Global Pension Asset Study 2011

Towers Watson

February 2011

towerswatson.com

Global Pension Asset Study 2011

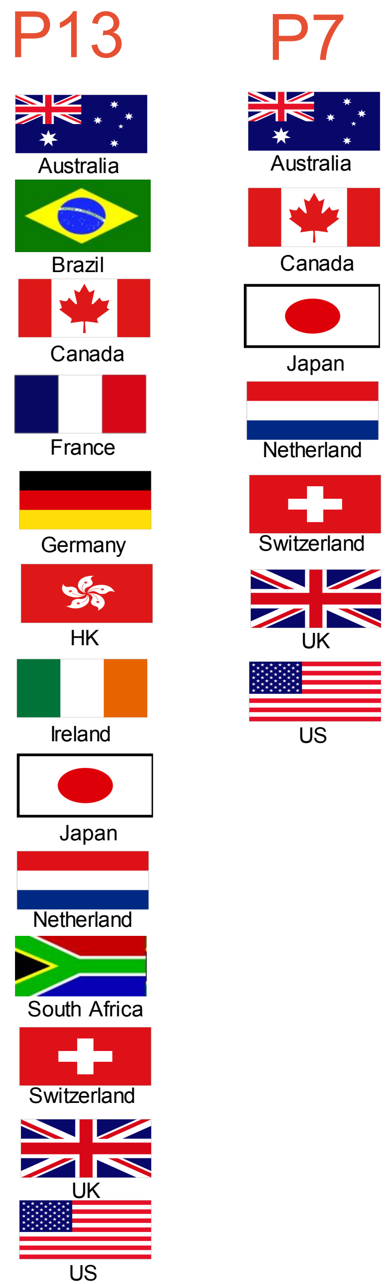
Executive summary

towerswatson.com

Global Pension Asset Study 2011

Survey coverage

- The study covers 13 major pension markets, where pension assets total USD 26,496 bn and account for 76% of the GDP of these economies. We use the shorthand ‘P13’ to denote them.
- We analyse seven markets in greater depth by excluding the six smallest markets (Brazil, France, Germany, Ireland, Hong Kong and South Africa) and use the shorthand ‘P7’ to denote them. P7 assets are over 95% of the P13.
- The analysis is divided into four sections:
  - Asset size, including growth statistics, comparison of asset size with GDP and liabilities (P13)
  - Asset allocation (P7)
  - DB and DC share of pension assets (P7)
  - Public and Private sector share of pension assets (P7)
- The methodology used to project any one-year growth rate does not capture the net contribution and focuses only on changes driven by investment returns.



Global Pension Asset Study 2011

Key findings

P13 pension assets at the end of 2010

- At the end of 2010 pension assets for the 13 markets in the study were estimated at USD 26,496 bn, representing a 12% rise compared to the 2009 year-end value.
- Global pension assets reached a record high this year. Nonetheless, in terms of pension assets to GDP they reached 76% in 2010, still below the 2007 level of 78%.
- In 2010, pension assets rose in almost all markets in the study in USD terms, with the exception of Ireland (sovereign debt crisis) and France (partly driven by a depreciated Euro).
- The largest pension markets are the US, Japan and the UK with 58%, 13% and 9% of total pension assets in the study, respectively.
- South Africa saw the largest growth rate of pension assets (28%) in USD terms during 2010.
- 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 due to currency effects.

Global Pension Asset Study 2011

Key findings

P7 DB/DC allocation at the end of 2010

- During the last 10 years DC assets have grown at a rate of 7.5% pa while DB assets have grown at a much slower pace of 2.9% pa.
- Currently DC assets represent 44% of total pension assets compared to 40% in 2005 and 35% in 2000. This shows an established trend towards the growing dominance of DC pensions.
- The markets with a larger proportion of DC assets are Australia, Switzerland and the US, while Japan remains essentially 100% DB. The Netherlands, also historically only DB, is now showing signs of a shift to DC.

P7 asset allocation at the end of 2010

- At the end of 2010 the average global asset allocation of the seven largest markets was 47% equities, 33% bonds, 1% cash and 19% other assets (including property and other alternatives).
- The asset allocation pattern remains very similar for the global pension market compared to the end of 2009. Allocations to bonds stayed practically unchanged. Allocations to equities grew slightly at the expense of cash and other investments.
- UK, US and Australia have higher allocations to equities than the rest of the markets. More conservative investment strategies – more bonds and less equities – occur in Japan, the Netherlands and Switzerland.

The current pension fund watch list

Commentary on current issues		Watch out in 2011 for…	Long-term trend
Risk management	Expanded and more expansive view of risk, identifying greater allowance for extreme events and the softer elements of risk with respect to credit and liquidity	Increased attention to risk and risk management processes	Constant reshaping of the way the risk is understood and measured & managed accordingly
Manager	New view on a manager's role as part of a holistic portfolio	Less emphasis on tracking error and more on scenario risks	More managers with smaller mandates put together by a defined portfolio construction process
DC	Greater attention given to meeting plan participants' expectations, particularly with respect to retirement planning	Focus on risk exposure in investment defaults and design of lifecycle strategies	Aggregation to lower costs Improved technology delivering life planning tools
Cost structure	Development towards a more effective "food chain" where expense on various activities has a better value proposition	More negotiations on fees, seeking to improve alignments through better fee design	More effective structure that holds managers to account in a more disciplined form and presents a better balance between asset owners' internal resource and their external agents
Governance	Improved recognition of return on governance driving increased attention and focus on risk management	Growth in fiduciary management appointments	Further change in organisational design – non-executive boards, delegated executives, fiduciary management

Global Pension Asset Study 2011

Key findings - figures

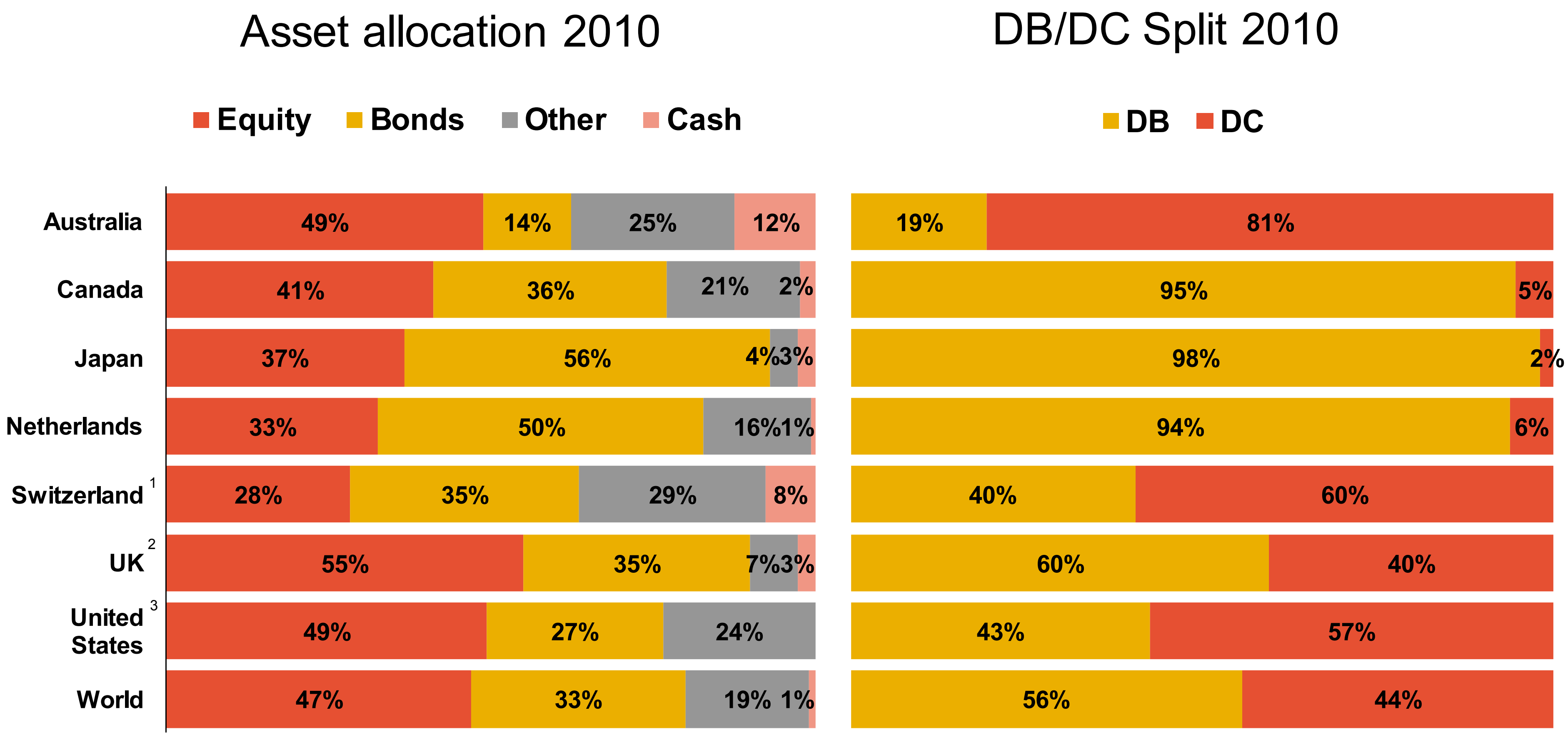
	Total Assets 2010 (USD billion)	% GDP
Australia	**1,261**	**103%**
Brazil	**342**	**17%**
Canada	**1,140**	**73%**
France	**133**	**5%**
Germany	**471**	**14%**
Hong Kong	**87**	**38%**
Ireland	**100**	**49%**
Japan	**3,471**	**64%**
Netherlands	**1,032**	**134%**
South Africa	**256**	**72%**
Switzerland	**661**	**126%**
UK [1]	**2,279**	**101%**
US [2]	**15,265**	**104%**
Total	**26,496**	**76%**

