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Supervision of pension investment management including non-traditional investment

Dariusz Stańko, Björn Z. Ásgrímsson

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SUPERVISION OF PENSION INVESTMENT MANAGEMENT INCLUDING NON-TRADITIONAL INVESTMENT

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ABSTRACT

This paper investigates the approach and the methodology used for supervising private pension funds' investment management practices and activities, with a focus on non-traditional investment (such as hedge funds, currency, commodities, structured products, private equity, real estate or infrastructure). Its findings are based on responses from 43 IOPS members who provided feedback to the survey, as well as the analysis of the IOPS and OECD principles and OECD data on pension funds' investment limits and actual asset allocations in selected non-traditional investments.

The paper finds that practically all responding IOPS jurisdictions require that pension funds have a written procedure for investment and risk management processes. Main bodies in the surveyed IOPS jurisdictions other than supervisors themselves responsible for supervision of investment process and investment managers are, depending on the legal structure, trustees or boards of directors. About half of the respondent supervisory authorities do not require a split of responsibilities between risk- and investment management. Outsourcing of investment and risk management is allowed in most of the jurisdictions surveyed; although in five jurisdictions it is forbidden by law and in another two it is mandatory. In general, the pension fund is responsible for the choice and supervision of the external service providers whose services it draws upon and remains ultimately responsible for the outcomes. The role of the supervisory authority is to control the outsourcing process where applicable.

Usually the investment and risk management process includes some typical requirements such as pre- or post-investment authorisation, division of responsibilities, investment risk assessment, internal control, investment documentation and outsourcing. Such requirements are in line with the OECD/IOPS Good Practices for Pension Fund Risk Management. Only a few of surveyed IOPS jurisdiction offered examples of early warning mechanism or reported on noticeable trends towards including ESG factors in pension funds' investment process.

Illiquid assets, complex securities/strategies and unlisted assets and derivatives were perceived by supervisors as potential problems that may create risk to the rights and benefits of pension fund members. Responding authorities require disclosure to members on risk management policies and objectives and risk exposures. Such disclosure, however, relates to any type of investments, and is not limited to the non-traditional ones.

The report finds no significant differences in the supervision of pension funds´ investments in respect to traditional- or non-traditional investments (including no specific guidelines for non-traditional investments). This may be so because in some jurisdictions direct investment in non-traditional investments is not allowed or because non-traditional investments are still insignificant.

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A distinct approach towards the supervision of investment management of non-traditional investments is used by a portion of the jurisdictions that apply risk-based supervision. Considered as more risky than traditional assets, the non-traditional investments gain more supervisory attention. These jurisdictions have therefore issued certain guidelines or principles for non-traditional investments to help pension funds better assess such factors as counterparty risk, contract terms or valuation, as well as perform due diligence, and achieve appropriate diversification.

The report suggests that pension supervisors should consider issuing related investment guidelines to managing bodies of pension funds as well as applying in the future some of the experiences of these pension supervisors which are already using more distinct/elaborated approaches towards non-traditional investments.

Keywords: private pensions, investment management, non-traditional investments, supervision.

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

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SUPERVISION OF PENSION INVESTMENT MANAGEMENT INCLUDING NON-TRADITIONAL INVESTMENT

Project Background

At the IOPS Annual General Meeting held on 2 October 2014 in Swakopmund, Namibia, IOPS Members decided to undertake work on the role of pension supervisory authorities related to the supervision of investment management including non-traditional investment, infrastructure and long-term investment as a part of the IOPS Programme of Work (POW) for 2015-2016.

This project [1] was initiated by the IOPS members to investigate the approach and the methodology used for supervising pension funds' investment management practices and activities. In this regard, the project covers the following suggested topics:

- the extent to which entities other than pension supervisors, such as trustees or boards of directors, are responsible for monitoring the various forms of investment processes and investment managers;
- the approaches adopted in the supervision of investment management activities and investment managers with a particular focus on non-traditional investments;
- the challenges faced in the supervision of both traditional and non-traditional investment management activities.

The project builds on the G20/OECD High-level Principles of Long-term Investment Financing by Institutional Investors (OECD, 2016a). It also draws on the relevant IOPS work in the area of investments: Working Paper 13: Pension Fund Use of Alternative Investments (IOPS, 2011)[2], OECD/IOPS Good Practices on Pension Funds' Use of Alternative Investments and Derivatives (OECD/IOPS, 2011 a), and IOPS Principles of Private Pension Supervision (IOPS, 2013). Moreover, the project uses a tool developed by the OECD – its Recommendation on Core Principles of Private Pension Regulation (revised in 2016; OECD, 2016a) with regard to Core Principle 4 (Investment and risk management) in particular.

This report describes supervisory practices and experiences across jurisdictions of monitoring the investment process, including non-traditional investment, directed at enhancing supervision in this area. The replies to the questionnaire sent to the IOPS members in December 2015 provided the primary source of information. The paper uses also findings from the analysis of the OECD data on pension funds' investment limits and actual asset allocations on selected (data available) non-traditional investments. The supervision of infrastructure and long-term investments and ways it can be facilitated will be further investigated in more detail in the next stage(s) of the project.

[1] We thank the IOPS Project Team led by Peru. The team included representatives from Australia, Botswana, Hungary, Malawi, Mauritius, Peru, Poland, and Tanzania. We also thank IOPS Members as well as Dr. Luis-Mario Hernandez and Dr. Stephen Lumpkin, OECD, for their helpful comments on this report and Mr. Brendan Maton for his excellent editorial support.

[2] http://www.iopsweb.org/principlesandguidelines/48773865.pdf

Introduction

Pension funds are important players in financial markets with assets under management reaching an estimated USD 26.0 trillion in 2015 (OECD, 2016b, p. 7). They have a key social role in financing retirement income. The investment management function of pension funds is therefore of vital importance in all private pension fund arrangements. In order to promote both the performance and the financial security of pension schemes, it is critical that investment management function is implemented and managed responsibly.

Whether a type of pension plan is of a defined benefit (DB) or defined contribution (DC), the risk and return profile remains the main concern and the investment process needs to be prudent. In the case of defined benefit plans, investments are generally linked to the liabilities and solvency requirements given the fixed nature of the promise. By contrast, investments by defined contribution plans can have a direct effect on their ambitions regarding members expected replacement rate or other benchmarks (cf. IOPS, 2015).

Historically, authorities in many jurisdictions sought to ensure that pension promises would be met by imposing various quantitative limits on different types of pension fund investments, including the outright prohibition of investment in some types of assets. More recently, however, there has been a general shift towards the adoption of prudent person standards to guide pension investments, under which the governing body or other responsible party is given a broad authority to invest pension assets in a more flexible, but "prudent", manner accommodating the particular needs of the plan or fund. Under this standard, a governing body is expected to undertake obligations related to the investment management function with the requisite level of skill to effectively carry out that function (OECD, 2016a). It is therefore important that those responsible for investment management undertake their investment management obligations with the skills and knowledge necessary, whether the investment is executed and managed internally or delegated to external advice and management if needed. Expert knowledge is of vital importance for the sophisticated and complex issues that arise in today's investment management environment. It is also important to keep in mind that supervisors must have adequate financial and human resources as well as adequate powers to enable it to conduct proportionate, effective and independent supervision (IOPS, 2013)[3]. This may be particularly relevant while supervising non-traditional investments.

The financial crisis that began in the wake of the failure of Lehman Brothers resulted in big losses for institutional investors all around the world, especially with regard to equity and non-traditional investments. Some pension funds were among the investors that experienced considerable shortfalls, owing primarily to investments in non-traditional assets such as derivatives and complex structured financial products. Insufficient risk management can be seen as one of the main reasons for these losses. Both supervisors and stakeholders raised concerns that pension funds did not understand the products in which they had invested, or did not have the necessary risk management systems to cope with them.

The economic downturn which came on the heels of the financial crisis is likely to have a lasting impact on pension fund long long-term investment strategies and asset allocation. Importantly, it has promoted increased focus on proper risk management and on less risky investment strategies. At the same time, the prolonged low-yield environment has increased the need for return-enhancing strategies in search for yield (OECD, 2015a), which can have the opposite effect, leading to greater interest in non-traditional (alternative) assets which promise the higher yields needed to meet existing promises.

Non-traditional investments differ in several ways from the traditional stocks and bonds and cover a wide array of products. This investments category will typically include hedge funds, private

[3] Principles 3 and 4.

equity, real estate, currency, commodities, structured products and infrastructure. These assets raise a number of issues that are typically less relevant for non-traditional investments, including liquidity risk, operational risk, limited transparency, valuation weaknesses, control issues, counterparty risk, integrity risk, reputational risk, conflicts of interest and risk arising from outsourcing (IOPS, 2011). Many of these investments are complex and often require sophisticated methods of risk management and analysis. Nonetheless, pension funds do have a need for diversified asset allocation and non-traditional investments can provide the opportunity to better manage and mitigate overall portfolio risk and facilitate asset-liability matching by proper diversification.

The main advantage of non-traditional investments as a mitigation tool is the ability to pursue improved risk adjusted returns of investment portfolios. This can increase the diversification level and provide a more efficient investment mechanism for gaining exposure to certain assets and thereby allowing for improvement in the risk adjusted return of an investment portfolio.

But this comes at a cost. Non-traditional investments are in most cases very complex, illiquid and opaque, often with inherent risky strategies. More scrutiny, analysis and monitoring is therefore needed compared to other financial products. These assets are also more expensive to manage and can be difficult to justify for small pension funds that do not have well developed internal processes and risk management systems. As a consequence, small and medium-sized pension funds, when investing in non-traditional investments, often use funds of funds. While this approach adds another cost layer with less direct oversight it may provide a higher degree of diversification (OECD/IOPS, 2011a).

In addition to the above-mentioned risks pertinent to non-traditional investments, for some types of products the return performance relies to great extent on manager skill rather than asset class.

The complexity of non-traditional investment products and the inherent risks that can affect, in a negative way, the achievement of pension fund members' retirement goals, can cause concerns among the supervisory authorities charged with ensuring adequate protection of pension savings. The risk justifies an increased supervisory focus on pension fund investments in risky asset classes such as non-traditional investments. The increased speed and product development in the financial markets raises the need for pension fund supervisory authorities to monitor the developments of products which might pose a challenge to their supervisory objectives.

Scope and method

Because of the existence of a wide definition of non-traditional investment in literature and in practice (OECD/IOPS, 2011a), for the purpose of this paper the non-traditional investments by pension funds are defined as follows:

- direct investment in the following asset classes: private equity, real estate, infrastructure and commodities or
- indirect investments through either primary or secondary funds of private equity, real estate, commodities, infrastructure, or hedge funds.

It is suggested that the following aspects are kept in mind. Firstly, pension funds' positions in non-traditional investments such as hedge funds, currency, commodities and structured products can be more often open for a short investment horizon and frequently achieved through derivative products of all sorts for risk mitigation purposes. Secondly, private equity, real estate and infrastructure investments are commonly acknowledged as long-term investments.

The report relates to private pension funds only and uses a questionnaire as the tool for collecting information. The paper applies the top-down approach: after discussing the supervision of pension funds' investment and risk management processes in general (section 1), it provides findings on the supervision of non-traditional investments (section 2), and on strategies and approaches used by supervisors in overseeing and enforcing rules pertaining to this type of investments (section 3). The last section concludes.

1. Supervision of investment and risk management processes

1.1. Investment and risk management processes

Of the 43 IOPS jurisdictions that responded to the questionnaire[4] only three do not require by law for funds to have *a written procedure for investment and risk management processes*. It is a common practice that pension funds, when drawing up a written investment policy statement, should include the underlying principles guiding the strategy. Depending on the jurisdiction, those principles should be reviewed every year, no later than every three years or immediately after any significant change in investment policy. The statement should contain, at least, the investment risk measurement methods, the risk-management processes implemented (see Box 1.) and the strategic asset allocation with respect to the nature and duration of pension liabilities. The investment policy guides investment decision making and sets out how the plan/fund administrator is to comply with investment principles in order to:

- identify the kinds of investments that could be held (including non-traditional asset classes);
- indicate the allocation between different kinds of investments;
- address the nature and extent of risk that is anticipated in the investment portfolio; and identify the expected return on investments.

Box 1. Investment and risk management processes

Australia: The Superannuation Industry (Supervision) Act 1993 (SIS Act) and the Superannuation Industry (Supervision) Regulations 1994 (SIS Regulations) make provision of the prudent management of pension funds. The SIS Act prescribes certain covenants that apply to superannuation trustees.

Investment covenants are codified in subsection 52(6) of the SIS Act. This encompasses the formulation, the regular review and the giving effect to a written investment strategy which is appropriate for the circumstances and characteristics of the fund.

Risk covenants are codified in subsection 52(8) of the SIS Act. This contains the formulation, the regular review and the giving effect to a written risk management strategy which is appropriate for the circumstances and characteristics of the fund.

The Australian Prudential Regulation Authority (APRA) has also issued prudential standards which codify further requirements of the prudent management of trustees and funds:

- Prudential Standard SPS 220 – Risk Management (SPS 220) establishes requirements for trustees to have a risk management framework for identifying, assessing, managing,

[4] Albania, Armenia, Australia, Austria, Belgium, Canada, Chile, Colombia, Czech Republic, Ghana, Hong Kong China, Hungary, Iceland, India, Jamaica, Kenya, Lithuania, Luxembourg, FYR Macedonia, Maldives, Malta, Mauritius, Mexico, Mozambique, Namibia, Netherlands, Nigeria, Pakistan, Peru, Poland, Portugal, Romania, Russia, Serbia, South Africa, Spain, Suriname, Switzerland, Trinidad & Tobago, Turkey, Uganda, United Kingdom, Zambia.

mitigating and monitoring material risks.

