



## Defined Contribution Pension Schemes in Central and Eastern European (CEE) Countries – Current Issues And Future Perspectives

**Jeko Milev**

Department of Finance, University of National and World Economy, Sofia, Bulgaria

### Info Articles

### Abstract

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Defined contribution pension schemes have become quite popular throughout Europe in the last 20 years. Many countries implemented reforms trying to address the growing concerns about the pension systems organized mostly as pay-as-you-go structures in the last century. Adding fully funded components into the pension insurance, governments were trying to mitigate the problems arising from the ongoing process of population aging and the resulting unfavorable demographic trends in most of the countries in Europe. These reforms were widespread in Central and Eastern Europe in the late 1990's and early 2000's after the influential report<sup>1</sup> published by the World Bank in 1994 whose recommendations became cornerstones of the changes introduced into the pension systems in the region. The objective of the current paper is to give some insight into the current place of the defined contribution pension schemes in the pension systems in different countries in Europe and their significance in the next decades. The issue is substantial, especially in the light of the continuous inflation and rising pressure on public finances. Long term sustainability of both pension systems and public finances requires reforms that further support accumulation of resources in the long term. The first part of the paper describes the current condition of defined contribution pension schemes in 9 CEE countries, the second part is dedicated to some common problems of the schemes. The paper concludes with some recommendations for future reforms. The methodology used in the paper includes descriptive and comparative analysis, deductive and inductive approach. The basic findings of the research show that defined contribution pension schemes in CEE countries are exposed to significant political risk but they must be further supported and reformed in the continuous process of building sustainable and adequate pension systems in the region.

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\* Address Correspondence:  
E-mail : [j.milev@unwe.bg](mailto:j.milev@unwe.bg)

<sup>1</sup> World Bank. 1994. *Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth*. New York, N.Y.: Oxford University Press

## INTRODUCTION

Defined contribution pension schemes are a specific way of organizing fully funded pension insurance. They have been growing in popularity in the last 20 years for many reasons, but two of them are standing out: the reforms made in Central and Eastern European countries that supplemented the pay-as-you-go pillars with fully funded ones and the obvious trend of transferring the investment risk towards the insured individuals observed in pension insurance in the west part of the continent. The tendency is easily seen even in those countries with serious tradition in pension insurance, based on capital accumulation (the UK and the Netherlands). Defined contribution pension schemes have several specific features: first, insured individuals and their employers pay contributions into individual accounts; second, the paid contributions are invested into specific types of financial assets; third, pension benefit is determined on the basis of the accumulated amount into one's personal account at the date of retirement. Unlike the defined benefit pension schemes, in which pension amount is estimated usually as a percentage of the final salary, the defined contribution pension schemes do not give insight into the future benefit. The pension strongly depends on the sum accumulated towards the end of one's professional career. The paid contributions, the realized yield and the fees charged by the managing company are the factors that affect most pension amount. The insured individuals bear significant risks both in the accumulation and in the distribution phase (Blake 2006). At the same time the so-called vested benefits<sup>2</sup> (rights) are determined much more easily than the corresponding amounts in a defined benefit scheme. Defined contribution pension schemes became popular in Central and Eastern European countries in the late 1990's and early 2000's. They were seen as supplementary elements of the pay-as-you-go pillars whose financial health was expected to deteriorate in the next decades. The governments were trying to respond to the negative trend of population aging caused by high emigration rates, decreasing fertility rates and increasing average life expectancy. The expected rise in dependency ratios<sup>3</sup> meant that pay-as-you-go pension pillars could exert significant pressure on public finances in the mid and in the long term. The fully funded pillars of the pension systems were seen as beneficial for the pension system itself but also for the whole financial system. There is evidence of incentivizing the trade on the domestic capital markets after introduction of some capital components into the pension system<sup>4</sup>. Davis (1993) also points out that pension funds, under certain assumptions, can contribute effectively to the development of the local stock exchanges. That was an additional argument for the introduction of a fully funded element in the pension systems of countries whose financial markets needed a booster to start channeling more efficiently the individual savings towards business. Two decades after their introduction, pension funds in Central and Eastern Europe have different destinies in different countries. Some of the governments made "reversal" reforms<sup>5</sup> (Hungary and Poland), others continued to support the funded component and even adopted detailed regulation concerning the pay-out phase (Bulgaria). The current research is trying to shed some light on the development of the mandatory fully funded pillars into the pension systems in Central and Eastern European countries and to give insight into some future changes needed to strengthen them. The basic thesis is that fully funded pillars need further support and reforms in order to become those elements that can raise sustainability and adequacy of the pension systems in the region. The studies in this field accomplished in the last years have some controversial results. There is no common conclusion on the problems that need to be sorted out in order to ensure the success of the capital pension schemes. Bielska (2013) points out the fiscal issues arising after the implementation of the pension reforms in Hungary and Poland. The transitional costs from purely PAYG pension system to mixed one (pay-as-you-go and fully funded) are seen as one of the basic reasons for implementing reversal reforms in both countries. Sebo and Virdzek (2013) put special accent to the political risk as a crucial factor for the investment performance of the defined contribution pension schemes in Slovakia. The return realized by the pension funds operating such schemes is an important element for ensuring public support for future reforms. Szczepanski and Brzeczek (2013) in addition to the investment performance show that specific risk may arise from typical principal-agent problem in pension insurance which means that pension fund managers can act not in the best interest of the members of the scheme. Right regulation is seen as crucial for decreasing this type of risk especially when pension scheme is compulsory. At the same time different research paper of the European commission (2010; 2012; 2018; 2021a) show a persistent trend of

