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2018 UPDATE ON IOPS WORK ON FEES AND CHARGES

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2018 UPDATE ON IOPS WORK ON FEES AND CHARGES

Taejin Han, Dariusz Stańko*

ABSTRACT

The paper reviews fees charged in 88 different pension schemes in 45 selected jurisdictions. It presents the current market average values as well as the legal ceilings. In 14 jurisdictions for which we had sufficient data for both 2014 and 2018, the major tendency is the decrease of average fees as compared to 2014. With regard to legal maximum fees, eight countries lowered them and one increased. Six jurisdictions did not change their legal maxima.

The paper analysed the extent to which various cost and fee elements are covered by fees charged from the pension plan members. We grouped jurisdictions by clusters with identical or very similar items already covered by pension fees.

The responding supervisory authorities do not have knowledge on the quantified impact of cost items outside of the fees already paid. This finding calls for some action by pension supervisors to arrive at a better picture of cost elements that are included and not included in fees charged to the members.

The paper provides charge ratios by clusters indicating the compounded impact of fees and charges on the final value of pension savings. The average values of 40-years charge ratios are estimated at around 18-22% in case of the two most comprehensive clusters where fees incorporate all or most of the reported cost items.

We found no substantial differences in charge ratios due to the number of fee components but there are some differences due to the nature of the scheme. Occupational DC pension schemes and personal plans linked to employment tend to be generally much more cost effective than personal schemes where there is no direct link with employment.

Keywords: fees and charges, pension supervision, consumer protection, private pensions, pension policy

JEL codes: D-18, G-23, G-28, D-02

^{*} International Organisation of Pension Supervisors (IOPS).

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2018 UPDATE ON IOPS WORK ON FEES AND CHARGES¹

Introduction

Fees² and charges³ related to the process of saving for retirement are one of the most important factors affecting the final value of retirement income⁴. Proper information about the level and structure of fees and charges is crucial for effective governance of pension plans⁵. Such information also has a great value to the members of pension schemes, particularly the defined contribution (DC) and hybrid ones where members face investment risks and need to take various decisions important to their retirement saving process⁶.

The goal of this paper is twofold. First, it provides an update of the current situation with regard to the structure, level and types of fees and charges present in the surveyed IOPS jurisdictions. We use the data on fees and charges collected from the IOPS members at the 2017 OECD Global Pension Statistics exercise⁷. Therefore, the paper is a follow-up to the IOPS Working Papers No. 20 (April 2014) and No. 6 (June 2008). Such updated information can be of use for various stakeholders. However, as it has been already stated in the previous edition, a direct comparison of fees and charges across jurisdictions is a difficult task for a number of reasons such as system design, charging methods and the size and maturity of systems (also see IOPS, 2014: 5). In addition, there could be substantial differences in the way various jurisdictions calculate and report fees. Information on fees in jurisdictions may be compiled in distinct

- ⁴ However, throughout the paper we will use the term "fees" to cover both explicit (fees) and implicit (charges) costs of services and expenditures paid by members.
- ⁵ APRA has recently released a Productivity Commission draft report into the competitiveness and efficiency of the Australia superannuation system. The draft report includes a considerable analysis of fees and costs and the way they affect the ultimate outcome to members (see <u>https://www.pc.gov.au/inquiries/current/superannuation/assessment/draft</u>). Its findings on the impact of fees and costs and observed trends are in accord with the conclusions made in our paper and reiterate the importance of the impact of higher fees on members' retirement incomes. The Productivity Commission draft report notes that the total fees as a proportion of member balance have fallen in recent years, which again is corroborated by our paper. The cited report also notes that there is evidence that costs in Australia for particular asset classes are high relative to industry averages.
- ⁶ COVIP of Italy has recently introduced new regulation obliging pension plans to show through standardized graphical schemes how their own costs compare with costs of other pension plans. These graphs have to be shown to potential members at enrolment.
- ⁷ We appreciate the useful comments received from the IOPS Members and the support from the project team members: the OECD, Iceland, Italy, India, Mexico, the Slovak Republic, South Africa, Turkey, Uganda, the World Bank.

¹ This is a slightly updated version of the working document published in Dec 2018. This version contains an revised case of the Czech Republic - c.f. Table 3.

² *Fees*: The costs of services and expenditures paid by members explicitly; could be paid directly from members' contributions, accounts, asset capital or returns on assets.

³ Charges: The costs of services and expenditures paid by members implicitly; i.e. they are hidden or not immediately visible as they are deducted from assets. Charges therefore represent a sort of additional fee that members pay when saving for retirement. In some jurisdictions, these charges are calculated ex-post (Chile, Hong Kong – China, Korea) and disclosed to the members (Hong Kong – China, Korea).

manners, and cost and fee elements that are covered in fees in particular jurisdictions may also vary substantially.

The second goal of the paper is to gain some more understanding of the nature of costs incurred by pension savers in IOPS jurisdictions. To complement the joint work developed by the OECD Working Party on Private Pensions (chapter 3 in OECD, 2018) and IOPS, we made an attempt to learn more about *the total reductions* of members' pension savings, i.e. 1) types of costs/expenditures that are covered by the existing fees⁸ and 2) types of costs/expenditures that are charged in addition to the fees and lower the value of retirement capital.

Owing to differences in the design of pension systems, it is difficult to compare fees and charges across various jurisdictions. Although the paper presents some "clusters" of jurisdictions that share similar fee characteristics, we need to recall the caveat that making conclusions based on international comparisons can be misleading⁹.

The paper is organized as follows. Section 1 presents fees charged in the surveyed IOPS jurisdictions and identifies changes that took place since the publication of the last paper in 2014. Section 2 focuses on the impact of fees and charges on members' pension savings. It reviews to what degree fees paid by pension scheme members cover various cost items and it calculates charge ratios as a measure for the impact of fees and charges, if reported to us by jurisdictions, on the final level of pension savings. Section 3 concludes.

Scope and coverage

The project covers private pension funds including occupational and personal; mandatory and voluntary. The focus is naturally given to DC and hybrid plans.

1. Fees charged in the surveyed IOPS jurisdictions

1.1. Current market average fees and maximum legally allowed fees

Table 1 summarises asset-weighted market averages and maximum legally allowed fees charged in selected jurisdictions. The information is based on 2017 OECD Global Pension Statistics exercise, where more granular data were collected to understand better the fees charged in different type of pension schemes. For some other countries the data were collected by the IOPS Secretariat on an ad-hoc basis. Schemes in each jurisdiction were classified into three different categories: 1) Occupational plans¹⁰, 2)

⁸ If costs/expenditures are paid from the assets of scheme members, they are considered to be covered by the fees charged to the members.

⁹ One of the methods the APRA uses to support its comparison of fees and costs in an environment where pension funds have widely different methods of charging is to require reporting on a "representative member" basis. This involves funds reporting fees, costs, tax expenses and insurance costs on a hypothetical member basis where a set of assumptions are stipulated such as a fixed account balance and no other transactions during the reporting period. Reporting on a representative member basis supplements broader reporting and disclosure of fees and costs by funds and is a significant aid to fund comparison. This can therefore be an example of an alternative method for comparing fees and costs, which can supplement blunter measures such as aggregate reporting of fees and costs. A similar method to favour cost comparison is used by COVIP in Italy.

¹⁰ Occupational pension plans: "Access to such plans is linked to an employment or professional relationship between the plan members and the entity that establishes the plan (the plan sponsor). Occupational plans may be established by employers or groups thereof (e.g. industry associations) and labour or professional associations, jointly or separately. The plan may be administered directly by the plan sponsor or by an

Personal plans¹¹ to which access can be linked to employment or professional activity, referred to hereafter as Personal plans L^{12} , and 3) Personal plans to which access is not linked to employment or professional activity, hereafter referred to as Personal plans NL¹³.

Similar to results presented in the previous IOPS Working Paper No. 20 (April 2014), the data reveal the variety of types and levels of fees in the analysed jurisdictions. However, most commonly, fees are charged on assets. Amongst 88 different pension schemes in 45 selected jurisdictions (41 belonging to IOPS¹⁴), the majority - 80 schemes (91%) in 42 jurisdictions - imposed fees on assets. Other types of fees included charges on contributions¹⁵ (23 jurisdictions, 49% of analysed schemes), returns (performances fees) (11 jurisdictions, 25% schemes), and salaries (7 jurisdictions, 9% of schemes). In addition, some pension schemes imposed less common charges such as a transfer fee, redemption fee, entry fee, switching fee or exit fee that are mostly expressed in fixed terms.

Thirty-five pension schemes (i.e. 40% of the sample) charged fees on one component only; either on contributions, salaries, assets or returns¹⁶. On the other hand, 39 schemes (45%) applied fees charged on two different components, and 12 schemes (14%) levied fees on three components. One pension scheme reported imposing fees on all four components (assets, contributions, returns, salaries). For occupational plans in Iceland, the number of fees can vary from fund to fund, which makes it hard to classify them in any of these groups. Of course, one needs to be careful when analysing these results because the number of components on which fees are charged does not necessarily correlate with cost-effectiveness. Such effectiveness is rather related to different characteristics (such as the level of market competition, transparency, maturity of capital market, degree of regulation) and the nature and purpose of each pension scheme.

One can also observe that 28 jurisdictions (62%) introduced legal caps on fees. In most cases, the average fees do not equal the legal cap, which can be explained as a positive effect of market competition. However, the difference between the cap and the actual level may be insignificant. To verify whether this might be the case for our data, we analysed a sub-sample where both the information on average fees and legal caps is available and comparable. We found out that the average fees were lower than the legal caps by at least 10% in 60%, (i.e. 25 out of 42) of schemes. This suggests that in 40% of the cases, pension providers tended to cling to the legal maximum values stipulated by governments.

independent entity (a pension fund or a financial institution acting as pension provider). In the latter case, the plan sponsor may still have oversight responsibilities over the operation of the plan." (OECD definition)

- ¹¹ Personal pension plans: "Access to these plans does not have to be linked to an employment relationship. The plans are established and administered directly by pension fund or a financial institution acting as pension provider without any intervention of employers. Individuals independently purchase and select material aspects of the arrangements. The employer may nonetheless make contributions to personal pension plans. Some personal plans may have restricted membership." (OECD definition)
- ¹² Personal pension plans, to which access can be linked to employment or professional activity: "Access to these plans is linked to employment or professional activity or there is at least one option that allows accessing to these plans through employment or professional activity. Such plans include mandatory individual account systems, plans for which the access can be provided by the employer without the employer establishing the plan, and plans established for the self-employed for instance." (OECD definition)
- ¹³ Personal pension plans, to which access is not linked to employment or professional activity: "Access to these plans is not and cannot be linked to employment or professional activity. Individuals independently enrol themselves to these plans with no involvement of their employers in this process." (OECD definition)
- ¹⁴ Latvia, Slovenia, Sweden, Uruguay are four non-IOPS members included in this analysis.
- ¹⁵ The UK Pension Regulator defines *contribution charge* as "a deduction made from a member's contribution prior to investment. It may be flat rate or a percentage of the contribution" (The Trustee Toolkit).
- ¹⁶ For simplicity, we do not take here into consideration "other fees" when calculating these numbers.



