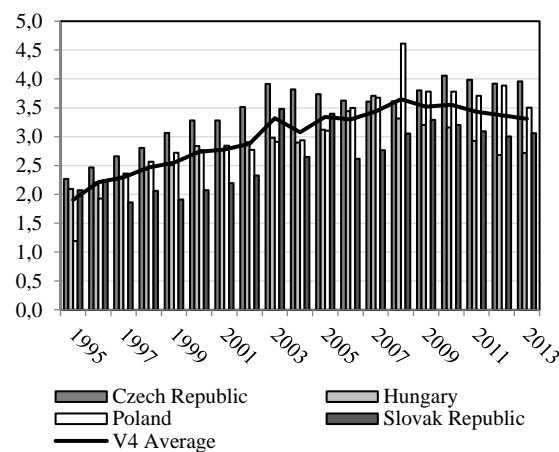
affected economic development. Since this period, insurance density has increased modestly but it has maintained its growing tendency. As this indicator includes the population of a country and price levels were similar in all four countries, we could conclude that citizens spent the highest amount on insurance on average in the Czech Republic (see Figure 1).

**Figure 1** Insurance density in V4 countries, 1995–2013 (in USD)



Source: OECD (2015b)

**Figure 2** Insurance penetration in V4 countries, 1995–2013 (in %)



Source: OECD (2015b) and Insurance Europe database

Based on the insurance penetration, the importance of the insurance sector was relatively low in V4 countries. At the beginning of the observed period this trend could be related to low levels of financial literacy and economic development (Park and Lemaire, 2012) as well as the monopolistic insurance market. Improvement of the economic level, the entrance of new insurance businesses and changes in social policy

<sup>1</sup> EU-15 countries denote *old EU countries*, i.e. the following countries were included: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy,

Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

led to the increase of insurance penetration in all V4 countries. The highest levels of insurance penetration can be observed in the Czech Republic and the Republic of Poland, while Hungary and the Slovak Republic exhibit a slower tempo of insurance penetration growth (see Figure 2).

In general, the insurance sector in the V4 countries can be assessed as small and insufficiently developed at the beginning of the observed period. However, the economic stabilization of the individual countries' economies, the growth of the importance of the market economy and the liberalization of the insurance industry positively influenced the development of the insurance sector.

#### 4. Macroeconomic environment and the development of the insurance sector

Based on previous analysis, it is evident that the insurance sector and the economy of the V4 countries went through significant changes during the observed time period. But to what extent did these changes affect insurance sector development? Based on theoretical studies, the economic development of a country is one of the most significant determinants influencing the structure, size and overall development of the insurance sector (e.g., Kafková and Kracinovsky, 2008; Tipurić et al., 2008).<sup>2</sup> If individuals do not have a sufficient economic and financial level and the overall standard of living is low, the insurance business will not prosper either. Consequently, when the standard of living improves, the wealth of the people grows, as does the level of education and the demand for insurance, as the financial means accumulate and in turn boost the economic growth of the country. Our aim was to delimit the relationship between the results of the countries' economic development and the development of the insurance sector. For this we use a regression model.

The dependent variable in our model represents insurance development measured by insurance penetration and insurance density. Due to the specifics in the life and non-life insurance sectors, we also analysed separate models of the life and non-life insurance industry. We analysed both indicators to check the robustness of our results.

As independent variables, we chose four indicators: economic growth measured by the year-on-year change of gross domestic product (GDP\_G), the rate of inflation measured by the Consumer Price Index

(INFL\_R), balance of payments measured as a percentage of gross domestic product (BOP\_GDP) and the rate of unemployment (UNEMP\_R). The choice of variables was based on the economic policy goals as we discussed them in the previous section of this paper.

From a methodological point of view, in the analysed panel data, we ruled out the presence of fixed and random effects based on the Hausman test and the Breusch and Pagan Lagrange Multiplier test. We have used the pooled OLS model. Data were transformed using log-log transformation in order to achieve elasticities, as well as to ensure normal distribution of data. Additionally, based on the Im et al. panel unit root test (Im et al., 2003), we have confirmed non-stationarity of  $I(0)$  for the only variable – BOP\_GDP, which we have subsequently differentiated  $I(1)$ . Based on the presence of heteroscedasticity and autocorrelation in the model, we have used the Newey–West Serial Correlation Consistent Standard Errors in the analysis.

