The New Normality For The Universal Pension Funds In Bulgaria After The Pandemic Crisis Of 2020

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Abstract: *The negative interest rates introduced and supported by the major central banks after the Global financial crisis of 2008 and then after the pandemic crisis of 2020 were intended to prevent economy from severe depression and even to stimulate economic growth. Flooding economy with liquidity, central banks were trying also to support financial markets by not allowing significant drop in the value of the different financial assets. As a result, investors currently observe ever high values of the main stock exchange indexes. Pension funds are one of the most active institutional investors. Their investment results strongly depend on the level of the market interest rates and the value of the financial assets. The current paper is trying to research the changing portfolio structure of the Bulgarian universal pension funds in the light of the new normality – extremely low interest rates and increasing prices of corporate equities. What is the investment behaviour of pension funds in Bulgaria in the last quarters and can we deduct from it that a forthcoming crisis is on horizon? Considering the newly adopted legislation at the beginning of 2021 that regulates the pay-out phase of the universal pension funds, some implications are made about their short-term investment decisions and expected risks.*

Key words: *pension funds, pandemic crisis, investment results, risks*

JEL: *G11, G12, G22, G23*

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Introduction

The major central banks (mostly Fed and ECB) have been dominating the monetary policy in the World since the financial crisis of 2008. There were some suggestions that their role could gradually decline, after the eruption of the pandemic crisis in 2020. But, on contrary, the central banks continued with their extremely loose monetary policy trying to provide enough liquidity needed for financing the continuously increasing government expenditures and to support the stock markets and the value of the financial assets. In the short term they were successful in achieving their aims. At the same time, some new risks arose, which if materialized, could have serous detrimental effects over the public finances and financial markets in the middle and in the long term. Pension funds around the World attract attention because they are closely related both with the public finances as they are always part of the social security system in one country and with the financial markets because they are one of the most important participants on them (Davis, 1995). The current research is focused on two basic problems – what investment behaviour and performance have universal pension funds in Bulgaria in an environment of extremely low interest rates and what potential risks could arise in the middle and in the long term for these financial institutions and for the pension system as a whole in the country. The first part of the paper investigates the changing portfolio structure of the universal pension funds in the last twelve years following the financial crisis of 2008 and the yield realized for the insured individuals. The second part draws certain implications concerning potential risks mostly arising from the investment behaviour of these financial institutions, the forthcoming need for restructuring their portfolios as the pay-out phase is expected to start more intensively during the fall of 2021 and the current monetary policy stance followed by the major central banks. The paper concludes with some risks concerning the pension system in Bulgaria as a whole.

1. The changing portfolio structure and performance results of the Bulgarian universal pension funds for the period 2008-2020.

Bulgarian universal pension funds were structured as defined contribution pension schemes in the early 2000's. These types of funds have two distinct phases in their business life – accumulation phase and pay-out phase. Insured individuals are exposed to significant risks in both stages (Blake, D. 2006) One of the most significant risks during the accumulation period concerns the investment performance of the fund and the amount accumulated into one's individual account towards the date of retirement. This type of risk is of high importance because the resources accumulated during the working years directly affect the amount of the pension benefit after that. The higher the amount accumulated, the higher the benefit. The universal pension funds in Bulgaria have strict investment rules to follow. They are allowed to structure only one portfolio of assets as there is no multifund system (Daneva, 2014). So, pension insurance companies try to structure diversified portfolio of assets suiting the interests both to the young and to the old members of the funds.

Table 1 Portfolio structure of Bulgarian universal pension funds in 2007

Type of instrument	Doverie	Saglasie	Rodina	Allianz	En En	CCB – sila	Budeshte	Toplina
Government bonds	16,36	26,09	13,99	11,67	28,94	32,46	27,87	42,62
Corporate bonds	17,53	18,28	14,41	5,72	2,94	18,09	14,35	7,96
Mortgage bonds	1,41	1,94	4,13	4,99	5,85	0,00	0,00	0,00
Municipal bonds	0,19	0,51	0,00	0,00	0,00	0,00	0,00	0,00
Equities	28,31	31,84	31,14	21,60	30,41	27,07	42,53	28,07
Bank deposits	17,35	11,49	24,25	20,65	1,76	15,66	15,25	21,35
Investment property	4,23	2,53	0,00	0,82	0,00	1,99	0,00	0,00
Foreign instruments	14,63	7,33	12,08	34,54	30,10	4,73	0,00	0,00
Total	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**

Source: www.fsc.bg

Before the eruption of the Global financial crisis, Bulgarian universal pension funds had structured portfolios with significant share of corporate instruments – equities and bonds. Data in Table 1 shows that for most of the funds the assets of this type reached almost 50% at the end of 2007. The other very important asset in those years was the ordinary bank deposit. Pension funds were attracted by the high interest rates offered by many of the Bulgarian banks. The Global financial crisis hit severely all assets traded at the stock exchange in Sofia. Equities of the public companies lost much of their value in 2008 and as a result their share in the portfolio structure of the universal pension funds shrank by over 10 percentage points.