Table 1. Fees charged by pension funds in selected jurisdictions (as of 2016 or 2017)¹⁷

			Co	ontribu	tions		Sala	ies		Assets			Return	ıs		Others	5	
Jurisdiction	Type of fund	ls	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Notes
Albania ¹⁾	Occupational DC pl	lans							Y ²⁾	3%	2.1%				Y ³⁾	0.5% / 2%-20%	0.5% / 2%-20%	Other: switching fee withdrawal fee
Albaina	Personal plans L ¹⁸								Y ²⁾	3%	2.1%				Y ³⁾	0.5% / 2%-20%	0.5% / 2%-20%	Otter. switching ice, winkirawai ice
Armenia	Personal plans NL ¹⁹	9							Y	1.5%					Y	1%		Other: redemption fee
A1 :4)	Occupational DC pl	lans							Y		0.59%				Y		0.02%	Od f
Australia	Personal plans								Y		1.31%				Y		0.01%	Other: lees paid by employer sponsor
	Occupational DC pl	lans ^{5),6)}	Y	5%					Y			Y			Y			
	Personal plans L ^{6),7)})	Y		1				Y			Y			Y			
	Personal plans NL: Fonds d'épargne-per Pensioenspaarfonds	nsion	Y						Y ⁸⁾			Y			Y			Others: exit fee, external audit fee, regulatory fee
Belgium	Personal plans NL: Branche 21 life insu operated by an insur company	irance rance	Y						Y						Y			Others: exit costs
	Personal plans NL: Branche 23 life insu operated by an insur company	irance rance	Y						Y			Y ⁹⁾			Y			Others: exit costs
Brazil	Occupational plans DB and hybrid)	(DC,	Y	9%	7%				Y	1%	0.34%	Y ¹⁰⁾						
	Occupational DC pl	lans	Y	7%	3.9%							Y	10%	10%	Y	Fixed		Other: entry fee, switching fee, and etc.
D1*-*	U	JPF ¹¹⁾	Y	4.25%12)	4.23%				Y	0.85% ¹²⁾	0.85%							
Bulgaria*	Personal plans L P	PPF^{11}	Y	4.25%12)	4.19%				Y	0.85% ¹²⁾	0.85%							
	Ī	$/PF^{11}$	Y	7%	2.4%							Y	10%	8.9%	Y	Fixed		Other: entry fee, switching fee, and etc.
Chile ¹³⁾	Personal plans L					Y		1.27% 14,15)	Y		0.24% 16)				Y		1.41%	
Colombia	Occupational DC pl	lans				Y	3%17)								Y			Other: fees on changing manager, fees on passive members

¹⁷ Figures for jurisdictions marked in (*) relate to 2017, otherwise to 2016.

¹⁸ Personal plans, to which access can be linked to employment or professional activity.

¹⁹ Personal plans, to which access is not linked to employment or professional activity.

		C	ontribu	tions		Salari	ies		Assets			Return	ıs		Others	5	
Jurisdiction	Type of funds	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Notes
Costa Rica	ROP ¹⁸⁾							Y	0.5% (2020: 0.35%)	0.49%							
	Personal plans – Transformed funds ¹⁹⁾							Y	0.8%		Y	10%		Y			Other: fee for transfers, fee for one-off payment
Czech Republic	Personal plans – Participation funds ²⁰⁾							Y	1 % / 0.4 %		Y	15 % / 10 %		Y			Other: fee for change in the savings strategy, fee for transfers, etc.
Estonia	Second Pillar							Y ²¹⁾						Y			Other: redemption fee up to 0.1% of the net value of a unit (0.05% for conservative funds)
	Third Pillar							Y						Y			Other: redemption fee and unit issue fee
FYR of	Mandatory pension funds	Y	3%	3.0%				Y	0.04% (monthly)	0.43%				Y	Fixed		Othern switching for
Macedonia	Voluntary pension funds	Y	7%	2.62%				Y	0.15% (monthly)	0.86%				Y	Fixed		Other: switching lee
Ghana	Occupational DC plans	Y	5%	NA	Y		ND	Y	$2.5\%^{22}$	2.2%	Y						Other: scheme audit fee
Hong Kong, China*	Mandatory Provident Fund (MPF)	Y	33%	INA				Y Y	2.5% ²² / Note ²³⁾	2.0% 1.56% ²⁴⁾	Y						
Linnacom	Occupational DC plans	Y						Y						Y			
Hungary	Personal plans NL	Y	6%	4.9%				Y	0.8%	0.5%				Y ²⁵⁾	Fixed		
Tesleyd	Occupational plans ²⁶⁾									≈0.2%							Average is approximately calculated based
Iceland	Personal plans ²⁷⁾							Y ²⁸⁾		≈0.5% ²⁸⁾							assets)
India	Personal plans L	Y	PoP ²⁹⁾ : Rs. 25000 / NA ³⁰⁾ eNPS: Rs. 10000 / NA ³⁰⁾	PoP ²⁹⁾ : 0.25% /NA ³⁰⁾ eNPS: 0.1% / NA ³⁰⁾	•			Y	PF Charge: 0.01% ^{32)/} 0.0102% 33) Custodian Charge: 0.0032% NPS Trust Charge: 0.005%	PF Charge: 0.01% ^{32)/} 0.0102% 33) Custodian Charge: 0.0032% NPS Trust Charge: 0.005%				Y	See Note ³⁵⁾	See Note ³⁵⁾	Around 99% of the subscribers are currently with CRA1

	Personal plans	NL		PoP ²⁹⁾ : Rs. 25000 / NA ³¹⁾ eNPS: Rs. 10000 / NA ³¹⁾	PoP ²⁹⁾ : 0.25% /NA ³¹⁾ eNPS: 0.1% / NA ³¹⁾		Y	PF Charge: 0.01% ³²⁾ / 0.0102% ³⁴⁾ Custodian Charge: 0.0032% NPS Trust Charge: 0.005%	PF Charge: 0.01% ³²⁾ / 0.0102% ³⁴⁾ Custodian Charge: 0.0032% NPS Trust Charge: 0.005%			Y	See Note ³⁵⁾	See Note ³⁵⁾	Around 99% of the subscribers are currently with CRA1
	Occupational	plans	Y ³⁶⁾				Y ³⁷⁾					Y			
Ireland	Personal plans (Standard PRS	SA)	Y ³⁶⁾	5%			Y ³⁷⁾	1%				Y			Others: Exit penalties Fee or cost applied to
	Personal plans (Non-Standard	s 1 PRSA)	Y ³⁶⁾				Y ³⁷⁾					Y			policy holder for early exit from policy)
Israel*	DC Plans		Y	6%	2.51%		Y	0.5%	0.25%						
	Occupational	DC plans	Y				Y		0.4%			Y			Fixed per capita administration fee
Italy ³⁸⁾	Open Pension	n funds ³⁹⁾	Y				Y		1.3%			Y			Entry fee
	PIPs. Insuran Personal plar	nce-based ns ⁴⁰⁾	Y				Y		2.2%			Y			Entry fee
Jamaica	Personal plans	sL	Y				Y					Y			Other: transfer fees to other funds or schemes & between unitized funds
Korea	Personal plans	sL					Y		0.45%						
Kosovo	Occupational 1	DC plans	Y		3%		Y		1.5%	Y	20%41)	Y	1% / 2%		Other: exit fee - 1% when member died and assignees withdraw the money - 2% when members get retired and withdraw the money
	Occupational 1	DC plans	Y		NA		Y ⁴²⁾		0.8%						A dministrative expenses and investment
Latvia	Personal plans	sL					Y ⁴²⁾	1.5% - 2% ⁴³⁾	1.4%						management charges (fees on contributions
	Personal plans	NL	Y		NA		Y ⁴²⁾		2.1%						separately not available)
Liechtenstein	Occupational 1	DC plans	Y		1.93%		Y		0.37%			Y		0.21%	
Lithuania	Personal	Second Pillar	Y	0.5%	0.05%		Y	0.65% / 1% ⁴⁴⁾	0.89%			Y	0.05%	0.002%	Other: switching fee
Littleunid	plans NL	Third Pillar	Y		5.02 /0		Y		0.0270			Ν			
Maldives	Occupational	DC plans					Y	0.8% (Monthly)							

			C	ontribu	tions		Salar	ies		Assets			Return	S		Others	5	
Jurisdiction	Type of f	funds	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Notes
Mauritius	Occupational D	C plans				Y		0.4%	Y		0.6%							
Mexico	Personal plans I	L							Y		$1.06\%^{45)}$							
	Occupational D	C plans				Y			Y			Y			Y			
Namibia	Personal plans I	Ĺ	Y						Y			Y						
	Personal plans N	NL	Y						Y			Y						
Nigeria	Occupational D	C plans	Y	N100	N100				Y	3%	2.25%							N100 is a monthly fee
	Occupational	(a) Salary				Y		1.58%										
	DC plans ⁴⁷⁾	(b) Mixed				Y		0.63%	Y		1.23%							
		Fund 0							Y		0.80%							
	Personal plans	Fund 1							Y		1.17%							
D 46)*	$L^{48)}$	Fund 2							Y		1.74%							
Peru		Fund 3							Y		2.03%							
		Fund 0							Y		0.80%							
	Personal plans	Fund 1							Y		1.17%							
	NL	Fund 2							Y		1.74%							
		Fund 3							Y		2.03%							
	Occupational D	C plans							Y	0.6%								
Poland*	Personal plans I	L	Y	1.75%	1.55%				Y	0.54%	0.48%	Y	0.06%	0.031%				Fees on return is charged on net assets
	Personal plans I	NL	Y						Y									
	Occupational D	C plans							Y ⁴⁹⁾		0.3%				Y			Other: transfer fees, fees on the
Portugal	Personal plans N	NL							Y ⁴⁹⁾		1%				Y ⁵⁰⁾			issuance and redemption of participation units, etc.
D · *	Mandatory Pers	sonal plans	Y	2.5%	2.5%				Y	0.6%	0.6%				Y			Other: transfer penalties for transfers under 2
Romania	Voluntary Perso	onal plans	Y	5.0%	2.78%				Y	2.4%	1.85%				Y			years of membership
	Mandatory DC											Y	15% ⁵¹⁾					
Federation	Voluntary Pensi Component	ion	Y ⁵²⁾	3%								Y	15% ⁵¹⁾					
Serbia*	Occupational D	C plans	Y	3% ⁵³⁾	1.95%				Y	2% ⁵⁴⁾	1.95%							
	Second Pillar	•	Y	1.25% 55)	1.25% 55)				Y	0.3% ⁵⁶⁾	0.3%	Y	10% ⁵⁷⁾	7.22%	Y ⁵⁸⁾			
Slovak Republic	Third Pillar								Y	0.8% / 1.6% ⁵⁹⁾	1.44%	Y	10% ⁵⁷⁾	1.14%	Y ^{58,6} 0)		0.001% / 1.113%	0.001% : switching fee, 1.113% : termination settlement fee
Slovenia (SMA)	Occupational D	C plans							Y						Y			
Slovenia (ISA)	Personal plans I	L							Y	1%	0.98%				Y ⁶¹⁾	3%/1%/ €15 per switch	0.4% / 0.1% / ND	Others: entry fee / exit fee / switching fee

		C	ontribu	tions		Salar	ies		Assets			Return	IS		Others	5	
Jurisdiction	Type of funds	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Y/N	Legal cap	Avg.	Notes
<u>Gradin</u>	Occupational DC plans							Y ⁶²⁾	$\frac{1.5\%^{63)}}{0.25\%^{64)}}$	0.18% / 0.03%							
Spain	Personal plans NL							Y ⁶²⁾	$\frac{1.5\%^{63)}}{0.25\%^{64)}}$	1.11% / 0.14%							
Suriname	Occupational DC plans	Y		10%													
Sweden	Premium pension							Y ⁶⁵⁾	0.89% / 0.62% / 0.42%								
	Personal plans L	Y ⁶⁶⁾		0.24%				Y	0.365%/					Y ⁶⁶⁾		0.48%	Others: Entrance fees paid at entrance /
Turkey	Personal plans NL	Y ⁶⁶⁾		1.2%				Y	1.09% / 1.91% / 2.28% ⁶⁷⁾	1.64%				Y ⁶⁶⁾		0.06%	Entrance fee paid at termination / Additional Administrative Expenses Fees in case of Contribution holidays
United Kingdom	Default funds							Y	0.75%								
Uruguay	Personal plans L				Y		1.64%	Y ⁶⁸⁾		0.018%							

Source: 2017 OECD Global Pension Statistics, IOPS Members and desk research.

Note: Figures in (*) are as of 2017 while others are as of 2016.



Notes:

- 1) Personal income tax (15%) is charged on returns (any payment from a pension fund to a unit holder as in cases of early withdrawal and receiving pay out retirement benefits is subject to personal income tax and is calculated on the net asset value to be received by the unit holder).
- 2) Management fee (shall not in any event exceed 3% per annum of the net asset value of the pension fund).
- 3) Others: 0.5% switching fee (calculated on the transferred amount of net assets of the pension plan member who decides to transfer his assets to a new pension fund);

2%-20% withdrawal fee (penalties related to premature withdrawal from pension funds, calculated on the net value of the assets to be withdrawn prematurely, after tax has been deducted and vary based on the number of years the unit holder has been a member of the pension fund).

