

## ASSIMILATION OF INVESTMENT POTENTIAL OF INSURANCE COMPANIES THROUGH GOVERNMENT SECURITIES

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*Investments in fixed capital and human capital represent a reliable way to the economic development of the Republic of Moldova. The acceleration of investments can be achieved through an active and viable financial market. The stimulation of institutional investors and of the process of securities issuing and trading is a strategic development tool for the country. The purpose of the study is to analyze insurance companies as institutional investors and to present opportunities for investment in state securities. Markowitz and Sharpe's theories of efficient investment portfolios selection based on profitability and risk formed the theoretical and methodological framework. The research is based on data from the National Commission for Financial Markets, on the reports of Moldova's Ministry of Finance and on the statistics from National Bank a National Bureau of Statistics. For secondary analysis, data reports from international organization such as OECD and Insurance Europe and International Monetary Fund have been used. The study was conducted by classical methods of the economic and financial analysis. The results of research have shown that government securities are the most profitable of all securities issued on the primary financial market in the Republic of Moldova. In recent years, interest rates at the state securities are extremely attractive, more attractive than returns on investment in other areas. State securities are the safest investment because the guarantor of this investment is government. That is why state securities are a very attractive investment area for insurance companies. The stimulation of the investment activity in the state can be achieved by using the primary market of government securities as an investment tool for capitalization of the investment potential of the insurance market.*

**Keywords:** investments, insurance companies, government securities, financial market, public debt.

*Investi iile în capitalul fix i capital uman reprezint calea cert de dezvoltare economic a Republicii Moldova. Impulsionarea investi iilor poate fi realizat prin intermediul unei pie e financiare active i viabile. Astfel, stimularea investitorilor institu ionali i a procesului de emisie i tranzac ionare a titlurilor financiare reprezint un mijloc strategic de dezvoltare a rii. Scopul studiului: prezint analiza companiilor de asigur ri ca investitori institu ionali i prezentarea oportunit ilor de investire în hârtii de valoare de stat. Cadrul teoretico-metodologic l-au constituit teoriile lui Markowitz i ale lui Sharpe referitoare la alegerile portofoliilor eficiente de investi ii în baz de rentabilitate i risc. Cercetarea este bazat pe datele CNPF, rapoartele Ministerului Finan elor al RM, statisticile B nciile Na ionale i ale Biroului Na ional de Statistic . Pentru analiz secundar au fost folosite rapoartele organiza iilor interna ionale, precum: OECD, Insurance Europe i FMI. Studiul a fost realizat prin utilizarea metodelor clasice de analiz economico-financiar . Rezultatele cercet rii au demonstrat c din toate titlurile de valoare emise pe pia a primar din Republica Moldova, cele mai profitabile sunt valorile mobiliare de stat. În ultimii ani, ratele dobânzilor la VMS sunt extrem de atractive, dep ind rentabilitatea investi iilor în alte domenii. Titlurile de stat au cel mai mare grad de siguran , având ca garant guvernul, motiv pentru care VMS reprezint un domeniu foarte atractiv de investi ii pentru companiile de asigurare. Impulsionarea activit ii investi ionale în stat poate fi realizat prin folosirea pie ei primare a VMS drept instrument investi ional pentru valorificarea poten ialului investi ional al pie ei de asigur ri.*

**Cuvinte-cheie:** investi ii, companii de asigur ri, valori mobiliare de stat, pia financiar , datorie public.

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**UDC: 336.5:368**

**Introduction.** In developed countries, financial markets are the main generator of investments for the economy. These markets mobilized important financial resources for economic agents and channelled the cash resources of individuals and businesses to the most profitable areas.

The main actors in the financial market are institutional investors – institutions that manage and invest the money of third parties. Besides banks, investment funds, pension funds etc., financial market includes insurance companies. Institutional investors directly or indirectly hold most of the people's economies in developed countries. In addition, they are among the most important players in the world economy because they finance countries and companies, directly contributing to the economic growth. Therefore, in the Republic of Moldova there is an untapped potential in the field of financial intermediation through the insurance companies. This statement is based on the dynamic growth rates of insurance market and on the increasing profits. For this reason, the investment potential of the insurance companies is an important part of the financial market.

