1. Introduction

One of the most important elements of any national economy is represented by pension scheme\(^1\). Pension coverage fulfills two organically interconnected functions: Economic and social. Economic function is reduced to managing financial flows. Within the framework of the pension scheme the funds (facilities) are generated in a variety of ways and are then spent as pension payments. Social function means supporting people who ceased their professional activities either because of their old age or as a result of disability and also supporting the people who lost their source of living. Social component of the pension scheme can be regarded as one of the most important element of social policy in the majority of modern states.

The amount of pension payments largely depends on the level of income of the population. This dependency is explained by the fact that the dominating way of funding pension payments (state pensions, at the least) is represented by the redistributive system. This system is based on the so-called “covenant of generations”. The people who work pay their pension contributions that are used for funding the pension payments for the elderly people. Thus, the generation of those who work, funds the generation of the pensioners. Thereat, “the working generation” assumes that, after some time, it will receive the pension that would be funded through the contributions made by the next generation of workers.

Applications/Improvements: The materials of the study can be of particular practical value for the Ministry of Finance of the Russian Federation for the purposes of establishing and upgrading the pension scheme.
Over the last decades it has become ever more evident that such redistributive scheme has been exhausting its potential gradually. In the developed countries there are demographical trends indicating “ageing of the nation”. Birth rate drops, while the lifespan of the pensioners becomes longer. Thus, the payers of the pension contributions have to take the unbearable burden. Besides, the stability of the life standards of the pensioners assumes that the pension payments would have to be protected against the factors of inflation. However, in many countries the experience demonstrates that the redistributive scheme does not allow for indexation of the pension payments to compensate for the inflation. The life standards of the pensioners become somewhat lower. Finally, in many countries the incomes of those who work are comparatively low and their possibilities for making the pension contributions are limited to a large extent. Under these conditions, the redistributive method of funding the pension payments can only ensure very low standards of living for the pensioners.

The abovementioned problems make for the necessity to reform the pension schemes and this fact has been understood by the governments in many countries. There are good reasons for the reforms that have been underway in different countries and regions since the beginning of the 1970s. An important element of the pension reform is represented by the development of the alternative options of funding the pension coverage known as “way of capitalization”. In fact, it is all about the formation of the investment part of the state pension. This part of the pension in formed during the period of the working activity of a person and is then spent as the pension payments when the person comes into his pensionable age. This alternative option of funding the pension coverage clearly reflects the economic function of the pension scheme. The thing is that the savings are not used immediately. Some considerable time passes before they are spent for the pension payments. Consequently, at some intervals they can be used as investment resources, namely, as the means for upgrading production facilities and for creating the preconditions for sustainable economic growth.

Investing pension savings touches upon different groups of interests. First and foremost, the future pensioners are directly interested. They are interested in increasing the amounts of the future pensions and in protection against the devaluation of the pension payments as a result of inflation. Investment activity makes for multiplying the accrued pension capital thus helping increase the amounts of the pension payments. The dividends recovered from the investments can compensate for the effects of the inflation either partially or in full. Apart from the direct interests of the pensioners, it is worthwhile mentioning the positive effects produced by the pension savings investments on the development of the national economy in general. The abovementioned upgrades of the production facilities are of paramount importance. In the end, stable economic growth would not only improve the well-being of the pensioners, but would also improve the welfare of the whole population of the country. Finally, the fiscal interest of the state should not be omitted. The state aims to reduce the load on the budget; and increasing the investment part of the state pension in the total amount of the pension payments is an important tool for achieving this target. Besides, the state can obtain additional tax revenues as a result of imposing taxes on the profits of some separate economic agents gained due to investing the part of the state pension. Moreover, according to the legislation of some countries, the pension payments effected at the expense of the investment part of the state pension can also be taxed.

Thus, investing the facilities of the pension funds is an important tool for developing pension schemes at the modern stage. However, this practice is of complex and contradictory nature. Investing the pension fund facilities is impossible within the framework of the redistributive method of funding the payments. The practice of establishing the investment part of the state pension is not present in every country and the degree of its development differs substantially. From this perspective, it seems advisable that the practices in several foreign countries and those in Russia should be studied.

