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Strengthening the application of the OECD Core Principles of Private Pension Regulation: Lessons from Centralised Investment Institutions

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This report is a revision of the report discussed in the WPPP meeting held on 4-5 December, 2017 (DAF/AS/PEN/WD(2017)17. It incorporates comments from delegates, tightening the analysis of centralised investment institutions to the OECD Core Principles of Private Pension Regulation. Therefore, it provides a comparative analysis of the application of this key OECD instrument.

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Strengthening the application of the OECD Core Principles of Private Pension Regulation: Lessons from Centralised Investment Institutions

Introduction and objectives of the report

1. The OECD Core Principles of Private Pension Regulation provide governments, regulators and supervisors with a common benchmark and high-level guidance on the design and operation of private pension systems. They aim to strengthen the regulatory framework around funded pensions in order to promote the sound and reliable operation of private pension plans.

2. Strong governance and appropriate investment strategies are essential if private pensions are to generate good outcomes for plan members and generate trust and engagement by the public. Core Principle 3: Governance and Core Principle 4: Investment and Risk Management set out the characteristics and behaviours that regulators should encourage in the governance frameworks and investment policies respectively of private pension providers.

3. Centralised investment institutions, such as reserve funds, pension funds and sovereign wealth funds, provide practical examples of how governance and investment standards can be framed, implemented and monitored. These institutions play different roles in their domestic pension systems, leading to different organisational structures and investment strategies. However, their governance and investment arrangements have many common features, and these correspond to the recommendations of the OECD Core Principles of Private Pension Regulation.

4. This report examines the governance frameworks and investment policies of several centralised investment institutions, in particular public institutions, and maps them against Core Principles 3 and 5. There is a close match between the set-up of the public institutions and the recommendations of the Core Principles, demonstrating the relevance of the recommendations. The analysis also highlights key policy issues linked to the practical application of governance and investment standards, and how centralised investment institutions have addressed these. Based on this analysis, it proposes measures to strengthen the application of Core Principles 3 and 5 to private pension institutions.

5. The report sets out an examination of ten different centralised investment institutions, including six pension funds, two reserve funds and two sovereign wealth funds. Five of the pension funds operate individual member accounts: the Mandatory Provident Fund (MPF) in Hong Kong (China), the Central Provident Fund (CPF) in Singapore, AP7 in Sweden, the National Employment Savings Trust (NEST) in the UK and the Thrift Savings Plan (TSP) in the USA. The sixth pension fund under consideration in this report, Denmark's ATP, manages individual accounts within a common insurance scheme. The two reserve funds analysed are the Canadian Pension Plan Investment Board (CPPIB) and the funds AP1-4 in Sweden.

6. The report also examines Norway's two sovereign wealth funds, the Government Pension Fund – Global (GPFG) and Norway (GPFN) which despite their titles are not directly linked to the domestic pension system and are nor earmarked for pension liabilities. It further includes some information about the Australian Future Fund (AFF) and New Zealand Superannuation Fund (NZS) – both sovereign wealth funds – where these offer relevant illustrations of the topics related to centralised investment institutions.

7. Members of the Working Party on Private Pensions are invited to note the contents of this report and suggest areas for further study of the practical implementation of the recommendations of the core principles, focusing on some of the other core principles.

Overview of institutions analysed for this report

8. The ten public investment institutions analysed for this report are shown in Table 1. They have been included because they provide examples of different approaches to governance and investment.

Table 1. Institutions analysed for this report

	Country	Type	Reason for inclusion
Canada Pension Plan Investment Board (CPPIB)	Canada	Reserve Fund	Governance framework Investment approach
ATP	Denmark	Pension Fund with Individual Accounts	Governance framework Investment approach
Mandatory Provident Fund (MPF)	Hong Kong (China)	Pension Fund with Individual Accounts	Investment approach
Government Pension Fund - Norway (GPFN)	Norway	Sovereign Wealth Fund	Governance framework Investment approach
Government Pension Fund - Global (GPFG)	Norway	Sovereign Wealth Fund	Governance framework Investment approach
Central Provident Fund (CPF)	Singapore	Pension Fund with Individual Accounts	Governance framework
AP1-4	Sweden	Reserve Fund	Governance framework Investment approach
AP7	Sweden	Pension Fund with Individual Accounts	Governance framework Investment approach
National Employment Savings Trust (NEST)	United Kingdom	Pension Fund with Individual Accounts	Governance framework Investment approach
Thrift Savings Plan (TSP)	United States	Pension Fund with Individual Accounts	Governance framework Investment approach

9. The six pension institutions are ATP, MPF, CPF, AP7, NEST and TSP. All of these institutions receive both employee and employer contributions except AP7 (employee only).

- ATP is a mandatory defined contribution (DC) occupational pension scheme established in 1964 under which members accrue guaranteed rights. ATP is set up as an insurance scheme and manages approximately USD 115 billion of assets.[1]

[1] All AUM data as at 21 July 2017

In addition, ATP's 2,820 staff administer a variety of other social security benefits.[2]

- The MPF was introduced in 2000. It is a fully-funded occupational DC system consisting of private pension providers that are licensed and overseen by the Mandatory Provident Fund Authority. Total savings across all providers are approximately USD 78 billion.
- The CPF is a mandatory retirement savings scheme set up in 1955. Members receive a guaranteed rate of return that is based on the return on Singapore government bonds. The state issues special bonds to provide this guarantee. Total assets are approximately USD 237 billion.
- AP7 provides the default option within Sweden's premium pension system, which is a mandatory funded pension scheme within the state PAYG system. Premium pensions were established in 2000 and employees contribute 2.5% of their pensionable income to the system, bringing total assets to approximately USD 40 billion. AP7 has 27 employees.
- NEST was set up as part of the UK's workplace pension reforms in 2008 that included the introduction of auto-enrolment. It is a multi-employer DC pension scheme that has a public service obligation to be open to any employer that wants to use it and has a low-cost approach. Total assets are approximately USD 2.4 billion and staff numbers are around 240.
- TSP is a voluntary DC plan for federal employees and members of the uniformed services. It was set up in 1986 and offers similar services to 401k plans for private sector employees. The assets of the TSP amount to approximately USD 500 billion and are administered by a government agency, the Federal Retirement Thrift Investment Board (FRTIB). From January 2018, members of the uniformed military will be auto-enrolled into the TSP, taking participants to an estimated 5.6-6.0 million people.

10. The two Reserve Funds are designed to back up their domestic pension systems:

- CPPIB is an investment management organisation that was established in 1997 to invest the assets of the Canada Pension Plan. It manages an investment portfolio of approximately USD 250 billion and provides cash management services to the Canada Pension Plan. It has 1,392 staff.
- The funds AP1-4 constitute about 15% of the assets of the Swedish pension system and act as a buffer to cover future disbursements. The aim of having multiple funds is to diversify the investment risk of the buffer capital. The funds co-operate to provide transparency and cost efficiency but nevertheless are in competition with each other in terms of performance. Net inflows have been negative since 2009 and the Swedish Pension Agency expects to withdraw capital from AP1-4 over the next 25-30 years. Assets are approximately USD 152 billion; each of the funds AP1-4 has around 60 staff members.

11. The two sovereign wealth funds are owned by the Norwegian state.

- The domestic fund, GPFN, was established in 1967 with funds allocated from the national insurance scheme. No further inflows or outflows have occurred since then and returns are retained by the fund. Assets under management are approximately USD 26 billion are managed by the Folketrygdfondet, a specially-

[2] Employee numbers were not found for MPF, CPF, TSP, GPFN

formed company wholly owned by the State of Norway through the Ministry of Finance.

- The global fund, GPFG, was set up in 1990 to accumulate the country's surplus oil revenues. Assets are approximately USD 956 billion and are managed by Norges Bank, the Norwegian Central Bank, through its asset management unit, NBIM, which has close to 600 employees.

12. Some additional information about the Australian Future Fund (129 employees) and the New Zealand Superannuation Fund (over 100 employees) has been included. These institutions have not been presented in detail as their governance structures and investment practices are very similar to those of their peers listed in Table 1.

