

Center for Research and Policy Making



Policy Study N. 5

World Bank Recipe for the Macedonian Pension Reform
- Too expensive and overregulated -

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Executive Summary

Eighteen months have been passed since the new legislation came into force and we believe that now is the right moment to bring up few interesting aspects that are very important when discussing whether certain reform will be successful in the long-run or not. In this paper we show that the participants in the Macedonian pension scheme are encountering *high opportunity costs*. In order to overcome this problem the investment strategies of pension funds should be immediately reconsidered in order to allow appropriate diversification across instruments and countries! Secondly, having in mind the current situation in our economy and the level of development in our capital market we believe that the investment restrictions should be relaxed were the medium-term goal should be moving towards a ‘prudent-person’ rule. Thirdly, the fees and charges are too high and should be immediately reassessed by the pension funds. However, this refers also refers to the government institutions. Finally, funds should be able to compete in offering different risk-return investment strategies to their participants. Instead of all participants being forced to hold the same portfolio they should be able to choose according to their risk tolerance and age. If this is not possible than more radical solution might be replacement of the mandatory second pillar with voluntary DC scheme. In this way the participants will be able to choose funds with clearly defined investment strategy (according to their ‘prospect’). This will create big incentives for improved efficiencies in *investment management* and *performance* because the retirement plans will be offered purely on a *competitive basis*.

I. Introduction

In the last 50 years of socialism the Macedonian pension system was based on so-called Intergenerational Solidarity or Pay-As-You-Go system¹. This is by no means a bad model especially having in mind the socio-economic and demographic circumstances. Moreover, this model was also practiced by many European countries with great success regardless of their political system. However, there were several factors and trends in the last few decades that initiated a big debate in the academic community (mainly in the developed countries) concerning the sustainability of this model and the urgent need for reforms for all pension funds organized in this manner. Namely, those factors can be classified into two major categories: demographic and socio-economic.

The crucial issue for the stability of any Pay-As-You-Go system is the ratio between the current number of employees and the people receiving pension benefits. This is because the system itself is 'currently financed'.² In the case of Macedonia, the growth of the population was stagnating. This ageing of population resulted in increased number of individuals entitled to receive pension benefits. In addition, life expectancy has been constantly rising thus creating a big gap in the future pension fund liabilities.

Like in many other transition countries, the process of privatization resulted in harsh consequences. As the global market was putting pressure on Macedonian economy, unemployment was constantly growing and the country was lagging in economic development. This process created increasingly severe market conditions. The ratio between current number of employees and people receiving pension benefits was decreasing dramatically. In 1993 for the first time in the history a serious financial crisis hit the Macedonian pension system. This event created increased awareness for urgent need of reforms both domestically and internationally. Furthermore, it also became clear that maintaining the current pay-as-you-go system was impossible.

¹ Pay-As-You-Go systems are currently financed, or in other words pension benefits are paid from the current contributions made by each employed individual.

² Present pension liabilities are paid out with the capital accumulated from the obligatory contributions made by employees, employers or both through the duration of the participants working life.

Namely, Macedonia was facing highly undesirable alternatives if attempts to preserve this model (either through tax increase, reducing the pension benefits or some combination of both).

International financial institutions such as the World Bank and International Monetary Fund also showed interest for providing help regarding this matter. Due to the fact that the Macedonian government had limited capacity for independent preparation of its macroeconomic policies and projections as well as measures for their implementation, the international financial institutions had big influence and can be considered as the main driving force for the reforms that followed.

The fiscal pressures were reduced by increasing the level of contributions (by more than 10% from the initial level), increasing the minimum years necessary for retirement (by 5% for males and 10% for females), changing the formula for calculating pension benefits in terms of estimating the average payment and reducing percentage of average payment, together with more strict requirements for retirement. Despite the fact that almost all changes were perceived by the general public as very unpopular, they were inevitable because if nothing was changed at the end the whole system would collapse.

II. The Macedonian Pension System

All implemented measures between 1993 and 1998 were temporary and only directed for maintaining short-term stability of the system. The actual reform in the Macedonian pension system was initiated in 1997. The legal framework was passed in 2000 and started to be implemented from 1st of January 2006. The new system is based on several *core principles* such as: mandatory-funding and privately managed funds, protection of interest of all participants in the pension scheme, ensuring availability of financial and social security for its members, rights of its members conditional on the length and amount of contributions, safety of pension fund assets and asset diversification. Furthermore, it is expected to provide greater long-term stability.

This is by no means exclusive for Macedonia³, or for any other country from CEE. In fact similar reforms can be also identified across EU where publicly funded Pay-As-You-Go systems are present. At this moment in Macedonia we have a pension system based on three pillars (also called mixed pension scheme):

- First pillar, which is obligatory and by definition operates as Pay-As-You-Go system.
- Second pillar, again obligatory but operates as privately managed Defined Contribution pension scheme, and
- Third pillar which is Defined Contribution model but it is voluntarily.

The second pillar can be considered as a major transformation and challenge with respect to our previous system.⁴ However, it also raises serious questions why it has been accepted especially bearing in mind the ongoing debate in the academic community for more favourable ‘two pillar pension schemes’.⁵ Nevertheless, our

³ The reform is already implemented in Hungary, Bulgaria and Serbia, while in Romania is already under way.

⁴ The third pillar is not much of a concern at this moment due to the fact that it is not operational.

⁵ Replacement of pay-as-you-go and obligatory defined contribution with one fully funded defined benefit.

intension is to see how the reform is being implemented in practice without getting involved in this debate.