2. Investing Pension Fund Facilities: Foreign Practices

Today the pension funds have at their disposal large amounts of financial resources. According to OECD, the assets of the pension funds in the world amount to over USD 25 trillion that corresponds to more than 35% of global GDP. The significance of the investment activities of the pension funds is growing steadily. This is explained by the obvious inefficiency of the dominating redistributive method of funding the pension payments. Thus, just in 12
out of 34 OECD member-countries the state pensions can ensure the incomes that exceed the level of the last wages of the pensioner by 60%. In the majority of the countries the level of the state pensions is lower by far. Therefore, many countries (including OECD member-states) adopted multi-level pension schemes that include state pensions (funded based on redistributive methods) and different kinds of pension saving programs implemented by the pension funds.

The investment resources of the pension funds vary considerably in different countries. In the Netherlands, Iceland and Switzerland the assets of the pension funds are larger than GDP; in Australia, Great Britain, USA, Finland they exceed 2/3 of GDP; in many other European countries (Austria, Belgium, Germany, Italy, Norway, Sweden) this figure makes no more than 8%. Principal targeted objects of modern pension funds are represented by shares, bonds, alternative investments as well as by cash. The review undertaken among 56 large pension funds by AMP Capital, an Australian investment company, and by Institutional Investor Custom Research Group, an American research agency, showed that by the end of 2014 the following structure of the investment funds was observed: 46%- shares, 38%- bonds, 14%- alternative investments and 2% - cash.

After the crisis of 2008 there emerged the obvious need for tighter control over the operations of the investment programs in the pension funds to exclude the unjustifiably risky investments. In 2010 the International Organization of Pension Supervisors (IOPS) released new version of the principles for supervising the operations of private pension funds. They especially highlighted the need for protecting the rights of the future pensioners that could be violated in cases of the unreasonably risky investments. The latter, under the worst scenario, can lead to the termination of the pension payments.

A general effort to improve the reliability of capital investments is characteristic for almost all countries of the world. However, the ways to fulfill this objective are not the same. There is an approach that is based on the risk estimation and the approach that is based on abiding by the rules. The first case allows for greater freedom in the decision-making process and prevents the investments in the projects associated with too high risks as estimated based on the existing standardized methodologies. This approach has been adopted by Australia, Great Britain, Hungary, Germany, Denmark, Ireland, Canada, Mexico, the Netherlands and Chile. Other OECD member-states where this approach proves impossible apply other methods for controlling the investment activities.

In all, today there is a trend according to which the pension funds aim to upgrade the structure of their investments, to make it more reliable and less risky. Some kind of structural re-orientation of the investments selected by the pension funds is reflected in gradual reduction of the ratio of investments in stock within the investment portfolios of the pension funds. In the majority of the developed industrial countries during the period of 1998 till 2014 the ratio of investments in stock in the investment portfolio has decreased quite considerably: From 55% down to 38% in Australia, from 74% to 40% in Great Britain, from 65% to 35% in Canada, from 85% to 71% in the USA, from 70% to 48% in Switzerland. Thus, it is empirically confirmed that there is an intention of the pension funds to refrain from the short-term and risky investment projects to the benefit of the long-term, more reliable and socially oriented ones. This trend has been especially evident after 2010.

From this perspective the attention should be paid to the growing interest in the investments in the infrastructure projects. Investments in infrastructure represent capital investments in real objects; they are long-term and socially oriented. The returns on the investments in infrastructure are often adjusted for inflation. This makes it possible to hedge the liabilities of the pension funds and insurance companies that are sensitive to inflation. Investments in infrastructure can generate attractive investment profitability that can sometimes be higher than the profitability of the bond market. Finally, investments in infrastructure hardly correlate with the types of conventional financial instruments that make it possible to diversify the investment portfolio.

Growing interest to investments in infrastructure projects is explained by a number of reasons. First of all, in OECD member-states there is a regular demand for improving the energy distribution system, upgrading roads and railway transport, developing telecommunications and constructing waterside structures.