Source: Towers Watson and secondary sources
Assets/GDP ratio for the world is calculated in USD and assets were estimated as of 31 Dec 2010

[1] Excludes Personal and Stakeholder DC assets
[2] Includes IRAs

Global Pension Asset Study 2011

Key findings - figures



Source: Towers Watson and secondary sources
Assets/GDP ratio for the world is calculated in USD and assets were estimated as of 31 Dec 2010

[1] DC assets in Switzerland are for cash balance plans not defined contribution plans

[2] Excludes Personal and Stakeholder DC assets
[3] Includes IRAs

2011 Global Pension Asset Study

1. Asset size

Asset size and growth statistics
Comparison of asset size with GDP and liabilities

towerswatson.com

Global pension assets

Evolution 2000-2010 – USD billions

P13

- Global pension assets in 2010 reached USD 26,496 bn, up almost 12% compared to the previous year.
- This growth is largely explained by the good performance of financial markets around the world.
- The US remains the largest market in terms of pension assets. It is followed, at significant distance, by Japan and the UK. Together they account for almost 80% of total assets.
- The smallest markets are, in descending order, Brazil, South Africa, France, Ireland and Hong Kong.

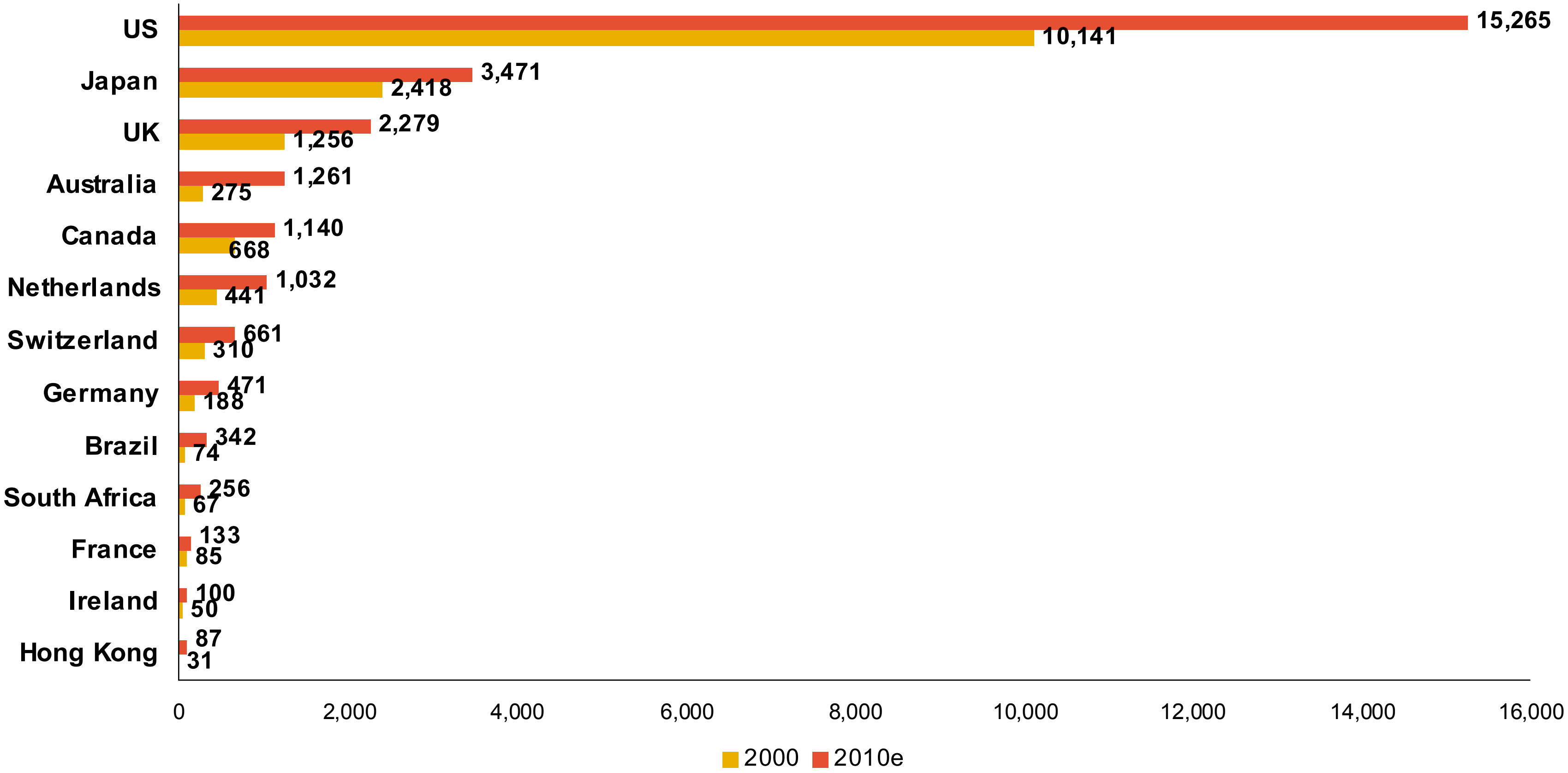
Market	Total assets (USD billion) Year end 2000	Total assets (USD billion) Year end 2010e
Australia	275	1,261
Brazil	74	342
Canada	668	1,140
France	85	133
Germany	188	471
Hong Kong	31	87
Ireland	50	100
Japan	2,418	3,471
Netherlands	441	1,032
South Africa	67	256
Switzerland	310	661
UK [1]	1,256	2,279
US [2]	10,141	15,265
Total	**16,004**	**26,496**

Source: Towers Watson and secondary sources

[1] Excludes Personal and Stakeholder DC assets
[2] Includes IRAs

Global pension assets

Evolution 2000-2010 – USD billion



Source: Towers Watson and secondary sources

Global pension assets

Relative weights of each market

- During the past decade pension assets in the US and Japan have decreased relative to other economies in their weights in the P13.
- Brazil has been the fastest growing market during the past decade, followed by Australia, which in 2010 rose to fourth place in the P13 dropping Canada into the fifth place.