In the Republic of Moldova, there is not a strong and mature financial market and institutional investors invests in state securities, bank deposits or real estate projects. Investments in corporate securities are very popular in developed countries due to the high profitability. In our country this type of titles are not popular because there is no a developed secondary market.

The presented study is based on the analysis of the investment possibilities of the insurance companies in the Republic of Moldova. Specific security requires for insurers investments makes state securities the most recommended. In addition, there are opportunities to obtain significant profits here, due to high interest rates on state securities in the last period. In addition, these titles are the safest because the government guarantees them.

Currently, the Republic of Moldova needs investment to provide a reliable way to economic development. Strengthening of the financial market by boosting the institutional investors' activity is the main force that can contribute to achieving this goal. By capital placing of the insurance companies in government securities, the citizens of the Republic of Moldova, holders of a private insurance policy, become state creditors and contribute not only to the insurance of their own well-being, but also to the diminution of the public debt.

**Theoretical and methodological framework.** Financial theory knows various models in which the investment potential is developed through the government securities segment. Harry Markowitz made basics of a scientific approach to titles portfolio. In 1950, he introduced the financial market solutions and developed a modern theory of efficient investment portfolio choice [8]. The theory helps to choose an optimal combination of investment projects based on profitability and risk. Markowitz believed that investor's behaviour is based on the desire to achieve higher returns with lower risk. He provided the idea that investors choose risky projects with high profitability to the detriment of safety project with low future incomes [4].

W. Sharpe has studied investment portfolios involving the existence of risk-free assets, besides the risky ones. He developed Markowitz's theory of effective portfolios selection, but only considered risk-free securities, such as state securities. The model developed by Sharp is called CAPM (capital asset pricing model) and provides calculation of the separate return of a risky asset based on return of the risk-free asset and on the market portfolio [12]. The key to the model is the beta factor that estimates the potential gain of an instrument, according to assumed risk and potential market profit. The mathematical expression of CAPM is called SML – Securities Market Line and is a linear equation.

Another model related to risk-free assets is APT (Arbitrage Pricing Model) developed by Stephen Ross (1976). The approach of this model is straightforward than CAMP because it requires fewer assumptions. The main assumption of the APT model is that each investor tends to increase its portfolio's profitability without increasing the risk. The mechanism to achieve this model is to build portfolios based on arbitrage – arbitrage portfolio [16, p.316].

Later, Black, Derman & Toy (1990) describes a model of interest rates that can be used to measure any interest-sensitive securities [1]. In explaining how they work, they focus on evaluation of treasury bills option.

Financial markets have been the object of concern of many economists. In scientific literature, investment process is presented as a way of choosing the direction, volumes and terms of investment. William Sharpe, in his works, argues that according to the investment direction, the investment activity can be divided in two types: real investments and financial investments. Real investments consist of tangible assets such as land, buildings, equipment, etc. Financial investments are "paper contracts" [16, p. 9] that certify the right to obtain future earnings under certain conditions and offer the possibility to transform them at any time into liquidity on the secondary equity market. These contracts are securities most often in the form of shares and bonds. One of the most important criteria in choosing the investment portfolio is risk. The least risky are fixed income investments, including state securities that are safety and liquidity. This type of investment is recommended for insurance companies that are required to maintain a high level of caution.

According to the local scientists led by Rodica Hincu, the institutional structure of the financial market implies the presence of a diversified number of institutions that participate in investment projects [6, p. 47]. Capital transfers from the investor, i.e. the savers, to the one who needs funds, can take place in two ways: direct transfers and indirect transfers [16, p. 9]. Direct transfers occur when a company sells parts of its shares or bonds directly to those who have savings for investment. Indirect transfers involve the existence of a financial intermediary such as banks, insurance companies, pensions, hedge funds, REITs, investment advisors, endowments, and mutual funds etc. Those who were concerned about the study of financial intermediaries activity was Halpern Paul, Weston Fred and Brigham Eugene. They considered that these institutions obtained funds from savers by issuing their own securities, and then they used these funds to buy corporate or government securities [4, p. 55-56].