- 4) These figures represent the system averages, however there are a range of fees and fee structures charged to members in different entities.
- 5) Occupational DC plans: Overall, no costs may be deducted from employee contributions (cap = 0%). No indemnity or loss of profit sharing can be charged to the member or deducted of his vested reserves because of leaving the employer. In DC and cash balance schemes, "the beneficiary has the right, at the time of his discharge, of his retirement or in case of abrogation of the pension commitment, to the part of the contribution which has not been paid by him, which has not been used to cover the death and invalidity risks before retirement and which has not been used to cover the fees limited to 5% of the payments." (article 24§2 of the Law dated 2003.04.28 on supplementary pensions, Belgian SLL). The term "fees" is not defined. Since the majority of pension plans in Belgium are of the DB type (in terms of AUM), costs and charges borne by members and beneficiaries are limited compared to those borne by the IORPs themselves. Further, as per the Law on Supplementary Pensions, DC plans are subject to a minimum guaranteed return on employer and employee contribution.
- 6) Occupational DC plans and Personal plans L: Apart from the fees mentioned in 5), pension laws in Belgium do not make a specific reference to particular types of fees or require costs and charges to be broken down and disclosed in a particular way, although "assets" and "returns" fees exist. These are usually disclosed as "administration costs". In practice, IORPs report costs and charges related to transactions/operations in their investment portfolios on an aggregate basis in their annual reporting. Since no distinction is made between the different types of fees, it is not possible to compute an average level of fees for the categories in the table.
- 7) Personal plans L are of two types: for self-employed people and for company leaders. They do not carry a minimum guarantee or a legal cap on contributions.
- 8) Fees on assets include administration fees, management fees, distribution fees and custodian fees.
- 9) In theory, performance fees can be charged; in practice this is not the case for any current products in Belgium.
- 10) Fees on returns are booked as part of "fees on assets".
- 11) UPF: Universal pension funds, PPF: Professional pension funds, VPF: Voluntary pension funds.
- 12) Legal caps were lower in 2017 than 2016 ($4.5\% \rightarrow 4.25\%, 0.9\% \rightarrow 0.85\%$).
- (i) The average fee charged to members on salaries is weighted by the number of contributors to the system in December 2016.

(ii) The fee reported in "Others" corresponds to the fee charged on salaries to employers for providing the disability and survivor insurance.

- (iii) There is no fee charged to members on assets but pension providers deduct directly from pension funds the investment expenses related to indirect investment transactions (such as for mutual funds and other investment vehicles, both domestic and offshore). As of 2016, this cost represented on average 0.24% of assets under management.
- 14) The weighted average fee charged in Chile declined from 1.27% to 1.23% in January 2017 and 1.19% in August 2017.
- 15) Fees charged on salaries (1.27%) is equal to 0.59% when expressed as the percentage of the AUM.
- 16) See note 13 (iii) for the description of 0.24%.
- 17) Legal cap (3%) includes administration fees and the payment of the premium of the death and disability insurance.
- 18) ROP (Régimen Obligatorio de Pensiones) is the mandatory supplementary pension scheme in Costa Rica (DC, Second Pillar).
- 19) Transformed funds: The law specifies the maximum annual management fee at 0.8% value of a fund's assets and 10% of its profit.

- 20) Participation funds: The law specified the maximum annual management fee at 1% of the value of assets and 15% of assets' appreciation. The only exceptions are mandatory conservative funds with an annual management fee at 0.4% of the value assets and 10% of assets' appreciation value.
- 21) There is no cap in force. However, the management fee must decline by 10% each time the assets of pension funds managed by the same management company exceed the next level of EUR 100 m.
- 22) The limit consists of maximum fees charged by Approved Trustees (1.33%), Pension Fund Managers (0.56%), Pension Fund Custodians (0.28%) and the Supervisory Authority (0.33%) for contributions collection, fund administration/investment and supervision.
- 23) For funds under the Default Investment Strategy there is a cap of 0.75% on management fees and 0.20% on recurrent out-of-pocket expenses.
- 24) Refers to the average of the Fund Expense Ratios of MPF constituent funds with their financial year-end dates falling within the period from 1 April 2016 to 31 March 2017, which was published in the MPFA website on 29 December 2017.
- 25) Others: 1) Entry fee. 2) Switching between portfolios of a fund member's individual account (may not exceed 0.1% of the balance available in the accounts involved, and may not be higher than HUF 2 000). 3) Withdrawal of money from personal account (reasonable cost, may not exceed HUF 3 000 plus the cost of transfer).
- 26) In occupational plans, costs can vary depending on the fund.
- 27) In personal plans, 85% of the market is managed by the occupational private pension funds, with similar charges as note 26). Other providers (15%) of personal pension savings charge a fee as a % of assets.
- 28) This market average value relates to few providers of personal pension other than the occupational pension funds (around 15% of the total providers).
- 29) Following numbers are for the Subsequent Contribution charge through Point of Presence (PoP) (Initial Contribution charge through PoP is INR 200).
- 30) Charges for subscribers of Government Sector or NPS Lite and Atal Pension Yojana (APY).
- 31) Charges for NPS Lite and Atal Pension Yojana (APY).
- 32) Fees for subscribers of private sector (i.e. Corporates and All Citizen models).
- 33) Fees for subscribers of Government Sector, NPS-Lite and APY.
- 34) Fees for subscribers of NPS-Lite and APY.
- 35) a. Central Recordkeeping Agency (CRA) account opening charges: CRA1 INR 40 (Private & Government sector)/INR 15 (NPS Lite and APY), CRA2 - INR 39.36 (Private & Government sector)/INR 15 (NPS Lite and APY).
 - b. CRA account maintenance charges: CRA1-INR 95 (Private & Government sector)/INR 25 (NPS Lite and APY), CRA2-INR 57.63 (Private & Government sector)/INR 14.4 (NPS Lite and APY).

c. CRA Transaction charge: CRA1 - INR 3.75 (Private & Government sector)/NA(NPS Lite and APY), CRA2 - INR 3.36 (Private & Government sector)/NA(NPS Lite and APY).

d. PoP Persistency Charge: INR 50 (Private sector)/NA(Government sector & NPS Lite and APY).

- 36) Fees on contributions include an allocation rate and bid-offer spreads. The allocation rate is the percentage of members' contribution that actually is used for purchasing investment units, which is net of any fees that may be incurred upon initial investment and is effectively the amount that is invested. Bid-offer spread is the difference between the price at which units can be purchased and the price at which units can be sold back to the investment manager on any given day in unit-linked investments contracts).
- 37) Include annual management charges (associated with costs of fund management) and policy fees (monthly or annual; levied by a life assurance company to cover administration costs).
- 38) In Italy, fees and charges of pension funds and plans are mostly levied as a percentage of assets. For occupational funds, annual fixed per-capita fees are usually also levied. For personal plans, a small entry fee is sometimes applied. There are cases in which a fee is levied as well on contributions.

However, in order to favour comparison, the regulation issued by COVIP asks pension plans to present information on fees and charges using a synthetic cost indicator called "ISC – Indicatore Sintetico dei Costi". The ISC is calculated on different time horizons (2, 5, 10, 35 years) and translates the total fees and charges levied across time in an equivalent cost expressed as a percentage of assets held at the end of the time horizon (subject to ancillary assumptions on the annual flow of contributions, the return earned on assets, etc.). For these reasons, the average values of ISC are reported as a percentage of assets, referred to a time horizon of 10 years (the time horizon most frequently used in comparisons).

The ISC does not include transaction costs and performance fees. Performance fees are allowed in Italy, but are not frequently applied for pension funds and plans.

- 39) Open Pension funds are personal plans, to which access can be linked to employment or professional activity. They may as well host truly occupational plans.
- 40) PIPs are insurance-based personal plans, to which access is not linked to employment or professional activity.
- 41) 20% of profit above the benchmark.
- 42) Administrative expenses and investment management charges (fees on contributions separately not available).
- 43) From 1 January 2018, the legal cap on assets is 1.05%-1.3%, and from 1 January 2019, the legal cap on assets will be reduced to 0.85%-1.1%.
- 44) 0.65% for bond occupational pension funds, 1% for other occupational pension funds.
- 45) 1.06% is as of 2016. Fees on assets have decreased to 1.03% in 2017 and 1.01% in 2018.
- 46) Average values in the table relate to simple average of all pension managers (AFP) by type of fund: Fund 0 (ultraconservative), Fund 1 (conservative), Fund 2 (balanced) and Fund 3 (risky).
- 47) In Peru's Private Pension System, fees are charged to members on (a) monthly salary, and (b) a mixed scheme, which is charged on two parts: i) monthly salary and ii) assets on an annual basis. For the implementation of the mixed scheme, a 10-year transition period was established, which began in February 2013.
- 48) Related to voluntary pension saving, which are of two types: i) for pension purposes (L) and ii) for non-pension purposes (NL).
- 49) Includes scheme manager fees (remuneration/costs of administration of the pension fund management entity), custodial fees/costs of safekeeping of assets, costs related to portfolio transactions.
- 50) For the specific case of retirement saving schemes in personal plans, transfer fees are subject to a maximum of 0.5% of the transferred amount if there is a capital or return guarantee and cannot be charged otherwise.
- 51) Charged on the earned income minus fees for asset management companies and specialised depositories.
- 52) Pension funds can use this fee for forming insurance reserves. However, the fee must be specified in the pension programme agreement.
- 53) From January 2018, there are no limitations regarding the contribution fee and it is to be set by the fund management company, in accordance with the tariff of fees.
- 54) From January 2018, the management fee is lowered to a maximum of 1.25% of the fund net asset value.
- 55) 1.25% = 0.25% + 1.0%;
 - 0.25% is a tax deducted by SIA (the Social Insurance Agency) provided by the law;

- 1.0% is the fee for maintaining a personal pension account and equates to maximum 1% of the individual saver's monthly contribution.

- 56) The management fee must not exceed 0.3% of the average annual net asset value of the pension fund (0.25% monthly).
- 57) The performance (Success) fee is calculated every day, and the maximum is 10% of the yield.
- 58) Others: taxes payable on the assets of a pension fund, depository fee, fees charged by an entity providing settlement of securities transactions, fees for current accounts and deposit accounts, fees charged by an auditor for auditing, fees charged by a central securities depository.
- 59) 0.8% for pay-out supplementary pension fund, 1.6% for contributory supplementary pension fund.

From 1 January 2017, a legal cap on assets is 0.75% for pay-out supplementary pension fund and 1.5% for contributory supplementary pension fund. From 1st January 2019, a legal cap on assets will be reduced to 0.65% - 1.3%. Fee reductions were triggered by regulatory legislative changes in 2013.

- 60) Switching fee and termination settlement fee are paid from a client's individual account. The switching fee is maximum 5% of the member's account balance in first year after concluding a contract / more than 1 year is free of charge. The termination settlement fee is maximum 20% of the member's account balance only for the old contracts (before 1 Jan 2013). Switching fee and termination settlement fee are only for Third Pillar.
- 61) Entry fee 3% of contributions/exit fee 1% of assets/switching fee EUR 15.
- 62) Managing entity fee/Custodian fee.
- 63) In 2018, the limit on managing entity fee has been modified, introducing three types of limits depending on the type of investment:

- A cap of 0.85% is applied for fixed-income funds, which means a decrease of 65 basic points compared to the previous limit (1.50%);

- A cap of 1.30% for mixed funds, 20 basis points less;
- And 1.50% for equity funds (the same limit as the previous one).
- 64) In 2018, the limit on custodian fees has been reduced as well from 0.25% to 0.20%
- 65) Equity funds/Mixed funds/Fixed income funds.
- 66) Fees apply for the first five years of the contract. Only one joint cap is applied for total of entrance fees (paid at entrance and paid at termination), administrative expenses fees and additional administrative expenses fee in the case of contribution holiday for each year: 8.5% of monthly minimum gross wage (TRY 140 for 2016).
- 67) Annual total fund management fee ratio a) State contribution funds: 0.365%. b) Money market funds, Precious metal funds: 1.09%. c) Government bonds and bills funds, Standard funds, Index funds: 1.91%. d) Stock funds, Participation funds, Composite funds, Fund basket funds, Variable funds, Life Cycle/Target funds: 2.28%.
- 68) Fees on assets are charged for custody of financial instruments and therefore derive no profit for the fund manager.