Market	Relative weights of each market	
	End 2000	End 2010e
Australia	1.7%	▲ 4.8%
Brazil	0.5%	▲ 1.3%
Canada	4.2%	▲ 4.3%
France	0.5%	0.5%
Germany	1.2%	▲ 1.8%
Hong Kong	0.2%	▲ 0.3%
Ireland	0.3%	▲ 0.4%
Japan	15.1%	▼ 13.1%
Netherlands	2.8%	▲ 3.9%
South Africa	0.4%	▲ 1.0%
Switzerland	1.9%	▲ 2.5%
UK [1]	7.9%	▲ 8.6%
US [2]	63.4%	▼ 57.8%
P13	**100.0%**	**100.0%**

Source: Towers Watson and secondary sources

[1] Excludes Personal and Stakeholder DC assets
[2] Includes IRAs

Global pension assets growth rates

Compound annual growth rates – *local currency* – 2010e

- 5-year growth rates now range from -3.5% pa in Japan to 12.1% pa in Brazil, the fastest growing market in the study.
- Over the last 10 years, Japan saw a mere 0.2% growth rate pa, largely explained by the poor capital market return produced by its domestic market.

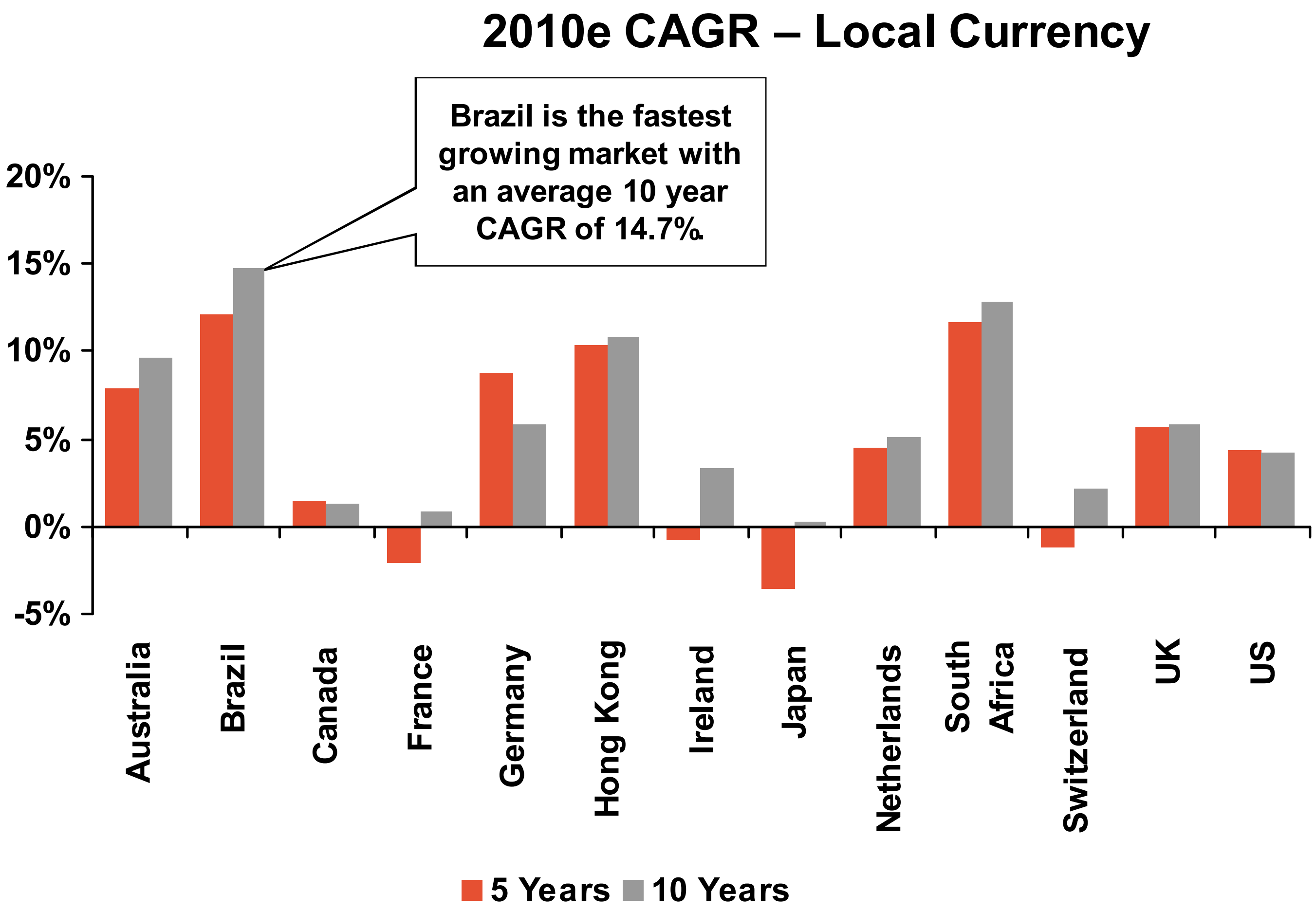
Market	Growth rates to 2010e (Local Currency)	
	5-year (31/12/05-31/12/10) CAGR	10-year (31/12/00-31/12/10) CAGR
Australia	7.9%	9.6%
Brazil	12.1%	14.7%
Canada[1]	1.5%	1.3%
France [1]	-2.1%	0.9%
Germany	8.7%	5.8%
Hong Kong	10.4%	10.8%
Ireland	-0.7%	3.4%
Japan	-3.5%	0.2%
Netherlands	4.5%	5.1%
South Africa	11.7%	12.8%
Switzerland	-1.2%	2.1%
UK [2]	5.7%	5.8%
US [3]	4.3%	4.2%
Average	**4.6%**	**5.9%**

Source: Towers Watson and secondary sources

[1] For France and Canada, 2009/2008 figure is disturbed due to change of methodology
[2] Excludes Personal and Stakeholder DC assets
[3] Includes IRAs

Global pension assets growth rates

Compound annual growth rates – *local currency*



Source: Tower Watson and secondary sources

Global pension assets growth rates

Compound annual growth rates – *USD*

- In 2010 global pension assets increased on average 12%, smaller than the 17% increase seen in 2009, measured in US dollar terms.
- The most rapidly growing pension markets during the last 10 years have been Brazil, Australia and South Africa.

Market	1-year (31/12/08-31/12/09) Actual	Growth rates to 2010e (USD)		
		1-year (31/12/09-31/12/10) CAGR[4]	5-year (31/12/05-31/12/10) CAGR	10-year (31/12/00-31/12/10) CAGR
Australia	54.4%	15.1%	15.3%	16.4%
Brazil	56.6%	16.1%	19.9%	16.5%
Canada[1]	5.1%	17.3%	4.6%	5.5%
France[1]	-13.4%	-0.3%	0.1%	4.5%
Germany	20.0%	3.6%	11.1%	9.6%
Hong Kong	12.4%	11.7%	10.3%	10.8%
Ireland	15.6%	-3.8%	1.5%	7.1%
Japan	-1.0%	15.6%	3.9%	3.7%
Netherlands	16.4%	4.1%	6.9%	8.9%
South Africa	42.0%	28.2%	10.6%	14.3%
Switzerland	13.4%	14.6%	5.7%	7.9%
UK[2]	46.7%	8.4%	3.5%	6.1%
US[3]	16.8%	11.2%	4.3%	4.2%
World	16.9%	11.6%	4.9%	5.1%

