

ANNUAL SURVEY OF LARGE PENSION FUNDS AND PUBLIC PENSION RESERVE FUNDS

REPORT ON PENSION FUNDS' LONG-TERM INVESTMENTS

2020



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FOREWORD

G20 leaders have identified the facilitation of long-term financing through the capital markets as a priority for helping to achieve targets for investment, growth and employment. This survey sheds light on the role that large institutional investors can play in providing a source of stable long-term capital.

This survey report is the seventh since the data collection exercise was first established in 2011. The scope of this report covers nearly 90 public and private pension funds from 31 countries. Brazil, India, Indonesia, Nigeria, the Russian Federation, and South Africa are amongst the non-OECD countries included in the survey report.

This survey is based on a qualitative and quantitative questionnaire sent directly to large pension funds (LPFs) and public pension reserve funds (PPRFs). It helps to provide detailed investment information and insights which complement the aggregated data on portfolio investments gathered by the OECD at a national level through the Global Pension Statistics and Global Insurance Statistics projects. The 2020 edition includes:

- a summary of key trends observed in the investment portfolios of LPFs and PPRFs
- an in-depth analysis of LPF and PPRF investment programmes
- an analysis of infrastructure investment by LPFs and PPRFs
- an analysis of ESG investment by LPFs and PPRFs

This report was made possible by the contributions of pension funds and public pension reserve funds listed. The OECD gratefully acknowledges the efforts of the participants in providing extensive data.

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ABOUT THE SURVEY

Traditionally, institutional investors have been seen as sources of long-term capital with investment portfolios built around two main asset classes (bonds and equities) and an investment horizon tied to the often long-term nature of their liabilities. Institutional investors have progressively diversified portfolios by adding allocations to alternative investments such as private equity, real estate, infrastructure and hedge funds.¹ However, despite the increasing interest in alternative investments, official data on pension fund investment in alternatives – and in particular infrastructure – is scarce. National statistical agencies do not currently collect separate data on these investments and the different forms available to investors to gain exposure to these asset classes means that information is often buried under different headings.²

This survey by contrast collects data on individual pension funds that are amongst the largest in their respective economies, and comparatively, amongst the largest in the world.³ The data complement insights and detailed administrative data gathered at the national level.⁴ The published results in this data pack cover the eighth year of the survey. The scope of this report has been expanded to cover selected OECD countries, IOPS⁵ countries, G20 member countries and APEC economies, based on data gathered for the year ending 2019.

The results highlight the depth and breadth of institutional investors, elucidating the importance of long-term capital and the role that pension savings can play in an economy. While the data covers the general state of long-term investment, which will be of prime value to the ultimate investors, it can also be used to inform regulators and other policy makers to help them better understand the operation of institutional investors in different countries. By analysing pools of long-term savings in domestic markets, and also in foreign markets where funds may invest a large portion of assets outside of their home country, policy makers can gain insights into the drivers behind asset allocation decisions and the conditions needed to attract long-term savings.

The survey reviews the trends in assets and asset allocation of 90 large pension funds (LPFs) and public pension reserve funds (PPRFs),⁶ which in total managed USD 6.6 trillion in assets in 2019. Information was

¹ As noted in the IOPS ‘Good Practices in the Risk Management of Alternative Investments by Pension Funds’, there is no precise definition of alternative investments. The nature of alternative investments is dynamic and ever-evolving, and closely linked to the development of financial markets. While there is no official definition of alternative assets, the term is usually applied to instruments other than listed equities, bonds, and cash. For the purposes of this survey, “alternative” investments comprise the following types of investments: hedge funds, private equity, real estate, infrastructure, commodities and “other” (other includes: timber and currency/interest rate overlays).

² For example, infrastructure investment may not occupy a separate allocation, appearing instead as part of private equity or real estate allocations. Pension fund investment in listed infrastructure vehicles is reported by national statistics agencies as national or foreign equities and infrastructure lending is reported as fixed income, while direct investment or participation in private equity vehicles is sometimes reported within the category “other”.

³ The survey does not utilise a strict definition of a large pension fund, but seeks to capture trends by looking at the largest investors in the world, compared on an absolute basis, followed by the largest investors within specific countries.

⁴ See OECD Global Pension Statistics, www.oecd.org/pensions/globalpensionstatistics.htm.

⁵ IOPS: International Organisation of Pension Supervisors, www.iopsweb.org/.

⁶ PPRFs are reserves/buffers to support otherwise PAYG financed public pension systems as opposed to pension funds which support funded pension plans in both public and private sectors. See Annex for definitions of the types of sovereign and public pension reserve funds. The survey included some SWFs such as Norway’s Government Pension Fund – Global that have at least a partial pension objective.

provided through the survey for 73 out of the 90 investors. Data for the 7 remaining funds came from publicly available sources.

Seventy-eight retirement schemes comprise the section on LPFs, consisting of a mix of defined benefit (DB) and defined contribution (DC) pension plans (mainly public sector funds, but also corporate funds) that together total USD 3.3 trillion in assets under management. Data for 71 schemes were provided by the large pension funds directly, the other 7 coming from publicly available sources. This information is presented in combination with the PPRF survey carried out at the same time. Eleven PPRFs or Sovereign Wealth Funds (SWFs) with a pension focus completed the survey, four were added from publicly available sources, for a total of 15 PPRFs. Total amounts of PPRF assets were equivalent to USD 1.1 trillion at the end of 2019 for the countries in which data were received or added from public sources.

Altogether, data was compiled from funds representing 41 countries around the world including non-OECD countries such as Argentina, Brazil, India, Nigeria, the Russian Federation, and South Africa.

This data pack is effectively an abridged version of the annual report, which provides the results of the survey published in charts and tables. The data includes portfolio analysis such as pension fund size and growth, asset allocation, and international exposure, and is divided into two sets of investors: large pension funds and public pension reserve funds. Data on infrastructure investment focusses on capital flows in infrastructure, investment structures, sector and geographies. This part of the report – the infrastructure investment survey – includes data from 53 funds⁷ out of the total 78 funds that returned completed questionnaires. Data on ESG and infrastructure focusses on green investment and social impact investment.

Geographical coverage of the global survey representing USD 6.6 trillion in assets under management

Head office countries of LPFs and PPRFs with direct survey responses

Argentina	Mexico
Australia	Namibia
Austria	Netherlands
Brazil	New Zealand
Bulgaria	Nigeria
Canada	Peru
Chile	Portugal
Costa Rica	Romania
Croatia	Russian Federation
Denmark	South Africa
Finland	Spain
Germany	Sweden
Hong Kong, China	Switzerland
Iceland	Turkey
India	United Kingdom
Ireland	United States
Israel	
Italy	
Lithuania	

Head office countries of LPFs and PPRFs supplemented from public sources

Canada
China (People's Republic of)
Finland
France
Germany
India
Japan
Jordan
Korea
Luxembourg
Norway
Poland
Portugal
Singapore
United States

⁷ Forty-nine funds reported their exposure to infrastructure investments. The remaining 50 funds did not report their infrastructure investments or did not have infrastructure investments to report.

DATA PACK

PART A1 – LARGE PENSION FUND INVESTMENT PORTFOLIOS

Large pension fund size

Table 1. Total assets of selected LPFs in 2019

Country head office	Name of the fund or institution	Total investments or assets (1)		
		USD bn.	% of GDP	% change in AUM (compared to the previous)
Australia	AustralianSuper	93.1	9.3	30.9
Australia	CBUS	28.3	2.8	21.8
Australia	Hostplus	25.8	2.6	39.6
Australia	UniSuper	40.9	4.1	15.5
Austria	APK Pensionskasse	4.2	1.3	16.5
Austria	VBV Pensionskasse	5.8	1.8	13.4
Brazil	Previ	37.6	2.9	5.4
Canada	AIMCo	65.3	5.1	9.8
Canada	British Columbia Investment Management Co	84.4	6.6	5.4
Canada	LAPP	27.7	2.2	13.5
Canada	OTPP (2)	112.2	8.8	8.7
Costa Rica	BAC San José Pensiones	1.1	2.2	20.5
Costa Rica	Operadora de Pensiones Complementarias	0.3	0.5	12.5
Croatia	Allianz ZB	4.4	10.0	13.1
Croatia	Erste Plavi	1.8	4.1	15.4
Croatia	PBZ CO	2.0	4.5	17.4
Croatia	Raiffeisen Mandatory Pension Funds	3.7	8.6	13.9
Denmark	Danica	44.2	17.6	18.9
Denmark	PensionDanmark	26.6	10.6	16.1
Denmark	PFA	59.5	23.6	14.6
Finland	KEVA	45.3	23.4	12.0
Finland	Varma	39.5	20.4	10.9
Germany	BASF	8.3	0.3	11.1
Hong Kong, China	MPFA (3)	90.1	34.1	19.2
Iceland	Birta	2.5	13.5	16.0
Iceland	Gildi Pension Fund	3.9	21.5	17.7
Iceland	Lifeyrissjodur Starfsmanna Ríkisins	6.0	33.4	16.6
Iceland	Pension Fund of Commerce	5.2	28.5	21.7
India	Aditya Birla Sun Life Pension	0.0	0.0	284.5
India	HDFC Pension Management	0.8	0.0	93.3
India	ICICI Prudential Pension Funds	0.4	0.0	49.5
India	Kotak Mahindra Pension Fund	0.1	0.0	49.3
India	LIC Pension Fund	11.9	0.6	36.0
India	SBI Pension Fund	15.3	0.7	38.1
India	UTI Retirement Solutions	11.8	0.6	36.9
Ireland	Bank of Ireland	5.2	1.8	14.3
Israel	Makefet	15.9	5.4	19.0
Israel	Menora-Mivtachim	28.8	9.8	22.9
Italy	Cometa	9.6	0.7	10.0
Italy	Fonchim	5.6	0.4	12.7
Italy	Fonte	3.5	0.2	13.4
Lithuania	Swedbank Pensija 1968-1974	0.3	0.7	..
Mexico	Afore Profuturo	22.2	2.4	23.9
Namibia	Government Institutions Pension Fund	6.1	66.7	9.1

