

## **THE RELATIONSHIP BETWEEN RISK AND RETURN IN THE LIGHT OF THE HUNGARIAN PRIVATE PENSION SYSTEM'S PERFORMANCE**

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### **—Abstract—**

Hungary was one of the few countries, who has taken the decision to introduce – from 2007 optionally, from 2009 compulsory – multiple risk portfolios in the private pension pillar. The primary aim of the “Life-cycle” portfolio system is that the members could choose from three different portfolios according to their individual preferences, risk tolerance and the remaining years before retirement. The system's ultimate goal is to provide competitive pension by virtue of the investment horizon and risk tolerance. The introduction of the life-cycle portfolio system was an unfortunate example of bad timing, because the start of the new system coincided with the financial and economic crisis. The funds that had been first to adopt multiple risk profiles were hardest hit. Realising that, funds were given another two years to introduce varying risk profiles. The aim of the study is to examine the relationship between risk and return in the private pension system, and to analyse the efficiency of the mandatory portfolio system since its introduction.

**Key words:** *risk and return, private pension, life-cycle portfolio system*

**JEL Classification:** G23

### **1. INTRODUCTION**

The risk management as the way of uncertainty minimizing always has a huge importance at the field of management, especially in the financial sector. As the

old Hungarian saying goes: “there is no real success without risk”. This saying appears at the field of finance as a connection between the risks and return.

The sustainable pension system has become one of the most discussed financial topics, for many reasons. First of all the past ten years was a period of rapid expansion of private pension schemes. Governments have reformed its public pension systems to make them financially sustainable and secure. Secondly, due to the recent demographic, social and economic changes, this topic has become more important. As the role of the private pension systems grew, there is a need to monitor their development and review their performance in an international context.

The recent financial and economic crisis increased the urgency of this area of inquiry, because it left its mark on the pension fund’s efficiency. There is no country and no pension system, which is not affected (Yermo – Salou, 2008). In this context, there is a critical need for comparable information on the evolution and performance of private pension systems. Such information may help authorities to make better policies, retirement planning and allows employers and pension professionals to better understand what features of private pension systems work best in different situations. The public also needs to be better informed about the virtues and challenges of the pension system, and became aware of the risks they face, and act accordingly. In this paper the authors are attempting to explore the relationship between risk and return in case of the pension funds, with especially regard to the Hungarian private pension system’s performance.

## **2. DATA ISSUES**

### **2.1 Material and methods**

The performance of private pension systems could be evaluated by the key criteria, using readily available information to private pension schemes: benefits, liquidity, investment performance and administrative efficiency.

This paper is based on the analyses of the OECD, especially on the series of *Private Pensions Outlook* and *Pension Markets in Focus* and on the *Pensions at a Glance 2009*. These editions have become a leading reference point for comparable indicators and statistics on funded pension systems from an international perspective, including also selected non-OECD countries.

## 2.2 Investment policy of pension funds

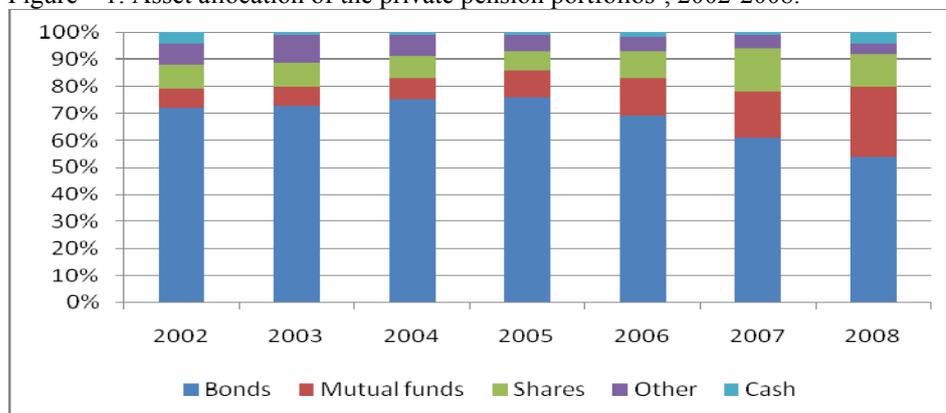
Pension funds have become in the 1970s an important role as active investors – seceded from their traditionally role in the state insurance system. One of the first regulations for pension funds was the American *Employee Retirement Income Security Act* (ERISA), which is in force since 1974. According to ERISA, the investment policy of pension funds (and the expectation of pension funds' investments) is the following:

- high level of diversification, in order to achieve more security;
- the minimum rate of return have to draw up with the inflation rate at least;
- investment and return have to cover the promised payments.

The investment policy of pension funds is characterized by long-term investments and low level of liquidity. It could be explained by the relative accurately prediction of cash outflows. The incomes are similar pre-calculatable, although it depend on many factors.

## 2.3 The Hungarian multiple risk portfolio system

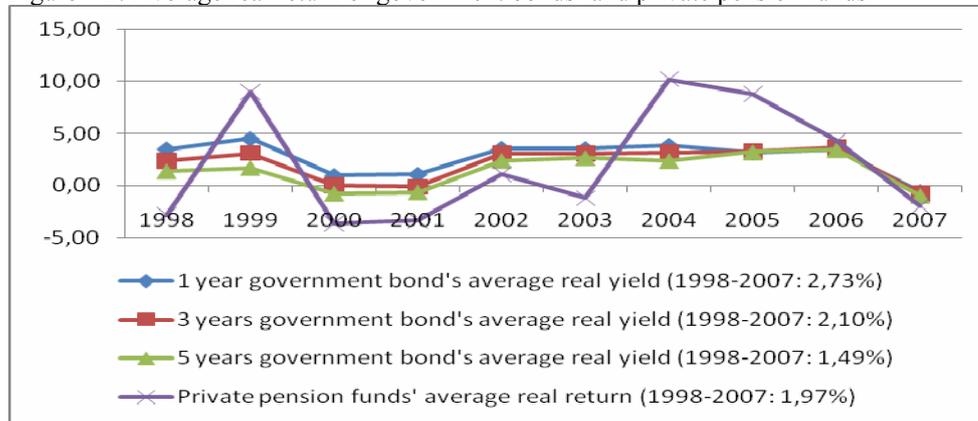
Hungary introduced on the recommendation of the World Bank a multipillar pension system (World Bank, 1994): near the public pension scheme appeared in 1994 the “voluntary pension” (third pillar) and in 1998 the so-called “private”, but in fact semi-state pension system (second pillar). Against the general expectations of the risk tolerance and expected return (in case of pension investments), the Hungarian pension portfolios were characterized (in the first 10 years) by low-risk and bond-weighted investments, with a low degree of diversification. The percentage of securities within the portfolio was 60-70%, and the ratio of risky assets (such as shares and mutual funds) achieved barely 10-20% (see Figure – 1).  
Figure – 1: Asset allocation of the private pension portfolios', 2002-2008.



Source: edited by the authors, based on Pénzügyi Szervezetek Állami Felügyelete 2009, Havay 2009

This low level of risk influenced the returns. Figure – 2 shows that the Hungarian private pension system’s return was determined mainly by the performance of government bonds. The 10-year average real return in the second pillar was 1,97%.

Figure – 2: Average real return of government bonds’ and private pension funds’



Source: edited by the authors, based on Magyar Nemzeti Bank 2009.

These low yields, which are only a few percent higher than the inflation rate, are not sufficient for a sustainable pension system. Therefore Hungary has taken the decision to introduce multiple risk portfolios in the second pillar on the basis of the OECD’s recommendation (Escritt, 2010). The new system offers life-cycle portfolios with varying risk profiles (see below the individual portfolios and their performance). The aim of the life-cycle portfolio system is to offer different portfolios of varying risk profiles for individual preferences and risk tolerance; taking into account also the remaining years before retirement.