1.2. Summary of changes since the 2014 exercise

The previous paper (IOPS Working Papers No. 20, 2014) analysed fees charged by pension funds in 37 jurisdictions. Among these jurisdictions, we received sufficient information from 23 respondents to compare the changes that took place in these jurisdictions since 2014.

This year's exercise collected data that are more granular. For this reason, it is not easy to compare directly some results with the previous report. Nonetheless, some high-level comparison was performed. ("Other fees" were not analysed due to their heterogeneity.)

Table 2 provides a summary of fees charged in 2018 compared to 2014. All 22 jurisdictions that participated in both the 2014 and 2018 exercises maintained their ways of charging fees. We analysed various pension schemes from 15 jurisdictions for which we had sufficient data for both 2014 and 2018²⁰.

The major tendency is the decrease of average fees since 2014. In some jurisdictions, the fees changed in different directions. There were only four clear-cut cases where the average fee increased. These are: Hungarian personal plans NL (fees charged on contributions increased from 4.7% to 4.9% and fees on assets increased from 0.47% to 0.5%), Italian plans (fees on assets increased by 0.1% for occupational and "open" pension plans, while they increased by 0.3% for insurance-based personal plans, Polish personal plans type L (fees charged on assets increased from 0.46% to 0.51%²¹) and Romanian voluntary personal plans (fees charged on assets increased from 1.79% to 1.85%). With regard to legal maximum fees, eight countries (Bulgaria, Costa Rica, the Former Yugoslav Republic of Macedonia, Lithuania, Poland, Slovak Republic, Spain, and the United Kingdom) lowered their fee ceilings, whereas one (Columbia) increased them. Six jurisdictions (Albania, Ghana, Hungary, Israel, Romania, and Serbia) did not change them. Seven other jurisdictions either reported no legal caps or it was difficult to compare the changes due to different level of details available for 2014 and 2018.

Country	Type of fur	da	Stu	dy from 2018		Stud	y from 2014	
Country	Type of full	us	Based on	Legal cap	Average	Based on	Legal cap	Average
Albania	Occupational DC Personal plans L ²⁴	plans	Assets	3%	2.1%	Assets	3%	2.4%
		UPF&	Contributions	4.5%	4.23%/4.19%1)	Contributions	5%	4.97%
Bulgaria	Personal plans I	PPF	Assets	0.85%	0.85%	Assets	1%	1%
Dulgaria	i cisonai pians L	VDE	Contributions	7%	2.4%	Contributions	7%	2.75%
			Returns	10%	8.9%	Returns	10%	9.43%
Chile ²⁾	Personal plans L		Salaries	-	1.27%	Salaries	-	1.42%
Colombia	Occupational DC	plans	Salaries	3%	-	Salaries	1.31%	-
Costa Rica	ROP		Assets	0.5%	0.49%	Assets	1.1%	-
	Transformed funds		Assets	0.8%	-	Assets	0.6%	0.6%
Czech	Transformed funds		Returns	10%	-	Returns	15%	15%
Republic	Dortigination funds		Assets	1.0% / 0.4% ³⁾	-	Assets	0.6%	0.6%
Participation funds		Returns	15% / 10% ³⁾	-	Returns	15%	15%	
FYR of	Mandatory pensio	n funds	Contributions	3%	3%	Contributions	4%	4%

Table 2. Fees charged by pension funds in 2018 exercise²² as compared to 2014 exercise²³

²⁰ Even though Italy did not participate in the 2014 data collection, we included it in this analysis based on the 2014 data which COVIP provided during the 2018 exercise.

²¹ Out of which 0.031% is the average fee on returns, charged on assets.

²² The numbers are based on data from 2016 or 2017, depending on jurisdiction.

²³ The numbers are based on data from 2010, 2011, 2012 or 2013, depending on jurisdiction.

²⁴ Personal plans, to which access can be linked to employment or professional activity.

Macedonia		Assets	0.48% ⁴⁾	0.43%	Assets	0.54%	0.54%
CI	Occupational DC plans	A	2.5%	2.2%	A	2.5%	
Ghana	Personal plans	Assets	2.5%	2.0%	Assets	2.5%	-
Hong Kong	Mandatory Provident funds	Assets	-	1.56%	Assets	-	1.7%
		Contributions	6%	4.9%	Contributions	6%	4.72%
Hungary	Personal plans NL	Assets	0.8%	0.5%	Assets	0.8%	0.47%
T 1	DCD	Contributions	6%	2.51%	Contributions	6%	3.8%
Israel	DC Plans	Assets	0.5%	0.25%	Assets	0.5%	0.33%
	Occupational DC plans	Assets		0.4%	Assets		0.3%
Te 1-5)	Open Pension funds	Assets		1.3%	Assets		1.2%
Italy	PIPs. Insurance-based Personal plans	Assets		2.2%	Assets		1.9%
Korea	Personal plans L	Assets	-	0.45%	Assets	-	0.70%
	Demonal plana NI	Contributions	0.5%	0.05%	Contributions	2%	1.86%
Lithuania	(Second Pillar)	Assets	0.65% / 1.0% ⁶⁾	0.89%	Assets	0.65% / 1.0% ⁶⁾	0.65% / 0.99% ⁶⁾
Mexico	Personal plans L	Assets	-	1.06%	Assets	-	1.19%
		Contributions	1.75%	1.55%	Contributions	3.5%	3.5%
Poland	Personal plans L	Assets	0.54%	0.48%	. .	0.6%	0.460/
	-	Returns	0.06%7)	0.031% ⁷⁾	Assets	0.6%	0.46%
	Man data na Dana ang lalang	Contributions	2.5%	2.5%	Contributions	2.5%	2.5%
Demenia	Mandatory Personal plans	Assets	0.6%	0.6%	Assets	0.6%	0.6%
Romania	Voluntary Darsonal plans	Contributions	5%	2.78%	Contributions	5%	4.58%
	Voluntary Personal plans	Assets	2.4%	1.85%	Assets	2.4%	1.79%
	Mandatory DC	Returns	15%	-		0.4% (as an	
The Russian	Voluntary Pension	Contributions	3%	-	Assets ⁸⁾	equivalent of	-
rederation	Component	Returns	15%	-		fees)	
a 1.		Contributions	3%	1.95%	Contributions	3%	2.01%
Serbia	Occupational DC plans	Assets	2%	1.95%	Assets	2%	1.99%
		Contributions	1.25%	1.25%	Contributions	1.25%	1.25%
C1 1	Second Pillar	Assets	0.3%	0.3%	Assets	0.3%	0.3%
Slovak		Returns	10%	7.22%	Returns	10%	10%
Republic		Assets	0.8 / 1.6%9)	1.44%	Assets	0.9 / 1.8%9)	0.9 / 1.8%9)
	Inira Pillar	Returns	10%	1.14%	Returns	10%	10%
<u>San in</u>	Occupational DC plans	Assets	1.5% / 0.25% ¹⁰⁾	0.18% / 0.03% ¹⁰⁾	Assets	2%	0.21%
Spain	Personal plans NL	Assets	$\frac{1.5\%}{0.25\%^{10}}$	1.11% / 0.14 ^{%10)}	Assets	2%	1.39%
		Contributions	-	0.24%	Contributions	2%	-
Tur ¹	Personal plans L	Assets	-	1.64%	Assets	1.09% / 2.28% ¹¹⁾	2%
тигкеу		Contributions	-	1.2%	Contributions	2%	-
	Personal plans NL	Assets	-	1.64%	Assets	1.09% / 2.28% ¹¹⁾	2%
United Kingdom	Default funds	Assets	0.75%	-	Assets	1.5%	-

1) 4.23% is an average fee of UPF and 4.19% is an average fee of PPF.

2) There are no fees charged to members on assets but pension providers deduct directly from pension funds the investment expenses related to indirect investment transactions (such as for mutual funds and other investment vehicles, both domestic and offshore). This is not included in this comparison.

3) Exception for mandatory conservative funds.

4) Monthly fee of 0.04%.

5) For data on Italy, see note in table 1.

6) Conservative funds/Other funds except conservative funds.

7) Fee is charged on assets, even if based on rates of return.

8) In 2010, fees were charged on returns for Mandatory DC, and on contributions and returns on Voluntary personal plans as well, but the total value of fees was transferred on as a proportion of assets under management.

9) Pay-out supplementary pension funds/Contributory pension funds

10) Managing entity fee Custodian fee.

11) Liquid funds/Stock funds. The maximum fees on assets of other funds are included in this range.

2. Total reductions of members' pension savings in the surveyed IOPS jurisdictions

2.1. Costs/expenditures that are covered by fees

The aim of this section is to identify which costs and expenditures are explicitly covered by fees and which are not. Items not covered by fees implicitly lower the value of pension contributions and/or assets. Responding pension supervisors were therefore requested to provide, as granularly as possible, the list of costs and expenditures that are covered by fees.

The fee figures reported by different pension systems in Table 1 might not cover all the cost and fee elements paid by pension scheme members, either explicitly or implicitly. The issue here is whether these fees represent all or only part of the cost and fee elements of pension plans. We look at this issue here by analysing to which extent fees charged members cover various cost and fee elements. The direct comparison of fees and charges across jurisdictions may lead to inaccurate conclusions for various reasons. One can be the different coverage of pension fees in each jurisdiction. For this reason, in Table 3 we present jurisdictions by **clusters**, i.e. by groups of countries with identical or very similar items already covered by pension fees as reported in Table 1. We tentatively sorted them in descending order, from Cluster A (being the most comprehensive) to Cluster E (the least comprehensive), of the extent to which the underlying data incorporate the full range of fees, charges and expenses that ultimately affect member benefits.

Cluster A groups nine jurisdictions (12 schemes) with fees covering all or almost all of the following elements: administration fees, investment management fees, custodian fees, investment transaction costs, guarantee fees and others. Cluster B relates to eight jurisdictions (eight schemes) with fees coverage similar to A but without investment transaction costs or custodian fees. Cluster C relates to 10 jurisdictions (10 schemes) with fees coverage similar to A but without investment costs of the underlying funds (i.e. without including the cost of indirect investment). Cluster D groups eight jurisdictions (eight schemes) with coverage similar to C but without custodian fees or investment costs of the primary funds. Some of these jurisdictions include investment transaction costs and guarantees in fees charged to the members. Cluster E covers two jurisdictions (two schemes) where fees, as compared to cluster D, do include custodian fees and investment transaction costs but do not cover administration costs.

The ordering in Table 3 must be somewhat discretionary as it relies on subjective assessment. Due to the diversity of costings in the countries, it seems impossible to design a more 'scientific' approach. We therefore maintained similar approach introduced in the IOPS Working Papers No. 20 (April 2014).

In this way, countries in Cluster A have fees that are the most inclusive of typical (yet not comprehensive) costs related to saving for retirement. One can therefore assume that the charge ratio that will be calculated for these jurisdictions will provide a reasonably accurate reflection of how much the gross assets accumulated by members are being reduced by fees, as well as direct and indirect charges and expenses. On the other hand, countries in Cluster E have the least inclusive fees because administration fees, investment management fees for underlying funds and guarantee costs would not be taken into account when calculating charge ratios for these jurisdictions.

