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**COMPARATIVE INFORMATION
PROVIDED BY PENSION
SUPERVISORY AUTHORITIES**



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ABSTRACT

Comparative information provided by pension supervisory authorities

The provision of information on pensions is of increasing importance as pensions savings are growing and becoming an important part of the financial system, and as defined contribution pension plans, which usually involve competitive pension products and providers, are becoming more dominant. Ensuring adequate information on the pension system as a whole and on individual pension funds and providers is an essential policy objective, especially when members bear pension costs and investment risks, and are asked to make choices. In many IOPS member countries the pension supervisory authority plays an important role as a provider of objective, comparative information, acting as a disinterested, comprehensive and authoritative source. This paper examines the role pension supervisory authorities can play in providing information. How comparative information on costs, investment performance and comparative service data is presented by IOPS member authorities is outlined and some lessons learnt suggested.

Keywords: pensions, cost indicators, investment performance, pension supervision

JEL codes: G23, G32

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¹ This Working Paper was prepared by Mr. John Ashcroft, an independent consultant to the IOPS, and Ms. Fiona Stewart of the IOPS Secretariat and of the Private Pensions Unit of the OECD's Financial Affairs Division in collaboration with the Ambrogio Rinaldi from the Italian supervisory agency, COVIP, Darren McShane from the Hong Kong supervisory agency MPFA and Solange Bernstein and Olga Fuentes from the Chilean pension supervisory authority.

COMPARATIVE INFORMATION PROVIDED BY PENSION SUPERVISORY AUTHORITIES

Background

1. In 2008 the IOPS published Working Paper No.5 (IOPS 2008b) which looked at the information provided to members of defined contribution (DC) pension plans by their pension providers. The paper outlined the types of information provided (pension projections, investments and returns, costs, contributions paid etc.), different general approaches followed across countries regarding the information to be given to members and the role played by the supervisory authority in this context. Finally, the paper identified common wisdom and good practices, stressing the complementary relationship between information and financial education and the importance of (and information signals provided by) default options. The paper went on to suggest areas for further work – including the role of supervisory authorities as direct providers of information to plan members.
2. The present paper aims to update previous IOPS work by looking in more detail at the role pension supervisory authorities can play in providing information – particularly comparative information on performance, costs and other issues. The paper focuses on comparative data provided on defined contribution (DC) pension plans, but it should be noted that such information may also be useful for defined benefit (DB) systems.
3. The paper is structured as follows:
 - I Introduction*
 - II Comparative Cost Data*
 - III Comparative Investment Performance Data*
 - IV Comparative Service Data*
 - V Lessons Learnt*
4. Information contained in the paper has been drawn from a broad questionnaire on communication and financial education issues with responses received in early 2011.²

I. Introduction

5. The provision of information on pensions is of increasing importance in IOPS member countries for several reasons:

² Responses have been received from 30 IOPS and OECD members: Australia, Austria, Brazil, Bulgaria, Canada, Chile, Columbia, Costa Rica, Czech Republic, Estonia, Greece, Hong Kong, Hungary, Israel, Italy, Japan, Kenya, Korea, Macedonia, Mexico, Netherlands, Norway, Pakistan, Poland, Romania, Slovak Republic, South Africa, Spain, Thailand, Turkey and the UK. Responses to this questionnaire have been combined with information formerly provided by members for previous projects.

- As pensions savings are growing and becoming an important part of the financial system (indeed pension assets are over 100% of GDP in several IOPS member jurisdictions),³ information on how these assets are managed is increasingly required.
- DC pension plans are becoming more dominant. These plans often involve individuals having to make choices about their retirement planning and income, including individuals in some IOPS member jurisdictions choosing their pension provider and savings and retirement income products. Information to help them make these choices is therefore needed.⁴
- Where such competitive pension markets exist, information can help markets work more efficiently.

6. Ensuring adequate information on the pension system as a whole and on individual pension funds and providers is an essential policy objective, especially when members bear pension costs and investment risks and are asked to make choices. Pension Supervisory Authorities have a role to play in providing this information to members of pension plans.

7. Supervisory authorities' comparative information is often provided by the specialized press and, where this is allowed, by pension providers themselves (often in a manner which is at least to some extent prescribed by the pension supervisory authority). However, these sources of information are often not free from conflicts of interest, and it is not easy to guarantee that the presentation of comparative information is really fair and unbiased. In this context, in many IOPS member countries, the pension supervisory authority plays an important role as a provider of objective, comparative information, acting as a disinterested, comprehensive and authoritative source. The power to instruct how data has to be reported is an additional element that puts pension supervisory authorities at a relative advantage in providing at least some information on a comparative basis.

8. Indeed, the IOPS Principles of Private Pension Supervision (IOPS 2010a) highlight the need for supervisory authorities to act in a transparent manner. The Principles state that the pension supervisory authorities should: *“provide and publish clear and accurate information for the pension industry and the general public on a regular basis – such as the financial situation of the pension fund industry and observations on major developments in the pension sector.”*

9. The increasing role which supervisory authorities play in the direct provision of information to members is a trend which has been previously noted by the IOPS (in Working Paper No. 5).⁵ In some cases, this role is explicitly recognized as a statutory objective of the supervisor. In other cases, the supervisory authority may be the official statistics agency for the pensions industry as a whole. The fact that information comes directly from the supervisor may contribute to maintaining public confidence in the functioning of the pension system - a goal which has risen in prominence following the global financial and economic crisis of recent years.

10. Pension supervisory authorities have different objectives for providing such comparative data, according to the nature of the pension system they oversee and the scope and aims of their supervisory activities. These can include:

³ See (OECD 2011)

⁴ For further discussion see IOPS Working Paper No.12 (IOPS 2010b)

⁵ See (IOPS 2008b)

- *to assist in decision making (particularly relevant where members have some responsibility for plan level or investment level decision making);*
- *to promote transparency/accountability of the pension industry;*
- *to encourage competition amongst pension funds;*
- *to encourage better performance by pension funds;*
- *as a means of ranking/scoring, thus providing an indication of how pension funds deliver on their fiduciary responsibilities;*
- *as a way of providing a record of how the pension system is structured and /or developing over time;*
- *as a resource for industry, policy makers, academics etc.*

11. Comparative information is most frequently provided on defined contribution (DC) pension plans. However, it should be noted that comparative information can also be useful for defined benefit (DB) pensions. The goal in publishing comparative information in these systems is not so much to aid competition between providers (as individual members do not make choices related to their pension fund), but rather to assist in making sure that pension plans are run as well as possible (for example by putting pressure on them to cut costs).

12. From a pension fund member's perspective, disclosure of comparative data serves at least two distinct objectives - verification and choice:

- *Verification:* this looks back to track progress against stated objectives. This might relate to progress against other funds or a benchmark. If an individual has money in a pension fund, he/she will want to know how it has performed, and how much has been deducted along the way, and by whom. For this purpose, a member should be able to see segregated information about returns, hard costs (brokerage, custody, etc.), and investment management and other soft costs. It should be possible to see these whether they are incurred directly by the pension fund, or indirectly through the acquisition of "managed products". While realised volatility might be useful (for some members) in evaluating past returns, the more important historical information is the performance of a comparative benchmark. For example, in relation to an equities fund, how did it perform compared to the index? In the case of a balanced fund, how did it compare to a blended average of the appropriate index for each component?
- *Choice:* this is forward looking in terms of making choices (of provider or investment option). If members are allowed to select between pension funds, or between alternative investments in a particular fund, they will want to know how the alternatives are going to perform (to the extent that is possible, of course). The critical elements are asset allocations, manager style (active vs passive, aggressive vs conservative) and fees. When it comes to choosing investments, volatility of returns becomes much more important, and the manner of presentation, such as graphical representation of the entire spectrum of returns, is critical.

13. The comparative data published needs to be clear as the measures for each purpose may well differ.

14. However, as the table in Annex 1 shows, not all pension supervisory authorities provide such comparative information, or only provide limited statistics. As discussed in the paper, this may be due to problems with obtaining comparative statistics (particularly where the system comprises of many thousands of funds and a range of different types of plans), or a cautious approach to providing statistics (such as short-term performance numbers) which could lead plan members to make decisions on an inappropriate basis. Some authorities may also have issues regarding data confidentiality or their legislated scope and responsibility. In addition, a cost-benefit analysis of providing such data may reveal the exercise to be prohibitively expensive for some authorities (where many thousands of funds are involved and where the data is not already collected).

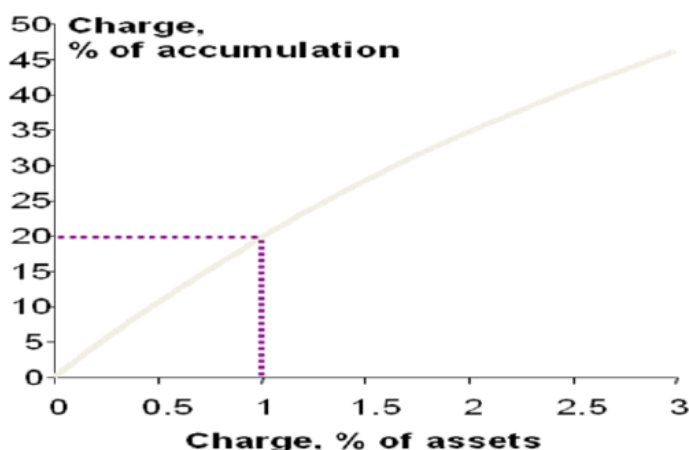
15. It should also be noted that the IOPS recognizes that information provision has its limits (as the OECD's work on financial education and pensions points out).⁶ As discussed in IOPS Working Paper No. 12 (IOPS 2010), the tools of transparency and education alone are rarely enough – even when used over the long-term - to ensure a well functioning pension market. Given individuals' lack of knowledge and understanding, their general apathy when it comes to making pension related choices, the complexity of pension products and market failure issues (such as asymmetry of information), competition within pension markets does not always operate successfully. These tools therefore need to be considered within the broader context of pension regulation as a whole, and pension supervisors will normally combine them with the other mechanisms (such as well structured default options).

⁶ See (OECD 2008)

II. Fee Data

16. The main type of comparative indicator which is provided by pension supervisory authorities (see Annex 1) relates to costs and fees charged to members. As IOPS Working Paper No. 5 (IOPS 2008b) notes, in a defined contribution context, costs are usually borne by plan members and have a direct, significant impact on benefits (a 1% charge over 40 years reducing pension income by around 20% - see Figure 1 below). Some studies have also found that the fees paid by pension funds around the world are rising, making this an increasingly important issue.⁷

Figure 1: Relationship between Charge ratio and Equivalent Fee



Source: Whitehouse, E.R. (2001), "Administrative charges for funded pensions: comparison and assessment of 13 countries", in OECD, Private Pension Systems: Administrative Costs and Reforms, Private Pensions Series, Paris⁸

17. However, despite the importance of fees and costs, pension fund members have little understanding of and pay little attention to them.⁹ As the OECD points out in its 2008 paper on fees in individual account systems (Tapia and Yermo 2008), the structure of charges adopted in some countries is fairly complex, which means that, in general, charges are poorly understood by the average pension fund member. For example, survey evidence from Chile and Poland suggests that the majority of the population does not know what fees are paid to pension companies.¹⁰ A Polish survey showed that 63% of contributors declared very limited understanding about contributions fees, and 71% declared limited understanding about management fees. More than 40% of those surveyed did not know that there was a transfer fee for moving one's account to another provider. Similarly, knowledge of the Chilean pension system is far from perfect. A micro-level analysis of retirement saving showed that more than 96% of Chilean members do not know that pension companies receive management fees as a percent of their monthly earnings.¹¹ Likewise, a recently-developed longitudinal survey of individual respondents showed that fewer than 2%

⁷ See Watson Wyatt report www.watsonwyatt.com/news/press.asp?ID=18721 – quoted in (Turner and Witt 2008).

⁸ See also US Securities and Exchange Commission (SEC) on-line fees calculator www.sec.gov/investor/tools/mfcc/get-started.htm

⁹ See (Turner 2003) (Turner and Korczyk 2004). Also (Muller and Turner 2008) find evidence that financial terminology such as 'expense ratio' are not understood (quoted in Turner and Witt 2008).

¹⁰ (Chlon-Dominczak 2000)

¹¹ (Martinez and Sahm (2005))

of the respondents knew either the fixed or variable commissions in either year and less than one percent of all respondents claimed to know both the fixed and variable commissions.¹²

Box 1: Example of Sensitivity to Performance and Fees

National Employment Savings Trust (NEST) Member Research Brief outlines the following example of investors' sensitivity to performance and fees. (see http://www.nestpensions.org.uk/documents/Member_Research_Brief.pdf).

Choi, Laibson and Madrian (Choi et al 2006) examined the approach of Wharton MBA and Harvard college students to mutual fund investing. Aside from the business focus of their education, this test group had SAT scores averaging in the 98th and 99th percentile nationally and can be considered much more able than the average investor.

The authors presented their test subjects with four mutual funds that were all substantially similar: tracking the S&P 500. They were asked to choose a fund in which to invest \$10,000, following receipt of standard investment information, for example fund prospectuses.

In the control group without fee information, 95% of test subjects did not minimise fees when picking funds, which was the only real differentiator between the funds. In the group with fee information, 85% did not minimise fees. This shows that the impact of the provision of fee information was small. Furthermore, the group provided with information regarding historical performance, chased historical performance even though these funds had higher fees.

