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## **FINANCIAL FLOWS IN THE FIELD OF INSURANCE**

**Abstract.** The introduction of an insurance culture in Ukraine should be based on theoretical studies in this area. The authors carried out a certain review of Ukrainian scientific publications devoted to the development of the insurance market, the analysis of the state of insurance and insurance companies, historical experience and comparative analysis of insurance activities of Ukrainian and foreign insurers. This allowed us to formulate a proposal for a research typology and supplement it. The typology of directions of insurance problems studying, which are conducted by Ukrainian scientists taking into account generalizations of foreign experience, is given. At the same time, our research direction is oriented to one segment of the insurance market, namely, health insurance. As a result of the review of scientific publications on this topic, attention was drawn to the absence of research into financial flows in Ukraine in such segment of health insurance as medical insurance for Ukrainian students studying at foreign universities. It is well-known that Ukrainians do not use health insurance at home. This also applies to students studying at Ukrainian universities. Instead, according to foreign experience, medical insurance is compulsory to study abroad at universities. This prompts entrants, who become students of European universities, to buy health insurance policies. It is

clear that such insurance is preferable if the insurance company is chosen in the country of residence of the student. It is proposed to supplement the typology of financial flows of the insurance market by the category of “insurance cash flows”. The proposal is based on the fact that there are practically two streams of medical insurance for Ukrainian students studying abroad. There are two directions of the movement of funds: payment of insurance policies by insured persons and payment of insurance funds in the insurance case by the insurer. For each of these two streams, it is suggested to use the definition “insurance cash flows”. The methodological principles for conducting research are formulated. The indicators for calculations and comparison, as well as the composition of the initial data for calculations are determined. The calculation and comparison of the volumes of insurance flows connected with medical insurance of Ukrainian citizens studying at foreign universities of five countries is made. In particular, settlements for insurance terms of Austria, Bulgaria, Germany, Poland and the Czech Republic are made. The comparison is made in euro currency and hryvnia – the national currency of Ukraine.

**Key words:** insurance, medical insurance, insurance cash flows, typology of insurance cash flows, volume of insurance cash flow.

### **Introduction**

The insurance sector is specific according to the peculiarities of the insurance funds and their use. The point is, first of all, the very specific nature of the appointment of insurance funds that humanity has introduced in order to compensate for loss from accidents, to assist those individuals or businesses that have suffered a loss. In this case, the concept of loss in the context of insurance should, of course, be considered through the prism of insurance cases. In business, financial categories are predominantly used to assess losses incurred by property. As for individuals, in addition to purely material losses, the loss of health and even life is considered. During a long time insurance exists, a variety of insurance products has been offered. Firstly, this is due to the interest of insurers in expanding the scope of insurance, in the desire to cover the wider range of risks of individuals and business activities of legal entities. Secondly, individuals and legal entities themselves, faced with a wide variety of risks, are interested in having certain financial resources to overcome the consequences of the risks that have become insured. Nor should we forget about those insurance products that are related to the provision of older people who are already disabled. They are introduced for pension insurance. Generally, we can say about social insurance, which should help both individuals and businesses to overcome the difficulties. Thirdly, the state, represented by the authorities and public administration, is interested in ensuring the fact that, at the onset of insured events, citizens and businessmen can restore lost as a result of accidents, due to not only budgetary assistance from the government, local authorities, at the own expense of the victims, but also at the expense of more powerful financial resources, which possess the insurance funds.

An important position among the types of insurance is occupied by health insurance. Assistance to individuals in case of illness due to disability is an important point not only for the individual but for the company (institution) where the person works, and for the state. As for individuals, their interest in protecting their health means the ability to work and support themselves and their families. Enterprises (institutions) are interested in the health and efficiency of their

employees in order to ensure the continuity of the production process and, as a result, obtain the expected profit. The public interest in the health of each individual is, in the economic sense, that healthy people ensure the continuity of the activities of enterprises (institutions) and, through the payment of taxes, fill budgets of all levels. At the same time, the state is interested in minimizing budget expenditures on health care, which, to a certain extent, is ensured by both good health of people and the maintenance of health through timely provision of medical services, including through insurance companies.