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<sup>2</sup> Vested benefit is the amount the insured could transfer into another pension fund before reaching retirement age.

<sup>3</sup> Dependency ratio measures the ratio between those individuals aged over 65 and those in working age.

<sup>4</sup> There is such evidence for the Chilean stock market, where the trade volume increased several times just in a few years after the big pension reform in 1980's

<sup>5</sup> Reversal reform is a change in the pension system that destroys the mandatory fully funded component into the pension system. Such reforms were made in Hungary (2011) and in Poland (2014)

increasing asset value and number of insured individuals in the fully funded pillars of the pension systems throughout European Union (EU). Some of the reasons behind the observed trend are related to the expected rising pressure on public finances due to the aging of the population and the deteriorating demographic structures in almost all of the countries in EU. The first part of the research is dedicated to the actual structure of the pension systems in all those countries that made reforms following the model of the World Bank. The second part is trying to classify some common trends and to outline some of the risks related to them. In conclusion recommendations are made for some future reforms.

## **THE MANDATORY DEFINED CONTRIBUTION PENSION SCHEMES IN CENTRAL AND EASTERN EUROPE**

In the mid 1990's the World Bank published a report that strongly recommends structural reforms of the pension systems around the World. At the center of the reforms was put the multi pillar approach that combines the pay-as-you-go principle with the fully funded one. The obvious trend of increasing life expectancy and decreasing fertility rates was expected to cause gradual aging of the population and increasing strain on the pension systems based primarily on pay-as-you-go principle. The parametric reforms (increasing pension age, limiting early retirement options, etc.) applied to the state pension schemes were considered as insufficient for promoting long term sustainability and adequacy of pension incomes. The introduction of fully funded elements into the pension systems was seen as a possibility to strengthen the financial condition of pension insurance by relaxing part of the burden that falls on the pay-as-you-go structures, but not only. Fully funded components were supposed to incentivize individuals to pay contributions on real incomes thus constraining "grey economy" which was a serious issue for many of the developing countries (Kirov 2010). At the same time capital pension schemes under certain assumptions can raise savings in the economy and support stock market trade thus promoting economic growth in the long term (Davis 1993). And finally, fully funded pension systems could have a better return to the insured individuals than pay-as-you-go pillars. According to Aaron (1966), the return to pay-as-you-go depends on two basic factors – growth rate of average earnings (they determine the amount of contributions paid into the social security system) and old age dependency ratio (pensioners towards working individuals). On the other hand, the return to a fully funded pension system depends also on two factors: the return of financial assets and the passivity ratio (working age towards years in retirement). Davis (1993) shows that in case of equality between dependency ratio and passivity ratio, the return solely depends on the growth rate of average wage and the return of financial assets. For many countries the latter exceeds the former, thus giving precedence to the fully funded pension schemes. In addition, the already formed trend of population aging means that the dependency ratio is expected to further deteriorate in the next decades giving another advantage to fully funded structures. All these arguments made possible the fundamental pension reforms implemented in many countries in Central and Eastern Europe. Hungary (1998), Poland (1999), Latvia (2001), Bulgaria (2002), Estonia (2002), Croatia (2002), Lithuania (2004), Slovakia (2005), Romania (2008) made pension reforms following the model proposed by the World Bank. The pension systems in these countries have similar features but also common problems.