- Prudential Standard SPS 530 – Investment Governance (SPS 530) establishes requirements for trustees to implement a sound investment governance framework and to manage investments in a manner consistent with the interests of beneficiaries.

Mexico: Each managing pension fund administrator (AFORE) must develop its manual of policies and procedure for the management of financial risk, which must be approved by the financial risk committee of the pension fund and by the pension fund administrator's governing body, with the affirmative vote of the majority of the committee's independent members.

This document must be approved by the pension supervisor (CONSAR) in the case of special types of instruments such as commodities, currencies, structured instruments, derivatives, individual stocks, FIBRAS – Mexican REITs - real estate projects securitisations, and investments through investment mandates. With regard to these instruments, the manual must contain, amongst others, such elements as: policies and prudential limits that apply to exposure to financial risks; models and methodologies applicable to the investment portfolio for the valuation of financial risk; the process for measuring, tracking and reporting the financial and operational risks linked with the investment of the pension fund; the prudential limits as well as policies related to correct deviations observed with regard to the risk limits; the internal control measures and mechanisms to correct deviations observed on the levels of tolerance of the operational risk associated with the investment process; the methodology for the valuation of derivatives and structured products.

The manual for managing the risk of other types of assets does not require approval by CONSAR. With regard to other types of instruments, the manual must also contain, amongst others, definitions and procedures for calculating risk limits at various levels; the process of approval of policies, criteria and strategies for financial risk management; and stress test scenarios for pension fund portfolios. In the case of using derivatives, foreign securities, commodities, currencies or REITs – the manual must describe processes to operate these instruments and the description of best practices of execution, as well as policies and maximum leverage limits approved by the financial risk committee. The document must also specify the valuation methodology of assets, the methodology for calculating Value at Risk and carrying out the sensitivity analysis, the methodology for determining the maximum leverage of derivatives, the performance and risk attribution methodology and the maximum tracking error methodology with respect to the pension fund's benchmark.

For the investment management process, each pension fund administrator (AFORE) must develop an investment manual. The manual must be approved by its investment committee and its governing body, with a positive vote of the majority of the committee's independent members. The manual specifies, among other matters: policies and procedures for the acquisition of allowed investment assets authorised by the investment committee; the obligations of the investment committee members; procedures for restructuring and selling structured notes; minimum standards of information disclosure on the issuers established by the investment committee; the methodology of stress-testing analysis; the methodology of the analysis of structured instruments, Mexican REITs and real projects securitisation; policies relating to price quotes for operation with derivatives; internal policies for the selection of counterparties, custodians, financial services providers, vehicles, REITS; mechanism to gain access to the best interest rates or current market prices at the moment of buying (including policies of execution of orders); the ethical code that should include a title applicable to the investment committee and the investment area employees; policies regarding the pension fund portfolio liquidity management and credit lines for each counterparty (in particular derivatives), a description of the IT system related to the investment process such as buying and selling, an online register of assets and any database structure generated for monitoring each activity.

UK: The requirement for pension funds´ statement of investment policy is set out in the past IORP Directive 2003/41/EC article 12[5]. Further guidance, not legally binding, is provided in The Pension

[5] Currently art. 30 of the revised IORP II (see Box 2.).

Regulator´s Integrated Risk Management (IRM). When documenting the IRM framework, trustees should consider how they:-

- articulate their overall strategy;
- record the assessments they have undertaken;
- record the decisions they made leading to the actions they have put in place (this may include an outline of alternatives considered and why they were discarded);
- where decisions have required particular judgment in the face of uncertainty, describe fully the process followed to make that decision, highlighting the differences that variations in the key assumptions might have made;
- record the input from and agreements reached with the employer;
- retain and retrieve the advice they have received in putting in place the IRM framework;

set out how they will monitor the material risks and put in place any contingency plans.

Source: IOPS Members survey.

Jurisdictions in the European Union follow, if relevant, the IORP II Directive principles with regard to investment policy design and review (see Box 2.).

Box 2. IORP II (Institutions for Occupational Retirement Provision) Directive (2016/2341/EC)

Article 30. Statement of investment policy principles:-

“Member States shall ensure that every IORP registered or authorised in their territories prepares and, at least every three years, reviews a written statement of investment policy principles. That statement is to be revised without delay after any significant change in the investment policy. Member States shall provide for this statement to contain, at least, such matters as the investment risk measurement methods, the risk-management processes implemented and the strategic asset allocation with respect to the nature and duration of pension liabilities and how the investment policy takes environmental, social and governance factors into account. The statement shall be made publicly available.”

Compared to the previous Directive, the new Directive additionally requires that the statement of investment policy must be made public and also contain an explanation on how the investment policy takes non-financial risks (ESG factors into account). Further requirements related to the investment policy statement are specified by:-

Art. 31.7: “Supervisory authorities shall have the necessary powers and means to obtain regularly the statement of investment policy principles, including documents such as evidence of consistency with the investment policy principles. Member States shall ensure that competent authorities have the power to request information from IORPs and from service providers about outsourced key functions or any other activities at any time”.

Preamble, point (60): “The investment policy of an IORP is a decisive factor for both the security and the long-term economic sustainability of occupational pension schemes. IORPs should therefore draw up and, at least every three years, review a statement of investment principles. Such a statement should be made available to the competent authorities and, on request, also to the members and beneficiaries of each pension scheme."

Source: (European Union, 2016) 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) (Text with EEA relevance), http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32016L2341.

As described in the OECD/IOPS Good Practices for Pension Fund Risk Management (OECD/IOPS, 2011b), risk management systems need to be proportional. For example, entities with more complex business models may need more resources to carry out their functions to help the governing board with tasks such as risk management, compensation, audit, or compliance. The governing board may alternatively, or in addition, rely on a centralised risk management function, such as a Chief Risk Officer. Whatever the structure chosen, it should reflect the nature and size of the pension fund, be established at the commencement of the pension fund and be clearly articulated as stated in the OECD/IOPS Good Practices for Pension Fund Risk Management (GP 2.).

Regarding *the pension fund board's responsibility for the investment and risk management process*, almost all (41 out of 43) jurisdictions reported that boards are fully accountable. The board of directors is usually responsible for the general policy of the pension fund, and supervises the other operational bodies (such as an investment committee) and service providers to whom the fund outsources its activities or functions, which may include the investment and risk management processes. These findings are in line with the OECD/IOPS Good Practices on Pension Funds' Use of Alternative Instruments and Derivatives (Principle 2), OECD Core Principles of Private Pension Regulation (Core Principle 4) and G20/OECD High Level Principles of Long-term Investment Financing by Institutional Investors (Principle 3). The main responsibilities of the pension fund board may include:-

- appointing a pension fund manager, custodians and other service providers and ensuring compliance with regulatory requirement or guidelines,
- preserving and updating investment policy statements and internal control procedures that may be required or prescribed by the regulator, and
- ensuring that investments are diversified to optimise the investment risk.

In general, pension funds' boards bear the burden of approving investment and risk management policies[6]. Furthermore, in most of the responding IOPS jurisdictions, boards are responsible for approving and monitoring targets, strategies, procedures, and taking further actions for an effective and due risk management, which indeed implies identifying, measuring, analysing, monitoring, controlling, informing, and disclosing of both quantifiable and non-quantifiable risks.

The survey reveals an interesting finding that almost half (21 out of 43) of the respondent supervisory authorities do not require *a split of responsibilities between risk and investment management*. This is most likely due to the principle of proportionality[7]. Taking into account the heterogeneous nature of pension funds, the principles of good governance must be implemented in a reasonable and proportionate manner. It is the responsibility of the fund to define a consistent and adequate policy of governance which

[6] In Mexico, both investment manual and manual of policies and procedures for the management of financial risk must be approved by the governing board and by the investment committee with proviso of positive votes received from the committee's independent members.

[7] See, for example, the OECD/IOPS Good practices on pension funds risk management system (OECD/IOPS, 2011b) or the past EU IORP Directive (2003/41/EC) (European Union, 2003).

is relevant for the activities in which it engages, depending on the volume, nature and complexity of its activities, and hence, depending on its risk profile. In light of this, it is commonly accepted that in smaller pension funds there is neither a strict separation between the risk and investment management functions, nor full independence between risk management and investment management. Nevertheless, the board of directors of all pension funds have to monitor and evaluate investment management on a periodic basis and take, if necessary, measures to correct weaknesses. One of these measures might be to install a risk management function which is separate and independent from the investment management function depending on the nature and size of the pension fund. It is obvious that if the same person is responsible for risk and investment management decisions, this can involve a conflict of interest that should be avoided.

Those jurisdictions that do not require this division of responsibilities by law, in practice require a split of responsibilities between the different activities of the pension funds based on the prudent person principle. Where funds are required by law to be managed by a management company, generally investment rules stipulate a split of responsibilities in the investment process. In the European case such a requirement is based on compliance with the MIFID II regulation[8].

The majority of respondent jurisdictions (32) report that the following *requirements are included in the investment and risk management process*: pre- or post-investment authorisation, division of responsibilities, investment risk assessment, internal control, investment documentation and outsourcing. Such documentation of the investment process is assumed to be vital in tracking pension funds' investment- and the risk management process, which is important for supervisors, internal control and audit and management oversight as well.

These requirements for pension funds can be described in the following way:-

- *Pre- or post-investment authorisation*: Implement authorisation processes regarding investments.

- *Division of responsibilities*: Ensure segregation of responsibilities of risk management and business management at all levels.

- *Investment risk assessment*: Ensure implementation of procedures that allow for monitoring risk measure at any moment and the impact of these procedures on the overall risk associated with investing. Risks should be measured on the basis of credible and reliable data.

- *Internal control*: Implement and maintain internal control rules, which apply to all management and organisational levels. Part of the internal control system is also the internal audit function. Risk management systems and financial management and valuation are subject to internal audit.

- *Investment documentation*: Document the method of execution of the investment transactions and control objectivity of recorded data.

- *Investment outsourcing:* Ensure that these activities are conducted in accordance with the applicable laws and internal regulations.

The above requirements are in line with the OECD/IOPS Good Practices for Pension Fund Risk Management (OECD, 2011b). According to the Good Practice no. 2 (Management Oversight and Culture) a documented risk management process is an important part of the risk management system. Therefore, the

[8] Directive 2014/65/EU of the European Parliament and of The Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast) (European Union, 2014).

governing board should check that their risk management is working effectively on an ongoing basis and that there is a process in place for modifying or adapting the strategy as required. Such strategy also needs to be documented, communicated to all relevant staff members and followed. The investment strategy should also be written down, regularly checked and updated and cover a comprehensive list of essential elements (Good Practice no. 4 Investment/Market Risk Control), including information about intended investments in non-traditional (alternative) assets.

1.2. Fit and proper requirements

Pension fund governance is a primary line of pension supervision. According to the OECD Core Principles of Private Pension Regulation (OECD, 2016a), the governing body of the pension fund and/or pension entity and other parties exercising authority or control should be subject to a "*prudent person standard*" (Implementing Guidelines 4.2 to Core Principle 4 Investment and Risk Management). This standard postulates that the investment of pension assets is undertaken with care, the skill of an expert, prudence and due diligence. Where the governing body or other appropriate parties lack sufficient expertise to make fully informed decisions and fulfil their responsibilities, they should be required to seek the external assistance of an expert.

All of 40 jurisdictions that responded to this question report that *persons responsible for the investment process are required to meet the fit and proper requirements* imposed by law or regulation. In general terms, these requirements apply to members of the board and other operational bodies of a pension fund (which may include the investment committee), who must have the necessary professional integrity and appropriate professional qualifications and experience to carry out their functions. Qualifications and experience are assessed in particular with respect to the functions to be performed and to the extent that the services are sought of advisers who possess such qualifications and experience.

Furthermore, as reported by Austria, the management board of the pension fund shall ensure that the investment of the assets allocated to an investment and risk-sharing group is performed by persons who are professionally qualified to do so and who have the relevant professional experience. Apart from the persons working in the field of investments, at least one board member as well as the actuary must be appropriately knowledgeable about the risk models used. In Chile, the ethical and professional conditions required by internal or external personnel participating in the investment area are determined internally by each pension fund managing company. Polish pension managing companies are obliged by law to employ at least one investment advisor (who is licensed to perform asset management); however there are no fit and proper requirements with regard to persons in charge of risk management. In Romania, the heads hired by a pension managing company to undertake internal control and risk management functions must be interviewed and authorised by the pension supervisor. In Switzerland, all persons in charge of the administration of a pension fund must have thorough practical and theoretical know-how in the field of occupational benefits and meet the demands in terms of integrity and loyalty. In the UK, new trustees must acquire the appropriate knowledge and understanding within six months of being appointed (with certain exemptions applicable to very small pension schemes). The law requires trustees to be familiar with certain scheme documents including the statement of investment policy principles (SIPP). In the context of the UK DB and DC plans trustees are required by law to prepare and approve the SIPP, consult with the employer and obtain and consider written advice from a competent person.

Some regulators provide guidelines with regard to the fit and proper requirements. This is the case of Australia where the regulator issued guidance on a prudential standard SPS 520 – Fit and Proper (SPS 520), which sets out minimum requirements for trustees in determining the fitness and propriety of individuals who hold "positions of responsibility".

The UK regulator also provides trustees with some practical guidance on the expected standards around knowledge and understanding of investments and the SIPP. The regulator also encourages trustees to complete its Trustee Toolkit[9], an interactive online learning tool to help them meet the minimum level of knowledge and understanding required by the law.

In several jurisdictions, investment managers (e.g. Mauritius) or trustees (e.g. Uganda) must be licensed by the supervisor or certified by an independent third party designated by the supervisor (e.g. Mexico, South Africa for investment managers). Fit and proper requirements in some jurisdictions also explicitly treat the conflicts of interests (e.g. Albania or Switzerland).

