

IOPS Technical Committee

**Pension projections**

Preliminary findings, work in progress

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## PENSION PROJECTIONS

### Preliminary findings, work in progress

#### **Project Background**

1. This first and preliminary draft paper is part of the solvency and adequacy project accepted by the IOPS Members for the Programme of Work for 2017-2018. Its goal is to understand how pension projections are done in various IOPS jurisdictions and how this activity is supervised.

#### **Introduction**

2. Pension projections can be a powerful tool to manage expectations of pension scheme members and influence their behaviour (with regard to chosen contribution rate, length of saving time, level of risk etc.). Projections educate the members about realistic values of their future retirement income and effects of retirement decisions taken. However, pension projections can also be abused by providers to take advantage over their competitors, thus potentially hurting pension members' interests.

3. The goal of this project is to understand how pension projections are performed in various IOPS jurisdictions and how this activity is supervised. The main focus is to learn how pension projections are made (i.e. what assumptions and methods are used), how the outcomes are presented to the members, and how supervision of this process can be improved. We also aim to identify some common problems encountered by IOPS members both in terms of performing pension projections and supervising them, and to identify good practices in IOPS jurisdictions in these areas.

#### **Definitions**

4. For the use of this paper we define 'pension projections' as any tools or documents that help future retirees understand the most probable value of their future accumulated savings or the most probable value of their future retirement income. Therefore, pension projections include pension calculators, pension benefit statements, statutory pension estimates, projections of future pension drawdowns (programmed withdrawals), life annuities, etc.

#### **Method, scope and data**

5. A survey sent to the IOPS members in January 2018 was the main tool for collecting information on pension projections. We received responses from 23 jurisdictions<sup>1</sup>. This gives a somehow representative and evidence-based view on the current supervisory practices and recommendations with regard to designing, making and presenting pension projections to scheme members. The survey focused on issues pertinent to the DC and hybrid plans. However, some information received from the responding

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<sup>1</sup> Albania, Armenia, Australia, Bulgaria, Chile, Colombia, the Czech Republic, Egypt, Hong Kong - China, Iceland, Ireland, Jamaica, Lithuania, Macedonia, Mauritius, Mexico, the Netherlands, Poland, Romania, Serbia, Slovakia, Suriname and Turkey (Pension Monitoring Center). Additionally, Malta and Spain mentioned that at the moment there is no legislation that would require (Malta) or regulate (Spain) projections; however in both countries such activities can be undertaken by private pension schemes.

We gratefully acknowledge participation in the survey by non-IOPS Member, the Australian Securities and Investments Commission (ASIC).

jurisdiction related also to DB plans. Additionally, India and the UK provided short comments on the subject.

## **1. Main features of pension projections undertaken in surveyed IOPS jurisdictions**

### ***1.1. Legal framework***

6. In 17 out of 23 surveyed jurisdictions the legislation framework *directly addresses*, at least partially, the issue of pension projections.

7. In Albania, the Law No. 10 197, dated 10.12.2009, “On voluntary pension funds”, article 8, point 6 requires that the prospectus of a pension fund provides information verified by an authorized actuary on the amounts a unit holder needs to invest on an annual basis in a pension fund to receive an adequate pension upon reaching retirement age. The explanation has to be illustrated with examples showing different age scenarios and how the age variable affects the amount that needs to be deposited as a contribution.

8. In Chile, the law does not regulate the pension simulator created by the supervisor, however its all underlying assumptions need to be documented<sup>2</sup>. There is a specific norm<sup>3</sup> that regulates the personalised pension projections (PPP) provided by pension fund administrators. It establishes what information should be included in the statement, different scenarios and groups (according to age) that should be informed, the specific estimation methodology for the accumulate balance at the age of retirement for each scenario, and the main parameters (mortality table, annuity and pension funds rates, beneficiaries) for the calculation of the pension amount. Also it establishes the specific format in which the information should be presented and when it should be handed to the affiliate. The pension managing companies can have their own pension calculators but they must follow base assumptions for real returns and annuity rates as the ones used in the supervisor’s simulator.

9. In Canada (which did not participate in the survey), according to CAPSA (2014) Guideline No. 8, ‘Defined contribution pension plans guidelines’ from 28 March (page 7)<sup>4</sup>, “Plan administrators should consider providing members, periodically, with an estimate or a general illustration of the accumulated value of the member’s account at retirement, as well as an estimate or example of the benefit that may result from the accumulated value. Members should be informed that statements regarding projected account balances and future benefits are estimates only, and the assumptions used in the estimates should be clearly stated.”

10. In Colombia, the legislation (External Circular 051/2016) imposes mandatory pension projections and the advice to be provided by entities from both (unfunded and funded) pension regimes whenever a member changes regimes. Projections, made by pension fund managing companies, show the future value of the retirement income under 4 different scenarios for density of contributions.