Governance frameworks

13. This section analyses the governance frameworks of the reference group of public investment institutions. It considers the different governance models of the ten selected institutions based on a mapping of the key features of their governance frameworks against the Implementing Guidelines (IG) of Core Principle 3 of the OECD Core Principles of Private Pension Regulation (hereafter "Core Principles").

Table 2. Mapping governance frameworks: key features

	Implementing Guideline Core Principle 3	Key features
3.1	Identification of responsibilities	Separation of operational and oversight responsibilities
3.2 – 3.4	Governing body	Creation, role and responsibilities of governing bodies
3.5	Accountability	To members, supervisor, competent authorities
3.6	Suitability	Membership of governing body
3.7	Delegation and expert advice	Sub-committees of the Board; internal and external expertise
3.8 – 3.10	Auditor, actuary, custodian	Independence
3.11 – 3.12	Risk-based internal controls	Organisational and administrative controls; codes of conduct; internal reporting systems
3.13	Disclosure	Timely communication of relevant information to all stakeholders

Identification of responsibilities

14. Core Principle 3 recommends that governance frameworks clearly separate oversight and operational activities (IG 3.1), and that a governing body is established with responsibility for oversight (IG 3.2). All the institutions analysed in this document follow this recommendation and have a Board of Directors, Trustee or other governing body (hereafter "the Board") entrusted with oversight. The Board is usually responsible for hiring the Chief Executive and setting out written descriptions of his or her duties, but leaves the day-to-day running of the institution to the executive team.

Governing body

15. One of the chief responsibilities of the governing body of a private pension fund is to set out the fund's mission (IG 3.3). This is not the case for the Boards of the centralised investment institutions: their missions are established by the state in accordance with their role in their domestic pension system and the Board's role is to interpret the mission or objective of the institution and transform it into a set of operating and investment strategies. The mission of the centralised investment institution may be specified in legislation or otherwise publicly stated, as shown in Table 3.

Table 3. Stated mission

	Country	Type of Institution	Mission
CPPIB	Canada	Reserve Fund	Assist the Canada Pension Plan in meeting its obligations to contributors and manage assets in the best interests of the contributors and beneficiaries. Maximize long-term investment returns without undue risk Provide cash management services to the Canada Pension Plan
ATP	Denmark	Pension fund with individual accounts	To pay supplementary pensions, to preserve the real value of the assets.
MPF	Hong Kong (China)	Pension fund with individual accounts	To regulate and supervise privately-managed schemes within the Mandatory Provident Fund and occupational retirement schemes, to educate the working population about saving for retirement and to lead improvements in MPF schemes
GPFN and GPFG	Norway	Sovereign Wealth Fund	To support long-term considerations in the government's spending of oil revenues, as well as savings to finance pension expenditures under the National Insurance Scheme
CPF	Singapore	Pension fund with individual accounts	To enable Singaporeans to have a secure retirement
AP1-4	Sweden	Reserve Fund	To manage the fund capital in such a way that the utility for the national pension system is maximised. To manage the fund capital in the best interests of the income pension system by generating high returns at low risk
AP7	Sweden	Pension fund with individual accounts	To provide the default investment option in the Premium Pension system
NEST	UK	Pension fund with individual accounts	To ensure that every employer has access to a workplace pension scheme that meets the requirements of the UK pension reforms
TSP	USA	Pension fund with individual accounts	The FRTIB, which administers the Thrift Savings Plan, has a fiduciary duty towards its members

16. Governing bodies must observe prudential and fiduciary standards in carrying out their responsibilities, as outlined in IG 3.4. In private pensions, their duties are towards members and beneficiaries, while in public institutions the Board must take into account the requirements of the state. The purpose of a Sovereign Wealth Fund is to shift public spending power from one point in time to another, there are no individual rights involved and there is no link to a specific purpose. Their Boards can fulfil their duties in this case by ensuring high professional standards and efficiency in the management of the fund's assets. By contrast, Reserve Funds are earmarked for specific uses and their mandates often reflect the needs of government, for example they may stipulate a liquidity requirement. Pension Funds with Individual Accounts have a duty towards each member. Boards must therefore additionally concern themselves with ensuring that such funds are protected from political interference in violation of the mission.

17. There may be instances when the state decides to change the mission of a public investment institution, as occurred in France and Ireland. The Fonds de Réserve pour les Retraites was established by the French government in 2001 as a reserve fund for the pension system. In 2010 its role became more like that of a sovereign wealth fund. Ireland's National Pension Reserve Fund was transformed into the Ireland Strategic Investment Fund in 2014 with a mandate to support local economic activity and employment.

18. In both cases, the new mission implied a significant change in the contributions and payments of the fund and in the investment horizon. Both institutions have been successful in implementing their new mission, but with some discontinuity in terms of the Board. These examples may be of relevance to private pension funds that are considering

structural changes, for example introducing risk-sharing features into defined benefit schemes. Regulators should be confident that the funds' governing bodies can demonstrate that they are able to articulate the new mission and introduce new operating and investment strategies without disruption.

Accountability

19. The Boards of centralised investment institutions are accountable for the delivery of their mission. The accountability frameworks of the centralised investment institutions are based on the "arm's length" principle. In an arm's length relationship, the two parties to an agreement are considered to be independent and on an equal footing, so that neither has control over the other for the purposes of that agreement. This means, for example, that the state may have the final say over Board recruitment but once the Board is established the government cannot influence Board members to invest in a particular project.

20. The arm's length relationship means that the Board is accountable to government, in line with IG 3.5, but has the independence to set out its strategy within the framework established by law, consistent with IG 3.4. The Board may report to Government or Parliament but it usually does not take instructions or directions from them, although the degree of independence can vary. For example, the New Zealand Minister of Finance may give directions to the Guardians of the Superannuation Fund, as long as these directions are "consistent with the duty to invest the Fund on a prudent, commercial basis".[3] Ministerial directions must be tabled in Parliament. Similarly, the Board of the US Thrift must seek Congressional approval for any changes to the investment instruments permitted in the TSP.

21. For such an arrangement to work, the mission of the institution must be clearly defined. This enables the Board to put in place appropriate policies and the competent authorities to spot inconsistencies even at an arm's length. Regulators may wish to consider whether the private pension funds under their supervision similarly have clearly stated objectives and coherent operating policies.

Suitability

22. As specified by IG 3.6 for private pension institutions, Board members (and senior managers) of centralised institutions are expected to meet fit and proper criteria. These are spelled out in differing levels of detail according to the jurisdiction, but in general the criteria cover personal and financial integrity, conflicts of interest and business conduct. All institutions require that Board members have relevant experience, insight and professional background.

- ATP requires that Board members and managers have sufficient experience to undertake his/her responsibilities. Candidates cannot 1) have been guilty of specific offences; 2) be subject to liquidation, petition of bankruptcy or similar; 3) be involved in business activities that have led to losses for ATP; or 4) have demonstrated unsuitable behaviour.
- The AP funds apply a general standard requiring the Government to appoint board members based on their ability to advance the management of the fund.

[3] New Zealand Superannuation Fund website

23. If Board members no longer meet the relevant criteria, they are typically required to report the situation to the Chairman of the Board, the Regulator or other competent authority. The expectation is that the member will resign if required, therefore only a few of the institutions have a formal procedure for removing Board members. This procedure is carefully defined to avoid it being abused.

- The Canadian Governor in Council can remove Board members of CCPIB "for cause" (i.e. for misconduct or breach of duty)
- If the Danish regulator considers that an individual board member at ATP no longer meets the required standards, it should inform the Minister of Employment who will decide whether or not the individual can continue to serve
- The Swedish Government has the authority to terminate Board members of the AP funds if it assesses that they no longer meet the required standards

24. IG 3.6 also stipulates that "the governing body should collectively have the necessary skills and knowledge to oversee all functions". ATP, CPPIB, NEST, CPF, NZS and FRTIB require that the Board as a whole possess a specific mix of skills and experience.

- The CPPIB applies a general behavioural standard and sets criteria related to the different competences of the Board overall.
- The Secretary of State for Work and Pensions selects Trustee Members for NEST on the basis of merit, fairness and openness and considering that the Board of Trustees overall should have experience of investment, portfolio management, member representation, finance, auditing, governance, and business management.