1.3. Compliance

Compliance reports are common practice in 32 jurisdictions. These reports are more related to compliance with the investment policy statement. This is most often the case in prudential supervision. In cases where compliance-based supervision is in place, the compliance with existing investment limits has to be reported to the supervisory authority. Some jurisdictions emphasised that the management board briefs the supervisory board on the risk situation in the form of a written risk report at least quarterly, and that risk reporting needs to be done in a clear and meaningful manner. They also noted that, apart from a description, the report is also supposed to contain an assessment of the risk situation as well as of the measures realised and planned. Significant changes to the risk situation must be reported to the management board and the competent decision makers without delay (e.g. Austria).

In some jurisdictions, compliance reports include information on implemented investment strategy (e.g. Albania, Belgium). In Jamaica, investment managers are required to produce a quarterly fund status report to a supervisor, which includes checks that require the investment manager to confirm whether there are adequate systems and controls to ensure that pension plan assets are being invested in keeping with the requirements of the plan's constitutive documents; and to monitor, identify and manage risk in all its forms for pension plans. In Mexico, each pension fund managing company has to have a unit of comprehensive risk management (UAIR) that delivers on a daily basis to the pension fund managing company's director general, compliance officer and investment director, an executive report on the behaviour of the financial risks. On a monthly basis, the unit also updates these executives on numerous aspects of the investment portfolio risks[10]. The compliance officer must elaborate on a monthly basis a report that includes, among others, an assessment of compliance with self-regulating obligations, information about any financial irregularities detected in the management and operation of the pension fund managing company and its funds, and on preventive and corrective actions taken. Similarly, pension funds in Peru must have internal auditing units reporting on the compliance of investment process for all sorts of asset classes and alerting the board of any non-compliance issues as well as proposing measures to avoid them in the future.

In general, the role of portfolio limits, being one of the elements of the compliance system, is to implement the prudential principles of security, profitability and liquidity at the regulatory level, rather than pension fund level, and to effect or make an initial strategic asset allocation decision applicable to all pension funds subject to the legal provision. Portfolio limits may be applied to ensure a minimum degree of diversification and asset-liability matching (OECD, 2016a).

[9] https://trusteetoolkit.thepensionsregulator.gov.uk/

[10] This analysis covers such items as the exposition by types of risks, sensitivity analysis by asset class or risk factor, deviations from maximum risk limits, portfolio return and risk attribution by asset class or risk factor, tracking error, portfolios exposition by type of risks, use of the regulatory investment and prudential limits, results of the stress test, leverage and liquidity measures, credit risk exposition, etc.

1.4. Outsourcing

Outsourcing of investment management is, as expected, allowed in most (34) of the jurisdictions; although in nine jurisdictions[11] it is forbidden by law. In the two jurisdictions of Hong Kong, China and Kenya, it is mandatory to outsource investment management but the outsourcing of risk management is not allowed. In Uganda, the legislation requires pension funds to outsource investment management. In the UK trustees have a statutory obligation to appoint a fund manager if they hold assets which comprise or include investments.

In general, the pension fund has responsibility for the choice and supervision of the external service providers whose services it draws upon (e.g. Belgium). In particular, it has to ensure their necessary professional competence and experience. Use of external service providers in no way diminishes the responsibility of either the institution or its operational bodies and may not hinder the supervision of the institution (e.g. Australia, Austria, Hong Kong (China), the Netherlands

Trustees in Australia are obliged to consult with the supervisor prior to entering into outsourcing agreements with providers that conduct their activities outside of Australia and notify the supervisor after entering into agreements to outsource material business activities. They also need to demonstrate that the contract has met legal requirements with regard to assessing the appropriateness of the agreement. As emphasised by the Czech supervisor, it is important that pension funds have in place a written outsourcing policy approved by the board. Outsourcing of activities should be undertaken in such a way as to avoid jeopardising the control/supervision of outsourced activities, ability to exercise prudent management, or the rights of pension funds and the participants. In Jamaica and the Maldives, outsourced investment managers must be licenced by the pension supervisor, whereas in Uganda also by the Capital Markets Authority. In Lithuania, only management of up to 40% of assets can be outsourced (60% of assets must be managed by the pension fund company). In Luxembourg and Malta, the intention of outsourcing must be notified to and approved by the supervisor. In Mexico, the investment committee approves all of the operational criteria for investment mandates and defines a benchmark to be used for the evaluation of the investment manager performance. The contract between the pension fund managing company (AFORE) and the investment managers must be available to the supervisory authority at all times. The Mexican pension supervisor produced a set of guidelines on the minimum contents that must be included in the contracts signed between the pension fund managing company and the external managers to provide investment management services (Box 3.). In Mozambique and Nigeria, only investment management can be outsourced.

Box 3. Supervisory guidelines on outsourcing of investment management services in Mexico

The National Commission of the Retirement Savings System (CONSAR) and the Risk Analysis Committee of the Retirement Savings System have developed the following guidelines on the outsourcing of investment management services by pension fund managing companies (AFOREs) to specialised investment managers:

1. *The AFOREs must sign a contract* with the provider of investment management services with clear specification of the rights and responsibilities of each party. Any breach of the pension funds' investment regime (IR), confidentiality/audit/integrity provisions and inadequate operational control are sufficient reasons for the early termination of the contract.

2. *Attorneys must pass their judgment on the contract*, including on the choice of law and the jurisdiction in

[11] In Armenia (outsourcing possible only for investments abroad), Albania, Colombia, Iceland, India, Peru, Poland (outsourcing possible only for investments abroad), Serbia and Romania.

case of disputes (which must be among the Eligible Countries approved by the current CONSAR regulation). The contracts must be approved by the pension fund investment committee and its independent counsellors.

3. *Investment mandates must comply with the current IR* of a pension fund managing company. The specialised manager is responsible to the pension funds for any breach of the current IR.

4. *Outsourcing.* Specialised managers, hired by pension funds, are not allowed to outsource to other parties in matters of investment management and are not allowed to acquire permissible investment assets through investment vehicles.

5. *The specialised manager must be eligible to manage* a percentage of the pension funds' investment portfolio (5% maximum or 3% in case of commodities) by meeting specified criteria on avoiding conflicts of interest, meeting the fit and proper requirements, and demonstrating proven experience.

6. *Screening process to select the specialised manager.* The AFOREs must invite prospective managers to compete for an investment mandate based upon the criteria established by AFORE committees. The request for proposal should include the clearly stated objective of the mandate, deliverables, action plan, and the permissible means to achieve it.

7. *The outsourced assets must be kept in segregated accounts* from the equity of the specialised investment manager, with the custodian being hired by the AFORE.

8. *Governing bodies of the specialised manager.* The contract must formally explain the structure, members, duties and powers of the specialised managers' governing bodies. The specialised manager is required to provide the AFORE with the code of professional ethics, made also available to the CONSAR, which governs the behaviour of personnel involved in the administration of assets.

9. *Operational risk of the specialised manager.* The contract must specify that the specialised manager must provide to the contracting AFORE a manual of operational risk management that contains a procedure for identifying, monitoring, controlling and mitigating operational risks, as well as contingency plans and processes to ensure business continuity in the agreed terms. The outsourced party needs to prove that it relies on robust systems that allow the processing of transactions, valuation and risk control, including data processing systems with adequate backup and control allowing data recovery.

10. *The specialised manager and the custodian must not exercise control over companies* on behalf of the AFOREs. In case of obtaining control of a firm listed on a recognised exchange through the investment of the pension fund's resources, the specialised manager or the custodian must be subject to the decisions of the majority of the remaining shareholders.

11. *Structure of management fees and services* to be provided to the contracting AFORE. The contract must contain the specification of total annual costs to be covered by the outsourcing services, which must include the management fees of the mandate.

12. *Valuation of the outsourced portfolio.* The valuation of the segregated portfolio should be done on a daily basis and conducted based on international standards by independent valuation companies, hired by the custodian.

13. *Regular detailed information on investment and assessment of the specialised manager*. The AFORE must establish in the contract the minimum frequency with which it will receive detailed information about the outsourced investments for the purpose of determining compliance with the mandate. Periodic reports have to clearly identify and quantify the exposure of the outsourced portfolio in market, liquidity and credit risks and contain evidence of portfolios under stress scenarios, taking into consideration the eventuality of illiquid markets.

14. *Investment strategy, use of derivative instruments and alternative investments.* The specialised

manager must report on a regular basis to the AFORE the characteristics of the target/benchmark investment for the medium term asset allocation, indicating for information purposes the expected returns and risks. The AFORE must clearly specify in the contract whether the specialised manager requires approval for implementing its target investment in the medium term, as well as any adjustments made to them. The contract must specify the intended investment objectives in seeking to use derivatives and alternative investments allowed in the IR. The specialised manager is only allowed to use those derivatives authorised in the IR, which clearly establishes the counterparties, types of derivative operations, the authorised markets and the underlying contracts.

Derivatives traded on behalf of the pension funds must be listed on exchanges recognised in the IR or on the over-the counter (OTC) exchanges belonging to Eligible Countries for investments. The specialised manager must indicate the leverage used, if any, for achieving the stated objectives.

15. *Market risk measures applicable to the specialised manager*. The contracting AFORE must indicate to the specialised manager risk measures to be used in the portfolio management of the outsourced investments which are subject to approval by the CONSAR's Risk Analysis Committee. The specialised managers must also calculate and periodically report to the AFORE portfolio's sensitivity to risk factors' changes.

16. *Audits of the specialised manager*. The contract must provide the right to the AFORE to know the reports of external and internal auditors about the management of the outsourced investment portfolio on behalf of pension funds operated by the contracting AFORE. The specialised manager may also be subject to audits as per AFORE requests, with an agreed frequency.

17. *Conflicts of interest*. The specialised manager is not allowed to have the status of related company with the contracting AFORE; is not allowed to take its own position with the pension fund's investment assets; is not allowed to acquire financial instruments when the underwriter is an entity that is part of the same financial group to which the specialised manager belongs or an entity with proprietary ties to the contracting AFORE.

18. *Regular detailed information about the investments* for monitoring purposes. The contract must provide that, for purposes of supervising, CONSAR has to receive detailed information about the investments of the outsourced portfolios with the frequency that CONSAR has notified the pension funds.

19. *Scope of the investment management*. Until the Risk Analysis Committee of the CONSAR determines a different criterion, the specialised managers can manage only foreign securities that are traded in eligible international market and commodities. These guidelines do not apply to mandates for structures instruments, except for REITs listed on any stock exchange in Eligible Countries, other than Mexico, defined by the IR provisions.

Source: Authors' own compilation of the *Approved guidelines by the risk analysis committee on the minimum contents that must contain the contracts signed between the AFORE and the specialised managers to provide investment management services*, issued by the National Commission of the Retirement Savings System (CONSAR, undated), https://www.gob.mx/cms/uploads/attachment/file/63526/lineamientos_para_mandatos_de_inversion_eng.pdf

1.5. Early warning mechanisms

When analysing the responses regarding *the early warning mechanisms* (EW) the supervisors have in place to detect cases of compliance failure in the investment and risk management of pension funds, the authorities revealed different understandings of EW. Some reported that it was the pension fund´s ultimate responsibility to detect early warning by implementing a sound investment and risk governance framework, including reporting of compliance failure. Others mentioned that off-site and on-site inspection were also important activities in early warning detection.

Three countries, Belgium, Peru and Kenya (Box 4.) reported the use of the risk-based supervisory approach as early warning mechanisms. However, we know there are more IOPS jurisdictions with this approach as the risk-based supervision in pensions has been intensively researched by the IOPS. The IOPS Toolkit for Risk-based Pensions Supervisors[12] provides a structured approach focusing on identifying potential risks faced by pension funds and assessing the financial and operational factors in place to mitigate those risks. This process then allows the supervisory authority to direct its resources towards the issues and institutions which pose the greatest threat.

Box 4. Early warning mechanisms

Belgium: The Financial Services and Marketing Authority (FSMA) has developed an internal 'risk model' which allocates a score (from A: 'Good' to E: 'Bad') to all IORPs, based on an assessment of their 'risk profile'. This 'risk profile' is determined in an automated manner on the basis of data entered by the IORP in its annual reporting. Based on the results of this 'risk model', the FSMA carries out occasional in-depth reviews of some IORPs presenting 'bad' scores.

The FSMA can also carry out horizontal reviews for the entire Belgian IORP sector. For instance, the FSMA has already done such a horizontal review of Strategic Investment Policy (SIP) statements in the past. This horizontal review of all IORPs consisted in screening the SIPs as well as:

- the portfolio of the IORP as reported to the FSMA, and
- the reporting of the asset manager(s).

This horizontal review was an opportunity to monitor cases of compliance failures.

Besides the above methods, the FSMA carries out occasional reviews to detect possible cases of compliance failure based on an event-based approach: as part of an authorisation process or of an application of extension of authorisation and in the framework of cross-border notifications.

Kenya: The Authority adopted risk-based supervision system and monitors overall risk scores for the pension industry and tracks risk scores for each scheme. Any scheme with a risk score higher than certain limits attracts special attention from the regulator to deal with the risk exposures it faces. A number of factors go into the computation of the risk score.

Peru: Investment transactions concluded by pension funds are reported on a daily basis; thereby the Peruvian pension supervisor (SBS) assesses that information and makes internal reports periodically to conclude whether or not pension fund managers have breached any rule, focusing on abnormal actions.

In the event of any abnormal action occurring in public markets, the trade information is conveyed to the Peruvian Capital Market Regulator (SMV). It is coupled with monthly reports on pension funds' performance by SBS.

Moreover, SBS maintains an ongoing watch on portfolios' investments as well as co-ordinating with fellow regulators.

Source: IOPS Members survey.