Table 3. What pension plan members pay for in their fees: Cost and fee elements covered in fees reported in Table 1

	Plan/scheme	Inve: managem	stment ent fees for:		Investment		
Jurisdiction	administration fees	Primary funds only	Underlying funds	Custodian fees	transaction costs	Guarantee fees	Cluster
Namibia	•	•	•	●	•	•	
Poland	•	•	•	•	•	•	
Russian Federation	•	•	•	•	•	•	
Czech Republic (Transformed funds)	•	● ¹⁾	● ²⁾	•	•	•	
Czech Republic (Participation funds)	•	•1)	•2)	•	•		
(Fonds d'épargne- pension; Pensioenspaarfonds)	•	•	•	•	•		
Belgium (Branche 21 life insurance operated by an insurance company)	•	•	•		•		А
Belgium (Branche 23 life insurance operated by an insurance company)	•	•	•	•3)	•		
Australia	•	● ⁴⁾	● ⁴⁾	•	•		
Ghana	•	•	•	•	•		
Serbia	•	•	•		•		
Jamaica ⁵⁾	•	•	•		•		
Hong Kong, China	•	•	•	•		•	
Italy	•	•	•		•		
Liechtenstein	•	•	•	٠			
India	•	•	•	٠			
Korea	•	•	•	•			В
Nigeria	•	•	•	•			
Mauritius	•	•	•				
Bulgaria	•	•	•				
Peru	•	•		•	•	•	
Chile	•	•		•	•	•	
Romania (Second Pillar)	•	•		•	•	•	
Mexico	•	•		•	•		С
Slovak (Second Pillar)	•	•		•	•		
Latvia ⁶⁾ (voluntary pensions)	•	•		•	•		

Portugal ⁷⁾	•	•	•	•		
Turkey	● ⁸⁾	● ⁹⁾	•	•		
Hungary	•	•	•			
Slovenia	•	•				
Romania (Third Pillar)	•	•			• 10)	
FYR of Macedonia ¹¹⁾	•	•				
Albania ¹²⁾	•	•				
Ireland	•	•				D
Colombia	•	•				
Spain	•		•			
Costa Rica ¹³⁾	•					
Israel	•					
Slovak (Third Pillar)		•	•	•		
Latvia ¹⁴⁾ (mandatory pensions)		•	•	•		E

* Notes: A cell marked with '•' means that the item is included in the charge ratio calculations. A **blank** cell means that the item **is not included** in the charge ratio calculations.

A crossed cell means that the item is not applicable in the jurisdiction.

- 1) Investment management fee has to be used to cover above mentioned custodian fees and investment transaction costs as well as commissions for intermediaries, cost of advertising and fees to the bank.
- 2) In Czech Republic, pension companies have to compensate Total Expense Ratio of underlying funds (not only management fee of underlying funds). This compensation has to be paid to the fund assets.
- 3) Look-through approach.
- 4) Investment management fees for underlying funds are not always charged to members as fees and can represent indirect costs.
- 5) The types of fees identified above represent the fees charged by asset managers and administrators to funds and schemes in the Jamaican private pension industry.
- 6) "Occupational DC plans" and "Personal plans NL" are included in voluntary pensions.
- 7) The answer is based on the main costs and fees that are foreseen in the national legislation/regulations. The costs and fees which are effectively charged, as well as who borne those costs and fees in the case of occupational plans, have to be analysed on a case-by-case basis.
- 8) It includes entrance fees, administration expenses fees and administrative expenses fees in the case of contribution holidays. Only one joint cap is applied for these fees, which can be used during the first five years of the contract. It is determined as 8.5% of monthly gross minimum wage for each year in the first five years.
- 9) Investment management fees for primary funds include the custodian fees and investment transaction costs.
- 10) Where available.
- 11) Investment management fee is a monthly fee from the value of the net assets of the pension fund. The fee is calculated on each valuation date of the pension fund assets, and it is charged from the assets of the pension fund on the fifth working day in the month after the valuation. The custodian fees are paid directly by the pension company from its own assets and the fees are listed in the contract between custodian and the pension company. The transaction fees related to transactions of acquisition or transfer of the assets of the pension fund are paid from the assets of the pension fund. Switching fees are in the fixed amount and are paid directly by the member if the person is a member of the mandatory pension fund for less than 24 months or 12 months for voluntary pension funds.
- 12) The management fee covers both administration and investment costs. Pension plan members pay the switching fee and early withdrawal fee, whereas pension management companies pay the audit fee, marketing fee, legal fee, etc.

- 13) The information only refers to the main complementary pension scheme (ROP) in the Second Pillar. Even though investment fees (i.e. invest in mutual funds or ETFs) and investment transaction costs are not included in the charge ratio calculation, those costs are paid by the fund because the fund records the net return in these instruments
- 14) "Personal plans L" is included in mandatory pensions

Some of the substantial costs in surveyed IOPS jurisdictions²⁵ are not covered by fees but drag on accumulated pension savings. They include asset management costs of indirect investments (i.e., the underlying funds' management fee), investment transaction costs such as bid-ask spreads and brokerage fees. In some countries these elements are already listed (Table 3) and are indeed covered by the fees paid by members. This is especially the case of Hong Kong, China where fees cover a comprehensive range of costs elements.

It is noteworthy that the large majority of responding supervisors do not have knowledge on the quantified possible impact of these additional cost items. This finding calls for some action by pension supervisors with regard to obtaining a better picture of cost elements that are and are not included in fees paid by the members. Supervisors should also assess the role of these cost items in the total reduction of members' pension savings.

2.2. Charge ratios

In this section, charge ratios are calculated in line with the methodology developed in the past (IOPS, 2014). Based upon the information received in sections 2.1, jurisdictions were grouped in the same comparable clusters A-E, depending on the degree to which the fees charged to members cover the cost and fee elements.

The charge ratio measures the impact that any type of charge can have on the final balance of an individual retirement account compared to the hypothetical balance that could be obtained if no fees were charged at all²⁶. For example, a charge ratio for a 40-year horizon shows how much higher pension savings would have been at the end of the 40-year saving period had there been no fees charged to the pension scheme member.

The calculations use annual data. This is a theoretical exercise since the future cumulative balance is projected under the assumption that current commissions were to be maintained during a 40-year period. The only exception is when a country has set a timetable to reduce fees in the future by means of approved legislation (such as in Costa Rica²⁷, FYR of Macedonia²⁸ and Latvia²⁹). The real rate of return refers to a standard, yet not necessarily unquestionable, assumption of what a DC pension scheme should yield on average in the long run. Moreover, it does not represent necessarily the historical rate of return for any specific national system. To reflect the current low interest-rate environment, the real rate of return is set at

²⁵ In the Australian system, for the default MySuper products (representing 24% of total pension assets), an Indirect Cost Ratio (ICR) for known indirect costs is reported to APRA. The ICR ranges from 0–1.2% with a median of 0.5% of assets for a representative member with a balance of AUD 50 000, and is largely investment related costs. Indirect costs incurred by some underlying managers are not quantified and may not be reported

²⁶ IOPS Working Papers No. 6 (2008) provides more detailed description of the methodology. See Appendix 1, page 30.

²⁷ Yearly legal cap on assets will be lowered to 0.35% from 2020 (current: 0.5%).

²⁸ Yearly legal cap on assets is lowered to 0.42% (2017~), and 0.36% (2019~; currently: 0.48%), yearly legal cap on contributions is lowered to 2.75% (2017~), 2.5% (2018~), 2.25% (2019~), 2.0% (2020~; currently: 3%).

²⁹ Yearly legal cap on assets is lowered to 1.03%~1.5% (2018~) and 0.85%~1.1% (2019~; currently: 1.5%~2.0%)

3% (i.e. 2% lower than the previous exercise). A sensitivity test was also performed to check the impact of a changing real rate of return. The exercise assumes a 100% contribution density and a starting account balance of zero. The result is independent of the wage level.

The caveats of charge ratios should be spelt out clearly:-

- some cost elements might be omitted, leading to charge ratios being actually underestimated for some jurisdictions (Cluster E has a much bigger possibility of such underestimation than cluster A in Table 3);
- pension system design (including fee structure) varies greatly from country to country. This diversity in pension jurisdictions may have an impact on fees and charges;
- the effect of absolute fees may vary depending on the rate of return assumed;
- the level of fees is somehow related to the asset allocation profile. Thus a "cheap" system (expressed either in terms of low fees or charge ratios) does not necessarily imply that the absolute value of the retirement pot at the end of accumulation savings will be higher than in an "expensive" system that offers much higher rates of return;
- the charge ratio does not take into account the quality of services provided to scheme members (e.g. value for money);
- the impact of the charge ratio varies depending on the fee structure. For instance, a longer projection period will tend to show a relatively higher charge ratio for systems charging assetbased fees than those systems charging contribution fees.

Table 4 shows the results of the 2018 charge ratio calculation. Similar to the previous exercise, projections of retirement income are based on a 40-year time span. Since in some countries such a period may not be very representative of actual contribution patterns, the same calculations were run for horizons of a 30-year and 20-year working life. Obviously, the accumulation period being shorter, the charge ratio is smaller (less is paid as fees and charges over a shorter period). In some pension schemes (i.e. Peruvian occupational DC plans-salary and Suriname), the charge ratio is the same regardless of the time horizon because no fees are charged on assets there. In these cases, the charges paid by an individual do not depend on how much has been accumulated over the working-life period.

Three countries (four schemes) are listed in Cluster A, where cost and fee elements are mostly covered in fees charged to the members, followed by seven jurisdictions (10 schemes) in Cluster B, nine (20 schemes) in Cluster C, six (eight schemes) in Cluster D, and two countries (two schemes) in Cluster E. Five countries (six schemes) were listed as 'others' due to lack of information for Table 3 (cost elements covered by fees) to classify into clusters.

The average charge ratios are 22.3% (Cluster A), $18.7\%^{30}$ (B), 23.1% (C), 18.9% (D), 25.7% (E), and 14.7% (Others). Since samples are small for each cluster, and as fee structure differ by jurisdictions, we found no clear signs that charge ratios decrease from Cluster A to Cluster E. Nevertheless, the charge ratio for Clusters C, D and E are very likely to be underestimated. This is because fees charged in these jurisdictions cover fewer important cost and fee elements.

³⁰ The result from India (0.7%) was excluded since it could be considered as an outlier and distort the result for the relatively small group. If India is included, the average charge ratio for Cluster B changes to 16.9%.

The average charge ratio may have been affected by the number of fee components, as the average charge ratio for pension schemes with one fee component (contribution/salary/asset/performance) is 19.7% (24 schemes), while the average charge ratio with two components is 21.8%³¹ (24 schemes). One pension scheme (Second Pillar of the Slovak Republic) charged fees on three components and the average charge ratio is 12.4%. Compared with pension schemes with one fee component, schemes with two fee components seem to charge more, but the difference is not considerable when taking into account the differences between charge ratios in each type of scheme.

One can see a clearer difference in the average charge ratio among different types of pension schemes. The average charge ratios for Occupation DC plans and Personal plans L are 18.8% (12 schemes) and 21.0% (15 schemes) respectively, while the average charge ratio for Personal plans NL is 25.6% (10 schemes). The average charge ratio for pension schemes that cannot be categorised into any of the above categories is $18.3\%^{32}$ (13 schemes). The results suggest that the occupational DC pension schemes and the personal plans linked to employment tend to be generally much more cost effective than the personal schemes with no direct link with employment³³.

Cluster	Country	Donsion Schom	0	Pro	jection peri	od	# of fee
Cluster	Country	i ension schem	le l	40y	30y	20y	nents
	Poland*	Personal plans L		12.7%	9.8%	6.9%	2
	Australia	Occupational DC plans		13.0%	9.6%	6.2%	1
Cluster A	Australia	Personal plans NL		26.2%	19.8%	13.2%	1
Cluster A	Serbia	Occupational DC plans		37.2%	29.1%	20.5%	2
	Average of Cl	uster A		22.3%	17.0%	11.7%	
	Median of Clu	ister A		19.6%	13.3%	10.1%	
	Hong Kong*	Mandatory Provident Fund ((MPF)	30.2%	23.0%	15.5%	1
	Liechtenstein	Occupational DC plans		10.2%	7.9%	5.8%	2
Cluster B	India	Personal plans		0.7%	0.5%	0.4%	2
	Korea	Personal plans L		10.1%	7.4%	4.8%	1
	Nigeria	Occupational DC plans		39.9%	31.1%	21.4%	2
	Mauritius	Occupational DC plans		16.6%	13.3%	10.1%	2
		Occupational DC plans		10.3%	8.6%	6.9%	2
	Bulgaria		UPF	21.5%	17.1%	12.7%	2
	Dulgalla	Personal plans L	PPF	21.5%	17.0%	12.7%	2
			VPF	8.2%	6.6%	5.1%	2
A N Cluster C P	Average of Cl	uster B**		18.7%	14.7%	10.6%	
	Median of Clu	ister B**		16.6%	13.3%	10.1%	
		Occupational DC plans	(a) Salary	15.8%	15.8%	15.8%	1
	Peru*	Occupational DC plans	(b) Mixed	29.6%	23.8%	18.0%	2
		Personal plans L	Fund 0	17.1%	12.7%	8.3%	1

Table 4. Charge ratio calculation (2018, investment rate of 3%)

³¹ If India is included, the average charge ratio for pension schemes with two fee components changes to 21.0%.