Studies on the activity of institutional investors are found in the works of American economist Frank J. Fabozzi. He analyzed investments opportunities and requirements for investment strategies of this type of investors. Fabozzi considered insurers companies and pension funds the most important investment component on the equity market.

The current study was focused on the data of the insurance market and on the public debt reports provides by Moldovans authorities. The detailed information about the sources of indicators used and the periods are presented in table 1.

Table 1

## Informational base of research

| Name of document  | Indicators used for analysis   | Analyzed period | Source  |
|---|--|-----------------|---|
| Annual reports of National Commission for Financial Markets of the Republic of Moldova (NCFM) | Gross written premiums<br>Number of participants in the non-banking financial market<br>The aggregate structure of the insurance portfolio (gross premiums by type of insurance)<br>Investments volume (by domain) | 2010- 2016      | <a href="http://www.cnpf.md/md/rapa/">http://www.cnpf.md/md/rapa/</a>   |
| National Bureau of Statistics of the Republic of Moldova                                      | GDP<br>Population<br>Stable Population by Age, Medium and Gender at the Beginning of the Year, 1980-2016   | 2010-2016       | <a href="http://statbank.statistica.md/">http://statbank.statistica.md/</a>   |
| National Bank of Moldova  | Number of primary dealers<br>Number of commercial banks<br>Official exchange rates   | 2014-2016       | <a href="http://bnm.md/">http://bnm.md/</a>   |
| Ministry of Finance's report on the public debt, state guarantees and state re-crediting      | Distribution of government debt by types of instruments  | 2016            | <a href="http://mf.gov.md/files/files/Datoria%20de%20Stat/raport%20dat%20publ/Raport%202016.pdf">http://mf.gov.md/files/files/Datoria%20de%20Stat/raport%20dat%20publ/Raport%202016.pdf</a> |
| Fiscal Code of the Republic of Moldova  | Title II. Article 20, u)   | 2017            | <a href="http://demo.weblex.md/ititem/view/iddbtype/1/id/LPLP199704241163/specialview/1#T2">http://demo.weblex.md/ititem/view/iddbtype/1/id/LPLP199704241163/specialview/1#T2</a>           |
| European Insurance in Figures   | Investment volume<br>Dynamics of life insurance  | 2014-2016       | <a href="https://www.insuranceeurope.eu/european-insurance-figures-2015-data">https://www.insuranceeurope.eu/european-insurance-figures-2015-data</a>                                       |
| Statistics of Organization for Economic Co-operation and Development                          | Insurance indicators:<br>Assets of insurance companies and pension funds;<br>Penetration<br>Density<br>Total gross premiums  | 2014-2016       | <a href="http://stats.oecd.org/Index.aspx?DatasetCode=INSIND">http://stats.oecd.org/Index.aspx?DatasetCode=INSIND</a>   |
| Data from "Grawe Carat Asigur ri SA."   | Life insurance rates   | 2017            | <a href="http://www.grawe.md/ro/asigurari_de_viata.htm">http://www.grawe.md/ro/asigurari_de_viata.htm</a>   |

Source: Developed by authors.