[12] See http://www.iopsweb.org/toolkit/

1.6. Environmental, Social and Governance (ESG) investments

Five jurisdictions reported *noticeable trends towards including ESG factors* in pension funds' investment processes. These are: Australia, the Netherlands, Spain, the UK and one provincial jurisdiction in Canada. In Austria, ESG criteria are explicitly mentioned by law as possible factors within the investment process (Box 5.).

Box 5. Reporting of ESG factors in pension funds' investment process

Austria: According to Article 25a of the Pensionskassen Act, the declaration of the investment policy principles may include the potential selection of assets according to ethical, ecological and/or social criteria.

Australia: There are trustees and funds which voluntarily incorporate ESG factors in their investment decisions, including non-traditional investments, or which offer ESG-focused investment options. For example, as reported in the Responsible investment 2015 Benchmark Report (Australia), investors integrating ESG strategies represent AUD 598 billion (Australian dollars) assets under management as at December 2014.

In related guidance - SPG 530 - APRA expects that trustees would demonstrate appropriate analysis that investment strategies which incorporate ESG focus are in the best interests of beneficiaries, including liquidity and diversification considerations.

Canada: One province[13] has recently introduced a disclosure requirement regarding ESG policy. Under this new regulation, a pension fund's Statement of Investment Policies and Procedures (SIPP) must include information as to whether ESG factors are incorporated into the fund's investment policies and procedures and, if so, how those factors are incorporated. The SIPP (which includes the ESG disclosure) must be filed with the authority, and made available to plan members and other stakeholders upon request.

The authority has taken the position in an investment guidance note that the disclosure should indicate if the incorporation of ESG factors is limited to certain asset classes, such as non-traditional investments. The authority has issued a policy providing guidance on the nature of the disclosure.

The Netherlands: Pension funds have the following statutory obligation: "a pension fund describes how it takes into account environment and climate, human and social relations when investing". This means that any pension fund, while not obliged to pursue an ESG policy, is at least required to explain why it chooses not to do so. And if it does choose to formulate and pursue an ESG policy, it could well be argued that such a policy must be incorporated into its business processes, its risk management processes and its management information systems.

Spain: In the case of occupational pension funds, the investment policy declaration should specify[14] whether the fund takes into consideration in investment decisions, extra-financial risks affecting the different assets in the portfolio. The should include among others:-

a. the specific principles that apply to the consideration of the existence of extra-financial risks in an investment, including ethical, social, environmental and governance criteria employed.

b. the categories of assets of the pension fund on which the analysis is carried out in connection

[13] Ontario, effective 1 January 2016, see http://www.pionline.com/article/20150109/ONLINE/150109915/ontario-requiring-all-db-funds-to-disclose-esg-data

[14] https://www.boe.es/buscar/act.php?id=BOE-A-2004-3453, RD 304/2004: art. 69.: Principios generales de las inversiones (General principles of investments).

with the consideration of non-financial risks.

c. the minimum percentage of the portfolio invested in those assets which take into account extra-financial criteria.

d. the procedure for the implementation, management and monitoring of defined principles. Specifically, the procedure should note the measures provided for verification by the supervisory board or the management entity of compliance with the specific principles defined in the fund's investments that take into account extra-financial risks.

The annual management report of the pension fund must contain the policy pursued in relation to socially responsible investment criteria. It should contain specifically the procedure followed for policy implementation, management and monitoring, and should indicate the percentage of the fund invested in assets that take into consideration such criteria.

UK: Trustees are required to state in their scheme's statement of investment principles the extent (if any) to which they have taken social, environmental or ethical considerations into account in the selection, retention and realisation of investments and their policy (if any) in relation to the exercise of the rights (including voting rights) attaching to the investments (see regulation 2(3)(b)(vi) of the Occupational Pension Schemes (Investment) Regulations 2005 (SI 2005/3378)).

Source: IOPS members survey.

In the UK, the Law Commission of England and Wales (2014) published a report, Fiduciary Duties of Investment Intermediaries, which concluded that trustees should take into account factors which are financially material to the performance of an investment. Where trustees think ethical or environmental, social or governance issues are financially material, then they should take them into account. It also concluded that the law permits trustees to make investment decisions that are based on non-financial factors (including ethical or ESG factors) provided that they have good reason to think that scheme members share the concern and there is no risk of significant financial detriment to the fund).

In South Africa, in line with Regulation 28, the board of each pension fund must, before making an investment in and while invested in an asset, consider any factor which may materially affect the sustainable long-term performance of the asset including, but not limited to, those of an environmental, social and governance character.

Even though not imposed by law or regulations in other responding IOPS jurisdictions, it can be the case that pension funds voluntarily incorporate ESG factors in their investment decisions, including non-traditional investments, or which offer ESG focused investment options. The OECD 2015 survey on large pension funds found that "virtually all funds surveyed have integrated some form of ESG considerations into their investment and risk management processes, or have at least initiated the process of evaluating ESG practices." (OECD, 2016c, p. 30).

2. Supervision of non-traditional investment by pension funds

2.1. Investment regulations in OECD/IOPS jurisdictions for selected non-traditional asset classes

This section presents the analysis based on the OECD 2016 Annual survey of investment regulations on pension funds (OECD, 2016d) covering all 35 OECD members and most of the IOPS jurisdictions (39). The information is as of December 2015 and if not stated otherwise, the limits refer to direct investment.

In general, only eight OECD countries (Australia, Belgium, Canada, Ireland, the Netherlands, New Zealand, the United Kingdom, the United States) and one IOPS country (Malawi) do not impose quantitative limits for real estate, private investment funds as well as foreign currency and derivatives. These countries also allow unrestricted investment abroad. Their main qualitative rule stipulates that trustees or pension managers have to consider diversification in their allocation decisions, i.e. the investment management must follow a prudent person principle.

Real estate

14 jurisdictions[15] allow *unlimited direct exposure to real estate*, whereas 18 jurisdictions[16] *ban* direct investments altogether domestically and internationally. However, even though the direct route is prohibited, *indirect investment in real estate* is still possible in 7 of the 18[17]. Additionally, in Denmark direct investment in real estate is allowed with no limits if it relates to gilt-edged securities (considered to be a safe investment) and is restricted to 70% otherwise. The Former Yugoslav Republic of Macedonia bans direct investment unless it is done through mortgage-backed securities or indirectly.

It can be observed that unlimited access of pension funds to real estate is granted predominantly in the Anglo-Saxon countries and some developed European countries like Austria, Belgium, the Netherlands, Norway and Sweden. From the non-OECD countries such liberal rules can be found only in Jamaica, Malawi and Mauritius, whereas the overwhelming majority of jurisdictions puts full or partial restrictions on this asset class.

Apparently, even when fully allowed, there can still be found some investment concentration limits, such as for example in Mauritius where maximum 10% of the total value of a pension scheme's assets can be invested in a specific real estate property. Moreover, the investment made by a private pension scheme in Mauritius must have regard to the extent to which the investment strategy is consistent with the scheme's investment policy and the scheme has to assess its compliance with the various concentration limits as specified in national rules.

In some jurisdictions, unlimited direct investment in real estate is allowed *only for specific types of pension plans* (this is the case in six jurisdictions[18]), while it is partly restricted or forbidden for other

[15] Australia, Austria, Belgium, Canada, Ireland (but 50% limit if unquoted investments are done by small pension plans with fewer than 100 members), Netherlands, New Zealand, Norway, Sweden (with limits on the value of individual investment in the case of friendly societies' pension plans), the United Kingdom, the United States (with some limits on real estate if it is leased to employers), Jamaica (if investment is done for income generation; 5% limit otherwise), Malawi, and Mauritius. The last two countries impose no limits for total exposure (i.e. direct and indirect).

[16] Chile, Italy, Japan, Poland, Albania, Armenia, Colombia, Costa Rica, Hong Kong (China), Kosovo (including indirect investment), Lithuania, Former Yugoslav Republic of Macedonia, Maldives, Nigeria, Pakistan, Peru, Romania and Thailand.

[17] Italy (20% if done via real estate investment funds and 30% in case of real estate investment funds, private investment funds and securities not traded in regular markets), Mexico (through authorised REITs – FIBRAs, publicly offered certificates of development capital – CKDs or structured debt linked to real estate), Costa Rica (through bonds issued by a specialised trust or by developers, banks and development banks as long as these securities meet the debt regulations), Hong Kong (China) (through bonds and shares of property companies or approved REITs), Former Yugoslav Republic of Macedonia (through open and closed-end investment funds), Peru (through real estate funds and trusts), and Thailand (through real estate funds, REITs, infrastructure funds or junk bond funds).

[18] Finland (total exposure, voluntary pension plans), Germany (total exposure, Pensioenfonds), Korea (personal pension trusts), Luxembourg (pension savings companies with variable capital and pension savings

types of pension arrangements. In four jurisdictions[19], such investment is not allowed for some types of pension arrangements but is for others.

Investment limits of 10% are set up in the Czech Republic (for transformed pension schemes of the 3rd pillar), Luxembourg (DB pension funds), and Russia (voluntary pension funds). Limits between 10 and 40% are stipulated in South Korea (25%, personal pension insurance), Latvia (15%, voluntary pension funds), Germany (25% of total exposure, Pensionskassen), Portugal (20%, personal retirement savings schemes financed through pension funds), and Malta (30% total exposure, occupational retirement schemes). In Finland voluntary pension funds can invest directly up to 40% in real estate.

The other 29 jurisdictions that responded to the OECD survey impose different levels of *quantitative limits* that may also vary depending on the type of pension plan. Investment limits of up to 10% are present in Hungary (5% directly and 10% in total via real estate investment funds, voluntary first pillar funds), Brazil (8%), Bulgaria (10%, voluntary pension funds), Egypt (10% directly or indirectly via mortgage investment funds), Ghana (5%, only indirectly via mortgage-backed securities and REITs)[20], Slovakia (for voluntary pension funds), Serbia (5%, only in Serbia and for leasing purposes) and the Ukraine (10%).

Limits of between 10% and 40% are in force in Estonia (40%, mandatory funds), France (40%), Greece (20%), Hungary (total exposure of 10% for voluntary third pillar pension funds) Israel (15%), Slovakia (25% for voluntary pay-out phase pension funds), Slovenia (20% total exposure), Spain (30%, same limit for mortgage loans), Switzerland (total exposure of 40% with the possibility to increase it if pension funds investment regulations meet prudential risk management principles), Indonesia (20%), Jordan (30%), Kenya (30%), Malaysia (15%)[21], Namibia (25%), South Africa (25%), Tanzania (30%), Trinidad and Tobago (20%), Uganda (30%), Ukraine (10%), and Zambia (30%). The Seychelles impose a requirement to invest at least 30% but not more than 60% of assets in real estate. Uganda allows investing up to 70% in shares in companies quoted on a stock exchange in East Africa and collective investment schemes approved by the Capital Markets Authority, whereas Zambia allows only domestic exposure to real estate assets.

More aggressive investment, exceeding 40%, is allowed in Estonia (total exposure for voluntary pension funds is 70% but up to 20% directly), Iceland (60% but unlimited if investment is done in residual property), Gibraltar (50% (in case of loan capital or debentures of the employers and connected persons, domestic residential property, property owned by the pension fund and occupied by employers for business purposes), Liechtenstein (50%) and Suriname (50%).

The Dominican Republic stipulates different levels of investment limits in real estate depending on the vehicle – 10% for instruments issued by the National Housing Bank and local governments to

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associations), Portugal (total exposure, closed and open pension funds), and Malta (voluntary retirement schemes).

[19] Czech Republic (transformed pension schemes of 3rd pillar), Korea (DB and DC funds), Latvia (mandatory pension funds), Russia (mandatory pension funds such as default, conservative, term annuities, investment portfolios chosen by participants or non-state pension funds).

[20] Information retrieved from https://www.npra.gov.gh/Registration/GUIDELINES-ON-INVESTMENT-OF-SCHEME-FUNDS.pdf, access in May 2017.

[21] Malaysia is not an IOPS member. Malaysian private pension schemes can invest directly in real estate and lands up to 15% of fund's net asset. Information retrieved from https://www.sc.com.my/wp-content/uploads/eng/html/resources/guidelines/prs/prs_011113.pdf, page 83, access in May 2017.

develop mortgage secondary market and infrastructure projects, 20% for housing development funds, and 70% for mortgage letters, i.e. bonds specifically issued by financial entities for housing purposes.

Within the group of 14 countries that allow unrestricted investment in real estate, only Jamaica bans allocations to foreign real estate[22]. Another six jurisdictions[23], even though allowing some level of real estate investment domestically, forbid foreign allocations. Another jurisdiction, Hong Kong (China), requires that real estate investment vehicles (REITs) must be listed domestically or on an approved stock exchange in Australia, the UK or the US.

Private investment funds

Direct investment by pension funds in private investment funds[24] is allowed without limits in 20 jurisdictions[25] whereas it is forbidden in 13 jurisdictions[26]. This restriction is common in some of the countries that have introduced Chilean-style privately managed pension funds.

Unconstrained direct investment in private investment funds *only for specific types of pension plans* is allowed in five jurisdictions[27], while it is partly restricted or forbidden for other types of pension arrangements. On the contrary, eight jurisdictions[28] ban this asset class in the case of particular type(s) of pension arrangements but make it possible for other types. Sweden and Malta belong to both groups as private investment funds are banned for some type(s) of pension arrangements and fully unlimited for others.

Twenty-five other jurisdictions impose some investment constraints on this asset class for all their pension arrangements.[29] Some of them also specify that these investment limits apply only to certain categories of private pension funds. These categories are quite heterogeneous and can relate to non-listed securities, real estate investments, commodity funds, hedge funds, derivatives funds, non-harmonised or

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[22] Sweden did not provide any information on this restriction.

[23] Czech Republic, Brazil, Gibraltar, Russia, Serbia, and Zambia.