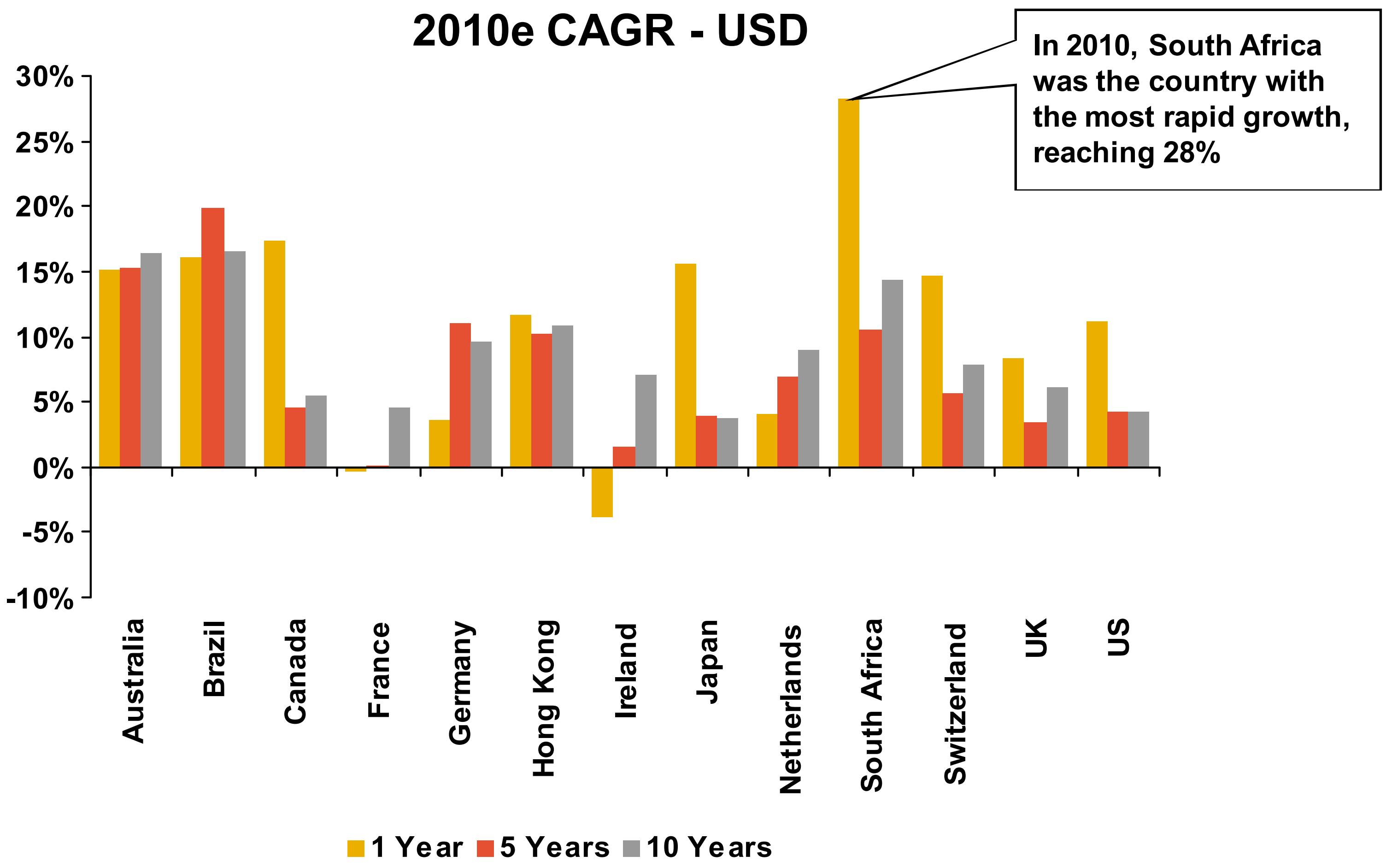
Source: Towers Watson and secondary sources

[1] For France and Canada, 2009/2008 figure is disturbed due to change of methodology
[2] Excludes Personal and Stakeholder DC assets
[3] Includes IRAs
[4] 1-year growth does not capture net contributions in markets

Global pension assets growth rates

Compound annual growth rates – *USD*

P13



Source: Towers Watson and secondary sources

Global pension assets growth rates

Currency impact

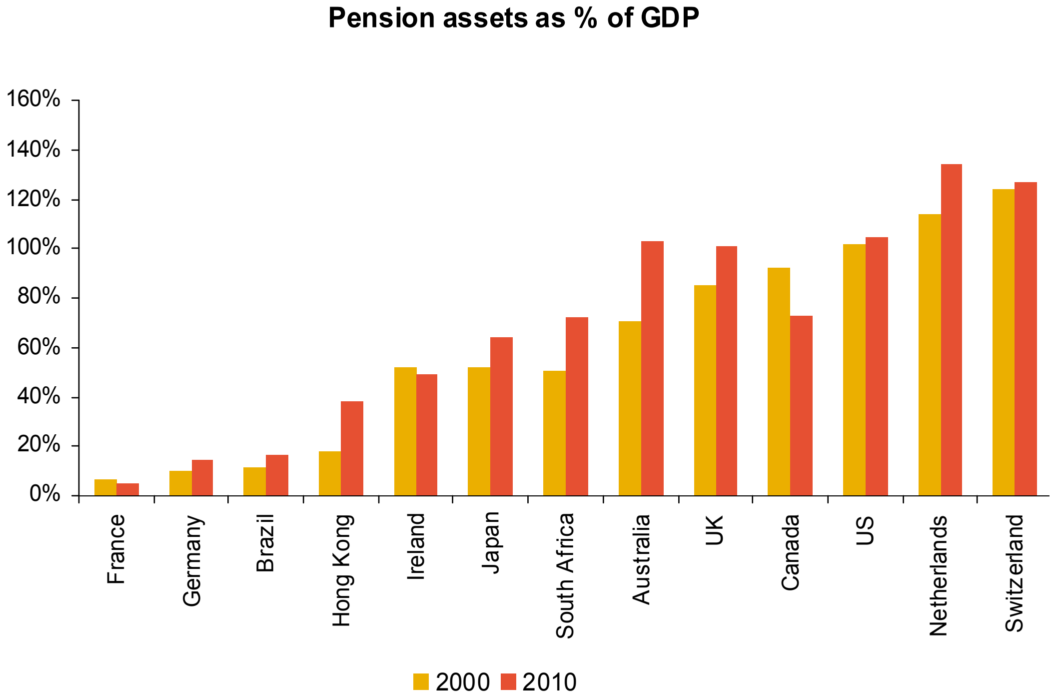
- During 2010 the Australian dollar, the Japanese yen, and the South African rand were the three currencies that appreciated the most against the USD, between 11.7% and 13.8%, thus making growth rates in USD appear much larger for these markets.
- Other currencies that appreciated against the USD were the Swiss franc (10.3%), the Canadian dollar (5.0%) and the Brazilian real (4.1%).
- Only the British pound (-2.9%) and the Euro (-7.5%) depreciated against the USD in 2010 (with Hong Kong Dollar still effectively pegged to USD).
- Over longer periods there has been a clear trend of a weakening USD relative to all other major currencies.
- During the last 10 years the Australian dollar saw the biggest appreciation (6.3% pa), while over the last 5 years the Japanese yen appreciated the most (7.6% pa).