11. In the Czech Republic, the law is quite general and it is up to the pension managing companies to decide about particular features of projections. Act No. 427/2011 Coll. on Supplementary Pension Savings and its implementing rules prescribe a set of basic principles which must be met by the pension management companies when providing information about the expected future income. Such information (a) must not be based on or referenced to historical simulated returns, (b) must be based on reasonable

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<sup>2</sup> [http://www.spensiones.cl/apps/simuladorPensiones/doc/supuestos\\_simulador.pdf](http://www.spensiones.cl/apps/simuladorPensiones/doc/supuestos_simulador.pdf)

<sup>3</sup> <http://www.spensiones.cl/compendio/584/w3-propertyvalue-3482.html>

<sup>4</sup> <https://www.capsa-acor.org/Documents/View/63>

assumptions based on objective data, (c) must be presented after accounting for the remuneration of the pension company; and (d) must contain a strong warning that it is only an expected outcome but not a guaranteed future payments. No concrete forms of projections or methods of delivery are prescribed by law, nevertheless there must be a strong disclaimer stating projections are only expected and do not represent guaranteed future payments.

12. The Irish legislation requires that pension benefit statements, containing likely value of accumulated assets and likely value of retirement income, be provided at certain times automatically to in-service members (and from 2019 for all members) and on request to other members.

13. In Iceland, the Pension Act 129/1997 stipulates that pension benefit statements, showing projected lifelong annuity in monthly payments, be sent to active members and beneficiaries at least annually.

14. The Jamaican pension legislation does not speak specifically about assumptions and methodology neither the requirement for their revision. However the regulation<sup>5</sup> stipulates that pension benefit statement (PBS) must contain the projected benefits at normal retirement age (65). PBS has to be provided to each active member of a fund within four months of the end of each plan year and to a deferred pensioner on request. A member's benefit statement should contain a description of the assumptions used (e.g. annuity rates, interest rates, increases in salary) as well as a brief discussion of the effects of future variance of actual experience from those assumes<sup>6</sup>. Also, the pension supervisor (FSC) provides guidelines<sup>7</sup> to all pension plans (DB and DC) on the format and frequency with which assumptions are to be presented to members.

15. The Law on the Supplementary Voluntary Accumulation of Pensions (Article 14 Part 3) in Lithuania sets up certain principles based requirements when providing pension projections as part of the advertising material. According to these principles, the provided information needs to be clear and not misleading, must explain how calculations are made (in terms of methodology and assumptions), as well how to interpret the results. It must also contain a warning that projected benefits are not guaranteed by the pension fund managing company.

16. The pension and insurance supervisors in Macedonia prescribe the general methodology for projections as well as assumptions used in case of programmed withdrawals (pension supervisor, MAPAS) or annuities (insurance supervisor)<sup>8</sup>. General guidance on pension projections is set up in Article 30 paragraph 3 of the Law on Payment of Pensions and Pension Benefits from Fully Funded Pension Insurance<sup>9</sup>. The listing of pension products is compulsory for mandatory fully funded pensions (second pillar) and optional for voluntary fully funded pensions (third pillar). Pension managing companies are

<sup>5</sup> Regulation 12(2) a) of the Pensions (Superannuation Funds and Retirement Schemes) (Governance)

<sup>6</sup> The Pensions (Superannuation Funds And Retirement schemes) (Governance) Regulations, 2006 ("Governance Regulations"): First Schedule (Regulation 12) - Minimum Standard For Benefit Statement For Active Member: <http://moj.gov.jm/sites/default/files/laws/Pensions%20%28Superannuation%20Funds%20and%20Retirement%20Schemes%29%20Act%20p.pdf>

<sup>7</sup> Guidance on the Presentation and Calculation of Accrued and Projected Pensions of Active Members: <http://www.fscjamaica.org/regulated-industries/content-104.html>

<sup>8</sup> Rulebooks on projection of pensions and the amounts of individual accounts as for programmed withdrawals ([text](#) in Macedonian); on rules and minimum standards for determining interest rates ([text](#) in Macedonian); on rules and minimum standards for mortality tables ([text](#) in Macedonian). Rulebook for presentation offers for projected future pensions ([text](#) in Macedonian).

<sup>9</sup> [http://mapas.mk/wbstorage/files/Zakon%20za%20isplata%20na%20penzii%20%20prevod%20doc\\_EN\\_am.pdf](http://mapas.mk/wbstorage/files/Zakon%20za%20isplata%20na%20penzii%20%20prevod%20doc_EN_am.pdf)

obliged to present their offers on lifelong and/or temporary programmed withdrawals (including pension projection) to a particular pension member in the Listing Centre. The life insurance companies present their offers on pension annuities (including pension projection) to a particular pension member in the Listing Centre voluntarily. Such offers have validity of 30 days from the date of listing.

17. In Mauritius, the Private Pension Schemes (Disclosure) Rules 2012<sup>10</sup> require that projected benefits be disclosed in PBS issued annually to members of DB and DC private pension schemes. However, the Rules do not describe the assumptions, methodology, ways the results should be presented to the members and the frequency of revisions of assumptions/methodology.

18. Projections made in calculators created by Mexican pension supervisor (CONSAR) are not regulated. As required by the supervisor, personalised pension estimates made by pension fund administrators must to comply with the methodology developed by CONSAR and be sent to fund members within their account statement.