³² If India is included, the average charge ratio for pension schemes categorized in "others" changes to 17.0%.

³³ Another important distinction suggested by the Australian Prudential Regulation Authority (APRA) is the difference between the default (MySuper) products and the broader environment in which members exercise a choice to enter products that are more complex. Such products have more complex fee structures. APRA also noted that defined benefit funds are usually examined separately given that fees do not affect the final balance members receive for any defined benefit component.

			Fund 1	23.8%	17.9%	11.9%	1
			Fund 2	32.9%	25.2%	17.1%	1
			Fund 3	37.0%	28.6%	19.6%	1
			Fund 0	17.1%	12.7%	8.3%	1
		D	Fund 1	23.8%	17.9%	11.9%	1
		Personal plans NL	Fund 2	32.9%	25.2%	17.1%	1
			Fund 3	37.0%	28.6%	19.6%	1
	Chile	Personal plans L		17.5%	16.2%	15.0%	2
	Romania*	Mandatory Personal plans		15.3%	12.0%	8.7%	2
	Mexico	Personal plans L		21.9%	16.4%	10.9%	1
	Slovakia	Second Pillar		12.4%	9.5%	6.6%	3
	D / 1	Occupational DC plans		6.9%	5.0%	3.2%	1
	Portugal	Personal plans NL		20.8%	15.6%	10.3%	1
	T1	Personal plans L		31.6%	24.2%	16.4%	2
	Turkey	Personal plans NL		32.2%	24.9%	17.2%	2
	Hungary	Personal plans NL		15.5%	12.7%	10.0%	2
	Slovenia	Personal plans L		20.4%	15.3%	10.1%	1
	Average of C	luster C		23.1%	18.0%	12.8%	
	Median of Cl	uster C		21.3%	16.3%	11.9%	
	Romania*	Voluntary Personal plans		36.3%	28.6%	20.3%	2
	FYR of	Mandatory pension funds		10.1%	8.0%	5.9%	2
	Macedonia	Voluntary pension funds		20.4%	15.8%	11.3%	2
	Albania	Occupational DC plans, Personal plans L		38.0%	29.4%	20.2%	2
Cluster D	Spain	Occupational DC plans		4.9%	3.5%	2.3%	1
Cluster D	Span	Personal plans NL	Personal plans NL		19.0%	12.7%	1
	Costa Rica	ROP (Régimen Obligatorio de Pensiones)		8.0%	5.9%	3.8%	1
	Israel	DC Plans		8.1%	6.6%	5.1%	2
	Average of C	luster D		18.9%	14.6%	10.2%	
	Median of Cl	uster D		15.2%	11.9%	8.6%	
	Slovakia	Third Pillar		28.8%	21.9%	14.7%	2
Cluster E	Latvia	Personal plans L		22.6%	17.0%	11.3%	1
	Average / Me	edian of Cluster E		25.7%	19.4%	13.0%	
	Brazil	Occupational plans		14.2%	12.3%	10.4%	2
	Iceland	Occupational plans		4.6%	3.4%	2.2%	1
0.1	Teerand	Personal plans		11.1%	8.2%	5.3%	1
(unclassifi	Kosovo	Occupational DC plans		31.4%	24.6%	17.5%	2
ed)	Suriname	Occupational DC plans		10.0%	10.0%	10.0%	1
	Uruguay	Personal plans L		16.8%	16.7%	16.6%	2
	Average of of	thers		14.7%	12.5%	10.3%	
	Median of ot	hers		12.7%	11.1%	10.2%	

Notes: Figures in (*) are as of 2017 while others are as of 2016.

** Average/Median of cluster B is calculated excluding data from India

Table 5 compares historical trends in charge ratios. Since we assumed an investment rate of 5% in the 2008 and 2014 exercises, the comparison employed this rate. One can observe that charge ratio has dropped (or stayed at the same level) in 78% (18/23) of cases when compared to 2014, with only a few exceptions. This result is in line with the tendency of decreased average fees in most of the countries analysed in section 1.2.

Cluster	Country	Pension Scher	ne	2018	2014	2008
Cluster A	Poland*	Personal plans L	Personal plans L		14.4%	18.7%
Cluster A	Serbia	Occupational DC plans		40.0%	29.3%	37.5%
	Hong Kong*	Mandatory Provident Fund	d (MPF)	32.7%	35.0%	36.4%
	India	Personal plans		0.7%	6.35%	n/a
Cluster P	Korea	Personal plans L		11.0%	16.5%	n/a
Cluster D		Personal plans L	UPF	23.1%	26.50	26 50/
	Bulgaria		PPF	23.0%	20.3%	20.3%
			VPF	12.6%	13.4%	n/a
	Chile	Personal plans L		18.0%	14.2%	17.4%
	Romania*	Mandatory Personal plans		16.5%	16.5%	n/a
	Mexico	Personal plans L		23.8%	29.7%	31.6%
Cluster C	Slovakia	Second Pillar		16.4%	19.2%	19.0%
	Tumber	Personal plans L		34.2%	20.60/	45.00/
	Turkey	Personal plans NL		34.8%	39.0%	43.9%
	Hungary	Personal plans NL		16.5%	15.6%	22.6%
	Romania*	Voluntary Personal plans		39.1%	38.5%	n/a
	Albania	Occupational DC plans		41.0%	45.1%	n/a
Cluster D	Sacia	Occupational DC plans		5.32%	5.32%	n/a
Cluster D	Span	Personal plans NL		27.4%	29.8%	n/a
	Costa Rica	ROP (Régimen Obligatorio d	e Pensiones)	8.7%	9.1%	21.1%
	Israel	DC Plans		8.6%	11.7%	13.7%
Cluster F	Slovakia	Third Pillar		31.6%	43.5%	n/a
Cluster E	Latvia	Personal plans L		24.6%	39.6%	n/a

Table 5. Historical trends of charge ratio (investment rate of 5%)

Note: Figures in (*) are as of 2017 while others are as of 2016.

We also performed four different sets of sensitivity analysis (the independent variables being: investment return, fees on assets, fees on contributions, fees on performance) to compare their impacts on the charge ratio. In order to assess the impact, values for each independent variable were set differently. With the fee elements (on assets, on contributions and on performance), values were set as 25% of average fees in each component (investment return: ± 2 percentage points (pp), fees on assets: ± 0.25 pp, fees on contributions: ± 0.75 pp, fees on performance: ± 2.5 pp).

Independent Veriable	Shock level		Base	Impact (A	verage)
independent variable	Up	Down	(Average)	Up	Down
investment return	+2 pp	-2 pp		+1.9 pp	-2.0 pp
fees on assets	+0.25 pp	-0.25 pp	21.00/	+4.4 pp ²⁾	-4.6 pp ²⁾
fees on contributions	+0.75 pp	-0.75 pp	21.0%	+0.6 pp ²⁾	-0.7 pp ²⁾
fees on performance	+2.5 pp	-2.5 pp		$+1.3 \text{ pp}^{2)}$	$-1.3 \text{ pp}^{2)}$

Table 6. Summary of sensitivity analysis¹⁾

* Note: 1) Charge ratio for India (0.7%) was not included in the sensitivity analysis since being an outlier it may distort the result for the small sample size in the analysis.

2) Average impact was calculated for the pension schemes where the change of variable was feasible in the down shock.

Table 6 depicts the impact of the charge ratio when four different independent variables (investment return, fees on assets, fees on contributions, fees on performances) change. One can observe that the values for the charge ratio go up as the independent variable increases. For instance, the charge ratio increases by

1.9 pp on average if investment returns increase by 2 pp. This is because one suffers bigger opportunity costs when investment returns are higher.

Considering the current low interest-rate environment and assuming in consequence a base return of 3%, the changes in investment return have relatively small impact on charge ratios. A two-percentage-point drop in returns (from 3% to 1%) affects the ratio by less than five percentage points in all pension schemes (on average: -2.1 pp).

Of sensitivity analyses within three different fee structures, the biggest impact is observed when changing fees on assets (+4.4 pp, -4.6 pp), followed by fees on performance (+1.3 pp, -1.3 pp) and fees on contributions (+0.6 pp, -0.7 pp) respectively. Concerning the fees on assets and fees on performances, the average impact on the charge ratio is higher when fees increase compared to when fees decrease because in the schemes with low fees, the decrease in the charge ratio is limited, as fees cannot go below zero. Actually, if we analyse each pension scheme, the impact on the charge ratio is higher when the independent variable decreases than when it increases. This may create higher incentives for jurisdictions to lower fees charged to members. The Appendix contains detailed results for all the participating countries.

3. Conclusions

This is the third update in the series of papers that research costs and fees in private pension systems. The paper reviews *fees charged in 88 different pension schemes in 45 selected jurisdictions* (41 are members of IOPS³⁴). *Fees on assets* were charged in 80 schemes (91%) in 42 jurisdictions, *on contributions* in 23 jurisdictions (49% of analysed schemes), *on returns* (performances fees) in 11 jurisdictions (25% schemes), and *on salaries* in seven jurisdictions (9% of schemes). In addition, some pension schemes imposed *less common charges* such as transfer fees, redemption fees, entry fees, switching fees and exit fees that are mostly expressed in fixed terms.

Thirty-five pension schemes (i.e. 40% of the sample) charged fees on *one component only*; either on contributions, salaries, assets or returns³⁵. 39 schemes (45%) applied fees charged on *two different components*, and 12 schemes (14%) had fees charged on *three components*. One pension scheme reported imposing fees on all *four components* (assets, contributions, returns, salaries).

Twenty-eight jurisdictions (62%) introduced *legal caps on fees*. In most cases, the average fees do not equal the legal cap, which could be explained as a positive effect of market competition. However, in 40% (17 out of 42 schemes), average fees were very close to the legal maximum values.

In 15 jurisdictions for which we had sufficient data for both 2014 and 2017, the major tendency is *the decrease of average fees* over the period. With regard to legal maximum fees, eight countries (Bulgaria, Costa Rica, FYR of Macedonia, Lithuania, Poland, Slovak Republic, Spain, and the United Kingdom) *lowered their fee ceilings*, whereas one (Columbia) *increased them*. Six jurisdictions (Albania, Ghana, Hungary, Israel, Romania, and Serbia) *did not change them*. There were no changes in the analysed group with regard to *the structure of fees*.

The issue here is whether the fees reported in the paper represent all or only part of the cost and fee elements of the pension plan/funds. We looked at this issue by analysing the *extent to which various cost and fee elements are covered by fees* charged to the pension plan members. We grouped jurisdictions by *clusters*, i.e. by groups of countries with identical or very similar items already covered by pension fees. We tentatively sorted them in descending order of the extent to which the underlying data incorporate the

³⁴ Latvia, Slovenia, Sweden, Uruguay are four non-IOPS members included in this analysis.

³⁵ For simplicity, we do not take here into consideration "others fees" when calculating these numbers.

full range of fees, charges and expenses that ultimately affect member benefits, with Cluster A being the most comprehensive and Cluster E the least comprehensive.

The responding supervisory authorities have not quantified the impact of cost items outside of the fees already paid. This finding calls for some action by pension supervisors to arrive at a better picture of cost elements that are included and not included in fees charged to the members. Supervisors should also be able to assess the role of these elements in total reductions of members' pension savings.³⁶

In this paper, we calculated charge ratios to analyse the impact of fees and charges on the final value of pension savings. For example, a charge ratio for a 40-year horizon shows how much higher pension savings would have been at the end of four decades had there been no fees charged to the member. Therefore, charge ratios illustrate the compounded effect of applying fees over the very long term, an effect somehow similar to the calculation of mortgage loan costs. The average values of 40-year charge ratios are as follows:-

- Cluster A (3 jurisdictions, 4 schemes): 22.3%;
- Cluster B (6 jurisdictions, 9 schemes)³⁷: 18.7%;
- Cluster C (9 jurisdictions, 20 schemes): 23.1%;
- Cluster D (6 jurisdictions, 8 schemes): 18.9%;
- Cluster E (2 jurisdictions, 2 schemes): 25.7%;
- Others (unclassified 5 jurisdictions, 6 schemes): 14.7%

Cluster A is the most comprehensive as fees charged to the members in this group of jurisdictions tend to cover all main cost and fee elements indicated in Table 3. We found no clear signs that charge ratios decrease from Cluster A to Cluster E. Nevertheless, charge ratios for clusters C, D and E are very likely to be underestimated because fees charged in these jurisdictions cover fewer important cost and fee elements than clusters A and B.