The introduction of the life-cycle portfolio system was an unfortunate example of bad timing, because the start of the new system coincided with the financial and economic crisis. The funds that had been first to adopt multiple risk profiles were hardest hit. Realising that the country’s pension funds were among the few available sources of immediate funding, the regulator swiftly revised the rules. Funds were given another two years to introduce varying risk profiles, allowing them to act as buyer of last resort for government debt.

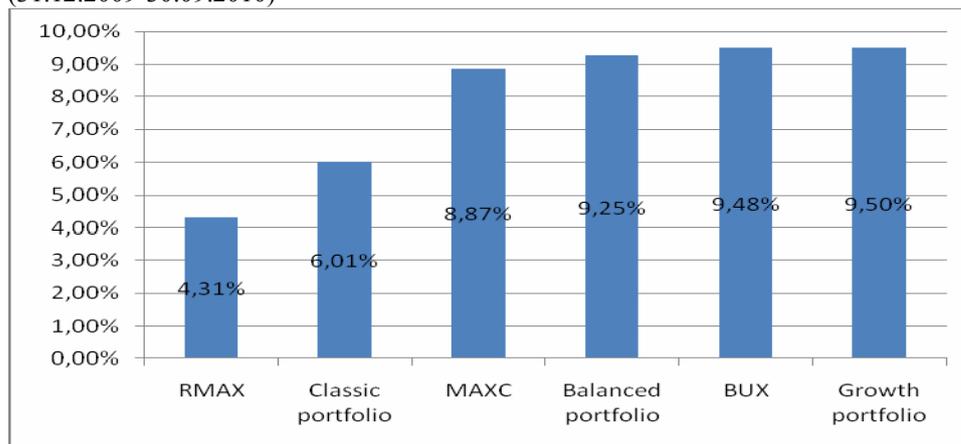
The first, low-risk or “**classic portfolio**” is allowed an equity allocation of no more than 10%, with no allocation to property or other alternatives and a maximum of 10% in unhedged foreign currency exposure. The classic portfolio is especially recommended for those with fewer than five years before retirement.

The second is a “**balanced portfolio**” with an equity allocation of between 10 and 40%, a maximum allocation of 10% to property and 3% to private equity and no allocation to derivatives. The balanced portfolio is recommended those with between five and 15 years to go.

The third is a “**growth portfolio**” with an equity allocation of more than 40%, a private equity exposure of up to 5% in total or 2% to an individual fund and an allocation of up to 5% to derivatives. The growth portfolio is offered for people with more than 15 years before retirement.

The first years’ experiences of life-cycle portfolio system show that the returns of private pension funds (due to significant changes in asset allocation) diverged from the securities’ yields. The analysis of the different performance of various portfolios reflects the linear relationship between risk and return. (see Figure – 3 ). Higher returns can only be reached with a higher level of risk, and secure portfolio could result lower return.

Figure – 3: The yields of private pension portfolios' and the most widely used benchmarks' (31.12.2009-30.09.2010)<sup>1</sup>



Source: Stabilitás Pénztárszövetség, 2010

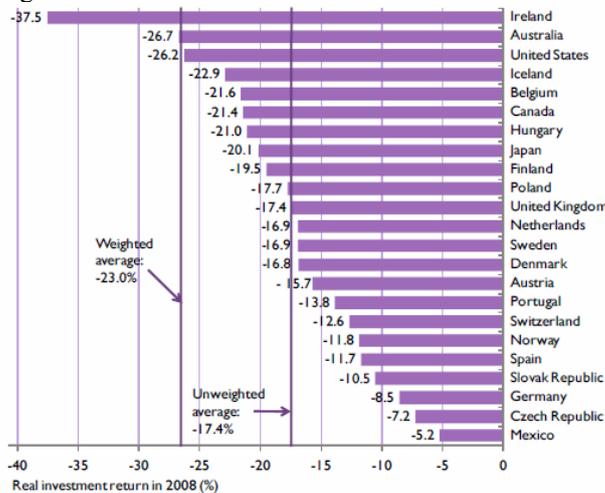
<sup>1</sup> RMAX: index of short-term government bonds; MAXC: average index of short and long-term government bonds; BUX: stock index of large companies traded on the Budapest Stock Exchange