18. Given this lack of attention members pay to fees, an argument can be made for pension supervisory authorities publishing comparisons on this basis. Supervisory authorities may be well placed to play such a role as funds and industry sources may deliberately obfuscate the fees being charged (for example by not clarifying between fees and expenses – see Turner and Witte 2008), may not use standard reporting and language, and truly transparent and comparative data may therefore be hard to find. Supervisory authorities are well placed to be a credible source of comparative information.

19. Though previous IOPS work has noted the limitations of transparency as a supervisory tool for improving market practice (see IOPS 2010), there is some evidence from IOPS members that publishing comparative rankings of fees can drive individuals to choose lower cost providers. For example, in Mexico, CONSAR's use of comparative fee data, along with other regulatory initiatives and increased maturity of the system, saw fees drop by almost two-thirds between 2007-2011.

¹² (Universidad de Chile 2004)

Figures 2 and 3: Reduction in Fees and Spread in Mexico

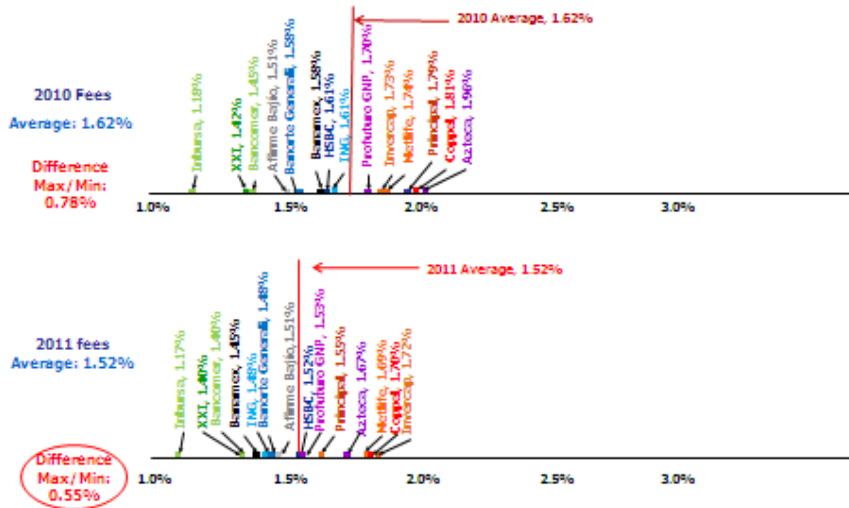
CON SAR In 2007 the law of the pension systems was reformed and only fees on AUM are allowed. During the period 2007-2011 these fees have been reduced by 63%.

AFORE	Converted fees by eliminating the fee on flows		Entry into force of the 2007 Reform		Entry into force of the 2009 Reform		Authorized	
	June 15, 2007	March 16, 2008	February 27, 2009	Current 2010	2011			
Afirme Bajlo	3.29	1.70	1.70	1.51	1.51			
Azteca	1.96	1.96	1.96	1.96	1.67			
Banamex	1.84	1.84	1.84	1.58	1.45			
Bancoamer	1.47	1.47	1.47	1.45	1.40			
Banorte General	1.71	1.71	1.71	1.58	1.48			
Coppel	5.14	3.30	3.30	1.81	1.70			
H&B	1.77	1.77	1.77	1.51	1.52			
Inbursa	1.18	1.18	1.18	1.18	1.17			
ING	1.82	1.74	1.74	1.61	1.48			
Invercap	2.48	2.48	1.93	1.73	1.72			
Metlife	2.26	2.26	1.89	1.74	1.65			
Principal	2.11	2.11	1.54	1.75	1.55			
Profuturo GNP	1.96	1.96	1.92	1.70	1.53			
XXI	1.50	1.45	1.45	1.42	1.40			
Simple Average*	4.06	1.96	1.81	1.62	1.52			
Decrease with respect to June 07		-51.7%	-55.3%	-60.1%	-62.6%			

This trend will continue since pension funds have to present to the board of CON SAR on a yearly basis their proposals of fees for the following year.

* Simple Average considers all AFORES operating on that date

CON SAR The spread between the highest and lowest fee was reduced last year to 0.55%. The continuous growth of assets and the economies of scale in part explain this dynamics.



Source: CON SAR¹³

¹³ Source - presentation made by CON SAR to IOPS Technical Committee, June 2011. For a further discussion of the topic and Mexico's experience see video posted on the IOPS website – www.iopsweb.org

Reporting Costs

20. The issue regarding costs is a practical one, involving how information about costs and fees are disclosed and ensuring that all costs, fees and expense impacts are taken into account and presented on a truly comparative basis. As Whitehouse points out,¹⁴ measuring the price of financial services is more difficult than other goods and services as fees can take many different forms and different kinds of charge interact and accumulate in complex ways, particularly with long-term products, such as pensions and life insurance. This often means that the price of financial services is not transparent.

21. As discussed in Working Paper No. 5 (IOPS 2008b), comparison may not be easy, as the cost structure can be complex and opaque. Administrative fees are charged for services in different ways (including one-off fees usually by way of a fixed sum payable up-front or at the end of the term, on-going fees which can be fixed or a percentage of assets or a percentage of contributions or fees charged to funds rather than members).¹⁵ The diverse charges and the specific details involved in every single case make it difficult to directly compare administrative charges nationally and internationally. Hidden costs are a tricky aspect, for instance when pension plans invest in mutual funds that apply management and other fees, potentially causing cost duplication.¹⁶ In some countries, such hidden costs have to be disclosed. In others, duplication of management fees is not allowed.

22. Asset management or trading costs are a particularly difficult aspect of cost to breakout and identify.¹⁷ Macedonia is a rare example of a country where a detailed breakdown of pension funds' trading costs is available – though it should be noted that only 2 funds operate in this country.¹⁸ APRA also provide investment expenses on an aggregate basis for larger funds in their quarterly and annual statistics, however APRA notes that information on expenses and taxes included in its publications should be used for indicative purposes only. Expenses are generally understated by funds as indirect investment expenses are generally not reported. Funds suggest that indirect expenses are difficult to report as they are not separately identifiable in most cases; not all funds are able to provide complete information on entry and exit fees; and the current data collection does not adequately capture some expenses, such as front-end and

¹⁴ (Whitehouse 2001)

¹⁵ For example, as reported by (Turner and Witt 2008), the US Department of Labor 401(k) Plan Fee Worksheet lists 38 definitions concerning fees and 36 separate types of fees that plan may incur – www.dol.gov/ebsa/pdf/401kfeem.pdf

¹⁶ For example, in its consultation on publishing fund level data APRA states that it would be interesting to know fund gross returns, but as a practical matter they have discovered that such data are extremely difficult to collect (because trustees outsource much of their fund management, to firms which often outsource through one or more additional providers, a trustee must be able to look through multiple layers of fees and expenses to separate gross and net returns). APRA's experience has been that trustees are in many cases unprepared and possibly unable to delve deeply enough into their investment arrangements to disentangle gross and net returns. APRA conclude that net returns are more important as net return is the figure that directly determines the member's eventual retirement benefit. See (APRA 2009)

¹⁷ For example, a Swiss survey found that asset management fees in the second pillar for 2009 were, on average, approximately 0.56% of total invested assets, rather than the 0.15% published in previous statistics. See Investment and Pensions in Europe, 31st May 2011, 'Swiss pension funds grossly underestimating AM costs' http://www.ipe.com/news/swiss-pension-funds-grossly-underestimating-am-costs_40765.php?s=Swiss%20pension%20funds%20grossly%20underestimating%20AM%20costs

¹⁸ See <http://www.mapas.gov.mk/WBStorage/Files/zkp2007.pdf>

ongoing commissions. Funds also have different approaches to recognition of future tax liabilities and assets.”¹⁹

23. Various organizations have proposed templates for how costs should be reported. For example, the Committee of European Securities Regulators (CESR) developed the following for the so-called Key Investment Information Document (KIID) to be used for UCITs²⁰ in accordance with the UCITs IV Directive.²¹ CESR is adopting a simpler approach: it does not seek a unique, synthetic cost indicator, but asks to show separately front, exit and ongoing fees. Turner and Witte (2008) examine in detail how fees are disclosed in six countries (Australia, Canada, Chile, Sweden, the UK and the USA).²² IOSCOIOSCO also have guidelines on effective fee disclosure in their Collective Investment Scheme Principles (IOSCO 1997), as do the Joint Forum (Joint Forum 2004) and regulators in various countries (including ASIC in Australia – see (Turner and Witte 2007).

Table 1: CESR Guidelines on Fund Charges

Charges for this Fund	
The charges you pay are used to pay the costs of running the fund, including the costs of marketing and distributing it. These charges reduce the potential growth of your investment.	
One-off charges taken before or after you invest	The entry and exit charges shown are maximum figures. In some cases you might pay less - you can find this out from your financial adviser.
Entry charge	
Exit charge	[%]
This is the maximum that might be taken out of your money [before it is invested][before the proceeds of your investment are paid out].	
Charges taken from the fund over a year	
Ongoing charges	[%]
Charges taken from the fund under certain specific conditions	
Performance fee	[%] a year of any returns the fund achieves above the benchmark for these fees, [insert name of benchmark].
The ongoing charges figure is based on expenses for the year ending []. This figure may vary from year to year. It excludes:	
<ul style="list-style-type: none"> • Performance fees • Portfolio transaction costs, except in the case of an entry/exit charge paid by the UCITS when buying or selling units in another collective investment undertaking 	
For more information about charges, please [see pages x to x / section x] of the fund's prospectus, which is available at www.ucitsfund/prospectus	

Source: Committee of European Securities Regulators (CESR)²³

¹⁹ See (APRA 2011) The quarterly report breaks down expenses into investment expenses, which include: investment management and asset consultant fees; custodian fees (property management costs, other investment expenses); and operating expenses, which include: management fees (non-investment); administration fees; directors/trustees/fees and expenses; other operating expenses.

²⁰ Undertakings for Collective Investment in Transferable Securities

²¹ (CESR 2010)

²² The paper goes on to discuss how much of a detailed fee breakdown it is useful to provide. The Department of Labor in the US, for example, suggests 4 main categories: investment management fees; transaction fees; administrative and record keeping fees; other fees. While too much disaggregation of fee information could confuse participants, separating fees into administrative fees and investment fees would provide useful information. On Turner and Witt’s analysis, Sweden’s PPM system has the most comprehensive disclosure – showing fees or administrative and investment expenses as both percentage and absolute amounts paid by participants. No country discloses transaction costs to participants (though such information is available for mutual funds at the fund level in the US).

²³ <http://www.cysec.gov.cy/Downloads/Events/EuropeanIssues/CESR%20Guidelines/UCITS%20Guidelines/CESR10-1321%20Template%20for%20the%20Key%20Investor%20Information%20document.pdf>

24. The use of such standard reporting templates may be necessary to allow pension supervisory authorities to gather and subsequently publish comparative fee data themselves.

25. One way around the complexity of showing costs is to only allow one type of fee to be levied (as pointed out in (Whitehouse 2001)). If only one type of fee is allowed, then there is a single 'price' for taking out a pension that consumers can readily compare. For example the supervisor in Chile now only allows charges on contributions which allows for ease of comparison. Likewise in Mexico, until the end of 2007, pension companies could freely determine their yearly fees, which could be a percentage of contributions, a percentage of assets under management, or both. Beginning in 2008, pension companies may no longer charge account holders a fee on their monthly contributions and may only charge a fee on the individual account balances.²⁴

Synthetic Cost Indicators

26. Alternatively, a few countries - such as Hong Kong, and Italy - use or require a synthetic cost indicator in order to facilitate comparisons. These are calculated for a representative member, using a standard methodology.

27. One way of building a synthetic cross jurisdictional cost indicator is discussed in IOPS Working Paper No.6 '*Comparison of Costs and Fees in Countries with Private Defined Contribution Pension Systems*'.²⁵ The cost indicator in the paper is used to compare charges across countries.

28. The paper notes that in order to contrast administrative fees properly one needs to construct indicators with unifying assumptions, but ones that take into account all the details in each case, as well as the country-specific wage level. Comparisons are made by projecting a value for a DC pension fund accumulated over the working life of the average worker in each country, using a fixed assumption for return on assets. This accumulated balance is then reduced by the charges or fees that each specific country's pension regulation imposes (or which the market in each country sets), thereby allowing for an international comparison. The amount by which the accumulated balance is reduced is known as the **charge ratio** – i.e. it measures the impact that any type of administrative charge can have on the final balance (for example after 40 years) of an individual retirement account compared to the hypothetical balance that could be obtained if no administrative fees were charged at all. The other comparative indicator referred to in the report is the **equivalent fee** rate. This measure is related to the charge ratio but stated as an annual ratio for comparative purposes.

29. The Methodology used in the paper is outlined in Box 2. Turkey is now using this indicator, which is published in the Annual Progress Report.

30. The methodologies deriving the synthetic cost indicators used in Italy and Hong Kong²⁶ are outlined in boxes 3 and 4. The Financial Services Authority in the UK also provides costs comparisons for stakeholder pensions based on charges and a reduction in yield.²⁷

²⁴ Whitehouse also discusses how another way of making charges more transparent is to levy charges on top of rather than out of mandatory contributions. This brings charges clearly to consumers' attention because they reduce current net income rather than cutting future pension benefits. Chile, Colombia, El Salvador and Peru all levy charges on top of the mandatory contribution, while in other countries charges are deducted from mandatory contributions. The latter is also the practice in countries with mandatory funded pensions in other regions, including Australia, Hungary, Poland Sweden, and the United Kingdom.