This trend is confirmed by concrete examples. Over the period since 2010 till 2013, 10 largest pension funds reduced their share of investments in stock from 42.4% down to 39.3% and increased the share of alternative investments (including those made in infrastructure projects) from 17.6% to 19.5%. Some large pension funds account for the high ratio of investments in infrastructure in their investment portfolio (11.5% up to 20%). Until
2030, for the purposes of infrastructure development in OECD member-states, circa USD 50 trillion will be required. This amount cannot be allocated by the state budgets. Obviously, a significant role has to be played by institutional investors, including the pension funds

The world practice of investing the facilities of the pension funds in infrastructure projects is quite diverse. Thus, in Canada total assets of the pension funds in 2013 made over USD 1.5 trillion or 2/3 of GDP. Seven largest Canadian pension funds had at their disposal the assets amounting to circa USD 800 bn. The urgent need to diversify the investment portfolio resulted in higher ratio of assets represented by the investments in infrastructure that in 2012 amounted to 5% in the total sum of the investment portfolio. In the largest pension funds (OTTP, PSP, CPP, OMERS, Alberta) the assets in infrastructure projects made 4.4% up to 14.8%. In Australia the total amount of assets of the pension system in 2013 amounted to circa AUD 1.5 trillion that exceeded GDP. Investments in infrastructure are popular due to the fact that infrastructure development has been adopted as the most important political objective. The existing incentives for investing in this sector have been stipulated by the privatization of the assets in energy, transport and telecommunication industries. The largest pension funds (The Infrastructure Finance Working Group; The Building Australia Fund; The Regional Infrastructure Fund; The Clean Energy Finance Corporation) invest in construction of toll highways, in airport industry, in the energy distribution system and in the water supply system. In summer, 2014, in the USA a non-profitable infrastructure trust initiative has been established that serves as a forum for talks between the investment funds and the government on the implementation of the infrastructure projects. Some separate investment funds (including those managed by the state) invest in large infrastructure projects. American governmental pension fund The California Public Employee Retirement System has invested USD 155 mln in the construction of Gatwick airport in London. Previ, one of the largest pension funds in Brazil, invests in infrastructure over USD 88.8 bn. In Great Britain in 2011 the pension infrastructure platform has been established. The first pension fund of this platform was focused on infrastructure projects implemented within the framework of public-private partnership

Thus, the world practices demonstrate extensive investment activity of pension funds. Particularly, this trend is characteristic for Anglo-Saxon world (USA, Canada, Great Britain and Australia), where the saving schemes of the pension insurance is most developed. However, in some other countries (for instance, in Brazil) there are large pension funds that also pursue intensive investment activity. Obviously, the principal objective of the investments made by the pension funds is to gain profit. Therefore, in forming their investment portfolio they naturally give preference to the most profitable investments. Traditionally, such investments are represented by the investments in stock and bonds. Such type of investments still prevail in the structure of the investment portfolios; however, after the crisis of 2007-2009 there is a growing interest in alternative investments including investments in infrastructure. Investments in infrastructure projects make it possible not only to diversify the investment portfolio and to improve its reliability, but also help pursuing the long-term interests of the national economy associated with the improved quality of life.

3. Investing Russian Pension Fund Facilities

The abovementioned reasons for the advisability to invest the facilities of the pension funds and the described world practices unambiguously highlight the current importance of this issue for Russia. The situation in Russia possesses some specific features. Since 1992 the level of the governmental pension payments has been extremely low. Figure 1 illustrates that the level of the insurance pension in Russia up to now has been just slightly higher than the cost of living.

![Figure 1. Average wages, insurance old-age pension and cost of living. Source: The Russian state news agency RIA Novosti](image-url)
Under these conditions, developing and implementing the programs related to the investment part of the state pension could provide possibilities for improving the level of pension coverage in future at the very least. In 2005 one step in this direction has been made. The program was introduced to form the investment part of the state pension for the persons born after 1967. However, by the end of 2013 this program has been actually frozen due to the dire lack of funds in the state budget of the Russian Federation including the lack of money for funding current pension payments. The persons covered by this program were given the opportunity in 2014-2015 to select the managing company or a non-governmental pension fund where they could transfer payments for forming the investment part of the state pension. The persons who failed to make their choice during the abovementioned period transfer all their payments to the Pension Fund of the Russian Federation for funding the insurance part of the pension.

Such step does not mean abandoning the idea of the investment part of the state pension, but at the same time it puts considerable limits on it (according to the Ministry of Labor in the RF in 2022-2031 circa 9 mln people could receive their pension savings as single payments, but for many people the investment part of the state pension would not exceed 3% of its total amount). Actually, forming the investment part of the pension is becoming exclusively a matter of one's own free will. The practice shows that many people in Russia are not enough financially literate to select a managing company or a non-governmental pension fund. It can hardly be expected that the activity of the population in this context will become higher. It may be assumed that the investment part of the state pension (provided that the existing pension policy should be preserved) will be of local nature, thus, limiting the opportunities for investing the facilities of the pension funds considerably.

