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AUTHORS

Anton Boyko
Liudmyla Ostapenko  <https://orcid.org/0000-0001-9953-4771>
Oleg Markin

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Anton Boyko (Ukraine), Liudmyla Ostapenko (Ukraine), Oleg Markin (Ukraine)

State tax policy of insurance companies on different stages of insurance market development

Abstract

Peculiarities of taxation of insurance companies in Ukraine and Europe have been researched. Methodological principles determining the optimal level of tax burden for insurers, depending on the level of national insurance market development have been proposed. The forms of constructive and destructive effects of taxes on insurance companies functioning in the stages of development of the insurance market have been established.

Keywords: insurance companies, tax, tax burden, income tax, optimization, mathematical formalization.

Introduction

Peculiarities of state regulation of economy formed two basic impact directions on the activity of economic agents and financial services market conditions. The first includes the tools of monetary policy, the second – of fiscal policy. Implementation tools of these policies differ in the duration of impact, speed and cost effects resulting application. Regarding fiscal policy instruments, such as tax rates, for any financial market, it is leverage of long-term exposure to development dynamics of its subjects. Using different levels of tax burden, the state adjusts the volume of financial resources that remain at the disposal of financial intermediaries and directed to the state budget. That state regulatory authorities thereby affect investment activity and development dynamics of business entities.

Insurance companies' taxation differs greatly from the taxation of other business entities. It is connected with the specific peculiarities of its activity, which include the protection of property and other interests of insurers and profit opportunities through non-core activity (investment of insurance reserves). However, insurance companies' preferential taxation which is very often used in different countries, leads to its usage for tax avasion by other entities. This necessitates the formation of insurance companies system of taxation of income and profits, which we believe should be based not only on the differentiated tax rates and the tax base, but also on the transformation of the insurers' tax system depending on the stage of the national insurance market development.

1. Analysis of the recent research and publications

Peculiarities of insurance companies taxation are investigated in the accounts of Ernst & Young

(Global Insurance Premium Tax, 2015), German Insurance Association (GDV) (Indirect taxation on insurance contracts in Europe, 2015), Deloitte (2015, 2016), QBE (What Brexit means for business). In Ukraine the taxation system of insurance market business entities was investigated by O. Gamankova, V. Khlivnyi (2012), K. Reznichenko, I. Samofat (2015), V. Bazylevych, R. Pikus (2008), M. Khudiev (2005). Business processes formalization mathematical tools are reflected in the works of O. Kozmenko (2013), O. Kuzmenko (2014), V. Roenko (2014).

2. Earlier unresolved parts of the problem

The majority of researchers describe the existing changes in the insurance companies' taxation system expressing their own thoughts concerning the effectiveness of this or that approach. Not enough attention is paid towards the development of methodological principles of optimal taxation incidence for insurance companies and its differentiation depending on the level of national insurance market development.

3. Goal of the research

Methodological bases development for determining taxation incidence for insurers depending on the level of insurance market development.

4. The main results of the research

Not focusing on definite time intervals with specific efforts of state authorities to change the insurance companies' taxation system in Ukraine, from 1997 till 2016, we declare that until 2015, national insurers in their majority held special preferential taxation regime. And the main tax they paid was gross premiums tax that included 3%. Besides, taxation base for this tax was lessened on the premium volume given for reinsurance. For all other insurance company incomes, existing mechanism of income tax payment was applied (tax rate at different times in Ukraine was between 18%-30%). From January 1, 2015, insurers in Ukraine were transmitted on a general taxation system, though

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Anton Boyko, Ph.D. in Economics, Assistant Professor of Economic Cybernetics Department, Sumy State University, Ukraine.

Liudmyla Ostapenko, Ph.D. in Economics, Director of Limited Liability Company "Consulting Publishing Company "Business Perspectives", Ukraine.