By definition, with DC retirement plan (second pillar) a certain amount or percentage of salary is set aside each month by the company for the benefit of its employees. There are restrictions as to when and how you can withdraw these funds without penalties. There is no way to know how much the plan will ultimately give the employee upon retiring. It depends entirely on the accumulated contribution and their investment performance. The amount contributed is fixed,⁶ but the benefit is not. Consequently, two individuals with identical contributions but different investment portfolios can receive completely different pension benefits. This implies that with this pension scheme all investment risk is transferred to the participant.

With this study we will try empirically to support our view that there is big failure in the process of implementation. Furthermore, we will try to answer whether this model is sustainable in the long-run or not? The crucial question is *how quickly the system should be liberalized, and whether the pension funds are able to deliver returns by taking justifiable risk and at the same time operating within the legally imposed restrictions?* Therefore, the objective is to conduct a comparative study covering Bulgaria, Macedonia and Croatia. By looking at the portfolio composition, investment performance and the fees⁷ charged by the funds and supervisory institutions, we will try to see *whether the participants in the Macedonian pension system are encountering any opportunity cost.* Finally, we will discuss the current legislation of minimum 80% investments in different (debt and equity) instrument ONLY in Macedonia, which is contrary to one of the core principles on which our new pension system is based (*diversification of investments and safety of pension fund assets*)!

⁶ This is true only to certain extend because even in this plans changing the level of contribution is possible (e.g. due to changes in taxation).

⁷ Fees will be compared in absolute and relative terms. For example: 1% management fee on net asset value is not the same if the portfolio composition is 5% equity and 95% short-term fixed income securities, compared with fund who invests 100% in equity.

III. Legal Restrictions

The regulation of asset management is probably the most important part of pension regulation. It is also referred as investment regulation or portfolio regulation of pension funds. One of the main objectives of the regulation is to ensure that portfolios are well diversified. In addition, it also eliminates very risky and illiquid assets from the range of investment opportunities. However, all investment restrictions may be in principle counterproductive. They may prevent diversification and expose the participants to a greater degree of portfolio risk.

In general, there are two basic approaches to investment regulation of pension funds: 'prudent person' rule and 'quantitative' restrictions. The regulations typically involve ceilings on holdings by issuer, by type of instrument, by risk, by concentration of ownership, and by asset class. First four restrictions are considered as non-controversial prudential rules. They have been adopted by many developed countries. On the other hand, the restrictions by asset class represent one specific area of regulation that is creating much more controversy in recent years. They are set in order to establish boundaries of investment choices. The following table describes the current regulation in several countries.

Table 1
Pension asset regulation

	Domestic	International
Prudent person		
Austria	N/a	no limits
Australia	No limits	no limits
Iceland	N/a	no foreign investments by public-sector funds
Ireland	no limits	no limits
Netherlands	no limits	no limits
New Zealand	no limits	no limits
Spain	N/a	no limits in other OECD countries
United Kingdom	no limits	no limits
United States	no limits	no limits
Asset limits		
Belgium	Minimum 15% in public bonds, maximum 40% in property, 10% in deposits	no foreign investments
Canada	7% maximum on property	tax on foreign assets over 10%
Czech Republic	N/a	no foreign investments
Denmark	Minimum 60% in domestic debt; property, equities and	20% limit

	mutual funds maximum 40%	
Finland	N/a	20% limit in other EU states
France	minimum 50% in EU public bonds (AGIRC/ ARRCO) minimum 34% in public bonds, 40% limit on property and 15% Treasury deposits (insured funds)	no foreign assets (insured funds)
Germany	guidelines: 30% limit on EU equities, 25% EU property	20% limit on foreign assets overall; 6% limit on non-EU equities, 6% on non-EU bonds
Greece	N/a	20% limit on domestically based mutual funds, which can invest abroad
Italy	limited to public bonds, deposits, property, mortgages, investment funds (insured funds)	no limits
Japan	guidelines (being phased out): 30% limit on equities, 20% property; minimum 50% bonds	30% limit on foreign assets; 10% limit in any one country
Norway	20% limit on equities, 30% on private bonds or loans	no limits
Portugal	minimum 30% in public bonds, 50% limit on property	40% limit
Poland	20% limit on bank deposits or securities, 40% in listed equities, 15% in open-ended investment funds, 5% in closed-end funds, 15% in publicly traded municipal bonds, 5% in non-traded bonds	5% limit on foreign assets
Sweden	majority of investments in listed bonds and loans	5-10% limit, depending on type of fund
Switzerland	30% limit on equities, 55% on property	30% total limit
Macedonia	30% limit on listed equities; property, commodity and derivatives investments prohibited	20% total limit

Note: **N/a** indicates data are unavailable.

Source: Laboul (1992), Davis (1998), EFRP (1996), Watson Wyatt (1997), Chlon, Gora and Rutkowski (1998).

It can be noticed from the table that there is a group of countries that does not impose restrictions by asset class.⁸ The regulatory framework in these countries are said to follow the prudent person rule. It simply requires that those who are responsible for making the investment decisions are considering the specific circumstances of the fund. Furthermore, it allows high risk assets to be included in the pension portfolio as long as the risk is being hedged.

The second group of countries (including Macedonia) impose quantitative restrictions, which are simple and very easy for monitoring. The main criticism regarding the quantitative restrictions is focussed on the prohibition of (or low limits on) investments in foreign assets. However, Macedonia has additional distinctive feature. Namely, according to the current legislation *all foreign securities that are qualified for inclusion in the portfolio of Macedonian pension funds* must be issued by legal entities or

⁸ The only existing restriction is related to the instruction that the portfolio must be managed prudently. This is usually the case for Anglo-Saxon countries and the Netherlands.