Under the current conditions, major investors within the framework of the pension scheme can be represented by the Non-Governmental Pension Fund (NGPF). However, the resources at their disposal are much lower than those in the developed countries (Figure 2).

NGPF were created for the first time in the 1990s. Over the period since 2005 till 2015 their number decreased from 2061 in 2005 down to 102 by the end of 2015. The decrease in number of NGPFs was caused by stricter requirements to their operations. It was all about continuous monitoring of the investment risks and of the risks associated with the death rate of the insured persons. Besides, the minimal authorized capital of NGPF used to be regulated (since December 2013 it makes RUB 120 mln). Notwithstanding the reduced number of the funds, the amounts of the pension savings at their disposal have been constantly growing from RUB 394 bn in 2011 to RUB 1707 bn in 2015. Considerable increase (by 51.2%) was observed in 2015 as compared to 2014 due to the transfers to the funds that were covered by the guaranty system based on the results of the transition campaign of 2013-2014.

Profitability of NGPF investments vary from year to year. Over the last 5 years it has been 36.3% per annum that corresponds to the annual growth by 6.4%. Annual inflation over the same period amounted to 8.7%. According to the Bank of Russia, in future the profitability of investments of NGPFs can become really positive as a result of introducing several institutional changes: Cancelling the rule of compensating for losses based on the year results, introducing fixed premiums for NGPFs, shifting to the regime of inflation targeting, and also as a result of extensive development of the fixed interest bond market. Thus, NGPFs would have sufficient incentives for diversifying their investments toward more profitable instruments on the stock market.

The structure of the investments has been shown in Figure 3. By contrast to foreign practices, in Russia the major type of investments of the pension funds is represented by depositing money with banks. This instrument is attractive because it is reliable, predictable and it gives the possibility to ensure high profitability in...
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short-term intervals. The second most popular instrument is represented by investing in stocks of Russian corporate issuers. This area draws the attention of NGPFs due to the fact that these investments make it possible to minimize the risks associated with devaluation of national currency and with changes of the market interest rate. The latter is achieved by introducing coupon payments with floating interest rates.

Figure 3. Areas of investing facilities of Russian non-governmental funds. Source: Federal Service of State Statistics.

The attractiveness of the banking sector as a sphere of investing the pension savings of NGPF is reflected in their industry branch structure. In 2015, 33% of pension savings of NGPFs were placed with banks, 16% were placed with financial institutions, 12% in transport industry, 11% in energy sector, 15% in construction and in oil production industry, 5% in retail, 3% in mining industry and 5% in other industries.

It has to be taken into account that the profitability of the investments can vary depending on the amounts of the pension savings at the disposal of that or another fund. Thereat, 31 NGPFs do not have pension savings at all and do not receive any returns on investments. Such situation leads to the fact that a considerable part of the investment projects of NGPFs are of short-term nature and they do not meet the real demand for investments in Russian economy. To change this situation, the resources of NGPFs have to be consolidated. Further development of this situation will largely depend on the policy of the Bank of Russia that comes as a mega-regulator of Russian financial sector.

Being the mega-regulator of the financial sector, the Bank of Russia, in particular, regulates the investment activities of non-governmental pension funds. In principle, the policy of the Bank of Russia in this area is in conformity with the world trends. On the one hand, it is aimed at improving the reliability of the investments, and, on the other hand, it is called upon to stimulate NGPFs to implement long-term investment projects, namely, to make some certain contribution to the process of meeting the needs for investments in real sector of Russian economy. Specific features of Russia are represented especially by the high demand for investments in real sector of the economy.

Figure 4 shows basic macroeconomic parameters that characterize the development of Russian economy during 2000-2014. Notwithstanding the fact that over the periods of the intensive economic growth (2000-2008) the capital investments grew as well, no considerable upgrades were observed in the real sector of Russian economy. According to the evaluations of the World Economic Forum (2014-2015), Russia lags behind the developed industrial countries in terms of the conditions of the infrastructure. Railway infrastructure is in the best condition (the 26th position in the world), while in terms of other types of infrastructure Russia occupies the 70-80th positions, and in terms of road quality it takes position 124 among the countries of the world.