19. In the Netherlands, the uniform pension overview (UPO) is sent out to every participant on an annual basis. Originally, as of 1 July 2015, the UPO does not prescribe to show projected benefits. The UPO was aimed to serve as a teaser to go to the My Pensions Overview (MPO) website, as that website contains more detailed information in a layered format. Due to the IORP II Directive<sup>11</sup> the projected benefits will once again be displayed on the UPO. Early 2018, the Netherlands will implement the Uniforme Rekenmethode (URM, uniform calculation method) which introduces a stochastic approach to projected benefits.

20. In Poland, the legislation relates only to projections on benefits from the mandatory unfunded pillar. There are no regulations regarding the funded (occupational or individual) pensions.

21. In Romania, pension law forbids at the moment any type of pension projections made by fund administrators for marketing purposes. The Financial Supervisory Authority makes these projections for internal use. The method of projection calculations are mostly regulated by secondary legislation due to the fact that the majority of these projections are needed in the calculations of the technical reserves.

22. Pension projections in Serbia are regulated by Article 7 of the Decision on the Advertising of Voluntary Pension Funds and Standardized Advertisement Text<sup>12</sup> which stipulates that projected benefits should be individualised, based on the parameters specified by the fund members and take into account fees and costs borne by the members. These fees and costs have to be clearly stated.

23. In Suriname pension projections are mandatory by law and apply to the DB and the hybrid schemes. The results of projections must be presented at least once a year by the board in a meeting with members. Boards of pension funds are obliged to provide members with a statement of the likely value of retirement income. Furthermore, the board must annually submit an annual report, which is accompanied by a statement of the external accountant and an actuarial report, which is accompanied by a statement of the actuary, to the Centrale Bank of Suriname.

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<sup>10</sup> <https://www.fscmauritius.org/media/2155/private-pension-schemes- disclosure -rules-2012-cc.pdf>

<sup>11</sup> Directive (EU) 2016/2341 of the European Parliament and of the Council of 14 December 2016 on the activities and supervision of institutions for occupational retirement provision (IORPs), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016L2341>

<sup>12</sup> "RS Official Gazette", no. 23/2006, <http://www.nbs.rs/internet/english/20/spf/advertising.pdf>

24. In Turkey, the “Circular Regarding Possible Savings and Repayment Tables to be Used in Pension System” requires preparation of tables on projected accumulated pension savings and monthly benefits. Pension Monitoring Centre and pension companies are stipulated to introduce these calculations to the participants in accordance with principles of the “Circular on Projected Accumulation and Reimbursement Tables”. The Circular determines the content and timing of this mandatory disclosure. The “Regulations on Individual Pension System” require a pension information form be presented by the pension managing company to fund members before their retirements.

25. *The law does not address* pension projections in Armenia, Australia, Bulgaria, Hong Kong (China)<sup>13</sup>, and Slovakia. In the context of EU countries, the upcoming IORP II Directive will require them to create their legislation on projections to be in force from 13 January 2019 and be valid for all private voluntary pension plans (so-called 3<sup>rd</sup> pillar). One of the key requirements of the Directive is that projections will be sent to pension fund members in a single document on annual basis [this paragraph will be expanded based on IORP II Directive].

26. In Australia, no specific mention in the legislation, however if a pension projection is given by a pension provider it could be construed as personal financial advice and this would trigger to hold an Australian Financial Services (AFS) licence, which would also mean some disclosure requirements for the provider. To facilitate these projections, Australian Securities & Investments Commission (ASIC) gave a relief from the licencing and disclosure requirements as long as certain conditions are met. To fall within ASIC relief, a retirement estimate must:

- include certain mandatory content;
- be calculated taking into account all of the required variables, and using the default assumptions; and
- be given at the same time as the periodic statement and be included in, or accompany, the statement.

27. This relief only applies to financial calculators that do not advertise or promote one or more specific financial products. It does not apply to retirement estimates provided without member input. There is a separate relief for pension funds that provide retirement estimates to their existing members with their periodic statements. If a pension fund trustee already has an AFS licence with an authorisation to give personal financial product advice, it is free to give its members personal advice via whatever medium it chooses<sup>14</sup>.

## **1.2. Who makes projections?**

28. Various entities engage in providing forecasts of future pension benefits. In most cases these are *pension fund managing companies*<sup>15</sup>, *pension fund administrators*<sup>16</sup> or *trustees*<sup>17</sup>. Projections in a form of

<sup>13</sup> However, due to fiduciary duty imposed on MPF trustees, the supervisor (MPFA) has the legislative power to monitor how trustees perform their duties, including pension projections.