²⁵ (IOPS 2008a)

Box 2: Charge Ratio Methodology (IOPS WP No.6)

A. Equivalent asset fees

Equivalent asset fees and charge ratios were calculated for each pension fund manager and by country. The methodology used to calculate equivalent fees is:

The equivalent asset commission is the annualized charge over assets which would have generated exactly the same final asset accumulation as the actual combination of charges on flows entering the individual account, on the accumulated assets and on the returns applied to the individual retirement account as well as any entry or exit charges applied to an individual retirement account during a certain period of time (usually the working time span of an average worker).

The first step in order to calculate an equivalent fee is to estimate the asset accumulation in the individual retirement account for an average worker on an annual basis. This is done by taking an average wage as given and calculating the flow contribution into the retirement account according to the current legislation in each country, as well as a fixed rate of return, and all of the fees that a working entering the workforce today is expected to pay during the 25-40 year period before he retires.

The general formula used to estimate the asset accumulation in the individual account in each period is the following

(1)

$$S_f = \left[S_i * \left(1 + \frac{i'}{100} \right) * \left(1 - \frac{\beta}{100} \right) \right] + \left[(F_i * (1 - \alpha) + cs) * \left(1 + \frac{i'}{100} * \frac{1}{2} \right) * \left(1 - \frac{\beta}{100} * \frac{1}{2} \right) \right] * (1 - \gamma)$$

Where:

S_f = Balance in the individual retirement account at the end of period i .

S_i = Balance in the individual retirement account at the beginning of period i .

F_i = Flow contribution to the individual retirement account in period i , including all contributions from employers, employees and the government.

cs = Any fixed contribution which is not subject to charges on flows or a fixed charge on flows (in which case it would be a negative number).

α = Proportional charge on flows (as a percentage of F_i).

β = Proportional charge on assets under management.

i' = Real rate of return net of charges on returns.

γ = Proportional exit fee.

Equation of (1) determines the accumulated balance at the end of a working life for an average worker in a given country taking into consideration the fees charged by a particular pension manager which operates in that country. The annual fee on assets that would have generated exactly that end of period balance if no other fee had been charged during the worker's work life can be obtained through an iterative solving mechanism. It is essential to understand that

²⁶ Working Paper No. 6 (IOPS 2008a) notes that the expense ratio figure used in calculating the Hong Kong figure incorporates the fees of any underlying investment structure, which is not necessarily the case for other systems. Another factor to consider is that in Hong Kong the service providers often rebate an amount of fees back to individual members (for example as a way of reducing the effective level of fees to employees of larger employers). Such a rebate (which in effect lowers the total fee impact) is not reflected in the calculated figure. It is not possible to quantify the overall impact, but the effect on individuals may be to reduce fees by up to 0.5% per annum. In addition, over 5% of Hong Kong's fee figure represents guarantee fees, i.e. the amount paid to a guarantor to provide the guarantee in guaranteed funds.

²⁷ See <http://fsahandbook.info/FSA/html/handbook/COLL/4/6?searchtext=reduction%20in%20yield&searchtype=exact>
<http://fsahandbook.info/FSA/html/handbook/COBS/13/Annex3?searchtext=reduction%20in%20yield&searchtype=exact>

the calculations in equation (1) are repeated 25-40 times to obtain a final balance in the individual retirement account and that the fees that are used take into consideration any programmed reductions in fees either due to already set chronological reductions in fees or those offered to workers according to the number of years in the system.

Equation (2) is used to determine the equivalent asset commission which would generate an end-of-period balance identical to that obtained using all of the fees expected to be charged by the pension manager. The equivalent asset commission is a percentage Ψ , given by:

$$(2) \quad \left[S_i * \left(1 + \frac{i}{100} \right) * \left(1 - \frac{\Psi}{100} \right) \right] + \left[(F_i + cS) * \left(1 + \frac{i}{100} * \frac{1}{2} \right) * \left(1 - \frac{\Psi}{100} * \frac{1}{2} \right) \right] = S_f$$

Where:

Ψ = is the proportional charge on assets under management that makes the r.h.s. of (2) equal the final asset balance S_f obtained by using equation (1).

B. Charge Ratio

The charge ratio is an indicator of the administrative cost fees charged on individual retirement accounts which has proven to be particularly useful in international cost comparisons. The charge ratio measures the impact that any type of administrative charge can have on the final balance (after 25 or 40 years) of an individual retirement account compared to the hypothetical balance that could be obtained if no administrative fees were charged at all. This measure has been used to compare administrative charges in Latin America and in other countries with privately managed retirement savings accounts.

$$(3) \quad \text{Charge ratio} = \frac{S_f \Big|_{\text{No Commissions}} - S_f \Big|_{\text{With Commissions}}}{S_f \Big|_{\text{No Commissions}}}$$

It is important to note that the equivalent asset commission and the charge ratio generate exactly the same ordering of managers from cheapest to most expensive. This is because both indicators begin by taking into consideration the final asset balance expected to be accumulated in an individual retirement account. The equivalent asset commission then calculates the asset fee that would generate that balance in absence of any other fees. The charge ratio, in contrast, compares the asset balance expected to be accumulated with the balance that would be obtained in a hypothetical no-fee scenario.

Box 3: Synthetic Cost Indicator Italy

Example: Synthetic Cost Indicator (SCI) Italy : to increase the transparency to members and to facilitate the comparison of costs applied by different kinds of pension funds, COVIP set in 2006 a regulation asking for pension funds to calculate a synthetic cost indicator (SCI). This indicator allows to easily display all costs paid by a member (in the accumulation phase) as a percentage of the assets of his/her individual account.

The SCI has to be computed according to a methodology defined by COVIP, common for all different kinds of pension funds. The calculation, which has to be done for all different schemes/investment options offered by a pension fund and for 4 different time horizons (2, 5, 10 and 35 years), is referred to a “representative” member who accumulates assets in his/her account according to the following hypothesis:

- contributions annually paid: 2500 euro (at the beginning of each year);
- assets are annually revaluated by a constant rate of return: $R_T = 4$ per cent;
- charges: all direct (e.g. adhesion charges) and indirect charges (e.g. management fee) paid by the member at joining and during the accumulation phase.

The SCI is computed as follows: $C_T = R_T - R_N$

where:

R_T is the internal rate of return of a cash flow invested in a pension fund that does not apply costs; the rate of return is net of taxation

R_N is the internal rate of return of a cash flow invested in a pension fund that applies costs; the rate of return is net of taxation and of all direct and indirect charges applied to the individual account.

When a premium is paid for a return guarantee or for additional provisions, SCI is computed as follows:

$$C_T = C_A + C_G = (R_T - R_L) + (R_L - R_N)$$

where:

C_A represents charges related to a return guarantee or additional provisions as percentage of his/her individual account' assets

C_G represents charges related to administrative and management costs as percentage of his/her individual account' assets

R_T is the internal rate of return of a cash flow invested in a pension fund that does not apply costs; the rate of return is net of taxation

R_L is the internal rate of return of a cash flow invested in a pension fund; the rate of return is net of taxation and of charges related to the return guarantee or additional provisions

R_N is the internal rate of return of a cash flow invested in a pension fund that applies costs; the rate of return is net of taxation and of all direct and indirect charges applied to the individual account.

SCIs, computed for each kind of pension funds/schemes/investment options and for each kind of scenario (2, 5, 10 and 35 years), have to be displayed on the “Nota informativa” to be made available to members and on the COVIP website <http://www.covip.it/Indicatore.htm>

Box 4: FER Ratio in Hong Kong

The MPF funds are required to disclose the Fund expense ratio (FER), which expresses the expenses of the funds (including fees charged by operators etc) as a percentage of the fund size. FER includes direct expense of the funds (as a % of the net asset value of the fund) and the underlying fund costs (%) (if any). The FER is provided in the Fund Fact Sheet of a scheme and reduced otherwise complex fee disclosure to a single percentage figure .

Annual FER is calculated for all constituent funds and the underlying approved pooled investment funds (“APIFs”). The FER of a fund, or for a particular class of units of a fund, for a financial period should be calculated to two decimal places in the following manner as set out in the Code on Disclosure for MPF Investment Funds:

FER(%) = direct expense (%) + underlying fund costs (%) +/- any adjustments permitted or required by Authority in any individual case

Where, for the purposes of the formula , the following terms have the meanings indicated:

Term	Meanings
Direct expense (%)	The expenses of the fund or class divided by the average NAV of the fund or class expressed as a percentage.
Underlying fund costs (%)	<p>An attributed percentage of fees and charges of each APIF or other collective investment scheme (“CIS”) held by a fund or class calculated by the formula:</p> <p style="text-align: center;">Underlying fund costs (%) = $\Sigma (H \times E)$</p> <p>Where:</p> <p>$\Sigma (H \times E)$ means the summation of the product (H x E) for each APIF and/or CIS held by the fund during the financial period.</p> <p>H = the average percentage of the fund invested in each APIF or other CIS which is obtained by dividing the sum of the holding of the APIF or other CIS (as a percentage of the fund) at each pricing point of the fund by the number of pricing points.</p> <p>E = the latest FER of the corresponding APIF or the latest expense ratio of the corresponding CIS as relevant.</p>
Average NAV	The sum of the NAV of the fund or class at the pricing points divided by the number of pricing points.
Adjusted unit expenses	An amount equal to the value of units deducted from member’s accounts over the financial period, where those units were deducted for payment of any annual fees, or fees or charges that would be counted as expenses of the fund if deducted directly from the fund.
Excluded expenses	<p>An amount that is included as an expense of the fund as set out in the income statement/profit and loss account of the fund for the relevant financial period that relates to:</p> <ul style="list-style-type: none"> (i) transaction costs; (ii) foreign exchange losses; (iii) withholding taxes; (iv) any adjustments made for different basis at ascertaining the NAV of the fund; or (v) distributions made by the fund.
Expenses	<p>In relation to a fund means, the amount of expenses of the fund as set out in the income statement/profit and loss account of the fund for the relevant financial period minus excluded expenses plus any adjusted unit expenses.</p> <p>In relation to a class of units of a fund, means the proportion of expenses of that fund attributable to that class minus excluded expenses attributable to that class plus any adjusted unit expenses attributable to that class.</p>

Latest FER of the APIF	The FER of an APIF, calculated in accordance with this formula for the most recent financial period which ended no later than the last day of the financial period of the fund.
Latest expense ratio of the CIS	The most recently available expense ratio of the CIS (whether calculated in accordance with the formula above or not), or if such a figure is not available, a reasonable estimate of the expense ratio of the CIS.
NAV	In relation to a fund, means the NAV of the fund at a pricing point. In relation to a class of a fund, means the proportion of the NAV of the fund attributable to that class.
Pricing point	Evenly distributed points in time throughout a financial period at which the NAV of a fund or class is calculated. For the purposes of this formula, a fund should have a minimum of one pricing point per calendar month. Trustees are however encouraged to use more frequent pricing points for the purpose of this calculation.

31. In Italy the introduction of the synthetic cost indicator and its publication by the pension supervisory authority (COVIP) has been very useful in providing a standard for cost comparison that is widely used in the Italian specialized press. However, the ability of (potential) members to use this information is clearly still quite limited. This is proven by the fact that the schemes that are quite costly in comparative terms (and are able to remunerate selling networks well) are often able to grow in members much more than schemes that are less costly. This suggests the need to explore methods to further facilitate/ oblige members to make cost comparisons when it is most relevant to them, such as by the mandatory provision of comparison tables when individuals are about to choose their pension provider.

32. The MPFA in Hong Kong note that the FER has been very effective and powerful tool. It reduces complicated information on fees and charges to a single figure that is highly comparative. The media, commentators and MPF members are now very aware of it and it is used almost exclusively as the basis for debate/discussion. Members generally consider it to be an easy way to make judgements about what providers and what funds are the most or least expensive ones.

33. However, Working Paper No. 5 (IOPS 2008b) notes that synthetic cost indicators do not seem to be gaining general consensus. For instance, in Mexico there has been concern that synthetic indicators may be misleading for individuals that do not fit the assumptions made in the calculations: internet-based calculators may then be preferable, as they allow the individual to adjust assumptions.

34. An additional, difficult issue for cost indicators is whether and if so, how, to include transaction costs incurred in purchasing and selling assets. In Hong Kong (see Box 4 above) transaction costs were specifically excluded as an aid to comparability because some types of funds and dealing practices do create explicit transaction costs whereas others (like OTC or dealing through market makers) does not incur explicit transaction costs. Whether or not to incorporate transaction costs would be dependent upon local practices and the impact on comparability.

Validity and Use of Comparisons

35. Practicalities aside, there is debate about whether costs are an informative way of comparing between pension funds. For example, studies from countries including Australia, the USA, Chile and the Netherlands have found that economies of scale exist within pension funds (both in terms of assets under management and number of members), leading larger funds to have lower charges.²⁸ Simply publishing a

²⁸ For examples, the following surveys are referenced in (Bikker, Steenbeck and Torracchi 2010): Pricewaterhouse Cooper (2007) Bateman and Valdes-Prieto (1999), Malhotra et al (2001), Bateman and Mitchell (2004), Sy (2007), Caswell (2976), Mitchell and Andrews (1981), Smalhout and Vittas (2001), Bikker and de Dreu (2009)

comparison of costs across all funds would not capture this effect. It could be argued that, where mobility across funds is limited, providing comparisons between similar types of funds may be more usable – for example comparing the costs of large funds with each other and between smaller funds. Likewise comparing between non-profit and commercial entities may also be more informative (allowing members to distinguish between operating efficiencies in the former, without the noise of marketing costs which are part of the costs of the latter).).