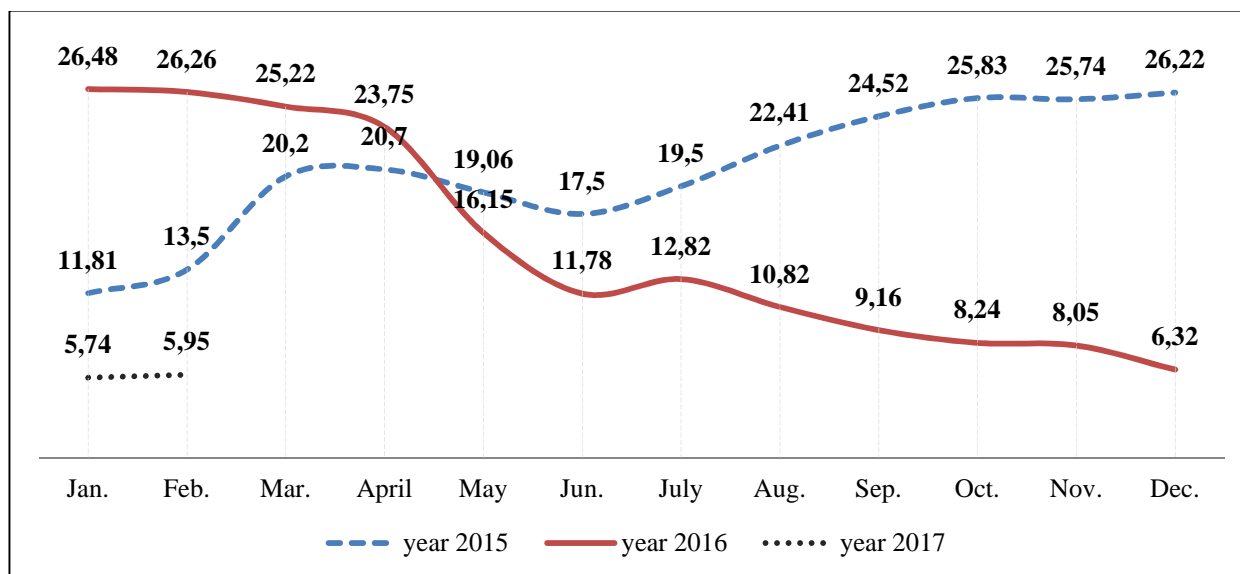
**Results.** The financial market in the Republic of Moldova is on an early stage of development. The legislative framework provides extensive operations on this segment but there are small number of participants and lack of financial instruments on the capital market [6].

Low of stock market No. 171 of 11.07.2012 regulates the investment activity on the financial market of the Republic of Moldova. The Law No. 419-XVI of 22 December 2006 on public debt, state guarantees and state re-crediting and other normative acts issued for its execution governs the issue, placement and circulation of state securities. The public authority that manages the state securities market in the Republic of Moldova is the National Bank of Moldova. National Bank is authorized to organize selling, accounting and compensation of state securities issued by the Ministry of Finance.

Two types of state securities are emitted in the domestic market of Moldova: 1) treasury bills – securities with different circulation terms up to one year; 2) government bonds – securities with a maturity of more than one year. The states security market in the Republic of Moldova is organized through banks – primary dealers, who have concluded agreements with the National Bank of Moldova regarding the functions of primary dealers on the state securities market. Primary dealers can buy state securities for themselves or for their clients (individuals and companies).

Currently, on the Moldova's state securities market there are 9 primary dealers from the total number of 11 commercial banks. Because of major fluctuations in the base rate in period of 2015-2016, the state securities market in Moldova was strongly influenced. The base rate increased during 2015 from

8.5% to 19.5%, and then decreased by the end of 2016 to 9%. In these circumstances, the interest rate on government securities increased in 2015 by more than 2 times, and by the end of 2016 decreased by 4 times. These fluctuations are shown in figure 1.