25. It is customary for Boards to conduct annual self-assessments and verifications of Board member suitability. This type of information could be valuable to regulators of private pensions, as it would help to identify areas where members of governing bodies needed extra technical advice or training as well as potential sources of governance failings.

Delegation and expert advice

26. The majority of Boards have established committees with mandates to work on specific aspects of the operations of the institution, as described in IG 3.7. These committees are intended to strengthen the Board's control and strategic foresight and to enable them to work more closely with management on specific issues. In some cases, the committees are mandated by law. Forming committees is an important way to ensure depth and continuity in the Boards work on particular aspects. A risk related to the use of committees - and particularly so if the number of committees becomes high - is that the Board and its individual members become distanced from their collective and personal responsibility.

- The Board of CPPIB is legally required to form an Investment Committee and an Audit Committee.
- The Board of ATP has formed a Management Committee, an Audit Committee and an ORSA (Own Risk and Solvency Assessment) committee. It has delegated the typical responsibilities of a Remuneration Committee to its Management Committee.
- The Board of MPFA has established a large number of committees: Administration, Audit, Finance, Guidelines and Remuneration Committees,

Tender Board, Working Group on MPF Reform Issues, and Working Group on Review of Adjustment Mechanism for Minimum and Maximum Levels of Relevant Income.

- The Boards of GPFN and GPFG have formed Risk Management Committees, Audit Committees and Remuneration Committees. The Board of GPFG has also formed an Ownership Committee.

27. Consistent with IG 3.7, where external experts or investment managers are hired, the Board has ultimate responsibility for the terms of their contracts.

Actuary, auditor, custodian

28. As part of their internal control and verification system all institutions examined are subject to external audit and many of them have or have created special functions to facilitate this process - e.g. Internal Auditor, Appointed Actuary, Chief Risk Officer and Risk Unit. In most cases such special functions are set up and appointed by the Board and they report directly to it. This is in keeping with IG 3.8 – 3.10.

Risk-based internal controls

29. Just as the Boards of centralised investment institutions operate at arm’s length from government, management operates at arm's length from the Board. Executive management is responsible for the day-to-day management of the institution and the execution of the investment strategy. The Board is not involved in these tasks but it puts in place sufficient guidelines and control procedures to be able to monitor the activities of the management, in line with IG 3.11 and 3.12. In the majority of cases, the chief risk officer is a member of the executive committee and in some cases the internal control teams report directly to the Board of Directors or to the relevant sub-committee of the Board.

30. Several schemes have internal and external whistle-blower schemes in place, a more rigorous control mechanism than those suggested by the Core Principles. It is usually a requirement for the Board to establish and enforce a code of ethics, a code of conduct or a framework of policies or guidelines for management and staff.

Disclosure

31. IG 3.13 states that the governing body should make accurate and timely disclosures to all relevant parties. The type and extent of the disclosure made by the centralised investment institutions depends on how they are supervised, but in general these institutions are subject to stringent reporting requirements to both members and supervisors, and their detailed financial information is publicly available.

32. Funded public pension schemes with individual accounts tend to be supervised in the same way as their private equivalents. For example, ATP is supervised by the Danish financial services regulator on an equivalent basis to a commercial insurance company; AP7 is supervised by the Swedish financial services regulator similarly to a private fund management company; and the Pensions Regulator supervises NEST in the same way as other trust-based occupational schemes. This creates a level playing field between the public and private sectors and reinforces the arm’s-length relationship between the institution and the government.

33. Reserve funds and Sovereign Wealth Funds are subject to other supervisory arrangements, typically involving direct supervision by a Government ministry. For

example, all AP funds report to the Swedish Government that in turn reports to Parliament. CPPIB is accountable to, but not supervised by, Parliament: it submits its annual report to the Minister of Finance and to the appropriate provincial ministers. The Minister of Finance puts the report before Parliament. The Minister must undertake a special examination at least once every six years.

34. All the institutions examined submit audited annual accounts to government (some also submit quarterly reports). Most provide additional qualitative reporting on the operations, performance and strategic outlook for the business. Most of the institutions publish detailed data on the investment portfolio, risk measures and management and responsible investment practices. Supervisors of private pension systems should be able to request the same amount and type of information from the private sector, with the caveat that they must therefore also have the capacity to analyse and act on this information.

35. In most cases these reports are issued shortly after the end of the reporting period. In the case of the FRTIB, the financial report is issued more than a year after the end of the reporting period although fund information is published more regularly.

36. In addition to government, these reports are directed at a professional audience such as financial analysts, peers, policy makers and the financial press. This audience can provide a useful service in terms of performance evaluation, policy evaluation and peer pressure, compensating for the lack of direct competitive pressures on a number of the institutions. Providing transparency about the state of the public institution can help to build its credibility. In the case of private pension funds, it may not be appropriate to release detailed information to the public, especially where it is financially sensitive or may confuse members of the scheme.

37. Those institutions that operate schemes with individual accounts issue regular policy/account statements to their clients. Statements include information on contributions, accrued rights/savings, current risk choices if relevant, returns on investments, individual costs, benefit forecast and other benefits. They also direct members to sources of further information. In the case of ATP and AP7 the statement also includes a link to web-based national integrated pension rights and pension overview services where the individual can get a complete overview of his or her expected financial situation in old age across all public and private pension schemes and savings arrangements. Regulators may use such statements as a basis for comparison for private pension funds’ communications with members.

Appointment of Board members

38. The Board plays the key role in ensuring effective governance of centralised investment institutions. It is therefore essential that the institutions are able to attract and recruit suitable candidates to their Boards. Regulators may wish to consider whether the recruitment criteria and remuneration policies of different centralised investment institutions could usefully be applied to private pension institutions, especially in jurisdictions where there is a shortage of qualified candidates.

Appointments procedure

39. In the case of the public institutions discussed in this report, the government has an important role in Board appointments, but Board members are not political appointees.

Other stakeholders are usually involved in the appointment process and there is no instance of Board members being removed following a change of government[4].

40. In Norway, Singapore, Sweden and the United States, the appointments procedure is consultative but driven primarily by the government:

- Board members of Folketrygdfondet and Norges Bank, the managers of the Norwegian State Pension Funds - Norway and Global respectively, are appointed by the Ministry of Finance (GPFN) and the King in Council (GPFG).
- In Singapore, the Minister of Finance appoints the Board of the CPF in consultation with the President
- Board members of the AP funds in Sweden are appointed by the government; for some of the positions other stakeholders are consulted. For AP1-4, social partners can propose two board members each.
- In the USA, the President appoints the Board members of the FRTIB (which manages the assets of the Thrift Savings Plan) and the appointments are confirmed by the Senate. Three Board members are appointed by the President and two are appointed by the President in consultation with the minority leader in the House of Representative and the majority leader in the Senate.

41. In Canada and Denmark the appointments procedure is driven primarily by other stakeholders who propose candidates to the government. Such a process helps to create confidence and ownership in the institution among stakeholders. Stakeholders must respect all professional and other criteria when proposing candidates.

- In Canada, appointments are made by the Governor in Council on the recommendation of the Finance Minister. The Minister can form an advisory committee with one representative from each of the participating provinces and must consult the appropriate provincial Ministers of the participating provinces before making any recommendations on Board appointment.
- Board members of ATP are formally appointed by Denmark's Minister of Employment but candidates are proposed by the two parties to the labour market. Each party nominates 15 members to a Board of Representatives and 6 members from each side are selected for the Board of Directors (specific organisations have the right to propose members).

42. Trustees of NEST in the UK are currently appointed by the Secretary of State for Work and Pensions but it is intended in future that Trustee members are appointed by NEST itself based on input from the Members Panel (an advisory body designed to provide NEST with members' views and considerations). This corresponds to the proposal in IG 3.5 that the accountability of the governing body is improved when plan members and beneficiaries can nominate members.

43. Recruitment criteria for Board members at the institutions under review also pay close attention to potential conflicts of interest. This issue is addressed in several of the Core Principles, notably in IG 3.1, which highlights the importance of setting out clear contractual responsibilities when a pension fund is managed by a financial institution. This reduces the risks of a conflict in cases where a financial institution appoints the members of the governing body of pension funds that it administers, and there is a clash between the commercial interests of the financial institution and the fiduciary

[4] Note: Hong Kong is excluded from this section as the MPF consists of private sector funds, each with its own Board structure

responsibilities of the pension funds. The centralised investment institutions additionally apply specific conflict of interest rules to Board members and emphasise transparency to reduce conflicts.