We did not find substantial differences in charge ratios due to the number of fee components. The average charge ratio for pension schemes with one fee component was 19.7%, for schemes with two components 21.8% and for schemes with three components 12.4% respectively. Such differences are not considerable taking into account the differences in charge ratio between each type of schemes.

A clearer difference in average charge ratios was observed by nature of scheme. The average charge ratios were as follows: Occupation DC plans (18.8%), Personal plans L (21.0%), Personal plans NL (25.6%) and Others (unclassified) (18.3%). The result suggest that occupational DC pension schemes and Personal plans linked to employment tend to be generally much more cost-effective than personal schemes where there is no direct link with employment.

³⁶ For example, in Australia the Australian Superannuation and Investments Commission (ASIC) is working to achieve greater transparency of disclosure of these types of costs through the introduction of Regulatory Guide 97: Disclosing fees and costs in PDSs and periodic statements. The Australian Prudential Regulation Authority (APRA) is reviewing its reporting framework to improve the collection of more detailed information on expense transactions to improve transparency. However, APRA noted that achieving enhanced transparency and, importantly, consistency of fees and costs disclosures across trustees has proved a significant challenge owing to the complexity of business operations across the Australian market.

³⁷ The result for India (0.7%) was excluded since it could be considered as an outlier and distort the result for the relatively small group.

Compared to the previous exercise of 2014, charge ratios (calculated over a 40-year horizon and 5% rate of return) have dropped in 18 schemes out of 23 for which we had comparable data. This finding is in line with the tendency of lower average fees in most of the surveyed countries.

Notwithstanding general limitations related to cross-country comparisons of fees and charge ratios, the cluster approach allocates jurisdictions to more homogenous groups.

The paper also undertook a sensitivity analysis of charge ratios by modifying by one-quarter (25%) average fees in each component (investment return: ± 2 percentage points for a 3% base return, fees on assets: ± 0.25 pp, fees on contributions: ± 0.75 pp, fees on performance: ± 2.5 pp). Changes in investment return have a relatively small impact on the charge ratio: a 2 pp decrease (from 3% to 1%) influences the ratios by less than 5 pp in all cases (on average: -2.0 pp). Fees on assets lower by 0.25 pp reduce charge ratios decrease on average (+0.25 pp \rightarrow +4.4 pp). When fees on contributions drop by 0.75 pp, charge ratios decrease on average by 0.7 pp (+0.75 pp \rightarrow +0.6 pp), and when fees on performance drop by 2.5 percentage points, charge ratios decrease on average by 1.3 pp (+2.5 pp \rightarrow +1.3 pp).

Appendix: Sensitivity analysis result for each type of pension scheme

A sensitivity analysis is a technique used to determine how different values of independent variable affects a particular dependent variable under a given set of assumptions. It is a useful tool to anticipate how dependent variables will change when independent variables are adjusted. By comparing different sets of sensitivity analysis, one can also find out which variable derives the most significant change.

We performed four different sets of sensitivity analysis (independent variables: investment return, fees on assets, fees on contributions, fees on performance) to compare their impact on the charge ratio. In order to adjust the impact, values of each independent variable were set differently. With the fee elements (fees on assets, fees on contributions, fees on performance), values were set as of one-quarter (25%) of average fees in each component (investment return: ± 2 percentage points, fees on assets: ± 0.25 percentage points, fees on contributions: ± 0.75 percentage points, fees on performance: ± 2.5 percentage points)³⁸.

Table A.1. depicts the impact of the charge ratio when investment return changes. One can observe that the values for the charge ratio rise as the investment return increases. This is because one suffers bigger opportunity costs when investment returns are higher. Considering the current low interest rate environment and assuming in consequence a base return of 3%, differences in investment return have a relatively small impact on charge ratios. A two-percentage point decrease of investment return (from 3% to 1%) reduces the ratio by less than 5 pp in all cases (on average: -2.1 pp). Pension schemes that do not charge fees on assets or returns (e.g. Peru's occupational DC plans - (a) salary; Chile, Suriname, and Uruguay) suffer no impact at all.

	a	C.I.		D	Investment Return	
Cluster	Country	Scheme		Base	+2 pp	-2 pp
	Poland*	Personal plans L	Personal plans L		+1 pp	-1.1 pp
Cluster A	Australia	Occupational DC plans		13.0%	+1.2 pp	-1.3 pp
Cluster A	Australia	Personal plans NL		26.2%	+2.3 pp	-2.5 pp
	Serbia	Occupational DC plans		37.2%	+2.9 pp	-3.3 pp
	Hong Kong*	Mandatory Provident Fun	nd (MPF)	30.2%	+2.5 pp	-2.9 pp
	Liechtenstein	Occupational DC plans		10.2%	+0.8 pp	-0.9 pp
	Korea	Personal plans L		10.1%	+0.9 pp	-1 pp
	Nigeria	Occupational DC plans		39.9%	+3.2 pp	-3.6 pp
Cluster B	Mauritius	Occupational DC plans		16.6%	+1.2 pp	-1.3 pp
	Bulgaria	Occupational DC plans		10.3%	+4.7 pp	-4.4 pp
		Personal plans L	UPF	21.5%	+1.5 pp	-1.7 pp
		Personal plans L	PPF	21.5%	+1.5 pp	-1.7 pp
		Personal plans L	VPF	8.2%	+4.3 pp	-4 pp
		Occupational DC plans	(a) Salary	15.8%	0 pp	0 pp
		Occupational DC plans	(b) Mixed	29.6%	+2 pp	-2.3 pp
		Personal plans L	Fund 0	17.1%	+1.5 pp	-1.7 pp
Cluster C	Doru*	Personal plans L	Fund 1	23.8%	+2.1 pp	-2.3 pp
Cluster C	relu	Personal plans L	Fund 2	32.9%	+2.7 pp	-3.1 pp
		Personal plans L	Fund 3	37.0%	+3 pp	-3.4 pp
		Personal plans NL	Fund 0	17.1%	+1.5 pp	-1.7 pp
		Personal plans NL	Fund 1	23.8%	+2.1 pp	-2.3 pp

Table A.1 Sensitivity analysis for investment return

³⁸ The charge ratio for India was considered an outlier and was not included in the sensitivity analysis.

		Personal plans NL	Fund 2	32.9%	+2.7 pp	-3.1 pp
		Personal plans NL	Fund 3	37.0%	+3 pp	-3.4 pp
	Chile	Personal plans L		17.5%	+0.5 pp	-0.5 pp
	Romania*	Mandatory Personal plan	S	15.3%	+1.2%p	-1.3 pp
	Mexico	Personal plans L		21.9%	+1.9 pp	-2.2 pp
	Slovakia	Second Pillar		12.4%	+3.9 pp	-3.7 pp
	Dester es1	Occupational DC plans		6.9%	+0.6 pp	-0.7 pp
	Portugal	Personal plans NL		20.8%	+1.8 pp	-2.1 pp
	т 1	Personal plans L		31.6%	+2.6 pp	-3 pp
	Iurkey	Personal plans NL		32.2%	+2.6 pp	-2.9 pp
	Hungary	Personal plans NL		15.5%	+1 pp	-1.1 pp
	Slovenia	Personal plans L		20.4%	+1.8 pp	-2 pp
	Romania*	Voluntary Personal plans		36.3%	+2.8%p	-3.1 pp
	FYR of	Mandatory pension funds		10.1%	+0.8%p	-0.9 pp
	Macedonia	Voluntary pension funds		20.4%	+1.6%p	-1.8 pp
Cluster D	Albania	Occupational DC plans, I	Personal plans L	38.0%	+3.1%p	-3.5 pp
Cluster D	Spain	Occupational DC plans		37.96%	+3.1 pp	-3.5 pp
	Spain	Personal plans NL		4.9%	+0.5 pp	-0.5 pp
	Costa Rica	ROP (Régimen Obligator	rio de Pensiones)	25.2%	+2.2%p	-2.5 pp
	Israel	DC Plans		8.0%	+0.7 pp	-0.8 pp
Cluster E	Slovakia	Third Pillar		8.1%	+0.5 pp	-0.6 pp
Cluster E	Latvia	Personal plans L		28.8%	+2.8 pp	-3.1 pp
	Brazil	Occupational plans		22.6%	+2 pp	-2.2 pp
	Icoland	Occupational plans		14.2%	+0.7 pp	-0.7 pp
Other	Icelallu	Personal plans		4.6%	+0.4 pp	-0.5 pp
Others	Kosovo	Occupational DC plans		11.1%	+1 pp	-1.1 pp
	Suriname	Occupational DC plans		31.4%	+2.4 pp	-2.7 pp
	Uruguay	Personal plans L		10.0%	0 pp	0 pp

Note: Figures in (*) are as of 2017 while others are as of 2016.

Table A.2. shows the effect of changing the value of fees charged on assets. If lowered by 0.25 pp, they reduce charge ratios by 4.6 pp on average³⁹ (+0.25 pp \rightarrow +4.4 pp). In some schemes where fees charged on assets are below 0.25%, the decrease in the charge ratio is limited since fees cannot go below zero. Therefore, the average impact on charge ratio when fees decrease could be underestimated. If we look at each pension scheme, it is worthwhile to note this effect is asymmetric; the impact on charge ratios is much higher when fees on assets decrease compared to the case when fees increase. For example in Poland, the charge ratio rises 4.9 pp when fees on assets increase 0.25 pp, but declines 5.3% when fees on assets decrease 0.25%. This tendency is the same with other fee structures, which can create higher incentives for jurisdictions to lower fees charged to members.

³⁹ Average fees on assets have dropped by 0.12 pp over four years (from 2014 to 2018) for 12 jurisdictions analysed in section 1.2

Clustor	Country	Scheme		Baca	Fees on	Assets
Cluster	Country	Scheme		Dase	+0.25 pp	-0.25 pp
Cluster A	Poland*	Personal plans L		12.7%	+4.9 pp	-5.3 pp
	Australia	Occupational DC plans		13.0%	+4.9 pp	-5.2 pp
Cluster A	Australia	Personal plans NL		26.2%	+4 pp	-4.3 pp
	Serbia	Occupational DC plans		37.2%	+3.3 pp	-3.5 pp
	Hong Kong*	Mandatory Provident Fu	nd (MPF)	30.2%	+3.7 pp	-4 pp
	Liechtenstein	Occupational DC plans		10.2%	+5.1 pp	-5.5 pp
	Korea	Personal plans L		10.1%	+5.1 pp	-5.4 pp
	Nigeria	Occupational DC plans		39.9%	+3.1 pp	-3.3 pp
Cluster B	Mauritius	Occupational DC plans		16.6%	+4.7 pp	-5 pp
		Occupational DC plans		10.3%	+5.1 pp	0 pp
	Bulgorio	Personal plans L	UPF	21.5%	+4.4 pp	-4.7 pp
	Duigaria	Personal plans L	PPF	21.5%	+4.4 pp	-4.7 pp
		Personal plans L	VPF	8.2%	+5.2 pp	0 pp
		Occupational DC plans	(a) Salary	15.8%	+4.8 pp	0 pp
		Occupational DC plans	(b) Mixed	29.6%	+3.8 pp	-4.1 pp
		Personal plans L	Fund 0	17.1%	+4.6 pp	-4.9 pp
		Personal plans L	Fund 1	23.8%	+4.2 pp	-4.5 pp
	Peru*	Personal plans L	Fund 2	32.9%	+3.6 pp	-3.8 pp
		Personal plans L	Fund 3	37.0%	+3.3 pp	-3.5 pp
		Personal plans NL	Fund 0	17.1%	+4.6 pp	-4.9 pp
		Personal plans NL	Fund 1	23.8%	+4.2 pp	-4.5 pp
		Personal plans NL	Fund 2	32.9%	+3.6 pp	-3.8 pp
		Personal plans NL	Fund 3	37.0%	+3.3 pp	-3.5 pp
Cluster C	Chile	Personal plans L	1 4110 0	17.5%	+4 7 pp	-4 8 pp
	Romania*	Mandatory Personal plans		15.3%	+4.7 pp	-5.1 pp
	Mexico	Personal plans L		21.9%	+4.3 pp	-4.6 pp
	Slovak	Third Pillar		12.4%	+4.9 pp	-5.3 pp
		Occupational DC plans		6.9%	+5.3 pp	-5.7 pp
	Portugal	Personal plans NL		20.8%	+4 4 pp	-4 7 pp
		Personal plans L		31.6%	+3.7 pp	-3.9 pp
	Turkey	Personal plans NL		32.2%	+3.6 pp	-3.9 pp
	Hungary	Personal plans NL		15 5%	+4.8 pp	-5 1 nn
	Slovenia	Personal plans L		20.4%	+4.4 pp	-4 7 pp
	Romania*	Voluntary Personal plans	1	36.3%	+3.4 pp	-3.6 pp
	FVP of	Mandatory pension fund	,	10.1%	+5.1 pp	-5 5 pp
	Macedonia	Voluntary pension funds		20.4%	+4.4 pp	-4.7 pp
	Albania	Occupational DC plans	Personal plans I	38.0%	+3.2 pp	-3.5 pp
Cluster D	Thound	Occupational DC plans,		37.96%	+3.2 pp	-3.5 pp
	Spain	Personal plans NI		1 9%	+5.2 pp	-4.9 pp
	Costa Rica	ROP (Régimen Obligato	rio de Pensiones)	75.7%	+4.1 pp	-4.9 pp
	Israel	DC Plans	no de rensiones)	8.0%	+5.2 pp	-+.+ pp
	Slovak	Third Biller		8.070	+5.2 pp	-5.0 pp
Cluster E	Latvia	Dorsonal plana I		0.1% 70 00/	+3.2 pp	-5.0 pp
	Brozil			20.0%	+3.8 pp	-4.1 pp
Others	DIAZII			22.0% 14.0%	+4.2 pp	-4.3 pp
Others	Iceland			14.2%	+4.9 pp	-3.2 pp
1	1	rersonai pians		4.0%	+3.4 pp	-4.0 pp