<sup>14</sup> Regulatory Guide 229 (RG 229.18) by Australian Securities & Investments Commission (ASIC), *Superannuation forecasts*, 13 November 2014, <http://download.asic.gov.au/media/2257747/rg229-published-13-november-2014.pdf>

<sup>15</sup> Albania – projections are verified by an actuary, Bulgaria, Chile – personal pension projections need to follow the guidelines of the supervisor; pension calculators need to follow supervisors’ methodology for returns and annuity rates; Colombia, Czech Republic, Lithuania, Macedonia, Mexico –personalised pension estimates must be in line with the methodology developed by the supervisor; Serbia, Slovakia.

on-line pension simulators or calculators are made by *supervisors*<sup>18</sup> or *non-commercial or public institutions* (see next section). The responding jurisdictions mentioned also *other parties*<sup>19</sup>, and pension board (Suriname, where projections are made by actuaries on behalf of the board), insurance companies (Macedonia), non-commercial entities (Albania – in case of two pension calculators). Egypt reported that projections are the joint process that involves pension funds, actuaries and the supervisor.

### **1.3. What projections are made?**

29. The responding 23 institutions reported various types of pension projections made in their jurisdictions. Two main types of projections were *pension calculators* (14 jurisdictions<sup>20</sup>) and *regular pension projections* communicated by pension entities in pension benefits statements (9 jurisdictions<sup>21</sup>).

30. Two respondents mentioned also projections that are provided to the members *only before the retirement*. In Macedonia pension funds and insurance companies have to provide standardized tables on the forecasted value of benefits. In the Netherlands defined benefit funds have to offer projections for members before retirement to help them choose between a fixed and variable annuity.

31. *Various* (but unspecified by these respondents) types of projections are available in the Czech Republic and Suriname. In Colombia projections on the difference between the likely pension benefits from competing pension regimes are available on the occasion when a member decides to transfer between the regimes.

32. Finally, in Romania producing pension projections by pension funds is currently *forbidden by law*. However, the pension supervisor does its internal stochastic projections.

33. Calculators are mostly provided by pension schemes or funds (9 jurisdictions)<sup>22</sup> but can also be offered by pension supervisor (Chile, Hong Kong - China, Mexico, Serbia), governmental institution (Poland) or non-commercial sites (Armenia, Lithuania, the Netherlands, Turkey). Box 1 offers some examples. In Hong Kong (China) and Mexico, pension calculators are available from both pension funds and pension supervisor. In the case of Poland the calculator is prepared by the Social Insurance Institution, a governmental institution in charge of social insurance. A stochastic simulator is available at the website of Chilean pension supervisor. It is offered independently of projections prepared by pension funds and provided to members once a year in the benefit statement for 3<sup>rd</sup> quarter. A deterministic simulator is currently used in the Netherlands on the non-commercial website ‘My Pension Overview’. The site collects annual pension benefit statements from different pension providers and adds the first pillar state pension to

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<sup>16</sup> Iceland, Ireland, Mauritius, the Netherlands – providers such as pension funds, insurance companies or the Pension Premium Institution in the case of DC pensions only.

<sup>17</sup> Australia, Hong Kong (China) in case of calculators, the data are inputted by members; Jamaica – projections are made by an actuary or administrator appointed by the trustees.

<sup>18</sup> Chile, Hong Kong – China, Mexico, Romania (stochastic calculations for internal purposes), and Serbia.

<sup>19</sup> In Australia non-pension institutions involved in projections need to meet licensing and disclosure requirements that relate to their role as financial advisers. In Poland projections on benefits from the unfunded pillar are undertaken by the Social Insurance Institution (ZUS). In Slovakia there can be other institutions involved in providing information about pension system or financial products, research institutes.

<sup>20</sup> Albania, Armenia, Australia, Bulgaria, Chile, Hong Kong (China), Iceland, Jamaica, Lithuania, Mexico, Poland, Serbia, Slovakia, Turkey.

<sup>21</sup> Albania, Australia, Chile, Iceland, Ireland, Jamaica, Mauritius, Mexico, the Netherlands.

<sup>22</sup> Albania, Australia, Bulgaria, Hong Kong, Iceland, Jamaica, Lithuania, Serbia, Slovakia.

show the consolidated overview of both pillars<sup>23</sup>. In some cases (Lithuania, the Netherlands, Sweden, Turkey), official pension calculators were created jointly by governmental institutions and pension industry<sup>24</sup>. The Icelandic Pension Funds Association has a calculator on their website that provides combined information on accrued rights and projected benefits (life annuity) from all occupational pension funds in which a member has been contributing to during his/her career. The state pension benefits in Iceland are projected by the Social Insurance Administration website calculator. These benefits are contingent on the value of private pension benefits and all other income during the retirement.

#### **Box 1. Public pension calculators in selected jurisdictions**

Armenia (non-commercial sites)

<https://abcfinance.am/calculators/pensioncalc.html>  
[http://www.epension.am/am/calcs/calcs\\_pension\\_calculator](http://www.epension.am/am/calcs/calcs_pension_calculator)

Chile (pension supervisor)

[www.spensiones.cl](http://www.spensiones.cl)

Hong Kong, China (pension supervisor)

[http://www.mpf.org.hk/eng/mpf\\_education/mpf\\_calculators/mpf\\_accrued\\_benefits/calculator.jsp](http://www.mpf.org.hk/eng/mpf_education/mpf_calculators/mpf_accrued_benefits/calculator.jsp)

Iceland (The Icelandic Pension Funds Association)

<https://www.lifeyrismal.is/is/lifeyrisgattin>

Lithuania (Ministry of Social Security and Labour)