Young people also need insurance coverage, as tourist travel, study and work abroad require the provision, if necessary, of medical care. Instead, the insured event occurs suddenly, by accident. Recently, more and more school graduates go to study abroad at universities. Obtaining higher education abroad is gaining popularity among graduates of Ukrainian secondary schools, high schools, lyceums. There are many reasons for this popularity. On the one hand, having received sufficient knowledge of a foreign language and excellent or good knowledge of general compulsory school subjects, graduates feel confident that they can study at foreign universities. Obtaining higher education abroad has always been considered prestigious among Ukrainians. Under the current conditions it became a realistic prospect. On the other hand, obtaining a diploma from a foreign university for many Ukrainians is considered a definite guarantee of further employment, either abroad or in Ukraine in a foreign company. Given the rather powerful advertising campaign for attracting Ukrainian entrants to foreign higher education institutions (HEI), one can admit that Ukrainians are more likely to believe in foreign HEIs than in Ukrainian universities [Kuzmin & Yastrubskiy, 2017; Zaiac, 2014; Zhuk, 2019; Aliksieiev, Mazur & Aliksieiev, 2019]. The discussion of better or worse training in different countries is not the subject of our study. We will focus on other aspects that accompany the transfer of Ukrainian entrants to study abroad. In particular, we are interested in the aspect of cash flows associated with the medical insurance of Ukrainian students abroad.

It should be noted that when it comes to free education of foreign students in countries such as Germany, Finland, Czech Republic (in case of studying in Czech), then medical services are still provided with appropriate insurance. Especially if educational services are also paid.

### Literature review

Since medical insurance for student youthstudying abroad is an isolated case, firstly we have to consider the reasons for the occurrence of health insurance, its place in the general insurance system, identify varieties of financial flows in insurance in general, and in medical insurance in particular.

In domestic scientific sources the study of insurance issues is conducted in different directions. Table 1 provides a typology of directions for studying insurance issues conducted by Ukrainian scholars. Of course, having in mind a certain

direction of our research, namely, orientation towards health insurance, we paid more attention to the mentioned topic. We left behind our interest insurance issues related to property insurance, civil liability and others. Nevertheless, since for many researchers the issues are not strictly directed only on a separate type of insurance, we must also point to those works, in which, the issue of other segments of the insurance market is described alongside with the problems of health insurance. As a rule, all types of insurance are covered by educational literature and comprehensive monographs devoted to general insurance issues [Bazylevych, Pikus, Prykaziuk & Motashko, 2014; Hamankova, 2019; Plysa, 2010; Moskalenko, 2015]. Quite a lot of attention is paid to the analysis of the state of the insurance market. An example of such works is [Hamankova, 2019; Melnyk, Kulbachna & Zhulim, 2018; Chumachenko, 2017; Onisiforova, Bolotova & Ostapenko, 2018; Rubtsova & Chkan, 2015].

Table 1

**Typology of scientific research of Ukrainian scientists in the field of insurance**

Areas of research in the field of insurance	Researchers in the respective directions
General insurance issues	Bazylevych, V. Hamankova, O. Plysa, V. Moskalenko, M.
Analysis of the insurance market of Ukraine	Melnyk, O., Kulbachna, L., Zhulim, M. Hamankova, O. Chumachenko, I. Onisiforova, V., Bolotova, T., Ostapenko, L. Rubitsova, N., Chkan, I.
State regulation of insurance activity	Serdiuk, M. Fedorova, N.
The role of health insurance in the reform of the health care system	Pasichnyk, Yu. Resnikova, N., Rubtsova, M. Tlusta, H. Kyrychenko, A.
Compulsory health insurance	Bora, N. Kyrychenko, A. Livak, P.
History of medical insurance development in Ukraine and abroad	Kochnova, I. Kundytskii, O. Mashevski, O., Baraboi, M. Yermolaieva, M., Skydanenko, Yu. Berezina, S.
Comparison of medical insurance development in Ukraine with foreign medical insurance experience	Herus, Yu. Kostenko, T., Stokolyuk, V., Zavaloka, L.