Netherlands	bpfBOUW	74.3	11.4	21.9
Netherlands	PFZW	192.1	29.4	19.8
Netherlands	PME	43.1	6.6	14.3
Netherlands	PMT	65.5	10.0	14.2
Netherlands	Stichting Pensioenfonds ABP	426.8	65.4	17.7
Nigeria	AES (4)	1.1	0.3	20.5
Nigeria	CPFA (4)	1.5	0.4	17.2
Nigeria	RSA (4)	6.9	2.0	18.6
Peru	AFP Integra	14.1	8.5	10.7
Portugal	Banco BPI	1.4	0.8	9.2
Romania	Azt Viitorul Tau (5)	2.3	1.3	29.7
Romania	Raiffeisen Acumulare	0.0	0.0	20.3
Russian Federation	Future	3.0	0.2	0.5
Russian Federation	Gazfond	6.4	0.5	9.9
Russian Federation	Otkritie	6.1	0.5	5.9
Russian Federation	Sberbank	7.8	0.6	10.4
Russian Federation	VTB	3.0	0.2	31.9
Singapore	Central Provident Fund (2)	229.3	84.6	8.7
South Africa	GEPF	92.8	36.4	1.3
South Africa	Sentinel Retirement Fund	2.1	0.8	-3.3
South Africa	Transnet Retirement Fund	3.1	1.2	3.5
Spain	Endesa	1.5	0.1	11.0
Spain	Fonditel (6)	2.5	0.2	4.4
Spain	Santander	0.2	0.0	15.0
Sweden	Alecta	74.0	19.1	17.7
Sweden	AP7	51.8	13.4	46.5
Switzerland	Publica	30.0	5.6	7.9
Turkey	OYAK	7.1	1.3	12.3
United Kingdom	Rolls-Royce and Bentley Pension Fund	1.0	0.0	21.9
United Kingdom	USS (7)	61.0	3.0	-1.2
United States	CalPERS (2,8)	386.1	1.8	1.9
United States	CalSTRS (2,8)	236.9	1.1	5.9
United States	State of Wisconsin Investment Board (2)	128.6	0.6	17.4
United States	Washington State Investment Board (2,8)	110.0	0.5	8.3
Total		3,280.4	22.5	7.6

“..” means not available

(1) Data correspond to all forms of investment with a value associated with a pension fund/plan. (2) Data for 2019 has been gathered from publicly available sources. (3) Assets reported by the Mandatory Pension Fund Authority are aggregated from 36 member schemes. (4) In Nigeria, there are three types of pension schemes, namely, the Retirement Savings Account (RSA), which is contributory; the Closed Pension Funds; and the Approved Existing Schemes (AES). The largest pension fund from each of these three schemes has been selected. (5) Data refer to the largest pension plan managed by Azt Viitorul Tau. (6) Data refer to Fonditel's biggest pension plan: Empleados de Telefónica de España. (7) Data is as of March 31, 2020. (8) Data is as of June 30, 2019.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs and publicly available reports.

LPF asset allocation

Figure 1. Asset allocation of selected LPFs based in OECD countries, 2019

As a percentage of total investment

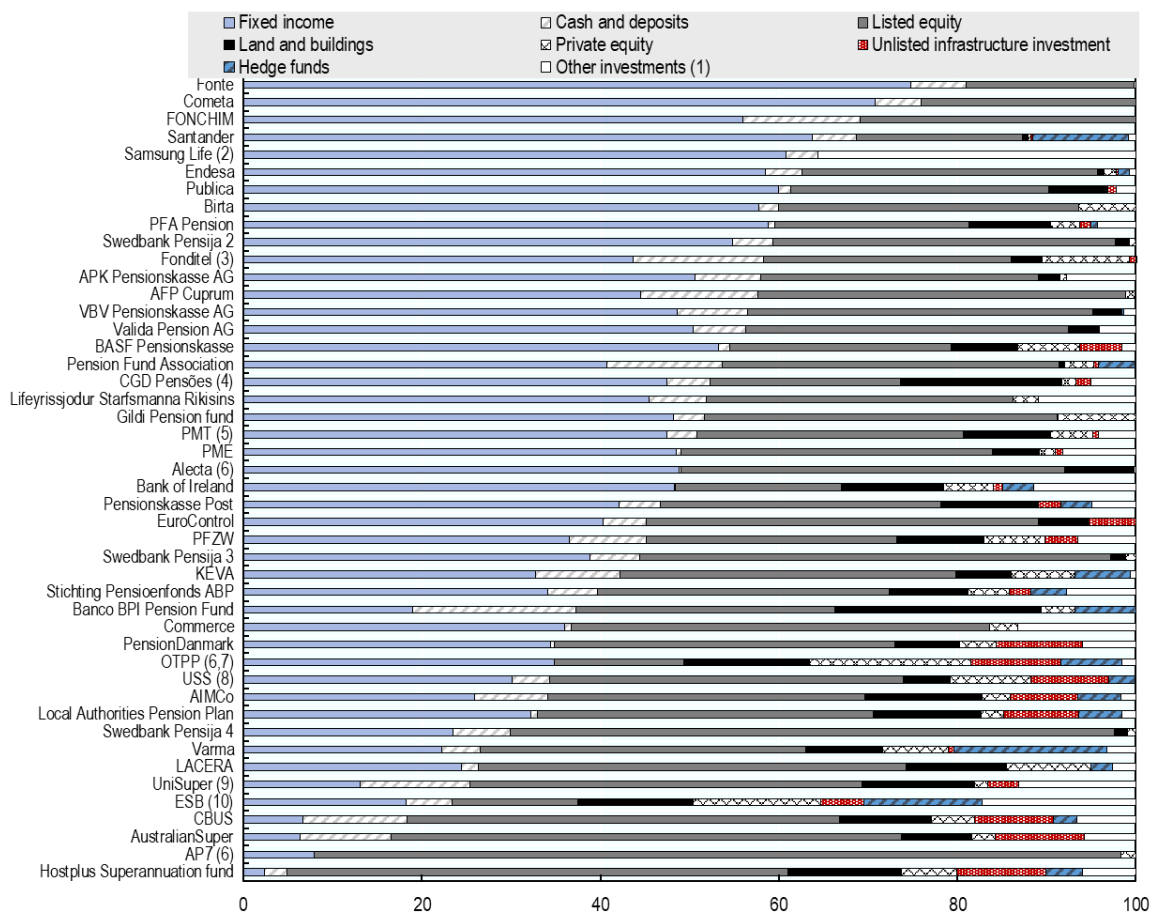
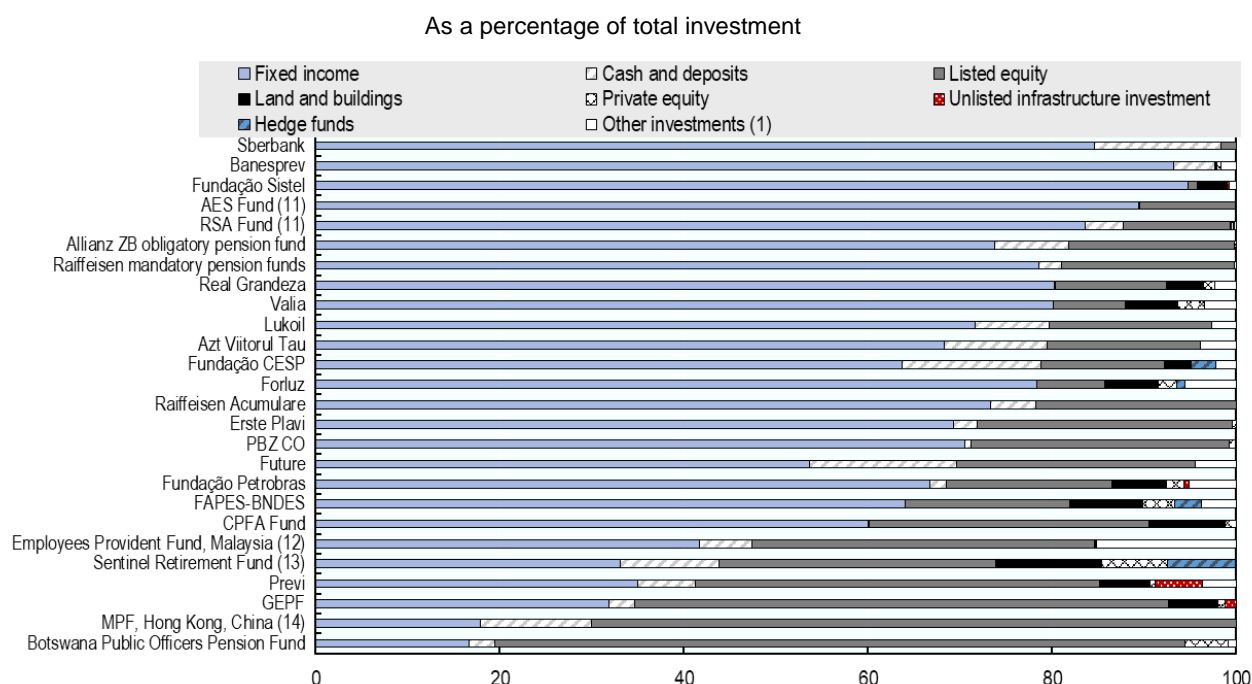