Market	Variation in FX rates against USD		
	1-year (31/12/09-31/12/10)	5-year (31/12/05-31/12/10) CAGR	10-year (31/12/00-31/12/10) CAGR
Australia	13.8%	6.8%	6.3%
Brazil	4.1%	6.9%	1.6%
Canada	5.0%	3.1%	4.1%
France	-7.5%	2.3%	3.6%
Germany	-7.5%	2.3%	3.6%
Hong Kong	-0.4%	-0.1%	0.0%
Ireland	-7.5%	2.3%	3.6%
Japan	13.1%	7.6%	3.5%
Netherlands	-7.5%	2.3%	3.6%
South Africa	11.7%	-0.9%	1.4%
Switzerland	10.3%	6.9%	5.7%
UK	-2.9%	-2.1%	0.4%

Source: Towers Watson and secondary sources

Global pension assets vs. GDP in local currency

Market	Pension assets as % of GDP		
	2000	2010e	*Change* [1]
Australia	70%	103%	33%
Brazil	12%	17%	5%
Canada	92%	73%	-19%
France	6%	5%	-1%
Germany	10%	14%	4%
Hong Kong	18%	38%	20%
Ireland	52%	49%	-3%
Japan	52%	64%	12%
Netherlands	114%	134%	20%
South Africa	51%	72%	21%
Switzerland	124%	126%	2%
UK	85%	101%	16%
US	102%	104%	2%



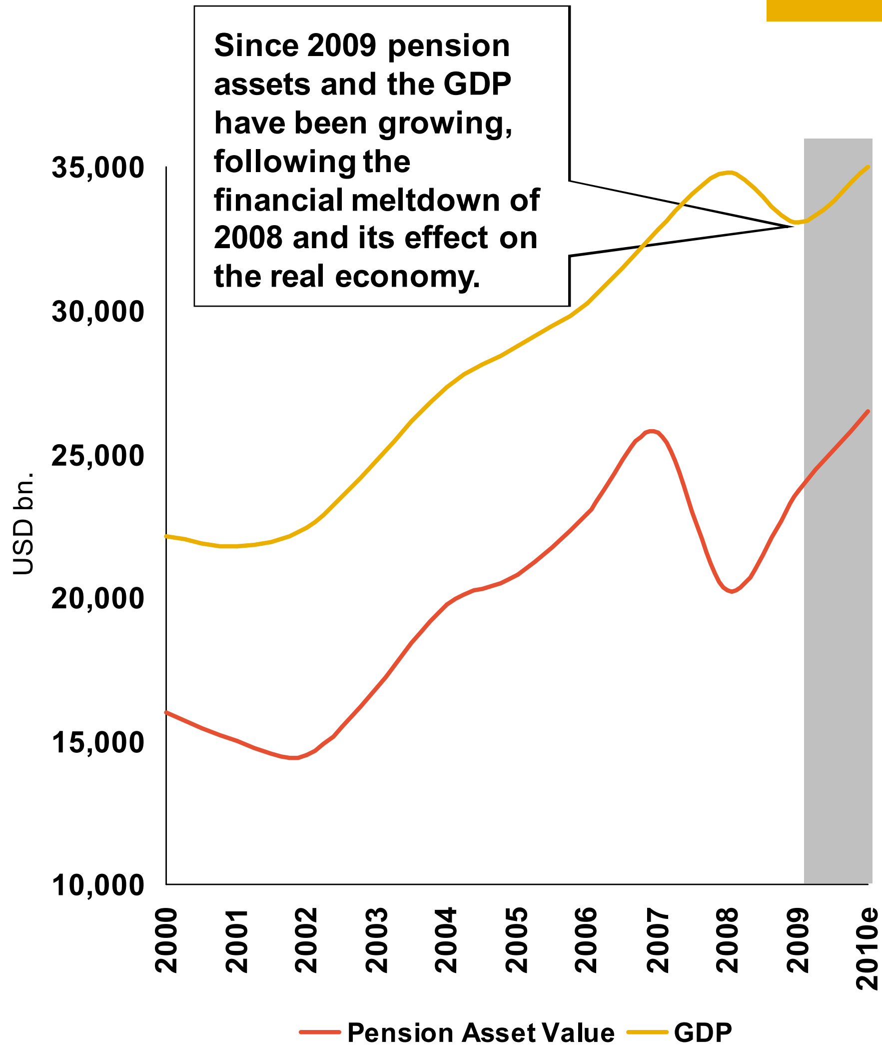
Source: Towers Watson and secondary sources/ GDP values in Local Currency from IMF

[1] In percentage points

P13

Global pension assets vs. GDP in USD

- Global pension assets to GDP ratio (P13) improved from 71% at the end of 2009 to 76% at the end of 2010 - still below its peak level of 78% reached at 2007 year-end.
- This was explained by the rapid recovery of capital markets compared to the real economy - while pension assets increased by 12%, the P13's GDP[1] increased by 6%.
- The Netherlands has the highest ratio of pension assets to GDP (134%) followed by Switzerland (126%) and the United States (104%).
- During the last 10 years, the pension assets to GDP ratio grew the most in Australia (33 percentage points) and South Africa (21 percentage points).

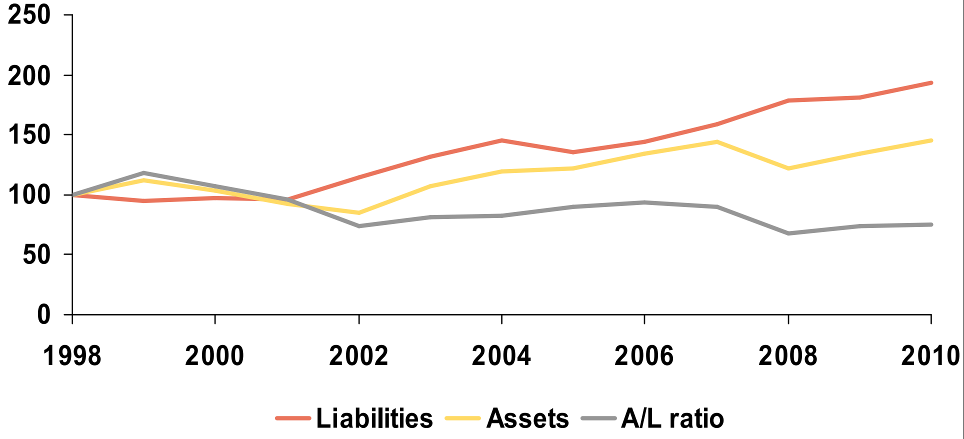


Source: Towers Watson, the IMF and secondary sources

[1] World GDP measured in USD and country GDP in Local Currency

DB asset/liability indicator – global basis

Index change from 31 December 1998



Year end	Liability increases relative to end 1998	Asset increases relative to end 1998	Asset liability indicator - cumulative change relative to end 1998	Asset liability indicator - change in year
2000	- 2.9 %	3.9 %	6.9 %	-9.7 %
2001	- 3.6 %	-7.4 %	-4.0 %	-10.2 %
2002	15.0 %	-15.2 %	-26.3 %	-23.2 %
2003	31.7 %	6.7 %	-19.0 %	9.9 %
2004	45.0 %	19.0 %	-18.0 %	1.3 %
2005	35.6 %	22.5 %	-9.6 %	10.2 %
2006	43.6 %	33.7 %	-6.9 %	3.0 %
2007	59.1 %	43.7 %	-9.7 %	-3.0 %
2008	78.2 %	21.5 %	-31.8 %	-24.5 %
2009	81.6 %	34.2 %	-26.1 %	8.4%
2010	93.3%	45.6%	-24.7%	2.0%

Source: Towers Watson and secondary sources

DB assets only within asset totals

UK assets exclude Personal and Stakeholder assets

US assets include IRAs in all periods.