Governments that have credit rating ‘**A**’ or higher according to *Fitch Investor Service* or *Standard & Poor's*, alternatively ‘**A2**’ or higher according *Moody's*. If we take into consideration that Macedonia has ‘**BB+**’ rating according to *Standard & Poor's* than we can safely make a statement that currently more than 99% of the pension fund assets are invested in ‘*below investment grade*’ securities.⁹ This is contrary to one of the core principles according to the Law for Fully Funded Pension Insurance – ‘*safety*’ of pension fund assets. Additionally, the tendency to use pension funds as a source for financing government debt is also causing serious concerns!

Finally, there is evidence that real returns of pension funds in prudent man environments have been higher than the returns of funds operating in more restrictive environments.¹⁰ This can be largely (but not completely) attributed to larger share of equity that is being held in their portfolios. The literature on pension fund regulation generally concludes that investment restrictions may be initially justified in emerging countries introducing private pension schemes, particularly those introducing a mandatory second pillar.¹¹ There is also a consensus on the need for those restrictions to be relaxed over time. However, this should be in line with the development of institutions and instruments, improvements in the depth and liquidity of securities markets, and also improvements in the overall legal framework. The long-run objective would be accepting the prudent man approach, where minimal restrictions are imposed.

At this stage the legal quantitative restrictions in Macedonia do not impose any investment constraints because Macedonian pension funds stayed well within their officially imposed limits. However, we believe that they should be reconsidered especially having in mind the current situation in our economy and the level of development in our capital market.

⁹ If our country has credit rating BB+ than we can safely assume that the situation regarding the major part of Macedonian companies is even worse. Having sad that, we shouldn't wonder why so far there is not a single Macedonian company that asked to be assessed by any internationally recognized rating agency.

¹⁰ Many studies (such as OECD (1998), Davis (1995 and 1997), etc.) have reached the same conclusions.

¹¹ Rocha, R., Gutierrez, J., and Hinz, “Improving the regulation and supervision of pension funds: Are there lessons from the banking sector?”, World Bank, 1999.

IV. Asset Allocation & Performance

What is somehow distinct for many developing counties (including Macedonia) is that participants do not have the possibility to tailor their portfolio to the level of risk they wish to take. Namely, despite the fact that individuals are bearing all the investment risk they are disconnected from the decision makers. They are unable to choose their investment policies and therefore they do not have control over the level of risk taken by the funds managing their portfolio.

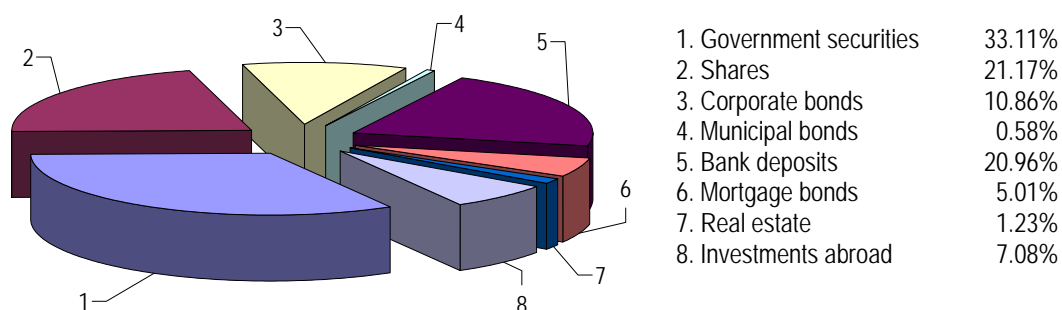
By seriously limiting the ‘investment freedom’ through legal restrictions the regulators (or the Government) is exercising caution. They are trying to reduce the possibility for scenarios like retiring poor, bearing unnecessary risk and being forced to make investment decisions in which individuals have little or no experience. This is reasonable to certain extent. However, it also creates overregulated environment in which pension funds are operating.

The investment constraints can produce undesirable effects contrary to initial expectations. Consequently, our main objective is to conduct a comparative study covering Bulgaria, Macedonia and Croatia. Since all countries have same (or very similar) pension systems it will be interesting to see the allocation across different asset classes. Furthermore, we will try to see whether the fees and charges deducted by the providers for managing pension fund assets are higher in Macedonia or not. Finally, according to the current portfolio we will run a model in order to see the hypothetical outcome of returns generated by the investments. This will give us a clear indication of what can be done in order to improve the long-run sustainability of Macedonian pension system.

The allocation across different asset classes is given in the following charts.

Figure 1

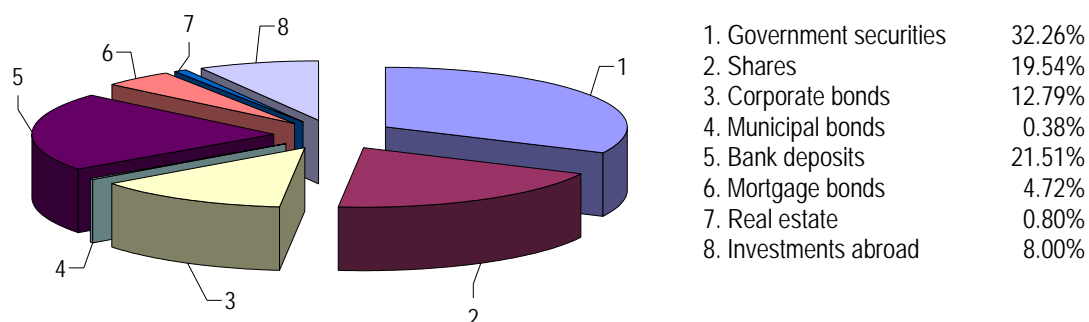
Investment portfolio of OPF (Occupational Pension Funds)¹² in Bulgaria as of 31.12.2006



