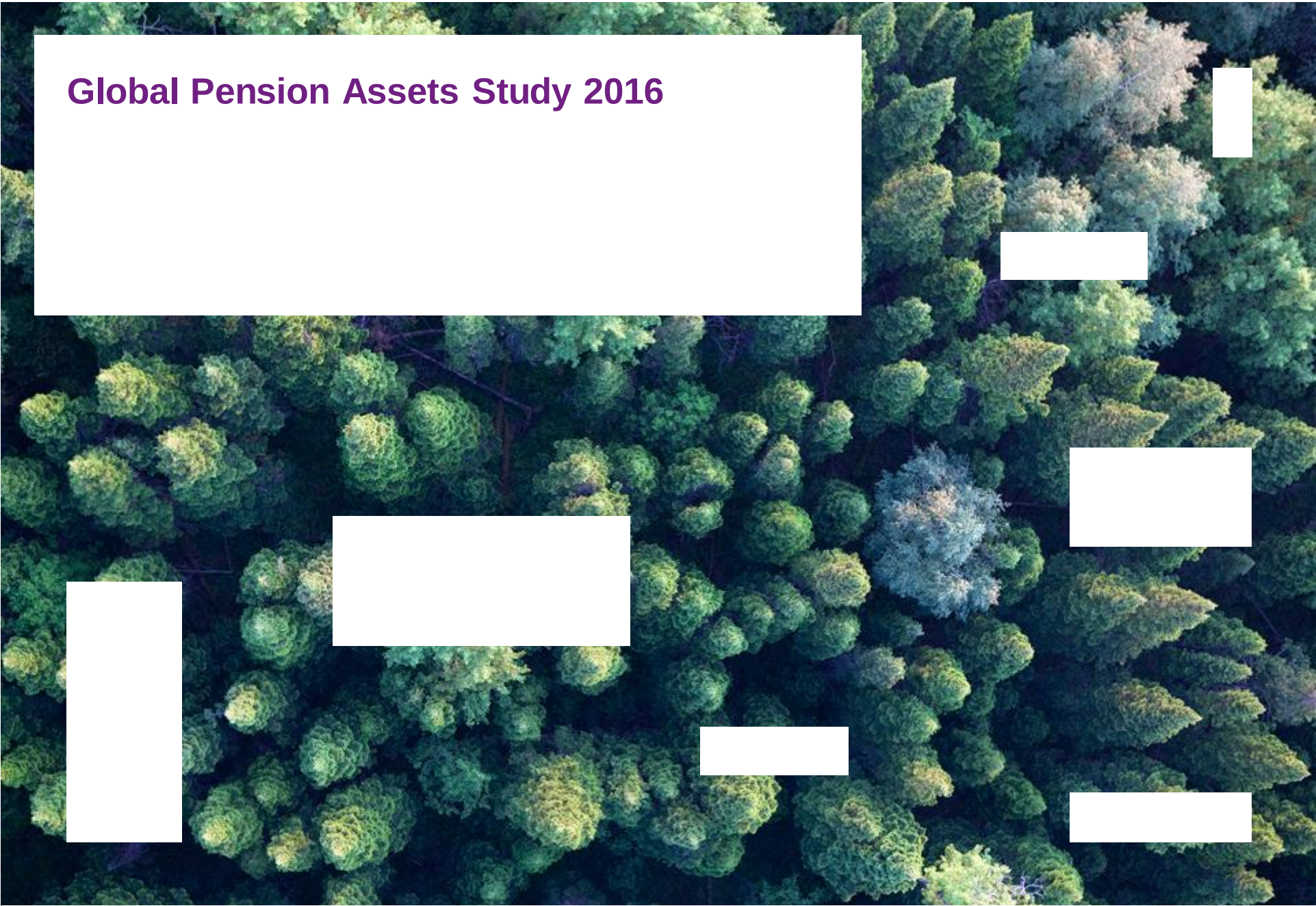
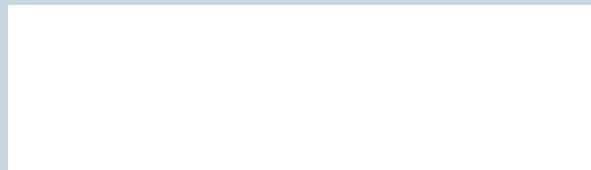


An aerial photograph of a dense forest with various shades of green. Several white rectangular boxes are placed over the image, likely for redaction or design purposes. One large box is in the top left corner, and several smaller boxes are scattered across the middle and right sections of the image.

Global Pension Assets Study 2016

Global Pension Assets Study 2016

Executive Summary



Global Pension Assets Study 2016

Survey Coverage

- The study covers 19 major pension markets, which total USD 35,438 billion in pension assets and account for 80.3% of the GDP of these economies. Chile, India and Spain were added to this year's study. We use the shorthand 'P19' to denote them.
- We perform a deeper analysis for seven of these markets (Australia, Canada, Japan, Netherlands, Switzerland, UK and US) and use the shorthand 'P7' to denote them. The P7 countries comprise 92.9% of total assets.
- The analysis is organised in four sections:
 - Asset size, including growth statistics and comparison of asset size with GDP (P19)
 - Asset allocation (P7)
 - DB and DC share of pension assets (P7)
 - The faces of change

P19



Australia



Brazil



Canada



Chile



France



Germany



HK



India



Ireland



Japan



Malaysia



Mexico



Netherlands



South Africa



South Korea



Spain



Switzerland



UK



US

P7



Australia



Canada



Japan



Netherlands



Switzerland



UK



US

Global Pension Assets Study 2016

Key Findings

P19 pension assets at the end of 2015

- At the end of 2015, total pension assets were estimated at USD 35,438 billion, which represents a decrease of 0.5% compared to USD 35,620 billion at the end of 2014.
- Pension assets relative to GDP reached 80.3% in 2015, which represents a decrease of 3.9% from the 2014 ratio of 84.2%.
- The largest pension markets are the US, UK and Japan with 61.5%, 9.0% and 7.7% of total pension assets in the study, respectively.
- In USD terms, the pension assets growth rate of these three largest markets in 2015 were 0.3%, -2.1% and 2.0% respectively.
- It is important to caveat the impact of the currency exchange rates when measuring the growth of pension assets in USD, as in many cases, the results vary significantly with those in local currency terms.

Global Pension Assets Study 2016

Key Findings

P7 asset allocation at the end of 2015

- At the end of 2015, the average global asset allocation of the seven largest markets was 44% equities, 29% bonds, 24% other assets (including real estate and other alternatives) and 3% cash.
- The asset allocation pattern has changed since 1996. Allocation to other assets have increased while allocation to equities and bonds have decreased.
- US, Australia and the UK have higher allocations to equities than the rest of the P7 markets. Switzerland, Japan and the Netherlands have more conservative investment strategies – higher allocation to bonds.

P7 DB/DC allocation at the end of 2015¹

- During the last 10 years, DC assets have grown at a rate of 7.1% pa while DB assets have grown at a slower pace of 3.4% pa.
- DC assets represent 48.4% of total P7 pension assets, in line with the established trend towards the growing dominance of DC plans.
- DC is dominant in Australia and the US. Japan and Canada, both predominantly only DB, are now showing signs of a shift to DC.

¹ DC assets in Switzerland are cash balance plans and are excluded from this analysis.

Global Pension Assets Study 2016

Key findings - Figures

Country	Total Assets 2015 (USD billion)	Assets/GDP ratio (%) ⁶
Australia	1,484	119.6%
Brazil ¹	180	10.0%
Canada	1,525	97.0%
Chile	282	117.5%
France	151	6.2%
Germany ²	427	12.7%
Hong Kong	123	39.9%
India	94	4.3%
Ireland	128	56.1%
Japan ³	2,746	66.7%
Malaysia	190	60.6%
Mexico	177	15.2%
Netherlands	1,378	183.6%
South Africa	181	57.2%
South Korea	545	39.1%
Spain	41	3.3%
Switzerland ⁴	804	118.7%
UK	3,204	111.9%
US ⁵	21,779	121.2%
Total	35,438	80.3%

¹ Only include pension assets from closed entities.

² Only include pension assets for company pension schemes.

³ Does not contain the unfunded benefit obligation of corporate pension plans (account receivables).

⁴ Only includes autonomous pension funds. Does not consider insurance companies assets.

⁵ Includes IRAs.

⁶ Assets/GDP ratio for individual markets are calculated in local currency terms, and total Assets/GDP ratio is calculated in USD.

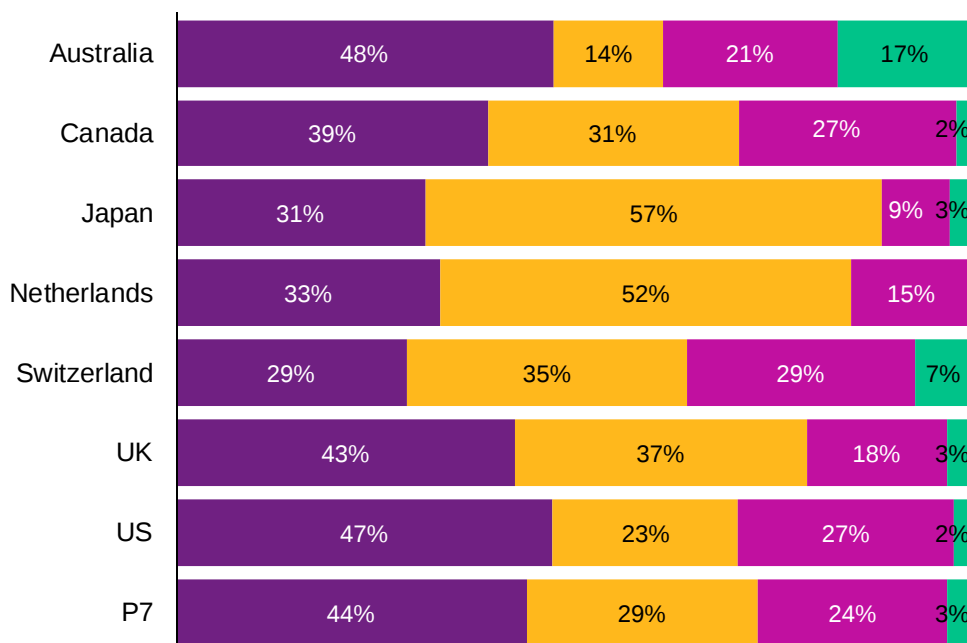
Source: Willis Towers Watson and secondary sources