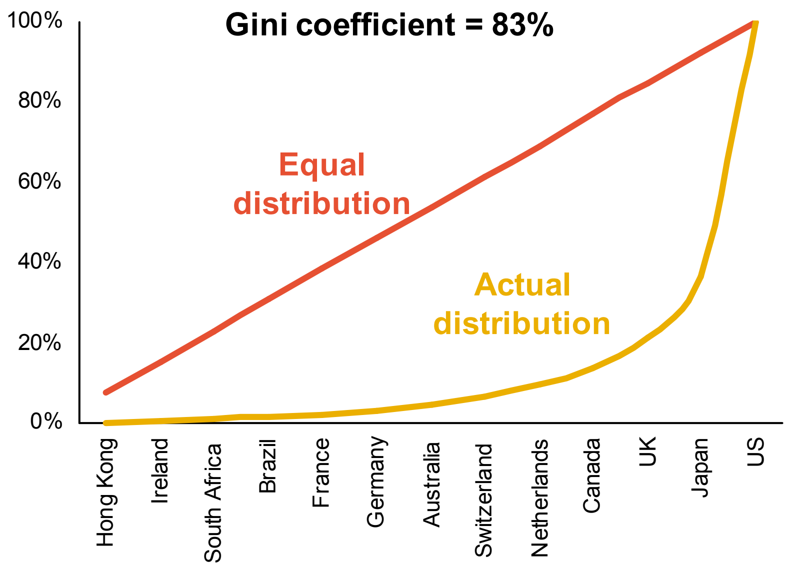
Brazil and South Africa are not considered in the analysis

Mortality changes are not incorporated in these figures

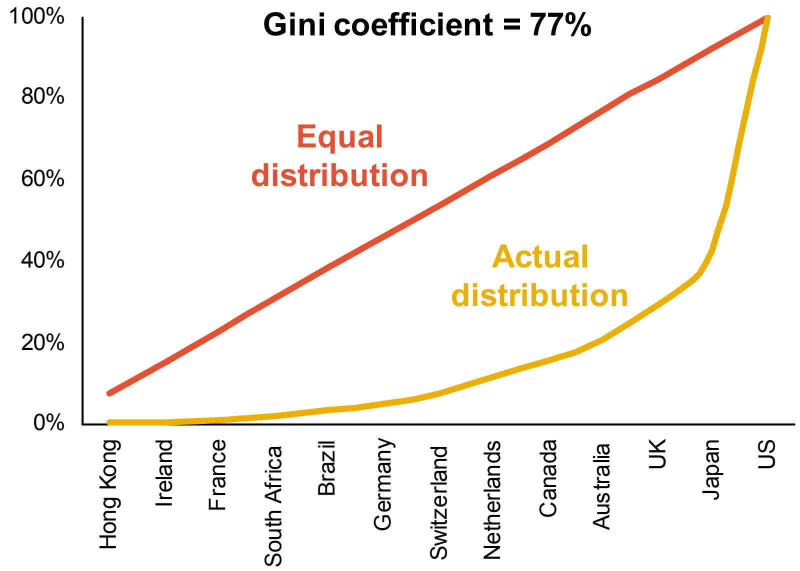
- Global pension fund balance sheets improved only slightly over 2010, gaining 2% in our asset/liability indicator despite a double-digital growth rate in the asset size.

Gini coefficient - global pension assets 2000 vs 2010

Lorenz curve for pension assets in 2000



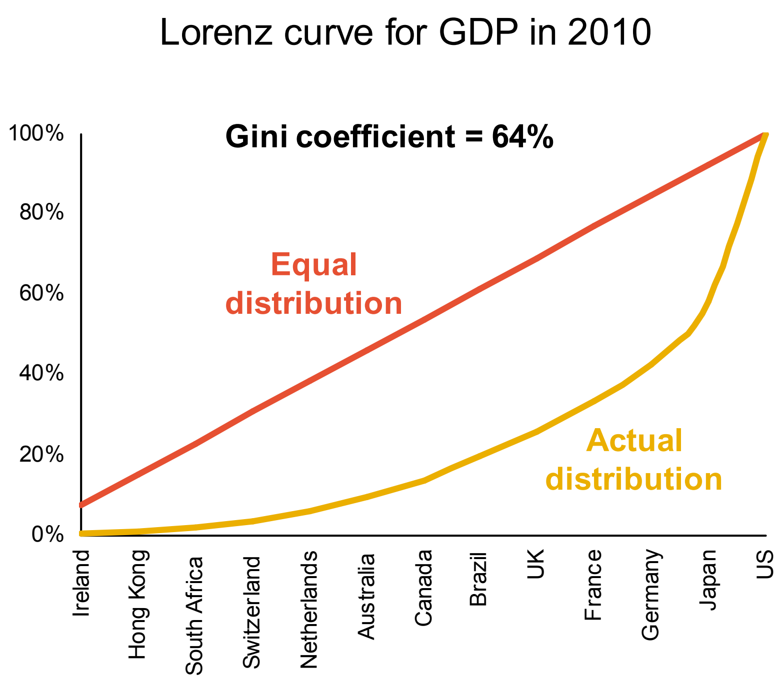
Lorenz curve for pension assets in 2010

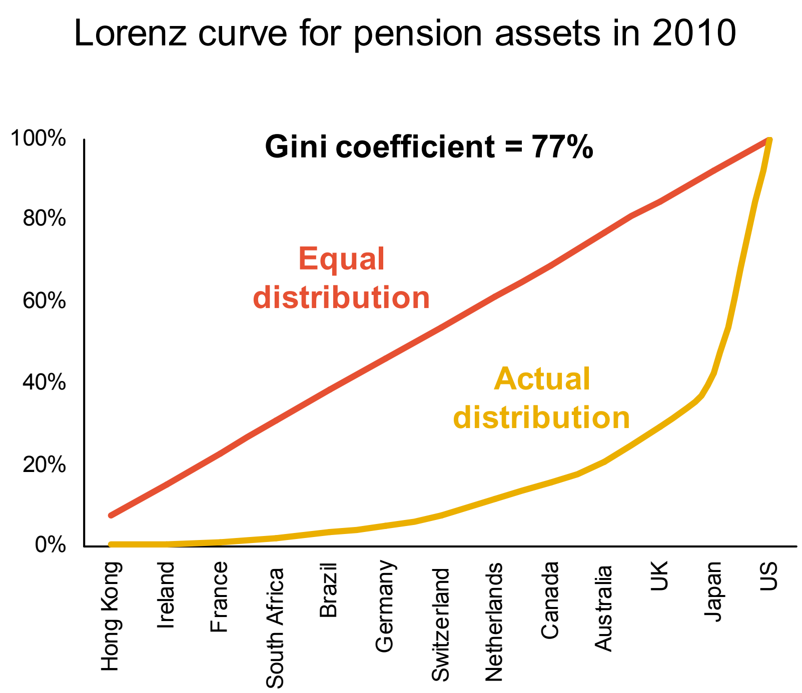


- The Gini coefficient of global pension assets as of 2010 was 77%, which indicates the P13 pension assets are still concentrated in relatively few markets.
- The global pension market has become less concentrated during the last 10 years, revealed by a higher Gini coefficient (83%) at 2000. This is in line with the observation that the largest pension markets – the US, Japan and the UK – were among the slowest growing markets in the last decade while some emerging markets – e.g. South Africa and Brazil – have been catching up very quickly.

Source: Towers Watson, the IMF and secondary sources

Gini coefficient - pension assets vs GDP





- The lower Gini coefficient for GDP (64%) relative to pension market size (77%) suggests that the global pension asset pool is more concentrated in a few large markets 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 leading markets.

Source: Towers Watson, the IMF and secondary sources

Methodology for this section

- In this survey 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 2009, collected by Towers Watson and from various secondary sources.
  - Estimates as at year-end 2010 based on index movements.
- Before 2006 we focused only on 'institutional pension fund assets', primarily 2nd pillar assets (occupational pensions). Since 2006, the survey 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 survey 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 assets exclude Personal and Stakeholder assets.

Comparison with GDP

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

Comparison with liabilities

- This section compares the evolution of *defined benefit* assets to the evolution of liabilities within each country
- Defined benefit assets are updated with capital contributions to the latest date for which we can obtain hard data for assets (typically year-end 2009). From that date onwards, defined benefit assets are simply updated for asset movements obtained using index estimates.
- We do not use hard figures for liabilities for any period and simply account for the change in liabilities that would result from changes in the corresponding government bond yields
- The asset/liability ratio for each market may change from year to year as prior DB asset totals and DB/DC splits are restated.