- Directors of the MPFA (who are unpaid) are required to make a general declaration of their interests, and to report any pecuniary interest in a matter placed before the management board. These reports are available for public inspection.
- The Board of the New Zealand Future Fund has set up a Conflicts Committee to address possible conflicts of interest for Board members.

Board size and structure

44. The number of Board members appointed varies across the institutions analysed, depending on the mandate of the institution and the range of competences needed for the Board to deliver that mandate. The size of the Board of the institutions examined ranges from 5 (FRTIB, which manages the assets of the TSP) to 15 (NEST, CPF). The FRTIB is responsible for relatively simple investment strategies that are externally managed, and its mandate is quite constrained (the legislation gives the Board very little leeway in setting investment policy). While a small Board may have gaps in expertise (which could be filled by using external advisers), a large Board may face logistical problems in trying to organise regular meetings.

45. Some countries apply additional political or social criteria when determining the composition of the Board:

- ATP targets equal gender representation on the Board.
- GPFN and GPFG have a quota of 40% female Board members.
- The AP funds require members of the board to be Swedish citizens.
- A maximum of three of the Board members of CPPIB can reside outside Canada; the Board must have regard to the desirability of having directors representative of various regions of Canada.

Duration of terms, timing of appointments and re-appointment

46. The different institutions apply similar policies to ensure continuity and avoid having to replace several Board members at the same time. This is not a matter addressed by the Core Principles.

- CPPIB, ATP and the AP funds all set three-year terms for Board members and allow multiple re-appointments.
- Folketrygfondet (GPFN) sets four-year terms and allows re-appointment for up to 12 years.
- FRTIB applies different terms to the Chair (4 years), members appointed by the President (3 years) and members appointed in consultation with Congressional leaders (2 years).
- Some institutions have legal limits on the number of Board members they can replace at one time; others set practical limits.

Remuneration of the Board and management

47. Most of the institutions under review publish details of the remuneration of Board members and top executive management in their annual report. The remuneration of Board members among the different institution ranges from pay scales in line with market standards to zero or very low payments. None of the institutions examined allows

performance-related pay for the Board. In all cases, non-executive Board members were permitted to hold positions in other organisations. In most cases, Board members held non-executive positions elsewhere but in some instances (e.g. the CPF) they had executive functions.

48. Market-matching remuneration may help to attract good candidates. A number of the institutions that pay their Board members at market rates specify that this is to enable them to recruit suitable people, as well as being an appropriate reward for the responsibilities and time commitment involved in the role. They also specify that the institution should not drive market rates higher. For example, the remuneration of Board members at CPPIB is set out in the bye-laws and takes account of the remuneration of persons with similar responsibilities and activities. A similar approach is followed in ATP through a remuneration policy set out by the Board.

49. Examples of market-matching remuneration are shown in Table 4.

Table 4. Board remuneration examples

	Chair	Board Member
Australia Future Fund	USD 160,000	USD 80,000
New Zealand Superannuation Fund	USD 50,000	USD 35,000
NEST (UK)	USD 125,000	USD 30,000
CPPIB (Canada)	USD 156,000	USD 40,000
		+ per diem USD 1,400 + travel time
AP2 (Sweden)	USD 12,000	USD 6,000 + around USD 4,000 for Committee work

Note: Exchange rate at 13/10/2017.
Source: Annual reports.

50. However in several jurisdictions salary limits are placed on public functions, so offering high market-rate remuneration to Board members could be controversial. Their respective governments set the remuneration for Board members of the AP funds and the GPFN. This is well below market levels but the funds have not reported any difficulty in attracting qualified individuals. The remuneration of the Board of the Australian Future Fund is determined by the public sector remuneration tribunal, but is at the top end of the public sector scale so corresponds to market-matching rates.

51. The Board usually has the authority to establish the remuneration of senior management.

- In GPFN the Board sets the remuneration of the Executive Director and informs the Ministry of Finance.
- In the AP funds the Board sets the remuneration of the Executive Director and other senior managers; Government guidelines exist for the remuneration of senior managers of the AP funds.
- The Board of Directors sets the remuneration of the senior management team in ATP and in CPPIB taking account of market comparisons.

52. Executive management all receive market-based pay. Many of the institutions under review are market leaders in terms of their asset base and their role within the investment community, and this is reflected in their compensation structures.

- NZS considers that it is competing in a global market for executive talent.

- ATP offers market-level compensation based on national and international standards and taking into account the size and scope of the institution.
- AP4 aims to pay salaries that are competitive but not market-leading.
- The levels of executive compensation at CPPIB are consistent with those at other comparable Canadian financial institutions. The government of Canada actively monitors executive compensation in relation to the size of assets under management.

53. Table 5 shows some examples of executive pay. There is a wide range of both fixed and variable compensation. Some institutions offer performance-based remuneration as part of their senior managers' remuneration. Others believe that such incentives may lead to suboptimal and short-term business conduct and they exclude their senior managers from any performance-based remuneration.

- GPFN does not allow performance-related pay for its Chief Executive but it does apply performance-based incentives to other senior managers.
- CPPIB has an extensive and quite complex incentive programme for senior managers. Its managers are among the highest paid in the pensions industry globally, reflecting their expertise in managing a very large, actively-managed portfolio.
- ATP, AP4 and AP7 do not allow performance-based pay for senior managers.
- All staff – including non-investment staff – at the Australian Future Fund have some element of their variable pay linked to the performance of the investment portfolio. This helps to keep them focused on the mission of the AFF.

Table 5. Executive remuneration examples

USD	Fixed	Variable	AUM
AP4			
Chief Executive Officer	400 000		42 billion
Australia Future Fund			
Chief Executive Officer	483 000	Up to 120%	105 billion
Chief Investment Officer	447 275	Up to 120%	
CPPIB			
President & CEO[1]	518 000	2 702 700	252 billion
Chief Investment Strategist[2]	370 000	1 030 440	
MPFA			
Managing Director	730 000		n/a
NEST			
Chief Executive	290 000		2.4 billion
New Zealand Superannuation Fund			
Chief Executive Officer	511 000	378 000	26 billion

Note: Exchange rate as at 14/02/2018. [1]Target full year compensation, excludes LTIP and other non-direct payments of USD 3.5 million. [2]Excludes deferred of USD 1 million.
Source: Annual reports. Summary of key policy issues: governance frameworks

54. The centralised investment institutions analysed fulfil different roles in their domestic pension systems, and this is reflected in differences in their governance frameworks. Nevertheless, they have a number of features in common that are relevant to the regulation of private pensions:

- The governance frameworks of the centralised investment institutions closely reflect the recommendations of Core Principle 3, especially in the establishment of an oversight Board that is accountable to the competent authorities as well as to members.
- The missions of the institutions are clearly stated. Their Boards are held accountable for delivering the mission and are subject to extensive disclosure requirements. This enables the supervisory authorities and stakeholders to monitor performance and compliance with the mission.
- The institutions operate within a regulatory and legal framework but at arm's length from government. This places considerable responsibility on the Board. Board recruitment is therefore a key determinant of the success of the institution.
- There is no consensus on the appropriate level of remuneration for Board members of the centralised investment institutions under review, but fit and proper criteria are rigorously applied in all cases and attention is paid to the overall range of skills of the Board. Conflict-of-interest policies are transparent.
- The Boards have oversight of operational and other internal risks and several institutions have implemented whistle-blower schemes.

Investment and risk management

55. The investment strategies of the ten public investment institutions fall into two main types, target date/lifecycle funds and long-term return strategies. The ways in which these strategies have been formulated and are executed have been examined in light of the implementing guidelines of Core Principle 4 of the OECD Core Principles of Private Pension Regulation which addresses investment and risk management.