Figure 2. Asset allocation of selected LPFs based in non-OECD countries, 2019



(1) The "other" category includes loans, commodities, and other investments. (2) Loans comprised the majority of other investments. (3) Data refer to Fonditel's biggest pension plan: Empleados de Telefónica de España. (4) Data cover the CGD Staff's Pension Fund. (5) Other investments include micro finance. (6) Other investments and/or cash investments have been excluded from asset allocation calculations because they were negative in 2017. (7) Other investments include real estate debt, timberlands, and derivatives. (8) Data are as of March 31, 2018. (9) Breakdowns have been provided based on existing regulatory reporting categories. (10) Other assets include multi-asset funds. (11) Other investments include mutual funds. (12) Other investments include investment in subsidiaries, associates and joint ventures, financial assets at fair value through profit or loss, and unquoted equities. (13) Data refer to the Pensioner Portfolio. (14) Asset allocation reported by the Mandatory Provident Funds is aggregated from 36 member schemes.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

LPF foreign investment

Figure 3. Foreign investment by asset class, selected LPFs based in OECD countries, 2019

As a percentage of total (i.e. domestic and foreign) investment

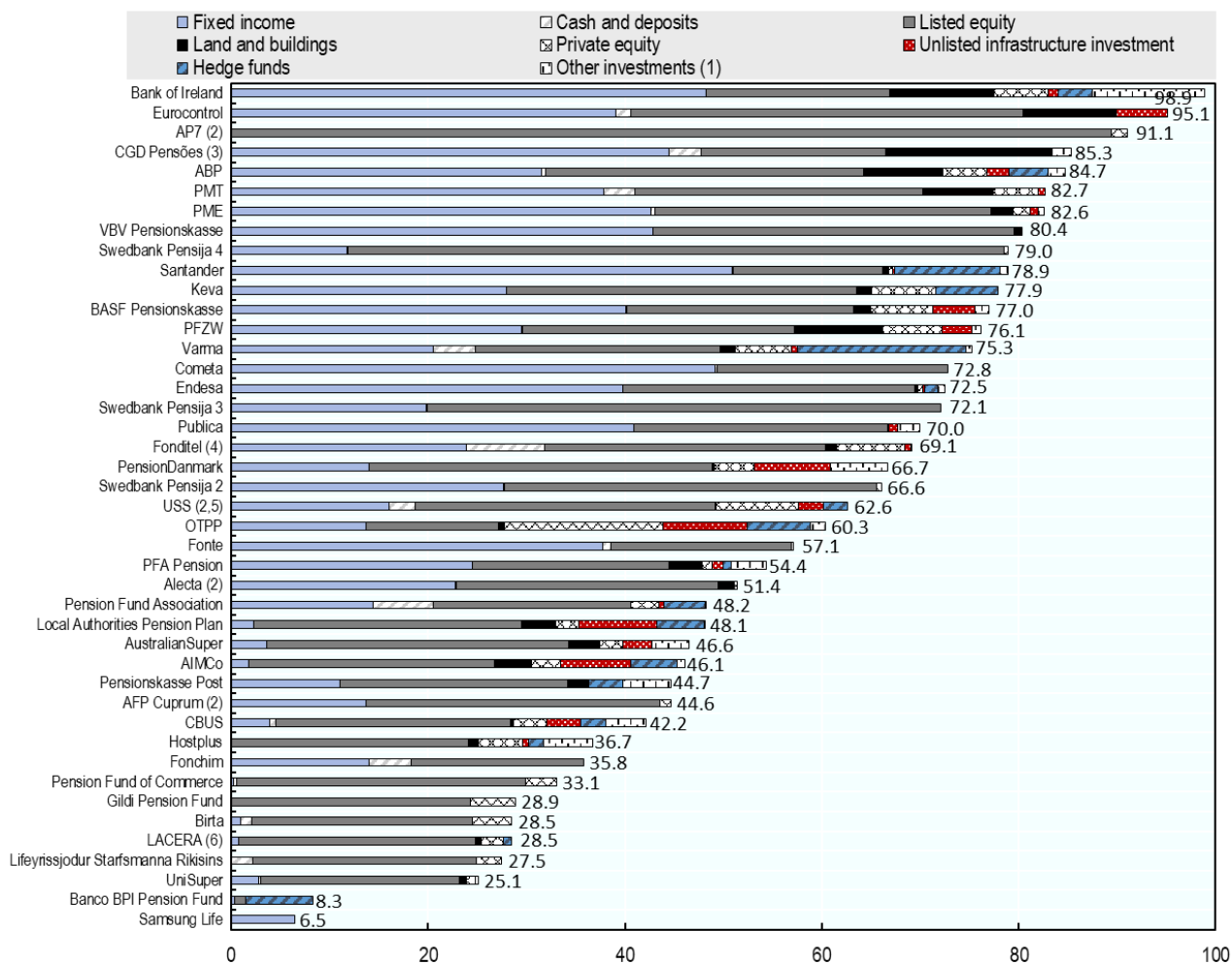
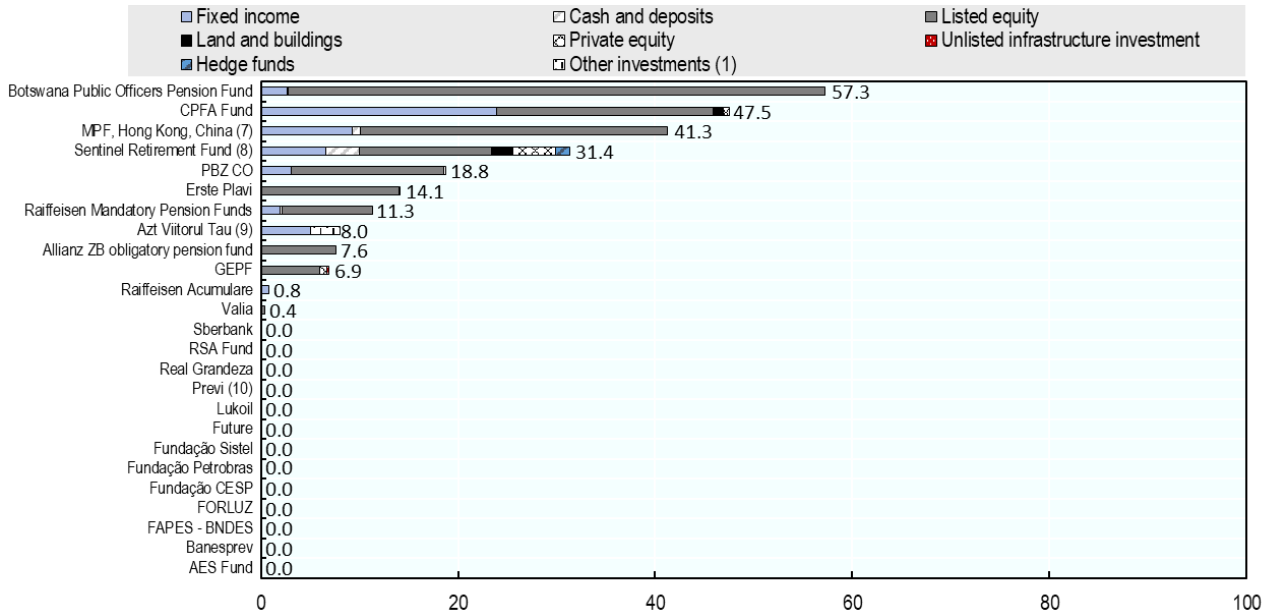