[24] "Private investment funds include partnerships and other institutional investment arrangements that are open only to a limited number of investors and require a large minimum investment" (OECD definition)

[25] Australia, Belgium, Canada, Estonia, Ireland (but 50% limit if private investment funds allocation is done by small pension funds with fewer than 100 members), Israel, Japan, Luxembourg, Netherlands, New Zealand, Portugal (with 10% limit in the case of non-harmonised investment funds), Switzerland (overall limits as well as extensions for each investment category are applicable), the United Kingdom, the United States, Gibraltar, Jamaica, Malawi, Maldives, Mauritius, and Namibia.

[26] Chile, Poland, Slovakia, Albania, Bulgaria, Cost Rica, Hong Kong (China), Liechtenstein, Pakistan, Serbia, Thailand, Trinidad and Tobago, and Zambia.

[27] Germany (total exposure, Pensionsfonds), Korea (personal pension insurance and personal pension trusts), Latvia (voluntary pension funds), Sweden (life insurance undertakings and occupational pension funds), Malta (personal retirement schemes).

[28] Czech Republic (voluntary conservative schemes, 3rd pillar and balanced and dynamic schemes of first pillar), Mexico (conservative pension funds), Sweden (friendly societies pension plans), Colombia (conservative and programmed retirement pension funds), Malta (occupational retirement schemes), Peru (conservative pension funds), Romania (first pillar pension funds), Russia (mandatory pension funds: default, conservative, term annuities and investment portfolios chosen by participants)

[29] The Seychelles Pension Fund is bound by a minimum 5% and maximum 10% limit on overseas investments via private investment funds and maximum 5% on social investments.

non-UCITs funds, venture capital funds, etc. Therefore, it is difficult to arrive at any conclusions with regard to jurisdictions' levels of openness to these investment vehicles.

Amongst the countries that allow unrestricted investment in private investment funds, Luxembourg limits it to 5% in the case of non-OECD-registered funds, while Jamaica sets up a foreign currency limit of 20% with regard to superannuation funds (but not private investment funds) and limits the destination of such investments to Canada, the US, the UK or any other country approved by the pension supervisor.

Several jurisdictions impose restrictions or bans on exposure to foreign private investment funds. In the Czech Republic this limit is 5% for non-OECD funds in the case of transformed pension schemes, 40% in the case of balanced first pillar pension schemes and 80% in the case of dynamic first pillar pension schemes. Iceland allows investment in funds located only in the OECD area, the EU and the Faroe Islands. Korea forbids foreign funds in the case of DB and DC pension plans. Slovenia requires that investment funds must have their head office domestically. Brazil sets the limit to 10%. In Colombia the sum of investments in local and foreign private equity funds cannot exceed 15% and 25% in case of local and foreign private equity funds, hedge funds, REITs, and index funds linked to commodity prices. Russia allows voluntary pension funds to have 30% exposure to foreign private investment funds.

Foreign currency exposure

Pension funds are allowed to have unrestricted exposure[30] to assets denominated in foreign currencies in 22 countries. In only two of the reporting countries,[31] pension funds cannot have positions open in foreign currencies.

In some jurisdictions, this investment is either banned or fully allowed, depending on the type of pension arrangement. Voluntary pension funds in Estonia and pension savings companies and associations in Luxembourg can invest up to 100% in assets denominated in foreign currencies, whereas Estonian mandatory pension funds up to 50% and Luxembourg DB pension funds up to 30%. In a similar vein, friendly societies in Sweden are forbidden from such investments whereas other types of pension arrangements may invest with no restrictions. However, they should do that "in a manner which limits the risk for currency exchange losses". DC pension funds in Nigeria cannot invest in foreign currency denominated assets whereas DB pension funds may do so under the limits specified by the Central Bank of Nigeria. Pension funds in Russia may hold up to 100% cash positions in US dollars, euros, pounds or yen. This is the case for mandatory funded pillar arrangements. Moreover, in the case of mandatory investment portfolios chosen by participants or non-state pension funds, such investments do not have to represent cash positions and are not limited to specific currencies.

In four countries, exposure to assets denominated in foreign currency is limited only when a position is unhedged. The four are Latvia (10% single currency, 30% in total); Switzerland (30%); Colombia (10% conservative and programmed retirement pension funds, 35% moderate pension funds, 50% risky pension funds); and Liechtenstein (40% if EUR, 30% if other currencies).

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[30] Australia, Belgium, Canada, Ireland (no specific limit), Israel, Netherlands (no specific limit), Slovenia (no specific limit), Spain, Turkey, the United Kingdom (no specific limit), the United States (no other than prudence), Costa Rica (no specific limit), Lithuania, Former Yugoslav Republic of Macedonia (no specific limit), Kosovo, Malawi (no specific limit), Maldives (no specific limit), Malta (no specific limit), Peru, Romania, Serbia and Thailand. Unless otherwise stated, the term "unrestricted" relates to a 100% limit on assets.

[31] Pakistan and Tanzania.

In another 24 jurisdictions, investment in assets denominated in foreign currency by pension funds is limited to a ceiling which may also differ depending on the type of pension arrangement. Most of the limits do not exceed 30% of pension assets. This group consists of Austria, Denmark, Finland, Germany, Greece, Hungary (with exception of growth pension funds – 35%), Italy, Mexico, Norway, Poland, Portugal, Bulgaria, Colombia (with exception of risky pension funds – 50%), Jamaica, Namibia, South Africa and Trinidad and Tobago. In only five jurisdictions are the investment limits higher: Chile (50%), Estonia, Armenia (40% mandatory pension funds, 50% voluntary pension funds), Hong Kong (China) (70%), and Mauritius (70%). In Slovakia, limits vary between 30% and 60% depending on the type of pension fund in question.

It is important to note that 15 jurisdictions did not provide answers, which may mean that at least some of them do not impose limits for this category of investments, or investment in foreign currencies is not allowed.

Derivatives

The information on this asset class is scarce and quite heterogeneous. Fifteen jurisdictions did not provide answers, which may mean that at least some of them do not impose limits for this category of investments or that derivatives are not allowed.

Pension funds in 13 countries[32] may invest up to 100% of their assets in derivatives. Such investment is also allowed without any limits in another 10 jurisdictions, however solely for hedging (seven jurisdictions[33]) or portfolio management (four jurisdictions[34]) purposes. In Lithuania, pension fund rules must specify what instruments and for what purposes might be used. Also, their use must be reported in periodical reports.

Eight jurisdictions[35] ban derivatives irrespective of the potential use. In Sweden, use of derivatives is forbidden for assets to cover technical provisions.

Other jurisdictions that impose quantitative limits may also demand that the use of derivatives is only for hedging or portfolio management purposes.

Unfortunately, not much information is available with regard to other asset classes in non-traditional investments. In Estonia, mandatory pension funds can invest up to 5% in precious metals, and in Hong Kong (China) up to 10% in gold via ETFs. In Greece, pension money must be predominantly invested in regulated markets – only 5% can be allocated to investments not traded in regulated markets. In Israel funds can invest up to 5% in ETFs and mutual funds. Switzerland sets the limit for 'alternative investments' at 15%. In Turkey, venture capital investments cannot exceed 20% of pension assets. In Thailand, the Provident Fund may invest up to 15% of its assets in alternative investment products such as

[32] Australia (subject to trustees meeting the covenants contained in Section 52(6) of the SIS Act regarding diversification and liquidity), Belgium, Canada, Finland, Ireland (no specific limit), Italy (resulting financial leverage must not exceed 100%), Netherlands (no specific limit), Norway (no specific limit), Portugal (but subject to qualitative criteria), the United Kingdom (no specific limit), the United States (none other than prudence), Armenia, Bulgaria (100% notional value).

[33] Slovenia, Albania, Colombia (otherwise the limit is 2%), Costa Rica, Kosovo (in case of mandatory pension funds; other types of funds are forbidden to use derivatives for any purpose), Malta and Mauritius (including portfolio management purposes),

[34] Austria, Luxembourg, Lithuania and Mauritius.

[35] Poland, Maldives, Namibia, Russia (no information available on mandatory funded pillar investment portfolios chosen by participants), Serbia, Tanzania, Trinidad and Tobago, and Zambia.

unlisted products, infrastructure funds, gold funds, junk bonds, structure notes. In Zambia, pension funds cannot invest in derivatives, hedge funds or any other speculative investments.

2.2. Pension funds´ exposure to selected non-traditional assets

Table A1 in the Annex shows available data on recent investment of pension funds in selected non-traditional assets. If not specified otherwise, the data refer to the end of 2015.

The group of countries with exposure exceeding 5% to lands and buildings includes six OECD countries[36] with allocations ranging between 18.3% (Switzerland) and 5.0% (Australia). In the non-OECD group there are seven countries[37] that exceed the 5.0% threshold, with the record high exposures in Zambia (20.7%) and Kenya (19.4%). What is interesting is that pension funds in the majority of these countries invest more in lands and buildings directly. The only exception is Switzerland where indirect investment is higher (8.1%) than direct, and Portugal where levels of indirect and direct exposure are similar.

The data on hedge fund investment by pension funds are scarce. As of 2015 the most substantial exposures to this asset class were noted in Switzerland (2.3%), Gibraltar (4.5%), Liechtenstein (2.2%) and South Africa (1.2%). In three other jurisdictions (Germany, Israel and Brazil) the exposure ranged between 0.1 % and 0.3%, whereas in other 18 jurisdictions it was negligible.

Private equity funds were used the most in Ireland (5.4%), Israel (2.4%), Colombia (5.9%), Indonesia (3.5%), Malawi (8.0%), Nigeria (2.2%), Peru (3.5%) and Zambia (8.6%). Liechtenstein and Switzerland ranged around 1.5%, whereas another 23 jurisdictions reported negligible exposures to this asset class.

The highest allocations to structured products[38] were undertaken by pension funds in Austria (5.9%), Portugal (3.3%), and Colombia (2.0%).

With regard to the IOPS survey, only 11 respondents[39] have seen a noticeable increase in investments in non-traditional assets in their pension systems as a whole. Australia reported a rise in non-traditional investments from 24% of total assets at the end of 2009 to 27% in September 2015. In Canada, there has been anecdotal evidence among some regulators, industry associations, and industry publications that there has been an increase in non-traditional investments. The Pension Investment Association of Canada (PIAC), whose members manage the portfolios of some 130 pension funds, publishes the average asset allocation of its members' plans. At the end of 2014, the allocation by PIAC members in non-traditional investments increased to 32.3% from 23.1% in 2009.[40] Larger PIAC pension funds reported in

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[36] Switzerland (18.3%, including 9.5% indirect exposure via mutual funds), Portugal (13.8%, including indirect investment of 5.1%), Finland (11.6%), Canada (8.8%, including indirect investment of 2.5%), Germany (5.5%, including indirect investment of 2.7%), Australia (5.0%)

[37] Zambia (20.7%), Kenya (19.4%), Papua New Guinea (11.3%), Liechtenstein (11.0%), Malawi (7.1%), Jamaica (8.1%, including 2.7% indirect exposure via mutual funds), Indonesia (5.3%).

[38] "Structured products are investment instruments that combine at least one derivative with traditional assets such as equity and fixed-income securities. The value of the derivative may depend on one or several underlying assets. Furthermore, unlike a portfolio with the same constituents, the structured product is usually wrapped in a legally compliant, ready-to-invest format and in this sense it is a packaged portfolio". It includes asset-backed securities (including infrastructure bonds/debt) or mortgage-backed securities. (OECD statistical definition).

[39] Canada, Chile, Czech Republic, Iceland, Kenya, Mexico, Peru, Russia, South Africa, Spain and the UK.

[40] http://www.piacweb.org/publications/asset-mix-report.html

2015 allocations of up to 35% of portfolio in alternative asset classes, with significant real estate and infrastructure investments. Smaller plans appear to be following this trend, as some are contemplating consortium investments in infrastructure. In Mexico, since the inclusion of non-traditional assets in the investment regime in 2007, pension funds have been increasing their allocations in this category. At the end of May 2016, non-traditional assets represented 5.8% of total pension funds' assets. In South Africa, there seems to have been an increase in the uptake of hedge fund investments by large pension funds.

In Chile, a new law was enacted in October 2016 that will allow pension funds to broaden their portfolio to non-traditional investments such as debt or private equity, real estate assets, shares of infrastructure building concession companies and bonds issued by investment funds. The law will enter into force on 1 November 2017. There will be maximum limits of investments in non-traditional assets, ranging from 5% to 15% of pension fund assets, depending on the fund's type (E - retirement income, D – conservative, C – balanced, B – risky, A – the most risky). The regulation aims to remove obstacles for memorandums of understanding to purchase shares of investment funds, raise the limits per issuer of shares of national investment funds and facilitate the purchase of national assets overseas. The Central Bank of Chile will be responsible for setting the investment limits for each fund and the Investment Regime (IR) may, eventually, set specific investment limits for specific asset classes.

The majority of the responding jurisdictions (26) have not noticed any significant changes in the level of pension funds' investment in non-traditional assets. Nevertheless, it is expected that the current low interest rate environment may lead pension funds, in their "search for yield", to look for alternate sources of investments such as infrastructure, real estate and derivatives. Several multinational and international institutions such as the OECD and EIOPA[41] have been promoting and encouraging pension funds and other institutional investors to increase investments in non-traditional investments, especially in infrastructure.

Another source of the information on recent pension investments in non-traditional assets is the OECD 2015 Annual Survey of Large Pension Funds and Public Pension Reserve Funds (OECD, 2016c). It reviewed trends in assets and asset allocation in a sample of large pension funds and public pension reserve funds. It noted an increase in alternative investments between 2010 and 2014. The ten largest pension funds, increased alternative asset allocations from an average 19.1% to 20.2%[42].