At the start of the reform the governments had to address and solve important issues concerning the exact design, structure and financing of the second pillar pension funds. All of the countries adopted defined contribution pension schemes with personal accounts, managed by pension insurance companies, structured as separate legal entities. In the very beginning, it was crucial for the policymakers to convince insured individuals that pension funds are financial institutions, designed to support the pension systems and to increase probability of receiving benefits adequate to preretirement income. The idea of having an individual account for accumulation of assets for future retirement appeared to be quite innovative for countries where pension insurance had been organized on Semashko<sup>6</sup> model for decades (Gochev and Manov 2003). Social security systems in all countries from the former Soviet bloc were financed solely by the state budget and people commonly believed that pension insurance cannot be financed on other grounds than on funds provided by the government. The financial "pyramids" that existed in some of the countries in the years after the collapse of the communist regimes were another scar that had to be healed. Convincing people that pension funds were not institutions that manage some other "Ponzi scheme" was important for the success of the reform.

Another issue that had to be sorted out was related to the amount of the contributions destined to the pension funds. The approach adopted by all countries, but Estonia, was to reduce the contribution due to the first pillar and to redirect that amount into the second pillar. The government in Estonia reduced the

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<sup>6</sup> Nikolay Semashko is a Russian academic and politician whose ideas about social security were widely accepted in Soviet Union and countries from the former Soviet block

payment due to the first pillar but also introduced additional contribution to finance the private pension funds in the country. The reduction of the contribution rate for the first pillar raised the question of how to compensate the expected lower revenues into the state pension system.

**Table 1.** Contribution rates for the first and for the second pillar at the start of the reform

N:	Country	First pillar contribution rate	Second pillar contribution rate
1	Hungary	18.5 %	8 %
2	Poland	12.22 %	7.3 %
3	Latvia	18 %	2 %
4	Bulgaria	27 %	2 %
5	Estonia	16 %	6 %
6	Croatia	15 %	5 %
7	Lithuania	23.4 %	2.5 %
8	Slovakia	9 %	9 %
9	Romania	29 %	2 %

Source: OECD (2004, 2008); Bejakovic (2019)

The adopted approach of financing the transition period was different for the various countries. Three basic models were applied: revenues from general taxation, own resources, additional public debt (Bielawska 2013). The combination of the three variants was also an option.

The last basic issue that had to be addressed was related to the individuals allowed to join the new pension funds. The very nature of the fully funded pension systems implies that insured individuals need a comparatively long period in order to accumulate enough resources into their accounts. Those of them who were close to their retirement were excluded from the possibility of saving or they were given the option to choose whether to join the scheme. The different countries adopted different approaches to this issue, but the common feature was that not all individuals were allowed to join the new pillar of the pension system.