Figure 4. Foreign investment by asset class, selected LPFs based in non-OECD countries, 2019

As a percentage of total (i.e. domestic and foreign) investment



(1) The "other" category includes loans, commodities, and other investments. (2) Cash and deposits and/or other investments have been excluded because they were negative in foreign markets in 2017. (3) Data cover the CGD Staff's Pension Fund. (4) Data refer to Fonditel's biggest pension plan: Empleados de Telefónica de España. (5) Data are as of March 31 2018. (6) Foreign investments refer to investments outside Canada and the United States. (7) Asset allocation reported by the Mandatory Provident Fund Authority is aggregated from 36 member schemes. (8) Data refer only to the Pensioner Portfolio. (9) Data refer to the biggest pension plan managed by Azt Viitorul Tau. (10) Investments abroad occur through funds constituted in Brazil, hence they are considered as internally made.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

PART A2 – PUBLIC PENSION RESERVE FUND INVESTMENT PORTFOLIOS

Public pension reserve fund size

Table 2. Total assets of selected PPRFs in 2019

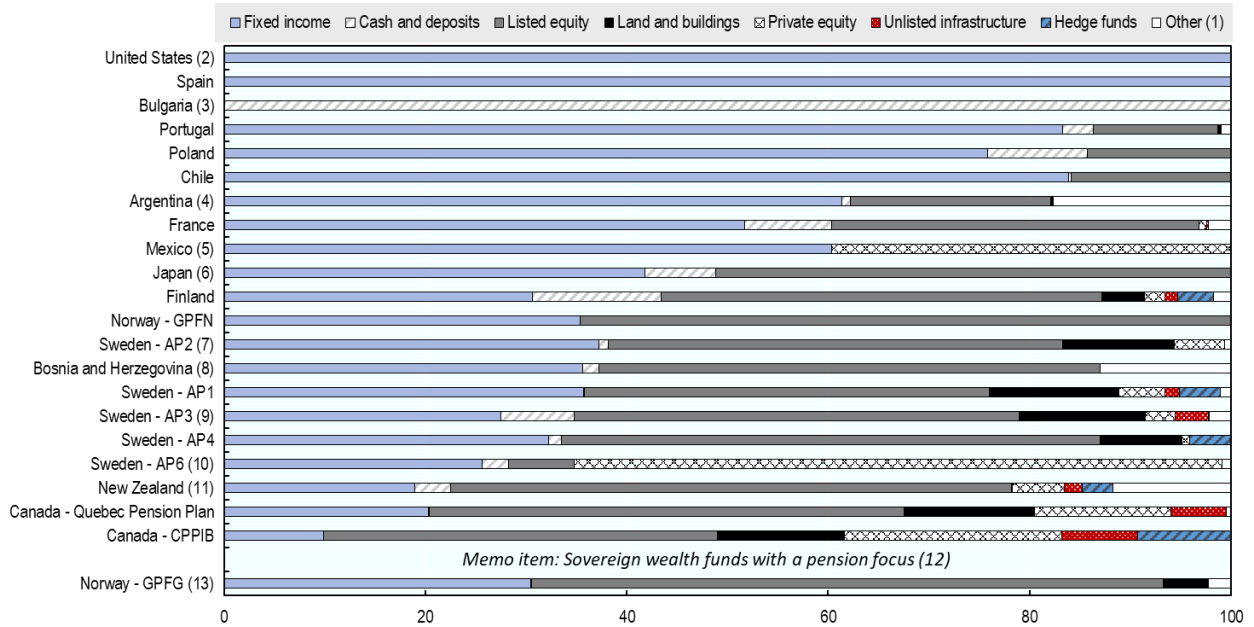
Country head office	Name of the fund or institution	Year of establishment	Total investments or assets (1)		
			USD bn.	% of GDP	% increase (compared to the previous year)
Argentina	Sustainability Guarantee Fund	2007	29.0	11.1	44.9
Australia	Future Fund (2)	2006			
Bulgaria	State Fund for Guaranteeing the Stability of the State Pension System	2007	1.3	2.6	6.2
Canada	Canada Pension Plan Investment Board	1997	231.2	18.2	14.1
Canada	Quebec Pension Plan	2006	44.7	3.5	12.0
Chile	Pension Reserve Fund	2006	7.6	3.7	13.0
China (People's Republic of)	National Social Security Fund (2)	2001			
Finland	Valtion Eläkerahasto (2)	1997			
France	AGIRC - ARRCO and FRR (2,3)	n.d.			
Germany	Sustainability Fund (Nachhaltigkeitsrücklage) (2)	1972			
India	Employees' Provident Fund Organisation (2,4)	1952			
Japan	Government Pension Investment Fund (2)	2006			
Jordan	Social Security Investment Fund (2)	n.d.			
Korea	National Pension Fund (2)	1988			
Luxembourg	Fonds de Compensation Commun au Régime Générale de Pension (2)	2004	17.2	33.6	17.5
Mexico	IMSS Reserve (5)	n.d.	1.4	0.2	10.2
New Zealand	New Zealand Superannuation Fund	1989	22.1	14.5	23.3
Norway	Government Pension Fund - Norway (GPFN)(2)	2001			
Poland	Demographic Reserve Fund (2)	2002			
Portugal	Social Security Financial Stabilisation Fund (2)	1977			
Spain	Social Security Reserve Fund	1997	1.7	0.2	-57.3
Sweden	National Pension Funds (AP1-AP4 and AP6) (6)	2000	32.2	8.3	13.7
United States	Social Security Trust Fund	1940	2,897.4	13.5	0.1
Total selected countries (7)			3,285.8	13.7	2.0
Memo item: Sovereign Wealth Funds with a pension focus (8)					
Norway	Government Pension Fund - Global (GPGF) (2)	1990			
Russian Federation	National Wealth Fund (2)	2008			
Total memo items			0.0		
Total PPRFs and SWFs with a pension focus			3,285.8		

(1) Data correspond to all forms of investment with a value associated to a pension fund/plan. 2019 valuations are for year-end, unless otherwise noted. (2) Data have been gathered from publicly available sources. (3) Data refer to two funds: AGIRC-ARRCO which announced its intention to merge both plans in 2015, and FRR. (4) Data refer to the end of March 2019, and include the Employees' Provident Fund, the Employees' Pension Fund and the Employees' Deposit Linked Insurance Fund. (5) Data only refer to reserves used to pay early retirement due to invalidity or work-related injuries. (6) Total investments are the sum of assets of AP1, AP2, AP3, AP4, and AP6. (7) Weighted average for assets as a % of GDP and % increase. (8) Norway's Government Pension Fund - Global and Russia's National Wealth Fund are sovereign wealth funds and not public pension reserve funds; their mandate goes beyond financing pension expenditures.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs and publicly available reports.