**Figure 1. Fluctuations of effective interest rates on state securities in the Republic of Moldova during the years 2015-2017**

Source: Developed by authors based on <http://bnm.md/bdi/pages/reports/dop/DOP5.xhtml>

The attractiveness of investments in state securities in the Republic of Moldova is very high because of effective interest rate for this type of securities that was over 20% during 9 months in the period of 2015-2016. From October 2015 to February 2016, the effective interest rate on the state securities was over 26%. It should be noted that, according to the Fiscal Code of the Republic of Moldova, the interest from the state securities is not taxed. In addition to high profitability and tax benefits, we can talk about high safeness of investment in state securities. In the Republic of Moldova, where the investment market is underdeveloped and unstable, the possibility to invest under state guarantee is very attractive to investors. Another advantage is the low maturity of investments in the state securities, which gives a high liquidity of this type of investment. In terms of necessity to develop the local market of state securities, the low maturity is a disadvantage. According to the Ministry of Finance, the public debt of the Republic of Moldova at December 31, 2016 was 59,371.9 million MDL, 37.2% more than in the similar period of 2015. About 85.5% of the total public debt is the state debt, which represents 37.8% of GDP, with 10.4 points more than in 2015. More than half of Moldova's debt (58%) is external debt in foreign currency, which indicates that there is currency risk.

The state debt structure of the Republic of Moldova, by type of instrument, is shown in Table 2.

**Table 2**

**Distribution of government debt by types of instruments, %**

| Types of instruments   | 2014 | 2015 | 2016 |
|--|------|------|------|
| External state loans   | 64,6 | 68,9 | 51,4 |
| State securities issued for execution of payment obligations derived from state guarantees | -    | -    | 26,3 |
| State securities issued on primary market  | 17,9 | 15,4 | 12   |
| Special Drawing Rights (SDR) allocations   | 9,7  | 9,6  | 6,2  |
| Converted state securities   | 7,5  | 6,2  | 4,1  |
| State securities issued for financial stability  | 0,3  | -    | -    |

Source: Report on the public debt, state guarantees and state re-crediting.

The largest share in the structure of the state debt is held by external loans (51.4%), and 42.4% are distributed as state securities, while 6.2% are SDR allocations. It is difficult to predict a decreasing of Moldova's public debt. Only in 2016, it was signed 10 loan agreements amounting of 399.1 million dollars for medium and long term with international financial institutions. This helps us to predict the maintenance

of the high share of state securities and high interest for investment in this financial instrument.

One of the problems in Moldova is underdevelopment of the financial market. Moody's Investors Service assigned a B3 rating for Moldovan's government bonds with negative trends. This rating was revised in 2016 and remains at the same level in 2017. The main reasons mentioned by Moody's to justifying the persistence of the Republic of Moldova in area B are: weak institutions and high levels of corruption; structural impediments to growth, including continued mass emigration and a still-fragile banking system; heavy reliance of economy on agriculture [17]. In the future, Ministry of Finance plans to reconfigure the primary dealers system and to issue securities with a maturity of 5 years.

In the Republic of Moldova, state securities are issued for short terms, maximum 3 years. It does not allow long-term forecasting and planning and thus confers uncertainty. Once issued, government bonds can no longer be sold on the secondary market because it does not exist practically. The share of stock market transactions in GDP for the 2015 is 0.16%, which shows a very low activity of this market sector. Expert from International Monetary Fund in country report 16/343 mentions these problems [2].

As we mentioned above, there is a legislative framework in the Republic of Moldova that governs the activity on the financial market including state securities' sector. In addition, there is an already formed market infrastructure as: a system of primary dealers, a Bloomberg system, auction calendars, attractive tax regime. There are also institutions that could participate in the financial market, such as insurance companies. The largest investors in state securities are the local banks.

In the last 20 years, the authorities have been created conditions to diversify the investor base [6, p.287]. According to NCFM data, there are the following categories of local investors: 19 investment funds, 6 trust companies, 15 insurance companies, 297 savings and loan associations, 2 central microfinance associations, 119 microfinance organizations and 3 pension funds.

The low volume of financial operations and small participants characterizes the financial market of Moldova. The portfolio of savings and loan associations does not exceed 0.36% of GDP. Insurance companies has a written gross premium gross in proportion of 1.01% to GDP, microfinance organizations has a loan portfolio of 2.36% in relation to GDP. Unfortunately, pension funds are not functioning now on the financial market.