<http://www.pensijuskaiciuokle.lt/>

Mexico (pension supervisor)

<https://www.gob.mx/consar/acciones-y-programas/calculadoras-de-ahorro-y-retiro>

The Netherlands (My Pension Overview)

[www.mijnpensioenoverzicht.nl](http://mijnpensioenoverzicht.nl)

Serbia (pension supervisor)

<http://webservices.nbs.rs/FinancialCalculatorOfficeSite/SerCyrl/FinancialCalculator/Penzije.aspx>

Sweden (My Pension)

[www.minpension.se](http://www.minpension.se)

Turkey (Pension Monitoring Center)

<http://emeklilik.egm.org.tr/?sid=53>

<sup>23</sup> The government plans to introduce a stochastic calculator that will be showing forecasts based on three different scenarios (pessimistic, optimistic and median).

<sup>24</sup> In the Netherlands, pension calculator provided by the Stichting Pensioenregister (SPR) being a joint venture between the Social Insurance Bank (SVB), the Pension Federation and the Dutch Association of Insurers. In Lithuania, the calculator tool has been prepared jointly by the Ministry of Social Security and Labour, Lithuanian banks, Sodra (State Social Insurance Fund of the Republic of Lithuania), and Lithuanian Investment and Pension Funds and Lithuanian Life Assurance Companies. In Turkey, the Pension Monitoring Center is the institution set up by pension fund companies and the Treasury to monitor the industry and to develop policy strategies. In Sweden (non-IOPS member), the portal ‘My pension’ is owned by Min Pension i Sverige AB, which is a wholly owned subsidiary of Swedish Insurance. Its operations are run and equally financed by the state and the pension companies.

Source: IOPS.

34. Regarding the nature of projections in the responding jurisdictions, they are predominantly *deterministic, individualised*<sup>25</sup> and based on *a single scenario*. In most cases, projections show both future accumulated pension assets and pension benefit<sup>26</sup>, which are expressed in today's terms.

35. Pension statements in Albania provide only projections of future accumulated assets whereas only value of periodic benefits is provided in Armenia and Mauritius (in the latter some providers show also replacement rates). In other jurisdictions projections include both accumulated assets and forecasted benefit; additionally, replacement rates are presented in Jamaica and, as already mentioned, by some providers in Mauritius. In Mexico recipients of personalised pension benefit statements are also shown some qualitative indicator on how good their benefits are likely to be (see section on presentation of results).

36. *The stochastic approach* is used only in the Chilean pension simulator created by the supervisor, in some rare cases by pension funds in Lithuania and by the Romanian supervisor in its internal forecasts. The Netherlands plans to introduce stochastic projections in early 2018.

37. *The scenario approach* is used only in four jurisdictions. It is allowed in the case of calculators set up by pension providers in Australia. Scenarios are also used in Colombia where pension funds apply four scenarios of different density of future contributions until the retirement (100%, 75%, 50% and 0%) and take into account funds' asset allocation (conservative, balanced, aggressive). Some pension funds in Iceland use scenarios with different rates of return. In Lithuania the ministry's calculator assumes seven different rates of return (including three negative ones). Scenarios are also applied in case of projections of annuities in Macedonia.

#### **1.4. Are projections mandatory?**

38. Pension projections are provided *free of charge* almost in all responding jurisdictions. Egypt reported there might be a small fee paid to the supervisor when a projection is requested. In Ireland such service is almost always free of charge, however pension funds have the right to charge in case of numerous requests made by a member. In Australia projections are also free unless they are provided by financial advisers who operate outside the legal relief.

39. Whether making pension projections is mandatory depends very often on the type of pension scheme (mandatory vs voluntary) in question and the situation of a particular individual (i.e. whether such person is to enter a scheme, change it or retire). Some forms of pension projections are mandatory in 13 jurisdictions and voluntary in 10 jurisdictions.

40. *Mandatory projections* are present in Albania (a pension prospectus must be given to a member before entering the fund), Chile (at least once a year a pension funds must send to its members projections included in the personal statement), Colombia (when switching between pension regimes or on member's

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<sup>25</sup> Albania (**tbc**), Australia (some assumptions are individualised and other standardised – see guideline RG229), Bulgaria (some parameters are pre-set: size and frequency of contributions, age, length of saving period, rate of return, technical interest rate, length of retirement), Chile, Colombia, Hong Kong – China (in most cases), Ireland, Iceland, Jamaica, Macedonia, Mauritius, Mexico, Netherlands, Poland, Serbia, Slovakia.

<sup>26</sup> Both assets and benefits are presented in case of projections in Albania (pension calculator), Australia, Bulgaria, Canada, Chile (personal pension projections), Iceland, Ireland, Jamaica (benefits only in case of DB plans and assets and benefits in case of DC, also replacement rate is available for both types of plans), Mexico (calculators and projections), and Poland (unfunded part only).

request), Ireland (delivered at least annually to members in-service plus when leaving the scheme or approaching retirement), Iceland (at least annually in PBS), Jamaica (at least annually in PBS sent to active members, and on requests for deferred members), Macedonia (in case of the mandatory pillar), Mauritius (projections in annual PBS), Mexico (personalized pension estimate to be sent in February each year), Netherlands (annual PBS), Poland (in case of the unfunded pillar), Suriname (in cases of the DB and hybrid voluntary schemes), Turkey (before a member enters the system and before retirement, and when saving for retirement anytime on request from a participant).