PPRF asset allocation

Figure 5. Asset allocation of selected PPRFs – actual 2019
As a percentage of total investment



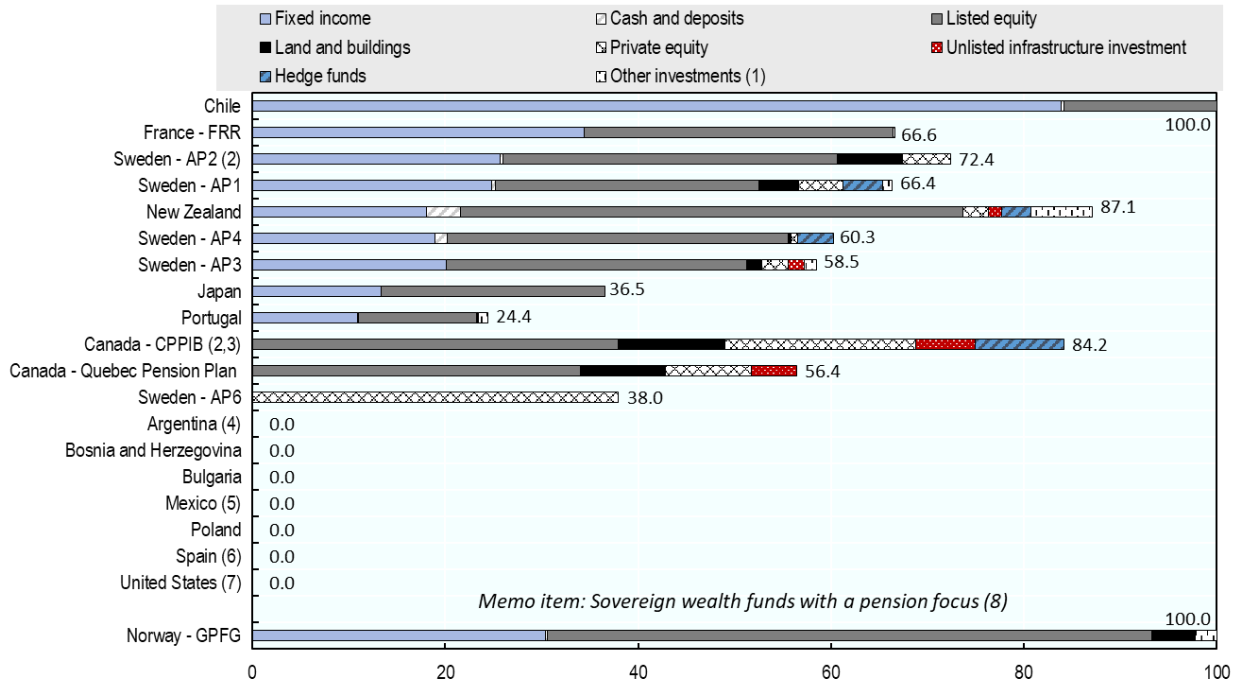
(1) The "other" category includes loans, commodities and other investments. (2) Assets were invested in interest-bearing securities of the U.S. Government for purchase exclusively by the Social Security Trust Fund (special issues). (3) Assets of the State Fund for Guaranteeing the Stability of the State Pension System were held in weekly deposits at the Bulgarian National Bank. (4) Other instruments include listed infrastructure investments. (5) Data only refer to reserves used to pay early retirement due to invalidity or work-related injuries. The asset allocation of IMSS changed between 2012 and 2013, mainly in private equity, as a result of the increase in the Afore investment. Since 1997, IMSS invested in Afore XXI, which in 2012 merged their operations with Afore Banorte and became Afore XXI Banorte. In March 2013, with the acquisition of Afore BBVA Bancomer, the institutional investment in Afore XXI Banorte increased as well. (6) Data is gathered from a publicly available report. Alternative investments are classified as domestic bonds, domestic stocks, foreign bonds, or foreign stocks. At year end 2017 the fund reported 0.21% of the total portfolio was invested in alternatives. (7) Derivatives are reported at fair value as "other investments". Any cash backing these derivatives is included and reported as "Cash and deposits". Unsettled transactions, accrued interest and dividends are reported as "Other investments". (8) Other investments include investment in unregistered instruments and local companies. (9) Other investments include long/short portfolios, opportunistic asset allocation, derivatives, convertibles, insurance-linked securities, volatility strategies, and risk premia strategies. (10) Sweden's AP6 is a closed fund that specialises at investing in unlisted assets. (11) Other investments include timberlands, farmland, insurance-linked securities, and derivatives. (12) Norway's Government Pension Fund - Global is a Sovereign Wealth Fund and is not a Public Pension Reserve Fund, because its mandate goes beyond financing pension expenditures. (13) Other investments include financial derivatives, unsettled trade receivables, lending (repo).

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs and publicly available reports.

PPRF foreign investment

Figure 6. Foreign investment by asset class in selected PPRFs in 2019

As a percentage of total (i.e. domestic and foreign) investment



(1) The "other" category includes loans, commodities, and other investments. (2) Cash and deposits and/or other investments have been excluded because they were negative in 2017. (3) Foreign exposures in fixed income and cash and equivalents may be distorted due to long and short balances. (4) Foreign investments prohibited. (5) Data only refer to reserves used to pay early retirement due to invalidity or work-related injuries. (6) The Spanish Social Security Reserve Fund stopped investing in foreign assets (government bonds) in July 2014. (7) Assets were invested in interest-bearing securities of the U.S. Government for purchase exclusively by the Social Security Trust Fund (special issues). (8) Norway's Government Pension Fund - Global is a Sovereign Wealth Fund and is not a Public Pension Reserve Fund, because its mandate goes beyond financing pension expenditures.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

PART B – INFRASTRUCTURE INVESTMENT

Table 3. Detailed infrastructure investment of selected LPFs and PPRFs, 2019
As a percentage of total assets

Country head office	Name of the fund or institution	Total investments in 2017 (in USD m.)	Infrastructure investment (as a % of total investments)		
			Unlisted equity	Listed equity	Debt
LPFs					
Australia	AustralianSuper	101,162	9.9	..	0.6
Australia	CBUS	33,910	8.9	0.4	..
Australia	Hostplus Superannuation fund	22,640	10.0	..	..
Australia	Unisuper	48,694	3.5	..	..
Brazil	Banesprev	4,993	0.3	..	..
Brazil	FAPES - BNDES	3,232	0.8	..	3.6
Brazil	FORLUZ	4,558	1.6	0.2	..
Brazil	Fundação Petrobras	21,681	3.0	..	..
Brazil	Fundação Sistel	5,111	0.3	..	..
Brazil	Previ	56,687	5.1	..	..
Brazil	Real Grandeza	4,565	1.3	..	..
Brazil	Valia	6,701	0.3	..	1.1
Canada	Alberta Investment Management Company (AIMCo)	82,613	7.6	..	..
Canada	Local Authorities Pension Plan	34,019	8.4	..	..
Canada	OTPP	147,750	10.1	..	..
Denmark	PensionDanmark	34,354	9.7	..	..
Denmark	PFA Pension	76,949	1.2	..	..
Finland	Keva	62,209	0.8	0.2	0.3
Finland	Varma Mutual Pension Insurance Company	54,347	0.6	..	..
Germany	BASF Pensionskasse	11,408	4.7	..	2.6
Iceland	Gildi Pension fund	4,923	0.4	..	..
Iceland	Lifeyrissjodur Starfsmanna Ríkisins	7,869	0.2	0.6	1.8
Iceland	Pension Fund of Commerce	6,366	0.8	3.7	2.6
Ireland	Bank of Ireland	6,320	1.0	6.0	..
Ireland	ESB	4,542	4.8	..	..
Japan	Pension Fund Association	109,053	0.5	..	..
Netherlands	PFZW	236,479	3.8	..	..
Netherlands	PMT	83,377	0.7	..	..
Netherlands	Stichting Pensioenfond ABP	545,464	2.4	..	..
Netherlands	Stichting Pensioenfond van de Metalektro (PME)	55,887	0.8	..	2.2
Portugal	CGD Pensões (1)	3,179	1.7	2.0	..
Romania	Azt Viitorul Tau	2,216	..	10.7	..
South Africa	GEPP	152,812	1.2	..	..
Spain	Endesa	2,092	0.3	5.8	6.1
Spain	Fonditel (2)	3,931	0.7	..	..
Switzerland	Pensionskasse Post	17,361	2.5	..	..
Switzerland	Publica	40,427	..	..	0.9
United Kingdom	USS (3)	87,060	8.7	0.4	1.7
	Eurocontrol	1,888	5.2	..	..
PPRFs					
Argentina	Sustainability Guarantee Fund	64,655	..	..	7.8
Canada	Canada Pension Plan Investment Board	268,763	7.5	..	..
Canada	Quebec Pension Plan	55,227	5.5	..	..
Chile	Pension Reserve Fund	10,858	..	3.0	4.4
Finland	Valtion Eläkerahasto	23,479	1.2	..	..
France	FRR	43,724	0.1	..	..
New Zealand	New Zealand Superannuation Fund	26,837	1.7	0.7	..
Sweden	AP1	40,511	1.4	..	..
Sweden	AP3	42,055	3.3	0.7	..
Sweden	AP4	43,453	..	4.7	..

".." means not available.

