FEE REDISTRIBUTION AND COST RATIONALISATION IN THE SECOND PENSION PILLAR OF THE CROATIAN PENSION SYSTEM

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Abstract

Starting from the normatively defined rules, the paper focuses on the analysis of the mandatory Second Pension Pillar in Croatia. Specific emphasis is placed on the cost and financing model and the impacts of its implementation on real life.

Since the beginning of the pension reform, the State Budget covered all administrative costs, i.e. record-keeping and monitoring costs. Fees collected from the asset base of the insured, are used only to the benefit of the companies running mandatory pension funds. As a result, huge costs are imposed on pension plans’ beneficiaries and the State.

With the help of a simplified formula, we found continuous fee mass increase in line with asset base accretion, while the administrative and pension companies’ costs remain practically stable. That caused us to believe that the fee burden reduction and fees’ redistribution among administrative and fund management institutions might be appropriate. We tested our hypothesis by introducing a performance fee instead.

Our results show that performance fee could cover the total costs of the second pillar, enabling the State to reduce financing amount while simultaneously preserving the larger asset base for the insured. However, the prerequisite for fee redistribution is standardisation of costs for all institutions in the second pillar.

Keywords: Croatian Pension System, second pillar, fee redistribution, costs’ standardisation, performance fee

Acknowledgements

We would like to thank Denis Redžepagić for proofreading the paper and worthy suggestions.
1. Introduction

In 2002, Croatia introduced a multi-pillar pension system consisting of two parts. The first part is a mandatory pay-as-you-go public pension sub-system based on generation solidarity - The First Pillar (FP). The second part is a strongly regulated sub-system of individual saving accounts, separated into: (a) A mandatory funded and privately managed pension scheme – The Second Pillar (SP) and (b) A voluntary funded and privately managed pension scheme – The Third Pillar (TP).

The goal of this paper is to assess the role of the SP in the Croatian pension system (CPS). The analysis of its organisational, financial and economic features facilitates the testing of hypothesis stating that the fee redistribution and costs’ rationalisation is feasible in SP of CPS.

The paper contains four major sections. Section 2 gives a normative overview of the institutions in the SP. Section 3 analyses the cost and financing model of SP based on available quantitative data. Section 4 tests the feasibility of SP self-financing by introducing a performance fee as the single source of financing and its overall impacts on SP. Section 5 includes the concluding remarks.

2. SP – Normative Overview

In line with the reforms, four institutions were normatively introduced as key subjects of the SP. These are the mandatory pension companies (MPCs) for managing pension funds, REGOS (Central Registry of Insured Persons) for system administration, HAGENA (Agency for Supervision of Pension Funds and Insurance) for auditing the system and finally the mandatory pension insurance companies (MPIC). Apart from these new institutions there is also a Custody Bank (CB) which keeps and safeguards pension fund’s assets.

Privately-owned pension companies are responsible for pension fund performance, i.e. for the capitalisation of individual contributions of the insured. Numerous individual contributions form a pool of assets called a pension fund. It has been continuously increasing through new collections paid-in as well as through the return on assets invested and traded in the financial market. Unlike MPCs which can be established as either public limited companies or limited liability companies, mandatory pension funds – (MPFs) are not legal entities. This fact distinguishes between the two types of financial statements published by the MPCs, i.e. the financial statements of MPCs themselves and the financial statements of MPFs whose assets are managed by MPCs.

REGOS is a State-owned institution responsible for its work to the Croatian Parliament. It collects, authorises and directs monthly monetary contributions from the insured to the pension companies. REGOS is responsible for: matching the accounted and paid-in collections by the employers of the insured, conversion of the monetary values into

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1 There are currently four MPCs and consequently four MPFs that they manage.
2 HAGENA is a business division of Croatian Agency for Financial Institutions’ Monitoring as of January 1, 2006.
3 The types of financial instruments allowed for pension fund assets' investments and maximum percentage allocations of pension fund assets' into each financial instrument are prescribed by Mandatory and Voluntary Pension Funds Act and by bylaws brought by HAGENA
4 Although REGOS can be co-owned by other private companies, The Republic of Croatia must always have the controlling interest of a minimum 51% of the voting rights in this institution.
5 Employers are bound by the regulations to pay pension contributions on behalf of their employees. Each month they contribute a 5% of gross salary of the employees to pension funds.
accounting units\textsuperscript{6} of the MPFs and for crediting the contributions on behalf of the individual savings accounts of MPFs’ members. When executing these operations, REGOS relies strongly on the help of information and data processing systems of two state-owned institutions. These are the Financial Agency (FINA) and GZAOP. REGOS is also an intermediary, managing data and individual capitalised assets transfer between the MPCs in the case of MPF’s change as well as between MPCs and MPICs at the time of the retirement of the plan beneficiary. As a normatively independent institution that conducts clearing, intermediary as well as statistical reporting in the SP, REGOS not only protects national interests and interests of plan beneficiaries but also the interests of MPCs and MPICs.