After taking heavy losses in 2008, funds have recovered all their lost ground 2009 and 2010. The figures of Stabilitás, the Hungarian Association of Pension Funds showed an average weighted performance for the conservative or 'classic' funds of 12.11% in 2009 and 6.01% in 2010, balanced funds stood at 17.75% (2009), 9.25% (2010) and growth funds at 25.95%(2009) and 9.50% (2010) (Ottawa, 2010; Stabilitás Pénztárszövetség, 2010). It took two quarters to earn back five quarters of losses. Assets in the mandatory system are now back at their 2007 level.

#### 2.4 Impact of the crisis – International outlook

By October 2008, the total assets of all pension funds in the OECD had declined by about USD 3.3 trillion, or nearly 20% relative to December 2007. Most of the loss is accounted by pension funds in the United States (USD 2.2 trillion out of the total OECD loss of 3.3 trillion) (OECD Private Pension Outlook 2008).

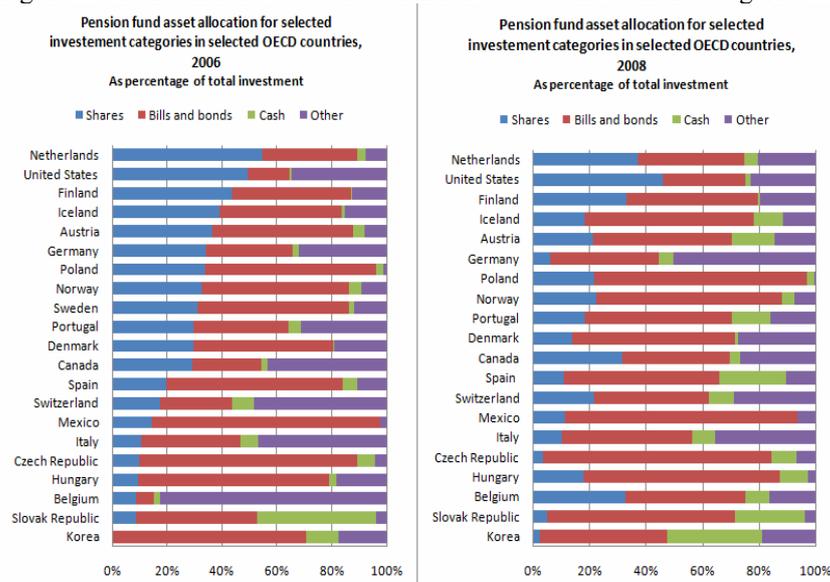
Figure – 4: Pension funds’ real returns in 2008 in selected OECD countries



Source: OECD Pensions at a Glance 2009, Figure 1.3

These enormous differences in investment returns are explained by differences in asset allocation. Pension benefits from a diversified investment portfolio, often with a large proportion of bonds, whose return are lower but more stable than those of equities.

Figure – 5: Pension fund asset allocation for selected investment categories



Source: edited by the authors, based on: (Yermo – Salou, 2009)

In 2006, the pension funds (in countries for which information was available) invested 26% in equities, 47% in bonds and bills, 5% in cash and 22% in other assets (such as mutual and property funds) of total investment. In 2008 were these ratios 19, 54, 9 and 17% (OECD Private Pension Outlook 2008). There is a marked shift to lower-risk portfolio to examine.

The rate of change of course varies by country, but each of them (except for Korea) reduced its equity allocations. In addition, a major decline in equity allocations and increases in bonds and cash took place in 2008 across the OECD, because government bonds yielded strong, positive returns.