Based on the results shown in Table 2, all of the explanatory variables have had a significant influence on the development of the total insurance sector measured by the insurance density in the studied countries during the years 1995–2010 (Model 1). The results are very similar even when the chosen dependent variable was the individual type of insurance, and thus even when we studied the development of life insurance (Model 2) and non-life insurance (Model 3) individually. Similar results were obtained for insurance development measured by insurance penetration (Models 4–6). For three out of the four independent variables, we identified a negative relationship between them and the development of insurance. The only exception is the BOP\_GDP, the effect of which on the insurance sector was positive and at the same time the strongest from the group of studied indicators. Since the balance of payments level determines the level of openness of an economy, according to Zhang and Zhu (2005) it is precisely this openness and the pro-export character of the economy that have a positive effect on the demand for insurance. A positive balance of payments means that at a given moment the sum of all foreign incoming payments is greater than the sum of payments going abroad. A negative balance of payments represents the opposite situation. A positive balance signifies the growth of disposable income and the wealth of the nation's inhabitants, which consequently also affects the development of the insurance sector, mostly in the life

<sup>2</sup> The endogeneity problem between insurance consumption and economic development is often studied in literature (e.g., Beck and Webb, 2003; Feyen et al., 2013; Ibiwoye et al., 2010; Kjosevski, 2012; Li et al., 2007; Ćurak et al., 2009; Haiss and Sümegi, 2006; Han et al., 2010; Njgomir and

Stojić, 2010). However, we have chosen to focus on the impact of economic development on the insurance sector as understanding the insurance sector as a supplementary product that follows the real economy and also the corporate level.

insurance field, but also in non-life insurance. For example, importing capital fills the gap between higher domestic investments and lower domestic savings.

Economic growth is considered to be one of the most important factors in insurance sector development (Thiel, 2001). Based on our findings, we can infer that the relationship between GDP\_G and total insurance density and total insurance penetration is inverse. This means that the higher the yearly change in gross domestic product, the slower the development of the insurance sector within the country. This tendency is more intense in the area of life insurance than in non-life insurance. This phenomenon may be caused by the fact that the studied change can not only be positive, but can be negative as well. In terms of insurance sector development, it is much more efficient to maintain stable growth of the gross domestic product.

Similarly, statistically significant and negative, but on a much smaller scale, is the influence of INFL\_R on the total, life and non-life insurance sectors. With growing rates of inflation, the growth of the insurance sector in the studied countries decelerated. When compared to the effects of changing levels of gross domestic product, it is evident that the effects of inflation are much smaller. Identical conclusions were drawn from studies dealing with the determinants of insurance sector development in both life and non-life insurance (e.g., Beck and Webb, 2003; Feyen et al., 2013; Ibiwoye et al., 2010; Kjosevski, 2012; Li et al., 2007). The studies were carried out on various samples, while the results are the same for both developed and developing countries. The reason for the negative effect of inflation on insurance sector development lies in the

fact that in life insurance inflation lowers the future value of insurance (Feyen et al., 2013) and decreases the purchasing power of any monetary unit. This, in turn, causes lower purchasing ability of the country's citizens, which then influences non-life insurance too. In addition, inflation not only influences the demand side of insurance but its supply side as well, since it increases the costs of insurers and leads to limiting the supply of insurance as well as further increasing the price of insurance (Beck and Webb, 2003). We were able to confirm these results in the V4 countries.

The last factor we studied was UNEMP\_R. According to our analysis, this variable influences insurance sector development negatively. These findings are in line with previous research. According to research carried out by Hoyt (1994), there is even a direct relationship between cancelling insurance policies and rates of unemployment. Along with the growth of unemployment within a country, the standard of living declines, lowering people's financial means that can be invested in order to insure their life or the value of their property. The extent of individuals' property decreases and thus the need for its insurance drops as well. Higher rates of unemployment can be linked to a decrease in the numbers of entrepreneurial units functioning within the economy of a given country, thereby limiting the need for insurance. In separate analysis of non-life insurance, we found that unemployment is not statistically significant in our model. In many developed countries, there is a widely established tradition of commercial unemployment insurance, which burdens insurers and leads to the removal of financial means from the sector when the