HAGENA, like REGOS, is also responsible for its operations to the Croatian Parliament. It is a state-owned and a state-mandated institution, charged with the supervision of MPCs and MPICs in both SP and TP, REGOS and the custody banks. The main task of HAGENA is to protect the interests of MPFs’ members, to control the legality of SP and TP beginning from monthly collections of the proceeds, through their accumulation phase right until the pay-out of the instalments during the beneficiaries’ retirement.

The Custody Bank is a bank entrusted by the pension company and licensed and monitored by HAGENA to keep and safeguard pension fund’s assets. The duties of the CB are to keep pension fund’s assets on a separate account, to calculate daily the net asset value and asset-related fees of the pension fund, to inform the pension companies on periodic interest and dividend payments on the assets in the fund, to inform MPCs, HAGENA, REGOS and the public on the size of the accounting units of the MPFs to render proxy voting and other pre-agreed services for the MPC.

Pension insurance companies are privately-owned insurance companies which supersede the MPCs’ role at the time of the retirement of a pension plan’s beneficiary. Subject to the agreement with a pension beneficiary, a MPIC takes over the capitalised assets from the individual saving account of the plan beneficiary from the MPC at the time of their retirement. MPICs are in charge of regular pension instalments and capitalisation of the entrusted assets during the retirement age of the insured. The size of the pension annuities payable during the retirement period to the insured depends on the total amount of numerous capitalised paid-in contributions superseded from the MPF, the investment measures taken by the MPIC for capital preservation and the type of contracted-in payout scheme.

The complex relations between the institutions in the SP can be described as follows. The administrator (REGOS) collects the money from the insured as well as the entry fee on behalf of the MPCs. MPCs invest the proceeds of MPFs’ members in the financial market for which they reap the reward in form of fees. CB safeguards MPF’s assets for which it collects a custody fee, while the supervisor (HAGENA) is delegated by the State to protect the interests of the insured.

### 3. SP Costs and Financing – Model and Empirical Evidence

The reform process itself passed very smoothly as evidenced by the percentage of the contributions that are regularly passed onto pension funds (99%)\textsuperscript{7}.

REGOS and HAGENA are almost entirely financed from the State Budget. In line with their administrative role in the SP, their costs will be called administrative costs. In

\textsuperscript{6} For valuation purposes each accounting unit represents a proportionate share in the total net assets of the mandatory pension fund. Therefore, the sum of all accounting units equals the total net asset value of the fund.

\textsuperscript{7} Source: REGOS.
contrast, MPCs are privately-owned enterprises that are financed by three types of official fees collected from the insured.8

In the short history of the SP, fees have been changed once, as the data given by table 1 shows.

**Table 1: Types of Fees in the SP Paid Out to MPCs**

<table>
<thead>
<tr>
<th>Fee type</th>
<th>Act from 1999</th>
<th>Act’s Amendment from 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Fee</td>
<td>up to 0.8% of paid-in monthly contributions</td>
<td>up to 0.8% of paid-in monthly contributions</td>
</tr>
<tr>
<td>Management Fee</td>
<td>up to 0.8% of assets reduced by investment liabilities p.a.</td>
<td>up to 1.2% of assets reduced by investment liabilities p.a.</td>
</tr>
<tr>
<td>Performance Fee</td>
<td>25% of real investment return p.a.</td>
<td>abolished</td>
</tr>
<tr>
<td>Exit Fee (% of Individual Capitalised Assets of the Insured)</td>
<td>1. year of membership (first change is free of charge, every next change is 5% of assets out of individual account)</td>
<td>1. year of membership (0.8% of assets out of individual saving account)</td>
</tr>
<tr>
<td></td>
<td>2. year of membership (2.5% of assets)</td>
<td>2. year of membership (0.4% of assets)</td>
</tr>
<tr>
<td></td>
<td>3. year of membership (1.25% of assets)</td>
<td>3. year of membership (0.2% of assets)</td>
</tr>
<tr>
<td></td>
<td>4. year of membership (0.62% of assets)</td>
<td>4. year and after (0.0%)</td>
</tr>
<tr>
<td></td>
<td>5. year of membership (0.31% of assets)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Mandatory and Voluntary Pension Funds Act and Mandatory and Voluntary Pension Funds Act Amendment

Up-front fee is collected each month along with the contributions from the insured. It equals 0.8% of the contributions. The entry fee is deducted by REGOS before they are transferred to MPFs. The exit fee is also deducted by REGOS and transferred to MPCs thereafter. Both the exit fee and the management fee are calculated as a percentage of assets in the fund reduced by the liabilities from investments. Management fee can be up to 1.2% of MPF’s assets, which is precisely determined by HAGENA on a yearly basis.

