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SECTION 31. Economic research, finance, innovation, risk management.

SOURCES OF FINANCING RETIREMENT INCOME IN RUSSIA AND THE UNITED STATES

***Abstract**: The article analyses the structure of pension systems in Russia and the United States in terms of funding their main components. Considered the financial performance of state and private pension funds in US for the last decades and the outlook for developing voluntary pensions in Russia. A comparative analysis of two countries is also provided, including the study of US experience in developing private pension market. Conclusions are made on the direction and prospects of the current pension system reforms in Russia.*

***Key words**: pension systems, sources of pensions funding, Russia, the United States, private pension funds.*
***Language**: English*
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1. Introduction

The financial pressure on pension systems in most developed countries will grow in the medium to long-term due to demographic changes including steady increase in life expectancy and low fertility, moreover short-term volatility of financial markets is also one of the main reasons for the growth of pension funds' deficits caused by sharp fluctuations in rates of return.

Russia has not been spared from the trend of an aging population. As with most industrialized countries, the working-age population of Russia is set to decrease considerably over the next decades. Decreasing fertility and a longer life expectancy (at least amongst some sectors of the population) are contributing factors. The public pension system will also suffer from the retiring baby boomer cohort, which will lead to a considerable pension deficit in the decades ahead. Deficit of the Pension Fund of Russia (PFR) will be RUB 175.1 billion ($2.6 billion) in 2016 with projected income up to RUB 7.5 trillion ($112 billion), including transfer from the Federal budget about RUB 3.2 trillion ($47.8 billion). This will not be cushioned by the oil revenues that are currently suffering from the low levels.

According to the recommendations of the International Labour Organisation pension provision should not be less than 40% of the total amount of lost income, for example, the average for EU countries is 59%, in the United States net pension replacement rate is 45% [11]. Data of the Federal State Statistics Service of Russia shows that replacement rate has never reached 40% (38% in jan-feb 2016). According to the forecast of the Committee of Civil Initiatives, provided maintaining the current structure of pension system in Russia the replacement rate will decrease by 10% within 15-20 years [9].

The structure of pension systems in most developed countries including the United States based on 40-50% financed by public component and the rest 50-60% by private pension funds. The development of private pension funds and voluntary pension in Russia in the future will contribute to solving the problem of the Pension Fund's deficit and increasing the replacement rate.

2. Funding pension system in the United States

Public pensions

The American state pension system (OASI – Old-Age, Survivors, Insurance program) operates on a pay-as-you-go basis and is financed through social security taxes paid by employers and employees, tax revenues paid by upper-income social security beneficiaries and interest earned on accumulated trust funds reserves. The social security tax is shared equally between employer and employee. Contributions are tax-exempt, although the benefits are taxed if the total income in retirement exceeds a specified amount. The statutory retirement age depends on the retiree's year of birth and lies between 65 and 67.

In 2014, 48.1 million people received OASI benefits. Total income of the Trust Fund was $769.4 billion with expenditures $714.2 billion, asset reserves amounted to $2.73 trillion. Payroll taxes accounted almost 84% of the Fund income in 2014, while interest earnings reached over 12%.

All OASI assets are invested entirely in special issues of U.S. Treasury securities. Treasury securities that the trust fund holds are backed by the full faith and credit of the U.S. government, and recognized as the most reliable market tool with fixed income. The interest rate on this special issues of Treasuries is set on a monthly basis according to the formula defined by the Social Security Act 1960. The rate is determined at the last working day of a month and applies to the bonds issued in the current month, it is calculated as the average rate for 4-year Treasuries during this period rounded to 1/8 percent. Interest payments are made 2 times a year, at the end of June and the end of December. Since the Fund often lacking the necessary amount of cash, bonds are repaid on a monthly basis to ensure that the Fund could make payments and to cover administrative costs. The amount of interest paid is invested in the next bonds issue.