The interest of this research aims to insurance companies as investors. We believe that in the Republic of Moldova the insurance industry has a great investment potential, which is still untapped.

The insurance market, as part of the financial market, is an important element of the investment process. The role of this market is to act as a credit and investment institution. Insurance companies, after commercial banks, hold a leading position as assets volume and as capital provider. The resources accumulated by insurers offer the possibility to use funds for long-term investments through the securities market. This capacity is not available to banks because they have funds attracted for relatively short periods. From this point of view, insurance companies have a dominant position on the financial market. The volume of insurance premiums and income from operational activities (sponsorship, investment, mortgage, etc.) usually exceeds the payment obligations to policyholders. This allows insurers to increase their income from year to year and to invest them in profitable programs, securities (treasury bills, government bonds, etc.), bank deposits, mortgages and more [9].

An important factor for increasing the efficiency of insurance business as well as for the financial attractiveness of insurance products is the intensification of investment activity of insurance organizations in different areas of the financial market. Through investment operations, insurance companies largely depend on the financial markets' situation and on the investment risks. This forces them to pursue a prudential investment policy. The main principles of the investment policy for insurance company have to be reliability, profitability, recoverability, diversification and high liquidity.

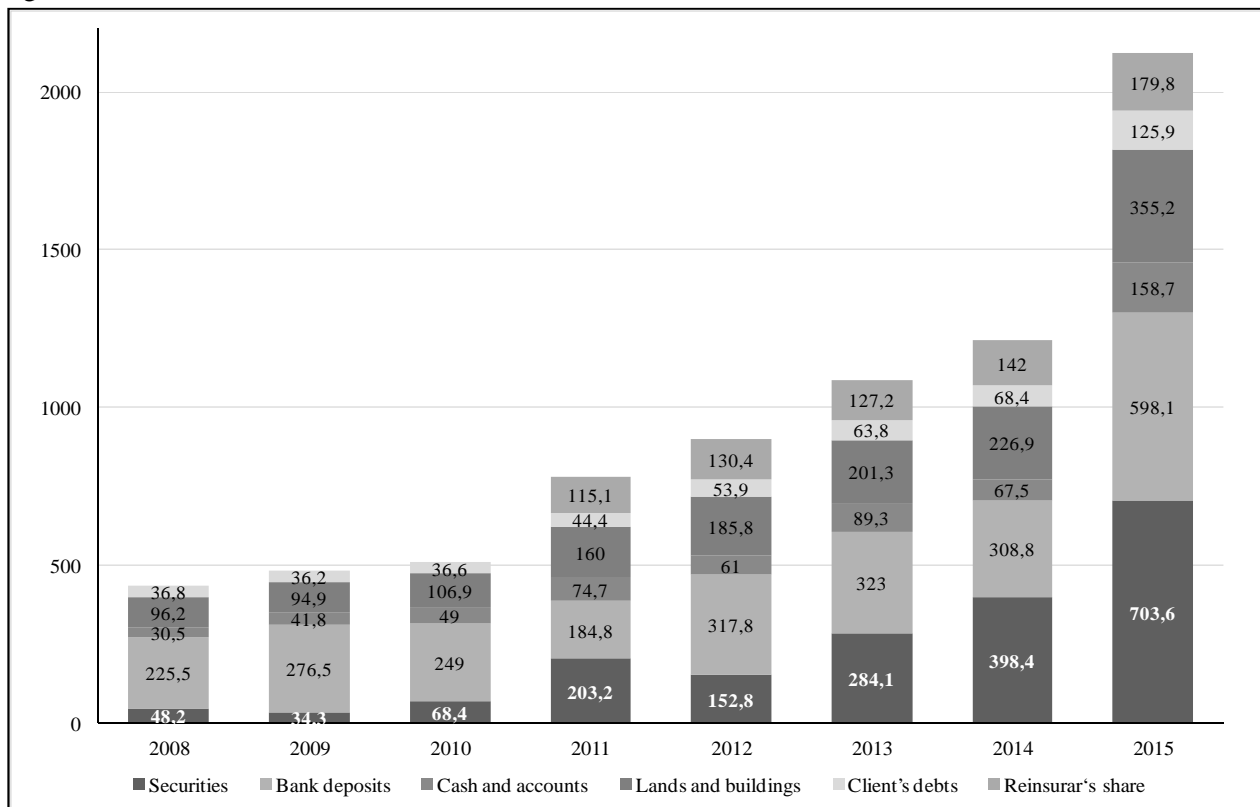
The importance of insurance companies as institutional investors is globally demonstrated. Pension funds, insurance companies and mutual funds hold more and more important position on financial markets. In OECD countries, these institutions have assets worth over 70 trillion euros [3]. Pension funds and insurers are major investors in a large number of developed economies, with assets representing over 60% of GDP in countries such as Canada, the Netherlands, the United Kingdom and the United States. In non-OECD countries, institutional investors tend to be less developed, but there are some important exceptions such as Brazil and South Africa, which have well-developed pension fund and mutual fund industries [3, p.9].