Table 2 Portfolio structure of Bulgarian universal pension funds in 2008

Type of instrument	Doverie	Saglasie	Rodina	Allianz	En En	CCB – sila	Budeshte	Toplina
Government bonds	24,59	27,84	35,31	45,62	55,86	35,41	13,43	63,01
Corporate bonds	26,81	21,77	23,24	18,13	12,61	22,37	23,13	8,96
Mortgage bonds	3,61	1,63	4,63	3,39	3,40	-	-	-
Municipal bonds	1,47	1,69	1,87	0,04	-	1,13	-	-
Equities	15,09	18,06	9,72	13,84	11,77	10,36	31,37	9,68
Bank deposits	25,93	26,51	25,23	18,31	16,36	25,68	32,07	18,35
Investment property	2,50	2,50	-	0,67	-	5,05	-	-
Total	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**

Source: www.fsc.bg

It must be noted that pension funds were passive at the market during the whole 2008 so that the lower share of their equities is due to the severely declined prices in that period and not due to the sales accomplished during the year. In those years the major central banks started their policy of quantitative easing and zero interest rates. Bulgaria has been experiencing a currency board monetary regime for more than 20 years with currency value fixed to the euro. The new monetary policy stance followed by European central bank (ECB) affected Bulgarian economy shortly after its promotion. The most obvious sign of this influence was the observed decline in interest rate level in the country. Bulgarian banks gradually reduced the interest rates offered for deposits, making them unattractive for institutional investors like pension funds. The portfolio structure of the universal pension funds in 2019, just one year before the start of the pandemic crisis was quite different from the one they used to have in 2008.

Table 3 Portfolio structure of Bulgarian universal pension funds in 2019

Type of instrument	Doverie	Saglasie	Rodina	Allianz	En En	CCB – sila	Budeshte	Toplina
Government bonds	69,65	36,22	69,01	71,55	69,86	44,07	16,57	52,40
Corporate bonds	13,03	25,33	1,37	6,31	6,17	19,38	25,80	10,25
Municipal bonds	-	0,09	-	-	-	-	-	-
Equities	14,91	31,44	29,62	20,08	22,80	31,56	53,91	36,46
Bank deposits	0,42	2,12	-	1,50	1,17	-	-	-
Investment property	1,99	4,80	-	0,56	-	4,99	3,72	0,89
Total	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**

Source: www.fsc.bg

First, the share of bank deposits dropped to almost zero due to the unattractive interest rates. Second, the share of corporate equities rose mostly due to the ever-high levels of their prices. But here, it must be noted that by increased values of equities we mean mostly those equities traded at the major stock exchanges in Europe and America, not the ones traded at the stock exchange in Sofia. Bulgarian stock exchange indexes have not reached their values from the period before the Global financial crisis yet. Third, the share of government bonds also increased significantly, reaching for some of the funds level of over 70%, something unseen since the start of the pension reform in Bulgaria in 2002 when universal pension funds were obliged to invest at least 50% of their assets into debt issued by the government.

Table 4 Portfolio structure of Bulgarian universal pension funds in 2020

Type of instrument	Doverie	Saglasie	Rodina	Allianz	En En	CCB – sila	Budeshte	Toplina
Government bonds	60,68	38,24	70,14	63,22	66,90	34,15	17,11	53,63
Corporate bonds	10,42	26,14	1,08	5,15	3,80	18,66	21,80	8,60
Municipal bonds	-	0,09	-	-	-	-	-	-
Equities	26,47	29,54	28,78	29,15	29,30	42,47	55,61	36,96
Bank deposits	0,66	1,37	-	2,04	-	-	-	-
Investment property	1,77	4,62	-	0,44	-	4,72	5,48	0,81
Total	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**	**100,00**