The figure 1. shows treasuries average yield chart as well as the index of the effective interest rate of the OASI fund’s investment portfolio. The real return on investment has decreased since 1984 in 3.5 times from 11.8% to 3.3% in 2015, folowing declining interest rates on Treasury bonds and today this indicator is at the level of the 60s.

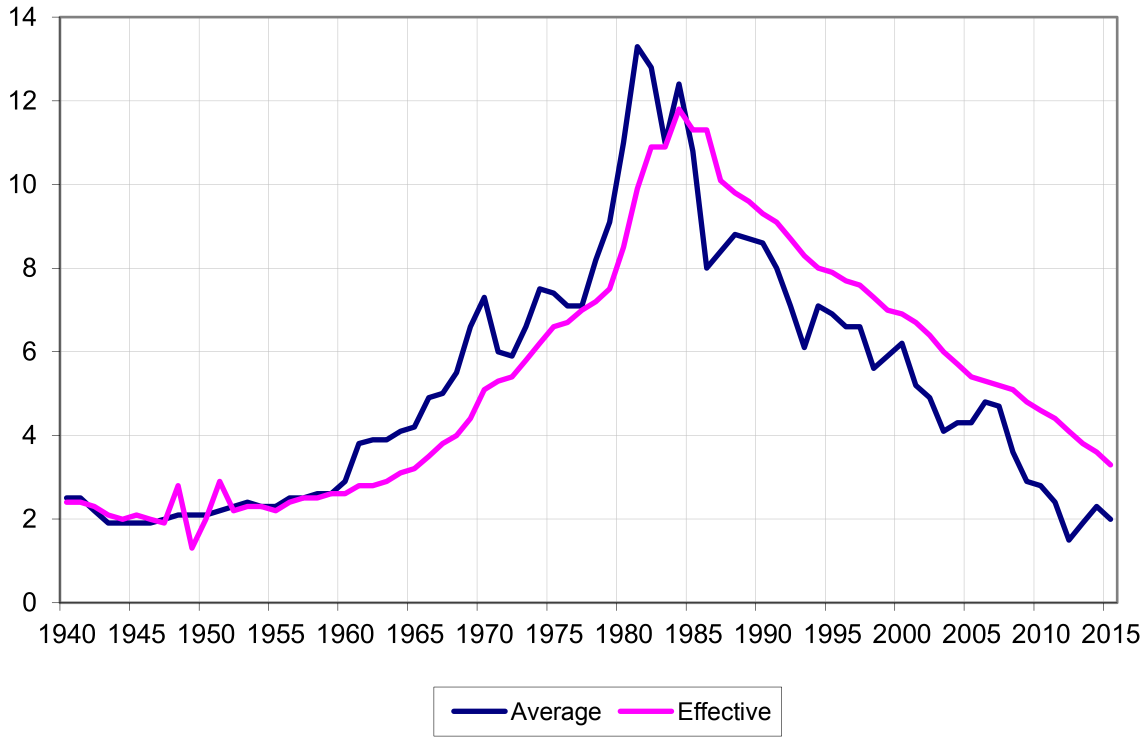

Figure 1 - Effective rates and average special issue rates 1940-2015 (percent).
Source: https://www.ssa.gov/oact/progdata/intRates.html

The Social Security trust fund is one of the largest holders of US debt, in 2015 its share was about 15%. Income received by OASI Fund from payroll taxes exceeding the size of current benefit payments and other expenses is invested in Treasury bonds. Thus, there is a redistribution of income between the federal funds and the government. If the Fund is required to sell the bonds, the US government will need to either raise taxes and curtail existing programs or increase the volume of treasuries issue, to make the payment.

The average share of income from payroll taxes in the period from 1993 to 2014 was 83.7%, taxes on benefits – 2.4%, investment income ranged from 8 to 16% with annual interest rate of about 5.5% (fig. 2).