Source: Bulgarian Financial Supervision Commission (KFN)

Figure 2

Investment portfolio of UPF (Universal Pension Funds)¹³ in Bulgaria as of 31.12.2006



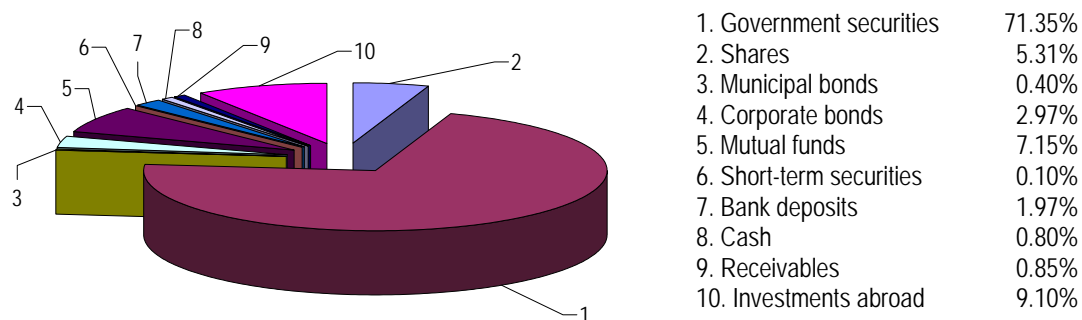
Source: Bulgarian Financial Supervision Commission (KFN)

¹² 192.825 members are participating in 8 OPF: Doverie, Saglasie, DSK-Rodina, Allianz Bulgaria, ING, CCB-Sila, Lukoil Garant-Bulgaria and DZI.

¹³ 2.442.701 members are participating in 8 UPF: Doverie, Saglasie, DSK-Rodina, Allianz Bulgaria, ING, CCB-Sila, Lukoil Garant-Bulgaria and DZI.

Figure 3

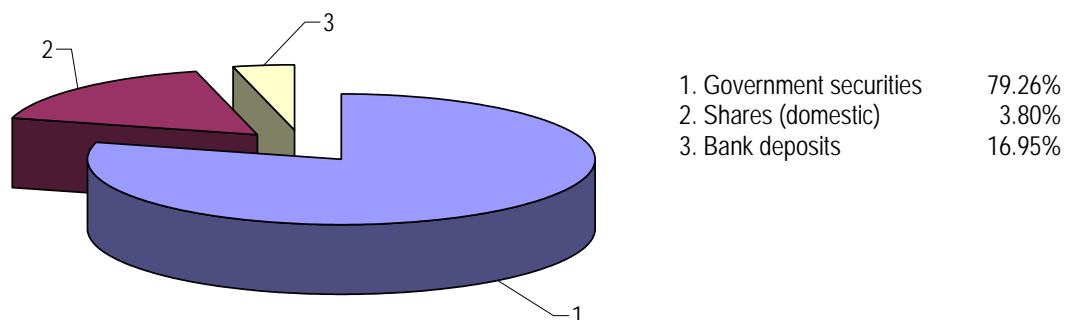
Investment portfolio of OPF (Obligatory Pension Funds)¹⁴ in Croatia as of 31.12.2006



Source: Croatian Financial Services Supervisory Agency (HANFA)

Figure 4

Investment portfolio of OPF (Obligatory Pension Funds)¹⁵ in Macedonia as of 31.12.2006



Source: Macedonian Agency for Supervision of Fully Funded Pension Insurance (MAPAS)

According to the charts presented above the diversification of assets managed by the Macedonian pension funds is well behind when compared with Bulgaria and Croatia. Regarding the country allocation, almost the entire portfolio is invested in Macedonian securities creating (country/currency) overexposure. In addition, there is huge difference with respect to financial instruments (or asset classes) included in the portfolio. Namely, in Macedonia almost 80% of the portfolio is allocated in fixed-income securities issued (or guaranteed) by the Government. Since we have 'highly

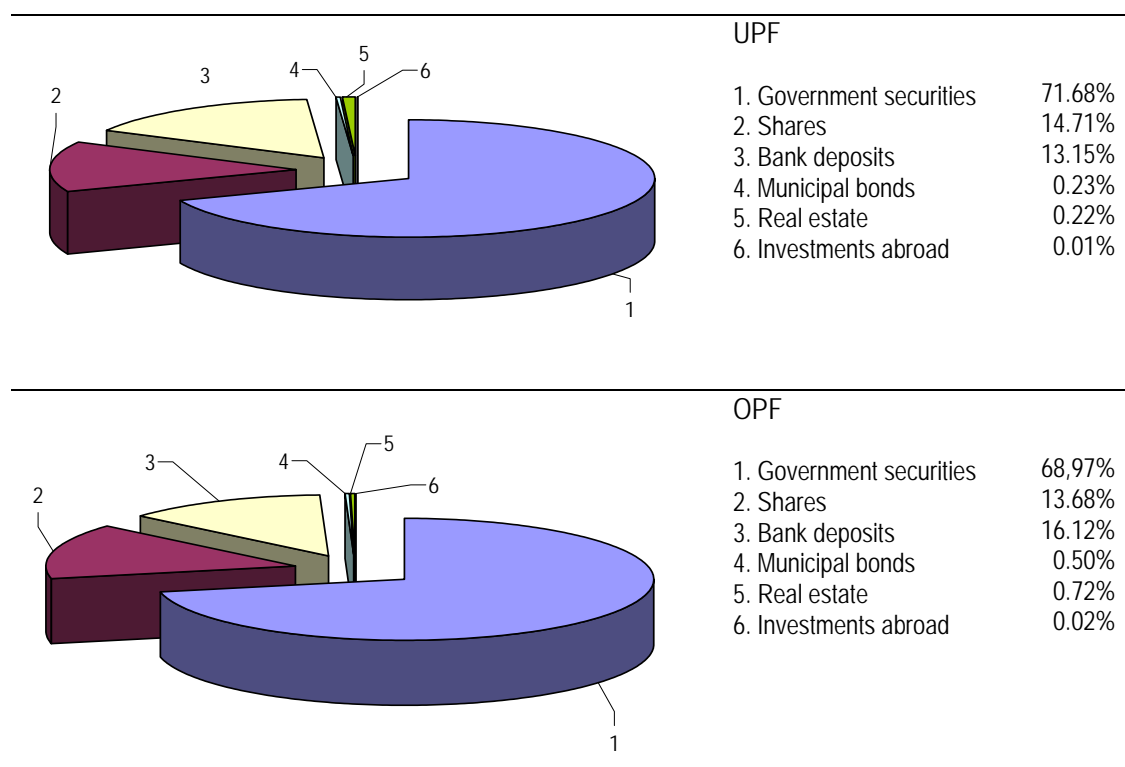
¹⁴ 1.322.010 members are participating in 4 Obligatory Pension Funds: AZ, Erste, PBZ/CO and Raiffeisen.