**Table 2.** Criteria for compulsory joining the second pillar pension funds in CEE countries

N:	Country	Individuals mandatory insured into the new pension funds
1	Hungary	All persons under the age of 35
2	Poland	All persons born after 31.12.1968
3	Bulgaria	All persons born after 31.12.1959
4	Estonia	All persons born after 31.12.1982
5	Croatia	All persons below 40 years
6	Latvia	All persons below 30 years on 1 <sup>st</sup> of July 2001
7	Lithuania	All persons below 40 years
8	Slovakia	All persons that start work after 01.01.2005
9	Romania	All persons below 35 years

Source: OECD (2004, 2008); Bejakovic (2019)

The start of the reform was promising, and many individuals were convinced that pension systems needed the adopted change. Despite the initial enthusiasm, the new pension funds had to respond to many challenges in the following years. One of the first appeared on the surface just a few years after the beginning. The government in Hungary was not satisfied with the position of the European commission that funds accumulated into the second pillar cannot be deducted from the official public debt. The growing liabilities of the government appeared to be a threatening circumstance for the pension funds. The policymakers in the country made a “reversal” reform and seized the funds accumulated for a period of 13 years. So, in 2011 the Hungarian compulsory second pillar pension funds stopped to exist. The reversal was made by introducing strong incentives<sup>7</sup> for all individuals to transfer “voluntarily” their accumulated resources into the first pillar of the system. Similar transformation was made in Poland a few years later. Due to the wish of the government to keep the ratio public debt/GDP on acceptable level, the ruling class forced second pillar pension funds to transfer their polish government bonds into the state social security system. Then, the state officials promised to take responsibility of paying an additional part of the pension benefits proportionate to the share of government securities transferred to the budget. Polish pension funds were restricted to invest primarily into corporate instruments, and at the same time they started to gradually transfer the savings of those individuals who have 10 years to retirement into the state PAYG

<sup>7</sup> The adopted new regulation required those who choose to stay within the second pillar to give up their pension benefit due by the state.

pillar. No other CEE government took actions like these, but some milder measures aimed at constraining the activity of pension funds were assumed by each of the researched countries. The following table summarizes some of them.

**Table 3.** Regulative changes made in the CEE countries aimed at constraining the activity of second pillar pension funds

N:	Country	Measure taken by the policymakers
1	Hungary	Full “reversal” reform (seizure of pension assets)
2	Poland	Contribution rate reduced to 2.92 %. Assets in government bonds transferred to the state social security system and redeemed. Assets from pension funds transferred gradually to PAYG pillar 10 years prior to retirement.
3	Bulgaria	Part of the assets of occupational pension funds were seized. Insured individuals were allowed to transfer their resources from the second into the first pillar of the system. Contribution rate remains at 5 %.
4	Estonia	6 % contribution rate cut to 0 % between June 2009 and January 2011 and shifted to PAYG. Then gradual increase from 2011.
5	Croatia	Option to exit the scheme
6	Latvia	8 % contribution rate reduced to 2 % in May 2009. Then increased to 4 % from 2013
7	Lithuania	5.5 % contribution rate reduced to 2 % in 2009. Introduced voluntary participation
8	Slovakia	9 % contribution rate reduced to 4 % in 2013. Option to enter and to exit the scheme
9	Romania	Reduction in planned growth path of contribution rate from 2 % to 6 %. Rate froze at 2 %, started to increase from 2011 at annual rate of 0.5 p.p.

Source: Bielawska (2015), [based on Price and Rudolph (2013) and Schwarz (2011)] and author’s update

The adopted changes undoubtedly show that second pillar pension funds in the CEE region are exposed to significant political risk. Though managed by private institutions, these types of pension schemes are financed by compulsory contributions and that makes them quite vulnerable to political decisions. The governments in all countries were inclined to consider the second pillar as part of the public pension systems and the past experience proves that they can easily change the rules in a way that puts the funds under significant risk. The basic reason for the accomplished reverse reforms was related to the need for additional resources that could temporarily relax part of the burden on public finances, but two other factors must be mentioned as well. First, comparatively low amounts accumulated into the funds. At least three reasons could explain the unfavorable situation: low contribution rates, short period of accumulation and comparatively low yield. Pension funds are widely blamed for the realized yield for the time of their existence, but in an environment of very strict regulation rules and extremely low interest rates for more than a decade, the achieved low return is not a surprise. However, the pension funds, in those countries with established multi-fund systems, were able to realize significantly higher returns in the aggressive portfolios than in the conservative and balanced ones. The countries which did not introduce portfolios with different risk profiles were not able to take advantage of the prolonged upward trend in the stock markets for the last decade. Daneva (2018) and Pandurska (2020) show the positive features of multi-fund system and its importance for the insured individuals in defined contribution schemes. The second basic reason for the implemented reverse reforms stems from the first one. When accrual of resources into individual accounts is not considered as significant, public opinion is not so noisy in opposing the changes that would destroy individual savings. The reversals in both Hungary and Poland showed that general public is not decisive in protecting its own rights and resources in the second pillar pension funds. The governments were able to implement legislative changes without meeting any significant resistance. To a certain extent this is also due to the lack of understanding of what exactly is lost and what function pension funds fulfill. All measures taken in the last decade show declining and volatile support by the policymakers in CEE region for the second pillar, despite the initial enthusiasm among governments that initiated the reforms. The fundamental question is whether pension funds should continue to be considered as important elements in raising sustainability and adequacy of the pension systems in CEE countries.