In the context of market transformations that also apply to the insurance market, state regulation of insurance activity is important, which is reflected in papers [Serdiuk, 2017; Fedorova, 2018]. Of course, the number of such publications is more significant, since the management of economic processes by state regulators of markets has been existing for a long time. And the practice of the previous 80 years has shown different effectiveness of such regulation, both abroad and in Ukraine. This is especially true of the Soviet era of the “planned” economy and the need to overcome the consequences of such a government in the process of establishing market relations.

The currently developing medical insurance in Ukraine is an integral part of the reform of the medical sector, health care system. This issue is devoted to more than one publication, but we only show the following [Pasichnyk, 2012; Reznikova & Rubtsova, 2018; Tlusta, 2014; Kyrychenko, 2018]. Discussions on compulsory health insurance are taking place [Bora, 2018; Livak, 2014]. By building a market economy and forming a market consciousness among Ukrainian citizens, it is not always possible to confidently establish the necessity, and most importantly, the possibility of introducing and approving compulsory health insurance. The obligatory nature of certain insurance measures is confronted with resistance not only in Ukraine but also abroad. So in the United States, several attempts to introduce certain medical treatment systems have come under great opposition despite the considerable economic and financial potential of this state. The last allegedly successful attempt was also defeated [Mashevskiy & Baraboi, 2017].

However, the experience of foreign countries is extremely interesting in the historical context [Kochnova, 2014; Kundytskyi, 2017; Mashevskiy & Baraboi, 2017; Iermolaieva & Skydanenko, 2012; Berezina, 2018], and in purely comparative at the present stage [Heras, 2015; Kostenko, Stokolyuk & Zavoloka, 2018]. Historical experience allows us to correctly assess the current state of the insurance sector and, in particular, health insurance in Ukraine. After all, historical research allows you to see the mistakes of governments of other countries and those positive solutions to problems that have been successfully implemented.

From studies by domestic scientists who have studied in detail the experience of foreign

colleagues in the field of providing services in the health insurance market, it is known that only a limited number of countries, such as Great Britain, Germany, Sweden, substantially finance the provision of medical services for citizens at the expense of budgets [Pasichnyk, 2012]. In these countries, only part of the cost of medical services is paid by patients from their own income. For most countries, cash flows in the healthcare market are at the expense of citizens.

The research of financial flows in the field of insurance is actively conducted, both in Ukraine and abroad. Interesting in this sense is a comparison and generalization concerning compulsory health insurance [Livak, 2014], including the process of implementation of medical reform [Kyrychenko, 2018], the need for the introduction of insurance medicine [Bora, 2018]. Although it is still time for Ukraine to consider health insurance issues, without which the transition to insurance medicine, as evidenced by foreign experience, is impossible.

However, we are not only interested in health insurance. We are interested in the medical insurance of Ukrainian students studying abroad. After all, every foreigner is deprived in any country of the world of the protections that a person has the right to count on in his country. This is true for both: those who go abroad for work and those young people who go to study abroad.

**The purpose of the article** is to identify and study the volume of financial flows associated with medical insurance of Ukrainian students studying in foreign universities, that is, the volume of insurance cash flows.

### **Methodological approach**

Financial flows in insurance companies are different and they can be connected, both with the receipt of insurance premiums, with the payment of compensation in connection with insurance cases, and with the investment of free funds for deposits with banks, the receipt of interest from deposits, at last with the deterioration of the insurance company itself (payment of wages employees, payment for communal services, maintenance of buildings and premises, rent payment in case of renting premises for a company, etc.).

We proceed from the considerations that medical insurance, in particular for Ukrainian

students studying in foreign universities, has only two directions of movement of funds: payment of insurance policies to insured persons and payment of insurance funds in the insurance case by the insurer. For each of these two streams, we will apply the name of the insurance cash flows. Thus, we propose to supplement the typology of financial flows of the insurance market by such a category as "insurance cash flows".