Table 5. Mapping investment policies: key features

	Implementing Guideline Core Principle 4	Key features
4.1	Retirement income objective and prudential principles	Alignment with retirement income objective; risk management techniques
4.2 – 4.4	Prudent person standard	Prudent person standard, fiduciary duty, requirement to establish investment process with adequate safeguards
4.5 – 4.12	Investment policy	Written policy; clear risk and return objectives appropriate for the characteristics of the fund. Asset allocation strategy with tolerances. Investment options for members. Review procedures.
4.13 – 4.21	Portfolio limits and other quantitative requirements	Definition; respect for diversification and liability matching
4.22 – 4.27	Valuation of pension assets	Transparent basis
4.28 – 4.29	Performance assessment	Monitoring procedure

56. Table 7 provides an overview of the processes followed by each of the institutions in establishing and implementing its investment strategy. As discussed below, these processes largely cover the points raised in the Implementing Guidelines of Core Principle 5, especially IG 4.1 – 4.12 which cover the alignment of a fund's investment policy with its objectives. The implementation of these policies, including more detailed information on portfolio design, asset allocation and risk control (IG 4.13 – 4.21) and performance assessment (IG 4.28 – 4.29), is discussed in the "Investment Strategy" section.

Retirement income objective and prudential principles

57. IG 4.1 stipulates that the regulation of pension fund investment should be aligned with the retirement income objective and the eventual liabilities of the fund. The equivalent for a centralised investment institution is that the Board of Directors be held accountable for establishing an investment policy in line with the mission of the institution. This means setting the return expectation, the risk tolerance and any asset allocation limits. This is the case for most of the institutions under review.[5]

Prudent person standard

58. The Core Principles emphasise the obligations of pension fund governing bodies towards members and beneficiaries, especially their fiduciary duty and the expectation that they will act prudently (IG 4.2 – 4.3). As shown in Table 7, the investment policies of the reserve funds and the pension funds with individual accounts include the concepts of member best interest and prudential requirements.

Investment policy

59. All of the institutions have a written investment policy, in keeping with IG 4.4 – 4.5, that outlines the type of investment and risk exposures the institution will take on in order to achieve its mission and objectives. It is translated into an investment strategy by the Board, usually with the advice of management, which determines the final shape of the portfolio.

- The mission of the CPPIB is "to maximize long-term investment returns without undue risk, taking into account the factors that may affect the funding of the Canada Pension Plan and its ability to meet its financial obligations…(and) provide cash management services to the Canada Pension Plan so that they can pay benefits." The Board of Directors has translated this into a strategy of maintaining two separate portfolios, one to manage liquidity and one to seek high returns.
- The mission of AP7 is to provide the default investment option for the Premium Pension System based on a lifecycle approach. The Board has translated this into an investment strategy of building the default fund with two underlying building block portfolios, for which it lays down the investment constraints.
- The mission of ATP includes maintaining the real value of members' benefits and providing insurance-like guarantees. The Board has translated this into a liability-driven strategy combining a hedging portfolio and a return-seeking portfolio.

60. The degree of freedom that the Board has in establishing the investment policy reflects the nature of the institution. This mirrors the requirements of IG 4.6 for private pensions, that the investment objectives be consistent with the retirement income objective and specific attributes of the fund. Pension funds are expected to provide their members with retirement income and their investment policies are designed accordingly. ATP is designed as an insurance company and its investment policy is essentially driven by its liabilities. Sovereign Wealth Funds and Reserve Funds do not face the same expectations from members, but their investment policy might be influenced by liquidity requirements. Sovereign Wealth Funds and Reserve Funds may face cash calls at

[5] In the case of GPFG, the Board of Norges Bank has this responsibility. Norges Bank is responsible for the operational implementation of the investment policy,

relatively short notice, whereas public pension funds with individual accounts can usually plan their liquidity needs long into the future.

61. Similarly, the degree of risk that the institution can bear depends on its mission (IG 4.9). In general, pension institutions with individual accounts have a direct responsibility towards each member to build their retirement assets and make them available on retirement. They therefore have a lower risk tolerance as they seek to avoid capital losses and illiquidity risk..

62. Risk management is the chief mechanism for aligning both Board and management with the long-term investment policy. Within the limits of its mandate, the Board of Directors sets out a risk budget specifying overall risk as well as risk composition and it receives regular reports from management on whether or not it is being respected. The degree of tolerance around the risk budget (and other investment constraints) is an important determinant of the management's ability to react to extreme events such as a market crash or significant events in particular markets or submarkets without having to wait for approval from the Board. This could have a significant outcome on the performance of the portfolio.

63. IG 4.7 states that the written investment policy should include guidelines on asset allocation, overall performance objectives and monitoring, and the degree of tolerance around these guidelines. In the case of the centralised investment institutions, some of these guidelines are set by the state rather than by the Board. In Sweden: the asset allocation of AP1-4 is set in legislation and the mandate of AP7 specifically includes providing lifecycle funds. By contrast, the Board of CPPIB (Canada) faces no asset allocation constraints. In the UK, it is the Board of NEST, rather than the government, that has determined that offering lifecycle funds is the best way to fulfil the mandate of the institution.

64. The centralised investment institutions may have either absolute or relative performance targets. There is considerable variation in the absolute return targets: NZS's mandate is to achieve annualised performance of 2.7% above cash over any 20-year moving average period; AFF aims to achieve annual returns of 4.5% - 5.5% above the Consumer Price Index, with an "acceptable" level of risk and while minimising the impact on Australian financial markets;[6] AP4 targets real returns of 4.5% per annum. CPPIB and the Norwegian sovereign wealth funds have relative return targets, as they aim to outperform a reference portfolio with equivalent risk.

65. The reserve funds and sovereign wealth funds under review all integrate environmental, social and governance (ESG) factors in their investment policies. Their emphasis is on risk reduction, especially climate change-related risks. Some institutions, notably CPPIB and the Australian Future Fund, also highlight the potential return opportunities from ESG investment. The Swedish reserve funds AP1-4 have established a Council on Ethics to support their ESG activities.

66. Among the institutions with individual accounts, Denmark's ATP and the UK's NEST point to ESG factors as drivers of long-term risk-adjusted performance. AP7 is an "active owner", engaging with its portfolio holdings on ESG issues. ESG integration is

[6] The "Investment Principles" of the Korean National Pension Fund (a reserve fund) similarly include a "Principle of Public Benefit" which takes into account the potential impact of the fund on the national economy, given its size. The fund has assets of over USD 500 billion and invests almost 70% of this on the domestic market.

not addressed in the Core Principles, although Core Principle 4 draws attention to the long-term nature of pension fund investment and refers regulators to the G20/OECD High-Level Principles of Long-Term Investment Financing by Institutional Investors in this regard.

Portfolio limits and other quantitative requirements

67. The quantitative restrictions placed on the centralised investment institutions are consistent with their risk-return objectives and with prudential requirements (IG 4.13 – 4.21). With the exception of the Norwegian domestic fund, the asset allocations of the centralised investment institutions are relatively unconstrained. This may reflect the high level of investment expertise of these institutions and their relatively large asset base, which means that they are able to take advantage of investment opportunities across a wide range of asset classes. Notably, the CPPIB invests over 20% of its portfolio in real assets, whereas direct investment in real estate is prohibited in six OECD countries and a number of jurisdictions restrict investment in other less liquid asset classes.[7]

Valuation of pension assets

68. The institutions all use market value to measure their assets and have established transparent procedures for valuing assets where no market price is available (IG 4.22 – 1.27).