¹⁵ 128.031 members are participating in 2 Obligatory Pension Funds: NPF and KB POPF.

conservative' and 'passive' buy-and-hold¹⁶ investment strategy even unsophisticated and inexperienced investors can easily manage their own portfolio of this kind. Having said that, it becomes questionable *why the Macedonian participants are paying 'entry' and management fees for this type of portfolio composition?*

We strongly believe that the '*time dimension*' is important argument in highly dynamic industry such as asset management because each period has its own distinctive features favouring different type of securities and sectors. However, this issue shouldn't, under any circumstances, be considered as a factor in the process of portfolio composition from the stand point of how many months pension funds are operating. At any point in time, the portfolio should be well diversified and positioned for the highest income generation. However, just for illustration we compared the portfolio composition in our sample of countries approximately 18 months after the reform was implemented.

Figure 5
Investment portfolio in Bulgaria as of 31.12.2003

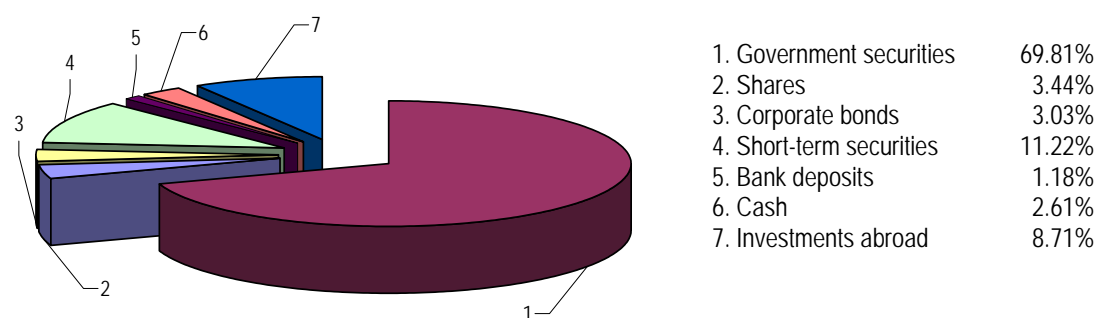


Source: Bulgarian Financial Supervision Commission (KFN)

¹⁶ It is an investment strategy of holding securities for the long term while ignoring short-term price fluctuations.

Figure 6

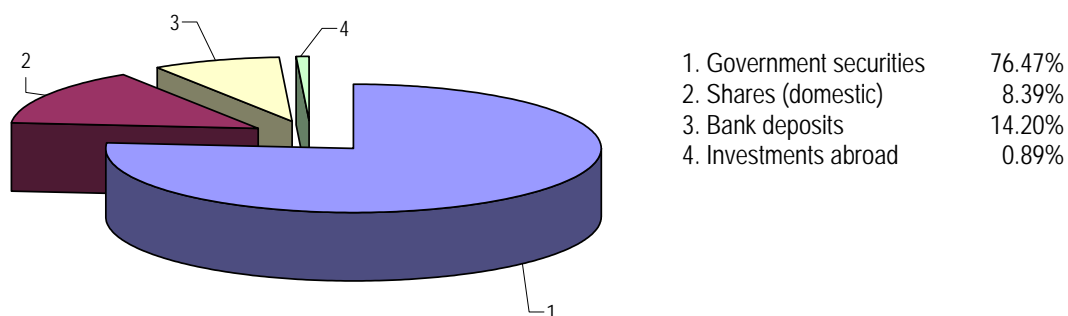
Investment portfolio of OPF in Croatia as of 31.12.2003



Source: Croatian Financial Services Supervisory Agency (HANFA)

Figure 7

Investment portfolio in Macedonia as of 31.06.2007



Source: Macedonian Agency for Supervision of Fully Funded Pension Insurance (MAPAS)

Again similar conclusion can be reached after controlling for the time dimension. Macedonia is still behind in terms of diversification. Finally, we will compare the differences in achieved returns because sometimes holding a less diversified portfolio might be beneficial if it can provide better risk-adjusted returns. However, as shown in the following table, the investment performance is *significantly lower* in Macedonia. For the first 18 months of their existence, the returns of best performing fund in Macedonia is approximately *50% lower* when compared with the returns of best performing fund in Bulgaria. This is *an incredible underperformance*.