Studies in the field of insurance cash flows related to the studying of Ukrainian citizens in foreign universities in Ukraine were not conducted. Obviously, this is due to the recent tendency of quite a mass transfer of Ukrainian entrants abroad. Thus, the traditions of studying at European universities in Ukrainians existed from the 15th century to the Soviet era, when studying abroad could be carried out only by selected citizens. Mostly such studying was associated with the training of future diplomats. Instead, such opportunities were not considered for a wide range of other specialties. Only in the 70's and 80's of the last century a limited number of students could study in higher educational institutions of the countries of the socialist commonwealth. However, such studying was not of a mass character.

To study the volume of insurance cash flows associated with Ukrainian students at foreign universities, you need to know about certain background data. Such data includes: the minimum amount for medical insurance for student youth in a particular country; the size of the insurance premium; the number of Ukrainian students in a particular country. Since the countries of Central and Eastern Europe use different currencies, and we are interested in comparing insurance cash flows, it is necessary to know about exchange rates, the ratio of national currencies to euro, since this currency is used in countries of the euro zone, and to hryvnia for the assessment of insurance cash flows in the national currency of Ukraine.

### **Conducting results of research**

Research shows that almost all countries, at least in Europe, which we conducted to study this question, adhere to the requirements of compulsory health insurance. Of course, each country has built such a system of insurance on its own, has defined the appropriate tariffs and insurance procedures, differentiated a set of medical services in accordance with tariffs. However, virtually all

countries of Central and Eastern Europe have set a minimum amount for health insurance for student youth at the level of 30,000.00 euros. Next, we will provide data on medical insurance for students in several European countries.

In Austria there is compulsory health insurance, which is also mandatory for students. For insurance it is necessary to purchase a plastic medical card (e-card), for which you should pay 11.70 € annually. The monthly insurance premium for students is reduced to 58.39 €. Taking into account the annual fee for a plastic medical card, the total annual cost of medical insurance will be 712.38 € for the student.

In Bulgaria, the cost of an annual insurance policy for students is 130.00 leva; with a rate of 0.5104 EUR per 1 BGN (updated April 30, 2019 06:45:02 UTC<sup>1</sup>) it will be 66.35 €. However, if an insured event occurs, then a so-called deferred payment of 40.00 leva is required, which is 20.52 €. Consequently, in the absence of insured events during the year the regular annual insurance payment will be 66.35 €.

In Germany medical insurance for students is mandatory and requires an insurance of € 30,000.00. It is allowed to buy insurance policies of different prices, depending on the tariff (28.00 €; 35.00 € or 63.00 € per month<sup>2</sup>) for the amount of: 336.00 €; 420.00 € or 756.00 € per year. Ludwig-Maximilian University of Munich in its calculations on the training of foreign students indicates an amount of 600.00 € per year<sup>3</sup>. The insurance company X-Patrio will require a payment of 90.00 € [Chundak, 2019]. Then, the student's total annual medical expenses may amount to 426.00 €; 510.00 € or 690.00 € per year at Ludwig-Maximilian University of Munich, or 846.00 € per year. The contribution for students under 30 years

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<sup>1</sup> Source: Online Currency Converter. Access mode: <https://freecurrencyrates.com/ru/convert-EUR-BGN>

<sup>2</sup> Source: Medical insurance in Germany for foreign students, for all foreign students of language schools, scholarships and postgraduate students. Access mode: <https://www.studentversicherung.de/medicinskaja-strahovka-v-germanii-dlja-inostrannih-studentov-stipendiatov-aspirantov.html>

<sup>3</sup> Source: Ludwig-Maximilians-Universität München. Access mode: <https://www.uni-muenchen.de/aktuelles/index.html>

### Financial flows in the field of insurance

old in the state insurance company from 2017 is 82.88 €, which is 994.56 € per year. To the generalized table we will add the average amount of money indicated by Ludwig-Maximilian University in Munich.

In Poland the student contribution is PLN 47.00 per month<sup>4</sup>, or PLN 564.00 per year. According to the exchange rate of Polish zloty to EUR 0.23292 PLN / EUR (April 30, 2019<sup>5</sup>), the annual amount of health insurance for a student in Poland will be 131.37 €.