In Moldova, the insurance sector recorded dynamic growth rates in recent years. In the context of reforms carried out in the insurance sector, the premiums income has been increased. The growth rates since 2010 have been around 10% per year. At present, we have 15 insurance companies in the country, only one carries out the life insurance and one has composite activity, the other 13 companies provide general insurance.

Insurance density in Moldova is about 18 USD, in Luxemburg it is over 37000 USD, in Ireland – over 10000 USD, in USA – over 6000 USD. This indicator shows how much each citizen of the country invests in insurance services. That is why we think that there is untapped potential in insurance area. The aggregate structure of the insurance portfolio in Moldova denotes the preponderance of compulsory insurance. Third-party liability insurance holds a 51% share of the company's premiums. The share of personal insurances, which are voluntary and includes life insurance, health insurance or accident insurance, accounts for only 13.9% of the entire insurance portfolio. Therefore, the population buys an insurance policy only if it is forced by legislation. That means there is a major undeveloped potential in the voluntary insurance area. We believe that the largest development reserves are in life insurance sector, which currently only 12.5% of the voluntary premiums have earned.

The international studies show that in countries with developed insurance industry the insurance business is mostly based on life insurance. In Ireland, United Kingdom, China, even in Portugal or the Republic of South Africa life insurance shares are over 70%. The medium indicator for European Union (15) is 60.6% in 2014, while in the Republic of Moldova it reaches 7.2% (gross premiums/total premiums). In this sector of insurance is concentrated the most part of investment potential of companies [14]. A minimum life insurance policy in Moldova requires annual payment of 3000 MDL. In a modern society, the life insurance policy is an indispensable attribute of existence. If each citizen of the Republic of Moldova, aged 18-65, would have at least one minimum life insurance package, then the premiums received from this type of insurance would be 7.5 billion MDL (2523399 active population X 3000 MDL = 7570197000 MDL) or 362,3 billion Euro<sup>1</sup>. In Europe, the volume of life insurance premiums is 733 million Euros. Of course, our scenario is utopian, because not all of active citizens will make life insurance in the Republic of Moldova according to low financial culture of population [13] and low level of salary incomes.

The proportions and absolute value of Moldovan insurance companies' investments are shown in figure 2.