Table 2
Investment returns

Country	Bulgaria	Croatia	Macedonia			
Date	31.12.2003	31.12.2003	31.06.2007			
Fund/ Returns	<i>Universal</i>					
	Doverie	-24,4%	AZ Fond	-16,8%	NPF	-11,6%
	Saglasie	-24,1%	Erste Plavi	-16,1%	KB POPF	-12,3%
	DSK-Rodina	-18,4%	Raiffeisen	-16,2%		
	Allianz	-17,8%	PBZ Croatia	-18,0%		
	ING Bulgaria	-26,2%				
	CCB-Sila	-22,6%				
	Lukoil Garant- Bulgaria	-26,1%				
	DZI	N/a				
	<i>Occupational</i>					
	Doverie	-23,8%				
	Saglasie	-23,8%				
	DSK-Rodina	-22,7%				
	Allianz	-20,9%				
	ING Bulgaria	-24,8%				
	CCB-Sila	-23,4%				
	Lukoil Garant- Bulgaria	-23,0%				
	DZI	N/a				

Note: **N/a** indicates data are unavailable.

Source: Bulgarian Financial Supervision Commission (KFN), Macedonian Agency for Supervision of Fully Funded Pension Insurance (MAPAS), PBZ Croatia Osiguranje, Raiffeisen Mirovinski Fond, Erste Plavi Mirovinski Fond, and AZ Fond

The situation is even worse if we look at the Macedonian market in isolation. By creating a synthetic portfolio of Macedonian securities only (70% fixed-income and 30% equities) and using it as a benchmark, the underperformance is even higher. However, this is mainly due to the spectacular *Bull Run* on the Macedonian Stock Exchange in the last 24 months. Regardless of what kind of comparison we make the empirical evidence is showing that there is a ***big failure in the process of implementation!***

Finally, it appears that Macedonian pension funds are in so-called ***'learning by doing'*** phase while the participants in the pension scheme are encountering high

opportunity costs. On the contrary, the investment process in countries with developed capital markets is usually divided into five steps:¹⁷

- Asset Liability Management (ALM)¹⁸ that will eventually lead to a policy mix
- Strategic asset allocation
- Tactical asset allocation
- Country, sector, style allocation within an asset
- Individual security selection

The following table shows the initial steps that are usually taken in determining the investment policy and ALM.

Table 3

<i>Objectives</i>	<i>Constraints</i>	<i>Policies</i>
Return requirements	Liquidity	Asset allocation
Risk tolerance	Horizon	Diversification
	Regulation	Risk positioning
	Taxes	Tax positioning
	Unique Needs	Income generation

The second step, determining the strategic asset allocation:

According to ***conventional (or conservative) approach*** the composition pension fund assets are usually as a percentage of: Equity, Government Bonds, and Real Estate. However, according to recent trends in developed capital markets more and more assets are entering pension fund's portfolio such as: Private Equity, Credit Bonds, High Yield and Emerging Markets Debt, Index Linked Bonds, Hedge Funds, Commodities, Infrastructure, etc.

¹⁷ It becomes obvious that Macedonian pension funds are '*unfamiliar*' with those steps (or at least they are acting in such way).

¹⁸ A risk management technique designed to earn an adequate return while maintaining a comfortable surplus of assets beyond liabilities. The process includes formulating, implementing, monitoring and revising strategies related to assets and liabilities in an attempt to achieve financial objectives for a given set of risk tolerances and constraints (*Source: www.investorword.com*).

There is a major advantage when incorporating more alternative assets classes in the portfolio. Namely, they can offer uncorrelated returns although sometimes lower than the rest of the asset classes. Additional trend is lower equity risk premium, more active management as a source of extra return, SRI (Socially Responsible Investments) and Corporate Governance.

The third step, determining the tactical asset allocation:

The tactical asset allocation is done for short-term, usually covering a period between 3 and 12 months. Namely, it is based on the market sentiment and economic scenarios. Output is tactical allocation shift (under and overweighting) to certain assets on a regular basis.

The fourth step, determining the country, sector and style allocation within an asset:

- Equities: which region do we like most, are sectors becoming more important than the countries (“global sectors”), should we buy large or small stocks, how much private equity...
- Fixed Income: allocation between government bonds, credits, index linked, high yield, emerging market debt, etc.
- Real Estate: hotels versus houses, direct versus indirect, alternative versus conventional etc.
- Hedge Funds: which hedge fund style do we choose?
- Commodities: Oil or Gold?

The fifth step, buying individual securities:

- Equities: stock selection
- Fixed Income: finding under-priced securities
- Real Estate
- Hedge Funds: which hedge funds given the certain style
- How to trade securities without severe penalty of transaction costs

1. Fees & Charges

The following table gives brief summary of all fees and charges deducted by the providers for managing pension fund assets.

Table 4
Fees paid by the participants in OPF

	<i>Entry fee</i>	<i>Management fee</i>	<i>Bank fee</i>	<i>Exit fee</i>
<i>Bulgaria</i> - Doverie - Saglasie - DSK-Rodina - Allianz - ING Bulgaria - CCB-Sila - Lukoil Garant-Bulgaria - DZI	<i>Same for all:</i> 5% from each contribution	<i>Same for all:</i> 1% from net assets	No fee	<i>Same for all:</i> - Approximately 10 EUR
<i>Croatia</i> ¹⁹ - AZ - Erste - Raiffeisen - PBZ/CO	0.7% ²⁰ 0.8% 0.6% 0.8%	1.2% 1.2% 0.95% 1.2%	0.07% 0.08% N/a 0.065%	<i>Same for all:</i> Year 1 – 0.8% Year 2 - 0.4% Year 3 – 0.2% After year 3 no charge
<i>Macedonia</i> - KB POPF - NPF	<i>Same for all:</i> 8.5% ²¹ from each contribution	<i>Same for all:</i> 0.05% monthly fee of total net assets	Included in entry fee	<i>Same for all:</i> < 6 months – 9% 6-11 months - 6.75% 12-17 months – 4.5% 18-23 months – 2.25% > 24 months – no charge

Note: **N/a** indicates data are unavailable.