Notwithstanding the urgency of the abovementioned problem, it cannot be solved in the short-term period because of the limited amounts of the investment resources at the disposal of NGPFs. Investments in the objects of infrastructure in the form of full acquisition of bond packages are only possible in cases when the capital of NGPF makes no less that RUB 20 bn. Today in Russia there are just 17 such funds. Infrastructure-related
investments of NGPFs are reduced to participation in just several projects. The Bank of Russia cannot stimulate NGPFs to implement long term projects (including infrastructure projects) any time soon, insofar as mitigating the investment risks always remains a priority. The requirements to the structure of the investment portfolio of NGPF are given in Table 1.

According to expert evaluations, a number of the restrictions on the structure are of a purely technical nature. Thus, the ratio of the investments in stock in the fund portfolios should not exceed 65%, while in reality this figure amounts to 10%. Other restrictions (for instance, placing deposit with banks that should not exceed 60% of the total amount of the portfolio) can really affect the investment policy of NGPFs. Particularly, they can refrain from placing money with bank deposits and would rather search for alternative investment options (including those related to infrastructure projects).

Thus, the problem of investing the facilities of the pension system is undoubtedly urgent in Russia. However, today the opportunities for investing the means obtained through the accumulation of the pension payments are limited considerably. The limitations are stipulated, in the first place, by cancelling the practice of forming the investment part of the state pension as a compulsory model of the pension coverage for the citizens born after 1967. The prospects of changing the situation depend on the condition of Russian economy in general and on selecting the model of reforming the pension system in particular.

4. Conclusion

Developing the market for investing the pension savings is an obvious worldwide trend. The limited opportunities provided by the redistributive method of

| Sl. No. | Basic requirements according to Federal Law | Additional requirements according to Regulations of the Bank of Russia |
|---------|-----------------------------------------------|---------------------------------------------------------------------|
| 1       | No more than 10% of securities of one issuer or group of related issuers (since July, 1, 2015: no more than 25% according to Regulations of the Bank of Russia) | No more than 40% of governmental securities of the Subjects of the Russian Federation and bonds issued on behalf of municipal institutions (in aggregate) No more than 40% of mortgage-related securities issued according to the legislation on mortgage securities of the Russian Federation (in aggregate) |
| 2       | No more than 25% of deposits in credit organization and securities issued by this credit organization | |
| 3       | No more than 10% of securities issued by the affiliated entities of the fund, managing company, specialized depositary institution and actuary | No more than 60% of the deposits with the remaining maturity over three months (in aggregate) |
| 4       | No more than 20% of the deposits placed with credit organization that are the affiliated entities of the fund or managing company | No more than 65% of shares of Russian joint stock companies, subordinated bonds of credit organizations and also shares of stocks (shares, interests) of the foreign investment index funds whose placement memoranda (whose rules of trust management) envisage the possibility of investing the fund facilities in stock (in aggregate) |
| 5       | No more than 10% of capitalization of shares of one issuer | |
| 6       | No more than 40% of the aggregate amount of circulating bonds of one issuer | |
| 7       | No more than 50% of the aggregate amount of circulating securities of one issuer | |
| 8       | No more than 20% of the funds invested in the securities of foreign issuers | No more than 20% of securities of international financial organizations and also shares of stocks (shares, interests) of foreign investment index funds (in aggregate) |
funding the pension payments make governments in many countries implement the pension reforms that, in one way or another, are associated with the formation of the investment part of pension or pension capital that represents an important investment resource at the modern stage. Investing the facilities of the pension funds directly affects the interests of the future pensioners, of the state and of the national economy in general. Notwithstanding the fact that the abovementioned trend is of a worldwide nature, the specific features of particular countries and regions should be taken into account. These specifics are expressed through a large number of different parameters, for example, incomes of the population, structure of the pension scheme, the level of the financial sector development, inflation rate, etc. In the course of estimating the investment potential of the pension funds in one or another country, the resources available in the investment funds should be considered in the first place. The ratio of the assets of the pension funds to GDP in Russia is much lower than that in some other countries. This testifies of the initially limited investment potential of Russian pension funds as compared to the developed countries. Nevertheless, attention should be paid to developing the investment activities of the pension funds, insofar as this would precondition the prospective improvement of the efficiency of the pension system in Russia. Any definite prospects for the following years are still disputable. Many things will depend on the status of the investment part of the state pension in the nearest future.

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