#### **DEFINED CONTRIBUTION PENSION SCHEMES AS A FACTOR FOR FUTURE SUSTAINABILITY AND ADEQUACY OF PENSION SYSTEMS IN EUROPE**

In a number of research papers (European Commission 2010; 2012; 2015; 2018; 2021b) published in the last decade, European commission continuously underline the problems stemming from the aging of the

population and the deteriorating demographic structures for the future sustainability of the pension systems around Europe. These unfavorable trends are expected to be managed by pension reforms which are seen mostly in the following directions: raising employment rates among elderly, increasing pension age, and enhancing the opportunities to build up safe complementary retirement savings. The reforms that member states are expected to implement concern both the pay-as-you-go pillar and the fully funded one since the observed trend of population aging is supposed to affect adversely all of the pension columns. Prolonged saving and gradual buildup of pool of assets is seen as irrevocable trend that can effectively support elderly in receiving adequate pension benefits but also governments in securing sustainability in public finances. The 2022 global pension index, published by Mercer and CFA institute (2022)<sup>8</sup> confirmed once again that those countries which were able to build robust funded component into their pension systems take top ten of the places in the “Quality of pension systems” ranking:

**Table 4.** 2022 Mercer and CFA Global Pension Index about Quality of Pension Systems

N:	System	Overall grade	Overall score	Adequacy	Sustainability	Integrity
1	Iceland	A	84.7	85.8	83.8	84.4
2	Netherlands	A	84.6	84.9	81.9	87.8
3	Denmark	A	82.0	81.4	82.5	82.1
4	Israel	B+	79.8	75.7	81.9	83.2
5	Finland	B+	77.2	77.5	65.3	93.3
6	Australia	B+	76.8	70.2	77.2	86.8
7	Norway	B+	75.3	79.0	60.4	90.3
8	Sweden	B	74.6	70.6	75.7	79.5
9	Singapore	B	74.1	77.3	65.4	81.0
10	UK	B	73.7	76.5	63.9	83.0

Source: Mercer CFA Institute Global Pension Index 2022 highlights key challenges of defined contribution plans for retirees. Online: <https://www.cfainstitute.org/en/about/press-releases/2022/mercer-cfa-institute-global-pension-index-2022>

The above table shows that 7 of the first 10 most robust pension systems are in Europe with no country from CEE region. The report outlines an important trend in the last years – the gradual turning of defined-benefit pension plans into defined contribution pension schemes. This is a sustainable trend and expectations are that more and more people will depend on this type of pension schemes in the next decades. Defined contribution pensions are expected to play a crucial role in mitigating the adverse effects on the pay-as-you-go systems caused by the negative demographic processes. Their future development is considered as a priority in many of the OECD countries. Together with the gradual increase of pension age, the strengthening of the fully funded components in the pension systems is the most obvious trend in the last decade. Incentivizing additional saving, governments are trying to raise both sustainability and adequacy of the pension systems in the long term. The main question is not whether defined contribution pension schemes should exist but how to be developed further so that to respond to the future challenges brought by the aging of the population. It’s worth noting once again that within defined contribution pension schemes investment risk is transferred towards the insured individual. The amount accumulated at the date of retirement is crucial in determining the future pension amount. From this point of view, three elements are of utmost importance in securing long term stability of the scheme: regular payment of contributions, yield realized by the pension companies and management fees. The experience of the CEE countries in the last two decades in managing pension schemes based on a fully funded principle shows that proper regulation is important for each of the three components. The regular payment of contributions is maybe the only element that doesn’t depend so strongly on the efforts of the regulator since the practice shows that there are variety of reasons for not paying contributions for a certain period. Individuals with irregular payments are expected to rely primarily on the pay-as-you-go system as fully funded pension funds are not supposed to transfer resources among individual accounts. Nonetheless, the efforts to limit the extent of this group should be continuous, including variety of incentives so that to constrain at least the number of those who voluntarily are trying to escape the payments into the pension fund.