Sources: Bulgarian Financial Supervision Commission (KFN), Croatian Financial Services Supervisory Agency (HANFA), Macedonian Agency for Supervision of Fully Funded Pension Insurance (MAPAS)

It can be observed from the table that participants in Macedonia are most severely penalized in the case when they are switching funds. In addition, we have the highest entry fee. This might a bit misleading because 2.8% of those fees are going to

¹⁹ According to the Law the amount of entry fee cannot exceed 0.8%, management fee cannot exceed 1.2% and bank fee must be lower than 0.10%. **Entry fee** is paid on each contribution, **Management fee** is paid on yearly basis calculated as percentage of total pension fund assets, and **Bank fee** is paid as a percentage of yearly average pension fund assets.

²⁰ AZ is planning gradually to reduce the entry fee to 0.5% in the following 4 years.

²¹ This fee includes **1.5%** charged by the Agency for Supervision of Fully Funded Pension Insurance, **0.6%** for Pension and Disability Insurance Fund of Macedonia, and **0.7%** for the National Bank of the Republic of Macedonia.

Government Institutions (please see footnote 21 for detailed decomposition). From 1st of July 2007 there will be a reduction in the fees from 8.5% to 7.9%. This is good but very small step forward. Finally, we have lowest management fees, which at this stage can be considered only as a potential advantage. This is important in the long-run because the management fees have the highest burden on individual investment accounts. However, since we have ‘highly conservative’ and ‘passive’ (buy-and-hold) investment strategy they have insignificant importance.

2. Investment Returns

In this section we will run a model in order to see the hypothetical outcome of Macedonian, Bulgarian and Croatian investment returns. The assumptions of the model are presented in the following table.

Table 5

w – wage	Same for all countries
c – contribution	7.42% or according to our model 1 € each month for the next 40 years
e – entry fee	<i>Average fee paid in the country</i> Macedonia 7.9% ²² Croatia 0.7% Bulgaria 5%
r – real rate of return	<i>Annual real rate of return</i> ²³ Macedonia 5% Croatia 6% Bulgaria 7%
m – management fee	<i>Average annual fee paid in the country</i> Macedonia 0.62% Croatia 1% Bulgaria 1%
g – growth of earnings	3% salary growth on yearly basis
T - time	40 years
ir – investment return	Please see equation (3)

²² In our calculation we used the fees from 1st of July 2007.

²³ The assumption regarding the annual real rates of return is based on current portfolio composition. In addition, we believe that those returns are **overestimated** for Macedonia while **underestimated** for Bulgaria and Croatia!

Each individual is expected to participate in the fund for 40 years (no exit fees are paid at the end of the period)²⁴. Furthermore on 1st of January each year we assume that earnings are growing by 3%, which is good approximation of the wage bargaining process.

$$w = w \times (1 + g)^T \quad (1)$$

The contribution rate is paid as a percentage of earnings, decreased by the entry fee. In order to make appropriate comparison the monthly contribution rate is identical for all countries (7.42% of the salary or 1 euro €).

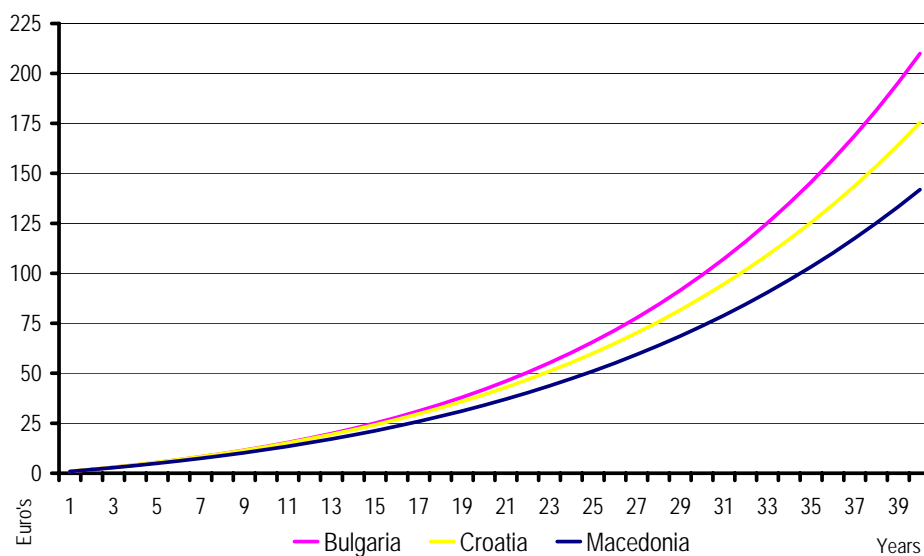
$$c = w \times 0.0742 \times (1 - e) \quad (2)$$

The annual rate of return (decreased by the management fees) is set according to expected returns of current pension funds portfolio. Finally, the investment return is calculated as sum of contributions and reinvestment of returns.

$$ir = \sum_{t=1}^T c_t \times (1 + r - m)^t \quad (3)$$

The following graph shows the developments of individual investment accounts over time.