2.3. Supervisory approaches towards non-traditional investments

The majority (29) of the responding jurisdictions reported that *there are no significant differences in the supervisory approaches* to investment and risk management with regard to non-traditional and traditional investments[43]. Eight jurisdictions reported that their supervisory approach differs[44] and six jurisdictions did not respond to this question[45]. Nevertheless, supervisory actions with regard to non-traditional assets, no matter whether under a purely risk-based or compliance-based framework, may need to depend more on qualitative than quantitative assessment due to the complexity of such investments.

[41] See for example: OECD (2015b, p. 21) and EIOPA EU Rules to Promote Investments in Infrastructure Projects, http://europa.eu/rapid/press-release_MEMO-15-5734_en.htm

[42] Information courtesy of the OECD (long-term investment unit).

[43] Austria, Belgium, Canada, Czech Republic, Ghana, Hong Kong (China,), Hungary, Ireland, Jamaica, Kenya, Lithuania, Luxembourg, Macedonia, Maldives, Malta, Mauritius, Mozambique, Namibia, Portugal, Romania, Russia, Serbia, Suriname, Spain, Trinidad and Tobago, Turkey, Uganda, United Kingdom and Zambia.

[44] Australia, Chile, Mexico, the Netherlands, Nigeria, Peru, South Africa and Switzerland.

[45] Albania, Armenia, Colombia, India, Pakistan and Poland.

The lack of significant difference in the philosophy of supervision is manifested, for example, by the fact that the authorities do not require pension funds to have written separate investment and risk processes when investing in non-traditional investment classes[46]. Such a process is expected to be based on the same principles as for traditional investments as incorporated in the investment policy. This also includes no specific guidelines or minimum requirements for non-traditional investments being in place. Supervisory authorities expect that pension funds have an appropriate risk management system in place that considers the specific aspects of such types of investments.

There may be several plausible reasons why pension authorities, where non-traditional investments are allowed[47], tend not to differentiate their supervisory approach towards such investments. First, non-traditional investment limits may be set up by legislation or regulation at quite a low level, so that this type of investment does not constitute an important element of the portfolio that would call for a distinct supervisory stance. Second, there may not be any strict limits in force for this type of investments, yet – for various reasons such as, for example, valuation requirements, high costs or insufficient skills – pension funds in a particular jurisdiction might still not invest a substantial fraction of their portfolios in non-traditional assets[48]. These practical barriers could save supervisors establishing distinct regulations. In the jurisdictions that follow risk-based supervision, the oversight process for all types of investment is based on the same principle, but very often is associated with regulators issuing guidelines that aim to help funds set up their investment and management process and comply with supervisory expectations.

Eight jurisdictions[49] reported *significant differences in the supervisory approach* to investment and risk management between traditional and non-traditional investments. From the responses received, it can be stated that *these supervisory authorities expect that pension funds will apply more scrutiny* when investing in non-traditional assets. Matters for scrutiny include inherently higher valuation risks and assessment of sensitivity to risk factors; multiple management layers (with potential agency problems), complex investment structures (with potential problems accessing and exiting the investment), costs. Underlying assets of the non-traditional investments are likely to be opaque in nature and exposed to some operational, legal, technical, political and social risks. The level of these risks might be higher than for traditional investments and/or they might be more difficult to evaluate. Therefore, under risk-based supervision, those asset classes automatically receive more attention from the supervisor. The consequence of a prudent person principle is that pension funds are more likely to work out their own non-traditional investments policies in a responsible manner. If the pension fund outlines its key investment policy principles, the supervisor assesses whether the fund has conducted its risk management for non-traditional investments adequately.

Supervisory actions taken to ensure that *pension funds have a full understanding of the underlying risks of non-traditional investments* are generally in line with the prudent person principle that prescribes comprehensive risk management processes. Such a principle postulates among others, that the acquisition of an asset shall be permissible only if the investment risk related to it may be subjected to risk management, assessed and analysed. This would typically include, among other things, an assessment of the investment strategy, strategy formulation, asset allocation, due diligence and selection of investments and managers, monitoring, risk management, valuation, and liquidity management. As presented in the previous section, some pension supervisory authorities have issued guidelines related to non-traditional investments.

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[46] With exceptions of: Hungary, Peru, South Africa, Switzerland and Zambia.

[47] See section 2.1. and Annex 1 in this paper. For more details see OECD (2016d).

[48] The insignificant share of non-traditional investments in total pension portfolios was explicitly mentioned in the responses from Czech Republic, Hong Kong (China), Romania, and Serbia.

[49] Australia, Chile, Mexico, Netherlands, Nigeria, Peru, South Africa, and Switzerland.

In Australia, although the prudential practice guide requirements of SPS 530 apply to all investments and asset classes, the pension supervisor (APRA) expects greater scrutiny from trustees when investing in non-traditional assets. The Australian authority assesses the appropriateness of the investment delegation framework (e.g. investment committee or board approvals) and the adequacy of related policies, including their implementation and on-going review.

In Chile, given the specific characteristics of non-traditional investments, the supervisory approach is focused on qualitative factors, such as the investment team, the quality of the due diligence, the follow-up, among others. According to the new law mentioned in the previous section, from November 2017 the Superintendence of Pensions (SP) will have the power to request that the Risk Agency Committee[50] approves or rejects any investment of pension funds in non-traditional assets. The new law will also strengthen risk-based supervision as the pension supervisor will be allowed to conduct risk analysis, supervise the correct management of risks by pension fund administrators and establish guidelines to address any observed deficiencies. It will also determine references on risk features to be evaluated and specific procedures of evaluation.

The Dutch supervisor has established a specific policy rule on key principles for assessing risk management for non-traditional investments (Box 6.). This policy rule follows partly the European IORP directive and the new pension act which are based on the prudent person principle. Non-traditional investments are permitted so long as they are consistent with this principle.

Box 6. The Central Bank of the Netherlands (DNB) key principles for assessing risk management for alternative investments

The DNB issued in 2007 policy rules on key principles for assessing the risk management for alternative investments by pension funds:-

Characteristics of alternative investments

Key principle 1: The assessment of alternative investments takes appropriate account of the specific risk and return characteristics of these investments.

Alternative investments are generally characterised by a divergent, asymmetric risk profile, limited transparency and illiquidity. Funds often observe minimum holding and notice periods. In addition, closed-end fund structures are usually less liquid than open-end funds. Historical return figures are also often distorted or not representative.

Portfolio policy

Key principle 2: Alternative investments fit in with the financial undertaking or pension fund's overall strategy, due account being taken of the financial undertaking or pension fund's total risk profile, including the relation between alternative investments on the one hand and the total investment portfolio and the nature and extent of the liabilities on the other hand.

Key principle 3: Financial undertakings and pension funds check at regular intervals that the diversification across investment strategies is adequate, thus avoiding undesirable concentrations in the portfolio.

Due diligence

[50] Comisión Clasificadora de Riesgo (CCR), see https://www.ccr.cl/idioma/ingles/historia-de-la-ccr.

Key principle 4: The financial undertaking or pension fund analyses at regular intervals the risk profiles of the investment strategies and the capacities of the managers of the funds in which the institution has invested or intends to invest. The analysis is based on timely and sufficient information about the funds and their managers, so that an independent assessment can be made.

Key principle 5: The reports provided by (funds of) funds use proper valuation principles, are submitted in time, and have sufficient quality assurance. The financial undertakings or pension funds hold sufficient information about the underlying funds.

If the institution participates in umbrella funds, then the due diligence process should consider several additional aspects, arising from the introduction of an additional management layer.

Key principle 6: An assessment of funds of funds also includes a judgement of the quality of risk management conducted by the fund of funds manager and the standards and criteria of conduct observed.

Contract terms and monitoring

Key principle 7: Alternative investments cannot do without adequate contract terms. Broadly speaking, these provide for an unambiguous limitation of risks, the measures to be taken in case of thresholds being crossed, adequate disclosure, a clear description of lock-up periods, and explicit cancellation and termination conditions. Compliance with the contract terms is monitored systematically.

Communication

Key principle 8: For the adequate management of its own reputation risk, the financial undertaking or pension fund is clear and plain in its communications with interested parties about the reasons for its policy regarding alternative investments and the objectives which it seeks to achieve in this respect."

Source: The Central Bank of the Netherlands (2007), Policy rule on key principles for assessing the risk management for alternative investments, http://www.toezicht.dnb.nl/en/binaries/51-211833.pdf.

In Mexico, the supervision of non-traditional investments is given detailed scrutiny[51]. Pension funds are not allowed to invest in non-traditional investment classes unless they fulfil the requirements established in the financial regulation to prove that they have a full understanding of the underlying risks. The law specifies that the pension funds' investment committees are responsible for defining, approving and monitoring non-traditional investments[52]. Each committee also needs to specify the policies of eligibility (e.g. appropriate resources and experience of management, structure of operation of the investment vehicles, fees policies, etc.) that the investments area or risk management area should apply prior to the investment in non-traditional vehicles. The pension supervisor has the right to challenge the manual of policies and procedure for the management of financial risk set up by the pension fund administrator for some non-traditional assets. Additionally, the investment managers of pension funds as well as an official from the Unit of Comprehensive Risk Management and a compliance officer must be certified by an independent third party appointed by the Mexican pension supervisory authority.

In Nigeria, the supervisor ensures by legislation that pension fund operators have committees on investments and risk management on their boards. In addition, operators are expected to have separate departments headed by qualified top management personnel with a specialisation in risk-related fields.

[51] See the detailed requirements set up for investment and risk management processes in case of non-traditional investments provided in Box 1, as well as supervisory guidelines on outsourcing of investment management described in Box 3.

[52] Article 30 of the "General financial provisions of the Retirement Savings System", CONSAR (2016).

They are also required to have approved investment and risk management guidelines/policies that are implementable and dynamic. The Nigerian authority has also come up with risk analysis and management related training programmes (traditional and non-traditional investments) for pension fund operations.

In Peru, the regulation sets up requirements that non-traditional investments ought to meet. Moreover, a pension fund managing company must approve its investment policies aimed to describe the way and purpose of non-traditional investments for each type of fund under its management, as well as specify the requirements that managers of non-traditional investments must meet. Investment policies cannot go beyond requirements imposed by regulation but the management company itself can set even tighter requirements within the scope of regulation.

In South Africa, the supervisory authority has issued guidance on the relevant structures of hedge funds and private equity funds (which include funds of funds) that are acceptable for retirement funds to invest in. All fund investments must comply with the nine principles of prudent investing stipulated by Regulation 28. However, additional requirements for private equity and hedge fund investments are prescribed (with no formal reporting to the supervisor required).

The OECD/IOPS Good Practices on Pension Funds' Use of Alternative Investments (OECD/IOPS, 2011b) emphasises that when using such investments, specific reference needs to be made within pension funds' investment policy statements to the types of products the fund intends to invest in (and those not allowed), the general asset allocation within the different types of alternative investments (including percentage of total portfolio limits – if appropriate), the inherent risk of such products and the general level of risk allowed (including maximum leverage, if appropriate), their expected volatility and liquidity and how they will be valued.

Regarding pension funds' *written policy statement describing the main use of non-traditional assets*, 19 jurisdictions reported that such a description is required and that it should be included in the general investment policy statement. In most cases, the supervisory authority does not apply *stricter investment policy requirements for non-traditional assets.* Regardless of whether a pension fund invests in traditional or non-traditional investments, it is mandatory in most jurisdictions to describe in a single written policy statement the main characteristics or purpose of this kind of investments.

Good Practice 2b of OECD/IOPS (2011 b) points out that senior management should establish a clear selection process and written operational policies and procedures for implementing and exiting from the alternative investment and derivatives policy set by the governing board. Only six responding jurisdictions[53] require that pension funds have *separate written investment and risk processes while investing in non-traditional assets*, for example written selection processes. However, analysis of their responses leads to the conclusion that *this requirement applies to both traditional and non-traditional assets.* The selection process of both traditional and non-traditional are in most cases based on the same principles incorporated in the investments strategy.

Only seven responding pension supervisors[54] reported that they have *issued standards or guidelines regarding best practices of supervision of non-traditional investments.* For example, in Australia the guidance SPG 530 contains the current investment governance guidance issued by APRA[55].

[53] Hungary, Mexico, Peru, South Africa, Switzerland and Zambia. Eight jurisdictions provided no answer to this question.

[54] Australia, Canada, Mexico, Nigeria, Peru, South Africa and Zambia. Ten jurisdictions provided no answer to this question.

[55] APRA also provides guidance through letters to industry and article published in APRA's insight publication.

Within this guidance, the Australian pension supervisor emphasises that trustees deciding to invest in unlisted and illiquid investments must do so in a prudent and considered fashion (whether that be in formulating asset allocation, due diligence, stress testing, etc.). Canada reported that some of its provincial pension supervisory authorities have issued guidance regarding best practices for derivatives, longevity risk hedging (buy-in annuities) products and guidance intended to help plan administrators demonstrate the application of prudence to the investment of pension plan assets. These guidelines address the authorities' position on various types of non-traditional investments as well as supervisors' expectations should a plan decide to invest in them. In Mexico, the best practices regarding non-traditional investment relate to a questionnaire that allows the evaluation of the defined policies regarding different concepts of non-traditional investments. The regulation prescribes the minimum contents of each fund's manual of policies and procedure for the management of financial risk (see Box 1.), a set of guidelines on outsourcing investment management (see Box 3.). The Nigerian authority reported an issuance of guidelines on direct real estate investment and Zambia a general investment guideline. In South Africa, specific guidelines for investments in private equity and the use of securities lending transactions have been issues, while the guidelines on investment in hedge funds and derivative instruments are being finalised.

Eight pension authorities[56] have set up *specific guidelines and minimum requirements for pension funds regarding risk management of non-traditional investments*. Those guidelines are more related to investments in unlisted assets in general and real estate investments. In Mexico, the secondary regulation "General financial provisions of the Retirement Savings System" (CONSAR, 2016) provides detailed guidance on pension supervisors' expectations of pension funds with regard to investment and risk management, including non-traditional investments. The Mexican regulator also issued "Approved guidelines by the risk analysis committee on the minimum contents that must contain the contracts signed between the AFORE and the specialised managers to provide investment management services" (see Box 3.) that also relates to non-traditional investments. Only the Netherlands reported having issued a policy rule (Box 6.) on key principle for assessing the risk management for non-traditional investments.