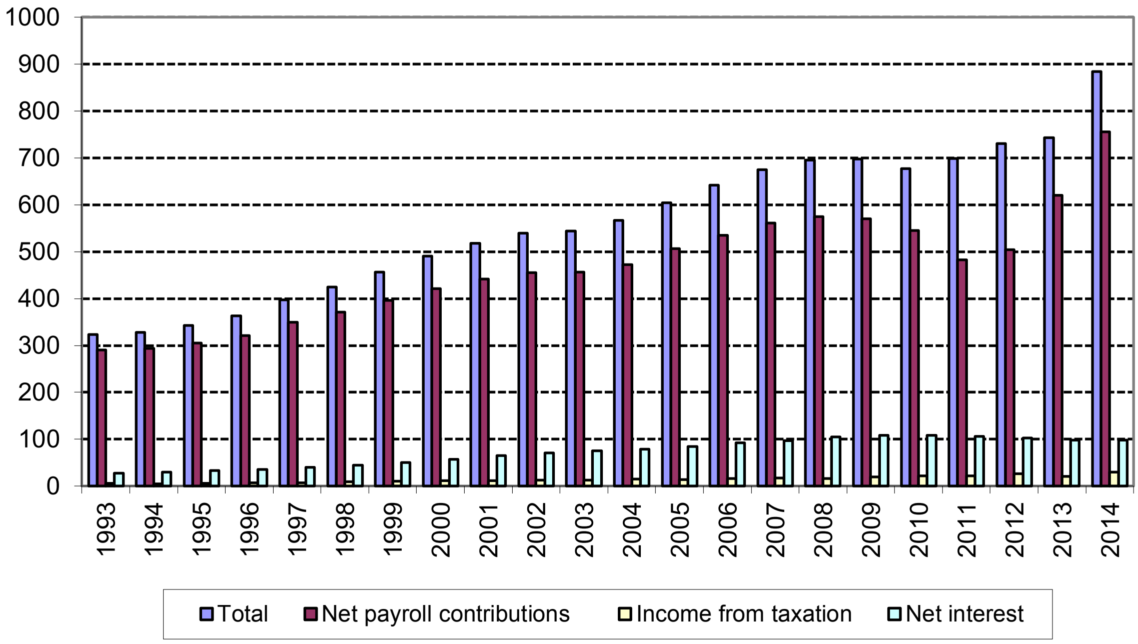

Figure 2 - The US state pension system source of financing 1993-2014 (billions of dollars).
Source: Annual Statistical Supplement to the Social Security Bulletin, 2014
Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds, 2015

State and Local Government pension funds and occupational pensions

State and local governments sponsor nearly 4,000 pension plans on behalf of 19.5 million active employees, former employees who have earned benefits that they are not yet collecting, and current retirees.

Assets managed by pension funds of state and local governments amounted to $3.7 trillion in 2014. Since 2004, the volume of assets has increased by almost 50%. These assets are held in trust and invested to cover the current costs. Investment income received is used to finance the main part of benefit payments. Thus, the projected long-term decline in investment income must be paid by higher contributions or reducing the current benefits.