(1) Data cover the CGD Staff's Pension Fund. (2) Data refer to Fonditel's biggest pension plan: Empleados de Telefónica de España. (3) Data are as of March 2018.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

Analysis of infrastructure allocations in the total portfolio

Table 4. Infrastructure investment in 2019 – portfolio allocation

As a percentage of total assets

Country head office	Name of fund	Infrastructure allocation	Where does it fit in the portfolio allocation	Invest in greenfield projects	Actual allocation to unlisted infrastructure (2017) (% of total assets)	Most recent reported target asset allocation to unlisted infrastructure (if separate) (% of total)
LPFs						
Australia	AustralianSuper	Separate	Infrastructure	No	9.9	..
Australia	CBUS	Separate	Infrastructure	Considering	8.9	..
Australia	Hostplus Superannuation fund	Separate	Infrastructure	Yes	10.0	..
Australia	Unisuper	Non-separate	..	Yes	3.5	..
Brazil	Banesprev	Non-separate	..	No	0.3	..
Brazil	FAPES - BNDES	Non-separate	Private equity, equity	No	0.8	..
Brazil	FORLUZ	Non-separate	Private equity, equity	No	1.6	..
Brazil	Fundação Petrobras	Non-separate	Equity	No	3.0	..
Brazil	Fundação Sistel	Non-separate	..	No	0.3	..
Brazil	Previ	Non-separate	Equity	Yes	5.1	..
Brazil	Real Grandeza	Non-separate	Private equity	No	1.3	..
Brazil	Valia	Non-separate	Private equity	Yes	0.3	..
Canada	Alberta Investment Management Company (AIMCo)	Separate	Infrastructure	..	7.6	8.4
Canada	Local Authorities Pension Plan	Separate	Infrastructure	..	8.4	15.0
Canada	OTPP (1)	Non-separate	Real assets - Infrastructure	Yes	10.1	..
Denmark	PensionDanmark (2)	Separate	Infrastructure	Yes	9.7	10.0
Denmark	PFA Pension (2,3)	Non-separate	Private equity, equity, fixed income	No	1.2	..
Finland	Keva	Non-separate	Private equity	No	0.8	..
Finland	Varma Mutual Pension Insurance Company (2)	Non-separate	..	No	0.6	..
Germany	BASF Pensionskasse	Separate	Alternative assets, infrastructure	Yes	4.7	6.0
Iceland	Gildi Pension fund	Non-separate	Private equity	..	0.4	..
Iceland	Lífeyrissjóður Starfsmanna Ríkisins	Non-separate	Equity	No	0.2	..
Iceland	Pension Fund of Commerce	Non-separate	..	No	0.8	..
Ireland	Bank of Ireland	Separate	Infrastructure	No	1.0	3.0
Ireland	ESB	Separate	Infrastructure	No	4.8	4.0
Japan	Pension Fund Association	Separate	Infrastructure	No	0.5	1.0
Netherlands	PFZW	Separate	Infrastructure	Yes	3.8	4.2
Netherlands	PMT	Separate	Real estate	No	0.7	1.0
Netherlands	Stichting Pensioenfonds ABP	Separate	Infrastructure	Yes	2.4	3.0
Netherlands	Stichting Pensioenfonds van de Metalektro (PME)	Separate	Infrastructure	Yes	0.8	..
Portugal	CGD Pensões (2,4)	Non-separate	..	No	1.7	..
South Africa	GEFF	Non-separate	Private equity	Yes	1.2	..
Spain	Endesa	Separate	Infrastructure	No	0.3	..
Spain	Fonditel (2,5)	Non-separate	Private equity	Yes	0.7	..
Spain	Santander	Separate	Infrastructure	..	0.2	2.0
Switzerland	Pensionskasse Post	Separate	Infrastructure	Yes	2.5	4.0
Switzerland	Publica	Separate	Infrastructure debt	Yes	0.9	3.5
United Kingdom	USS (2,6)	Separate	Infrastructure	Yes	8.7	5.0
	Eurocontrol	Separate	Infrastructure	No	5.2	7.5
PPRFs						
Argentina	Sustainability Guarantee Fund (2,7)	Separate	Infrastructure	No	..	5.0-20.0
Bosnia and Herzegovina	Pension Reserve Fund Of Republic of Srpska	Non-separate	Infrastructure / Real estate	..	0.0	5.0
Canada	Canada Pension Plan Investment Board (8)	Separate	Infrastructure	Yes	7.5	..
Canada	Quebec Pension Plan	Separate	Infrastructure	..	5.5	8.0
Finland	Valtion Eläkerahasto (2)	Separate	Infrastructure	Yes	1.2	2.0
France	FRR	Non-separate	..	..	0.1	..
New Zealand	New Zealand Superannuation Fund	Non-separate	Infrastructure, private equity	..	1.7	..
Sweden	AP1 (2)	Separate	Infrastructure	..	1.4	5.0
Sweden	AP3 (2)	Non-separate	Real estate, other	Considering	3.3	..

".." means not available.

(1) Separate allocation to infrastructure was reclassified to real assets in 2016. (2) Data partially based on previous years' questionnaires. (3) PFA Pension is a defined contribution scheme, thus a target allocation does not exist at the fund level. (4) Data cover the CGD Staff's Pension Fund. (5) Data refer to Fonditel's biggest pension plan: Empleados de Telefónica de España. (6) Data are as of March 2018. (7) Argentina's Sustainability Guarantee Fund invests in infrastructure through private debt instruments. (8) CPPIB has a target infrastructure allocation at a total fund level; however, there is no specific target allocation within the different infrastructure security types.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

Analysis of infrastructure investment levels

Table 5. Infrastructure investment in 2019

	Total assets, in USD millions	As a % of total assets of funds in Part B of the report (1)	As a % of total assets for all funds (2)
Unlisted Equity	110,466	3.9	1.2
Debt	10,368	0.4	0.1

(1) Infrastructure investment is calculated as a percentage of total assets of funds investing in infrastructure.

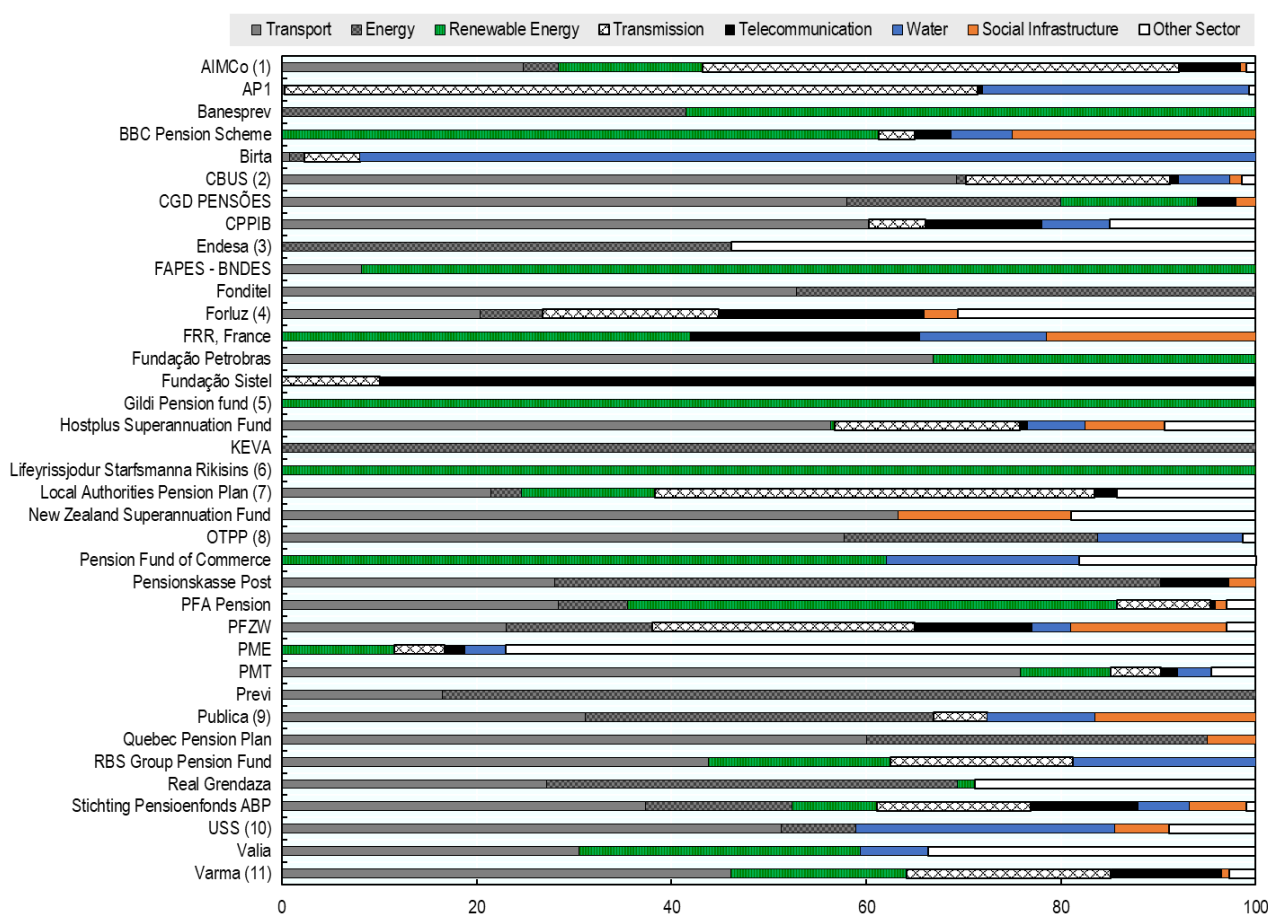
(2) Infrastructure investment is calculated as a percentage of total assets of all funds in the survey, excluding the ones stemming from publicly available reports.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