Table A.2 Sensitivity analysis for fees on assets

l	Kosovo	Occupational DC plans	11.1%	+5 pp	-5.4 pp
	Surinam	e Occupational DC plans	31.4%	+3.7 pp	-4 pp
	Uruguay	Personal plans L	10.0%	+5.2 pp	0 pp

Note: Figures in (*) are as of 2017 while others are as of 2016.

Average impact was calculated for the pension schemes where the change of variable was feasible.

Other sensitivity analyses are summarized in Tables A.3 and A.4. When fees on contributions drop by 0.75 pp, charge ratios decrease on average by 0.7 pp (+0.75 pp \rightarrow +0.6 pp), and when fees on performance drop by 2.5 pp, charge ratios decrease on average by 1.3 pp (+2.5 pp \rightarrow +1.3 pp). Note that as with the analysis of fees on assets, in some schemes where fees charged on contributions are below 0.75% (below 2.5% in the case of performance fees), the decrease in the charge ratio is limited since fees cannot go below zero. Also, no impact is observed for lowering fees for the schemes that did not charge fees on contributions or performances.

Cluster	Country	Scheme		Base	Fees on Cor	tributions
Cluster	Country			Dase	+0.75 pp	-0.75 pp
Chuston A	Poland*	Personal plans L		12.7%	+0.7 pp	-0.7 pp
	Australia	Occupational DC plans		13.0%	+0.7 pp	0 pp
Cluster A	Australia	Personal plans NL		26.2%	+0.6 pp	0 pp
	Serbia	Occupational DC plans		37.2%	+0.5 pp	-0.5 pp
	Hong Kong*	Mandatory Provident Fund	d (MPF)	30.2%	+0.5 pp	0 pp
	Liechtenstein	Occupational DC plans		10.2%	+0.7 pp	-0.7 pp
	Korea	Personal plans L		10.1%	+0.7 pp	0 pp
	Nigeria	Occupational DC plans		39.9%	+0.5 pp	0 pp
Cluster B	Mauritius	Occupational DC plans		16.6%	+0.7 pp	-0.7 pp
		Occupational DC plans		10.3%	+0.7 pp	-0.7 pp
	Dulgorio	Personal plans L	UPF	21.5%	+0.6 pp	-0.6 pp
	Dulgalla	Personal plans L	PPF	21.5%	+0.6 pp	-0.6 pp
		Personal plans L	VPF	8.2%	+0.7 pp	-0.7 pp
	Peru*	Occupational DC plans	(a) Salary	15.8%	+0.8 pp	-0.7 pp
		Occupational DC plans	(b) Mixed	29.6%	+0.6 pp	-0.6 pp
		Personal plans L	Fund 0	17.1%	+0.6 pp	0 pp
		Personal plans L	Fund 1	23.8%	+0.6 pp	0 pp
		Personal plans L	Fund 2	32.9%	+0.5 pp	0 pp
		Personal plans L	Fund 3	37.0%	+0.5 pp	0 pp
		Personal plans NL	Fund 0	17.1%	+0.6 pp	0 pp
		Personal plans NL	Fund 1	23.8%	+0.6 pp	0 pp
		Personal plans NL	Fund 2	32.9%	+0.5 pp	0 pp
Cluster C		Personal plans NL	Fund 3	37.0%	+0.5 pp	0 pp
	Chile	Personal plans L		17.5%	+0.7 pp	-0.7 pp
	Romania*	Mandatory Personal plans		15.3%	+0.7 pp	-0.7 pp
	Mexico	Personal plans L		21.9%	+0.6 pp	0 pp
	Slovakia	Second Pillar		12.4%	+0.7 pp	-0.7 pp
	Dom: no.1	Occupational DC plans		6.9%	+0.7 pp	0 pp
	Portugal	Personal plans NL		20.8%	+0.6 pp	0 pp
	Territoree	Personal plans L		31.6%	+0.5 pp	-0.2 pp
	Turkey	Personal plans NL		32.2%	+0.5 pp	-0.5 pp
	Hungary	Personal plans NL		15.5%	+0.7 pp	-0.7 pp

Table A.3 Sensitivity analysis for fees on contributions

	Slovenia	Personal plans L	20.4%	+0.6 pp	0 pp
	Romania*	Voluntary Personal plans	36.3%	+0.5 pp	-0.5 pp
	FYR of	Mandatory pension funds	10.1%	+0.7 pp	-1.8 pp
	Macedonia	Voluntary pension funds	20.4%	+0.6 pp	-0.6 pp
Cluster D	Albania	Occupational DC plans, Personal plans L	38.0%	+0.5 pp	0 pp
Cluster D	Spain	Occupational DC plans	37.96%	+0.5 pp	0 pp
	Span	Personal plans NL	4.9%	+0.7 pp	0 pp
	Costa Rica	ROP (Régimen Obligatorio de Pensiones)	25.2%	+0.6%p	0 pp
	Israel	DC Plans	8.0%	+0.7 pp	0 pp
Cluster F	Slovak	Third Pillar	8.1%	+0.7 pp	-0.7 pp
	Latvia	Personal plans L	28.8%	+0.5 pp	0 pp
	Brazil	Occupational plans	22.6%	+0.6 pp	0 pp
	Icoland	Occupational plans	14.2%	+0.7 pp	-0.7 pp
Others	Icelaliu	Personal plans	4.6%	+0.7 pp	0 pp
	Kosovo	Occupational DC plans	11.1%	+0.7 pp	0 pp
	Suriname	Occupational DC plans	31.4%	+0.5 pp	-0.5 pp
	Uruguay	Personal plans L	10.0%	+0.7 pp	-0.7 pp

Note: Figures in (*) are as of 2017 while others are as of 2016

Average impact was calculated for the pension scheme where the change of variable was feasible.

Table 11. Sensitivity analysis for performance
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Cluster	Cluster Country Scheme			Daga	Performance Fees	
Cluster	Country	Scheme		Dase	+2.5 pp	-2.5 pp
	Poland*	Personal plans L		12.7%	+1.5 pp	0 pp
Cluster A	Australia	Occupational DC plans		13.0%	+1.4 pp	0 pp
	rustrana	Personal plans NL		26.2%	+1.2 pp	0 pp
	Serbia	Occupational DC plans		37.2%	+1 pp	0 pp
	Hong Kong*	Mandatory Provident Fund	(MPF)	30.2%	+1.1 pp	0 pp
	Liechtenstein	Occupational DC plans		10.2%	+1.5 pp	0 pp
	Korea	Personal plans L		10.1%	+1.5 pp	0 pp
	Nigeria	Occupational DC plans		39.9%	+0.9 pp	0 pp
Cluster B	Mauritius	Occupational DC plans		16.6%	+1.4 pp	0 pp
	Bulgaria	Occupational DC plans		10.3%	+1.5 pp	-1.6 pp
		Personal plans L	UPF	21.5%	+1.3 pp	0 pp
		Personal plans L	PPF	21.5%	+1.3 pp	0 pp
		Personal plans L	VPF	8.2%	+1.6 pp	-1.6 pp
		Occupational DC plans	(a) Salary	15.8%	+1.4 pp	0 pp
		Occupational DC plans	(b) Mixed	29.6%	+1.1 pp	0 pp
		Personal plans L	Fund 0	17.1%	+1.4 pp	0 pp
		Personal plans L	Fund 1	23.8%	+1.2 pp	0 pp
	Domi*	Personal plans L	Fund 2	32.9%	+1 pp	0 pp
Cluster C	reiu	Personal plans L	Fund 3	37.0%	+1 pp	0 pp
		Personal plans NL	Fund 0	17.1%	+1.4 pp	0 pp
		Personal plans NL	Fund 1	23.8%	+1.2 pp	0 pp
		Personal plans NL	Fund 2	32.9%	+1 pp	0 pp
		Personal plans NL	Fund 3	37.0%	+1 pp	0 pp
	Chile	Personal plans L		17.5%	+1.4 pp	0 pp

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	Romania*	Mandatory Personal plans	15.3%	+1.4 pp	0 pp
	Mexico	Personal plans L	21.9%	+1.3 pp	0 pp
	Slovakia	Second Pillar	12.4%	+1.5 pp	-1.5 pp
	Domtracel	Occupational DC plans	6.9%	+1.6 pp	0 pp
	Portugal	Personal plans NL	20.8%	+1.3 pp	0 pp
	T	Personal plans L	31.6%	+1.1 pp	0 pp
	Turkey	Personal plans NL	32.2%	+1.1 pp	0 pp
	Hungary	Personal plans NL	15.5%	+1.4 pp	0 pp
	Slovenia	Personal plans L	20.4%	+1.3 pp	0 pp
	Romania*	Voluntary Personal plans	36.3%	+1 pp	0 pp
	FYR of	Mandatory pension funds	10.1%	+1.5 pp	0 pp
	Macedonia	Voluntary pension funds	20.4%	+1.3 pp	0 pp
Cluster D	Albania	Occupational DC plans, Personal plans L	38.0%	+0.9 pp	0 pp
Cluster D	Spain	Occupational DC plans	37.96%	+0.9 pp	0 pp
		Personal plans NL	4.9%	+1.6 pp	0 pp
	Costa Rica	ROP (Régimen Obligatorio de Pensiones)	25.2%	+1.2 pp	0 pp
	Israel	DC Plans	8.0%	+1.6 pp	0 pp
Churten E	Slovakia	Third Pillar	8.1%	+1.6 pp	0 pp
Cluster E	Latvia	Personal plans L	28.8%	+1.1 pp	-0.5 pp
	Brazil	Occupational plans	22.6%	+1.3 pp	0 pp
Other	Icolond	Occupational plans	14.2%	+1.4 pp	0 pp
	Iceland	Personal plans	4.6%	+1.6 pp	0 pp
Others	Kosovo	Occupational DC plans	11.1%	+1.5 pp	0 pp
	Suriname	Occupational DC plans	31.4%	+1.1 pp	0 pp
	Uruguay	Personal plans L	10.0%	+1.5 pp	0 pp

Note: Figures in (*) are as of 2017 while others are as of 2016.

Average impact was calculated for the pension schemes where the change of variable was feasible.

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