Global Pension Assets Study 2016

Key findings - Figures

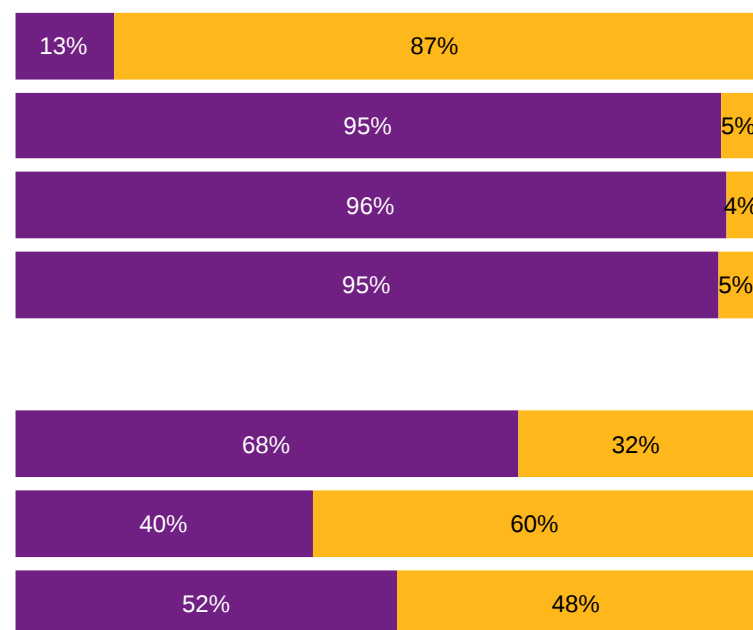
Asset allocation 2015

■ Equity ■ Bonds ■ Other ■ Cash



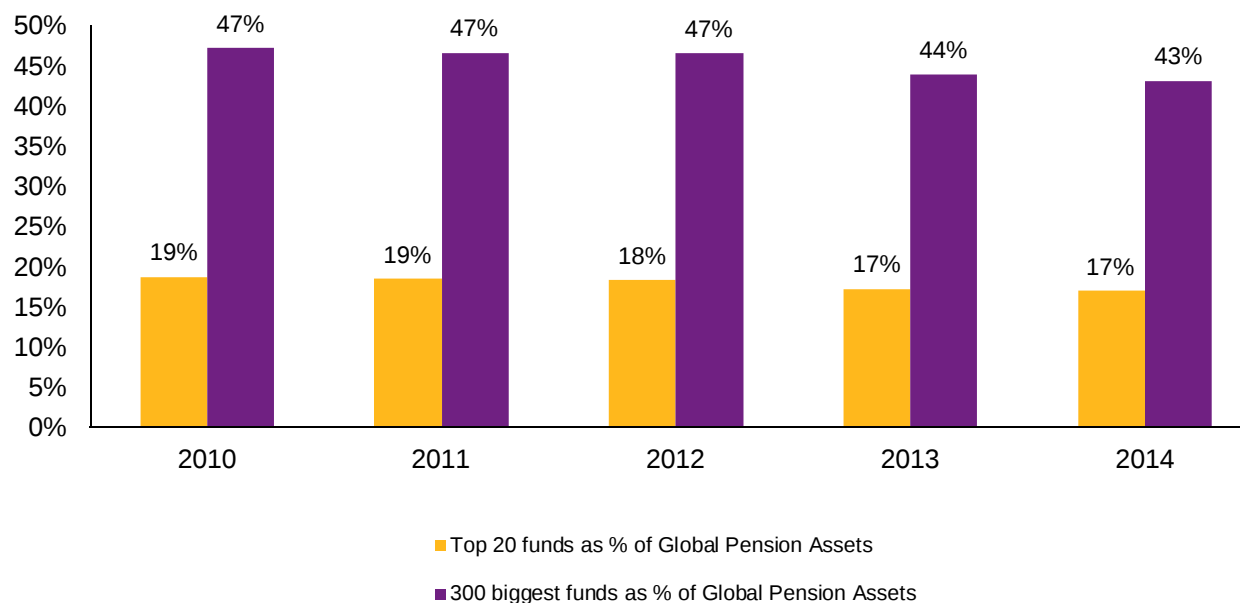
DB/DC Split 2015¹

■ DB ■ DC



¹ In Switzerland DC stands for cash balance, where the plan sponsor shares the investment risk and all assets are pooled. There are almost no pure DC assets where members make an investment choice and receive market returns on their funds. Therefore, Switzerland is excluded from this analysis..
Source: Willis Towers Watson and secondary sources

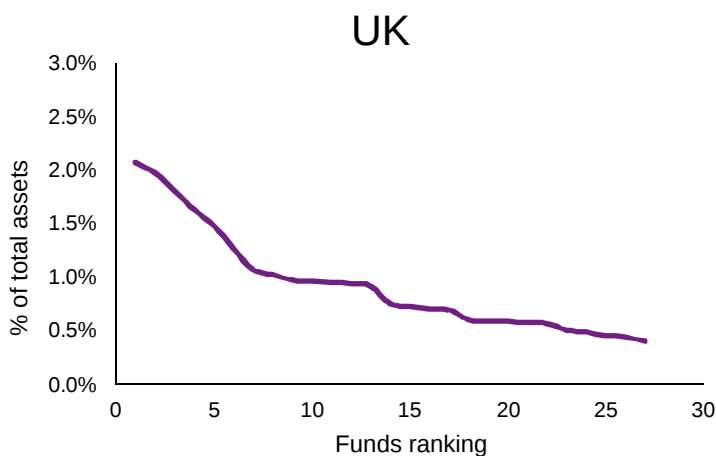
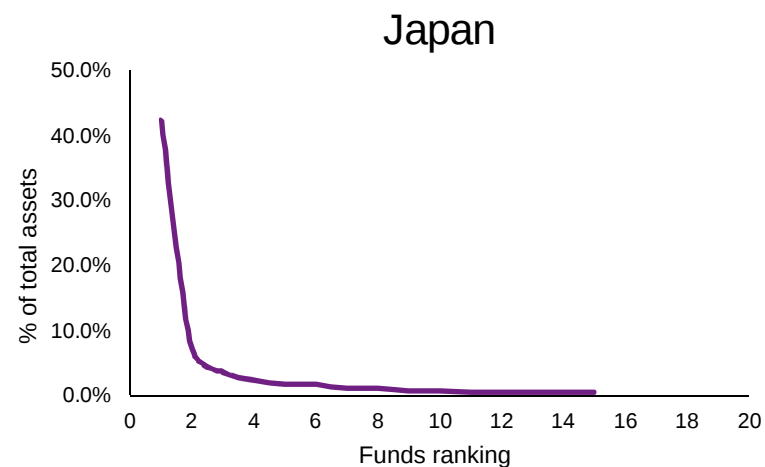
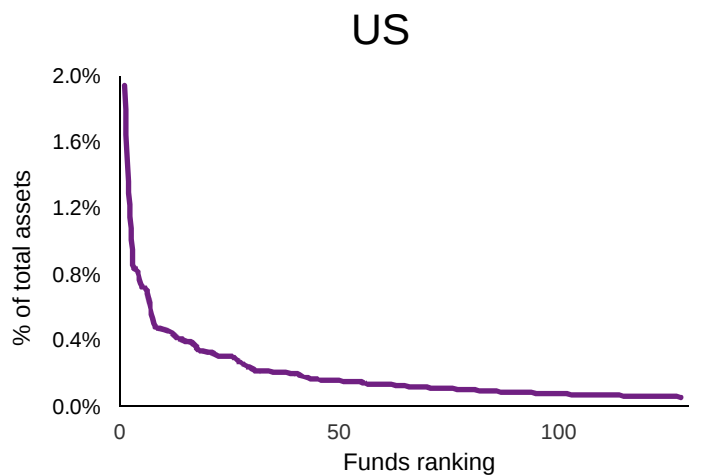
Relative proportion of top 300 pension funds



- The annual [Pension & Investments/Towers Watson 300 Analysis](#) ranks the world's largest 300 pension funds in terms of assets under management.
- Assets under management of top 300 pension funds represented 43.1% of the total global pension assets in 2015.
- The top 20 pension funds accounted for 17.0% of total pension assets globally.

Source: Willis Towers Watson and secondary sources

Relative proportion of top 300 pension funds by market



- While the top 10 US pension funds represent 8.5% of total assets, the top 10 Japanese pension funds account for 63.4% of total assets. This is largely explained by the Government Pension Investment fund that represents 42.5% of Japan's pension assets.
- In the UK, the top 10 pension funds represent 14.3% of the total UK pension assets. Among them, 11.3% are private pension funds and the remaining 3.0% are state-sponsored pension funds.

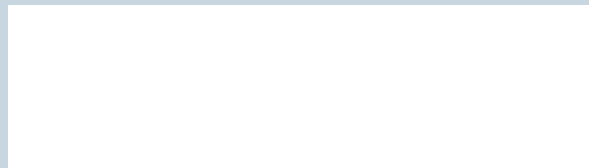
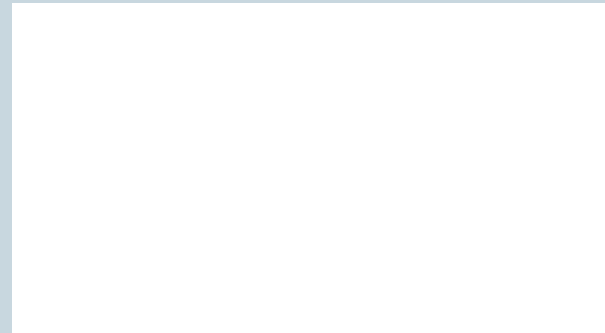
Source: Willis Towers Watson and secondary sources

Global Pension Assets Study 2016

1. Asset Size

Asset size and growth statistics

Comparison of asset size with GDP



Global Pension Assets

Evolution 2005-2015 – USD billion

- Global pension assets in 2015 are estimated to have reached USD 35,438 billion, a decrease of 0.5% since the end of 2014.
- The US continues to be the largest market in terms of pension assets, then followed, at significant distance, by UK and Japan. Together they account for over 78.2% of total assets.
- The smallest markets are, in descending order, Hong Kong, India and Spain.

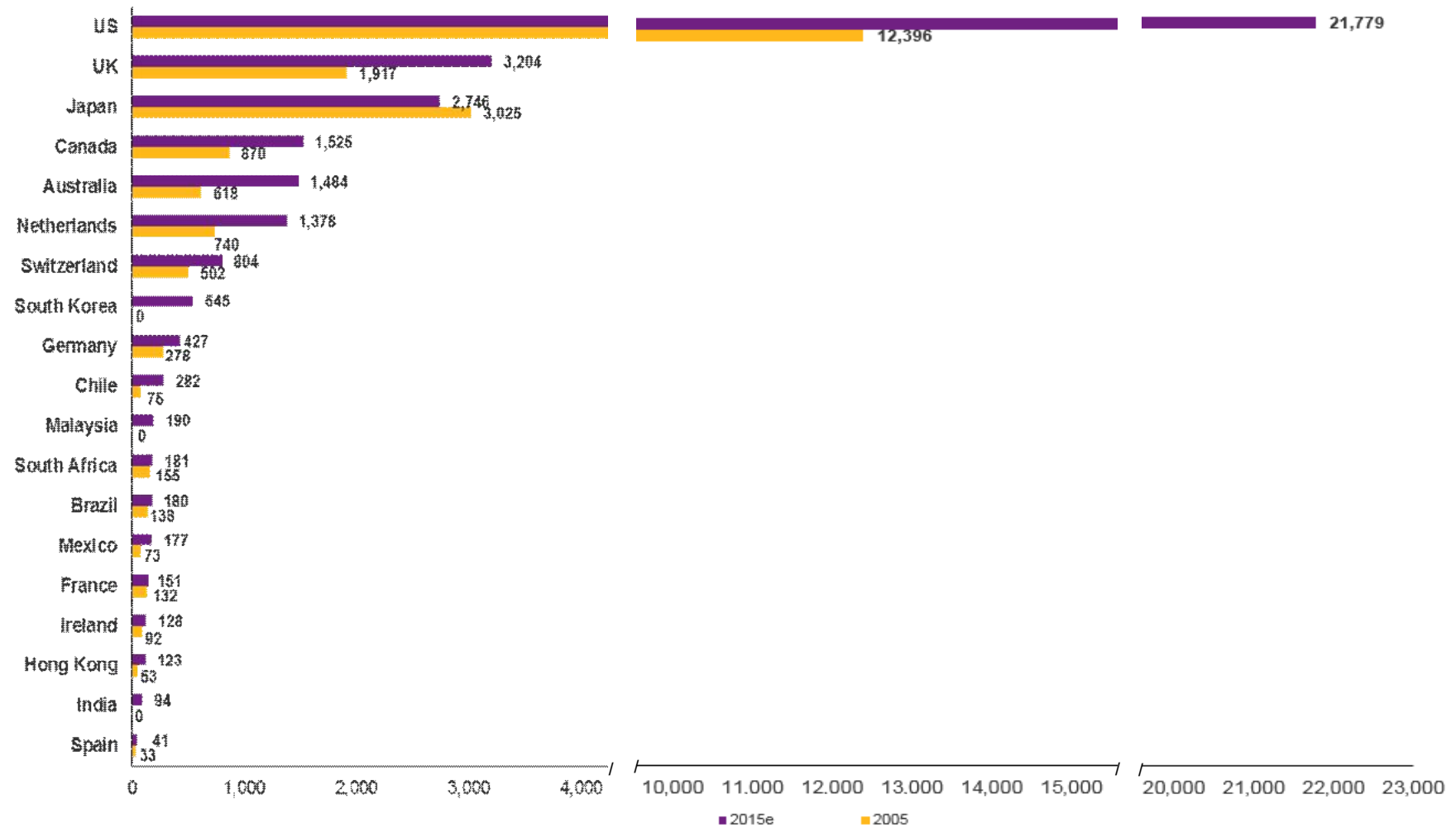
Country	Total assets 2005 (USD billion)	Total assets 2015e (USD billion)	10-year CAGR (USD)
Australia	618	1,484	9.1%
Brazil ¹	138	180	2.7%
Canada	870	1,525	5.8%
Chile	75	282	14.2%
France	132	151	1.3%
Germany	278	427	4.4%
Hong Kong	53	123	8.8%
India ¹	—	94	—
Ireland	92	128	3.3%
Japan	3,025	2,746	-1.0%
Malaysia ¹	—	190	—
Mexico	73	177	9.2%
Netherlands	740	1,378	6.4%
South Africa	155	181	1.6%
South Korea ¹	—	545	—
Spain	33	41	2.0%
Switzerland	502	804	4.8%
UK	1,917	3,204	5.3%
US	12,396	21,779	5.8%
Total	21,098	35,438	5.1%

¹ 10 year growth rates are not available for India, Malaysia and South Korea.