The investment rules are the second factor of great significance for improving the accumulation of resources into individuals’ account. The risks to which individuals are exposed at different stages of their lives are different (Milev 2014). Those who have just entered into the labor market and whose investment horizon is expected to be over 30 years need to worry most about the inflation risk. The risk of declining purchasing power of money is very serious for all types of fully funded pension schemes. If pension funds’

<sup>8</sup> Mercer and CFA institute publish on a regular basis Global Pension Index (MCGPI) by studying the pension systems of 44 countries accounting for 65 % of World’s population.

rate of return continuously lags behind the inflation rate, the probability of accumulating enough resources to finance pension benefit adequate to the preretirement income decreases significantly. Assuming some risk in terms of higher volatility of asset prices in the short term in exchange for a raised probability of realizing yield that exceeds inflation in the mid and in the long term looks like a good deal for those individuals. On the other hand, people whose retirement is close and respectively the investment horizon is short need mostly stability of their investment. Any significant drop in the value of their portfolio of assets just prior to the date of retirement can seriously hurt their financial position and the possibility of financing adequate benefit. Flexibility of investment rules is quite important especially when insured individuals are the ones that bear the investment risk. Some of the CEE countries were able to introduce the multi-fund system thus enabling pension companies to structure portfolios with different risk profiles for the different groups of insured. The investment results of the funds with different risk level undoubtedly show that aggressive portfolios' rate of return is higher than the one of the conservative funds for the last 10 years. The unprecedented last decade of zero and negative interest rates was quite appropriate for investing in variable income instruments and the funds in countries where investment regulations were not so restrictive took significant advantage relative to others. Insured individuals in Estonia, Latvia, Lithuania and Slovakia were able to select aggressive strategy for their pension savings and the assumed risk was compensated with significantly higher return<sup>9</sup>. It is an interesting fact that the funds whose rate of return is the highest one are those with adopted passive investment strategy following some market index<sup>10</sup>. The funds in countries where regulatory restrictions didn't allow the construction of different portfolios of assets adjusted for the risk profile of the insured individuals were not so successful in their investment performance in the last decade. Investment managers in those countries were trying to follow a balanced strategy but investing traditionally in fixed income instruments in an environment of extremely low interest rates proved to be an unsuccessful approach for the past years. The exact results of the different types of funds and the comparison with the inflation rate will be analyzed in another research.

Management fees are the third component that seriously affects the amount accumulated into one's individual account. The costs incurred by the insured individuals directly reduce the realized yield and could significantly influence the performance of the fund. The fees charged by the compulsory pension funds in CEE countries are strictly regulated. According to Davis (1993) "costs are higher for small funds than large, and for defined benefit relative to defined contribution". This observation is partly confirmed by the development of the Bulgarian pension insurance companies whose fees charged on the managed funds' assets were higher at the beginning of their operation and gradually declined. The investment fee charged on the value of the managed assets used to be maximum 1% annually for the period between 2002 and 2015 and then it was lowered to maximum 0.75 % in 2019. The management fee charged on each paid contribution was maximum 5 % between 2002 and 2015 and has been gradually reduced to 3.75 % since 2019. The observation "the smaller the fund, the higher the fees" is quite valid for the development of the universal pension funds in Bulgaria. However, the regulator, in this case, plays a major role since the general practice was pension companies to charge the maximum allowed amount. The fact that fees are gradually decreasing is a positive one and could further boost the performance of the funds in the next years. Similar trend is observed for the fees charged by the pension companies in other CEE countries as well.