Analysis of infrastructure portfolios

Figure 7. Infrastructure sector allocations of selected LPFs and PPRFs in 2019

As a percentage of total unlisted infrastructure equity investment

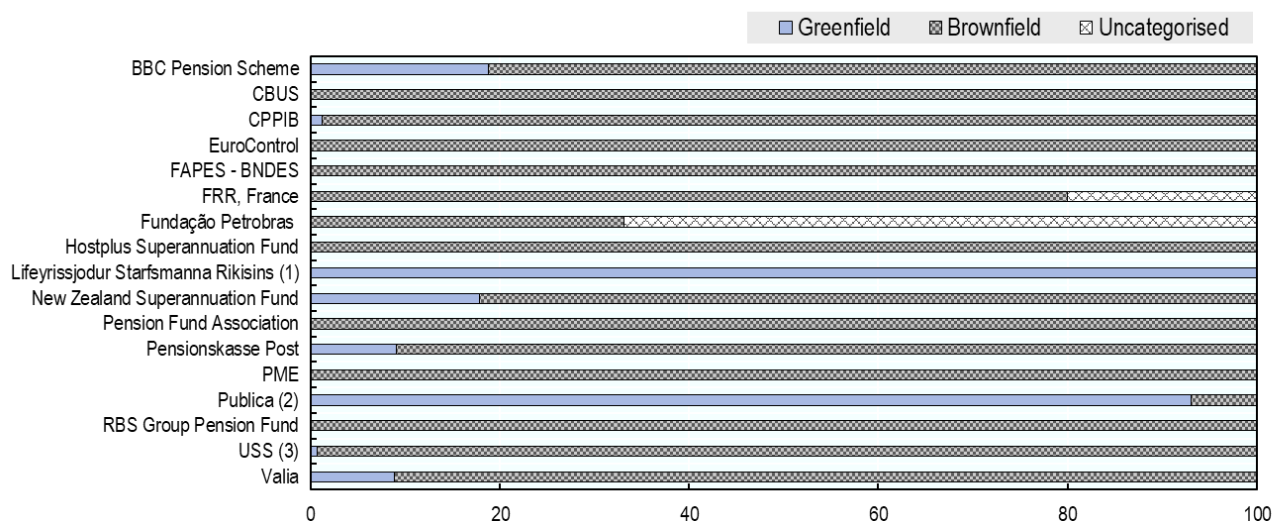


(1) AIMCo reported allocations for only a portion of the total portfolio. (2) Includes land titles. (3) Other includes multi-sector infrastructure. (4) Other includes healthcare related investments; includes public and private infrastructure. (5) Hydro and geothermal energy. (6) Geothermal heat. (7) Other includes timberlands, waste management. (8) Energy includes generation and transmission. (9) Allocations are for a loan portfolio. (10) Data are as of March 2018. (11) Allocations are as of December 2016.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

Figure 8. Infrastructure allocations, by development phase, for selected LPFs and PPRFs in 2019

As a percentage of total unlisted infrastructure equity investment

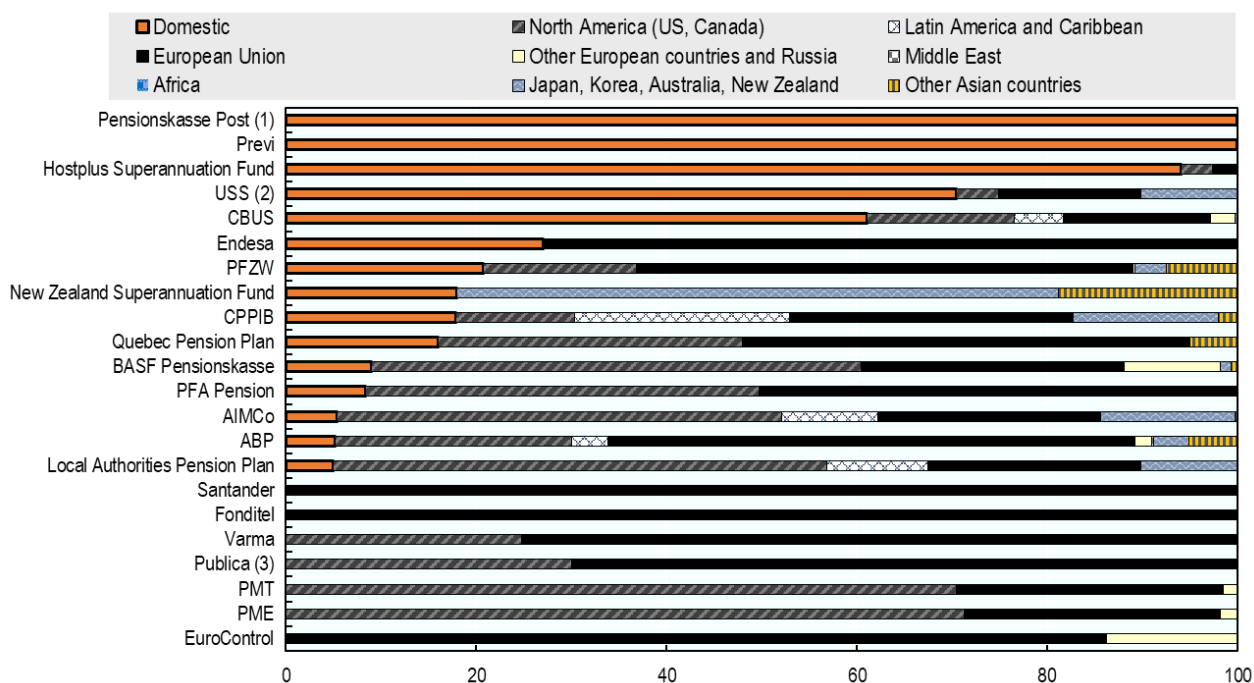


(1) Geothermal heat. (2) Allocations are for a loan portfolio. (3) Data are as of March 2018.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

Figure 9. Infrastructure allocations, by geographic region, for selected LPFs and PPRFs in 2019

As a percentage of total unlisted infrastructure equity investment



(1) Data are as of December 2016. (2) Data are as of March 2018. (3) Allocations are for a loan portfolio.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

Analysis of infrastructure investment vehicles

Table 6. Detailed infrastructure investment vehicles of selected LPFs and PPRFs, 2019

As a percentage of total unlisted infrastructure equity investment

Country head office	Name of the fund or institution	Total unlisted infrastructure equity in 2017 (in USD m.)	Unlisted infrastructure investment breakdown (as a % of total unlisted infrastructure investments) (1)		
			Unlisted infrastructure funds	Direct and co-investment infrastructure equity	Other unlisted infrastructure equity
LPFs					
Australia	CBUS	3,026	89.4	10.6	0.0
Australia	AustralianSuper	10,051	51.6	48.3	0.1
Australia	Hostplus Superannuation fund	2,258	77.4	22.6	0.0
Australia	UniSuper	1,688	100.0	0.0	0.0
Brazil	Banesprev	13	100.0	0.0	0.0
Brazil	FAPEs - BNDES	27	88.3	11.7	0.0
Brazil	Forluz	73	100.0	0.0	0.0
Brazil	Fundação Petrobras	661	0.0	100.0	0.0
Brazil	Fundação Sistel	16	100.0	0.0	0.0
Brazil	Previ	2,904	0.0	100.0	0.0
Brazil	Real Grandeza	57	100.0	0.0	0.0
Brazil	Valia	21	100.0	0.0	0.0
Canada	Local Authorities Pension Plan	2,848	10.5	89.5	0.0
Canada	OTPP	14,934	0.0	100.0	0.0
Denmark	PFA Pension	957	100.0	0.0	0.0
Finland	KEVA	512	41.9	58.1	0.0
Finland	Varma Mutual Pension Insurance Company	311	100.0	0.0	0.0
Germany	BASF Pensionskasse	535	89.6	10.4	0.0
Iceland	Gildi Pension fund	22	0.0	100.0	0.0
Iceland	Lifeyrissjodur Starfsmanna Ríkisins	13	0.0	100.0	0.0
Iceland	Pension Fund of Commerce	52	0.0	100.0	0.0
Ireland	Bank of Ireland	61	100.0	0.0	0.0
Ireland	ESB	218	100.0	0.0	0.0
Japan	Pension Fund Association	529	0.0	100.0	0.0
Netherlands	PFZW	8,911	24.9	75.1	0.0
Netherlands	PMT	564	100.0	0.0	0.0
Netherlands	ABP	13,096	39.8	60.2	0.0
Netherlands	PME	461	100.0	0.0	0.0
South Africa	GEPF	1,813	100.0	0.0	0.0
Spain	Endesa	5	100.0	0.0	0.0
Spain	Fonditel (2)	26	100.0	0.0	0.0
Switzerland	Pensionskasse Post	440	100.0	0.0	0.0
United Kingdom	BBC Pension Scheme	1,081	100.0	0.0	0.0
United Kingdom	RBS Group Pension Fund	1,081	0.0	100.0	0.0
United Kingdom	USS (3)	7,602	6.0	94.0	0.0
	EuroControl	98	100.0	0.0	0.0
PPRFs					
Canada	CPPIB	20,192	0.2	99.8	0.0
Canada	Quebec Pension Plan	3,051	0.0	100.0	0.0
Finland	Valtion Eläkerahasto	293	100.0	0.0	0.0
France	FRR	48	100.0	0.0	0.0
New Zealand	New Zealand Superannuation Fund	461	36.8	63.2	0.0
Sweden	AP1	583	2.8	97.2	0.0
Sweden	AP3	1,387	100.0	0.0	0.0