Compliance reports regarding non-traditional assets are required in 12 of the 32 jurisdictions that responded to this question[57]. Nevertheless, it was in some cases difficult to confirm if it is a separate reporting or whether, as other jurisdictions noted, traditional and non-traditional investments are treated in the same way in this respect. Non-traditional investments need to comply with the investment policy and legal provisions in the same way as traditional ones.

Only three authorities[58] indicated that pension funds need to ask for *authorisation prior to investing in non-traditional assets.* In Nigeria, this is with specific reference to direct real estate investments. All intended direct investments are forwarded to the National Pension Commission for review in compliance with established investment guidelines/policy. It is further analysed in terms of valuation and carrying out due diligence on those non-traditional investments. The supervisor (SBS) in Peru may grant either a general or a limited authorisation for pension fund managers that have to ask for such licence before investing in certain kinds of assets. SBS takes its decision on the basis of a scoring rule, where the eligibility and risk level of investments assessed by the fund's managers come under scrutiny. In Zambia, the Registrar (i.e. the Chief Executive Officer of the Pension and Insurance Authority) approves any investments not specified in the Investment Guidelines. There is no prescribed period for such a decision by the Registrar. In Mexico, the prior authorisation of non-traditional investment refers to the investment

[56] Colombia, Kenya, Mexico, Namibia, Netherlands, Nigeria, Peru, and Zambia. Ten jurisdictions provided no answer to this question.

[57] Australia, Canada, Ghana, Hungary, Mauritius, Mexico, Namibia, Nigeria, Peru, Serbia, South Africa and Switzerland. Eleven jurisdictions provided no answer to this question.

[58] Nigeria, Peru, and Zambia. Ten jurisdictions provided no answer to this question.

policy (manual) that is set up by each pension fund's investment committee and means that CONSAR must approve such an investment manual.

In three jurisdictions[59], quantitative limits on non-traditional investments *depend on the pension fund's risk management capabilities.* In Hungary, pension funds may apply stricter quantitative limits than stipulated in the legislation depending on their risk management capabilities. Peru stated that their scoring rule also takes into account the capacity of pension fund managers to analyse and invest in such asset classes. In this vein, based on this assessment, the authority may grant a general authorisation to invest up to 20% of the regulatory limit set for a particular type of fund. Denying a general authorisation means that pension fund managers have to ask for permission each time before an investment is made. It is important to highlight that pension fund managers in Peru may invest up to 1% of the fund's assets in asset classes other than direct derivatives without the authorisation of the supervisor. This cap is known as the "autonomous limit". It enables pension fund managers to cope with market risks, invest in innovative financial products, and take advantage of market opportunities. The investment policies of pension fund managers should point out how and under what circumstances they are willing to use such an autonomous limit.

Policy rules in force in the Netherlands do not allow lower standards to be applied by smaller pension funds; however, proportionality implies that there will be differences among the funds in the practical application of risk management.

2.4. Data collection

The OECD collects annual data on Global Pension Statistics that to some extent cover non-traditional assets but gathers more granular data in the Annual Survey of Large Pension Funds covering both asset allocation and performance. Only nine authorities[60] collect *data on non-traditional investment performance* such as return on investments (ROI). Those jurisdictions have a wide coverage of data collection in that respect and specific data on performance for non-traditional investments are not needed. The fact that the vast majority of the responding authorities do not collect the granular data is in line with other surveys by the OECD that find an overall lack of data regarding performance on non-traditional investments, especially infrastructure investments (OECD, 2014). Chile reported it has daily access to detailed data on traditional and non-traditional investments. In addition, any other specific information can be requested from pension managing companies. Mexico's pension supervisor receives daily valuations for each of the instruments in the portfolio, including non-traditional ones, and has the capacity to produce performance attribution figures.

However, fewer than half (19) of the responding supervisors[61] collect *granular data on pension fund investments in non-traditional assets,* often based on a "look-through approach" that analyses indirect investments in various investment fund vehicles. A performance database is needed for the proper assessment of alternative assets. For example, evidence from a study of 15 years of infrastructure data in the UK (Blanc-Brude et al., 2016) shows that infrastructure firms have a significantly lower volatility of revenues and profits and that they pay a far higher proportion of their revenues to investors much more frequently than clients in traditional investments receive.

[59] Hungary, Peru, and Suriname. Nine jurisdictions provided no answer to this question.

[60] Chile, Macedonia, Mexico, Netherlands, Portugal, Russia, Serbia, Suriname, and Zambia. Twelve jurisdictions provided no answer to this question.

[61] Austria, Belgium, Chile, Czech Republic, Hong Kong (China), Hungary, Kenya, Lithuania, Malta, Mexico, Nigeria, Peru, Portugal, Romania, Russia, Serbia, Spain, Switzerland, and Zambia. Eleven jurisdictions provided no answer to this question.

A requirement for a *separate risk reporting and internal control system for non-traditional assets* does not exist in the responding IOPS jurisdictions. One authority, Austria´s Financial Market Authority, acknowledged that specific reporting and internal control systems are required for derivatives investments that may be purchased to hedge against foreign exchange rate or investment risks, or to facilitate the efficient administration of assets allocated. In Peru, regulation states that pension fund managers have to submit to the pension supervisor periodical reports on all portfolios' risks and the way they are addressed, including non-traditional investments. For this purpose, pension fund managers have to nominate a liaison person to co-ordinate with the Authority. The reports explain pension funds' investment thesis, their investment objectives and risks, as well as due diligence and ongoing control.

In Australia, prudential standards apply to investment governance in general and cover all types of investments including non-traditional ones. In Canada, some provincial authorities require information related to non-traditional investments on the certified financial or investment reports which are to be filed with the authority annually. The reports include a breakdown of investments held by the fund. Depending on the jurisdiction, the reports in Canada may also include the plan's asset allocation target and ranges and general questions and answers related to non-traditional investments. In Mexico, pension funds report to the supervisor on a daily basis the composition of their portfolios. In Peru, the first line of action consists of implementing an authorisation scheme for non-traditional investments, where, among others, fund managers' capabilities and requirements of regulation linked to non-traditional investments are assessed by the supervisory authority. This assessment includes a revision of investment and risk policies as to non-traditional investments. The second line of action relates to assessing daily investment reports submitted by pension fund managers. The reports allow the supervisory authority to identify whether pension fund managers have breached any rule regarding non-traditional investments. The third line of supervisory actions in Peru is conducted through on-site and off-site inspections to thoroughly examine either a specific or all non-traditional investments. The fourth but not least type of activity is conducted through either requesting information from non-traditional funds' managers or by exchanging information with local and foreign fellow regulators.

The survey finds that enforcement actions taken for *non-compliance with non-traditional investment rules* do not differ from traditional investments rules. In the case of non-compliance, whether it is under prudential or risk-based supervision, the first step is for the supervised entity to meet the requirements within a prescribed period. At a later stage a fine may be levied if necessary or the supervisor may even initiate the dismissal of the executive officers involved in a case of serious managerial or operational misconduct.

3. Pension supervisors' experiences and challenges in monitoring non-traditional investments by pension funds

3.1. Good practices in non-traditional investment supervision

When asked about "good practices" IOPS pension supervisors would want to share regarding the supervision of non-traditional assets, only nine authorities[62] responded by providing *some reflections on derivatives and non-listed investments and management of liquidity issues.*

The supervisory authority of Austria shared the view that reporting on the type of non-traditional investment, in combination with regular on and off-site supervision and support by investment experts as needed has proven to be a pragmatic approach in a small market. In addition, specific consideration regarding the use of derivatives as regards the proof of their eligible purpose and reporting requirements

[62] Australia, Austria, Canada, Mexico, Namibia, Netherlands, Peru, Switzerland, and Zambia. 13 jurisdictions provided no answer to this question.

have shown to be useful when supervising investments. Namibia stated that with regards to unlisted investments it is important for pension funds' commitments to be properly safeguarded due to the nature of the risks associated with this asset class. This supervisor also underlined that it is important that smaller pension funds, with lower skills and capacities, are protected against principal-agent issues and have sufficient representation when entering into the investment process as these investments are usually managed by external management companies or special purpose vehicles (SPV). Commitments to this asset class also have a relatively high potential for abuse and corruption. It is therefore important for regulatory bodies to counter these issues by drafting provisions that minimise such risks to pension funds. One example can be the requirement for the outsourced party that manages non-traditional assets to co-invest a certain percentage of their own capital in the same project. In Mexico, the supervisory authority (CONSAR) commented that it requires pension funds to complete a due diligence questionnaire, and perform a detailed analysis of the non-traditional investment which should be aligned with international practices such as the Institutional Limited Partners Association (ILPA). CONSAR reviews public information in order to make a comparison with the studies provided by the supervised entities and is involved in ongoing dialogue with the pension executives involved in decision-taking. CONSAR also verifies carefully the involvement of independent directors in the pension funds' decision process. The Peruvian authority reported that having access to investment transactions done by pension funds on a daily basis as well as receiving the reports from pension funds – being a part of the regulation toolkit - facilitates efficient supervision of non-traditional investments.

Authorities' views on *whether best practices for non-traditional investments should be passed in regulation* seem to differ, depending on whether the supervision is compliance or risk-based. Compliance-based supervision is more focused on limits on non-traditional investments. However, in addition, it was suggested that non-traditional investment should be subject to review and analysis by the regulatory/supervisory authority prior to fund exposure as to ensure fair valuation, due diligence and compliance with approved internal investment guideline/policy. With risk-based supervision, the authorities strongly emphasised that pension funds need flexibility to assess the appropriateness of non-traditional investments for a particular fund. Such flexibility is important given the diversity of non-traditional investments and the evolving nature of these investments.

Belgium reported that it could be appropriate that regulation handles issues such as liquidity, valuation, counterparty risk and transparency. However, since the category of non-traditional investments is very broad and the pension fund markets are very diverse, only principles should be included in any type of regulation. Detailed rules could be inappropriate or even counter-productive in certain cases. The Mexican supervisor indicated as best practices to be passed into regulation, the requirements discussed in Boxes 1., 3. and section 2.3. According to the Mexican supervisor, pension funds should establish bodies responsible for investment and risk management (investment committees) that should be involved in the following actions:-

- defining and approving the investment strategy in non-traditional investments (stating the time horizon, investment limits, types of underlying assets etc.);
- defining eligibility policies for the vehicle's management team, the agents involved in the investment process, policies for the alignment of interests between the manager and the investors, fee policies;
- defining the contents of a due diligence questionnaire;
- defining policies concerning the evaluation of operational, legal, technical, political and social risks;

- defining policies in order to avoid conflicts of interest;

- providing an opinion on and authorising the non-traditional investments.

The Russian supervisor emphasised the importance of having set up a framework for effective price valuation of non-traditional investments. The Swiss authority pointed to the importance of improving diversification rules, possibly even through the restriction that investing in non-traditional investments could be allowed through collective (and therefore well-diversified) vehicles only.

3.2. Potential sources of risk in non-traditional investments to pension fund members

Illiquid assets (such as private equity), complex securities/strategies, unlisted assets and derivatives seem to be *the biggest causes of concern* among supervisors for potentially jeopardising the rights and benefits of pension fund members. It is of vital importance that pension fund board members and management properly understand and manage the risks involved in these types of investments. This may be of particular concern for overseas investments and the investments with multiple layers of structures if the transparency of underlying investments and risks is limited.

Namibia emphasised the high level of risk of unlisted investments. Not only is there a higher probability of loss of invested capital, but there are also concerns of liquidity and lower returns in the short term. Moreover, in the earlier years of investment there may be zero or negative returns which further increase risks to members' rights and benefits. Switzerland expressed the view that the venture capital investments seem not to compensate adequately for the extra risk. The yields of this type of investments are similar to shares, but the latter generally bear much lower level of risk.

According to the OECD/IOPS Good Practices on Pension Funds' Use of Alternative Investments and Derivatives (OECD/IOPS, 2011), pension funds would be expected to disclose to members the fees and charges paid in relation to their alternative investments, how these are being managed (whether internally or externally) and the actual and potential profits and losses related to these. The majority of responding authorities require disclosure to the members of risk management policies and objectives, risk exposure and cost and fees. However, in most cases *such requirements are the same* for traditional- and non-traditional investment.

In Spain, members must be informed by the pension fund managing entity whether they invest in non-traditional investments. This specific information needs to be included in the statement of investment policy principles. The fees and charges related to investment funds have to be disclosed to the members additionally to the information of managing fees of the managing entity. Also in Australia there is a certain disclosure obligation covering all financial services.

3.3. Challenges in supervision of non-traditional investment

Fewer than half of respondents (13) provided comments on *problems or challenges encountered in the supervision* of pension funds′ non-traditional investment and risk management. Box 7. presents the most elaborated inputs.

What is more, the lack of sufficient knowledge about non-traditional investments amongst the trustees and limited possibilities to divest from this class of assets were indicated as challenges by the Kenyan supervisor. The Jamaican pension authority pointed to the lack of legislative requirements for the investment and risk management of non-traditional investments. In the view of the supervisor in Malta, the challenges mainly revolve around how such investments are structured. The Mexican supervisory authority (CONSAR) mentioned the issue of professionalising the pension funds with regard to investment in non-traditional instruments: in most cases the size of the investment team is not adequate and the vehicles used to gain access to this type of investment do not work in a conventional way. Most of the challenges in Russia are connected with an unreliable asset pricing system and the relatively low liquidity of the non-traditional investments market. Switzerland reported that transparency of costs used to be low, which prompted the supervisor to issue a Reporting Asset Management Costs Directive. The Swiss Occupational Pension Benefits Supervisory Commission publishes on its website information on the accepted type of cost indicators, such as TER (total expense ratio) with the aim to increase costs transparency. It is still possible to invest in non-transparent vehicles in Switzerland, but those investments are now subject to disclosure in the notes to the financial statement. As a consequence, the percentage of cost-transparent assets has tripled from 25% to roughly 75% over the last two years.