Oleg Markin, Ph.D. Student of Sumy State University, Ukraine.

stayed on an existing 3% gross premium tax. Thus, taxation system reform in Ukraine was held as an enforcing fiscal taxation function, which is impossible in crisis periods.

Summarizing the peculiarities of insurance companies'

taxation in Ukraine (tax base formation mechanism, preferential kinds of insurance, ways towards reinsurance taxation operations and so on), we formalize the systems of destructive and constructive tax impact on the insurance market functioning on different development levels (Table 1).

Table 1. Taxation instruments impact on insurance market

Insurance market development stage and its characteristics	Taxation instruments	Constructive impact	Destructive impact
1. Formation (determining conditions creation and insurance companies' future activity) 2. Make-up (active enlargement of insurance companies quantity with different licenses)	Profit tax rate	Gross premiums are taxed only at low rate	High tax rates for gross premiums
	Preferential taxation of definite kinds of insurance	All kinds of life and compulsory insurance are taxed on a zero rate	Preference absence
	Taxation base and reinsurance operations place determining	Gross premiums minus premiums sent for reinsurance are taxed, with further rating to reinsurers non-residents	All gross premiums including premiums on reinsurance operations are taxed, no ratings for reinsurers non-residents are applied.
3. Development (a significant number of companies, including with foreign capital, the formation of the branch network, providing various types of insurance)	Profit tax rate	The largest from two rates is chosen: gross premium (3%-5%) or income (15%-20%)	High income tax rates or its simultaneous usage
	Preferential taxation of definite kinds of insurance	All kinds of life and compulsory insurance are taxed on a zero rate	Preference absence
	Taxation base and reinsurance operations place determining	Gross premiums are calculated except premiums sent to highly ranked reinsurers, and income by International Accounting Standards methods	Income taxation is transmitted through special state authorities created methodology, which is not correlated with accounting
4. Peak functioning (market consolidation, clearing it from circuit operations, significant volume of insurers investment income)	Profit tax rate	Insurers' income with the rate not more than 10% is taxed	Gross premiums or insurers' income with the rate more than 15% are taxed
	Preferential taxation of definite kinds of insurance	Absent taxes on insurance kinds, the tax is not applied for income only, got from the reserves on life insurance placement	Any taxes of insurance kinds
	Taxation base and reinsurance operations place determining	Insurer's income is calculated with the methods of International Accounting Standards	Taxation base formation is applied on the basis of separate methodology
5. Crisis (insurance companies' solvency loss, insurance services' demand lessening, investment income lessening)	Profit tax rate	Insurers income with the rate not more than 5% is taxed	Insurers income with the rate more than 10% is taxed
	Preferential taxation of definite kinds of insurance	All kinds of life and compulsory insurance are taxed on a zero rate	Small quantity of preferential insurance
	Taxation base and reinsurance operations place determining	Insurer's income is calculated with the methods of International Accounting Standards	Taxation base formation is applied on the basis of separate methodology
6. Transformation (insurance companies' functioning on the basis of anti crisis legislation, new insurance products and its trading ways appearance)	Profit tax rate	Insurers income with the rate not more than 5% is taxed	Insurers income with the rate more than 10% is taxed
	Preferential taxation of definite kinds of insurance	IT sphere risks and other high technology spheres	Traditional preferences: of life and compulsory insurance
	Taxation base and reinsurance operations place determining	Insurer's income is calculated with the methods of International Accounting Standards	Taxation base formation is applied on the basis of separate methodology

At the insurance market development stages, state tax policy should be directed on the organization of most appropriate basis for insurance framework of organization. Only preferential tax status of insurance sphere will let attract great private financial resources into this sphere. That is, on this stage of insurance market development, there should be identical tax rate of gross premiums in the volumes not more than 5% and exemption of most socially oriented kinds of insurance, for instance, medical insurance, retirement insurance, "Green card" and others. Besides, on the make-up stage of insurance market, only premiums transmitted into reinsurance by high rated reinsurers should be free from taxation, as this will let the opportunity to lessen corruption operations volume.