Source: www.fsc.bg

In 2020 the portfolio structure stayed almost the same with small increase of the equity share mostly due to the rise of the values of the assets traded at the stock exchanges around the World. It's worth noting that monetary behavior of the central banks has implications in two directions. First, it makes possible the observed refinancing of the huge government debts and second, it functions as doping for the market players who buy securities at levels hardly seen before. The monetary and fiscal policy are so closely interrelated that it is difficult to differentiate which is a trigger for the other. The public debts for most of the countries in EU are at around 100% of the GDP or higher, so that governments really need instrument for preventing interest rates from significant increase in order to refinance their huge expenditures especially in the light of the pandemic crisis. At the same time, the extremely loose monetary policy stimulates banks and other financial institutions to buy government securities in an effort to keep the required capital ratios. This is a scenario where none of the participants has interest in significant change of the monetary policy stance. Of course, the situation might quickly reverse if inflation rates start to rise, and central banks are forced to stop the continuous cash injections into the banking system. Then, crisis could easily be triggered both into the banking system and into the public finances.

The universal pension funds in Bulgaria are not isolated from the current trends. In the last decade they were able to realize yields mostly due to the rise of the values of the financial assets – both equities and bonds. In the next table are shown the rates of return for most of the funds, estimated as value change in one pension unit:

Table 5 Realized nominal yield for the universal pension funds for the period 2008-2020

Year	Doverie	Saglasie	Rodina	Allianz	En En	CCB – sila	Budeshte	Toplina
2008	-18.62%	-24.51%	-17.62%	-21.72%	-17.96%	-18.98%	-29.31%	-19.34%
2009	9.05%	8.64%	5.47%	6.72%	7.49%	7.02%	13.69%	7.76%
2010	4.61%	6.01%	7.21%	4.81%	4.17%	4.09%	4.33%	6.24%
2011	1.11%	0.60%	-3.41%	-2.20%	-1.69%	1.25%	-2.08%	1.81%
2012	6.35%	10.45%	5.15%	8.34%	8.20%	8.22%	5.55%	5.17%
2013	4.02%	4.74%	5.23%	4.94%	6.34%	4.49%	3.82%	3.07%
2014	6.84%	6.23%	6.51%	5.55%	5.51%	6.15%	3.67%	4.04%
2015	1.48%	4.66%	0.15%	-0.03%	0.20%	3.87%	1.48%	2.83%
2016	3.88%	6.60%	3.82%	3.28%	4.31%	4.50%	1.26%	3.13%
2017	6.24%	6.45%	8.62%	6.35%	6.55%	3.11%	5.18%	4.74%
2018	-3.94%	-1.82%	-6.39%	-6.13%	-5.17%	0.07%	-0.59%	-1.72%
2019	4.95%	7.57%	8.74%	6.75%	7.35%	4.76%	3.47%	8.16%
2020	1.44%	1.17%	2.49%	1.42%	1.14%	0.79%	0.62%	1.47%

Source: own calculations [1]

*Data is shown for all of the funds except UPF POI, which started its business in 2011

After the year of the Global financial crisis (2008), all of the funds were able to realize positive results. Only in 2018 there was a market correction due to the expected decision of Fed to raise interest rates. The inflation rate in Bulgaria for the same period was the following:

Table 6 Inflation rate for the period 2008-2020

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Infl. Rate	7.80%	0.60%	4.50%	2.80%	4.20%	-1.60%	-0.87%	-0.38%	0.09%	2.77%	2.67%	3.82%	0.14%

Source: own calculations [2]

Table 7. Real yield for the universal pension funds in Bulgaria for the period 2008-2020 (annually)

Year	Doverie	Saglasie	Rodina	Allianz	En En	CCB – sila	Budeshte	Toplina
2008	-24.51%	-29.97%	-23.58%	-27.38%	-23.90%	-24.84%	-34.42%	-25.18%
2009	8.40%	7.99%	4.84%	6.09%	6.85%	6.38%	13.01%	7.12%
2010	0.10%	1.45%	2.60%	0.29%	-0.32%	-0.40%	-0.17%	1.67%