In the Czech Republic the cost of health insurance for students for 12 months is 11,000.00 Kč (CZK). At the rate of CZK / EUR 0.03896 (April 30, 2019<sup>6</sup>) this will be 428.56 €.

The results for student health insurance of the specified countries are summarised in Table 2.

Table 2

#### Data on compulsory medical insurance for students and the amount of insurance payments

Country	Compulsion of medical insurance	Insurance premium per year, €
Austria	Mandatory	712.38
Bulgaria	Mandatory	66.35
Germany	Mandatory	690.00
Poland	Mandatory	131.37
The Czech Republic	Mandatory	428.56

Of course, talking about cash flows associated with student health insurance should only be in case when the number of students abroad is significant enough. If it were a single student, or even a hundred students, then it is not worth taking insurance premiums as a cash flow that needs research. That is why it is important to provide information about the number of Ukrainian students in the universities of the countries of Central and Eastern Europe. This number is really significant, which is measured by tens of thousands of people (Table 3). Given the annual cost of insurance policies and a significant number of Ukrainian citizens studying in foreign universities, it is

<sup>4</sup> Source: MojaEdukacja. Access mode: <https://mojaedukacja.com/medyczne-strahuvanna>

<sup>5</sup> Source: Currency Converter. Access mode: <https://www.mataf.net/uk/currency/converter-PLN-EUR>

<sup>6</sup> Source: Currency Converter. Access mode: <https://www.mataf.net/uk/currency/converter-CZK-EUR>

possible to expect fairly significant cash flows in the health insurance of Ukrainians abroad. Of course, the question arises, why should you pay attention to it? One of the answers is simple enough: it is important to know about the scale of cash outflow from Ukraine in the form of medical insurance for students. This option of answering the question is important for the state authorities and administration, for the Ministry of Finance of Ukraine. Another answer is important for the families of such students, for which it is not least important to understand not only the amount of tuition fees, but also the cost of staying in one or another country of their child-student, in particular, the cost of health insurance.

Table 3

#### Data on the number of Ukrainian citizens studying abroad at universities

Country	Number of Ukrainian citizens studying at universities, persons	
	2015–2016 <sup>7</sup>	2016–2017 <sup>8</sup>
Austria	1.607	1.625
Bulgaria	561	669
Greece	285	285
Italy	2.348	2.536
Latvia	233	242
Lithuania	361	377
Germany	9.088	9.638
Poland	30.041	33.370
Russia	6.936	11.440
Romania	246	327
Slovakia	683	1.169
Turkey	464	506
Hungary	1.026	838
Czech Republic	2.395	2.471
Estonia	230	292
<b>The number of students studying at universities total for the academic year</b>	<b>56.504</b>	<b>65.785</b>

<sup>7</sup> Source: Stadnyi E. (2017) Ukrainian Students Abroad: Facts and Stereotypes. [in Ukrainian]. Retrieved from <https://cedos.org.ua/uk/articles/ukrainski-studenty-za-kordonom-fakty-ta-stereotypy>

<sup>8</sup> Source: Stadnyi E. (2019) Ukrainian Students Abroad: Data Up to 2017/18 of the Academic Year. [in Ukrainian]. Retrieved from <https://cedos.org.ua/uk/articles/ukrainske-studentstvo-za-kordonom-dani-do-201718-navchalnoho-roku>

The data presented in Table 3 shows that the highest value of insurance policies is in Austria (712.38 €) and Germany (690.00 €). The lowest cost is respectively in Poland (131.37 €) and Bulgaria (66.35 €). The average value of the cost of a health insurance policy in the Czech Republic (428.56 €). We did not conduct a separate study on the content of health services that can be provided under a specific health insurance policy in each country. It is enough to note that in Germany there are three different costs of the insurance policy and, accordingly, three different sets of medical services. It is well-known that the higher the cost of a health insurance policy, the greater the set of possible medical services for the patient.