Apart from these three types of fees, the custody bank is rewarded by a custody fee, the size of which is contracted with the MPC. According to the regulations, the custody fee cannot exceed 0.1% of asset value reduced by investment liabilities of MPF. For the comparative analysis of costs and sources of finance in SP, available data has been normalised and given by table 2.

Realised nominal monetary items provide deeper insights into the cost structure and financing issues of SP. Looking at the sources of financing, it becomes evident that all fees, apart from the custody fee, are used to cover fixed and variable costs of MPCs. State financing burden for administrating costs coverage is significant.

The share of State financing in the SP increased from 53% in 2002 to 61% in 2004, the remaining funds being covered directly by the insured. At the same time, the costs of MPCs diminished after the end of the start-up phase.

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8 As prescribed by the Pension Insurance Act (Croatian Official Gazette No. 102/98, 127/00, 59/01, 147/02) persons who have to be compulsorily insured in FP and SP are: employees, elected staff in certain government bodies, volunteers that work full-time regardless whether they receive any monetary compensation or compensation in kind, residents employed with foreign diplomatic missions and similar bodies of the Republic of Croatia, foreign citizens employed in Croatia, the unemployed and agriculturalists under certain conditions, craftsmen and individual registered traders, the self-employed citizens, parents on maternity leave, as well as top sportsmen, chess players, members of management boards of private companies and the priesthood unless they are insured on another basis.
Table 2: Costs and Financing in the SP, in thousands HRK

<table>
<thead>
<tr>
<th>STRUCTURE/YEAR</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Gross Contribution</td>
<td>1,927,577</td>
<td>2,478,127</td>
<td>2,761,132</td>
</tr>
<tr>
<td>B. Total Costs</td>
<td>220,966</td>
<td>116,176</td>
<td>198,535</td>
</tr>
<tr>
<td>1. REGOS</td>
<td>45,061</td>
<td>58,436</td>
<td>130,746</td>
</tr>
<tr>
<td>2. HAGENA</td>
<td>26,000</td>
<td>1,630</td>
<td>16,029</td>
</tr>
<tr>
<td>3. MPC Costs(^1)</td>
<td>149,905</td>
<td>56,110</td>
<td>51,760</td>
</tr>
<tr>
<td>4. MPF Costs(^2)</td>
<td>602</td>
<td>2,973</td>
<td>5,669</td>
</tr>
<tr>
<td>C. Sources of Financing</td>
<td>133,571</td>
<td>146,223</td>
<td>239,660</td>
</tr>
<tr>
<td>5. Gross Contributions Financing</td>
<td>62,510</td>
<td>86,157</td>
<td>92,886</td>
</tr>
<tr>
<td>5.1. Entry Fee</td>
<td>13,902</td>
<td>18,028</td>
<td>19,573</td>
</tr>
<tr>
<td>5.2. Management Fee</td>
<td>5,858</td>
<td>34,074</td>
<td>73,267</td>
</tr>
<tr>
<td>5.3. Exit Fee</td>
<td>0</td>
<td>40</td>
<td>46</td>
</tr>
<tr>
<td>5.4. Success Fee</td>
<td>42,750</td>
<td>34,015</td>
<td>0</td>
</tr>
<tr>
<td>6. State Financing</td>
<td>71,061</td>
<td>60,066</td>
<td>146,774</td>
</tr>
<tr>
<td>D. Difference (C. – B.)(^3)</td>
<td>-87,395</td>
<td>30,047</td>
<td>41,126</td>
</tr>
<tr>
<td>E. Net Asset Value of the Funds</td>
<td>1,892,193</td>
<td>4,677,336</td>
<td>7,913,237</td>
</tr>
<tr>
<td>E. Number of the Insured</td>
<td>938,434</td>
<td>1,070,932</td>
<td>1,170,092</td>
</tr>
</tbody>
</table>

\(^1\) MPC Costs include fund management and operating costs
\(^2\) MPF include transaction costs and custody fee
\(^3\) Difference represents MPFs’ Profit before tax without Other, Financial and Extraordinary income

Source: Statements of Budgetary Expenditures, HAGENA Bulletins and authors’ calculation

The starting point in the analysis of SP cost and financing model is the relation between TAMC and TSF in month “j”, or analytically stated\(^9\)

\[
TAMC_j = TSF_j
\]  

As the quantitative data given by table 2 illustrates, the total administration and management costs - TAMC in month “j” may be analytically defined as

\[
TAMC_j = RC_j + HC_j + MPCC_j + MPFC_j
\]  

where

- RC = Costs associated with REGOS
- HC = Costs associated with HAGENA
- MPCC = Costs associated with MPCs
- MPFC = Costs associated with MPFs
- \(j\) = month of calculation.