### 3. CONCLUSION

The economic and financial crisis has made it clear that changes are necessary to the effective functioning of private pension schemes. Pension funds may have a role as "market stabilizer", smoothing out fluctuations in prices by selling when markets are high and buying when they are low. However, in this latest crisis, some pension funds have sold part of their equity portfolios. In some countries, pension funds, reacted to the crisis by allocating the new pension contributions and other assets in bank deposits guaranteed by the government until the situation stabilizes in the capital market.

Pension reform remains high on the agenda, the financial and economic crisis has accelerated the pace of change. This means that OECD countries must undergo an often painful process: pension schemes should be placed on a sounder financial footing for the long term. Better control, better management, more detailed information on the risks and benefits, and special measures for older workers close to retirement could help to cope with future crises. In addition, encouraging people to work longer - by increasing the retirement age and reducing early retirement incentives – is a major objective (Czech Republic, Greece, Hungary and Turkey have all recently announced increases in the normal pension age to 65. And some countries have set out plans in the past five years for phased increases in pension age beyond age 65: Australia and Germany to 67, and the United Kingdom to 68).

**The financial and economic crisis** means that governments' attention is focused, more than ever, on the short term. This will bring with it two dangers. The first is that long-term, strategic planning is set aside. The second is that governments may be more tempted to withdraw from the earlier reforms as labor market conditions worsen (For example: The Hungarian government has encouraged people to opt back into the state pension scheme). It is still necessary, despite the pressure, that governments take steps to ensure that public policies are carried a retirement income system for a long-term that is secure, adequate, financially sustainable and economically efficient.

There are economic, demographic, financial and social uncertainties in pension systems. The best approach for individuals and governments is to use a mixture of ways of providing retirement incomes. Diversity of pension provision is the best way to deliver security in old age. The current crisis reinforces this message.

## **BIBLIOGRAPHY**

Escritt, T. (2010), Hungary: A case of bad timing. In:  
[http://www.iperealestate.com/magazine/hungary-a-case-of-bad-timing\\_33662.php](http://www.iperealestate.com/magazine/hungary-a-case-of-bad-timing_33662.php)

Havay, D. (2009): A hazai magánnyugdíjpénztári rendszer hatékonysági vizsgálata. Szent István Egyetem, Gödöllő

Magyar Nemzeti Bank (2009): Statisztikai adatok, idősorok. In:  
<http://www.mnb.hu/Statisztika/statisztikai-adatok-informaciok/adatok-idosorok>

OECD Private Pension Outlook 2008. In:  
<http://www.oecd.org/dataoecd/44/60/42153142.pdf>

OECD Pension at a Glance – Current trend and policy topics in retirement-income provision in OECD countries, 2009. In:  
[http://www.oecd.org/document/49/0,3343,en\\_2649\\_34757\\_42992113\\_1\\_1\\_1\\_1,0\\_0.html](http://www.oecd.org/document/49/0,3343,en_2649_34757_42992113_1_1_1_1,0_0.html)

Ottawa, B. (2010): Hungarian growth funds return almost 26%. In:  
<http://ipe.com/articles/print.php?id=3437>

Pénzügyi Szervezetek Állami Felügyelete (2009): A felügyelt szektorok működése és kockázatai, 2009. Budapest

Stabilitás Pénztárszövetség (2010) In:  
<http://www.vg.hu/penzugy/megtakaritas/hozamugras-atlepte-a-3-ezer-milliardot-a-maganpenztari-vagyon-332847>

World Bank, (1994): Averting the Old Age Crisis. Policies to Protect the Old and Promote Growth. Oxford University Press, Washington D. C.

Yermo, J. – Salou, J-M (Editors), (2008) : OECD Pension markets in focus, 2008. Financial Affairs Division of the OECD Directorate of Financial and Enterprise Affairs.

Yermo, J. – Salou, J-M (Editors) (2009): OECD Pension markets in focus, 2009. Financial Affairs Division of the OECD Directorate of Financial and Enterprise Affairs.