Analysing the number of Ukrainian students in these five countries, Poland can be identified as a leader by this indicator, where from 30.041 to 33.370 Ukrainian citizens are studying. The next country in terms of the number of Ukrainian students is Germany. There were 9088 students studying in the 2015–2016 academic year and 9638 – in the 2016–2017 academic year. The smallest

number of Ukrainian students in these periods was in the Czech Republic – 2395 (2015–2016 academic year) and 2471 (2016–2017 academic year) and in Bulgaria – 561 (2015–2016 academic year) and 669 (2016–2017 academic year). Austria had an average number of Ukrainian students: 1607 (2015–2016 academic year) and 1625 (2016–2017 academic year). It should be noted that in these countries there was an increase in the number of Ukrainian citizens who received university education. Comparing the total number of students in these five countries with the number of students in 15 countries (Table 4), it should be said about the increase in the number of Ukrainians in 15 countries and, accordingly, the decline in the proportion of students studying in Austria, Bulgaria, Germany, Poland and the Czech Republic. Such a decrease in the specific gravity is 4.71 % (77.33–72.62). It can be noted that only in Hungary, the number of Ukrainian students decreased by 188 people: from 1026 to 838 people. However, the number of Ukrainian citizens studying in Russia increased significantly: from 6936 to 11440 people.

Table 4

**Calculations of cash flows of student health insurance at universities of Central and Eastern Europe**

Country	Insurance premium per year, €	Number of Ukrainian students studying in universities of the country in academic years, persons		The amount of cash flow of student medical insurance over the years, €	
		2015–2016	2016–2017	2015-2016	2016-2017
Austria	712.38	1.607	1.625	1.144.794.66	1.157.617.50
Bulgaria	66.35	561	669	37.222.35	44.388.15
Germany	690.00	9.088	9.638	6.270.720.00	6.650.220.00
Poland	131.37	30.041	33.370	3.946.486.17	4.383.816.90
Czech Republic	428.56	2.395	2.471	1.026.401.20	1.058.971.76
Total for a group of countries		43.692	47.773	12.425.624.40	13.295.014.30
Percentage of the group of countries to the number of students of the universities studied		77.33 %*	72.62 %**		

\*(43,692:56,504)×100 = 77.33 %.

\*\* (47,773:65,785)×100 = 72.62 %

Calculations show that the largest cash flows related to the health insurance of Ukrainian students were in Germany 6.270.720.00 € (2015–2016 academic year) and 6.650.220.00 € (2016–2017 academic year) and Poland 3.946.486.17 € (2015–2016 academic year) and € 4.383.816.90 (2016–2017 school year). It may be noted that the size of the cash flow in Germany is more determined by the cost of the health insurance policy, according to which the country took the 2<sup>nd</sup> place. Instead, Poland, in which the cost of the health insurance policy was one of the lowest, received a large cash flow from a large number of Ukrainian students.

The total insurance cash flow per the academic year for five studied countries was quite significant: 12.425.624.40 in the 2015–2016 academic year and 13.295.014.30 in the 2016–2017 academic year.

That is, the gain in just one year amounted to 869.389.90 €. If, in the 2017–2018 academic year, 35.000 Ukrainian students are already studying in Poland (Table 4), this means an even greater increase in the monetary insurance cash flow beyond Ukraine.

### **Conclusions**

The study of insurance cash flows related to the studying of Ukrainian citizens in foreign universities is of interest not only in academic but also in practical terms. In academic terms, such research is, to a certain extent, pioneer, since until today there was not such a thing as a mass exodus of Ukrainians to study abroad. In the applied sense, it is necessary to investigate such a process in connection with a certain type of export of funds from the country. In other words, state authorities and management should pay attention to the magnitude of such a cash flow.

The practical significance such studies have also for individuals who have to pay for health insurance for staying abroad. The assessment of the cost of education or the cost of housing and food must necessarily be complemented by an assessment of the cost of insurance policies. Moreover, if we look at the problem of providing medical services in another state, that is, to go beyond the scope of our study, then unforeseen treatment of injuries and other diseases should be

foreseen. After all, while staying abroad, the student does not give up entertainment, sport events, tourism trips, etc. Instead, even during dance tournaments, and especially during a ski tour, a person, including a student, is in danger of getting damage that will require, at best, primary care and in the worst case - treatment.

This study of potential monetary costs, which are also cash flows, can be considered as prospects for further research.

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