41. Pension projections are *not mandatory* in Armenia, Australia, Bulgaria, Czech Republic, Hong Kong (China), Lithuania, Macedonia (in case of the voluntary pillar), Poland (in case of the funded pillar), Serbia (however all funds have established their website calculators), and Slovakia.

42. As already mentioned, pension projections are forbidden by law in Romania. Egypt did not provide clear information whether projections are mandatory or not.

### **1.5. What is the scope of pension projections?**

43. In most of the responding jurisdictions, projections show likely benefits only *from a single pillar*. This is the case of Albania, Armenia, Bulgaria (separate projections are available for benefits from mandatory and voluntary pillars), the Czech Republic, Egypt, Iceland (mandatory occupational pillar or state means tested benefit), Jamaica (occupational or personal pension plans), Lithuania (**tbc**), Macedonia, Mauritius, Mexico, Netherlands (occupational schemes; however an integrated projection at the MPO site is available, see below), Poland (only for unfunded pillar), Romania (occupational or individual funded pillars), Serbia, Slovakia (mandatory or voluntary pension funds), Suriname, and Turkey.

44. Only a few jurisdictions provide *combined pension projections*. In Australia projections undertaken by pension funds relate to occupational pensions but, in case of some providers, can include also information about likely value of a state pension (so-called age pension) at retirement. In Chile projections combine both mandatory and voluntary funded pillars; however do not include information about unfunded state pension as the latter benefit is means-tested. In Colombia pension projections provide information about both regimes (unfunded and funded). This is in line with the purpose of projections that are delivered to the members who intend to switch between the regimes. In Hong Kong (China) projections relate to mandatory MPF (the Mandatory Provident Fund) pillar. However, some online calculators provided by pension funds, as well as the one provided by the pension supervisor (MPFA) also allow users to input additional variables, such as voluntary contributions, for projecting the amount of their accrued benefits upon retirement. Similarly, in Ireland some providers may offer information not only about likely benefits from voluntary occupational pensions but also about voluntary employee benefits.

45. The *most comprehensive projections* in the researched jurisdictions are available at the Netherlands' My Pension Overview (MPO). The website collects pension projections on occupational benefits from different pension providers and adds the first pillar state pension to show the consolidated overview of both pillars. Similar solution for projections is planned to be introduced in Belgium at its governmental site<sup>27</sup>.

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<sup>27</sup> <https://mypension.onprvp.fgov.be/nl/mypension/Paginas/default.aspx>

## 2. How projections are made?

### 2.1. Inputs and assumptions used in surveyed IOPS jurisdictions

46. Table 1 provides a summary of variables used by entities involved in making pension projections, the source of these variables as well as some numerical examples.

47. *All data* is inputted by pension fund managing companies in Albania and by pension funds in Mauritius (with the help of actuary). All pension projection assumptions (except member-specific and scheme-specific admin data) in Australia are set by the Australian Securities & Investments Commission, on the advice of the Australian Government Actuary. In case of the Chilean pension simulator, the supervisor uses admin records and own assumptions. Also in Colombia and Romania it is the pension supervisor that sets up assumptions. In the Netherlands it is the Ministry of Social Affairs and Employment (SZW) that decides on the underlying assumptions and the methodology. The Ministry is advised by the pension supervisor (Central Bank of the Netherlands, DNB) and The Netherlands Authority for the Financial Markets (AFM) and are given input by the sector through stakeholder organisations such as the Federation of Dutch Pension Funds and the Dutch Association of Insurers. The Commissie Parameters (Parameters Committee) installed by the Ministry of Social Affairs, operates independently within the limits given by its instalment orders and sets up the parameters which pension providers should use for the projections of their financial plan. The use of assumptions by the pension provider is supervised by the DNB. These parameters are also used in the scenarios that pension providers use to communicate to members. Current parameters have been set 1 January 2015 and will be updated every five years. In Slovakia, all required data for pension calculators is inputted by users, whereas in Poland pension projection is performed on the basis of assumptions assumed by the Social Insurance Institution. In other cases, some data is provided by a pension fund member (or calculator user) and other by entities such as pension fund or provider.

48. Regarding *retirement age*, some jurisdictions use legal retirement age or values set up by the pension scheme. The same retirement age for projections enables consistency between retirement estimates. For example, in Australia, when estimating an annual income stream, funds must assume that an income will be required every year for 25 years from the age of retirement specified at 67, i.e. until age 92.

49. *Contribution rate* is either scheme-specific or established in law. Only in Bulgaria and voluntary system of Lithuania can members provide their own values. In Suriname this variable is decided by actuary. In case of Australia, the regulator requires that the input be calculated as the average (**tbc**) value from previous 12 months. The Turkish Pension Monitoring Center assumes the actual amount that was paid during the previous year. Depending on the nature of the scheme and national solutions, reported contribution rates ranged between 0 and 30%.