**Table 2** Parameter estimates of pooled OLS model for the insurance density dependent variable

Dependent variables	(LN) Insurance density			(LN) Insurance penetration		
	Total (Model 1)	Life (Model 2)	Non-life (Model 3)	Total (Model 4)	Life (Model 5)	Non-life (Model 6)
(LN)GDP_G	-7.310* (2.759)	-10.10** (3.443)	-5.094* (2.443)	-1.286 (0.790)	-3.944* (1.519)	0.772 (0.891)
(LN)INFL_R	-0.390*** (0.0919)	-0.477*** (0.118)	-0.367*** (0.0627)	-0.124*** (0.0221)	-0.214*** (0.0489)	-0.0670** (0.0210)
(LN)BOP_GDP	27.51*** (5.875)	38.70*** (8.106)	18.27*** (4.288)	3.298+ (1.864)	13.75** (4.031)	-5.272** (1.959)
fd(LN)UNEMP_R	-1.288* (0.566)	-1.915** (0.667)	-0.787 (0.538)	-0.289+ (0.148)	-0.903** (0.291)	0.192 (0.182)
_const	39.89** (12.78)	52.03** (15.94)	29.06* (11.34)	7.272+ (3.666)	18.79** (7.038)	-2.884 (4.125)
N	60	60	60	60	60	60
R-sq	0.508	0.525	0.494	0.466	0.459	0.257

Notes: +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ; Newey–West Serial Correlation Consistent Standard Errors in parentheses

rates of unemployment grow and the insurance benefits from these policies have to be paid out. Therefore, the growth of unemployment raises the probability of insolvency occurring on the side of life insurers (Browne et al., 1999). In the V4 countries, however, this tendency is negligible since unemployment insurance is mostly part of the countries' social system. Growing unemployment has a more intense effect on the life insurance sector since life insurance is more discretionary from an individual's viewpoint than non-life insurance (Browne et al., 1999).

## 5. Conclusions

Theory predicts economic changes as one of the most important determinants of insurance industry development. The V4 countries have overcome significant changes during the last two decades in economic, social and political fields alike. In addition to the process of transformation taking place during the 1990s, they were also significantly affected by their entering the European Union, and by the global financial crisis. The economic development of the countries has shown non-standard tendencies that have also transpired in the insurance sector as part of each country's economy. High rates of inflation, reformation efforts and also efforts to maintain the Copenhagen criteria (and also the Maastricht criteria in some of them), together with the effort to deal with the effects of the economic crisis, have kept the governments of the V4 countries busy. The variability of the main macroeconomic indicators is significant and the governments of the V4 countries had to react to these tendencies via their economic policies. As the insurance sector is generally considered to be an integral part of the economy in all economies, these steps also influenced the development of the insurance sector.

The aim of the study is to examine the role of macroeconomic determinants in the development of insurance sectors in the selected transition countries. The countries were chosen due to the similarity of their characteristics including in the context of insurance sector development. Given their long-term history, the insurance sectors of the V4 countries have their own specifics. Deeply rooted state paternalism, the need for which we can still perceive today, influenced the development of the commercial insurance sector. The growth of gross written premium, life insurance development, new insurers entering the market, the growth of people's familiarity with insurance and the improvement of the macroeconomic situation led to the advancement of the insurance sector in the V4 countries. However, the fast growth of gross written premium has not ensured that the level of the V4 countries' insurance sectors, defined by levels of

insurance penetration and density, reach the EU-15 average. We have to agree with the results of several studies that the process of convergence is very slow. Nevertheless, certain differences can be observed even between the studied countries. Using penetration as a selection criterion, the order of countries with the highest level of insurance saturation is as follows – the Czech Republic, the Republic of Poland, the Slovak Republic and Hungary. For the selection criterion of density, there is interchange only between the second and third place.

Based on our findings obtained by the pooled OLS model, we were also able to confirm that the development of the insurance sector in these economies is tied to the efforts and functioning of the economic policy of these countries. All four studied economic development indicators, namely economic growth, the rate of inflation, balance of payments and the rate of unemployment, play an important role in insurance industry development. Therefore, for insurance companies, lobbying in order to influence the countries' economic policy and its targeting can be crucial. Knowledge of these dependencies is also important for governments. The economic development of the country as a result of government effort has a bidirectional relationship with the insurance sector. The appropriate economic policy that *inter alia* supports the growth of the insurance sector could lead to a multiplicative effect on the economic level and development of the country. For transition economies, this finding is even more important. In these countries, there is an evident lag in the insurance sector compared to developed countries. Lowering this gap is the future challenge for these countries. A flourishing commercial insurance sector is also advantageous in the context of the future needs of the countries' populations. Moreover, governments would disburden national budgets if they transferred some of the social security services to the commercial insurance sector.

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