2011	-1.65%	-2.14%	-6.04%	-4.86%	-4.36%	-1.51%	-4.74%	-0.97%
2012	2.06%	6.00%	0.91%	3.98%	3.84%	3.86%	1.30%	0.94%
2013	5.71%	6.45%	6.94%	6.65%	8.07%	6.19%	5.51%	4.75%
2014	7.78%	7.16%	7.45%	6.47%	6.43%	7.08%	4.58%	4.96%
2015	1.86%	5.06%	0.54%	0.35%	0.58%	4.26%	1.87%	3.22%
2016	3.78%	6.50%	3.72%	3.18%	4.21%	4.41%	1.17%	3.03%
2017	3.38%	3.58%	5.70%	3.48%	3.68%	0.33%	2.35%	1.91%
2018	-6.44%	-4.38%	-8.82%	-8.57%	-7.64%	-2.53%	-3.17%	-4.27%
2019	1.09%	3.61%	4.74%	2.83%	3.40%	0.90%	-0.34%	4.18%
2020	1.29%	1.02%	2.34%	1.28%	0.99%	0.65%	0.48%	1.32%

Source: own calculations [3]

The figures in the table above show that universal pension funds managed to beat the inflation rate for most of the years between 2008 and 2020. The positive real return is an investment target for most of them. In 2008 they really suffered huge losses due to the unfolded Global financial crisis. Nominally all pension funds in Bulgaria were able to compensate for losses realized in that turbulent year. However, if one takes the inflation rate for the whole period, it is seen that only two of the funds were managed to recover and achieve positive real returns. The following table shows the geometric mean return for the period 2008-2020.

Table 7. Real annual yield for the universal pension funds in Bulgaria for the period 2008-2020 (geometric mean for the whole period)

Year	Doverie	Saglasie	Rodina	Allianz	En En	CCB – sila	Budeshte	Toplina
2008-2021	-0.15%	0.40%	-0.28%	-0.93%	-0.23%	0.01%	-1.65%	-0.15%

Source: own calculations [4]

The accumulated inflation rate for the whole period is at around 26% and most of the funds were able to realize approximately such yield. Two of the funds (UPF Saglasie and UPF CCB Sila) achieved higher than that. UPF Saglasie was able to reach 0.40% average positive yield for the whole period and UPF CCB-Sila: 0.01%. On the other side, UPF Budeshte and UPF Allianz achieved -1.65% and -0.93% respectively, estimated as geometric mean real return for the period 2008-2020. The realized return over the years shows that the two crisis that hit the economy in the last years (the Global financial crisis 2008 and the pandemic crisis 2020) have quite different effects over the financial markets. The financial crisis was detrimental for most of the portfolio investors including the universal pension funds. The hit was so severe that many consequences are still seen for the market participants at the Bulgarian stock exchange. That particular year – 2008 is still on focus when analysing the performance of the pension funds over the years and even when discussing the future of the whole pension system. At the same time the Global financial crisis could be seen as beneficial for the pension funds in a certain sense. It opened the eyes of many of the pension fund managers and the state regulator for the risks born by the insured individuals in fully funded defined contribution pension schemes. The crisis showed once again how important it is to structure portfolios pursuant to the investment horizon of the insured individuals.

The crisis of 2020 on the other side initially looked like the one of 2008. The main indexes fell sharply during the first months of the spreading pandemic, but after that the recovery process was fast enough to compensate for the losses incurred during the first half of the year and to leave pension funds with positive yield for the whole 2020. The governments around the World practically closed many of the economies due to the introduced social distancing. The result was declining GDP, lost jobs and dropping prices but that was not the case with the financial markets. There, after the initial plunge, the rising prices of stocks and bonds were dominating. An explanation of this phenomenon could be given only by considering the immediate reaction of the major central banks. They renewed their „quantitative easing" programs flooding the financial sector with liquidity. Much of that liquidity has been channelled through the financial markets. So, many of the short-term risks for the portfolio investors were avoided but some other long-term risks appeared in the horizon.

2. The risks for the universal pension funds in Bulgaria in the short and in the long term

The portfolio structure and the corresponding yield realized is of utmost importance for the type of pension funds introduced in Bulgaria. The universal pension funds were structured as typical defined-contribution pension schemes (Gochev, Manov, 2003, World bank, 1994). They form the second pillar of the pension system and function on a fully funded principle. The participation of all individuals born after 31.12.1959 is by default mandatory but they are given the option to go out of the pension scheme and to transfer their funds into the state pay-as-you-go pension system. The second pillar was introduced in 2002 and until 2021 the universal pension funds were into their accumulation phase. This means that there were no significant pension benefit payments as all individuals who contributed into the pension schemes had not reached the statutory pension age for receiving pension benefit from the first pillar of the system. The situation is expected to change in September 2021, when women born in January 1960 are going to reach the statutory pension age and will probably start to apply for receiving pension benefit from the second pillar. The universal pension funds are going to gradually enter their mature state of development, which means that a number of new risks could appear in the short and in the long term.