50. *Pension plan costs* are scheme-specific and are explicitly taken into account in Albania, Australia, Bulgaria, Macedonia, Mexico, Suriname, and Romania. In Hong Kong, China, in case of the MPFA calculator plan costs are not explicitly inputted but are incorporated in the assumed net returns. In similar vein, costs are assumed by an adviser or plan administrator in Ireland via reducing the assumed yield, and by pension fund and actuary in Mauritius if costs of a pension plan are not borne by employer. The same approach is usually taken in Lithuania. In many jurisdictions pension plan fees, that form main part of plan costs, are subject to legal ceilings<sup>28</sup>.

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<sup>28</sup> For detailed information on fee structures, levels and legal ceilings refer to IOPS (forthcoming) paper *Update on fees and charges* [currently IOPS.TC(2017)10.REV2].

51. Costs are not taken into account in case of projections made in Colombia, Egypt, Iceland, the Netherlands, Jamaica, Poland (ZUS projections), Slovakia, and Turkey (Pension Monitoring Center). In the Netherlands costs are displayed in general information but not in the UPO delivered by pension providers.

52. *Rates of return* most often are assumed by pension fund administrator/managing company (Albania, Bulgaria, Iceland, Macedonia, Mauritius, Mexico, Suriname), actuary (Egypt, Jamaica, Mauritius) or users of pension calculators (Hong Kong, China - MPFA calculator, Mexico - CONSAR calculators, Serbia, Slovakia). They can be also specified by law (Colombia - External Circular 051/2016, the Netherlands - based on parameters in Pensions Act), by pension supervisor (Chile, Romania) or pension fund advisor (Ireland). In Australia the expected rates of return on assets are set up by ASEIC with the help of Government Actuary. Real 3% p.a. net of tax and investment fees is assumed and is uniform for all funds, regardless of their asset allocation. Such standardisation is perceived appropriate as the main purpose of projections in Australia is “to provide members with a simple indication of the likely adequacy of their retirement benefit”.

53. In Chile and Colombia, assumed *returns vary by lifecycle portfolio* and for the former are assumed to follow random walk process with jump diffusion process). Also, in Hong Kong (China), reference values offered to a user of MPFA calculator vary depending on the category of fund and are calculated on the basis of *the historical performance* (as the annualized return of different constituent funds by fund types since inception of MPF system in 2000 until the end of 2016).

54. In Iceland, pension funds ambition is to deliver returns at the level of inflation (CPI) plus 3.5%. In Ireland, assumptions for rates of returns are made by pension scheme advisors; however they are subject to legal ceiling of 6%.

55. In Jamaica, rates are specified by actuaries and must be net of pension scheme costs. Also, in Mauritius, returns assumed by fund administrator or actuary for DC projections only reflect the expected asset allocation return *net of investment-related expenses*. On the contrary, in Mexico supervisor's calculators and pension companies assume a fixed annual real return before commission.

56. In Lithuania pension funds provide a range of returns to choose by a fund member on the basis of historical returns. Similarly, in Macedonia the rate of return applied to projections of first pension benefit depends on the prevailing market real returns on long-term debt securities in the previous year and pension fund's nominal average rate of return over last three years increased by the CPI index.

**Table 1 Variables used for pension projections in selected IOPS jurisdictions [to be extended]**

Variable	Source	Value/range
current age	<u>Admin records</u> (Egypt, Chile supervisor calculator, Iceland – from ID number, Ireland, Jamaica, Macedonia, Mexico in case of PBS, Poland – Social Insurance Institution, Suriname) <u>User/member</u> (Colombia, HK supervisor calculator, Lithuania, Mexico supervisors' calculator, Serbia supervisor's calculator, Slovakia calculators, Turkey Pension Monitoring Center) <u>Pension supervisor</u> (Egypt) <u>Actuary</u> (Egypt)	16-65 (Lithuania), 18-64 (Hong Kong China, MPFA supervisor calculator), 20-65 (Ireland), 22-60 (Egypt), 26 (default, Turkey Pension Monitoring Center)
retirement age	<u>Admin records</u> (Albania, Jamaica, Lithuania – usually legal age, Macedonia, Mauritius, the Netherlands, Suriname) <u>Legal age</u> (Australia, Chile supervisor calculator, Colombia, Iceland plus current years of contributing,	56 (Turkey plus min. 10 years of contributing), 57/62 (Colombia plus min. 1300 weeks of contributing in DC scheme), 60 (Egypt, Romania voluntary system), 60/65 (Mauritius, Poland), 61.2/64.2 (Bulgaria), 62/65 (Lithuania),