36. There is also the issue of whether higher costs signify a ‘better’ pension fund – either in terms of higher returns being delivered to members, or in terms of quality of service. In terms of whether pension funds charging higher costs deliver better investment returns, studies have not shown this to be the case²⁹ – which again could be used as an argument for showing comparative cost data with supervisory authorities possibly adding an explanation for how higher costs impact individuals pension benefits. A strong argument could be made for publishing compliance on a net returns basis.

37. In terms of service, higher costs may indicate a better service to members (see Section IV below for how such service quality can be measured). Customers can benefit when they can choose among more flexible, customized and varied services – even though these require a more sophisticated and costly administration (Cholon (2000) -referenced in the DNB paper -suggest that customers value service quality and the provision of information more highly than charges). For example, smaller pension funds may deliver a more individual service which justifies their higher charges.³⁰ Turkey used to focus only on charges but considered this misleading as some providers possibly give a better service and are therefore justified in charging more. They are therefore looking at a range of indicators (quality, cost, performance) to try and give a more balanced picture. Similarly, in Hong Kong, the supervisor encourages members to choose providers by looking to a number of indicators, only one of which is the level of fees and charges.

38. However, it is not clear that pension fund members really value these extra services, and may simply be accepting higher charges due to being insensitive to costs. This risk is especially acute in systems where the choice of pension provider may be made by the employer or plan sponsor though the charges are borne by members. They may therefore opt for a ‘Rolls Royce’ service, which members do not necessarily want, need or value (but do not have the engagement, information or knowledge to switch).³¹ Showing quality of service indicators and cost indicators together may therefore be more helpful to pension plan members.

Whitehouse (2000) – counters these findings. Likewise in Chile, though there is some evidence for economies of scale, data indicates that differences in costs observed among different pension fund administrators re explained to a larger degree by their client’s portfolio and services provided – see (Superintendent Pensions Chile 2008)

²⁹ See for example (Gil-Bazo and Pablo Ruiz-Verd 2006) (Bauer and Kicken 2008) (Choi et al 2006) (Bauer et al 2007). Also Cooper review of Australian Superannuation System www.supersystemreview.gov.au

³⁰ As argued in Pricewaterhousecoopers (2007) – see (Bikker, Steenbeck and Torracchi 2010)

³¹ See for example <http://www.smartcompany.com.au/finance/australia-s-best-super-funds.html>

III. Comparative Investment Performance Data

39. Another key piece of information which some pension authorities publish is comparative investment performance data, looking at the returns delivered by pension funds over particular periods. The provision of such information by pension supervisory authorities may be particularly relevant. If investment performance data is published by pension providers themselves it could be manipulated, for example, by cherry picking favourable data.

40. Such comparative investment performance data is published on the websites of the pension supervisory authorities in Latin American countries (such as Chile, Costa Rica, Mexico) and Central and Eastern European countries (e.g. Estonia, Hungary, Macedonia, Poland, Romania) where individual defined contribution style plans are offered by a limited number of providers.

41. Comparative investment performance data is also provided in countries such as Israel, Italy, Kenya, Australia and Spain, which operate different types of pension system. Countries which do not provide such data – such as Ireland and the UK – tend to have many thousands of pension plans and providers, making the data collection and presentation exercise more complicated.

42. Such comparative data can be presented in different ways – either in an ordinal fashion (ranking from highest return to lowest) or by groups (such as quartiles, quintiles or deciles). The ordinal list can be divided into smaller groups with each subgroup shown in some order (such as alphabetical or asset size) which is not related to return. Which form of presentation is viewed as most appropriate depends on many factors, including the nature of the pension system (i.e. number of funds to be compared, diversity of fund type etc.) and the attitude of the supervisory authority.

43. There does appear to have been a move in the last few years – i.e. since the IOPS published Working Paper No. 5 in 2008 – for supervisors to provide comparative information on returns. For example, Turkey previously only produced comparisons based on costs and are now using returns as well, whilst Mexico have shifted the choice of default fund in their system from a cost to a net return measure.

Return Calculations

44. Performance data can be calculated and presented in different ways. As discussed in an OECD paper (Tapia 2008), personal pension plans in Latin American and Central and Eastern European countries have a detailed regulation defining the methodology for calculating returns. This regulation is usually established by the supervision authority, either as the official calculation or as a control, verifying the asset managers' calculations. However, the definition of and criteria for calculating and reporting total investment return among Western Europe, North America and Asia-Pacific countries is stated in the investment policy established by the asset manager– making comparisons more challenging.

Box 5: Return Calculations

The OECD report (Tapia 2008) explains how, in order to calculate the investment rate of return all **Latin American** countries divided pension funds into shares or quotas of equal value and characteristics. Each quota is a unit of measurement defined by the asset manager. The price of the quota is obtained as the ratio between the net wealth (assets minus liabilities) of the pension fund divided by the total number of quotas. The values of the quota increase or decrease according to changes in the investment return of the pension funds.

Poland also calculates the rate of return according to the variation in the weighted average value of the accounting unit during a specified period. The accounting unit value refers to the fund assets divided by the number of accounting units. Its value increases and decreases in response to the yield of the pension fund investments.

Hungary calculates the annual rate of return in two stages. Returns are first calculated for each quarter and then compounded over the fourth quarter for which the return is required. Quarterly returns measure the change in the market value of assets, netting out the impact of benefits and contributions, divided by the initial market value of assets plus the net value of the net inflows.

Estonia, on the other hand, calculates the investment rate of return according to the variation in the net asset value (NAV) of the fund. The management company determines the internal procedural rules for determining the net asset value of a pension fund.

The OECD report uses a number of ways of calculating investment returns.

In **Canada and the Netherlands** performance is measured using the Return on Investment (ROI) ration (to calculate ROI the investment income and the net sale of securities is divided by the market value of assets during the previous period). Net on sales of securities is calculated as net profit on a sale of securities minus net loss on sale of securities.

Returns in the **United States** are calculated as the change in assets, netting out the impact of benefit payment from the plan and contribution to the plan, to initial assets plus half of net inflows.

The **United Kingdom** employs the time weighted rate of return (TWR) as the base performance statistic. This return takes into account investment income as well as realised and unrealised capital profits and losses.

Hong Kong in its reports, the supervisor MPFA uses the internal rate of return (IRR), known as dollar weighted return (DWR), to calculate the annualized rate of return. Thus, the annualized rate of return for each year is the discount rate that equates the net present value of all the net monthly contributions made to the pension system within the one year period to the net present value of the accrued benefits at the end of the year period.

In **Australia**, APRA uses a Rate of Return (ROR) measure. The ROR represents the net earnings of superannuation assets towards funding members' benefits, primarily for retirement.

ROR is calculated as net earnings after tax divided by the sum of prior period net assets and half of net flows. Net flows are net contribution flows less contributions tax and surcharge plus net insurance proceeds. Net contributions flows is net contributions and net rollovers less total benefit payments. Net insurance proceeds is the net flow of funds from death and disability insurance.

APRA describes ROR as measuring the combined earnings of a superannuation fund's assets across all its products and investment options. The *Superannuation Industry (Supervision) Act 1993* (SIS Act) requires that superannuation trustees in Australia to formulate, and give effect to, an investment strategy that has regard to the whole of the circumstances of the superannuation fund and is in the best interest of its members. APRA states that ROR is a useful measure to assess a superannuation trustee's ability to deliver on the fund's investment strategy for the benefit of all members over time.

45. Performance reporting also differs according to the treatment of fees (for example these are generally not included in Latin America where as some OECD countries report returns net of some costs – such as administration fees.

46. A World Bank publication (Hinz et al 2010) discusses the importance of appropriate measures of performance of pension funds (with the financial and economic crisis of recent years showing the dangers of focusing too narrowly on short-term nominal investment returns). The publication goes on to discuss the importance of measuring investment performance against a benchmark or objective.³² However, as such measurements are not yet implemented by any pension supervisory authorities, such comparisons are beyond the scope and discussion of this paper.

47. How to calculate pension fund returns is a controversial topic, and one of extensive industry and academic debate. The IOPS does not propose any definitive recommendations for its members on this issue, given the diversity of its membership and the leadership of other international organizations on this topic³³ but recognizes that this is a threshold issue that should be addressed before a supervisory authority would consider providing comparative investment performance data.

48. There is also a debate as to whether returns should be shown in real or nominal terms.

Problems with Providing Investment Performance Returns

49. Yet, even if reporting investment returns can be standardized, providing such data is not without controversy. The World Bank publication (Hinz et al 2010), for one, argues that rates of return are a limited indicator for pension fund performance and the reliance on this indicator can be counter-productive (given simple measures of performance such as returns do not give any point of reference and therefore are not informative as to the value added of managers). Some supervisory authorities – for example the MPFA in Hong Kong – do not provide comparative performance statistics as reliance on such historical information can be seen as misleading, or at least, unhelpful. Studies from different countries have shown that previous outperformance by a pension plan is no guide to future returns³⁴ - as indeed pension supervisory authorities in most countries require pension providers to state in their marketing and other communications with members. Therefore, by publishing such comparative data, pension supervisory authorities could be seen sending mixed messages by encouraging individuals to chose providers based on this potentially misleading information. This could also encourage pension plans to act in a short-term way in order to get to the top of the performance list. Providing such comparative data could therefore be argued to at best serve little purpose, and at worst to be actually harmful to the pension system as a whole.³⁵

50. One counter argument – raised, for example, in the UK when the Financial Services Authority was debating the issue of whether to publish performance data for mutual funds³⁶ – is that good performance may not necessarily be a guide to the future, but poor performance can be as it tends to

³² These innovative benchmarks are also discussed in IOPS Working Paper No. 12 (IOPS 2010) and in Module 2 of the IOPS Toolkit for Risk-based Supervision www.iopstoolkit.org

³³ See, for example, the CFA Institute's Global Investment Performance Standards (GIPS) <http://www.gipsstandards.org/>

³⁴ For example see (Bessler et al 2008) (EDHEC (2007)).

³⁵ These concerns were previously raised and discussed in IOPS Working Paper No.5 (IOPS 2008b)

³⁶ See http://www.fsa.gov.uk/pubs/other/pastperf_mutalfunds.pdf
<http://www.pensions-institute.org/reports/mediacomment-ppmf.pdf>

persist. Studies in Hong Kong have produced similar results, as has APRA in Australia (see APRA 2009). Some have suggested that there could therefore be a case for pension supervisory authorities adding a caveat or explanation alongside their performance data, stating that good performance may not continue but underperformance is more likely to do so. Whether such a message is too nuanced to be of assistance to most pension funds members is open to debate and perhaps starts from the wrong premise about how members make investment decisions (i.e. it is unlikely that a members would start from the point of eliminating poor performers in the search for good performer).

Summary Data

51. Alternatively, only summary statistics on average past performance could be published together with other market statistics - as, for example, is the case in Brazil where the supervisory body only publishes aggregate investment performance for the industry as a whole in the annual report that is published in the beginning of the year and in Hong Kong where the supervisory authority does not publish individual fund performance but has issued quarterly Statistical Digests which include performance reports, by fund types³⁷.

52. Likewise, APRA in Australia (which acts as a national statistics agency for the Australian financial sector as well as being the financial sector prudential regulator) provide industry aggregate financial performance for funds with assets over AUD\$50m in their quarterly statistics, and on the whole of the industry in its Annual Superannuation Bulletin.³⁸ Pension funds are legislatively required to provide the data that is used in the statistics publications by way of standardised forms, making it possible for APRA to provide such statistics on a large number and broad range of funds. APRA uses net (of all costs and taxes) rate of return (ROR) as the primary means to define superannuation fund performance. In APRA's current publications, APRA reports ROR by fund type, which for this purpose defines four categories: corporate, public sector, and industry funds, which are sometimes collectively called "not-for-profit" funds; and retail funds.

53. APRA noted that it collects data primarily for prudential purposes, as well as to provide useful data to other government agencies, the reporting industries and the public. The aggregate level data released is designed to serve as a public record of the changes to the pension industry over time.

54. Following public demand for fund level data, APRA concluded, after consultation³⁹ that there would be benefit in producing data on individual fund performance as this would promote transparency and accountability, allow industry observers to conduct more informed analysis and give trustees a greater motivation to report and perform to higher standards. APRA began publishing fund-level data for the 2008 reference period. APRA's fund-level publication will assist superannuation trustees and other interested parties to assess the relative merits of the long-term strategies adopted by each trustee for their funds. Over time, the availability of the whole-of-fund data can be expected to improve public understanding of the superannuation industry and encourage trustees to compete to demonstrate that they can provide superannuation benefits over the long term. APRA continues to look at options for publication of comparative performance measures at the investment option level.

³⁷ See Table III.5.2 of Statistical Digest at this link
http://www.mpfa.org.hk/english/quicklinks/quicklinks_sta/quicklinks_sta_mpf.html

³⁸ Latest available (APRA 2011).