As indicated by the the empirical data, such a normatively defined system cannot be self-financed, since MPCs keep total fees, partially converting them into profits before tax. Therefore, the TAMC of SP have been partially financed from the State Budget and partially from the Gross Contributions (GC), or analytically stated

\[
TSF_j = GCF_j + SF_j
\]

where

\(^9\) To simplify the calculation we used monthly intervals assuming that aggregate proceeds are contributed once a month.
GCF = Gross Contributions’ Financing
SF = State Financing

\[ GCF_j = UF_j + MF_j + CF_j + TC_j + EF_j \]  \hspace{1cm} (4)

and

UF = Up-front Fee
MF = Management Fee
CF = Custody Fee
TC = Transaction Costs
EF = Exit Fee

In accordance with the normatively defined logical model it is obvious that, when fees and costs are deducted from GC, Net Asset Value – NAV is obtained. Starting from the flow-concept, the NAV may be analytically defined as

\[ \text{NAV}_j = GCF_j - (UF_j + CF_j + TC_j + EF_j). \]  \hspace{1cm} (5)

The estimation of fees and costs that are to be deducted from the GC, have different bases of calculation. The calculation of UF is directly bound to the GC and its calculation is straightforward, i.e.

\[ UF_j = GCF_j \cdot u \]

where “u” stands for the percentage of UF expressed as a decimal number, while the calculation of other fees and costs mainly depend on the NAV. The functional relation for other fees and costs deducted from GC may be simply stated as follows\(^\text{10}\)

\[ MF_j = NAV_j \cdot m \]
\[ CF_j = NAV_j \cdot c \]
\[ TC_j = NAV_j \cdot t \]
\[ EF_j = NAV_j \cdot e \]

where “m”, “c”, “t”, “e” stand for the percentage of Management Fee, Custody Fee, Transaction Costs and Exit Fee, expressed as decimal number, which means that NAV belonging to the insured at the end of month “j” in year “i” could be defined as:

\[ NAV_{ij} = \sum_{i=0}^{m} \sum_{j=0}^{12} GC_{ij} (1-u)(1+g)^{12-j} - NAV_{ij} \cdot m - NAV_{ij} \cdot c - NAV_{ij} \cdot t - NAV_{ij} \cdot e \]  \hspace{1cm} (6)\(^\text{11}\)

\(^{10}\) As only a three-year data series was at our disposal when developing a model, we could not calculate the exact relations among presented variables. Therefore, we simplified the calculation by assuming that all fees and costs are calculated from NAV. Our attempt was to show the trend in variables’ movements, not their accurate values. Practically, however, total assets are first reduced by liabilities from investments forming the basis for management and custody fee calculation. After fees deduction there are still some other liabilities of negligible size after which the reduction the final value of NAV is obtained.
where “g” stands for “nominal monthly rate of return” on assets represented by Gross Contributions. It is calculated as $g = (1 + r)^{1/12} - 1$ or geometric return of annual return ($r$) accomplished by MPFs’ investments. The cumulative value of gross contributions at the beginning of a month could be treated as the stock of Total Assets Value (TAV). A part of it is used to finance the system by covering normatively defined fees and costs – Total Entry Fee (TUF), Total Management Fee (TMF), Total Custody Fee (TCF), Total Transaction Costs (TTC) and Total Exit Fee (TEF), or analytically stated

$$
TUF_y = \sum_{i=1}^m \sum_{j=0}^{12} GC_{ij} \cdot u
$$

$$
TMF_y = \sum_{i=1}^m \sum_{j=1}^{12} NAV_{ij} \cdot \frac{m}{12}
$$

$$
TCF_y = \sum_{i=1}^m \sum_{j=1}^{12} NAV_{ij} \cdot \frac{c}{12}
$$

$$
TTC_y = \sum_{i=1}^m \sum_{j=1}^{12} NAV_{ij} \cdot \frac{t}{12}
$$

$$
TEF_y = \sum_{i=1}^m \sum_{j=1}^{12} NAV_{ij} \cdot \frac{e}{12}
$$

Since the transaction costs and exit fees could be neglected in the following quantitative illustration, the formula (7) may be simplified becoming

$$
NAV_y = \frac{\sum_{i=0}^m \sum_{j=0}^{12} GC_{ij} (1-u)(1+g)^{12-j}}{(1+m+c+t+e)}
$$

Solving the formula (8), normatively defined fees and costs subtracted from GC are estimated for the analytical period 2005-2008. The final results are presented in table 3 while a simple graphical comparison of TAMC the SP’s financing from GC is given by figure 1.