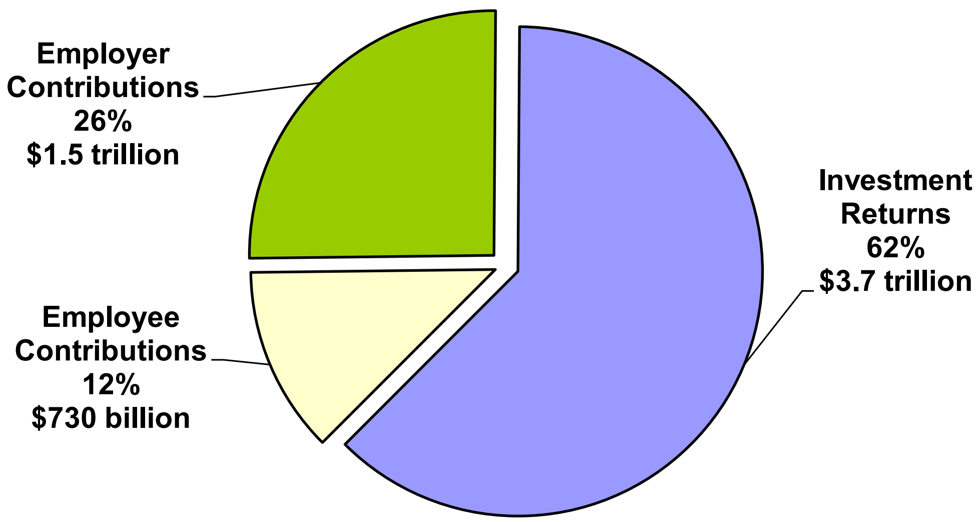

Figure 3 - State and Local Government pension funds' sources of revenue, 1984-2013.
Source: Compiled by NASRA based on U.S. Census Bureau data

Pension plans receive most of their annual income from investments rather than contributions. In 2013, 71 percent of total pension plan revenue came from net investment earnings; 20 percent came from employer contributions, and 8 percent came from employee contributions. Because investment returns are volatile, however, those shares vary widely over time. During the period from 1984 to 2013 pension funds got over $5.9 trillion of total income, including investment income over $3.7 trillion or 62%, employers ($1.5 trillion) and employees ($730 billion) contributions (fig. 3). Thus, the investment return made the major part of funds' income, allowing to balance the pension systems without additional fiscal pressure on companies and employees.The average investment rate of return in the period 1993-2014 was 7.2% and about $170 billion in absolute terms, thus the volume of assets has increased in 4 times from $910 to $3700 billion, despite the significant losses suffered by the funds during the 2008-2009 crisis. In 2014 pension funds hit a new record with $537.5 billion of return.

In private industry 60% of the workforce has access to retirement plans. Defined contribution (DC) schemes dominate the occupational pension landscape and cover 43% of the workforce. By contrast, only 20% of the private sector workforce participates in a defined benefit (DB) scheme. Altogether, 51% of the total workforce is integrated into any kind of pension plan; the entire sum is less than the individual items because some employees participate in both types of plans.

The most widespread type of DC plan is the 401(k) plan. 401(k) plans enable employees and employers to make tax-deferred contributions from their salaries to the plan. Most 401(k) plans provide retiring employees with multiple distribution options for receiving plan account balances. Lump-sum payments, instalment payments for a fixed number of months and annuities are available distribution methods. It is also possible to defer any payment until a certain age.

The volume of assets in the US private pension system by the 3rd quarter of 2015 amounted to about $16 trillion (fig. 4.), including $8.36 trillion in DB and DC pension plans, the rest $7.63 trillion was on individual retirement accounts (IRAs).

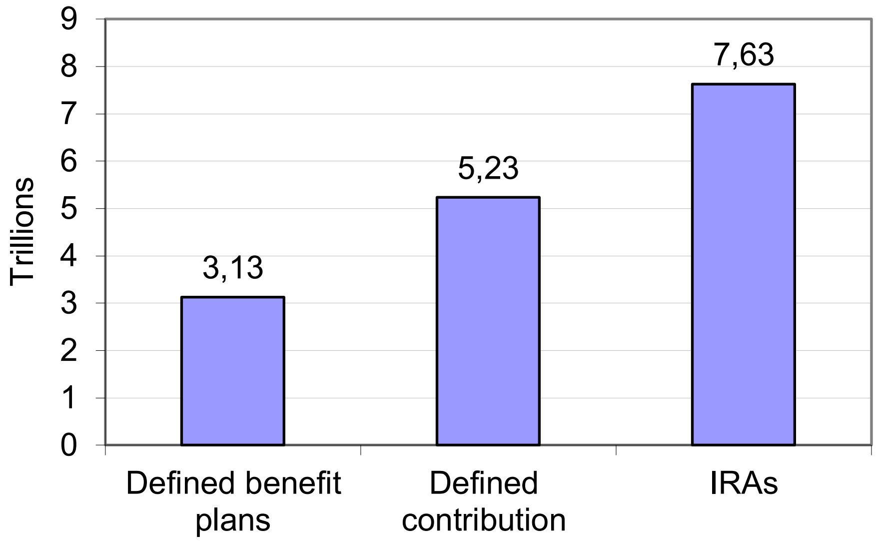

Figure 4 - Private Retirement Assets, Trillions of Dollars, 2015 Q3 (trillions of dollars).
Source: U.S. Board of Governors of the Federal Reserve System, Flow of Funds Accounts of the United States, 2015.