	<p>Poland, Turkey),  <u>User/member</u> (Bulgaria, Mexico – supervisor calculators and pension benefit statements, Serbia – supervisor calculator, Slovakia calculators)  <u>Supervisor</u> (Australia)  <u>Pension supervisor</u> (Egypt)</p>	63/65 (Romania mandatory system, to increase gradually to 65), 65 (Hong Kong - China supervisor calculator, default and fixed), 65-67 (Mexico), 67 (Australia), max. 70 (Serbia)
gender	<p><u>Admin records</u> (Australia, Chile supervisor calculator, Iceland – from ID number, Ireland, Jamaica, Macedonia, Mauritius, Mexico in case of PBS, Poland – Social Insurance Institution, Suriname, Turkey – Pension Monitoring Center)  <u>User/member</u> (Colombia, Mexico supervisor calculator, Slovakia calculators)  <u>Pension supervisor</u> (Romania)</p>	
contribution rate	<p><u>Admin records</u> (Albania, Australia, Egypt, Iceland, Ireland, Jamaica, Macedonia, Mauritius, the Netherlands, Serbia)  <u>Legal</u> (Chile, Colombia, Lithuania, Mexico, Poland, Romania, Turkey – Pension Monitoring Center)  <u>User/member</u> (Bulgaria, Lithuania – voluntary system)  <u>Actuary</u> (Suriname)  Pension Monitoring Center (Turkey)</p>	average value from previous 12 months (Australia), actual amount paid during the previous year (Turkey), 0-30% (Mauritius employer and employee), 3.75% (Romania mandatory with the actual individual contribution density), 5% (Bulgaria, universal mandatory pension funds), 5% or 10% (the Hong Kong China supervisor calculator), 6.5% (Mexico private sector), 7% or 12% (Bulgaria, professional mandatory pension funds), 10% (Chile), 11.3% (Mexico public sector), 16% (Colombia), 19.52% (Poland, unfunded pillar)
pension plan costs	<p><u>Admin records</u> (Albania, Australia, Bulgaria, Macedonia, Mexico)  <u>Actuary</u> (Suriname - with auditor and pension fund)</p>	average value from previous 12 months (Australia), actual fees charged (Mexico), up to 2.5% on contributions and up to 0.6% p.a. on assets (Romania, mandatory pension funds), up to 4% of contribution and up to 0.8% p.a. of assets (Bulgaria, universal mandatory and professional mandatory pension funds), up to 5% on contributions and up to 2.4% p.a. on assets (Romania, voluntary pension funds) up to 7% of contribution and up to 10% of returns (Bulgaria voluntary pension funds)
rates of return	<p><u>Legal</u> (Colombia, the Netherlands, Turkey)  <u>User/member</u> (Hong Kong China MPFA calculator, Mexico CONSAR calculators, Serbia calculators, Slovakia calculators)  <u>Pension fund managing company/administrator</u> (Albania, Bulgaria, Iceland, Lithuania, Macedonia, Mauritius, Mexico – regular projections, Suriname)  <u>Supervisor</u> (Australia)  <u>Pension supervisor</u> (Chile, Romania)  <u>Actuary</u> (Egypt, Jamaica, Mauritius)  <u>Pension fund advisor</u> (Ireland)</p>	0.5% real (money market), 0.8% (MPF Conservative Fund) 1.1% (guaranteed fund), 2.6% (bond fund), 3.6% (mixed assets fund), 3.9% (equity fund) – reference values (Hong Kong, China) 1-2% real ( <b>tbc</b> ) (Turkey Pension Monitoring Center) 2-9% real (Lithuania) 3% real, net of tax and investment fees (Australia) 4% real before commission (Mexico regular projections) 4% or 5% real before commission (Mexico CONSAR calculators) 4% real (conservative fund), 6% (moderate fund), 8% (great risk fund) (Colombia) 4-10% real ( <b>tbc</b> ) (Bulgaria) 5-10% real (net of investment-related expenses, Mauritius) 5.75% real (fund A), 4.89% (fund B), 4.15%

	(fund C), 3.53% (fund D), 3.00% (fund E) (Chile) up to 6% real (legal ceiling in Ireland) up to 20% nominal (Serbia, calculators) CPI plus 3.5% (Iceland) the average nominal rate for last three years plus CPI (Macedonia)
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**2.2. Who and how often reviews inputs and assumptions for pension projections? [to be developed]**

The second draft will be extended by the following sections:

**3. Presentation of results of pension projections**

**4. Supervision of pension projections**

**Conclusions**

### Related publications

Antolin, Pablo and Fuentes, Olga (2012), *Communicating pension risk to DC plan members: the Chilean case of a pension risk simulator*, OECD Working Papers on Finance, Insurance and Private Pensions, No. 28, [http://www.oecd.org/daf/fin/private-pensions/WP28\\_%20CommunicatingPensionRiskToDCPlanMembers.pdf](http://www.oecd.org/daf/fin/private-pensions/WP28_%20CommunicatingPensionRiskToDCPlanMembers.pdf)

Rinaldi, Ambrogio and Ceccarelli, Simone (2016), *Pension Projections and Risk Indicators for Pension Plan Members: Recent Experiences and Policy Issues*, unpublished manuscript

Sane, Renuka and Price, Will (2018), *Simulating Pension Income Scenarios with penCalc. An Illustration for India's National Pension System*, Policy Research Working Paper 8304, the World Bank, <https://openknowledge.worldbank.org/handle/10986/29214>