³⁹ (APRA 2008a) (APRA 2009)

Timeframe

55. A further debate relating to performance data is the time frame over which performance should be compared. For example, in some countries only annual data is provided, whilst in others quarterly, monthly or even daily statistics are shown (in the latter cases, pension plans are typically organized in a way similar to mutual funds, with assets composed of listed securities and a market-to-market net asset value, divided into shares that are quoted every day, or at least at the end of the month). Some countries (such as Costa Rica) provide over-lapping returns (such as 36-month moving average returns).⁴⁰

56. As IOPS Working Paper No. 5 (IOPS 2008b) points out, the frequent disclosure of investment results is clearly an element of transparency that is appreciated by pension fund members and supervisors, fostering market discipline and encouraging continuous care in monitoring the investment process. It also stimulates competition, especially through media coverage of the results.

57. However, this continuous attention to results also gives rise to some concern, as choices regarding investment options in pension plans should properly be made using a long term perspective, and excessive attention by members to short-term performance could often lead them to incorrect decisions (i.e. unnecessary - and potentially costly - switching between funds). The level of transparency of information needs to be carefully calibrated. Given supervisory authorities in many countries require pension plans to show past performance over a reasonably long-period (e.g. 5 years under the EU's Market for Financial Instruments implementation Directive (art.27)),⁴¹ they could use similar benchmarks for their own comparative data.⁴² APRA's consultation on providing fund level data (APRA 2009) also favoured five year time horizon, and the fund level data currently (as at 2010) includes a seven year measure given the additional reference periods of data available and the preference for a long-term time horizon.

Risk Indicators

58. Some authorities try to supplement returns data by also supplying a risk indicator, showing how much risk was taken to deliver these returns. Again, performance data alone may be misinterpreted if users do not understand the risk/return implications. Over the long-term it is likely that higher risk investment options will show higher returns, but this necessarily comes at the cost of higher shorter term volatility – not something of which many pension fund members have a good understanding, or appetite for (particularly those close to retirement).

59. Though a laudable aim, again there is much debate as to what measure of risk is appropriate for pension funds. Many possible risks measures are available however some raise complexities in measurement and most are difficult to explain to average scheme members. Technical issues also arise given most measures (such as value-at-risk – VaR) are short-term (daily) measures, whereas pension funds' should operate on the basis of long-term investment horizon (which can be up to 40 years).

60. Even where a reasonably simple measure, such as standard deviation, is used, there can be differences in approach. Chile, Costa Rica and Hong Kong use a standard deviation measure of performance volatility measured over 12, 24 and 36 months respectively.

⁴⁰ The World Bank publication (Hinz et al 2010) notes that returns reported in this manner cannot be worked back into monthly, quarterly or annual rates of return.

⁴¹ (EU 2004)

⁴² The EDHEC survey of performance measurement also outlines some technical downsides to measuring returns too frequently, including imperfections in assumptions and data, which may lead monthly returns, for example, to be more accurate than daily. See EDHEC (2007).

61. In Israel, volatility is measured using a range of indicators,⁴³ including a Sharpe ratio (i.e. return on asset – risk free return/ divided by the standard deviation of the return).⁴⁴ Consider, for example, an investment in the stock market, with a standard deviation of 15% per annum and expected return of 10% where the riskless rate is 5% (the supervisory authority uses Israeli governmental bonds as a R_f). The *Sharpe Ratio* of this investment is $(10\% - 5\%) / 15\% = 0.33$.

62. The Israeli authority also uses Jensen's alpha - i.e. another way to measure excess performance by measuring the return investors get in excess of the expected risk they have given their risk level. In the context of a linear regression the alpha can be measured as:

$$R_i - R_f = \alpha + \beta (R_m - R_f) + \varepsilon$$

63. Where R_i is the return on the portfolio, R_f is the riskless rate, R_m is the return on the market portfolio and ε is the error term in the regression. The β parameter would then be the beta of the portfolio in question, and the α would be the "Jensen Alpha" – the portfolio's excess risk adjusted return. The R_{sq} is the R_{sq} of the regression equation. The calculations used by the Israeli authorities are 5 year alpha calculations based on monthly returns. The results in the comparative tables are published in annual terms.

64. CONSAR in Mexico uses a value at risk or VaR measure for pension funds. As discussed in IOPS Working Paper No.12,⁴⁵ VaR is defined as the maximum loss in a portfolio with a given probability or confidence interval (typically 5%) over a given planning horizon. VaR can provide the fund manager and the supervisor with a summary measure of market risk to which each pension portfolio is exposed. This single number summarizes the portfolio's exposure to market risk as well as the probability of an adverse move. VaR also allows users to measure *incremental risk*, which measures the contribution of each security to total portfolio risk. The issue with VaR is whether it is too short-term a measure to be appropriate for pension funds.

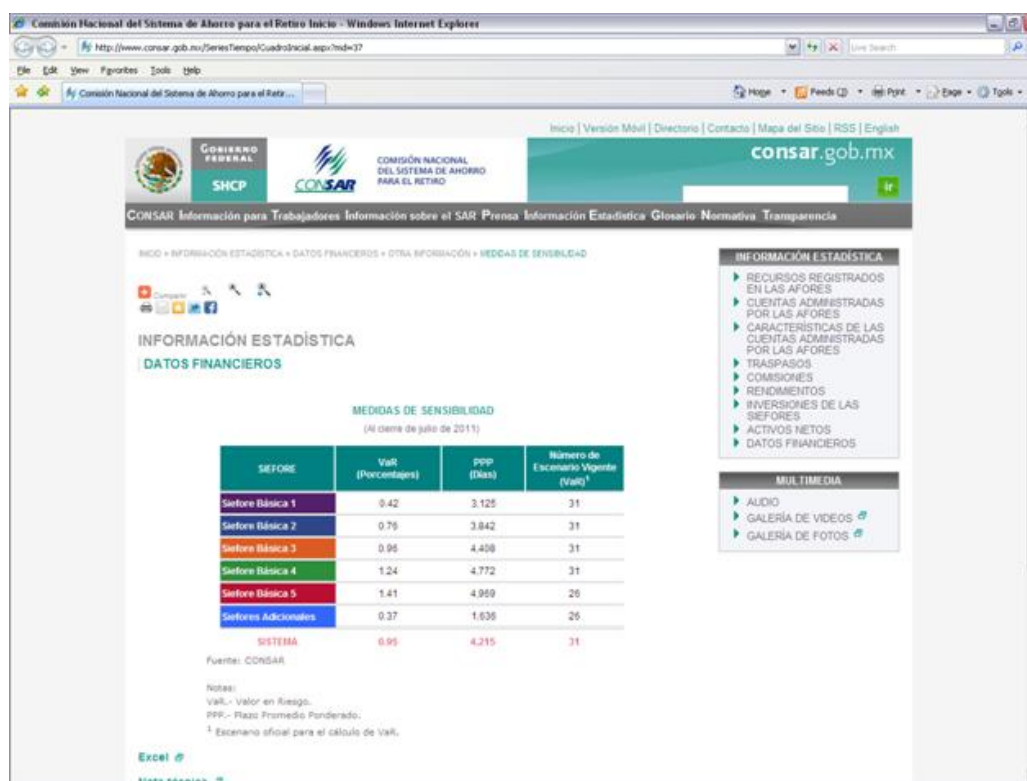
65. CONSAR previously revealed the VaR level for each fund to the public. However, during the financial and economic crisis it was felt that the information would only add to market nervousness and volatility and the publication of these numbers was suspended. Currently the VaR for each type of fund is released, but not for each individual fund (this information is still known by the funds themselves, is reported to CONSAR and used as a supervisory tool).

⁴³ These are based on the work of Prof. Jacob Boudoukh, The Caesarea Center, IDC and NBER Dr. Zvi Wiener, Hebrew University - see (Boudoukh and Wiener 2007)

⁴⁴ The use of the Sharpe ratio for measuring pension funds' performance is discussed in the World Bank publication (Hinz et al 2010). In the publication Walker and Inglesias argue that volatility cannot be considered as a comprehensive measure of risk. For example, Sharpe ratios tend to vary over time and across asset classes, and therefore comparing pension funds which have invested differently may not be appropriate. The chapter also discusses other measures of risk and return – though notes that the data required for such calculations is not usually collected by pension fund regulatory and supervisory authorities.

⁴⁵ (IOPS 2010). The pros and cons of the measure are discussed in Working Paper No.12, whilst a detailed description of the VaR used by CONSAR is available in the Mexico country case study of the IOPS Toolkit on Risk-based Supervision – see www.iopstoolkit.org

Figure 4: VaR Mexico



Source: <http://www.consar.gob.mx/SeriesTiempo/CuadroInicial.aspx?md=37>

66. There is extensive literature on the topic of these performance measures – which is not further discussed in this paper.⁴⁶ There is no consensus on which should be used for pension funds. For example, the APRA consultation on publishing fund level data (APRA 2008a) noted that most submissions were in favour of including a risk measure in comparative data, but there was no general agreement on which measure to use. APRA will consider including an appropriate risk measure in the fund-level publication.

67. It is also open to debate as to whether individuals understand these risk concepts and whether such measures would therefore really be helpful to them. This is certainly an important element of transparency, and can be very useful for those who are more financially literate. However, the majority of members are probably not able to check the volatility indicators and make much use of the data in any meaningful way.

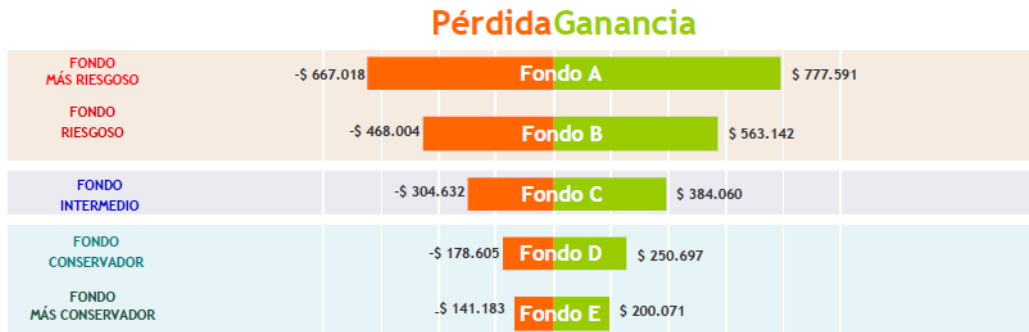
68. As an attempt to make this information more understandable for individual the Chilean Pension Supervisor provides with a comparison of confidence intervals for the different alternative funds by a graph with the expected loss or gain in a month.

⁴⁶ See for example (EDHEC (2007))

Figure 5: Comparison of Confidence Intervals

¿Cuál es el riesgo de cada tipo de Fondo?

Considerando un ahorro acumulado de **\$9.000.000** y la rentabilidad histórica de los Fondos de Pensiones, la ganancia o pérdida **mensual** en cada Fondo podría situarse en los **rangos** que se indican en este gráfico.



Simulación en base a rentabilidades mensuales y desviación estándar de las rentabilidades de los Fondos de Pensiones, para todas las AFP, en el periodo octubre 2002 - septiembre 2011. El rango de pérdidas y ganancias tiene un 95% de probabilidad de ocurrencia.

Source: Chilean Pension Regulator

69. In light of the importance of providing better risk-related information to affiliates, it becomes necessary to develop adequate tools to generate such information. The Chilean Pension Supervisor, in a joint initiative with the OECD, is developing a web-based pension simulator with information regarding not only expected pension but also pension risk, giving information to members on how to mitigate those risks. The pension simulator is based on a risk model that estimates a probability density function for pensions. The model output allows the estimation of multiple pension risk measures, such as confidence intervals and probability of reaching a specific pension, among others.⁴⁷

⁴⁷ For further information see forthcoming OECD report ‘Communicating Pension Risk to DC Plan Members: The Chilean Case of a Pensions Risk Simulator’

IV. Quality of Service Indicators

70. In addition to comparative information on investment performance and charges, some pension supervisory authorities are looking a quality of service indicators to help members select between pension providers.

Chile

71. One example is the ICSA *Service Quality Index for Pension Fund Administrators* used by the Pensions Regulator in Chile.

72. In 2006, the Chilean Pension Supervisor (SP) created the Quality Service Index (ICSA) as a methodology to evaluate the quality of the service provided by each Pension Fund Administrator (AFP) to their members. The objective of this index is to provide pension fund members with a comparative measure between AFPs, for helping them to make decisions related to the AFP to be enrolled. Through the SP webpage AFP members have information available about each AFP, covering three elements: rate of return for investment, administrative cost, and quality of service. The ICSA refers to this last element. This index is calculated and released three times a year since July 2006 by the Chilean Pension Supervisor, using data collected by this institution as part of its supervisory role.

73. The ICSA provides for each AFP a general score and three sub-scores related to areas of service considered as the most important: *Pension Processing*, *Account Management*, and *Relationship with affiliates*. Index calculation started in 2006, including 27 variables and 42 indicators. Currently, the index includes 42 variables and 74 indicators – see Table 2.⁴⁸

- *Pension Processing Area*: the variables included in this area measure the AFPs efficiency and effectiveness in pension processing related to the paperwork carried out by its members and beneficiaries for obtaining pensions. Some examples of these variables are: average time in processing a pension application; penalties to the AFP due to the non-fulfillment of procedures related to this area; and mistaken reports from the AFP related to some members in the process for obtaining disability pension.
- *Accounts Management Area*: the variables included in this area measure the AFPs efficiency and effectiveness in the accounts management and funds investment process. Some of the variables included in this area are: the average time taken to accrue the monthly contribution in individual accounts; management of the declared and no paid monthly contributions; and penalties carried out by the SP to the AFP related to the area of financial and accounts administration.
- *Relationship with Member Area*: the variables included in this area measure the AFPs efficiency and effectiveness in its ability to respond to the needs, requirements and questions of their members or users in general. Some examples of variables included in this area are: the delay in mailing the four-monthly balance statements; availability of the AFPs' web page service; and the number of AFP staff as percentage of total membership.