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11 We assumed there are no reductions in pension funds’ assets arising from funds members’ retirement.
Table 3: Estimated Costs and Financing of the SP, in thousands HRK

<table>
<thead>
<tr>
<th>STRUCTURE/YEAR</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Gross Contribution</td>
<td>2,904,000</td>
<td>2,904,000</td>
<td>2,904,000</td>
<td>2,904,000</td>
</tr>
<tr>
<td>B. Total Costs</td>
<td>180,329</td>
<td>194,964</td>
<td>199,334</td>
<td>206,338</td>
</tr>
<tr>
<td>1. REGOS</td>
<td>101,631</td>
<td>105,021</td>
<td>117,587</td>
<td>120,617</td>
</tr>
<tr>
<td>2. HAGENA</td>
<td>16,268</td>
<td>24,622</td>
<td>12,638</td>
<td>12,610</td>
</tr>
<tr>
<td>3. MPC Costs1</td>
<td>51,760</td>
<td>51,760</td>
<td>51,760</td>
<td>51,760</td>
</tr>
<tr>
<td>4. MPF Csts2</td>
<td>10,670</td>
<td>13,560</td>
<td>17,349</td>
<td>21,351</td>
</tr>
<tr>
<td>C. Sources of Financing</td>
<td>269,168</td>
<td>315,596</td>
<td>361,642</td>
<td>412,666</td>
</tr>
<tr>
<td>5. Gross Contributions Financing</td>
<td>151,269</td>
<td>185,953</td>
<td>231,417</td>
<td>279,439</td>
</tr>
<tr>
<td>5.2. Management Fee</td>
<td>128,037</td>
<td>162,721</td>
<td>208,185</td>
<td>256,207</td>
</tr>
<tr>
<td>5.3. Exit Fee</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5.4. Success Fee</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. State Financing</td>
<td>117,899</td>
<td>129,644</td>
<td>130,225</td>
<td>133,227</td>
</tr>
<tr>
<td>D. Difference (C. – B.)3</td>
<td>88,839</td>
<td>120,633</td>
<td>162,308</td>
<td>206,329</td>
</tr>
<tr>
<td>E. Net Asset Value of the Funds</td>
<td>11,309,015</td>
<td>14,895,867</td>
<td>18,684,547</td>
<td>22,686,410</td>
</tr>
<tr>
<td>E. Number of the Insured</td>
<td>1,170,092</td>
<td>1,170,092</td>
<td>1,170,092</td>
<td>1,170,092</td>
</tr>
</tbody>
</table>

1 MPC Costs include fund management and operating costs
2 MPF Costs include transaction costs and custody fee
3 Difference represents MPFs’ Profit before tax without Other, Financial and Extraordinary income

Source: Statements of Budgetary Expenditures, HAGENA Bulletins and authors’ calculation

Figure 1 Total Costs and Gross Contributions Financing

In order to estimate State funds in total financing sources, planned amounts of budgetary expenditures are used. We assumed no liabilities arising from investments, negligible TC and zero EF. When trying to estimate the amounts of fees, we assumed maximum allowable fee percentages application, i.e. 0,8% for UF, 1,2% for MF and 0,1% for
9

The starting assets employed in the calculation were equal to NAV obtained on 31 December 2004, e.g. 7,913,237 thousands HRK. We used a constant amount of 242 millions of monthly paid-in contributions and assumed further that the return of pension funds is 7% p.a. for the entire period. The corresponding NAVs obtained were 11,3 billion HRK, 14,9 billion HRK, 18,7 billion HRK and 22,7 billion HRK in 2005, 2006, 2007 and 2008, respectively.

The illustration given by figure 1 confirms the upward trend in SP financing from GC while TAMC approaches a fixed amount as expected. The most interesting finding is that GCF could cover TAMC of the SP even without State financing as early as 2006. Moreover, the amount of normatively defined MF could be sufficient to cover TAMC of SP in 2007. Since the MF is far above MPCs’ and MPFs’ costs, it is stated that today’s normatively defined system prefers MPCs. In more simple terms, the State Budget finances the MPCs’ profit. Considering the exponential character of fees some changes of the system are recommended.

4. SP Self-financing Hypothesis

The representative structure of services that administrators and MPCs render to the insured can be divided into two groups: administering services provided by REGOS and HAGENA and fund management services provided by MPCs. The former are actually financed by the State Budget, the latter by the fees out of the gross contributions of the insured.

Both administrative and management costs have a fixed costs feature. Consequently, fees should constantly be on the decrease with increasing number of the insured and paid-in GC surge. The costs to the insured have variable character because they are asset-related. With assets climb, fee revenues of MPCs boost, increasing the amount of revenues to MPCs as well as taxes paid to the State. The taxes are in fact transferred funds from the insured that resemble an indirect tax imposed to the beneficiaries of SP. Considering that GC of the insured are tax exempt until the moment of pension annuity payments, there is a hidden double taxation burden that is spilled over to State Budget long before the retirement instalments are distributed to plan beneficiaries. Yet, MFs and CFs themselves are nothing else but indirect tax imposed to the income of the insured except that the State is their partial beneficiary only.

The insured in the SP are investors saving money for their retirement. They are entitled to the pension fund yield based on the amounts of paid-in proceeds turned into certain number of accounting units of the pension funds and the interest earned on their funds. Although the insured are legally obliged to invest in MPFs, they are neither allowed to determine their own investment objectives nor be informed on the amounts of fees deducted from their accounts, except in aggregate numbers. Consequently, during the saving phase the insured have only obligations, having to contribute not only a part of their salary, but entry, management, custody and optionally exit fees as well.