2011 Global Pension Asset Study

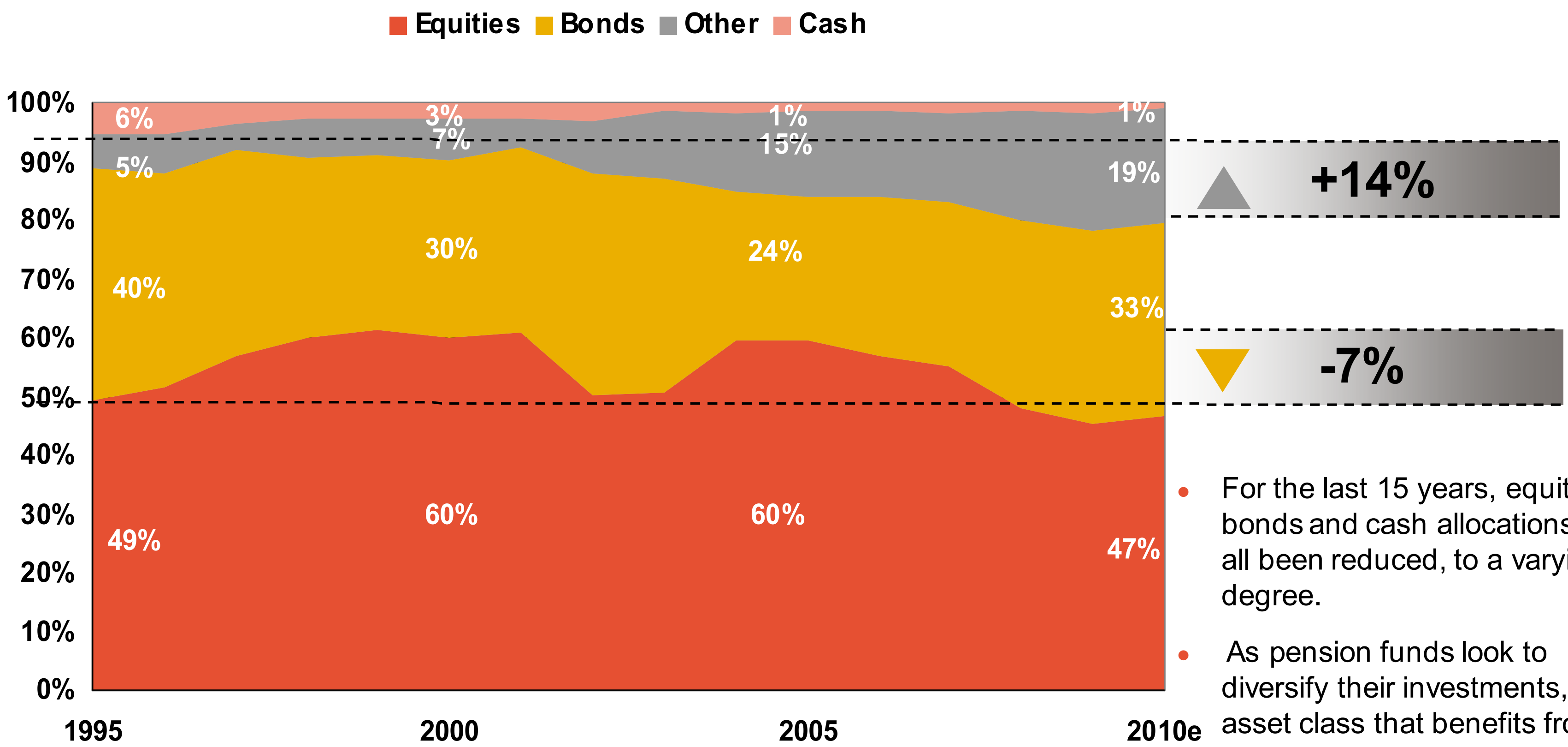
2. Asset allocation (P7)

towerswatson.com

P7

Pension asset allocation

Aggregate P7 asset allocation from 1995 to 2010



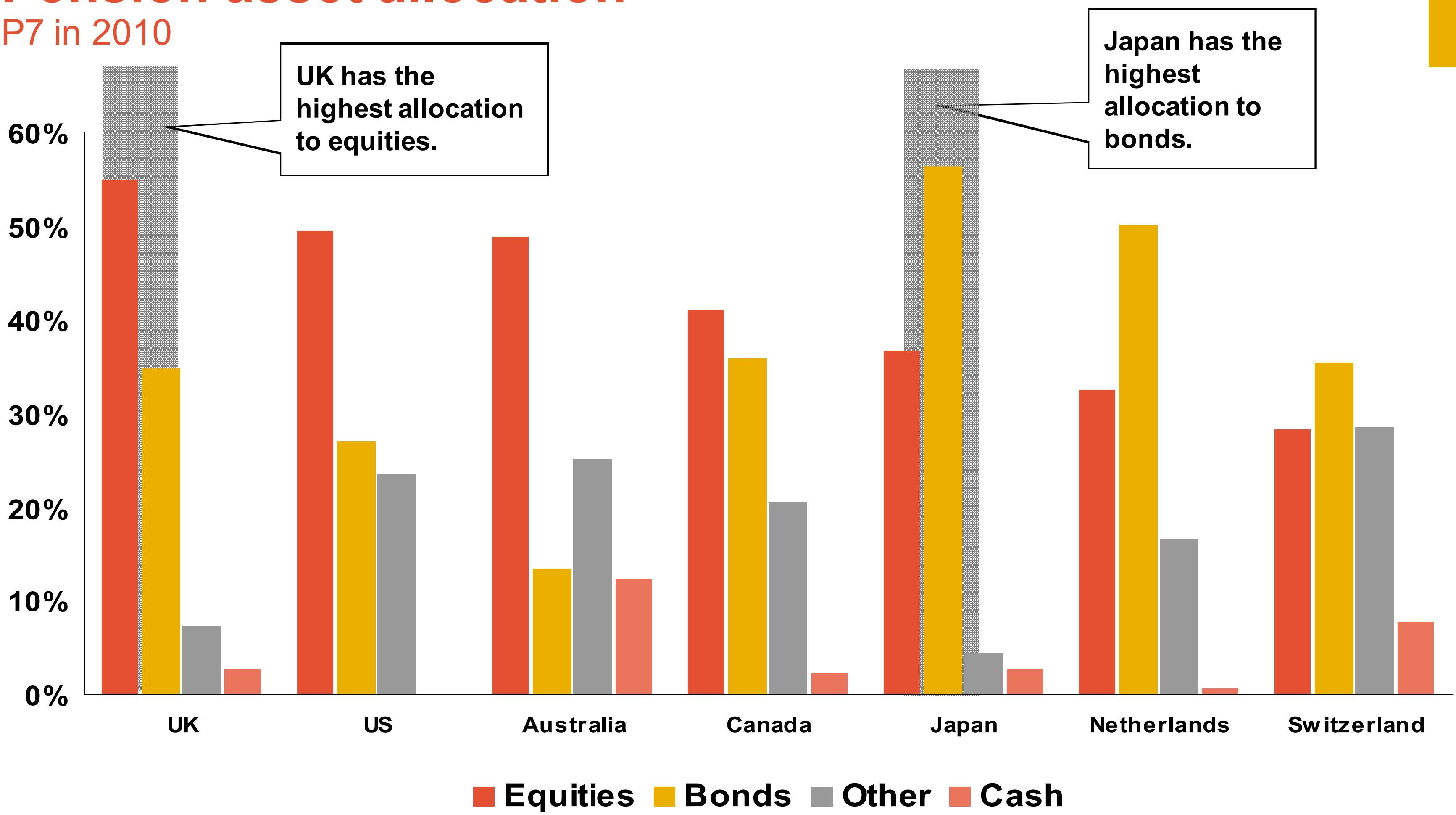
Source: Towers Watson and secondary sources

- For the last 15 years, equities, bonds and cash allocations have all been reduced, to a varying degree.
- As pension funds look to diversify their investments, the asset class that benefits from this trend is the "Other" category - including real estate, private equities and hedge funds etc – which saw its weight grow from 5% 15 years ago to 19% at 2010.