Source: Willis Towers Watson and secondary sources

Global Pension Assets

Evolution 2005-2015 – USD billion



Source: Willis Towers Watson and secondary sources

Global Pension Assets

Relative weights of each market

- Over the past decade the weights of Brazil, France, Germany, Japan, South Africa, Spain and Switzerland have declined relative to the other countries in the study.

Relative weights of each country			
Country	2005	2015e	
Australia	2.9%	4.2%	▲
Brazil	0.7%	0.5%	▼
Canada ¹	4.1%	4.3%	▲
Chile	0.4%	0.8%	▲
France ¹	0.6%	0.4%	▼
Germany	1.3%	1.2%	▼
Hong Kong	0.3%	0.3%	
India ²	—	0.3%	
Ireland	0.4%	0.4%	
Japan	14.3%	7.7%	▼
Malaysia ²	—	0.5%	
Mexico	0.3%	0.5%	▲
Netherlands	3.5%	3.9%	▲
South Africa	0.7%	0.5%	▼
South Korea ²	—	1.5%	
Spain	0.2%	0.1%	▼
Switzerland	2.4%	2.3%	▼
UK ¹	9.1%	9.0%	▼
US	58.8%	61.5%	▲
Total	100.0%	100.0%	

¹ There was a methodology change for France and Canada in 2008/2009 and a methodology change for UK in 2012.

² India, Malaysia and South Korea 2005 figures are not available.

Source: Willis Towers Watson and secondary sources

Global pension assets growth rates

Compound annual growth rates – *local currency* – 2015e

- Estimated 5-year growth rates ranged from 3.9% pa in Spain to 23.8% pa in Chile.
- During the past 10 years Chile has seen the fastest growth rate, followed by Mexico, South Africa, Australia, Hong Kong, Brazil and Canada.

Country	5 -year CAGR	10-year CAGR
Australia	8.9%	9.2%
Brazil	4.4%	8.1%
Canada ¹	10.8%	7.6%
Chile	23.8%	17.9%
France ¹	6.7%	2.2%
Germany	3.3%	5.2%
Hong Kong	6.6%	8.8%
India ²	15.6%	—
Ireland	9.1%	4.1%
Japan	4.2%	-0.2%
Malaysia ²	—	—
Mexico	11.3%	14.5%
Netherlands	10.3%	7.3%
South Africa	10.5%	11.1%
South Korea ²	13.3%	—
Spain	3.9%	2.9%
Switzerland	5.1%	1.9%
UK ¹	8.0%	6.8%
US	7.5%	5.8%
Average	9.1%	7.1%

¹ There was a methodology change for France and Canada in 2008/2009 and a methodology change for UK in 2012.

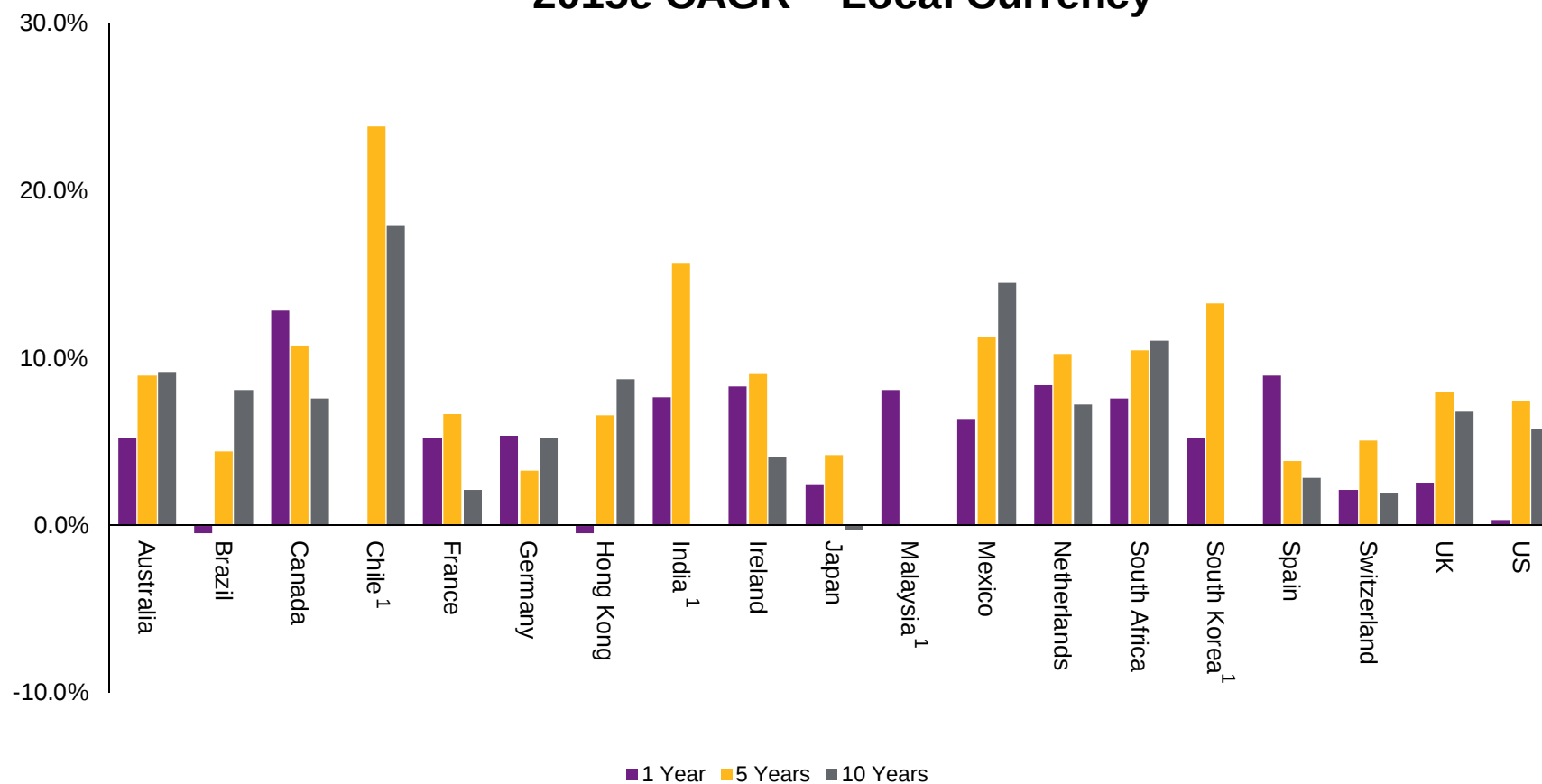
² 5 and 10 year growth rates are not available for Malaysia. India and South Korea 10 year growth rates are not available.

Source: Willis Towers Watson and secondary sources

Global pension assets growth rates

Compound annual growth rates – *local currency*

2015e CAGR – Local Currency



¹ 5 and 10 year growth rates are not available for Malaysia. India and South Korea 10 year growth rates are not available. Chile's 1 year CAGR in local currency is estimated at 99%

Source: Willis Towers Watson and secondary sources

Global pension assets growth rates

Compound annual growth rates – USD

- In 2015, global pension assets were estimated to have decreased 1.4% on average
- During the last 10 years, the fastest growing pension markets have been Chile (14.2%), Mexico (9.2%), Australia (9.1%) and Hong Kong (8.8%) when measured in USD terms
- Japan and France have had the slowest rates of growth in USD terms since 2005 (-0.4% and 1.3% respectively).

Country	Growth rates to 2015e (USD)		
	1-year CAGR ²	5 -year CAGR	10-year CAGR
Australia ³	-6.0%	1.1%	9.1%
Brazil	-31.4%	-11.9%	2.7%
Canada ¹	-5.3%	3.7%	5.8%
Chile	70.1%	13.7%	14.2%
France ¹	-5.4%	2.6%	1.3%
Germany	-5.3%	-0.6%	4.4%
Hong Kong	-0.3%	6.7%	8.8%
India	3.4%	7.2%	—
Ireland	-2.6%	5.0%	3.3%
Japan	2.0%	-3.6%	-0.4%
Malaysia ⁴	-11.9%	—	—
Mexico	-9.2%	4.1%	9.2%
Netherlands	-2.6%	6.1%	6.4%
South Africa	-18.9%	-6.7%	1.6%
South Korea ⁴	-1.6%	12.5%	—
Spain	-2.0%	-0.1%	2.0%
Switzerland	2.0%	4.0%	4.8%
UK ¹	-2.1%	7.1%	5.3%
US	0.3%	7.5%	5.8%
Average	-1.4%	3.2%	4.9%

¹ There was a methodology change for France and Canada in 2008/2009 and a methodology change for UK in 2012.

² 1-year growth rate does not capture net contributions in markets

³ Existing contribution rates as well as the fact that retirees can cash in all their benefits (i.e. no compulsion to lock in or annuities), can have a significant impact on expected asset growth in Australia.

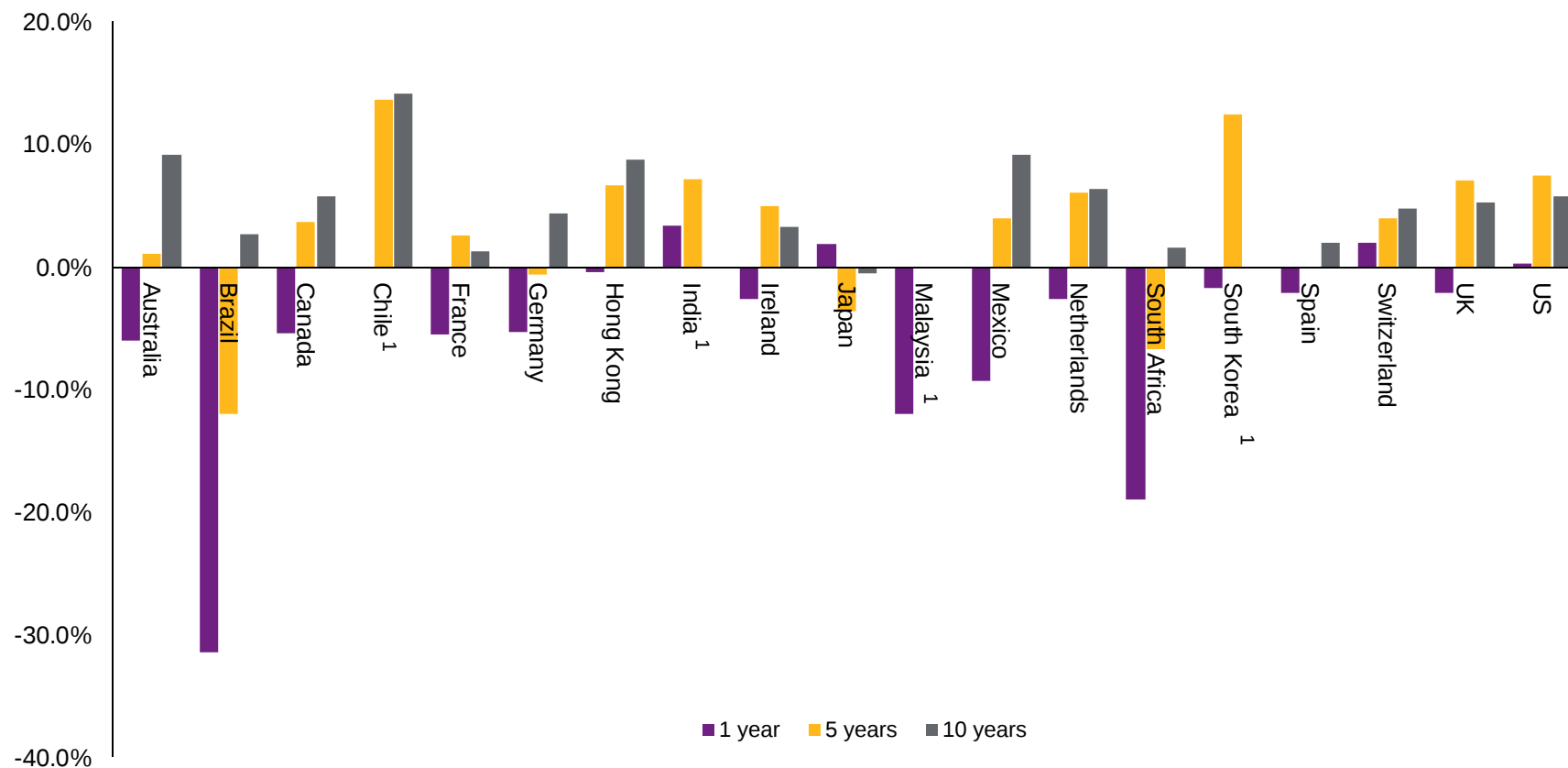
⁴ 5 and 10 year growth rates are not available for Malaysia. India and South Korea 10 year growth rates are not available.