As we employed the maximum allowable custody fee of 0,1%, that is in reality lower, one can also assume that some other costs such as transaction costs and exit fee costs are buried in the custody fee.

The amount of paid-in contributions in January 2005 was 241.674 thousands HRK.

Overall return in the MPFs’ industry represented by index called MIREX was 7,48% and 7,37% in 2003 and 2004, respectively. Specifically, rates of return of each pension fund are measured as the difference between accounting unit value on the last business day in the period and accounting unit value on the last business day of the previous period.
The State created pension funds’ market, holding it under its direct control. The intention of the SP was to force the working population to take care of their instalments at retirement age by regularly paying the contributions during their working life and to protect their capital preservation by prescribing allowable asset classes for their proceeds’ investments. Nevertheless, the insured should have also been given a right to get acquainted with the impact of fees deduction on the final value of their savings at the point of retirement. Especially because lower asset value can have adverse consequences for the Budget expenditures in case that a MPF earns lower return relative to benchmark industry return. Namely, the responsibility of MPCs applies fully to only one direction, i.e. to the achievement of as high returns as possible within the investment limits prescribed by HAGENA. The responsibility of MPFs’ managers in case of lower returns than benchmark industry return is limited to the deposited guarantee of the MPF with the custody bank and up to 20% of the MPCs’ equity. The rest of the losses are supposed to be covered by the State Budget, representing the contingent liabilities of the State. In other words, there is a State guarantee to the insured in case of underperformance of MPFs below the benchmark industry return.

The SP financing is one of crucial problems that has to be solved now when the hardest introductory phase of pension reform has ended. We suggest the redistribution of the fee-load in a way which would better serve the benefit of the insured and the State.

Starting from administrative costs, the business procedures ranging from system analysis and record-keeping to software development can clearly be measurable. REGOS and its related institutions administer the normatively defined business processes sparing the time to MPCs. Costs arisen from administering are not standardised, meaning that their planning and Budget approval is not factual. This leaves room for various forms of negotiations with the financier on the price of administering and occasional cost rationalisation pressures that lead to transparency loss in the system.

To solve this matter, the total costs of certain business processes have to be divided into activities-related costs such as staff costs, IT equipment costs, overheads, office equipment and material costs. Moreover, the costs of the first pillar have to be clearly separated from business processes that belong to SP only, because REGOS performs some daily operations for FP as well. Subsequently, the clearly defined administrative costs of the SP have to be split per each insured. Administrative costs should be determined based on competitive prices for predefined business processes. A part of administrative costs could be passed on to the insured by transferring the entry fee on the behalf of administrators instead of MPCs.

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15 The Benchmark industry return is determined as a weighted average mean of average annual returns of all MPFs in Croatia for the three-year period less two percentage points. Each member of the MPF is guaranteed one third of the benchmark industry return determined by HAGENA provided that it was positive in the last three years, but its maximum cannot exceed the discount rate of Croatian National Bank. If the benchmark return in the last three years was negative, each member is guaranteed the threefold return.

16 An MPC is obliged to increase its equity for the escrow on a separate account in custodian bank for every 10,000 members above fifty thousand members. Approval of HAGENA is required for every increase or decrease of the escrow account. The funds on the escrow account are adjusted in the first quarter every year in accordance with the cost of living in the previous year.

17 Guarantees are seen as a tool of pension funds regulation in line with licensing, governance rules, asset segregation rules, external auditing, disclosure requirements, investment limits, minimum capital and fees regulations, and as such are a common practice in privatised social security systems (see Rocha et. al., 1999 and Vittas, 1998). “Those proposing individual accounts guarantees must be concerned about guarantee design as well as financing choices” (Lachance and Mitchell, 2003, p. 59-60). However, the issue of guarantees is beyond the scope of this paper.

18 “The use of ABC to develop ideal service configuration (ISC) can become critical for the future profitability of record keepers. New plans should be directed toward the ISC configuration as much as possible to allow the record keeper to increase the profitability without increasing fees” (see Kocakulah and Basham, 2004)
Exit fee limits the freedom of the insured to choose the investment fund, protecting the business of already established MPCs. Even though the Mandatory and Voluntary Pension Funds Act does not limit the number of MPCs, it is in practice constrained by the market size. Nevertheless EF can be called a loyalty fee because it stimulates neither free nor frequent change of MPF. Legally obliged to pay contributions to MPFs, the beneficiaries neither have an opportunity to choose the type of investment portfolio that best suits their objectives nor to change the fund manager freely, at least not for the first three years of the membership in the fund. We consider the responsibility of MPCs to keep their clients loyalty. Out of reasons of encouraging the market competition between MPCs, we opt for EF abolition.