In general, challenges noted by IOPS respondents emphasise the need for having an appropriate legal framework; understanding the investments both by pension fund bodies (trustees) and supervisors, and addressing the risks that are especially relevant for non-traditional investments.

Box 7. Problems and challenges encountered in the supervision of non-traditional investments

The **Australian** authority has observed the following issues occurring occasionally in the industry:

- Risk involved in non-traditional investments may not be properly understood, quantified and managed. For example: smoothed returns on private equity or unlisted assets understate the measurement of risk and can result in inadequate reporting of risks to decision makers.
- Inadequate due diligence and monitoring, particularly for investments offshore and investments with multiple layers of management;
- Over-reliance on valuations provided by investment managers with inadequate independent analysis/assessment to verify the reasonableness of valuations;
- For some smaller funds, the lack of internal resources and capabilities to identify, monitor, and manage the risks from non-traditional investments.

The **Belgian** authority shared the following challenges related to:-

- Valuation: there may be no market value available, not always independent valuation, counter party risk may not always be easy to assess;
- Liquidity: being assessed on the overall level of the pension fund and not on the level of individual investments;
- Transparency of the underlying risks and actual investments, if investments are pooled it makes it difficult to check if risk/return estimates are reliable.

The **Canadian** supervisory authority (CAPSA) pointed out the following problems:-

- The difficulty faced by authorities to develop and retain the necessary internal expertise and experience to independently assess complex non-traditional transactions;
- In prosecution, it can be difficult to identify industry best practices with which to make a case that the prudent standard was violated, when financial engineering is constantly evolving.

In the view of the **UK** regulator:-

- Issues such as how non-traditional investments are structured, who manages them, who monitors for breaches etc. tend to be more granular issues than the supervisor would normally be involved in;

Trustees need to understand what they are investing in and how these investments are structured/accessed as well as liquidity issues, fees arrangements and other related topics.

Source: IOPS members survey.

Conclusions

The report surveyed IOPS pension supervisors to investigate the approach and the methodology used for supervising private pension funds' investment management practices and activities, with a focus on non-traditional investment (such as hedge funds, currency, commodities, structured products, private equity, real estate or infrastructure). Forty-three jurisdictions participated in the survey.

Practically all responding IOPS jurisdictions require pension funds to have a written procedure for investment and risk management processes. This procedure describes the investment risk management and strategic asset allocation of pension funds, and it guides the investment decision making with regard to identification and analysis of potential investments in terms of expected risk and return.

Apart from the supervisors themselves, the main bodies in the surveyed IOPS jurisdictions responsible for the supervision of investment processes and investment managers are, depending on the legal structure, trustees or boards of directors. These entities are usually fully responsible for the general policy of pension funds and supervision of other operational bodies (such as an investment committee, if any) and service providers to whom the funds outsource their activities or functions. The boards of directors bear the burden of approving investment and risk management policies and in most of the responding IOPS jurisdictions, are responsible for approving and monitoring targets, strategies, procedures, and taking further actions for an effective and due risk management, which indeed implies identifying, measuring, analysing, monitoring, controlling, informing on and disclosing of both quantifiable and non-quantifiable risks.

About half of the respondent supervisory authorities do not require a split of responsibilities between risk and investment management, probably due to use of the principle of proportionality. Where such division of responsibilities is not required by law, it is required in practice in accordance with the prudent person principle. In those jurisdictions where funds are required by law to be managed by a management company, investment rules generally stipulate a split of responsibilities in the investment process (e.g. MIFID II regulation in Europe).

In the vast majority of respondent jurisdictions, the investment and risk management process includes some typical requirements such as: pre- or post-investment authorisation, division of responsibilities, investment risk assessment, internal control, investment documentation and outsourcing. Such documentation of the investment process is assumed to be vital in tracking pension fund investment and risk management processes, which is important for supervisors, internal control and audit and management oversight as well. The above requirements are in line with the OECD/IOPS Good Practices for Pension Fund Risk Management and OECD Core Principles of Private Pension Regulation.

Also, all responding jurisdictions report that persons responsible for the investment process must meet the fit and proper requirements imposed by law or regulation.

Compliance reports by pension funds that are reported to the supervisors (mainly with regard to the investment policy statement or existing investment limits) are common practice in three-quarters of responding jurisdictions.

Outsourcing of investment and risk management is allowed in most of the jurisdictions surveyed; although in five jurisdictions it is forbidden by law and in another two it is mandatory. In general, the pension fund is responsible for the choice and supervision of the external providers whose services it draws upon and remains ultimately responsible for the outcomes. The role of the supervisory authority is to control the outsourcing process where applicable.

Only a few of surveyed IOPS jurisdiction offered examples of early warning mechanisms (mainly based on the risk-supervision framework) or reported on noticeable trends towards including ESG factors in pension funds' investment process. ESG requirements have not been imposed by law or regulation in most of the responding jurisdictions. Large pension funds have imposed these requirements in their governance and investment selection process on a voluntary basis.

Illiquid assets, complex securities/strategies and unlisted assets and derivatives seem to be the main concerns for potentially jeopardising the rights and benefits of pension fund members. All responding authorities require disclosure to members on risk management policies and objectives and risk exposures. Such disclosure, however, relates to any type of investments, not merely non-traditional ones.

The responses from the vast majority of jurisdictions suggest that in general terms there is no significant difference in the way the supervision of pension funds´ investments is performed in respect of traditional or non-traditional investments. Generally speaking, no specific guidelines are in place for non-traditional investments in terms of risk assessment, due diligence, valuation, separate risk reporting and internal control system, or compliance with approved internal investment guideline/policy. This lack of distinct supervisory approaches can be linked to the facts that in some jurisdictions direct investment in non-traditional investments is not allowed or non-traditional investments remains insignificant. Nevertheless, it may be plausible to argue that, due to complexity of non-traditional investments by pension funds, its supervision may need to rely more on qualitative judgements rather than on compliance with quantitative indicators. This should be true no matter whether the pension supervisor operates under a risk-based or quantitative-based supervisory framework.

One may expect that a risk-based supervision (RBS) regime enables pension funds to invest in a much wider domain of financial instruments. In this way, RBS seems to be conducive to non-traditional investments by pension funds. Also, a risk-based supervisory approach to some non-traditional assets is recommended by the OECD/IOPS Good Practices on Pension Funds' Use of Alternative Instruments and Derivatives (GP 6c). More intense investments in non-traditional instruments make it sensible for the supervisors to develop a supervisory approach (e.g. the Netherlands, Mexico or Switzerland) dedicated to these types of investment. Responses to the questionnaire support this hypothesis. A distinct approach towards the supervision of investment management of non-traditional investments is used by a portion of the jurisdictions (such as Australia, Canada, the Netherlands, and the UK) that apply risk-based supervision. With the main focus on the risk and prudent person principle, the non-traditional investments gain more supervisory attention as they are considered, in general, to be more risky than the traditional ones. Those jurisdictions have therefore issued certain guidelines or principles for non-traditional investments to help pension funds better assess such factors as counterparty risk, contract terms or valuation, as well as perform due diligence, and achieve appropriate diversification. Most of these jurisdictions follow the European IORP II Directive 2016/2341/EC for pension funds classified as Institutions for Occupational Retirement Provision.

If it is true that non-traditional investments are indeed associated with more risk, then one may wonder why the majority of the IOPS jurisdictions that responded to the survey do not issue related investment guidelines to managing bodies of pension funds.[63] Such action would be in line with the OECD/IOPS Good Practices on Pension Funds' Use of Alternative Instruments and Derivatives. Good Practice 6c recommends pension supervisory authorities provide guidance to pension funds on how they expect the risks relating to alternative investments and derivatives to be managed. It seems worthwhile for IOPS Members to consider applying some of the experiences of those pension supervisors already using more distinct/elaborated approaches towards non-traditional investments.

[63] In view of one of the responding jurisdictions, the suitability of proposed separate guidance would largely be driven by the extent to which the regulator takes a principles based approach rather than a detailed compliance based approach.

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Annex

Table A1. Autonomous pension funds: exposure to selected non-traditional assets as of the end of 2015 (% of total assets)

Country	Lands and buildings (direct investment)		Lands and buildings (indirect investment via mutual funds)	Hedge funds		Private equity funds		Structured products	
Australia	5.0	2013	.	.		.		.	
Austria	3.4		.	.		.		5.9	
Belgium	0.6		0.9	.		.		0.6	
Canada	6.3		2.5	.		.		.	
Chile	forbidden		0.0	#		#		#	
Czech Republic	0.5		.	#		.		1.1	
Denmark	1.1		.	.		.		.	
Estonia	0.0		.	0.0		.		.	
Finland	11.6		.	.		.		.	
France	#		.	.		.		.	
Germany	2.8		2.7	0.2		0.5		0.1	
Greece	1.1	2014	.	.		.		.	
Hungary	.		.	.		.		.	
Iceland	0.0		0.0	.		5.4		.	
Ireland	.		.	.		.		.	
Israel	0.6		.	0.3		2.4		0.5	
Italy	1.8		1.2	.		.		.	
Japan	forbidden		.	.		.		.	
Korea	0.0		.	0.0		0.0		0.0	
Latvia	0.1		.	.		.		.	
Luxembourg	0.0		0.0	.		0.0	2014	0.0	2014
Mexico	forbidden		.	.		.	2014	0.0	2014
Netherlands	0.6		1.6	#		0.1		#	
New Zealand	.		.	.		.		.	
Norway	2.8		.	.		.		.	
Poland	forbidden		0.0	.		.		.	
Portugal	8.7		5.1	0.0		0.0		3.3	
Slovak Republic	other		.	#		#		#	
Slovenia	0.0		.	0.0		0.1		0.0	
Spain	0.1		.	.		0.6		0.0	
Sweden	2.6		.	.		.		.	
Switzerland	8.8		9.5	2.3		1.4		.	
Turkey	forbidden		.	.		.		.	
United Kingdom	2.2		.	.		.		.	
United States	1.3		.	.		.		.	
Albania	forbidden		.	0.0		0.0		0.0	
Armenia	forbidden		.	0.0		.	2014	0.0	2014
Botswana	1.3	2013	.	0.0		.		.	
Brazil	4.7		0.1	0.4	2014	0.1		0.0	2014
Bulgaria	2.4		.	#		#		#	

Colombia	forbidden		.	#		5.9		2.0	
Costa Rica	forbidden		0.0	0.0		0.0		0.0	
Croatia	forbidden		#	#		0.2		#	
Dominican Republic	other	2014	#	#		#		#	
FYR of Macedonia	forbidden		#	#		#		#	
Ghana	other	2014	.	#		.		.	
Gibraltar	3.5	2014	.	4.5		0.8	2014	.	
Guyana	2.0		.	0.0		0.0		0.0	
Hong Kong, China	forbidden		.	.	2014	.		.	
Indonesia	5.3		.	.		3.5		.	
Jamaica	5.4		2.7	0.0		0.0		0.0	
Kenya	19.4	2014	#	#		#		#	
Kosovo	forbidden		0.0	0.0		0.0		0.0	
Liechtenstein	11.0		.	2.2		1.5		.	
Lithuania	forbidden		0.0	0.0		0.0		0.0	
Malawi	7.1		.	#		8.0		#	
Malaysia	0.0		.	0.0		0.0		0.0	
Maldives	forbidden		#	#		#		#	
Malta	0.1		.	.		0.0		.	
Mauritius	2.1		0.0	#		#		#	
Namibia	.		.	0.0		2.2	2014	0.0	2013
Nigeria	4.0		.	0.0		0.3		0.0	
Pakistan	forbidden		.	0.0		0.0	2014	0.0	2014
Papua New Guinea	11.3	2013	.	.		0.0		0.0	2013
Peru	forbidden		0.0	0.0	2014	3.5		0.0	
Romania	forbidden		#	#		0.0		#	
Russia	0.0		.	.		.		.	
Serbia	0.2		0.0	#		#		#	
South Africa	0.0	2014	.	1.2		0.5	2014	.	
Thailand	forbidden	2014	.	#		#		#	
Zambia	20.7		.	0.0	2014	8.6		0.0	

Notes:

. missing value; data exist but were not collected,
\# no data can exist,
forbidden direct investment is not allowed,
other other instruments are permitted.

Autonomous pension funds: The pool of assets forming an independent legal entity that are bought with the contributions to a pension plan for the exclusive purpose of financing pension plan benefits. The plan/fund members have a legal or beneficial right or some other contractual claim against the assets of the pension fund. Pension funds take the form of either a special purpose entity with legal personality (such as a trust, foundation, or corporate entity) or a legally separated fund without legal personality managed by a dedicated provider (pension fund management company) or other financial institution on behalf of the plan/fund members. **Lands and buildings:** Real estate investment involving direct ownership by the pension plan of land and buildings. Real estate funds (both listed and unlisted, such as REITs), are included under the category Collective Investment Schemes (CIS). **Hedge funds:** Managed pool of capital which is allowed to employ much more aggressive investing strategies unavailable to Collective Investment Schemes, including selling short, leverage, program trading, swaps, arbitrage, and derivatives. **Private equity funds:** Equity capital that is not quoted on a public exchange. It includes both direct investments into unlisted equity as well as investments via a private equity fund.

Source: Own analysis based on OECD (2016d) and OECD database: The Global Pension Statistics, stats.oecd.org, accessed May 2017.