⁴⁸ The total number of indicators can be found at Resolution N°76 (December 30th, 2010) available at <http://www.spensiones.cl/573/propertyvalue-1815.html>

Table 2: ICSA Indicators

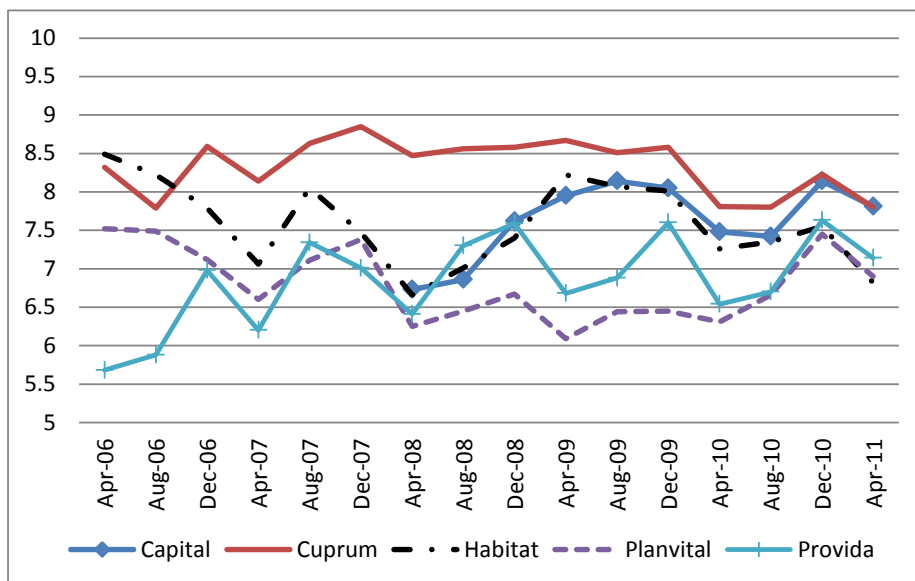
Pension Processing Area	Pension Processing Accounts Management Area	Relationship with Member Area
<ul style="list-style-type: none"> • Average time to process a pension benefit. • Number of pension application pending resolution due to lack of balance account certificate issued by the AFP. • Number of admonitions in issues related to benefits processing. • Number of fines in topics related to benefits processing. • Number of sanctions related to benefits processing area. • Number of disability pension application with incomplete information or delayed. • Number of balance account certificates, used for starting the pension processing, that were rejected due to incorrectness attributed to the AFP. • Average number of days taken for the minimum pension guarantee processing. • Quality of data transmitted by the 	<ul style="list-style-type: none"> • Average number of days taken to transfer contributions to accounts. • Percentage of resources transfer to account in the same month of payment. • Number of channels through which payment can be received. • Average number of months taken to recover the contribution due from employers. • Number of admonitions in issues related to account management. • Number of fines in topics related to account management. • Number of sanctions related to account management area. • Number of complaints from members received by the Superintendence. • Security in the investment process and accounting. • Number of admonitions related to financial issues. 	<ul style="list-style-type: none"> • Number of application received by the AFP to be incorporated at the SCOMP system (for requesting pension offers). • Average score obtained by sell agents in the test carried out in their hiring process. • Number of quarterly statements undelivered. • Percentage of quarterly statements delayed in its delivery. • Number of requests received by the Superintendence through the web page, previously requested to the AFP. • Number of AFP workers in charge of customer service. • Number of times that the automatic monitoring system has detected the AFP's web page was not available. • Quality of the customer services through the call center (number of answered calls and average waiting time).

<p>AFP to the Social Security Institute (public administrator of the pension system's solidarity pillar).</p> <ul style="list-style-type: none"> • Number of reports issued by the AFP with errors regarding the coverage of the survivorship and disability insurance. • Number of solidarity pillar benefits applications received by the AFP. • Number of channels through which pension payment are carried out and number of cashiers available by geographical region. • Number of Solidarity Pension Payment applications rejected due to errors in the information provided by the AFP. 	<ul style="list-style-type: none"> • Number of fines in financial topics. • Number of sanctions related to financial area. • Frequency of measurement of investments' market-risk exposure (daily, weekly or monthly). • Types of measures developed to gauge the market risk exposure of investments (absolute or relative). • Time taken to recover contributions suspected to be a debt from the employer. • Presence of measurement of indicators of liquidity and credit risk of the pension fund investment. 	<ul style="list-style-type: none"> • Number of offices available for customer services. • Number of requests carried out for the Superintendence to the AFP that are delayed in their answers and the average days of delay. • Number of members receiving password to access their individual account information through the AFP's web page. • Quality of the data base sent by the AFP to the Superintendence (average days of delay and number of times the data base was sent with errors). • Number of minutes available for in-person customer services to members.
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Source: SPPensions Regulator Chile

74. Since July 2006, 15 measurements have been released by the Chilean Pension Supervisor. It is important to note that the result in the index, mainly the position given to each AFP, is widely used for the pension fund administrators as advertisement for attracting new members, especially for those occupying the best position among the others in the industry. This shows that the instrument has fulfilled its objective in providing more information to workers in deciding their AFP and introducing a new element of competence in this market.

Figure 6: ICSA General Score

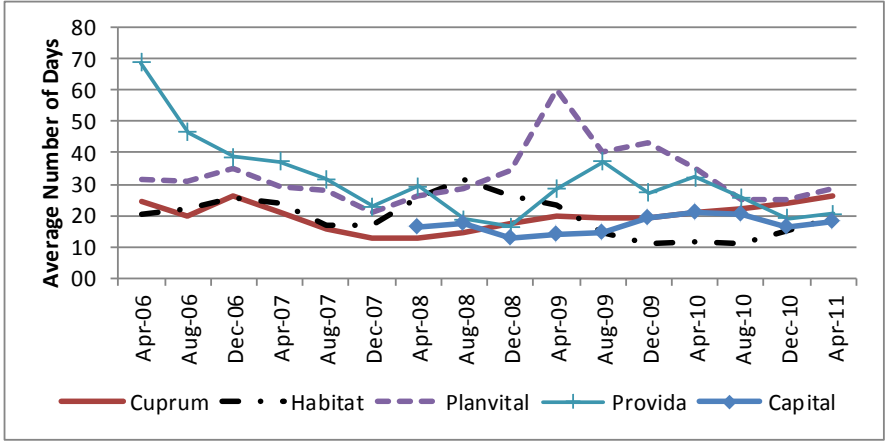


Source: Chilean Pension Regulator

Figures 7, 8 and 9: Examples of Main Indicators

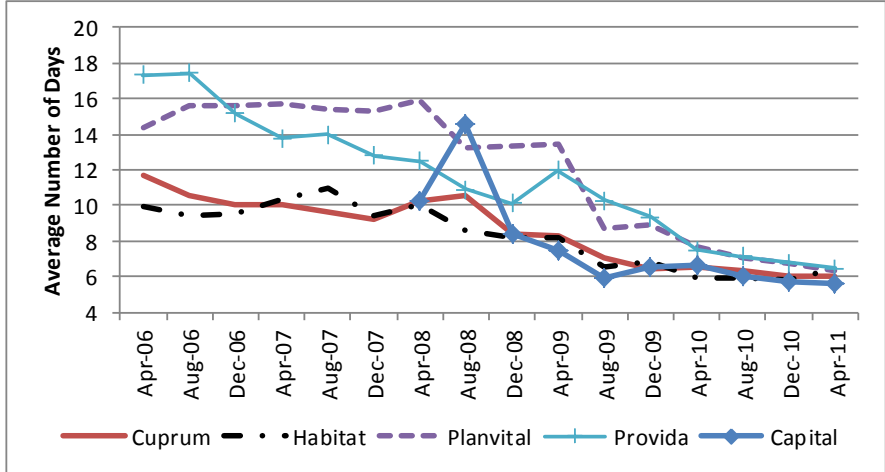
Average Time Processing a Pension Application

(Pension Processing Area)



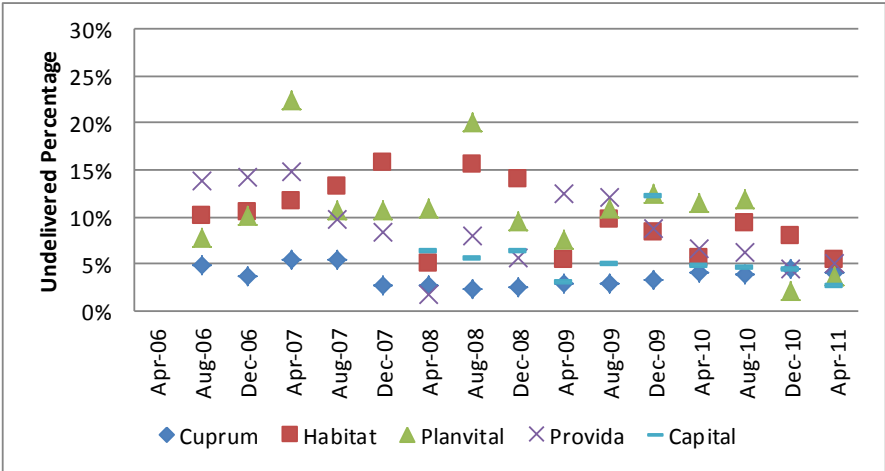
Average Time to Accrue the Monthly Contribution in the Individual Account

(Accounts Management Area)



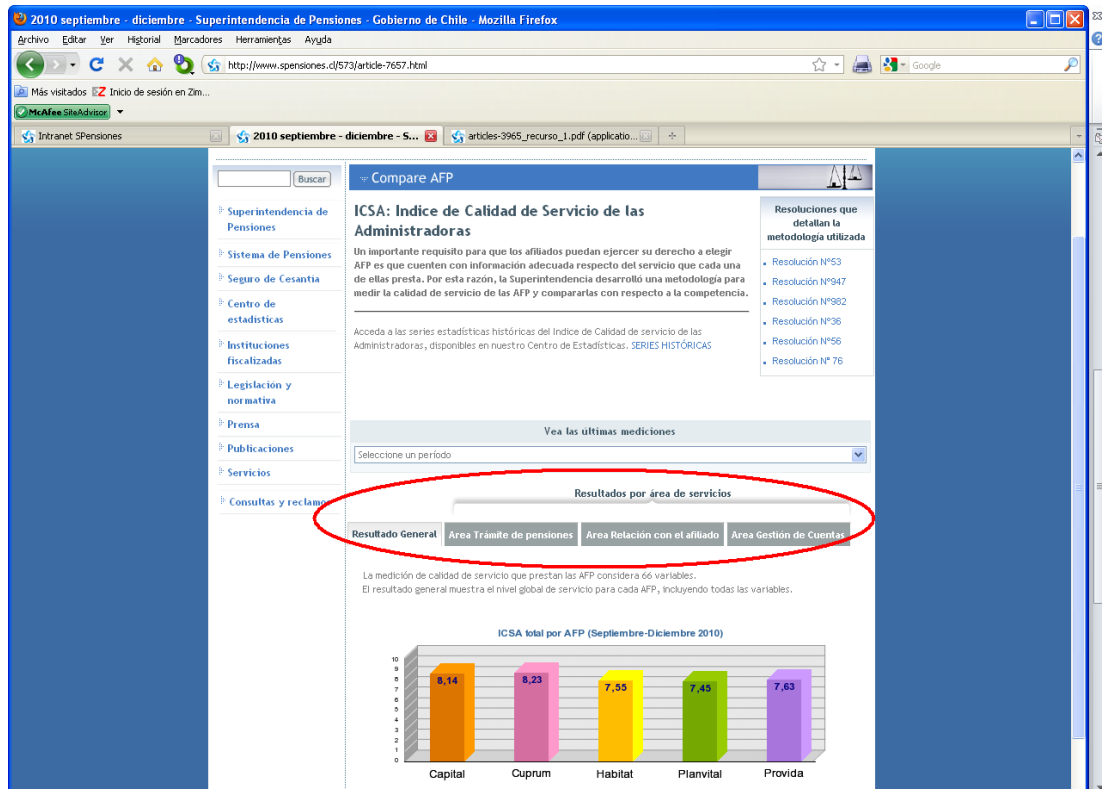
Percentage of Quarterly Statements Undelivered (fail delivery)

(Relationship with Members Area)



Source: Chilean Pension Regulator

Figure 10: ICSA on Supervisor's Website



Source: Superintendence of Pensions Web Page (<http://www.spensiones.cl/573/propertyvalue-1815.html>) Details of how the ICSA scores for the AFP's in Chile are calculated can be found in Annex 3.