Source: Willis Towers Watson and secondary sources

Global pension assets growth rates

Compound annual growth rates – USD

2015e CAGR - USD



¹ 5 and 10 year growth rates are not available for Malaysia. India and South Korea 10 year growth rates are not available. Chile's 1 year CAGR in USD is estimated at 70%

Source: Willis Towers Watson and secondary sources

Global pension assets growth rates

Currency impact

- In 2015, all currencies except the Hong Kong Dollar depreciated against the US Dollar.
- Currencies that experienced the largest depreciation against the USD were the Brazilian Real (-31.1%), the South African Rand (-24.7%), the Malaysian Ringgit (-18.5%), the Canadian Dollar (-16.1%), the Mexican Peso (-14.6%) and the Chilean Peso (-14.5%).
- During the last 10 years, the only currency that appreciated against the USD was the Swiss Franc (2.9% pa), while over the last 5 years the only currency that appreciated was the Hong Kong dollar (0.1% pa).
- Over longer periods, there has been a trend of appreciation of the USD relative to other major currencies.

Country	Variation in FX rates against USD		
	1-year	5-year CAGR	10-year CAGR
Australia	-10.6%	-7.2%	0.0%
Brazil	-31.1%	-15.6%	-5.0%
Canada	-16.1%	-6.3%	-1.7%
Chile	-14.5%	-8.2%	-3.2%
France	-10.1%	-3.8%	-0.8%
Germany	-10.1%	-3.8%	-0.8%
Hong Kong	0.1%	0.1%	0.0%
India ¹	-3.9%	-7.3%	—
Ireland	-10.1%	-3.8%	-0.8%
Japan	-0.5%	-7.5%	-0.2%
Malaysia ¹	-18.5%	—	—
Mexico	-14.6%	-6.5%	-4.6%
Netherlands	-10.1%	-3.8%	-0.8%
South Africa	-24.7%	-15.5%	-8.5%
South Korea ¹	-6.5%	-0.7%	—
Spain	-10.1%	-3.8%	-0.8%
Switzerland	-0.1%	-1.0%	2.9%
UK	-4.6%	-0.8%	-1.5%

¹ 5 and 10 year growth rates are not available for Malaysia. India and South Korea 10 year growth rates are not available.

Source: Willis Towers Watson and secondary sources

Global pension assets vs. GDP in local currency

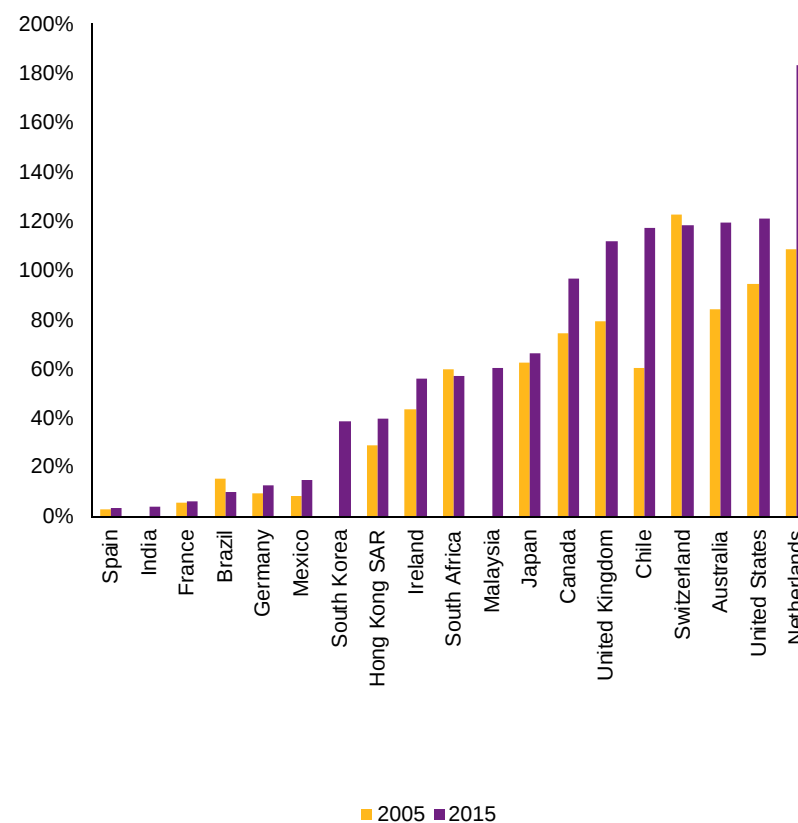
Country	Pension assets as a % of GDP		
	2005	2015e	Change ¹
Australia	84%	120%	36%
Brazil	15%	10%	-5%
Canada	75%	97%	22%
Chile	61%	118%	57%
France	6%	6%	0%
Germany	10%	13%	3%
Hong Kong	29%	40%	11%
India ²	—	4%	—
Ireland	44%	56%	12%
Japan	63%	67%	4%
Malaysia ²	—	61%	—
Mexico	8%	15%	7%
Netherlands	109%	184%	75%
South Africa	60%	57%	-3%
South Korea ²	—	39%	—
Spain	3%	3%	0%
Switzerland	123%	119%	-4%
UK	79%	112%	32%
US	95%	121%	27%

¹ In percentage points, figures are rounded.

² 2005 figures are not available for India, Malaysia and South Korea

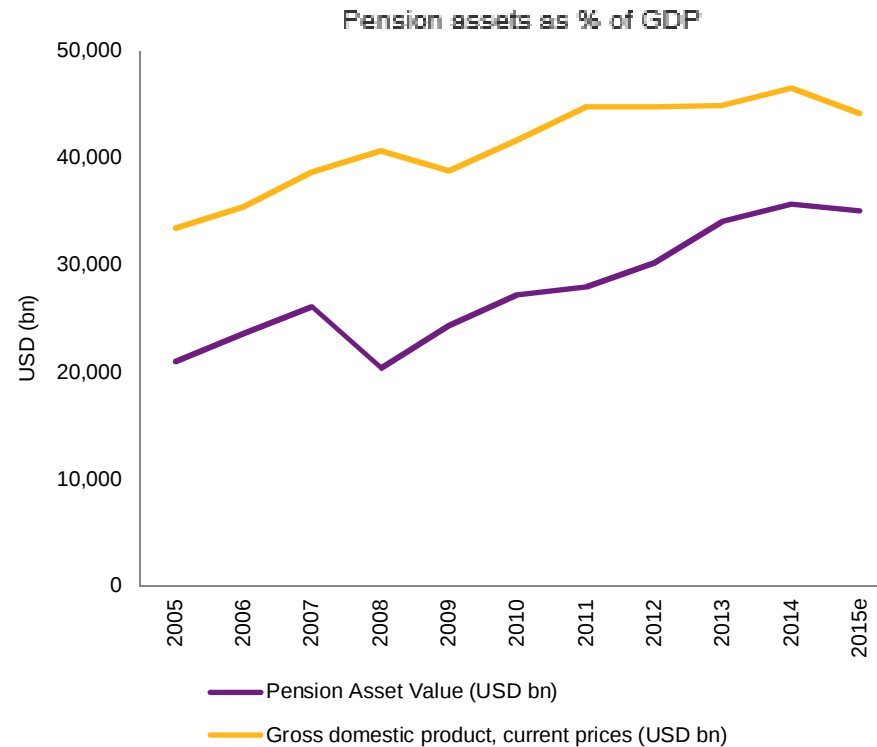
Source: Willis Towers Watson and secondary sources

Pension assets as % of GDP



Global pension assets VS. GDP in USD

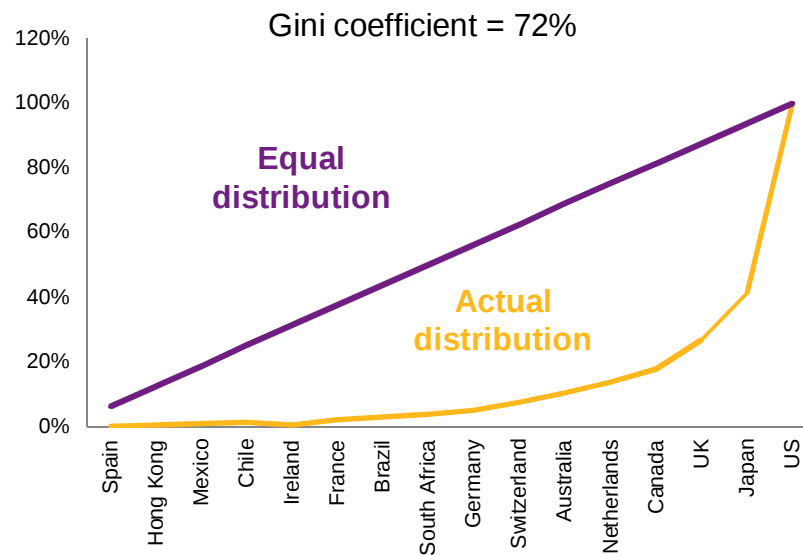
- The total pension assets to GDP ratio reached 80.3% at the end of 2015.
- The Netherlands has the highest ratio of pension assets to GDP (184%) followed by the US (121%), Australia (120%) Switzerland (119%), Chile (118%) .
- During the last 10 years, the pension assets to GDP ratio increased the most in Netherlands, Chile, Australia, UK, and the US (75, 57, 35, 32 and 27 percentage points respectively). It declined in Brazil, South Africa and Switzerland during the same period.