As it was shown in the first part of the paper, Bulgarian universal pension funds follow strict investment rules. These rules are normatively set, and they bind pension funds to structure just one portfolio of assets that must serve adequately the interests of both young members of the scheme and of those whose retirement is very close in time. This could be a hard task because the investment horizon is different for the young and for the old members of the scheme and the corresponding risks to which they are exposed are also quite different (Kirov, 2010). The pension funds are trying to realize yield higher than the inflation rate in the long-term, but this is not an easy quiz, as shown in Table 7, when at the same time they have strong stimulus to invest in secure but low-yield instruments such as government bonds. In the last decade two trends emerged that made possible pension funds to restructure their portfolios towards more significant share of government securities. First, after the financial crisis of 2008 and the followed extremely loose monetary policy stance promoted by the major central banks, pension funds started to invest more heavily in bonds issued by the state as that instrument was seen as an alternative to an ordinary bank deposit whose yield was nullified. At the same time, especially right after the crisis, they tried to escape from riskier assets such as corporate bonds and equities which were blamed for the huge losses in 2008. Second, in the next years, the values of corporate instruments began to recover, but the distribution phase appeared on the horizon. Pension funds need government securities to stay solvent when resources are necessary for the payment of the forthcoming pension benefits. This is the first major risk for the universal pension funds – government securities are low yield instrument. They don't suit adequately the interests of those scheme members whose investment horizon is in the distant future. It is not a surprise that the few funds that realized yield above the inflation rate for the last 13 years are those whose portfolio share invested in government bonds is among the lowest at the market. The zero-interest rate policy followed by the central banks stimulates traditionally conservative investors such as pension funds to start being aggressive in the long term. The combination of expected significant inflation in the mid-term and extremely low yield instruments such as bank deposits and government bonds makes universal pension funds to gradually transform their portfolios towards structures dominated by corporate instruments. This could be justified from the point of view of those insured individuals whose investment horizon is 25-30 years from now, but not from the point view of those whose retirement is in the next few months. This contradiction raises once again the issue for introduction of the so called multifund system in pension insurance which would allow investment strategy pursuant with the risk profile of the insured individuals. Structuring portfolios that differ in risk profile would allow pension funds to better protect interests of both young and old members of the scheme. This would also prevent them of being too aggressive at the market in an effort to achieve their investment targets. The observed prolonged period of low interest rates is associated with some other significant risks for the pension companies. In September 2021 the universal pension funds in Bulgaria have been entering into the second phase of their development – the stage of paying pension benefits. The new legislation adopted last month describes the way pension funds must determine and pay retirement payments. The main three factors that affect the amount of the pension benefit are: resources accumulated into one's individual account, life expectancy and the value of technical interest rate. The last component is quite important because it embraces the vision of the pension funds for the future interest rates. The normative rules allow pension companies to determine by themselves the value of technical interest rate and the regulator must only approve the proposed rate. In practice, almost all funds are going to have different technical interest rates. Having in mind that the other factors are the same for all pension funds (life expectancy tables and formulas for estimating the amount of benefit), one could easily suggest that the approved interest rates would be crucial for the different amounts of the pension benefits paid by different pension funds. The lower the interest rate, the lower the amount of the pension benefit. Two individuals with equal amounts accumulated into their accounts who are getting retired on one and the same date would have different amounts of pension benefits provided they are insured in different funds. The funds which were conservative in their investment behaviour in the last decade adopted low values of technical interest rate. On the other hand, those which were successful in achieving higher returns assumed also higher values of interest rates.

Table 8 Values of technical interest rates approved by the Financial supervisory commission for determining the amounts of life-long pension benefits

Universal pension fund	Technical interest rate for determining life-long pension benefits
Doverie	0.35%
Saglasie	0.75%
DSK- Rodina	0.20%
Allianz-Bulgaria	0.05%
OBB	0.50%
CCB-Sila	0.37%
Budeshte	0.30%
Toplina	0.50%
POI	0.50%

Source: www.fsc.bg

The low interest rate environment in the last years exposes pension companies in two significant risks: First, if interest rates start to rise in the next years, they would have underestimated the amount of the benefits paid to the first pensioners (Rocha, R., Vittas, D, 2010) and second, which is more important than the first one, if low interest rate environment is the „new normality", pension funds are put in a serious disadvantage in comparison with the state pension system that functions on a pay-as-you-go principle. This would mean, all other things been equal, that insured individuals must accumulate more resources into their individual account prior to the date of retirement in order to receive pension benefit that would fully compensate them for the envisaged reduction of the payment from the first pillar of the system. It is well known both in theory and in practice that low interest rate environment is detrimental for savers. Pension system structured on a fully funded principle could experience the negative effects of it both in the accumulation phase and in the pay-out phase.