[7] Source: OECD Annual Survey of Investment regulation of Pension Funds 2017

Table 7. Investment policy overview

	Canada CPPIB	Denmark ATP	Norway GPFN	Norway GPFG	Sweden AP 1-4	Sweden AP7	United Kingdom NEST	United States NTP
Classification	Reserve Fund	Pension fund with individual accounts	Sovereign wealth fund	Sovereign wealth fund	Reserve fund	Pension fund with individual accounts	Pension fund with individual accounts	Pension fund with individual accounts
Key investment objectives implied by mission	Maximise long-term returns without undue risk Funding of Canada pension plan	Liability matching Preserve real value Liquidity Best interests of members	Risk/return profile Responsible investment	Risk/return profile Responsible investment	Conservative risk/return profile	Risk/return profile Best interests of members Lifecycle option	Best interests of members Universal access to workplace scheme	Best interests of members
Investment constraints in law and regulation	Prudential requirements	Formerly, some quantitative limits were set to ensure adequate diversification. These were removed in 2017.	Ministry of Finance stipulates a strategic benchmark of 50-70% equities and 30-70% fixed income, with a regional split of 85% in Norway and 15% across the rest of the Nordic region	Ministry of Finance sets investment constraints. Equity weighting in strategic benchmark recently raised from 62.5% to 70%. high yield instruments max 5%; non-listed real estate maximum 7%. Tracking error limit 1.25%.	Minimum 30% allocation to interest-bearing assets. Maximum currency exposure 40%. Maximum 5% unlisted equity. At least 10% of assets must be managed externally.	Covered by UCITS legislation.		The Board must provide 5 different index funds with characteristics defined by law and lifecycle funds based on these index funds.
Ownership limits	Max10% of assets can be invested in a single issuer (except Canadian government entities) Max. 30% of voting rights of a company	Controlling interest not permitted	Maximum ownership 15% for Norwegian company, 5% in other Nordic countries	Maximum ownership 10% in listed companies (excluding real estate)	Per fund/ maximum 2% of market capitalisation of Swedish stock exchange and 10% of an individual issuer.	Maximum 5% of voting shares. AP7 may only exercise voting rights in a Swedish company in exceptional cases.	NEST invests in pooled funds	
Investment policy definition process	Board must establish written policy – including asset allocation and risk limits - for the Investment Portfolio and the Cash for Benefits portfolio	Board must establish a written framework for investments and risk limits, on the advice of management. It also establishes the degree of autonomy	Board sets out investment policy based on Ministry of Finance requirements and with advice from management. Investment policy covers asset	Board sets out investment policy based on Ministry of Finance requirements and with advice from NBIM (management unit). Investment policy	The Board must publish an annual business plan including investment guidelines and risk management, with advice from management.		The Trustee has determined that the best interests of members are served by default Target Date Funds. The Trustee prepares a Statement of	Asset allocations for the lifecycle funds were prepared by an external consultant. The TSP must review the assumptions at least annually to see if changes in

	based on the framework provided in law and drawing on the advice of management	for management to act in the event that the portfolio develops differently from expectations	allocation, risk limits and tolerances	covers asset allocation, risk limits and tolerances			Investment Principles with written advice from the Chief Investment Officer.	allocation are warranted
Aligning Board and management with long-term investment policy	Management operates under the direction of the Board through its Investment Committee and reports regularly to the Board. The Board must evaluate investment strategy at least annually.	Management operates under the direction of the Board. Regular reporting to the Board including a daily set of key figures.	Management operates under the direction of the Board and reports regularly to the Board	Management operates under the direction of the Board and reports regularly to the Board	Asset allocation set by management on the basis of the Board's guidelines. Management reports regularly to Board on investment performance and risk.		Asset allocation set by management. The Investment Committee meets quarterly to review investment operations and decisions, with advice from the Chief Investment Officer.	Management operates under the direction of the Board of Directors and reports regularly to the board.
Targets set	The Cash for Benefits portfolio should outperform a domestic money market benchmark. The Investment Strategy should deliver higher returns than the reference portfolio with equivalent risk.	Nominal net return target of 7% on free reserves	Measures itself against reference portfolio	Outperform the strategic benchmark	Each fund has set itself a long term return target (AP1, AP3: 4% real; AP2, AP4: 4.5% real)	Perform at least in line with private sector options	Investment target: net returns in excess of inflation over the long term. Other objectives: maximise pension income and any lump sum at retirement by taking appropriate risk; seek to deliver similar outcomes for cohorts with similar contribution histories; dampen volatility over the savings phase.	While the chosen indices may indirectly provide a target benchmark, the Board does not systematically make available an evaluation of performance.
Valuation of pension assets/liabilities	Assets valued at market value. The Government Actuary performs a liability valuation that informs but does not determine the investment strategy.	Solvency II requirements	Market value Estimates used for non-traded assets	Market value Estimates used for non-traded assets	Market value Estimates used for non-traded assets	Market value Estimates used for non-traded assets	Market value	Market value

Investment strategy

69. The institutions considered in this report primarily used one of two types of long term investment strategy: target date/lifecycle funds (which have a multi-year investment horizon and become more conservative over time), or long-term return strategies (which have a multi-generational investment strategy and no pre-determined evolution in their risk profile. ATP (Denmark) is unusual in having an insurance-based approach; this includes a long-term return-seeking portfolio, and it is therefore considered as part of the second group.

Target date and lifecycle funds

Among the pension funds with individual accounts, four out of five offer a target date or lifecycle strategy as the default option for members who do not wish to select an investment strategy for themselves (Table 8). In these institutions such approaches are used to obviate the need for members to make complicated decisions about their pension investments while providing a relatively high degree of certainty about future benefits. They can equally be used by schemes in which members do not have a choice about how their funds are invested. The exception is the CPF in Singapore, which offers a guaranteed rate of return on savings. Both the Core Principles (in IG 4.10) and the OECD Roadmap for the Good Design of Defined Contribution Pension Plans recommend that pension plans provide a default option, and the Roadmap recommends that the default be a lifecycle strategy.

Table 8. Target date funds (TDF) and lifecycle strategies overview

	Hong Kong (China) MPFA	Singapore CPF	Sweden AP7	United Kingdom NEST	United States Thrift Savings Plan
TDF/lifecycle offered	✓	×	✓	✓	✓
TDF/lifecycle is default	✓		✓	✓	✓
TDF/lifecycle description	Initial allocation to riskier assets of 60%; reduced linearly from age 50 to an allocation of 20% at age 64		Initial allocation to equity of 100%. Annual rebalancing from age 56 to allocation of 33% equity, 67% fixed income at age 75	Up to 50 single-year retirement date funds; multi-phase glide path and dynamic risk management	5 lifestyle funds for different cohorts. Quarterly rebalancing to target asset allocation; rate of change increases as the target date approaches
Active/passive underlying investments	Schemes can use passive or active funds but costs are capped		Mix of externally and internally managed active equity funds; fixed income is internally managed	Externally-managed passive funds are used to build the TDF	Externally-managed passive funds are used to build the TDF
Other funds or strategies offered	The MPF scheme has 462 approved constituent funds	Guaranteed interest savings scheme	A wide range of investment options is offered by the private sector	Ethical (lifecycle approach); Sharia; Higher Risk; Lower Growth	Five single asset class funds are available

Note: ATP is excluded from this table as it operates individual accounts within a common scheme; members are invested in a collective insurance scheme with a long-term return component (see Table 8).

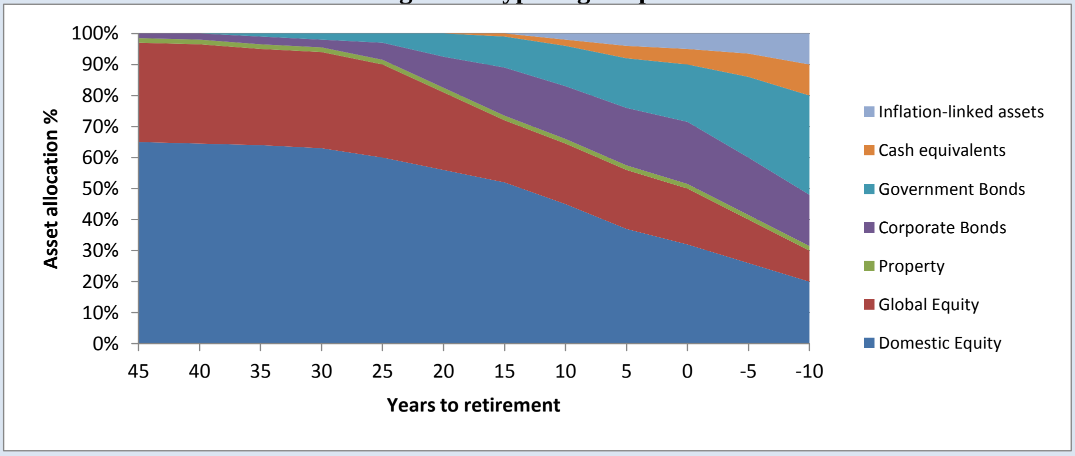
70. Target date funds (TDF) are multi-asset funds that reduce their weighting in riskier asset classes as a specific event - in this case the retirement date - approaches. Members are allocated to the TDF that corresponds to their retirement date, for example the NEST Retirement Fund 2021. The de-risking path is known as a "glide path". In addition to providing the benefits of a classic multi-asset strategy of diversification and rebalancing, TDF adjust automatically as the risk profile of the member evolves. In theory, members will become more risk-averse as they age, although the example of NEST shows that this may not always be the case in practice (Box 1).