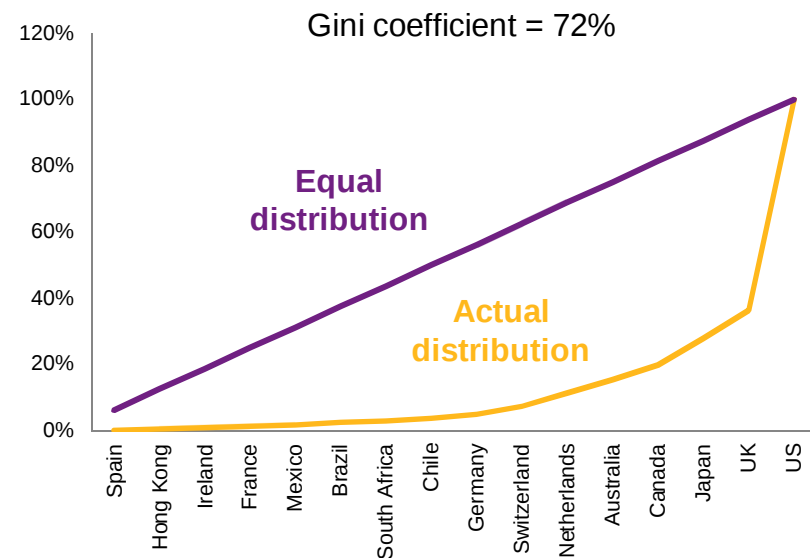
Note: World GDP measured in USD and market GDP in Local Currency
Source: Willis Towers Watson and secondary sources

Gini coefficient - global pension assets 2005 vs 2015

Lorenz curve for pension assets in 2005



Lorenz curve for pension assets in 2015



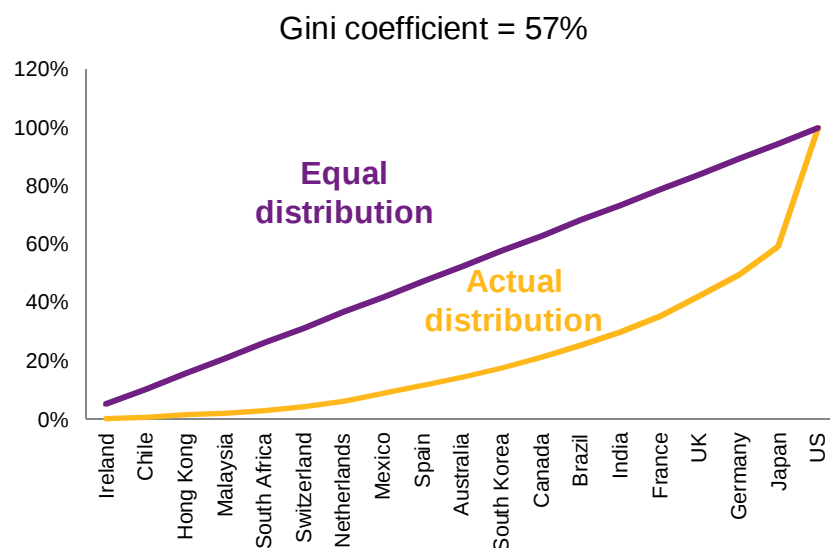
- The Gini coefficient of global pension assets in 2015 was 72.1% which indicates the pension assets are still concentrated in relatively few countries.
- The global pension market has been largely unchanged over the last 10 years, revealed by a higher Gini coefficient (72.4%) in 2005.

Note: India, Malaysia and South Korea are not included in the analysis

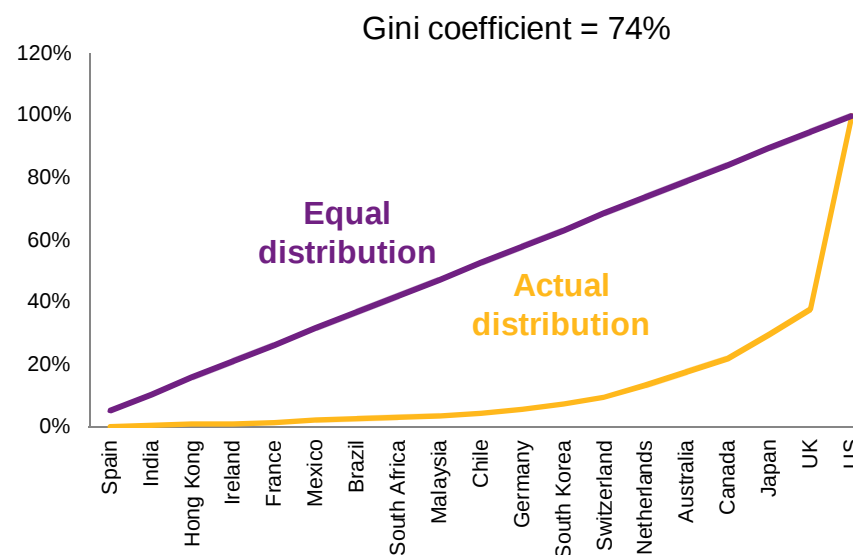
Source: Willis Towers Watson and secondary sources

Gini coefficient - pension assets vs GDP

Lorenz curve for GDP in 2015



Lorenz curve for pension assets in 2015

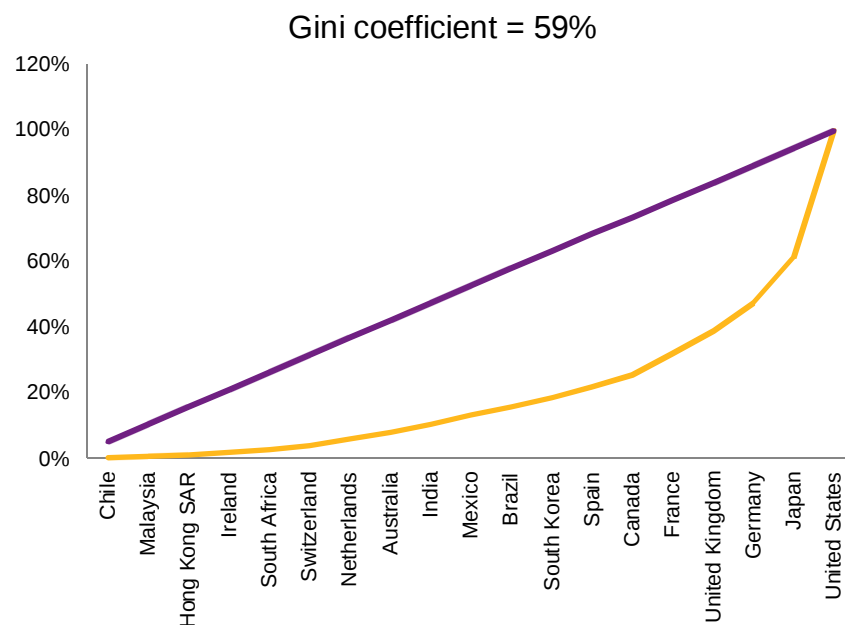


- The lower Gini coefficient for GDP (56.8%) relative to pension market size (73.8%) suggests that the global pension asset pool is more concentrated than what would be suggested by their GDP levels. This could be explained by a number of factors including but not limited to a more developed capital market and a more mature pension system within the larger countries.

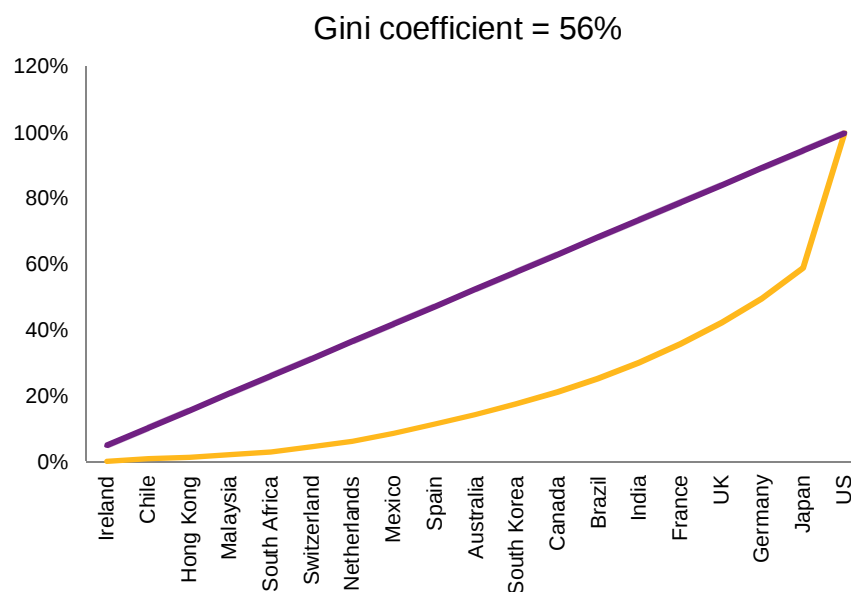
Source: Willis Towers Watson and secondary sources

Gini coefficient - GDP 2005 vs. 2015

Lorenz curve for GDP in 2005



Lorenz curve for GDP in 2015

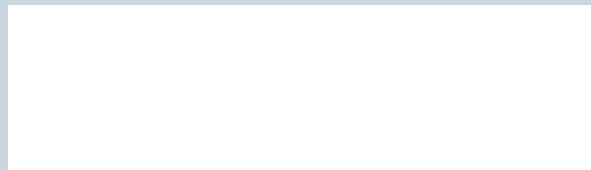


- The Gini coefficient for GDP has dropped over the last 10 years, from 59.0% in 2005 to 56.2% in 2015, showing a less concentrated GDP for the countries included in this analysis.