Graph 1

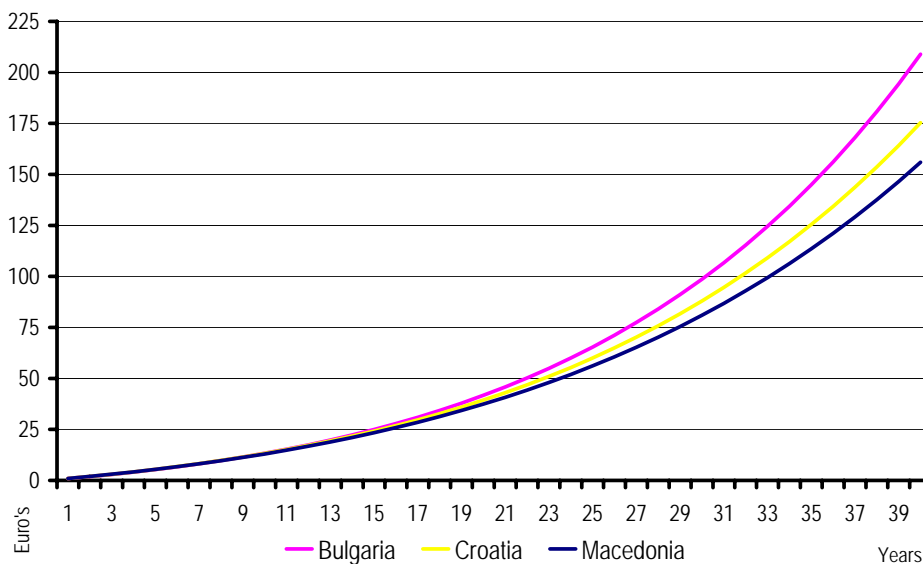


²⁴ The model also excludes the possibility of switching funds.

According to our model the average retirement income for Macedonians will be substantially lower when compared with Bulgaria and Croatia. This can be mainly explained by the portfolio composition. The ‘highly conservative’ and ‘passive’ buy-and-hold investment strategy produces returns which are approximately 23% to 47% lower. Since we believe that the real returns in our model are **overestimated** for Macedonia while **underestimated** for Bulgaria and Croatia the difference (or the opportunity costs for the Macedonian participants) might be even higher at the end of the period!

In addition, small part of the difference in returns can also be explained by the high level of fees and charges. In the previous section we raised the question “*Since this type of portfolio composition can be easily managed even by unsophisticated and inexperienced investors why the Macedonian participants are paying for ‘entry’ and management fees?*” If the same portfolio is managed by individuals than the difference in returns can be reduced from 23% to 12% (compared with Croatia) and from 47% to 33% (compared with Bulgaria). This can be easily observed from the following graph.

Graph 2



3. Single *vs.* Multiple Portfolios

A more recent and controversial issue in the area of investment regulation relates to the debate on single *versus* multiple portfolios. Let's assume that the portfolios of pension funds in most countries are already reasonably diversified due to relaxation of investment restrictions and the increase in the share of equity and foreign assets. However, it has been argued that the overall degree of diversification is still insufficient because the portfolio composition across funds tends to be similar.²⁵ Since portfolios are identical participants do not have a choice between risk-return combinations offered by different investment strategies even in countries where switching is allowed. Consequently, young and old participants are forced to hold the same portfolio, which is sub-optimal for both. Young participants would favour portfolios with higher risk and liquidity premiums (i.e. with a larger share of equity). On the contrary, older participants usually require portfolios with less risk and greater liquidity (i.e. larger share of short-term, fixed-income securities).

There are two possible solutions to overcome this problem. One proposition might be offering a choice of more than one portfolio for all participants. For countries such as Macedonia this requires adequate assessment of the costs and benefits. Another possible solution might be the replacement of the mandatory second pillar with voluntary DC scheme. In either case, the gains for the participants would mainly depend on whether they will make an informed decision or not about the composition of their portfolio.

²⁵ For example, the Macedonian Pension Funds (NPF and KB POPF) have very similar portfolios (*Source*: MAPAS).

V. Concluding Remarks

The objective of this paper was to analyze the issues that are important and should be taken into consideration by the regulators responsible for the Macedonian pension reform.

Regarding the quantitative restriction, they are probably necessary when a reform is being introduced. Their aim is to strengthen the confidence in the entire system. However, at this stage they do not impose any investment constraints because Macedonian pension funds stayed well within their officially imposed limits. Nevertheless, we believe that they should be reconsidered especially having in mind the current situation in our economy and the level of development in our capital market. *The key policy question is how quickly the system should be liberalised?* In our opinion the relaxation of investment restriction must be a rapid process, were the medium-term goal will be moving towards a 'prudent-person' rule.

From the evidence presented in this paper it appears that Macedonian participants are encountering high opportunity cost. The first policy implication is that pension funds investment strategies should be reconsidered. Liberalization is necessary in order to allow appropriate diversification across instruments and countries. Secondly, the fees and charges are too high and should be immediately reassessed by the pension funds. However, this refers also refers to the government institutions. Thirdly, funds should be able to compete in offering different risk-return investment strategies to their participants. Instead of being forced to hold the same portfolio they should be able to choose according to their risk tolerance and age. If this is not possible than more radical solution might be the replacement of the mandatory second pillar with voluntary DC scheme. In this way the participants will be able to choose funds with clearly defined investment strategy (according to their 'prospect'). In addition, this will create big incentives for improved efficiencies in investment management and performance because the retirement plans will be offered purely on a competitive basis.

VI. General Information

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