**Figure 2. Insurance companies' investment structure, billion MDL**

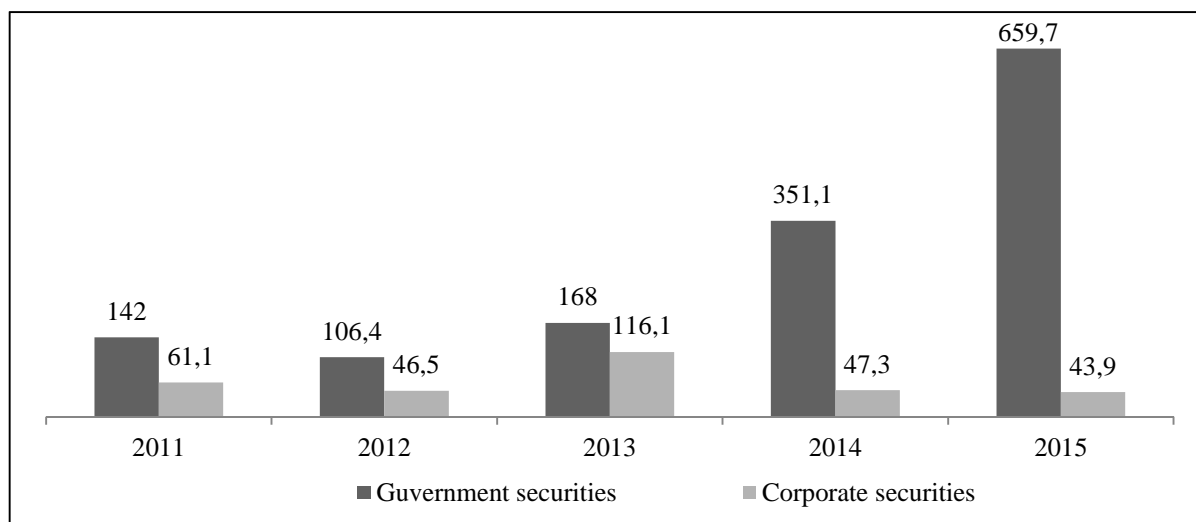
Source: Author's calculations, based on National Commission for Financial Markets.

<sup>1</sup> Converted to the NBM average annual exchange rate for 2015.

From above results that in Moldova insurance companies place the financial resources in bank deposits and securities. International companies keep the same directions of investment, but their main orientation is to financial market especially to securities.

In Moldova 93.8% of total assets invested in securities by insurance companies are placed in state securities and 6.2% in corporate securities. According to the regulations, the financial sources of the Moldovan insurance companies can be placed in government securities in any quantum. For other types of securities, there is a limit of 20% and the admissible limit for bank deposits is 50%. Even if there is no limits for investment in state securities, insurers invest only 31% of the portfolio in this type of project.

In the last years, there is a tendency of increase the interest of Moldovan companies in state securities (figure 3).



**Figure 3. Dynamics of investments in securities made by insurance companies in Moldova, billion MDL**

Source: NCFM annual report for 2011-2015. Available at: <http://cnpf.md/md/rapa/>

The investments in the state securities made by Moldovan insurers raised in 2015 compared to 2014 by two times and compared to 2012 they increased by six times. This trend is due to the increasing of the financial results of the companies, the maturity and the development of the insurance market, but also to the attractive rates for state securities.

Taking into account the profitability, the safety and the permissiveness of investments in government securities for the Moldovan insurance companies, this type of investment is the most definite way to increase client's funds.

### Conclusions and recommendations

In the carried out study, we found that the Moldovan financial market is not yet mature. The government securities sector is a very attractive segment for Moldovan investors due to high profitability (high interest rates), tax facilities, low maturities (up to 3 years) and high safeness. Despite all opportunities, the investors' base is very low developed. We think it would be necessary to diversify this base by including investment funds, pension funds and other institutions that currently exist only formally in Moldova.

The main objective of Moldova's stock market should be development of internal market of state securities. This would help to boost investment activity, to stabilize public budget and to ensure economic growth. To achieve this goal, is not enough to diversify the institutional investor's base but is necessary to widen the palette of government securities. Priority would be long-term securities (10-20 years).

A correct capitalization of the investment potential of the Moldovan insurance companies would contribute to the development of the state securities' internal market. It is necessary to carry out programs of financial education of the population. Only citizens with a high financial culture understand the importance of procuring insurance policy.

It is necessary to promote the policies of support for pension funds, investment companies and other institutions that are able to participate in investment projects. In fact, investments remain the driving force of a modern economic system.



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