On the insurance market development stage, insurers' income taxation system should be introduced, even with parallel existence of gross premiums taxation system. It will give the possibility for insurers to adapt to taxation changes. This is due to the insurance services' classical market formation need, and not for usage of differences in insurance companies' taxation methods with the aim of taxation payment optimization by the last. There may exist two taxation systems at once: both gross premiums and insurers' income, but insurance companies should pay the largest from them. It will give the possibility to start "clearing" the insurance market from circuit operations. Reinsurance should be paid great attention, as insurers actively use this instrument not

only for own risks minimization, but also for getting costs abroad. Thus, from the gross premiums taxation base only premiums given to high rated reinsurers and with fine reputation should be deducted. Further state regulation authorities should pay attention to the work history of this or that reinsurer and reinsurance object, as financial medium rate is not the proof of its decent activity, as the 2007-2008 crisis showed. At the same time, income before insurance company taxation should be calculated exceptionally by International Accounting Standards methodology, as some other methodology will not only worsen the calculation from the point of definite articles' content unclearness, but also will give the insurers opportunity to rise their own expenses and, at the same time, to form the loss from activity, and, therefore, not to pay taxes.

Insurance market development peak should be accompanied by minimal tax burden. This will provide the insurance companies to be at this stage for a long period of time, and to get great amounts of tax revenues for a state due to economies of scale. There shouldn't be preferential taxation at all, as this deforms the market and creates unequal competitive bids. At the same time, the income the insurer gets from placing reserves formed on the basis of premiums got from life and compulsory insurance should be free from taxation. This will give the possibility to activate the part of insurance activity even more.

During insurance market crisis, taxation level should be lessened, and preferential insurance types should be widened. At this stage, the main essence of state regulation authorities is the support of insurance companies' solvency by all possible instruments, including tax. But insurance activity monitoring from the point of specially authorized state entity should rise not to let the insurance market state worsening by getting tax preferences.

Insurance market transformation is indispensable after crisis, it is connected with both new conditions of economic management of all economic agents, and innovation activity types appearance, with the specific risks. In these conditions, insurers' state taxation policy should be in a small taxation burden, to provide the possibility for insurance companies to renew from the actions of crisis factors destructive actions. Risks connected with IT sphere and highly technological companies should be taxed on a zero rate to get innovative sphere towards insurance not overvaluing insurance rates for the high income tax rate.

Besides, it should be stated after transformation insurance market begins again a new life cycle, but with different conditions and activity peculiarities.

It should be noted the special preferential taxation regime of insurance companies' activity leads to large usage volume of their operations with the aim of taxation avoidance and costs legalization got in illegal way. However, insurance companies' activity development without preferential taxation policy is impossible at the beginning stages of insurance market make up.

For Ukraine, the most serious problems connected with taxation system of insurance market agents are:

- ◆ double taxation (the tax is levied on income and profits);
- ◆ insurance types list, which are taxed at a zero rate. Except life insurance, retirement, "Green card" and some other compulsory insurance types, the actuality of adding into preference category health insurance requires;
- ◆ the forming mechanism of taxable income. The parts of profits and expenses articles of insurance companies should be decoded more precisely, that are used for income taxation determining;
- ◆ procedure of insurance reserves inclusion to the taxation base. Insurance reserves costs should work for economy of Ukraine as investment, that's why they shouldn't be taxed;
- ◆ reinsurance operations taxation specific. State regulation of reinsurance operations should take place not through taxation instruments, but on the basis of detailed monitoring of reinsurance agent and the image of cessionaire and retrocessionaire companies;
- ◆ taking into account the expenditures on insurance towards enterprises' gross expenditures. Except expenditures of financial risks all other types of insurance should form the other expenditures' article of enterprises and lessen taxable income.