Fund management and operating costs of the MPCs are equalised in practice with fee accounting and for this reason they are not transparent either. The largest value of all fees is represented by MF. Because of continuous assets increase, nominal amounts of MFs also have an upward trend. Fund management operations in the SP are mainly determined by IT, with gradually lower costs over time and the assets as well as the number of insured increasing. Asset-related fee accounting can therefore lead to unjustifiable wealth of the MPCs. Current MFs have nothing in common with the investment risk that portfolio managers are supposed to bear and be compensated for. Regardless of the profit or loss earned in the financial market, MPCs constantly cash in their percentage of asset value of MPFs. In particular, this has adverse effects on workers not permanently employed and thus have breaks in regular contributions payments. A direct consequence of MF is agency risk, meaning that the interests of pension fund managers may not be aligned with the interests of fund members (Rocha et al., 1999, p.16). The uncontrollable fee surge is usually stopped by regulators who reduce the fee percentage instead of defining long-term parameters for fee accounting. Although HAGENA quarterly publishes complete financial statements of MPFs and MPCs, a standard costs calculation becomes necessary to prevent MPCs to pile up their costs of MPFs’ managing and conceal them in aggregate numbers of their reports. The same holds true for costs that are allowable for reduction from total assets of the MPFs (Rocha et al., 1999, p.17). Besides, MF of 1.2% in Croatia is far larger than MF in Kazakhstan and Poland, which amounts to 0.6% and 0.54% of pension funds’ assets, respectively. „In Croatia, where the bulk of collection and record-keeping costs are borne by the central agency, fees are substantially higher than in Poland, where the central agency performs more limited functions. This suggests that pension companies in Croatia may well be overcharging for the services they provide. Moreover, the changes to the fee structure since the inception of the second pillar do not seem to have addressed this problem“ (Murthi and Dobronogov, 2005, p. 33 and p. 45, respectively). This is also consistent with the findings of Anusic et al. back in 2003 (cited paper, p. 74).

MPFs already have the right to reduce the asset size by TC. TCs have to be covered by the insured and the regulator should have control over expenditures that are buried under this expense category.

Since SP has required considerable investments to start to function properly, the State financing was acceptable until its full development. But, since TAMC of SP have fixed character on one side, while normatively built fees rise at an exponential growth rate on the other side, some changes in the SP financing oriented to the principle of self-financing are recommended. It should in turn exclude the State Budget financing, redistribute lower fees among the institutions of SP and enlarge NAV, i.e. the wealth of the insured, at the same time.¹⁹

¹⁹ If any portion of State Financing remains, that should be assigned to HAGENA and not to REGOS which services have outsourcing character and could be supplied by any corresponding private company.
Instead of having different fees and costs that are arbitrarily introduced for covering TAMC, a Performance Fee (PF) is recommended as the only source of finance of the system. It should belong to MPCs to pay their operational and fund management costs. The quantitative illustration of the mentioned hypothesis is based on the formula

$$TPF_{ij} = \sum_{i=1}^{m} \sum_{j=1}^{12} TP_{ij} \cdot \frac{P}{12}$$  \hspace{1cm} (9)

where

$$TPV_{ij} = NAV_{ij} - NAV_{i-1,j-1} - \sum_{i=1}^{m} \sum_{j=1}^{n} GC_{ij} (1-u)$$  \hspace{1cm} (10)

in which TPF stands for Total Performance Fee and TVP for Total Performance Value, respectively.

In the projections until 2008, we tested what consequences would the abolition of management fee and re introduction of performance fee have for the State, the insured and MPCs. We used the same assumptions as for calculation presented in table 3 and projected the same costs for the MPFs, MPCs, REGOS and HAGENA. We kept to supposition that the majority of costs have fixed character exploring the economies of scale as the number of the insured gradually increases except for staff costs that are partially paid out from bonuses. We set performance fee to be 15% of MPFs’ portfolio return. The calculated and normalised data are given by table 4 and illustrated by figure 2.