71. In addition, by allocating most or all of the portfolio to low risk assets ahead of the retirement date, TDF aim to protect members from market volatility at the moment when they may want to cash in their assets to buy an annuity or, if they stay invested, have less time to recover their losses through future market growth.

Box 1. Target date glide paths

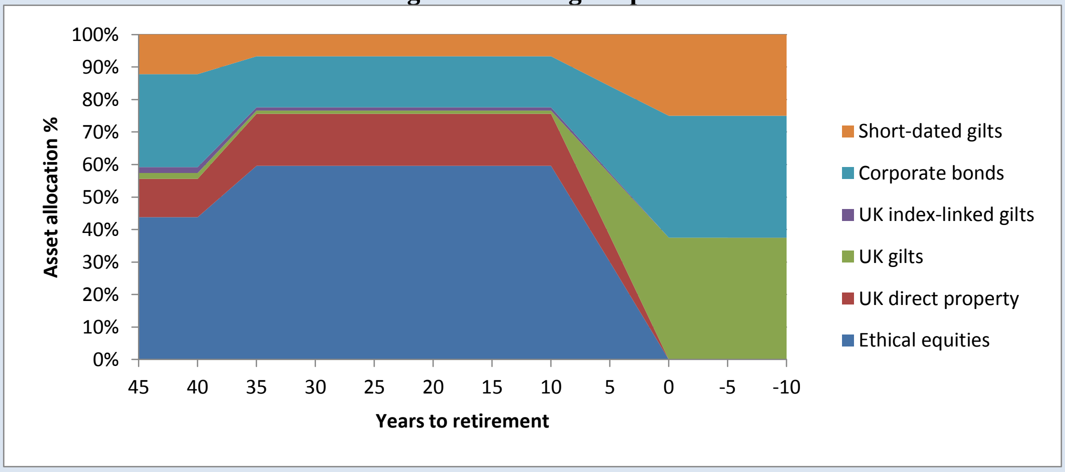
The asset allocation of a target date fund typically becomes more conservative over time. Members are expected to become more risk averse as their time horizon shortens, as they have less time to make additional contributions or to recover from losses. Thus, TDF usually have a high exposure to risky assets such as equities in early periods in order to build up the asset pool and switch into safer but lower-yielding assets such as bonds over time.

Figure 1. Typical glide path



NEST, the UK auto-enrolment provider, has implemented a different glide path. Its TDF have three phases: the foundation phase (40+ years to retirement); the growth phase (from around 40 to around 10 years to retirement) and the consolidation phase (less than 10 years to retirement). NEST's research found that young savers were very concerned by the risk of extreme loss; the foundation phase therefore aims at capital preservation rather than high growth, with a target long-term volatility of 7%. This is to encourage younger members to get into the habit of saving and avoid a sharp one-off fall in their retirement pot that might make them stop contributing. The growth phase concentrates on growing the retirement pot by at least 3% per annum in real terms and has a target volatility of 10-12%. In the consolidation phase, portfolio gains are locked in via low-risk assets.

Figure 2. NEST glide path



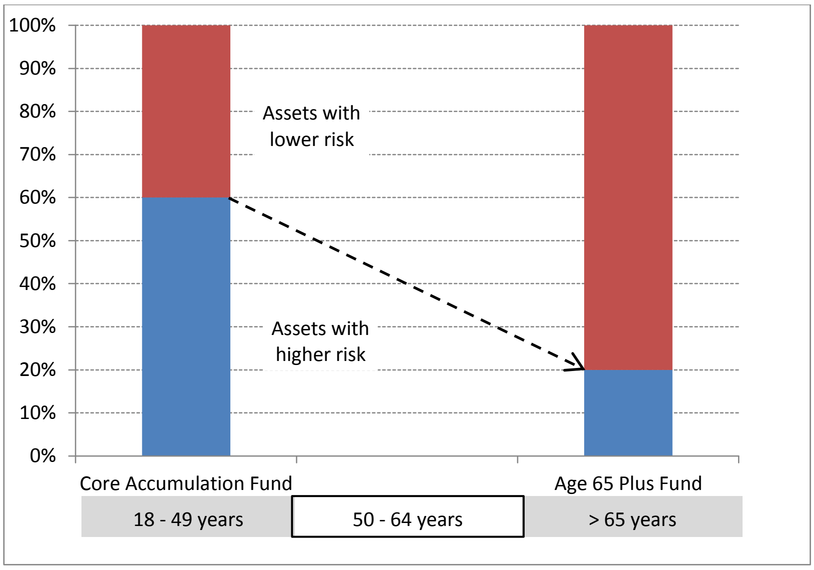
Note: based on NEST Ethical Fund lifecycle.
Source: NEST Investment implementation document, end Sept-end Dec 2016

72. Lifecycle funds follow an equivalent approach of reallocating assets away from riskier asset classes as the member gets older. Instead of being allocated to a specific fund, the member's own portfolio is adjusted over time. There are administrative differences between the two approaches – TDF are pooled vehicles whereas lifecycle funds are individual accounts – but the investment objective is almost identical. The key consideration is that there is effective asset allocation and risk budgeting in every period.

73. TDF and lifecycle funds can be more or less targeted to different cohorts. The asset allocation of the Default Investment Strategy (DIS) in Hong Kong (China) is adjusted annually for members aged between 50 and 64 years; the default fund of AP7 in Sweden is adjusted annually for members aged between 56 and 75 years. NEST (UK) offers up to 50 Retirement Date Funds as its default strategy: members choose the fund that corresponds to the year they will retire, for example a member who will want to take their money out in 2040 will select the NEST 2040 Retirement Fund. The Thrift Savings Plan (USA) groups members into larger cohorts, offering TDF for 2020 (retirement date 2015-2024), 2030 (retirement date 2025-2034), 2040 (retirement date 2035-2044) and 2050 (retirement date 2045-2054).

74. Schemes differ in terms of the methodology used to establish the glide path, the number of different asset classes used as building blocks to construct the overall asset allocation, and the extent to which risk is managed along the glide path in response to prevailing market conditions. For members of the DIS in Hong Kong (China), the asset allocation of their portfolio is static between the ages of 18 and 49, is adjusted linearly each year between the ages of 50 and 64 and is static thereafter (Figure 3).

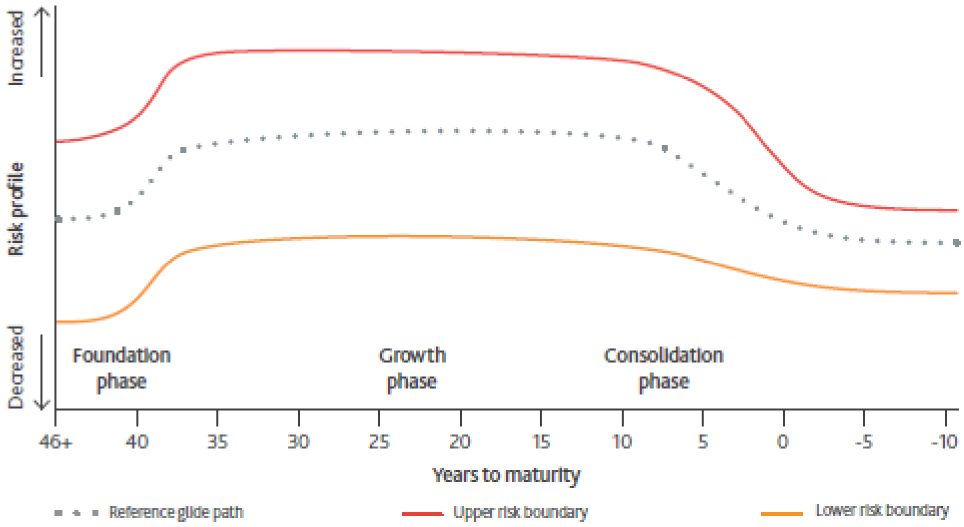
Figure 3. Risk allocation - MPFA Default Investment Strategy



Source: MPFA Newsletter March 2017

75. By contrast, NEST in the UK actively manages asset allocation along the glide path within pre-set risk budgets, taking account of economic and market conditions (Figure 4).