Exploring the system of insurance companies' income taxation in European countries, for instance, Germany, we state that for that country insurance premiums taxation and difference attitude towards each insurance type of taxation is characteristic. There take place different rates and preference regimes, as life and health insurance and reinsurance get free from taxation. For fire and fire business interruption insurance, the largest taxation rate is featured on the level of 22% of insurance premiums. The basic is the tax rate of 19% of insurance premiums, it is used towards residential building, home contents, individual accident, goods in transit

insurance in Germany and most part of other types of insurance. Lowered taxation rate of insurance premiums in Germany exists for marine hull (3%) and hail (0.3%).

The common taxation system of insurance companies is in Great Britain. Only basic is the rate of 6% from insurance premiums, for such types of insurance as fire, private medical insurance and others. Higher taxation rate in the amount of 20% is applied to travel and certain extended warranty and mechanical breakdown. Life and pensions, marine, aviation and transport (MAT), export credit, reinsurance are free from profit taxation rate.

That is, for Germany and Great Britain, the established insurance taxation profit system is characteristic. Based on the fact that in these countries, insurance system with absence usage of insurance companies for criminal profits legalization is developed, getting profit from investment activity, then, the insurance premiums taxation is applied.

For countries with less developed insurance system a bit different situation is found. For example, the features of Hungary include the rate of insurance premiums taxation changes depending on the sum of earned premiums during last year. Thus, in case of getting the last year volume of premiums in the amount of 8 and more milliards of forint, the taxation rate is 10%-15%, in case of premiums volume of more than 700 million forint, the tax rate is 5% or 7.5%, in case of earned premiums amount is less than 700 million forint, the tax rate is 2.5 or 3.75%. These taxation rates are applied to all insurance types, except life, health, agricultural risk and reinsurance, which are free from taxation.

Poland realizes insurers' taxation with the help of income tax. Insurers' income is taxed on general terms with 19% rate. This fact approves the actuality to introduce the same system in Ukraine, as Poland is considered to be the etalon country for Ukraine in all financial-economic issues on the integration stage to European Union.

Thus, the taxation burden level is different in every country, both taxation base and insurance types and rates are differentiated. However, taking into account the tendency of insurers from undeveloped countries to financial and criminal breach of law, the most actual is profit taxation at this stage. At the same time, effective taxation rate of insurers should bear clear analytical framework.

Thus, optimal insurers' income tax rate determining depending on the insurance market development stage should be tackled on the basis of mathematical programming usage. To formalize this approach, it is proposed to introduce:

- ♦ *purposive function* – regressive equation depending on the ratio of gross premiums to GDP from *factor features* of income tax rate, insurers' assets, insurance companies' quantity. This purposive function formation is caused by the most representative feature that describes insurance market development is the gross premiums ratio to GDP, it shows the volume of this market and its importance for state economy. Factor variables also quantitatively describe the insurance market state, assets volume characterizes, to some extent, financial solvency of its agents, and companies' quantity – market concentration and insurers' market power, as comparing to assets, it is possible to make a conclusion about great amount of captive and low solvency companies' functioning;
- ♦ *controlled input variable* – income tax rate, which is a search variable;
- ♦ *limitation* – first, *the level of insurance benefits* as econometric dependence model on income tax rate. The value of insurance benefits level directs to the singular meaning. This limitation is due to the fact the insurers must actively do their basic function on interests' defense of insurers and make payments. Second, *tax returns* as regressive dependence equation on income tax rate. The value of tax return is the index destimulator concerning controlled input variable, that is, there should be a regressive insurers' income tax rate, the more they get profit, the less is the rate. Third, *investment profit* as econometric dependence model on income tax rate. Investment rate value research as a stimulator concerning controlled input variable, is due to the need to activate effective insurers' work on investment market. Fourth, the relation of reinsurance volume among non-residents to reinsurance volume among residents as a regressive dependence equation on income tax rate. The value of this parameter should be less than one, as prevalence in national risks reinsurance among non-residents indicates the costs withdrawal abroad.