The last type of risk associated with the universal pension funds in Bulgaria comes from the observed new structure of their portfolios, dominated by government securities in the recent years. More detailed research is needed in order to classify the portfolio of government bonds by countries of issue, but one could suggest that a significant part of it is invested in government bonds issued by Bulgarian government. This raises one fundamental question of whether the reform implemented 20 years ago would achieve its most important goal – the fully funded system to support effectively the existed pension system structured on a pay-as-you-go principle. Under the pay-as-you-go part of the system current workers finance pension benefits of current retirees by paying their social security contributions. The aging of the population and the deteriorating demographic structure means that in the future smaller part of the population would finance the benefits of an increasing part of it – a trend that would put public finances under pressure and would increase the deficit of the state social security system. The role of the pension funds is to support the system in the next years by making current active workers save now and use these savings as benefits in the future. But if these additional resources are predominantly directed towards government bonds with the expectation to be repaid by the next generation working individuals, the impact over public finances caused by the aging of the population would continue to be severe. Under this scenario pension funds would appear just as an intermediator between government and future pensioners and many of the advantages of the fully funded pension system would disappear. The management of long-term savings is a complicated task especially in an environment of low interest rates and aging of the population. The universal pension funds should respond to many challenges in the mid-term in order to prove that they are effective financial structures with ability to protect the interests of the insured individuals. Two of the most important challenges are related to: first, the ability to pay pension benefits in an amount that fully compensate the reduction of the pension benefit paid by the first pillar of the system and second, the effective support of the public finances in the mid and in the long term by relaxing part of the financial burden caused by the deteriorating demographic structure. The achieving of these goals is not a sole task of the pension funds. The normative rules and legislative environment under which they perform their business are also crucial for the final result. Proper regulation is of great significance in every field in society including pension insurance. Moral hazard and adverse selection are fundamental problems in public finance. Their effective addressing could make the difference between the success and the failure of every reform including the one made in pension insurance 20 years ago.

Conclusion

The universal pension funds in Bulgaria have suffered two major crises in the last 20 years – the Global financial crisis of 2008 and the pandemic crisis of 2020. Both of them determined the „new normality" for the pension funds and all other institutional investors. The most important consequence of these two unfavourable events is the new monetary policy stance strictly followed by the major central banks in the last years. The environment of zero interest rates and abundant liquidity has been assumed as something normal in the last 13 years. This „new normality" comes with some new risks in the mid and in the long term for the pension funds. The universal pension funds in Bulgaria have been entering into a new phase of their development – the so called distribution phase. They are expected to start paying pension benefits in a larger scale in the next years. The defined contribution pension schemes are distinguished by many investment risks that lie with the insured individual. One of the most important risks is interest rate risk. The yield realized by the pension company affects the accumulated amount into one's individual account during the accumulation phase and the amount of the pension benefit in the distribution phase. The continuous monetary policy of low interests puts at serious disadvantage pension funds especially the universal pension funds in Bulgaria which are in a sort of a competition with the pay-as-you-go part of the pension system. Proper regulation both in the accumulation and in the distribution phase could mitigate at least part of the negative effects associated with the monetary behaviour of the central banks. Part of these reforms include: introduction of the multifund system, fair reduction of the pension benefit paid by the state social security system and investment rules that make universal pension funds even more transparent in their investment strategies. The „new normality“ is not a good normality for the pension funds and for the economy as a whole, but at the same time it gives a time frame for introducing reforms that would better prepare pension funds for the forthcoming challenges.

Notes:

[1] The realized yield is estimated by using the change of value of one pension unit for the different funds. The value of one pension unit is taken from the official web site of the Financial supervisory commission – www.fsc.bg

[2] The inflation rate is estimated as a change of the consumer price index, published by the National statistics institute in Bulgaria. – www.nsi.bg

[3] The real yield is estimated by using the formula of Fisher ((1+NIR)/(1+IR))-1

[4] The real annual yield for the whole period 2008-2020 is estimated as geometric mean return using the yield realized for each of the years in the period.

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