2. Pension system in Russia and the current reforms

The Russian pension system has undergone major structural changes in the past decade, developing from a single, publicly managed distributive system into a multi-pillar pension system. Since 1999, several laws have been adopted that have re-shaped the current system, which was implemented in its current form in 2002, the last changes was adopted in 2015.

The implemented changes in the past decade induced a shift from a solely pay-as-you-go-financed defined benefit system to a mixed system that consists of both pay-as-you-go and funded elements combined with defined contribution elements. The private pension fund market in Russia is at an early stage of development with total assets accounting for around 2.0% of GDP in 2015, in the Netherlands, which is the world leader - 160.2%, in the US -

74.5%, while there are lower rates in Western Europe, e.g. Germany - 6.3%, Italy - 5.6 %.

At the end of April 2016 the Russian Ministry of Finance has prepared a new project of the pension reform, consisting of six points. The Ministry proposes to equalize the retirement age for men and women at 65 years, increasing it by 6-12 months a year. The project also suggests the refusal to pay the pensions or at least its fixed-part to working pensioners. Another proposal is to set a single tariff of social insurance and to levy a tax on the entire salary instead of regressive scale and contribution assessment limit of RUB 796,000 (approx. $12,000) used now. In fact, the Ministry of Finance proposes increasing the tax burden and the reduction of social obligations, allowing in general to lower the deficit of the Pension Fund and the Federal budget expenditures. The project also includes an intention to abolish the mandatory funded component and transfer it from the mandatory pension system to quasi-volunraty, together with introducing incentives for voluntary savings. The Ministry proposes to shift to the voluntary contributions system in 2019.

Public Pensions

The state pension covers all public and private sector employees, as well as civil servants. Employers have to pay contributions that amounts to 22% of payroll in 2016, reduced tax rate (6-20%) is also applied for certain categories. This rate is split between the different parts of the system. The marginal contribution rate decreases with higher incomes resulting in a decrease in average contribution rates.

The first pillar is insurance pension, which from 2015 consists of two parts:

1. Solidary part

This part of the state pension is pay-as-you-go financed with a strong redistributive element towards low-income earners as it provides a flat-rate benefit. Six percent of the tax is split into the basic pension. The basic pension is indexed to inflation.

2. Individual part

When the insurance part was introduced, it was the first time that a defined contribution element had been implemented in the Russian pension system. Contributions are recorded in notional accounts, which means that the insurance part is financed on a pay-as-you-go basis, but benefits are earnings-related and based on the virtual contribution record.

Contributions are fully tax-deductible as company expenses. Benefits of the first pillar are paid in the form of life-long payments and remain untaxed.

The legal retirement age in Russia is 60 years for men and 55 for women, although early retirement is a serious problem for the pension system with broad exemptions existing for several industries and professions. The previous government had discussed an increase in the retirement age by five years. As it was mentioned above, there are new proposals from the Ministry of Finance about the increasing. However this step will be electorally unpopular, especially considering that male life expectancy in 2015 was 65.3 years of age.

Occupational Pensions

In the course of the 2002 pension reform a mandatory second pillar, the so-called funded part, was implemented in Russia, which complements the basic and the insurance part as the third element of the mandatory pension system operated until 2015. The funded part is available for employees born in 1967 and later, who signed a contract on mandatory pension insurance and applied for the transition of their pension savings to a private pension fund or state asset managment company. These employees contribute 16% to the insurance part (6% - solidary, 10% individual) and the rest 6% is paid into funded part. Employees born in 1966 and earlier are excluded from the second pillar. Their contributions are concentrated in the insurance part, which is indexed to inflation and reflects the developments of average wages.