Source: Willis Towers Watson and secondary sources

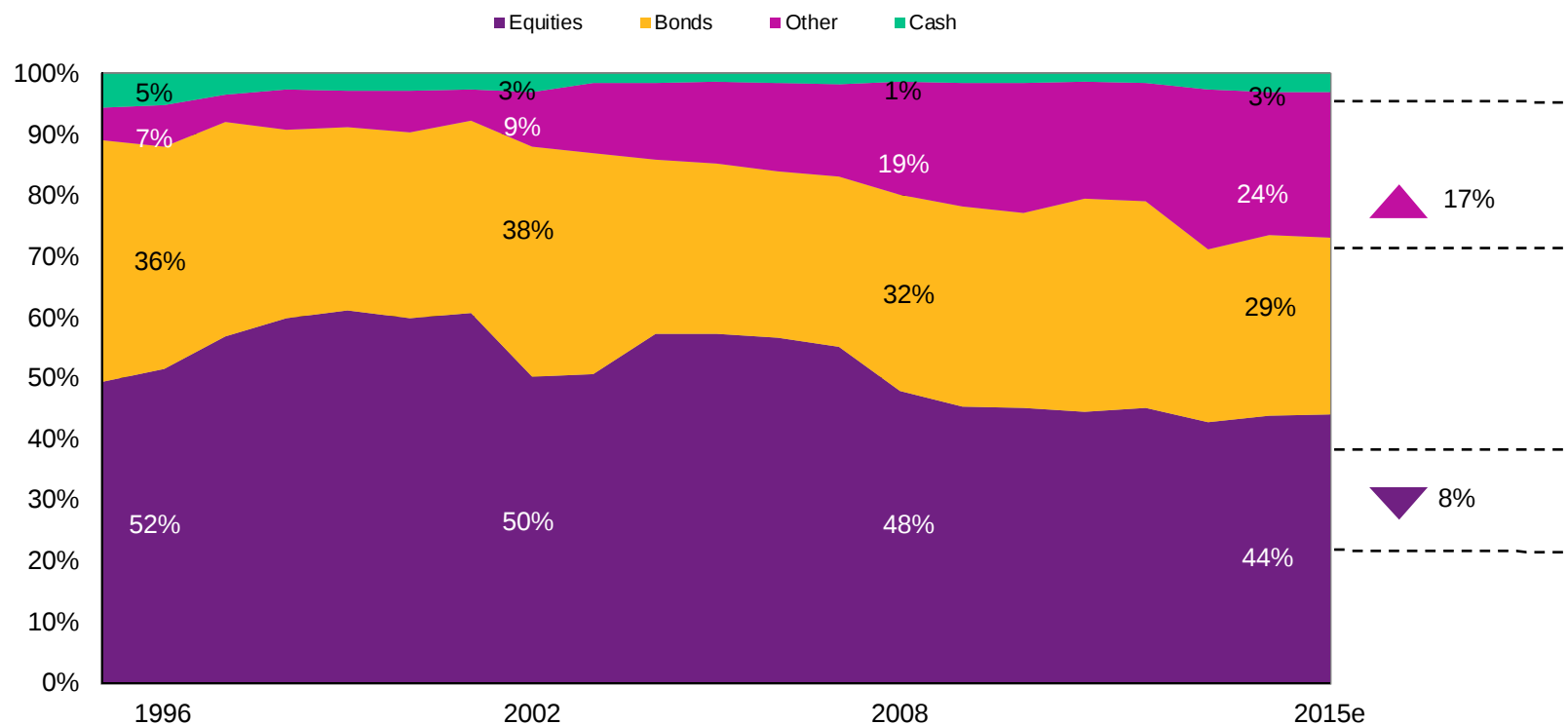
Global Pension Assets Study 2016

2. Asset allocation (P7)



Pension asset allocation

Aggregate P7 asset allocation from 1996 to 2015

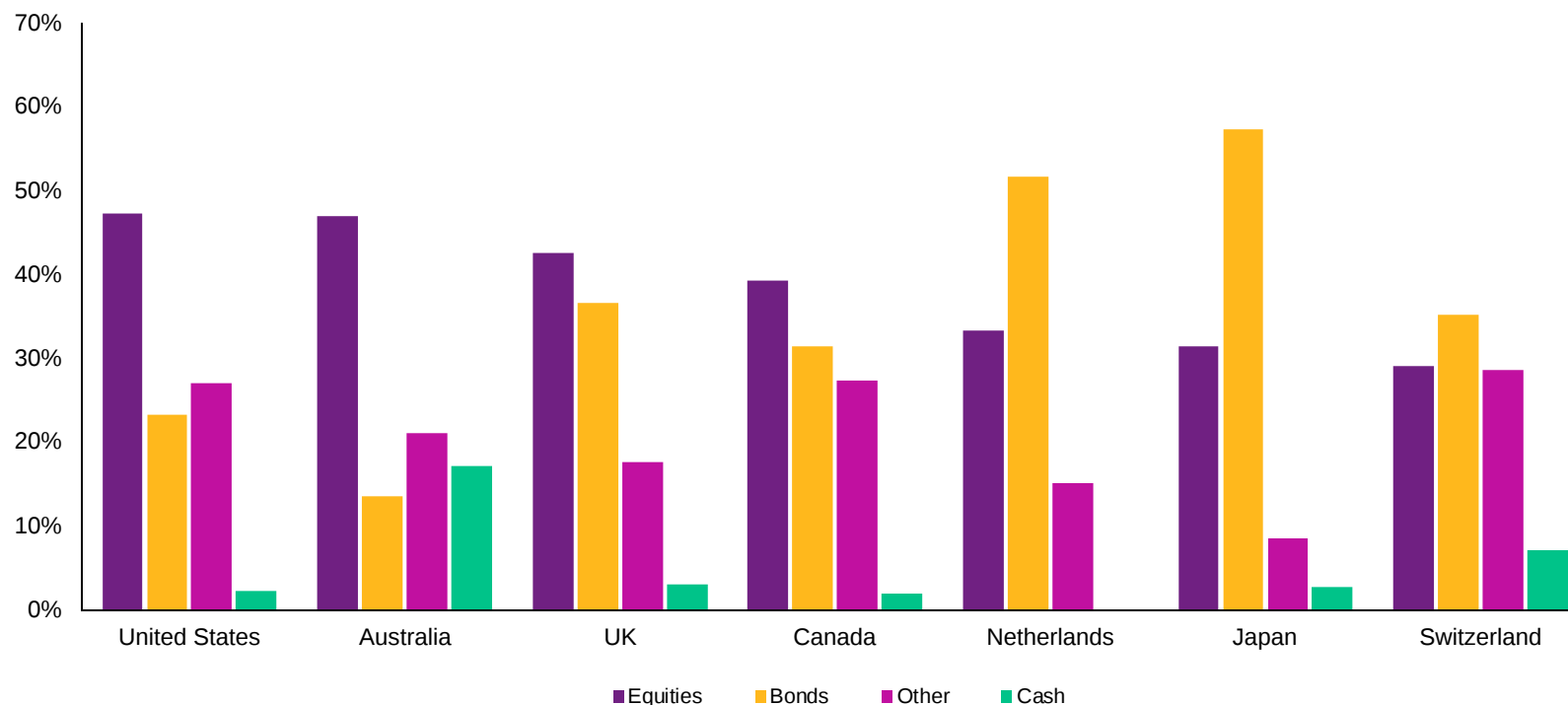


- Since 1996, bonds, equities and cash allocations have been reduced to varying degrees while allocations to other assets (real estate and other alternatives) have increased from 7% to 24%.
- Pension fund assets managed by the top 100 alternative asset managers amount to USD 1,425.3 billion in 2015 according to Willis Towers Watson's [Global Alternatives Survey](#).

Source: Willis Towers Watson and secondary sources

Pension asset allocation

P7 in 2015

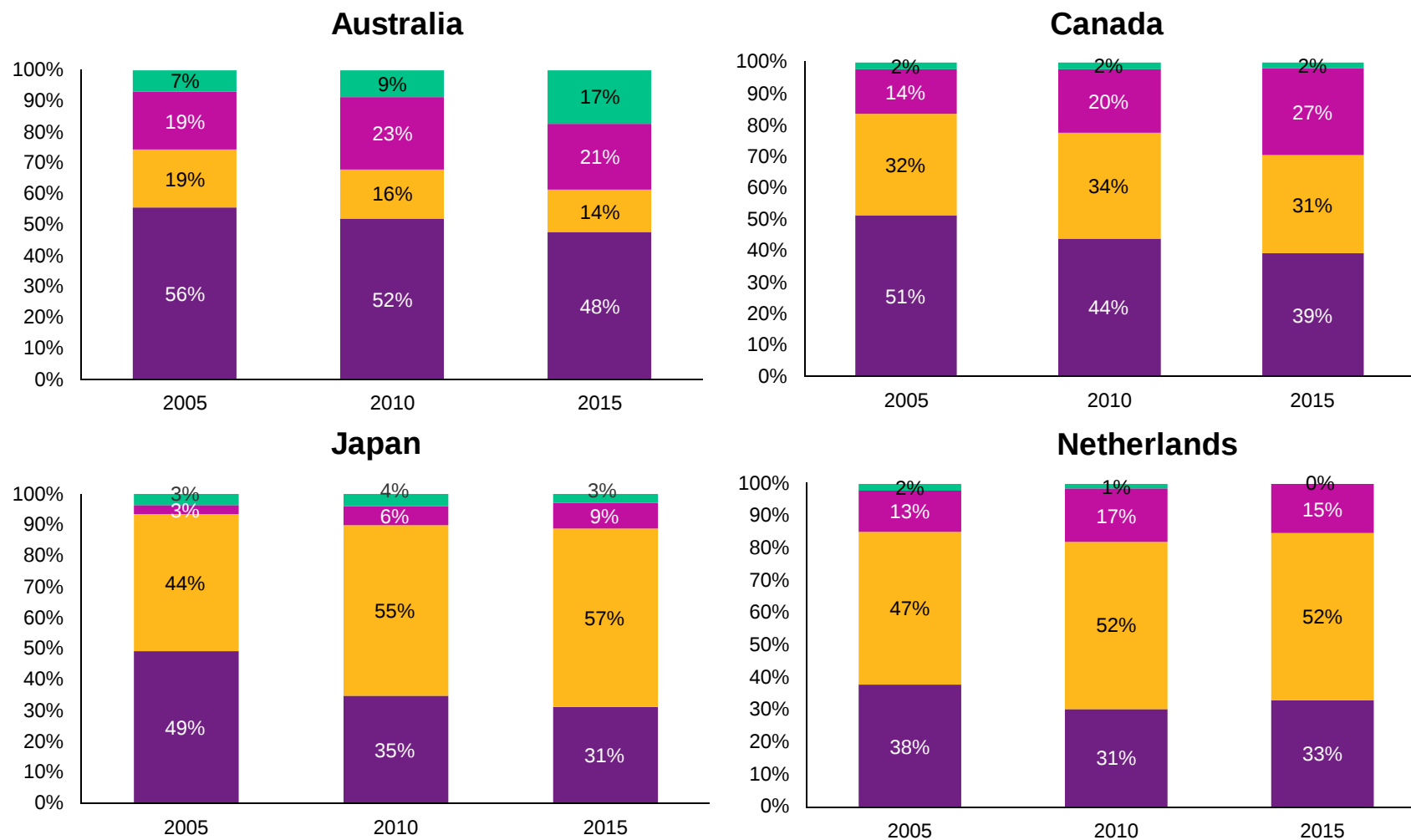


- In 2015, Australia, the UK and the US continued to have above average equity allocations.
- The Netherlands and Japan have above average exposure to bonds, while Switzerland has the most even allocations across equities, bonds and other assets.

Source: Willis Towers Watson and secondary sources

Pension asset allocation

Aggregate – end 2005 versus end 2010 versus end 2015



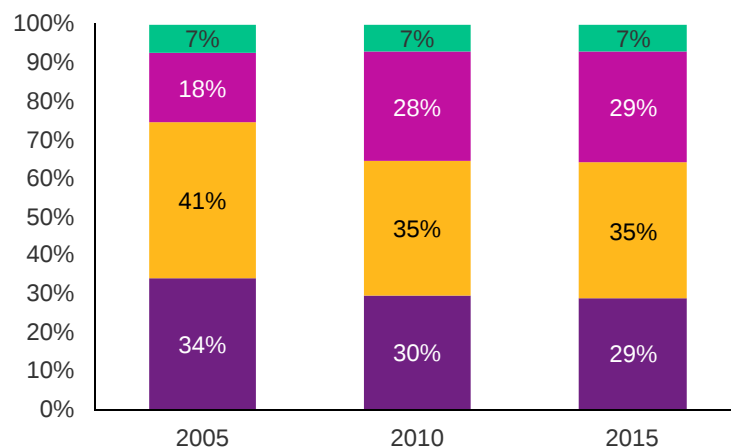
Source: Willis Towers Watson and secondary sources

Equities Bonds Other Cash

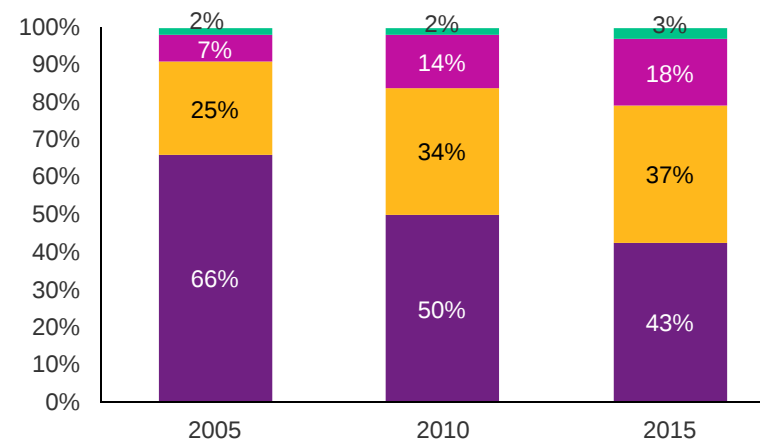
Pension asset allocation

Aggregate – end 2005 versus end 2010 versus end 2015

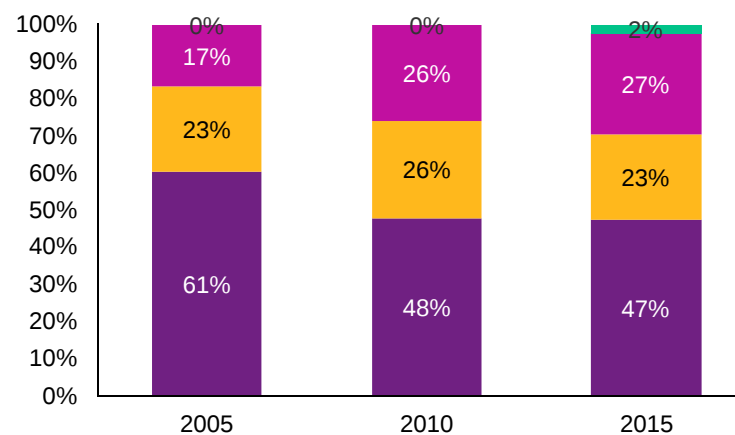
Switzerland



UK



US



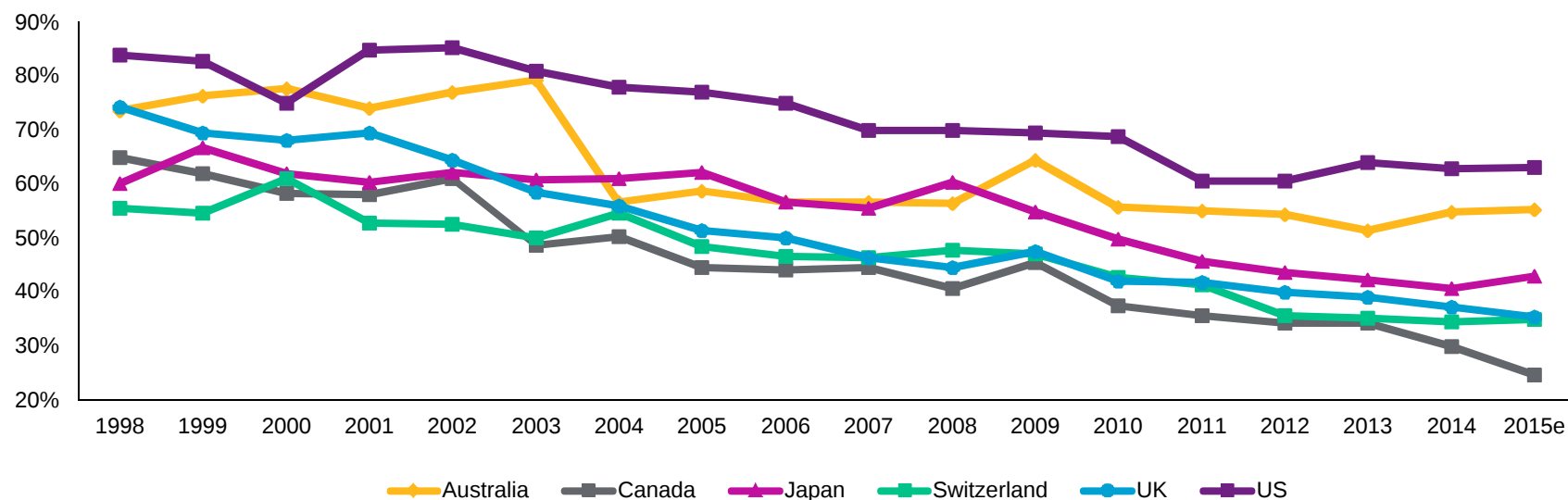
Source: Willis Towers Watson and secondary sources