(1) Totals may not add to 100 due to rounding. (2) Data refer to Fonditel's largest pension plan: Empleados de Telefónica de España. (3) Data are as of March 2018.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

PART C – ESG AND INFRASTRUCTURE

Sustainability frameworks

Green investment

Table 7: Detailed green investments of selected LPFs and PPRFs in 2019

As a percentage of total investment

Country head office	Name of the fund or institution	Total investments in 2017 (in USD m.)	Green investments (as a % of total investments)				Total Green Investments
			Green equity	Green bonds	Alternative green asset classes (1)	Other green investments	
Australia	UniSuper Management Pty Ltd	48,694	4.2	0.3	0.7	..	5.2
Australia	Hostplus Superannuation Fund	22,640	..	..	..	1.5	1.5
Austria	VBV Pensionskasse AG	7,879	14.5	..	..	0.2	14.6
Belgium	EuroControl	1,888	4.3	4.7	..	..	9.0
Brazil	Banesprev	4,993	0.2	..	..	..	0.2
Brazil	Fundação Petrobras	21,681	..	..	..	0.3	0.3
Brazil	Previ	56,687	..	..	0.0	..	0.0
Brazil	Valia	6,701	3.7	..	0.2	..	4.0
Canada	AIMCo	82,613	0.4	0.0	..	..	0.5
Canada	Local Authorities Pension Plan	34,019	0.5	..	..	..	0.5
Canada	OTPP	147,750	..	..	0.9	..	0.9
Denmark	PFA Pension	76,949	0.5	..	1.1	..	1.6
Finland	Varma Mutual Pension Insurance Company (2)	54,347	17.0	0.7	..	..	17.7
France	FRR	43,724	18.1	0.6	0.2	..	18.9
Germany	BASF Pensionskasse	11,408	2.6	..	..	..	2.6
Iceland	Gildi Pension Fund	4,923	..	0.9	0.4	..	1.3
Iceland	Lifeyrissjodur Starfsmanna Ríkisins	7,869	0.2	1.8	..	..	1.9
Japan	Pension Fund Association	109,053	..	0.1	..	..	0.1
Netherlands	PFZW	236,479	3.5	0.9	2.1	..	6.5
Netherlands	PME	55,887	36.2	0.4	0.9	..	37.5
Netherlands	PMT	83,377	33.0	0.3	0.2	..	33.6
Netherlands	Stichting Pensioenfonds ABP	545,464	1.1	1.0	1.2	4.4	7.7
New Zealand	New Zealand Superannuation Fund	26,837	..	..	..	6.2	6.2
Nigeria	RSA Fund	6,850	..	0.1	..	..	0.1
Norway	Government Pension Fund - Global	1,068,774	0.8	0.1	..	..	0.9
Romania	Azt Viitorul Tau	2,216	..	..	..	0.2	0.2
South Africa	GEPP	152,812	..	0.3	..	..	0.3
Spain	Endesa	2,092	..	0.6	..	..	0.6
Spain	Fonditel (3)	3,931	1.5	1.3	0.1	..	2.9
Spain	Santander	313	..	1.2	..	..	1.2
Sweden	Alecta	101,095	43.5	2.1	..	21.5	67.1
Sweden	AP1	40,511	..	0.5	..	..	0.5
Sweden	AP2	42,000	1.6	1.5	5.8	3.4	12.5
Sweden	AP3	42,055	..	3.9	0.1	0.0	4.0
Sweden	AP4	43,453	13.4	1.3	..	..	14.7
Sweden	AP7	51,061	..	0.1	0.2	..	0.4
United Kingdom	USS (4)	87,060	..	..	0.1	..	0.1

".." means not available, or zero.

(1) The alternative green asset classes can include hedge funds, natural resources, private equity, infrastructure, and inflation-linked bonds. (2) All direct equity investments are "green", since invests are made under Varma's climate policy. (3) Data refer to Fonditel's largest pension plan: Empleados de Telefónica de España. (4) Data are as of March 2018.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

Social investment

Table 8: Detailed social investments of selected LPFs and PPRFs in 2019 as a share of total investment

As a percentage of total investment

Country head office	Name of the fund or institution	Total investments in 2017 (in USD m.)	Social investments (as a % of total investments)			
			Social/development impact venture capital/SME finance	Social impact bonds/Development impact bonds	Other social investments	Total social investments
Austria	VBV Pensionskasse AG	7,879	..	..	0.3	0.3
Argentina	Sustainability Guarantee Fund (1)	64,655	..	4.0	..	4.0
Brazil	Valia	6,701	..	..	0.4	0.4
Denmark	PFA Pension	76,949	0.5	..	..	0.5
France	FRR	43,724	..	..	18.3	18.3
Iceland	Pension Fund of Commerce	6,366	0.3	..	..	0.3
Netherlands	PMT	83,377	0.9	..	..	0.9
Netherlands	Stichting Pensioenfonds ABP	545,201	0.6	0.3	2.3	3.2
Netherlands	PME	55,887	1.1	..	..	1.1
New Zealand	New Zealand Superannuation Fund	26,837	..	..	0.4	0.4
South Africa	GEPF	152,812	1.2	..	..	1.2
Spain	Fonditel (2)	3,931	..	..	1.0	1.0
Sweden	AP2	42,000	0.1	0.1	..	0.2
Switzerland	Pensionskasse Post	17,361	..	..	1.2	1.2
United Kingdom	USS (3)	87,060	..	..	0.5	0.5

".." means not available, or zero.

(1) Investments include social infrastructure. The Sustainability Guarantee Fund invests for both financial and social returns. (2) Data refer to Fonditel's largest pension plan: Empleados de Telefónica de España. (3) Data is as of March 2018.

Source: OECD calculations based on responses to the OECD Survey of LPFs and PPRFs.

Survey Annex - Types of sovereign and public pension reserve funds

Although there is no single widely accepted definition, Sovereign and Public Pension Reserve Funds (SPFs) could be defined as funds set up by governments or social security institutions with the objective of contributing to finance the relevant pay-as-you-go pension plans. There are two types of SPFs. Although both have the same ultimate objective (i.e. meeting the potential financial liabilities relating to the social security system), they vary in terms of funding sources, investment strategies, and payout phases, among others.

- One is the fund that is part of the overall social security system, where the inflows are mainly surpluses of employee and/or employer contributions over current payouts, as well as top-up contributions from the government via fiscal transfers and other sources. Among others, Denmark's Social Security Fund, Japan's Government Pension Investment Fund, and USA's Social Security Trust Fund fall within this category. These funds may be managed by the social security institution itself or an independent -often public sector- fund management entity.
- The other type refers to those funds which are established directly by the government (completely separated from the social security system), and whose financial inflows are mainly from direct fiscal transfers from the government. Unlike the first type of SPFs, those within this category have been set up by governments to meet future deficits of the social security system. Some are not allowed to make any payouts for decades. All of these funds are under autonomous management entities. Examples include the Australia Future Fund, the New Zealand Superannuation Fund, the Norwegian Government Pension Fund, and the French "Fond de Réserve pour les Retraites". These funds are also sometimes classified as sovereign wealth funds (SWFs). Though they do not all have high foreign investment allocations.

Source: OECD Pension Markets in Focus <https://www.oecd.org/FINANCE/pensionmarketsinfocus.htm>

www.oecd.org/finance/lti