**Table 4: Self-financing of SP and Fee Redistribution Effects in the Period 2005-2008**

<table>
<thead>
<tr>
<th>STRUCTURE/YEAR</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Gross Contribution</td>
<td>2,904,000</td>
<td>2,904,000</td>
<td>2,904,000</td>
<td>2,904,000</td>
</tr>
<tr>
<td>B. Total Costs</td>
<td>180,329</td>
<td>194,964</td>
<td>199,334</td>
<td>206,338</td>
</tr>
<tr>
<td>1. REGOS</td>
<td>101,631</td>
<td>105,021</td>
<td>117,587</td>
<td>120,617</td>
</tr>
<tr>
<td>2. HAGENA</td>
<td>16,268</td>
<td>24,622</td>
<td>12,638</td>
<td>12,610</td>
</tr>
<tr>
<td>3. MPC Costs</td>
<td>51,760</td>
<td>51,760</td>
<td>51,760</td>
<td>51,760</td>
</tr>
<tr>
<td>4. MPF Costs</td>
<td>10,670</td>
<td>13,560</td>
<td>17,349</td>
<td>21,351</td>
</tr>
<tr>
<td>C. Sources of financing</td>
<td>240,435</td>
<td>288,336</td>
<td>327,226</td>
<td>370,815</td>
</tr>
<tr>
<td>5. Gross Contributions Financing</td>
<td>122,536</td>
<td>158,693</td>
<td>197,001</td>
<td>237,588</td>
</tr>
<tr>
<td>5.2. Performance Fee</td>
<td>99,304</td>
<td>135,461</td>
<td>173,769</td>
<td>214,356</td>
</tr>
<tr>
<td>5.3. Exit fee</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5.4. Success Fee</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. State financing</td>
<td>117,899</td>
<td>129,644</td>
<td>130,225</td>
<td>133,227</td>
</tr>
<tr>
<td>D. Difference (C. – B.)²</td>
<td>60,106</td>
<td>93,372</td>
<td>127,892</td>
<td>164,477</td>
</tr>
<tr>
<td>E. Net assets of the funds</td>
<td>11,356,728</td>
<td>15,005,106</td>
<td>18,870,563</td>
<td>23,074,115</td>
</tr>
<tr>
<td>E. Number of insured</td>
<td>1,170,092</td>
<td>1,170,092</td>
<td>1,170,092</td>
<td>1,170,092</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations

Starting from the data given by table 4 it is evident that performance fee amount gradually increases to exceed the total costs of the SP in 2008. It inclines us to state that fees can be redistributed to cover total costs of the SP.
The entry fee is earmarked to REGOS and related institutions at the start, while the performance fee would cover the rest of costs of REGOS and its outsourcing partners, costs of HAGENA, pension companies and custody costs. Comparing the performance fee estimated as 214 million HRK presented in table 4 to the management fee of more than 256 million HRK presented in table 3, one can conclude that performance fee is lower by approximately 16%. Our analysis confirmed that ultimately, the performance fee could be left as the only source of financing of the SP.

The arguments in favour of performance fee establishment as the single source of financing SP are numerous, the key ones being:

- PF could be sufficient to cover TAMC of SP
- PF enables higher retirement value to the insured as confirmed by higher net asset value of pension funds
- PF provides greater fund management incentives
- performance incentives would increase the competition among fund managers
- the State saves worthy funds for other purposes by pulling back from financing of the SP.

In addition, PF would constantly increase as the asset basis increases boosting the profits of MPCs. It is the responsibility of the regulator, i.e. HAGENA, to constantly and carefully draws to scale the impacts of PF on all subjects in SP, always favouring best interest of the insured and consequently the State.

In order to reach the right decision on PF size, the costs of MPCs have to be standardised as well in a way similar to standardising the administrative costs. It should be noted that, although legally separated entities, mandatory and voluntary pension companies might use the same infrastructure. Thus, special attention has to be paid to the segregation of the costs of managing mandatory and voluntary pension funds.
5. Conclusion

The findings of this paper indicate that the functioning of the SP has been under strong surveillance of the State. The State exercises its “institutional power” in the system by allowing the MPCs and MPFs feel comfortable in their activities, neglecting the real rights of the insured.

The total administrative and management costs are too high which calls for their rationalisation. They are not objectively allocated either. But, the administrative and management costs are unavoidable. They have to be covered according to the acceptable standards respecting the relations between the ownership (the insured) and the management in the SP (MPCs).

If the State continues to finance the administrative costs, it will bring to the reallocation of profit in favour of MPCs instead of the insured. That is not acceptable in this maturity phase of the system.

This paper indicates that SP systems should be self-financed. Instead of having different fees and costs that are arbitrarily introduced to cover administrative and management costs, a PF is recommended as the only source of system financing. The redistribution of fees and costs the insured pay from their GC seems to be rational. That should in turn exclude the State Budget financing, objectively redistribute lower fees on administrative and management services and finally enlarge the wealth of insured.

Starting from the proved hypothesis that performance fees could be sufficient to cover TAMC, one can conclude that the implementation of the PF concept enables higher retirement value to the insured, provides greater fund management incentives, increases the competition among pension funds and saves State funds for other purposes.

The rational expectations are that PF would constantly increase boosting the profits of MPCs. Since TAMC tend to be fixed, HAGENA should constantly and carefully draw to scale the impacts of PF on all subjects in the SP favouring the best interest of the insured and consequently the State.

In order to reach the right decision concerning PF size, the costs of MPCs have to be standardised as well in a way similar to standardising the administrative costs. It should be noted that, although legally separated entities, mandatory and voluntary pension companies might use the same infrastructure. Thus, special attention has to be paid to the segregation of the costs of managing mandatory and voluntary pension funds.
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