Netherlands

75. The supervisory authority in the Netherlands (de Nederlandsche Bank – DNB) does not publish comparative data for pension funds on an individual basis. However, they have carried out studies of costs and quality of service by type of fund (e.g. industry fund vs. company funds, pensions vs. insurance, size of fund etc.). A cross country survey published by the DNB⁴⁹ used the following 12 measures:

Table 3: Dutch Survey’s Composite Service Score

<i>Dimension</i>	<i>Weight (%)</i>
Annuity pension payment	18.9
Pension inception (excluding disability pension)	7.9
Pension benefit estimates	5.0
One-on-one member counseling	7.9
Member presentations (group information sessions)	6.7
Member contacts: calls, emails, letters	21.5
Mass communications	18.5
Service to employers	4.0
Outgoing pension account transfers(refunds, transfers out, payment termination)	0.3
Incoming pension account transfers	3.3
Assessment of disability pensions	5.1
Disaster recovery	1.0

76. To aggregate the 12 variables into a single score 7 criteria were used: feedback from pension fund members (obtained at on-site meetings, symposiums and peer conferences); the relative cost of each activity;⁵⁰ the relative volume of each activity; the expectations of participants based on external experience; the extent of personalized human contact; the extent of participants resource involvement; and whether or not the dimension is related to the core business of the pension fund (i.e. generating and administering pension payments). Expert judgement was used to come up with the final weightings – which are updated each year to incorporate new feedback and past experience. To improve the robustness of the models, the composite score was calculated using two alternative methods – principle component analysis (PCA)⁵¹ and simple arithmetic averages.

⁴⁹ (Bikker, Steenbeck, Torracchi 2010)

⁵⁰ An alternative weighting system was later introduced (principle component analysis and equal weighted) which did not rely on costs.

⁵¹ The paper discusses PCA in further detail. The paper notes that an alternative strategy would have employed each of the original 12 dimensions as explanatory variables in the final analysis, but the consequent reduction in

V. Lessons Learnt

77. Drawing on the experience of IOPS members in providing comparative data, certain good practices can be suggested for the provision of such information.

General

- *Pension supervisory authorities have a role in providing objective, authoritative, standardized, comparative data and as such should, where appropriate and feasible (and particularly for DC systems), consider providing comparative information to allow for comparison between pension fund providers;*
- *the purpose of the comparative data published needs to be clear as the measures for each purpose may well differ;*
- *the type of comparative measures that should be provided would depend on local circumstances, but, where appropriate, should include costs and possibly investment performance and service quality;*
- *supervisory authorities should require pension funds in their jurisdictions to use standardized valuation and investment reporting criteria in order to allow for comparison.*

Costs Data

- *the publication of cost information should include at least up-front costs and management fees;*
- *pension supervisory authorities should consider the use of standardized reporting of costs of pension funds in their jurisdiction in order to facilitate comparison; this may include standardized terminology, standardized presentation and the use of synthetic cost indicators;*
- *not only explicit costs should be considered but also embedded costs (e.g. when a fund invests in a managed product) and contingent (deferred establishment fees, exit fees etc.);*
- *a comparison of fees should also be provided – possibly a synthetic indicator of fees to allow for comparability and including as many costs as possible (investment and operational);*

Investment Returns

- *if investment performance measures are shown, the range of time frames over which performance is compared should be focused on longer term performance;*
- *historical post fee performance is informative;*
- *performance measures should be updated regularly– but not too often or too much ‘volatility’ could be counter-productive;*
- *if comparative fund level data is provided warnings about the use of past performance should be added;*

the number of degrees of freedom available could have had severe implications given the small sample used.

- *where there is investment choice, the provision of comparative data at the option level is more useful than the whole of fund data;*
- *a risk measure (such as a volatility measure) may also be of assistance (particularly when used to select investment options), especially if supported by explanatory and educational material;*
- *at a minimum pension supervisory authorities should provide data on a aggregated basis, providing summary statistics for the pension industry as a whole.*

Service Quality

- *pension supervisory authorities could explore providing comparisons based on other factors – such as quality of service;*
- *appropriate indicators for measuring service quality would include administrative processing times, number of errors and complaints and communication and related services provided to pension plan members.*

REFERENCES

- APRA, (2011), 'Quarterly Superannuation Performance' March 2011
<http://www.apra.gov.au/Statistics/upload/Mar-2011-Quarterly-Superannuation-Performance-PDF.pdf>
- APRA, (2009), 'Response to Submissions: Fund level disclosure from the APRA superannuation statistics collection' August 2009
<http://www.apra.gov.au/Statistics/loader.cfm?csModule=security/getfile&PageID=22565>).
- APRA, (2008a), 'Fund level disclosure from the APRA superannuation statistics collections' Discussion Paper, November 2008 http://www.apra.gov.au/Statistics/upload/APRA_DP_FLD_FINAL.pdf
- APRA, (2008b), 'Response to Review of APRA's Investment Performance Statistics of the Australian Superannuation Industry', September 2008
http://www.apra.gov.au/Statistics/upload/APRA_RRPS_092008_ex.pdf
- Bauer, R., and Kicken, L., (2008), 'The Pension Fund Advantage: Are Canadians Overpaying their Mutual Funds?', Rotman International Journal of Pension Management, Volume 1, Issue 1, Fall 2008,
<http://arno.unimaas.nl/show.cgi?fid=15658>
- Bauer, R. Frehen, R., Lum, H., Otten, R., (2007), 'Pension Funds: Insights into the Agency Cost Debate', Rotman International Centre for Pensions Management
http://www.rotman.utoronto.ca/userfiles/departments/icpm/File/The%20Performance%20of%20US%20Pension%20Funds_New%20Insights%20into%20the%20Agency%20Costs%20Debate_updated%20April%202007.pdf
- Bessler, W., Blake, D., Luckoff, P., Tonks, I., (2008), 'Why does Mutual Fund Performance not Persist?'
http://www.essex.ac.uk/ebs/research/efc/seminar_papers/AFFI_2010_PerfPersManTurnover_full.pdf
- Bikker, J., Steenbeck, O., Torracchi, F., 'The Impact of Scale, Complexity and Service Quality on the Administrative Costs of Pension Funds: A Cross-country Comparison,' DNB Working Paper No. 258, August 2010 http://www.dnb.nl/en/binaries/Working%20paper%20258_tcm47-237716.pdf
- Boudoukh, J., Wiener, Z., (2007), "Risk and Performance Measures for Investment Portfolios of Pension and Provident Funds in Israel" <http://cc.idc.ac.il/Pages/Indexes.aspx>
- CESR (2010), 'CESR's Guidelines on the Methodology for Calculation of the Ongoing Charges Figure in the Key Investor Information Document'
<http://www.cysec.gov.cy/Downloads/Events/EuropeanIssues/CESR%20Guidelines/UCITS%20Guidelines/CESR10-674%20Guidelines%20on%20Methodology%20for%20calculation%20of%20the%20ongoing%20charges%20figure%20in%20the%20KII.pdf>
- CFA Institute, (2011), 'Global Investment Performance Standards (GIPS)'
<http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2010.n5.1>
- Chile 2008: A Second-generation Pension Reform', chapter 3 <http://www.spensiones.cl/573/article-7504.html>

- Chlon-Dominczak, A. (2000), 'Pension reform and public information in Poland', in: *Schmollers Jahrbuch* (Journal of Social Science Studies), 120(3), 489-533
- Choi J. J., Laibson, D., Madrian, B.C., (2006), 'Why does the law of one price fail?: An Experiment on Index Mutual Funds' <http://www.som.yale.edu/faculty/jjc83/fees.pdf>
- EDHEC (2007), 'Performance Measurement for Traditional Investment: Literature Survey' – Section 9 http://www.edhecrist.com/performance_and_style_analysis/perf_measurement/index_html/attachme nts/EDHEC%20Publi%20performance%20measurement%20for%20traditional%20investment.pdf
- European Union, (2004), 'Market for Financial Instruments implementation Directive (art.27)' <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:145:0001:0044:EN:PDF>
- Gil-Bazo, J., and Ruiz-Verd, P., (2006), 'Yet Another Puzzle? The Relation Between Price and Performance in the Mutual Fund Industry' http://69.175.2.130/~finman/Barcelona/Papers/gilbazo_ruizverdu_fundfees.pdf
- Hinz, R., Rudolph, H. P., Antolin, P., Yermo, J., (2010), 'Evaluating the Financial Performance of Pension Funds', World Bank
- IOPS, (2010a), 'Principles of Private Pension Supervision' <http://www.iopsweb.org/dataoecd/59/7/40329249.pdf?contentId=40329250>
- IOPS, (2010b), 'Managing and Supervising Risks in Defined Contribution Pension Plans' Working Paper No.12 <http://www.iopsweb.org/dataoecd/48/1/46126017.pdf>
- IOPS, (2008a), 'Comparison of Costs and Fees in Countries with Private Defined Contribution Pension Systems.' Working Paper No.6 <http://www.iopsweb.org/dataoecd/6/60/41269747.pdf>
- IOPS, (2008b), 'Information for Members of DC Pension Plans: Conceptual Framework and International Trends' Working Paper No.5 <http://www.iopsweb.org/dataoecd/7/16/41269701.pdf>
- International Organisation of Securities Commissions (IOSCO), (1997), 'Principles for the Supervision of Operators of Collective Investment Schemes' <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD69.pdf>
- Joint Forum of Financial Market Regulators, (2004), 'Guidelines for Capital Accumulation Plans' http://www.jointforum.ca/en/init/cap_accumulation/guidelines-eng%20final.pdf
- Martinez, C.; C. Sahm (2005), 'Knowledge and Retirement Savings with Personal Accounts in Chile' <http://www.econ.uchile.cl/uploads/publicacion/83f9b0e5-6fe8-4a02-812c-ed4801ff6f0d.pdf>
- Muller, L.A., Turner, J.A., (2008), 'The Usefulness of Different Formats for Presenting Information About Fees: A Survey of Economics and Business Students', Unpublished Manuscript, quoted in (Turner and Witt 2008)
- OECD, (2011), 'Pension Markets Focus' <http://www.oecd.org/dataoecd/63/61/48438405.pdf>
- OECD, (2008), 'Improving Financial Education and Awareness on Insurance and Private Pensions' http://www.oecd.org/document/8/0,3746,en_2649_15251491_41210376_1_1_1_1,00.html

- Superintendent Pensions Chile, (2008), 'A *Second-generation Pension Reform*', chapter 3
<http://www.spensiones.cl/573/article-7504.html>
- Tapia, W., (2008), "Comparing Aggregate Investment Returns in Privately Managed Pension Funds: An Initial Assessment", *OECD Working Papers on Insurance and Private Pensions*, No. 21
<http://www.oecd.org/dataoecd/39/5/41408063.pdf>
- Tapia, W. and J. Yermo (2008), "Fees in Individual Account Pension Systems: A Cross-Country Comparison", *OECD Working Papers on Insurance and Private Pensions*, No. 27, OECD publishing, <http://www.oecd.org/dataoecd/55/15/41488510.pdf>
- Turner, J.A., (2003), 'Errors Workers Make in Managing 401(k) Investments', *Benefits Quarterly* 19(4) Winter: 75-82
- Turner, J.A., Witte, H.A., (2008), 'Fee Disclosure to Pension Participants: Establishing Minimum Requirements', ICPM Rotman
http://www.rotman.utoronto.ca/userfiles/departments/icpm/File/John%20Turner_Pension%20Fee%20Disclosure_August%202008_FINAL_for%20webposting.pdf
- Turner, J.A., Korczyk, S.M. (2004), 'Pension Participant Knowledge About Plan Fees', *AAPR Data Digest* 105, http://assets.aarp.org/rgcenter/post-import/dd105_fees.pdf
- Universidad de Chile (2004), 'Encuesta —Historia Laboral y de Seguridad Social', Economics Department, Universidad de Chile, Santiago, Chile
- Whitehouse, E. (2001), 'Administrative Charges for Funded Pensions: Comparison and Assessment of 13 Countries' OECD' <http://www.oecd.org/dataoecd/8/20/1816104.pdf>
- Whitehouse, E. (2000), 'Administrative Charges for Funded Pensions: An International Comparison and Assessment' <http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Pensions-DP/0016.pdf>

Annex 1: Comparative Indicators Provided by Pension Fund Supervisory Authorities

Country	Publication of comparative investment performance tables on Supervisory Authority web site	Period of performance shown	Risk Indicator	Table of cost comparison on Supervisory Authority website	Use of Synthetic Cost Indicator
Australia	✓ (APRA)	1,5,7 years		✓ (ASIC)	
Bulgaria	✓	12 months (updated annually), 24 months (updated quarterly)	Volatility – standard deviation	✓ (VPF)	
Brazil				✓	
Chile	✓	12,36,60 months (updated monthly)	Volatility – standard deviation	✓	
Colombia			Volatility	✓	
Costa Rica	✓	Annual + since inception of system	Volatility – standard deviation of average daily return of all funds over a 24 month period	✓	
Estonia	✓ (Estonian Securities Centre) ⁵²	✓		✓	✓ (coming)
Hong Kong			Volatility - standard deviation over 3 years	✓	✓

⁵² **Estonia:** the EFSA website offers comparative tables of the pension funds, however it does not provide specific performance numbers. These performance figures are provided at another website which is managed by the Estonian Securities Center – the central depository of the mandatory pension funds.

Hungary	✓	1 year, 10 year		✓	✓
Ireland				✓ (PPP)	✓
Israel	✓	Quarterly and Annually	Sharpe ratio, Alpha, Beta, rsq	✓	
Italy	✓	1,2,3,5,10 years	Coming	✓	✓
Jamaica	✓				
Kenya				✓	
Korea					✓
Macedonia	✓	Annual (updated quarterly)		✓	
Mexico	✓	Monthly	VAR	✓	
Pakistan	✓	6 monthly		✓	
Poland	✓ (OPP)	36 months (updated biannually)	⁵³		
Romania	✓	24 months (updated monthly)			
Spain	✓	1, 3, 5, 10, 15 Yearly ⁵⁴		✓	

⁵³ **Poland:** At the moment, only the rates of return of pension funds are published, and no quantitative risk indicators are made public on the supervisory website. However, this may change in the future, along the introduction of life-cycle sub-funds with different investment strategies.