Figure 4. Risk allocation - NEST funds



Source: NEST, "Looking after members' money" 2017.

76. Schemes also differ in terms of the underlying building blocks used to create their asset allocation. The Thrift Savings Plan uses 5 underlying funds covering US and global equities, US bonds and US government bonds. NEST uses 14 underlying funds covering nine asset classes - its default funds have exposure to emerging market bonds and to property, which are not included in the asset allocation of the Thrift Savings Plan. Both NEST and TSP use passively managed funds as building blocks, to reduce costs. AP7 has two building blocks - fixed income and equity - but its equity building block itself contains a number of actively managed underlying funds. AP7's equity portfolio has very broad exposure to non-domestic equity markets and employs leverage to boost returns, making it higher risk than the equity investments of NEST and the Thrift Savings Plan.

Long-term return strategies

77. Reserve funds and sovereign wealth funds follow long-term return investment strategies. Their focus is on asset growth at an acceptable level of risk, without the constraint placed on TDF to reduce portfolio risk as the target date approaches. The investment institution may have a higher or lower tolerance for risk depending on its mission or mandate, the source of the funds and the size of its asset base.

78. Of the institutions under consideration, the CPPIB has the most aggressive and diversified long-term return investment strategy. It has a large in-house investment team and considerable exposure to direct investments and illiquid asset classes. It has generated annualised net nominal returns of 6.7% over the past ten years in local currency. The GPFG, which follows a less diversified strategy in terms of asset classes, has returned less than 6% per year in local currency over the same period. Table 8 provides an overview of long-term return strategies employed by different institutions.

Table 8. Long-term return strategies overview

	Canada CPPIB	Denmark ATP	Norway GPFN	Norway GPFG	Sweden AP 1-4
Classification	Reserve fund	Pension fund with individual accounts	Sovereign wealth fund	Sovereign wealth fund	Reserve fund
Investment objective	Maximise returns without undue risk of loss. Aim is to generate sufficient returns that there is no need to raise contributions	Investment portfolio: generate sufficient returns to preserve the long-term purchasing power of benefits	Maximise long-term returns after costs with a moderate level of risk, while investing responsibly	Maximise long-term returns after costs with a moderate level of risk, while investing responsibly	To help create stability in the pensions system. Maximise returns for a low level of risk.
Source of funds	Employer and employee contributions	Employer and employee contributions	Surplus social security contributions	Government funds from oil production	Historic surplus social security contributions
Investment strategy	Highly diversified across asset classes and geography. Significant direct investment and investment in long-term real asset projects	Highly diversified, significant exposure to illiquid assets	Dominated by domestic assets	Recent enlargement of investment universe to include Real Estate. Exploit the fund's long-term approach and its size to capture investment opportunities.	Diversified in terms of asset class and geography
Investment risk tolerance/control	Overall risk target established through a reference portfolio (85% global equity, 15% Canadian government bonds). Size of the fund means able to withstand short-term losses.	Pension liabilities are hedged. For the growth portfolio, risk diversification follows a factor risk approach.[8] Additional insurance against very negative events. Risk budget adjusted for size of reserves.	Overall risk target established through a reference portfolio (60% Nordic equity, 40% Nordic fixed income; 85% weighting to Norway)	Overall risk target established through a reference portfolio (62.5% equity, 37.5% fixed income).	Low risk tolerance built into mandate. At least 30% of the portfolio must be invested in high-grade fixed income. Currency exposure maximum 40%.
Active/passive approach	Active	Active	Active	Active	Active
In-house/external management	In-house	In-house	In-house	In-house	Between 17% and 31% internally managed in AP1-4

79. While long-term return strategies may generate higher absolute returns than TDF investments, they are likely to be more volatile. It may also be necessary to tie up assets in illiquid investments in order to generate performance. They are also more expensive to implement and demand a higher degree of investment expertise of the Board as well as management.

80. One institution in the survey - Danish ATP - applies an insurance approach to provide life-long guaranteed benefits at age 65. New contributions are converted into deferred annuity rights based on a guaranteed interest rate. ATP is subject to the same regulatory framework as private insurers and under the European Solvency II regulation is subject to absolute solvency requirements at all times on a marked-to-market basis.

[8] Factor risk investing decomposes each asset class into its underlying risk factors. For example, corporate bonds contain both interest rate factor risk and equity factor risk, while government bonds contain only interest rate factor risk. This means that a portfolio made up of equity plus corporate bonds is less diversified than a portfolio made up of equity plus government bonds.

ATP is very sensitive to interest rate risk and the majority of its assets are allocated to the "hedging portfolio" that hedges interest rate risk on the pension liabilities (i.e. the individual annuity rights); a small portion of the assets are allocated to the "investment portfolio" that aims to generate sufficient returns to preserve the long-term purchasing power of benefits. ATP is the only institution in the reference group to have liabilities

Summary of key policy issues: investment and risk management

81. The centralised investment institutions included in this report have different missions and therefore have different investment policies. The ways in which they implement these policies are however quite similar: they primarily use one of two types of long term investment strategy, target date/lifecycle funds or long-term return strategies. Regulators may therefore wish to consider how relevant these strategies are for private pension institutions.

- Target Date Funds and lifecycle are the preferred strategy for institutions with individual accounts. They have two chief advantages: they preserve members' assets ahead of their retirement date, and relieve members of the requirement to manage their own retirement funds.
- These advantages come at the cost of lower performance potential than a long-term return strategy, reducing the target size of the retirement pot. They may be less relevant where the member is not involved in the investment decision-making process.
- Long-term return strategies should offer better return potential than TDF/lifecycle, but their higher expected volatility makes them less suitable for individual accounts. They carry a higher risk than TDF/lifecycle funds that sufficient sums will not be available to members at the moment of retirement.
- The institutions express their performance objectives in terms of their mission and monitor performance against this long-term goal rather than against a market benchmark. The relevant supervisory body is able to assess whether the performance objective is appropriate and whether the Board is on track to achieve it.
- All centralised investment institutions examined integrate ESG analysis in their investment policies. However, they may need clarifications from regulator on their approach.

Conclusions and policy recommendations

82. The institutions analysed in this report have different objectives and employ different organisational and operational structures to achieve them. However, there are many common features in the approaches taken, indicating that the recommendations of the Core Principles are relevant and applicable to the full range of pension systems and institutions.

83. The missions of the different institutions are clearly stated, and guide the investment policy. The institutions provide a high level of transparency about their governance arrangements and their investment and risk management. This reinforces their accountability to their different stakeholders. Regulators may wish to apply similar disclosure standards to private pension institutions.

84. The role of the Board in ensuring that the institution achieves its mission is critical. Board members are therefore expected to have high levels of expertise in all areas

related to the running of the institution. The recruitment and remuneration policies of the different institutions may provide some guidance as to how to avoid lack of experience or conflicts of interest in the Boards of private pension funds.

85. In terms of investment policy, the mission of each institution has implications for the type of risk-return profile it should target, and this broad profile may be included in legislation. However it is not usual for legislation to set out how that profile should be achieved - only Norway set out investment constraints in law.

86. All the centralised investment institutions examined integrate ESG analysis in their investment policies. Regulators may consider clarifying their approach to ESG integration.

87. Most institutions offering pension funds with individual accounts have opted for target date funds or lifecycle strategies. These offer a smoothed return profile to members and are especially appropriate as default investment strategies. Where the institutions are able to bear higher risk, they have implemented more aggressive, long-term return-seeking strategies and often built up significant asset management expertise in-house. Regulators might want to examine the capacity of funds in their jurisdiction to implement similar strategies.