Every employee has the right to choose if contributions will be allocated to a non-state pension fund (NPF) or the Pension Fund of the Russian Federation (PFR). Non-state pension funds have been allowed to take part in the mandatory system as separate legal entities since 2004. Previously they could only participate in the voluntary system. The PFR plays a central role in collecting pension money and investing accumulated capital before distributing contributions to the personal account of the employee. Employees who choose the PFR have to select an asset manager with an investment option, otherwise the default option applies, which means transferring the money to the state-owned asset manager Vnesheconombank. Contributions are fully tax-deductible as company expenses. Pension benefits remain untaxed.

Asset management companies wanting to participate in the mandatory system require an appropriate licence to provide services for and manage assets from both the PFR and the NPFs. The PFR selection process of investment managers is organised via tender, while NPFs may choose among asset management companies that comply with legal requirements set for investment for the PFR. Foreign-owned asset management companies need a special license to participate in this market.

As payments from the second pillar have not yet started, matters concerning the design of payouts are still under discussion. Generally, no lump sum payments or phased withdrawals will be authorised for the PFR. Annuities should apply with a nominal rate of return assumed to be zero. Accordingly, NPFs are not allowed to provide lump sum benefits, but phased withdrawals are permitted. Unfortunately, funds often do not clearly define the payment modalities available.

Voluntary Occupational Pensions

Besides the mandatory pension system, voluntary occupational pensions are available to public and private corporations and individuals. Providers of voluntary occupational pensions are non-state pension funds and insurance companies. The schemes offered can be in the form of defined benefit or defined contribution, although DC schemes are prevalent. The regulation of NPFs activities is rather loose – in some areas it is up to the NPF itself to set requirements for contract conclusion. For example, no minimum funding requirements are specified by law – the NPF is able to demand additional contributions from the sponsoring entity or to decrease the level of payment to the pensioner.

In the case of voluntary occupational pensions, the employer directly contracts with an NPF. Contributions could be made in bulk from the employer to an employer account or by the participant into a personal account. The law does not regulate the portability of pension rights. Vesting and portability depends on the agreement between the NPF and the employer.

As with the mandatory system, no lump sum benefits are allowed. Instead, fixed-period or lifelong annuities are proposed. In general, employer contributions up to 12% of the payroll remain untaxed provided that the benefit is paid in the form of an annuity. Investment returns in excess of the Central Bank refinancing rate are subject to taxation. Pension benefits will be subject to personal income tax 13%.

Financial assets accumulated in NPF are an important source of investment in the economy. The volume of pension savings in the management of NPFs, at the beginning of 2016 amounted to more than RUB 1.7 trillion ($25.4 billion). There were 38 NPF of 118 in the Pension savings guarantee system as of May 2016. The aggregate share of these 38 NPFs accounted for 94.5% of the total assets in the management of non-state funds [10]. Moreover, top-15 pension funds accumulated 89% of assets. The current leader is NPF Sberbank with a share of over 14%, although other players also have significant potential for the growth and all conditions for fair competiton, so that it will have a positive effect on the development of private pension market.

Currently among the funds, participants of the guarantee system, about half the savings invested in corporate bonds (41%) and equities (8%). The share of bank deposits and current accounts amounted to 35%. The share of federal bonds account for only 2% of the investment. The remaining funds are distributed between the sub-federal bonds (6%), mortgage bonds (4%), mortgage participation certificates (2%), accumulated coupon yield (1%) and special brokerage accounts (1%) [5]. In general, the structure of the funds' portfolio corresponds to the average indicators of OECD countries except a sufficiently higher share of banking products. This is due, primarily, to the existing restrictions imposed by the Central Bank of Russia.