⁵⁴ **Spain:** Period of performance shown depends on the age of the pension plan (e.g. for a plan set up two years previously performance data only for the last year is shown, vs. a fund set up 11 year previously, where 3.5,10 year data would be shown). In addition, the performance of the current year (from the

Thailand	✓	1.5 yearly			
Turkey	✓	Daily	⁵⁵ Sharpe ratio, alpha, beta, standart deviation	✓ (coming)	✓ (coming)
UK				✓ (PPP)	✓

beginning of the year to the last closed quarter of this current year) is given. The supervisory authority also provides the accrued yield of the last year until 30/09/2010, the yield of 2009, and the yield of the last three, five, ten and 15 years.

⁵⁵ **Turkey:** information is no longer on the website, but Such analysis is included features in the risk analysis section of the annual progress reports that are published by Pension Monitoring Center. In that analysis the Sharpe ratio is used.

Links to Comparative Websites

Australia

<http://www.apra.gov.au/Statistics/Documents/2010-Superannuation-Fund-Level-Rates-of-Return-PDF.pdf>
[Superannuation & retirement | MoneySmart](#)

Brazil:

<http://www.previdenciasocial.gov.br/conteudoDinamico.php?id=201>)

1) Annual Report (2010) http://www.previdencia.gov.br/arquivos/office/3_110106-132700-929.pdf (table 4 / page 10)

2) Annual Report (2009) version in English:

http://www.previdenciasocial.gov.br/arquivos/office/3_101018-124626-477.pdf (table 4 / page 11)

3) Annual Report (2008) version in English:

http://www.previdenciasocial.gov.br/arquivos/office/3_100325-162551-861.pdf (table 5 / page 14)

Bulgaria:

<http://www.fsc.bg> (statistics section)

<http://www.fsc.bg/Statistics-en-215>

<http://www.fsc.bg/public/upload/files/menu/2010VPFfeestableFIN1511.pdf>

Chile:

<http://www.spensiones.cl/573/article-7589.html>

<http://www.spensiones.cl/safpstats/stats/rentabilidad/getRentab.php?tiprent=FP>

<http://www.spensiones.cl/safpstats/stats/apps/estcom/estcom.php>

http://www.spensiones.cl/safpstats/stats/inf_afiliados/estcom_v.html

http://www.spensiones.cl/safpstats/stats/inf_afiliados/comisiones/getComisAV.php

<http://www.spensiones.cl/573/propertyvalue-1815.html>

Costa Rica:

www.supen.fi.cr (statistics section)

Estonia:

http://www.minuraha.ee/pensionifondide_vordlustabel

Hong Kong:

<http://cplatform.mpfa.org.hk/MPFA/english/index.jsp>

http://www.mpfa.org.hk/english/quicklinks/quicklinks_gfcp/quicklinks_gfcp.html

Hungary:

http://www.pszaf.hu/data/cms2127509/nyphozamok_2000_2009.pdf

http://www.pszaf.hu/data/cms2243499/nyptagok_dijterheles_200_2009.pdf

Israel:

asp.Makdim/UI/Tsuot/il.gov.mof.gemelnet/:http

Italy:

http://www.covip.it/wp-content/uploads/FPN_Rendim_OrdAlb_20101124.pdf

Macedonia:

<http://www.mapas.gov.mk>

<http://www.mapas.gov.mk/default-en.asp?ItemID=2BBA2126649FD646B31462B604654147>

<http://www.mapas.gov.mk/default-en.asp?ItemID=FE69C20CDA02534D828966EA755EC12B>

Mexico:

VAR statistics <http://www.consar.gob.mx/SeriesTiempo/CuadroInicial.aspx?md=37>

Pakistan:

June 30, 2010.

http://www.secp.gov.pk/news/PDF/News_10/PR_Sep6_2010.pdf

December 31, 2010.

http://www.secp.gov.pk/news/PDF/News_11/VPS_For_newspapers.pdf

Poland:

http://www.knf.gov.pl/opracowania/rynek_emerytalny/dane_o_rynku/rynek_ofe/Stopy_zwrotu_OFE/stopy_070411.html

Romania:

Information regarding rate of return for mandatory pension funds: <http://www.csspp.ro/rate-de-rentabilitate/pilonul-2/02-2011>

Information regarding rate of return for voluntary pension funds: <http://www.csspp.ro/rate-de-rentabilitate/pilonul-3>

Spain:

Fees <http://www.dgsfp.meh.es/comisiones/comisiones.aspx>

Returns <http://www.dgsfp.meh.es/rentabilidades/Rentabilidades.aspx>

Thailand:

http://www.aimc.or.th/23_composite.php - NB Association of Investment Management Companies

Turkey:

<http://www.egm.org.tr/bes2010gr.asp>

Annual Report 2010 - http://www.egm.org.tr/bes2010gr/bes2010gr_en.pdf (pg. 70-72)

Annex 2: Details of How Comparative Data is Compiled

Bulgaria	<p>The return and volatility are calculated by the FSC based on the value of one unit which is sent daily to the authority by each pension fund.</p> <p>FSC publish table of cost comparison only for the voluntary pension funds (VPF) due to the fact that the mandatory pension funds collect the same percentage of fees and deductions (the maximum allowed under the law).</p>
Chile	<p>Returns are reported in real terms (annual real return) by fund type, Pension Fund Administrator and for different periods (last month (monthly real returns), the last 12 months, the last 36 months, since the introduction of the multi-funds scheme, and since the beginning of the DC system. Periodicity of the publication: monthly.</p> <p>A monthly report on the evolution of investments and returns by the pension funds is published in the Superintendence web page. The information published included total assets by fund type and Pension Administrator, returns and volatility of the pension funds, and portfolio composition, among others.</p> <p>Costs are reported monthly by Pension Fund Administrator and for different products: mandatory individual account, voluntary contributions, programmed withdrawal, etc.</p>
Colombia	<p>Calculations are made taking into account portfolio returns due to several factors such as: Asset class, type of rate, currency, type of issuer. Information about costs is only disclosed to show each pension provider costs during the period.</p>
Costa Rica	<p>From daily information, the performance is calculated using the “quota value” (valor cuota)”. From here, we get an average “quota value” for the month compare it with the same value twelve months before. Also, there is an historic performance, calculated since the beginning of the system.</p>
Estonia	<p>No specific cost calculations are made, the table holds general fee margins in percentages as published in the pension fund’s prospectus.</p>
Hong Kong	<p>The MPF funds are required to calculate and disclose the Fund expense ratio (FER), which measures the expenses of the funds as a percentage of the fund size. It is calculated in accordance with the requirements in the Code on Disclosure for MPF Investment Funds. FER mainly includes direct expense of the funds (as a % of the net asset value of the fund) and the underlying fund costs (%) (if any). The FER is provided in the Fund Fact Sheet of a scheme. Fund performance information is also required to be disclosed in the Fund Fact Sheet, which is the periodic rate of return for the fund over the periods of 1, 5, 10 years and since launch</p>
Israel	<p>According to the law the pension providers are allowed to get 6% percent of the monthly payments and 0.5% of the total assets of the members.</p> <p><u>Calculation of daily investment returns of a new pension fund:</u></p> <p>A) The daily gross nominal investment returns of the pension fund (before deduction of management fees) in percentage terms is calculated as follows:</p> $y_d^{bruto} = \left[\frac{N_1 - H_1 + D_1}{N_0 - M_1} - 1 \right] \times 100 \quad (1)$ <p>y_dbruto; The daily gross nominal investment returns as a percentage for the calculation day.</p> <p>N₁; The funds assets reflecting the accumulated balance of active participants as of the calculation day.</p> <p>N₀; The funds assets reflecting the accumulated balance of active participants as of the business day before the calculation day.</p> <p>H₁; The net deposits (after deduction of management fees on deposits) paid in cash to the fund during the calculation day; this includes funds transferred from other pension funds</p>

	<p>during said day.</p> <p>M1; The accumulated funds that are withdrawn or transferred to other funds during the calculation day.</p> <p>D1; The actual management fees deducted during the calculation day. This does not</p>
Kenya	The Regulator requires that all schemes disclose all scheme expenses in the Annual Financial statements.
Macedonia	<p>Comparison of return and fee structure of each Pension Fund is presented on a quarterly base.</p> <p>As a measure of performance the MAPAs and pension companies show annual return (based on the changes of the accounting units) in a three-year period.</p>
Pakistan	The Securities and Exchange Commission of Pakistan provides a comparative statement of pension funds in Pakistan, regarding cost and performance of funds, These comparative statements are published in leading newspapers and are available on the website of SECP. The performance comparison is calculated using index of weighted average investment return of all the funds. The funds are compared according to nature (i.e. Equity funds with equity and debt funds with debt) and according to the type, i.e. Secular and Islamic Funds are compared separately and cost comparison is calculated on the basis of actual costs incurred for the preceding 6 months.
Poland	Biannually, the 36-months rates of return of all open pension funds are officially published, along with minimum rate of return based on internal benchmark (weighted average).
Romania	<p>According to primary law provisions, the Commission publishes monthly on its website:</p> <ul style="list-style-type: none"> - the rate of return for each pension fund (calculated for a period of 24 months); - the average weighted rate of return for all pension funds (calculated for a period of 24 months); - the minimum rate of return for all pension funds (calculated for a period of 24 months).
Spain	<p>The formula to calculate the return and the periodicity of calculation are fixed by the DGSFP.</p> <p>Yield = (pension fund patrimony at the end of the period – pension fund patrimony at the beginning of the period)/ pension fund patrimony at the beginning of the period.</p> <p>The yield has to be calculated for the last year, the previous three years and the previous 5, 10, 15.</p> <p>Fees = they have to be given as a % over the patrimony of the fund.</p>
Turkey	The fund performance is calculated daily based on unit price for a pension mutual fund participation certificate. Cost comparisons will be provided on an equivalent fee.. (with no fees versus with fees)

Annex 3: Calculation of ICSA Scores for APF in Chile

The ICSA is measured every four months each year, being released on April 30th, August 31st and December 31st. The results are informed throughout the Superintendence's website including:

- The score obtained by each AFP in every single variable.
- The score obtained by each AFP in every single area, which is calculated as the average of the variables included in the area.
- General score obtained by each AFP, calculated as the average of the total variables calculated in the informed period.

The ICSA value goes from one to ten, ten being the best result. The methodology for calculating the ICSA is based on the relative performance achievement for the operating AFP in a yearly calendar base. This means that the score obtained by an AFP shows its performance in relation to the others AFP's results. Due to this feature, an AFP may show improvements in its performance, but this may not result in an improvement in the absolute score because all the other AFPs may also be improving their performance in the same variable.

Because of its methodological design, the results can be compared among the different AFP, within a single year. Given the changes experienced by the index in terms of definition and inclusion of variables, the results are not comparative from one year to another.

Variable Standardization Methodology

As mention previously, the ICSA's score for each variable goes from 1 to 10, therefore, it is required that each variable be presented as a standard value, making it necessary to calculate the score for each variable in relation to "reference values".

The two "reference values" considered in the calculation are measured for each ICSA variable and they correspond to: the average score in that variable for every single AFP in the previous year, and the best score achieved in the previous year (whether the highest or the lowest value according to the measured variable). The "reference values" are defined as:

X₁: Reference values "1" for the variable "X" to be standardized. It corresponds to the average of the variable "X", including all the AFP, considering the three consecutive four-month periods measures (previous year). For instance, this reference value for a given year, having 5 AFP, is going to be the average between the 15 numbers observed for that variable during the previous year.

Y₁: Standardized value "1" for variable "X". It takes the value 6 for every single variable. This value was established at the design of the ICSA index, trying to capture a minimum standard performance required for the AFP.

X₂: Reference value "2" for the variable "X" to be standardized. It corresponds to the best performance (the highest or the lowest value according to the measured variable) of the observed value of the variable for all AFPs, in three consecutive four-month periods (previous year).

Y₂: Standardized value "2" for variable "X". It takes the value 10 for every single variable, which is the maximum value for the each variable in the index.

Reference values are calculated and used for one year. When a new variable is included in the measurement, there is no history to calculate “reference value”, X_1 and X_2 for those new variables are established according to the available observations.

Using the calculated “reference value”, the final score for each variable and for every single AFP is expressed in a standard way through the following formula:

$$Y_j = (X_j - X_1) * \frac{(Y_2 - Y_1)}{(X_2 - X_1)} + Y_1$$

Where,

Y_j : final standardized value for AFP “j”.

X_j : non-standardized value for variable “X” for AFP “j” to be standardized.

X_1 : reference value “1” for the variable to be standardized.

Y_1 : X_1 reference standard value.

X_2 : reference value “2” for the variable to be standardized.

Y_2 : X_2 reference standard value.

For better understanding of the methodology the following example is presented for a specific variable for AFP “j”.

Variable: “Average time in processing a pension application”

X_1 : average observed value for all the AFP = 95 days.

X_2 : best observed performance for all the AFP = 65 days.

Y_1 : 6

Y_2 : 10

X_j : 85 days for AFP “j”.

The standardized value or the final score is obtained through the formula previously described:

$$Y_j = (85 - 95) * \frac{(10 - 6)}{(65 - 95)} + 6$$

Then, the final score for AFP “j” in this variable is 7.3.