The three analyzed components (paid contributions, realized yield, charged fees) are undoubtedly important for establishing defined contribution pension schemes as an important factor for the future adequacy and sustainability of the pension systems in CEE countries. However, there is one crucial element that if not put under control, could devastate the fully funded pillars in all of the countries in Europe – inflation. The last decade of unprecedented low interest rates and very loose monetary policy implemented by the main central banks (mostly Fed and ECB) provoked high inflation rate in 2022 which reverse the trend in interest rate level and for a period of 12 months both Fed and ECB raised the main reference rates significantly<sup>11</sup>. The inflation rate and the resulting volatility of interest rate levels have disastrous effects for the pension funds both in the short and in the long term. The sharp rise of interest rates resulted in a drastic drop of the market values of all fixed income securities in the portfolios of pension funds. The widely adopted mark to market approach in evaluation of these securities lead to announcing huge losses in 2022. That could significantly undermine the trust of the general public towards

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<sup>9</sup> The aggressive portfolios in Slovakia realized 2 to 3 times higher return than the conservative ones for the period between 2013-2022.

<sup>10</sup> In Slovakia pension funds are obliged to offer portfolio of assets that replicates a market index. The investment performance of these portfolios significantly exceeds the yield realized by aggressive portfolios which have been managed actively for the period 2013-2022

<sup>11</sup> ECB raised the reference rate from 0 % to 3.75 % and Fed raised the rate from 0 % to 5.25 % for the period between 01.01.2022 and 10.05.2023.

pension funds although the duration of their liabilities allows the losses currently to be considered as “accounting ones”. In the long term, however, inflation could be even more erroneous. Rates of inflation like the ones in 2022 could devastate the defined contribution pension schemes. It is almost impossible to realize rate of return that exceeds such rates<sup>12</sup> of inflation. Unfortunately, the huge public debts and pension liabilities in the first pillar of the pension systems in almost all countries in Europe make inflation quite probable in the next decades. From one side, it will allow financing of the pay-as-you-go systems easier but on the other it will ruin the sustainability of the fully funded pillars of the pension systems around Europe. Defined contribution pension schemes cannot sustain such a trend and their existence may be called into great question.

## CONCLUSION

Pension systems around Europe are facing big challenges in the next decades. Traditionally established on a pay-as-you-go principle, they must be rebuilt thus responding to the negative trends of the aging of the population and the deteriorating demographic structures. Pension systems in CEE region are affected even more by the unfavorable demographic trends suffering additionally from net emigration and loss of people in working age. The structural reforms made in the early 2000's introduced fully funded defined contribution pension schemes which were considered as important elements that could support the pay-as-you-go systems in the long run. The reports published by the World Bank and the European Commission in the next years were continuing to foster additional saving as a necessary tool for preventing poverty in old age. However, due to a variety of reasons many of the CEE countries started to delay some additional changes in their second pillars and even to reverse already accomplished reforms. The support for the fully funded schemes should be a prolonged effort. The most sustainable and adequate pension systems around the World continue to be the ones with robust funded component. So, the pension insurance built on a capital principle must not be left behind but additionally strengthened with important reforms that could mitigate some of the risks that appeared in the last years. First, pension funds must be allowed to structure portfolios with different risk profile thus addressing both the inflation risk which is the most important risk for those individuals with long investment horizon and asset price risk for those individuals who are close to the date of their retirement. Second, regulators need to keep different types of fees charged by the managing companies as low as possible, because they can significantly affect the amount accumulated in the individuals' accounts towards the date of retirement. Third, those individuals who were not able to accumulate enough resources to fund their retirement must not serve as an argument to implement some type of “reversal” reform. Governments should have continuous policy to reduce the scale of this group by incentivizing individuals to save additionally for their retirement. This is the only sustainable approach to address the negative demographic trends and to mitigate the expected hit over the pay-as-you-go pension systems in the next decades caused by the aging of the population.

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<sup>12</sup> 2022 inflation rate in Bulgaria is 13%



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