In the second quarter of 2015 after a nearly two-year moratorium on the transfer of pension assets NPFs and asset management companies, which signed an agreement with the Pension Fund of Russia, received pension contributions to the funded part for the second half of 2013, and also participated in the distribution of resources on the basis of transition campaign 2013 - 2014 years.

Thus, the number of participants of the non-state pension system has increased by 6.1 million to 28.1 million people, that accounts 34.9% of citizens making pension savings. At the same time, a share of NPFs' members reached 50% of people contributing to the funded part. A significant increase in the number of NPFs' members as a result of transition campaign indicates a high level of confidence in the system, and the unwillingness to lose the funded part of the pension.

4. Comparative analysis and recommendations for reforming the pension system in Russia

The number of employed persons in Russia in May 2016 amounted to 71.8 million with employment rate 65.1%, while in the United States were 151 million and 59.7% respectively. According to the data in the table 1. there are 3.1 workers making contributions for 1 pensioner in public pension system of the United States, in Russia this figure is 2. In the terms of funding the ratio of the number of workers to the number of pensioners in public component and the levels of payroll taxes in Russia (22%) and US (12.4%) is nearly equivalent (the hypothetic level of 19.2% in Russia corresponds to 12.4% in US) The low level of social tax in the United States and the contribution scheme, where employer pays 50% of the tax, are certain competitive advantages for US companies.

Table 1

Main indicators of the pensions systems in US and Russia in 2015

	Total income		The number of retirees		Retirement age	
	US	Russia	US	Russia	US	Russia
Public pensions	$769.4 billion	$112 billion	48.1 million	35.6 million	65-67	60 men 55 women
Occupational pensions (private)	Total assets		The number of plans members			
	$16 trillion 89% of GDP	$25.4 billion 2.0% of GDP	80.8 million	28.1 million		

Source: compiled by the author

Table 2

Sources of financing the pensions systems in US and Russia

	Sources of financing	
	US	Russia
Public pensions	In 2014: 85.5% payroll taxes 11.1% investment earnings 3.3% taxes on benefits	Budget for 2016: 54.2% payroll taxes 45.8% Federal budget transfer
Occupational pensions (private)	Revenues in1984-2013, average: 62% investment earnings 26% employer contributions 12% employee contributions	Data for 2012: 59% pension contributions 30% investment earnings 11% other contributions The volume of pension savings increased by 52% in 2015 after transferring the funded part from PFR.

Source: compiled by the author

The low level of payroll taxes (table 2.) in funding public pensions in Russia causing the deficit, which has to be financed by transfers from the Federal budget. There could be two sides of the problem:

- poor tax collection caused by excessive taxation, when companies deliberately pay cash-in-hand lowering wages fund to cut costs

- or poor budgeting; a significant share of the pension system expenditures is financed by external sources, that could cause serious imbalances, when budget revenues fall, in case of Russia as a result of oil prices decrease.

Private pension funds in US operate with huge amount of assets accounts 89% of GDP. Currently in the United States there is a low level of restrictions on investing pension savings. Thus, funds can freely invest in different type of assets, including foreign ones, developing the investment strategy which corresponds to the current situation in the financial market to achieve maximum profitability. The stucture of funds income demonstrates this advantege of US pension funds: more than 62% of revenue formed by interest income, while in Russia this figure is only 30%.

Building a balanced pension system, mainly its public component, is the urgent priority, which requires reforming of the basic principles, including the increase of retirement age, cutting expenditures of PFR, increasing the share of tax revenues in the income structure. Development of the voluntary component additional to public pension also could manage with the problem of raising the replacement rate in Russia.

Liberalisation of pension legislation in Russia which concers non-state pension funds activities alongwith government support could provide a significant grow of this market in several years considering the low base effect. The assets of NPF could be source of long-term investment, including infrastructure and high-tech projects. Revenues from these kind of investment could hedge short-term risks on financial markets and guarantee stable income. Such a model of financing pension funds is adopted in the United States and other developed markets.

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