Mathematical record of this approach is the following:

$$\frac{GP}{GDP} = a_0 + a_1 \cdot TRP + a_1 \cdot AI + a_2 \cdot NIC \rightarrow \max;$$

$$\begin{cases} LP = l_0 + l_1 \cdot TRP \leq 1, \\ TR = t_0 + t_1 \cdot TRP \geq \overline{TR}, \\ PI = p_0 + p_1 \cdot TRP \geq \overline{PI}, \\ RR = r_0 + r_1 \cdot TRP < 1; \end{cases} \quad (1)$$

where GP – gross premiums; GDP – gross domestic product; TRP – profit tax rate; AI – insurers' assets; NIC – insurance companies number; LP – insurance profits level; TR – tax returns; PI – investment profit; RR – the relation of reinsurance volume among non-residents to reinsurance volume among residents; $\overline{TR}$ – the average value of tax returns for the analyzed period of time; $\overline{PI}$ – average income value from investment for the analyzed period of time.

It is an adaptive model, which means it should be calculated in a half year interval for each group of insurance companies: small, medium and large. The proposed approach usage shouldn't be in all cases, as it takes into account average parameters on investment profit and tax returns, and these parameters among different in volume companies cannot be compatible. This will create the possibility to continuously review income tax rate depending the direction of insurance market and definite groups of its agents. That is whether insurers increase investment activity, use reinsurance operations for costs legalization and on which level the enjoyment level of insurance demands is placed. If these parameters have positive dynamics in time or correspond to standards, then, income tax rate will lessen, if insurance market does not execute its function, then, on the contrary, it will increase.

The difficulty of insurer's income optimal tax rate determining approach depending on the insurance market development stage means constant monitoring of the insurance market situation for a definite group of companies and tax rate change for half year (establishing of accounting for half a year), however, in our case, it will be a stimulating instrument of state tax policy, which will let tackle burning for a definite insurance market development stage issues.

Testing of earlier proposed approach on evidence of insurance market of Ukraine lets get the following equation system:

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$$\begin{aligned} \frac{GP}{GDP} &= 0.67 + 0.43 \cdot TRP^2 - 2.57 \cdot TRP + \\ &+ 0.22 \cdot \ln(AI) + 0.08 \cdot NIC^2 + 0.97 \cdot NIC \rightarrow \max; \\ \begin{cases} LP = 2.97 + 4.59 \cdot TRP^2 + 1.36 \cdot TRP \leq 1, \\ TR = 0.35 - 0.02 \cdot TRP \geq \overline{TR}, \\ PI = 59863.59 - 15.26 \cdot TRP \geq \overline{PI}, \\ RR = 4895.57 + 0.59 \cdot \ln(TRP) < 1. \end{cases} \end{aligned} \quad (2)$$

Modeling task determining of optimal income tax rate level and its solution with the help of simplex method let get an optimal level of analyzed parameter on the level of 30%. We didn't divide the insurance companies into groups. All insurance companies are insignificant in assets volume with low solvency. Got high income tax meaning is also totally validated, as, among four limitations, only limitation concerning value relation of reinsurance volume among non-residents to reinsurance volume among residents is executed. At the same time, neither profits level, nor tax returns lead to optimal meaning.

Conclusion

Tax instruments for insurance market have crucial importance and are able to activate not only insurance companies' activity, but also insurance services extension level among individuals and legal entities in the country. However, state policy should use taxation system not from the fiscal point, but as a mechanism to stimulate economic processes in the country. The main development vector for Ukrainian insurance market should become effective insurers' income tax rate depending on the insurance returns' level, usage peculiarities of reinsurance operations and tax returns of insurance companies. Besides, with every next stage of insurance market development, taxation system should be transformed and directed on the increase of not the volume of tax burden on insurers, but their investment activity and insurers' defense.

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