Equities Bonds Other Cash

Pension asset allocation

Domestic equity exposure

Domestic equity over total equity exposure



- There is a clear sign of a reduced home bias in equities, as the weight of domestic equities has fallen, on average, from 64.7% in 1998 to 42.9% in 2015.
- Over the past 10 years, US has had the highest allocation to domestic equities, while Canada has the lowest allocation.

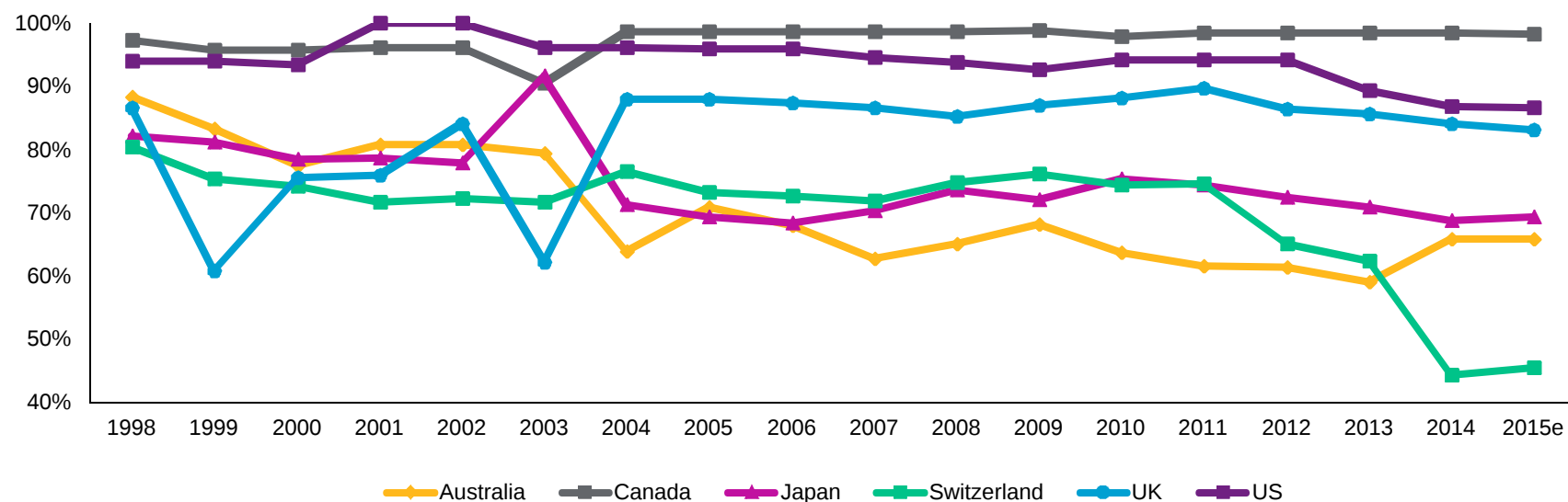
Note: The Netherlands is not included in this analysis due to a lack of historical data.

Source: Willis Towers Watson and secondary sources

Pension asset allocation

Domestic bonds exposure

Domestic bonds over total bond exposure



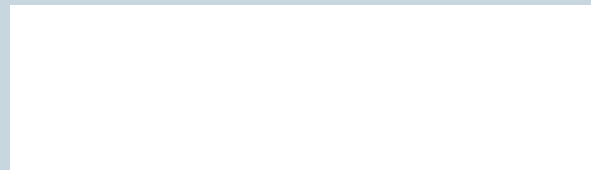
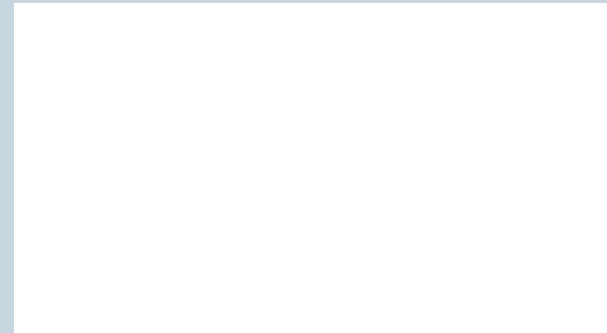
- The allocation to domestic bonds has remained high. On average, the allocation to domestic bonds as a percentage of total bonds was 88.2% in 1998 and 76.3% in 2015.
- Canada and the US have the highest allocation to domestic bonds, while Switzerland has the highest foreign bond exposure.

Note: The Netherlands is not included in this analysis due to a lack of historical data.

Source: Willis Towers Watson and secondary sources

Global Pension Assets Study 2016

3. DB/DC Split (P7)



DB/DC asset split

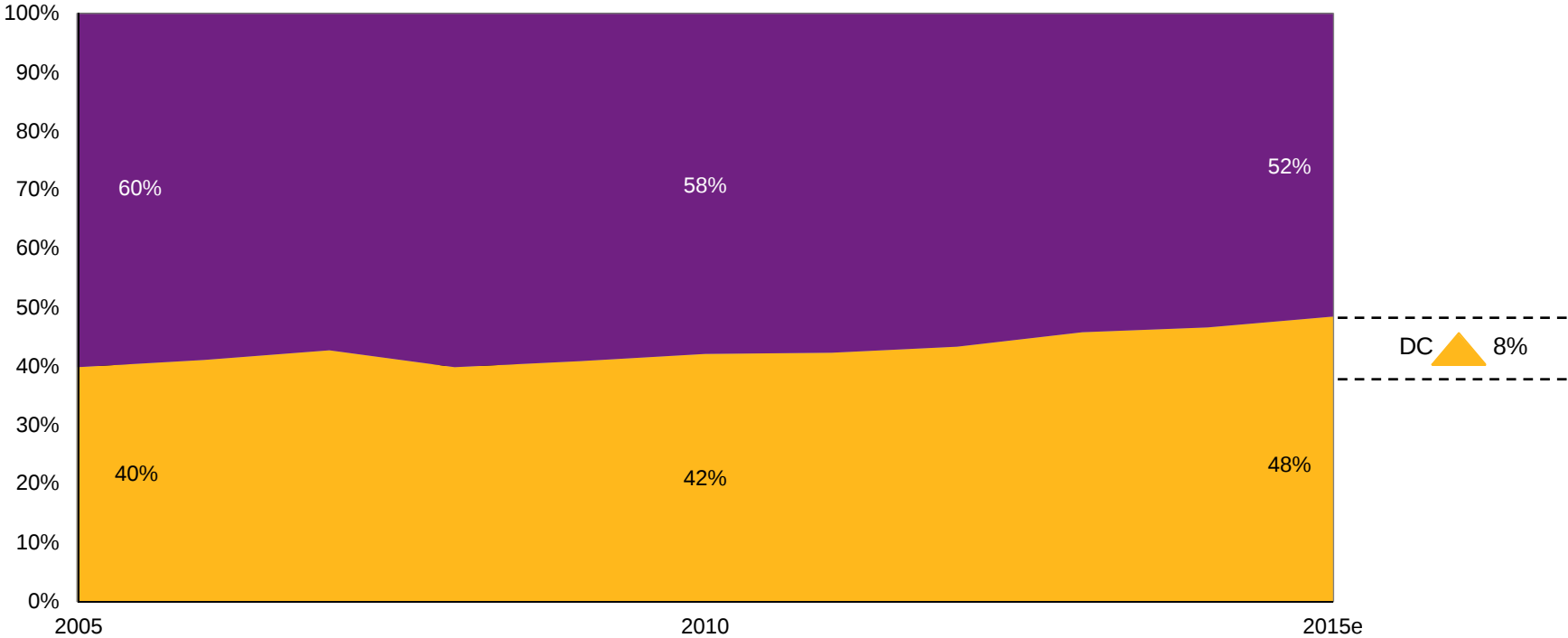
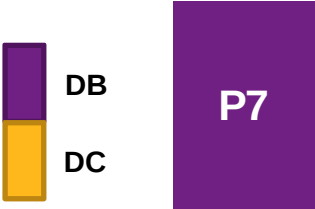
Change over the past years

- Countries with a higher allocation to DC assets in 2015 were Australia with 86.6% and the US with 59.7%.
- Japan, Canada and the Netherlands only have 3.8%, 4.5% and 5.0% respectively in DC assets in 2015.
- DC pension assets have grown from 39.9% in 2005 to 48.4% in 2015.
- During the last 10 years, DC assets have grown at a rate of 7.1% pa while DB assets have grown at a slower pace of 3.4% pa.

Source: Willis Towers Watson and secondary sources

DB/DC asset split

Change over the last 10 years

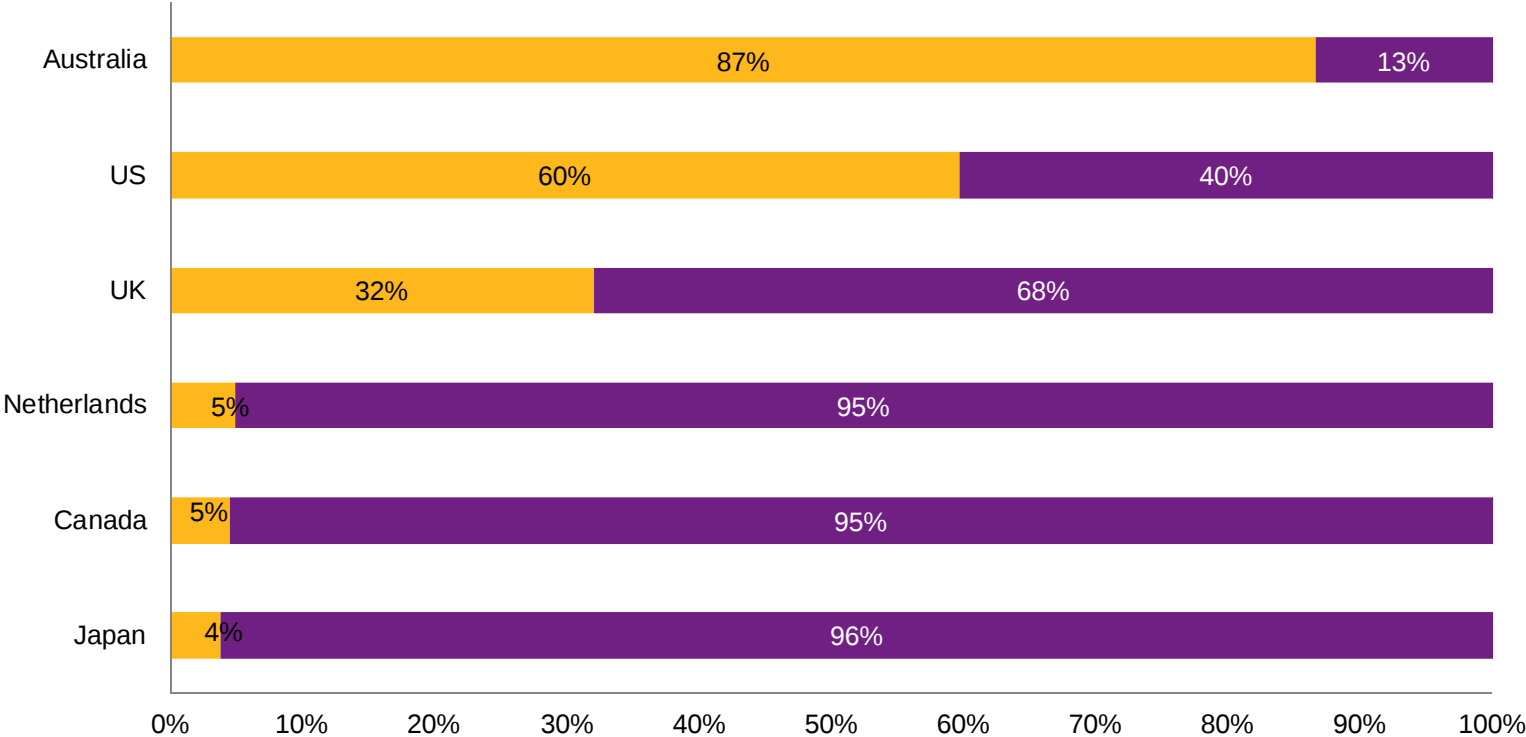
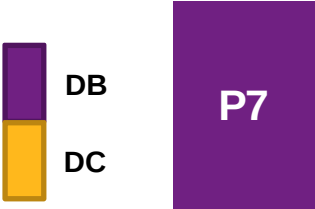


Note: In Switzerland, DC stands for cash balance, where the plan sponsor shares the investment risk and all assets are pooled. There are almost no pure DC assets where members make an investment choice and receive market returns on their funds. Therefore, Switzerland is excluded from this analysis.

Source: Willis Towers Watson and secondary sources

DB/DC asset split per market

P7 in 2015



Note: In Switzerland DC stands for cash balance, where the plan sponsor shares the investment risk and all assets are pooled. There are almost no pure DC assets where members make an investment choice and receive market returns on their funds. Therefore, Switzerland is excluded from this analysis.

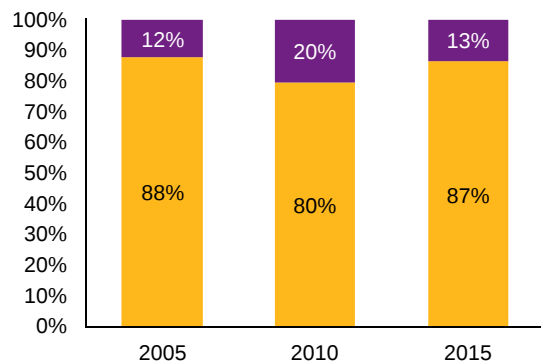
Source: Willis Towers Watson and secondary sources

DB/DC asset split per market

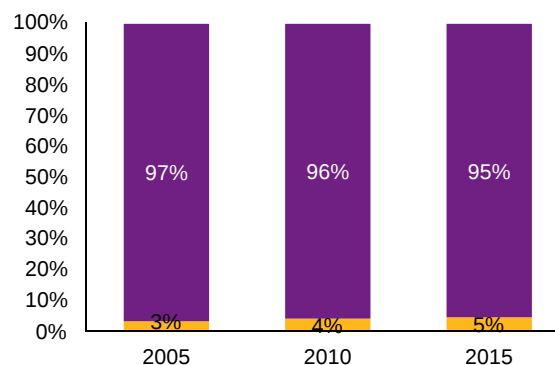
End 2005 versus end 2010 versus end 2015



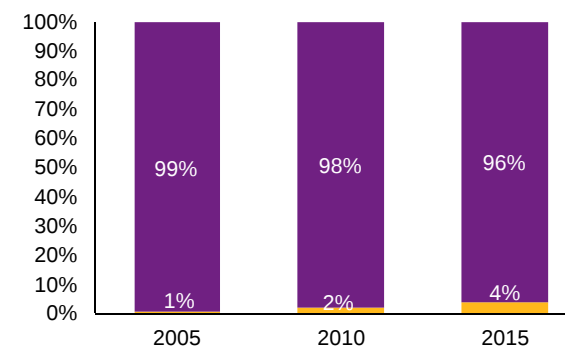
Australia



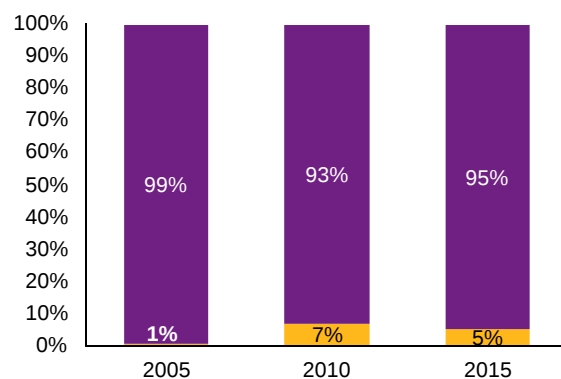
Canada



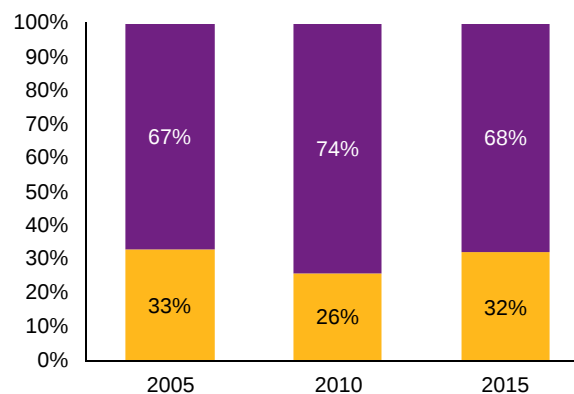
Japan



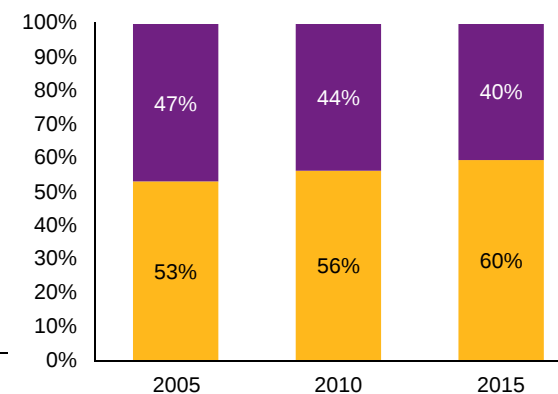
Netherlands



UK



US

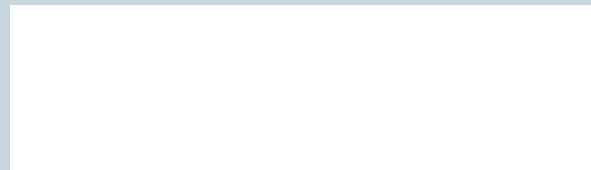
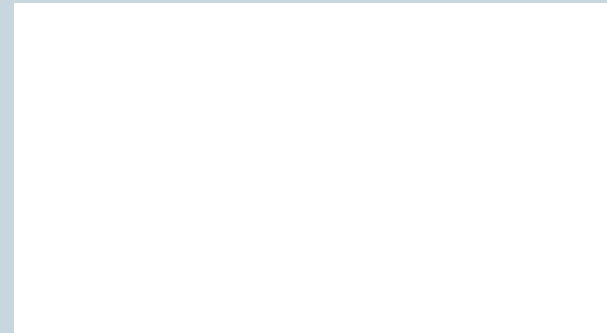


Note: In Switzerland DC stands for cash balance, where the plan sponsor shares the investment risk and all assets are pooled. There are almost no pure DC assets where members make an investment choice and receive market returns on their funds. Therefore, Switzerland is excluded from this analysis.

Source: Willis Towers Watson and secondary sources

Global Pension Assets Study 2016

4. The faces of change



The faces of change

Six medium-term factors growing in influence on pension fund development

1. **Improvements in governance**

Improved recognition of return on governance feeds through in increased attention and growing focus on performance from all sources; more talent attracted to Chief Investment Officer role at funds.

2. **Risk management focus**

Funds' focus on risk intensifies, with two separate groups: those where the appetite for risk is trimmed from previous levels, and those needing risk for their situation.

3. **Pension design, towards a DC model**

DC becomes the dominant global model with its attendant risk transfer causing tension in the balance of ownership and control.

4. **Pressure for talent**

Strong competition for talent among funds, particularly on the leadership level, despite the reduced short-term demands as a result of the financial crisis.

5. **New value chain**

A more effective "value chain" will emerge, where expense on various activities has a better value proposition than exists today. The use of passive approaches and smart betas is leading to modest fee compression.

6. **ESG and stranded assets**

The move towards more integrated approaches to managing ESG (Environment, Social and Governance) factors and better stewardship exercised over ownership is gathering pace; this will require the support of increased disclosure, measurement and analysis of extra-financial factors.

Carbon emissions and reserves

Increased consideration of sustainability data

- Pension funds seek to be sustainable as long-term institutions with inter-generational responsibilities codified in their fiduciary duty. The generalised mission statement for pension funds is meeting their commitments securely, affordably and sustainably.
- This makes them keen to make sure that their present strategies are not acting to diminish their future outcomes.
- This new trend involves assessing something that is low precision in measurement but high impact in materiality; ESG factors rarely yield accurate unambiguous data, but they are capable of being estimated and interpreted.

Carbon emissions

- A new data point for the Study this year explores the carbon emissions of the aggregate pension assets which can be assembled by corporate disclosures.
- Alongside privately-owned corporations there are state-owned entities and nation-state entities that contribute around 60% of global carbon emissions.

Fossil fuel reserves

- The political will to contain temperature change to 2°Celsius is captured in a 'Carbon Budget' that would allow burning only up to one-third of the current known fossil fuel reserves by 2050.
- This results in the remaining fossil fuel reserves becoming 'stranded' and never generating the value corporations and investors currently ascribe to them.

Carbon emissions from pension fund assets

Total P19 emissions = \$3.1bn tonnes

Source: MSCI, Willis Towers Watson
A combination of bottom up corporate disclosures with top down asset allocation produces the overall estimate.
Based on public equity calculations only.

Carbon emissions and reserves

Increased consideration of sustainability data

- Most analyses to date, as well as the UNFCCC structure, consider responsibility for climate change in terms of nation-states. Shifting the perspective from nation-states to corporate entities – both investor-owned and state-owned companies – opens new opportunities for those entities to become part of the solution rather than passive (and profitable) bystanders to continued climate disruption.
- Social pressures may be brought to bear on investor-owned entities, which could work as an additional lever to push action to reduce greenhouse gas emissions or remove CO₂ from the atmosphere.
- Energy companies have strong financial incentives to produce and market their booked reserves and oppose efforts to leave their valuable assets in the ground, but social and legal pressures may shift these incentives.

Methodology

Asset Estimation

- In this analysis we seek to provide estimates of pension fund assets (i.e. assets whose official primary purpose is to provide pension income). This data is comprised of:
 - Hard data typically as of year-end 2014 (except for Australia and Brazil which is from June 2015 and the UK for which part of the data was available as of December 2010) collected by Willis Towers Watson and from various secondary sources.
 - Estimates as at year-end 2015 based on index movements.
- Before 2006, we focused only on 'institutional pension fund assets', primarily 2nd pillar assets (occupational pensions). Since 2006, the analysis has been slightly widened, incorporating DC assets (IRAs) within US's total pension assets. The objective was to better capture retirement assets around the globe and expand the analysis into the 3rd pillar (individual savings) universe, which is primarily being used for pensions purposes in many markets. Furthermore, this innovation enables us to estimate the global split between DB and DC assets.
- UK's methodology changed as of 2012. The source of data has been changed to be based on information published by Office for National Statistics and other secondary sources.

Comparison with GDP

- This section compares total pension fund assets within each market to GDP sourced from the IMF.

Contact details and limitations of reliance

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Limitations of reliance

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