Pension asset allocation

P7 in 2010

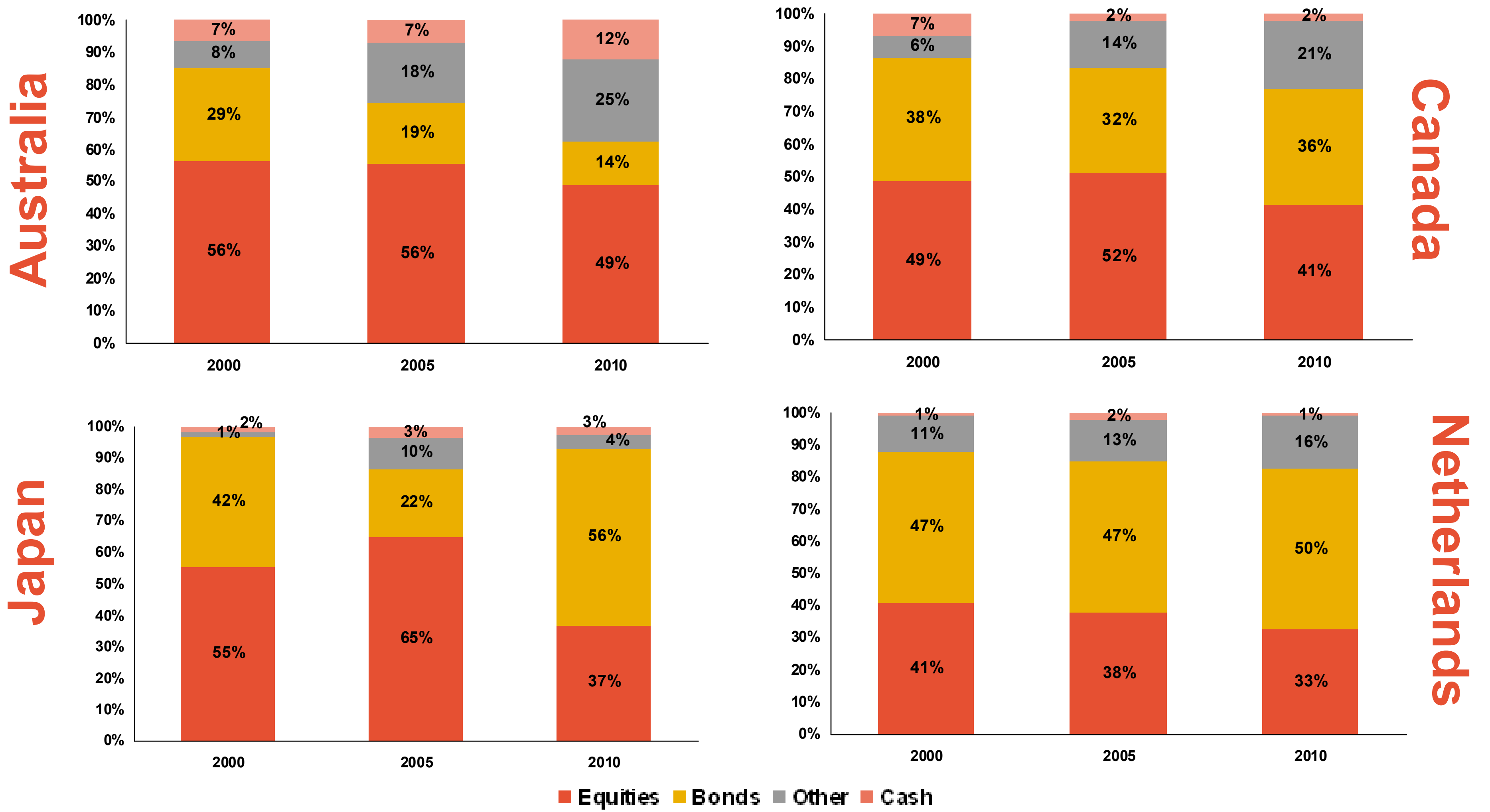
P7



- In 2010, the US, the UK and Australia continued to retain above average equity allocations, while Canada is now getting closer to them.
- On the other side, Japan and the Netherlands are the markets with higher than average exposure to bonds.

Pension asset allocation

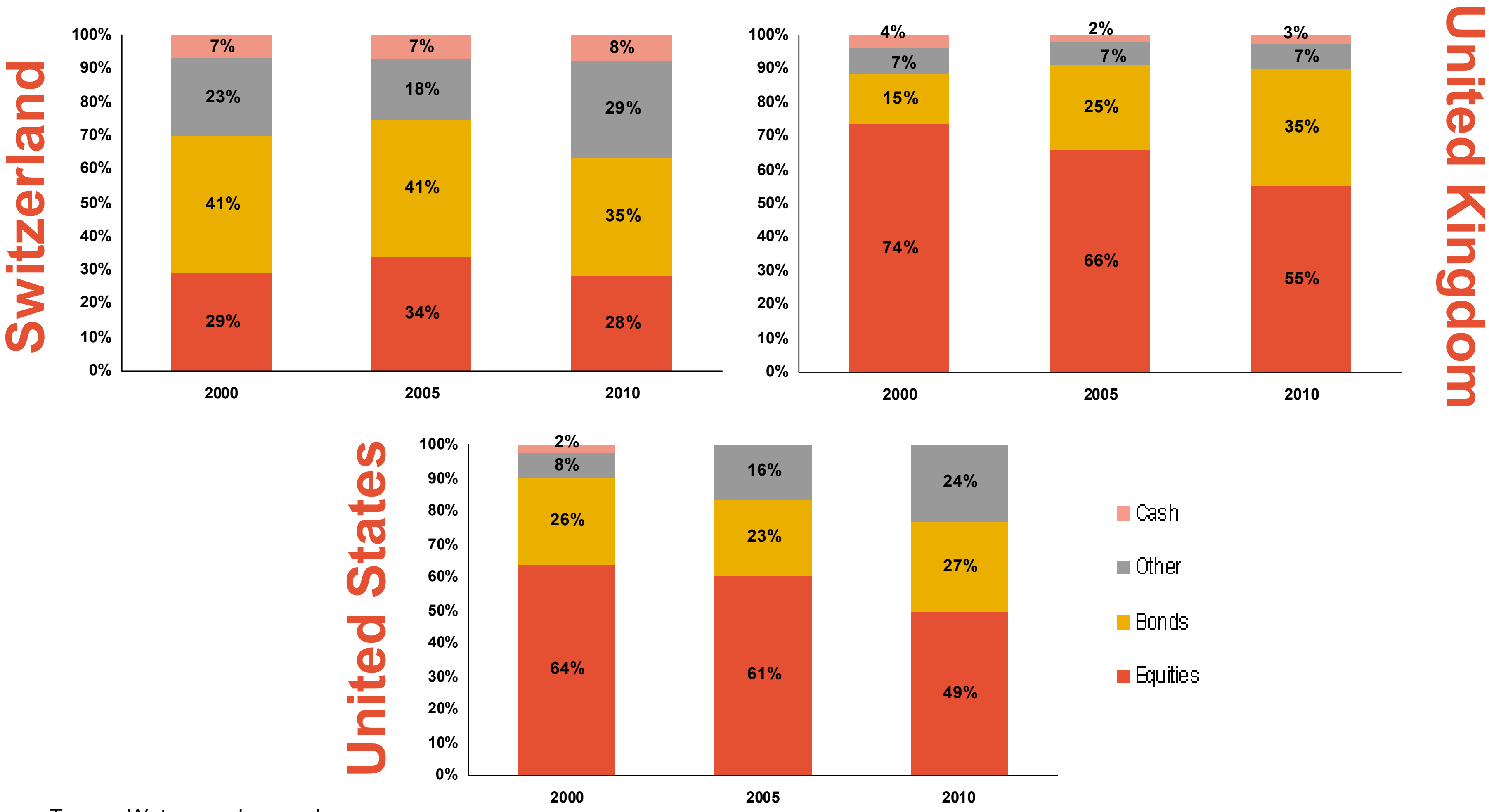
Aggregate – end 2000 versus end 2005 versus end 2010



Source: Towers Watson and secondary sources

Pension asset allocation

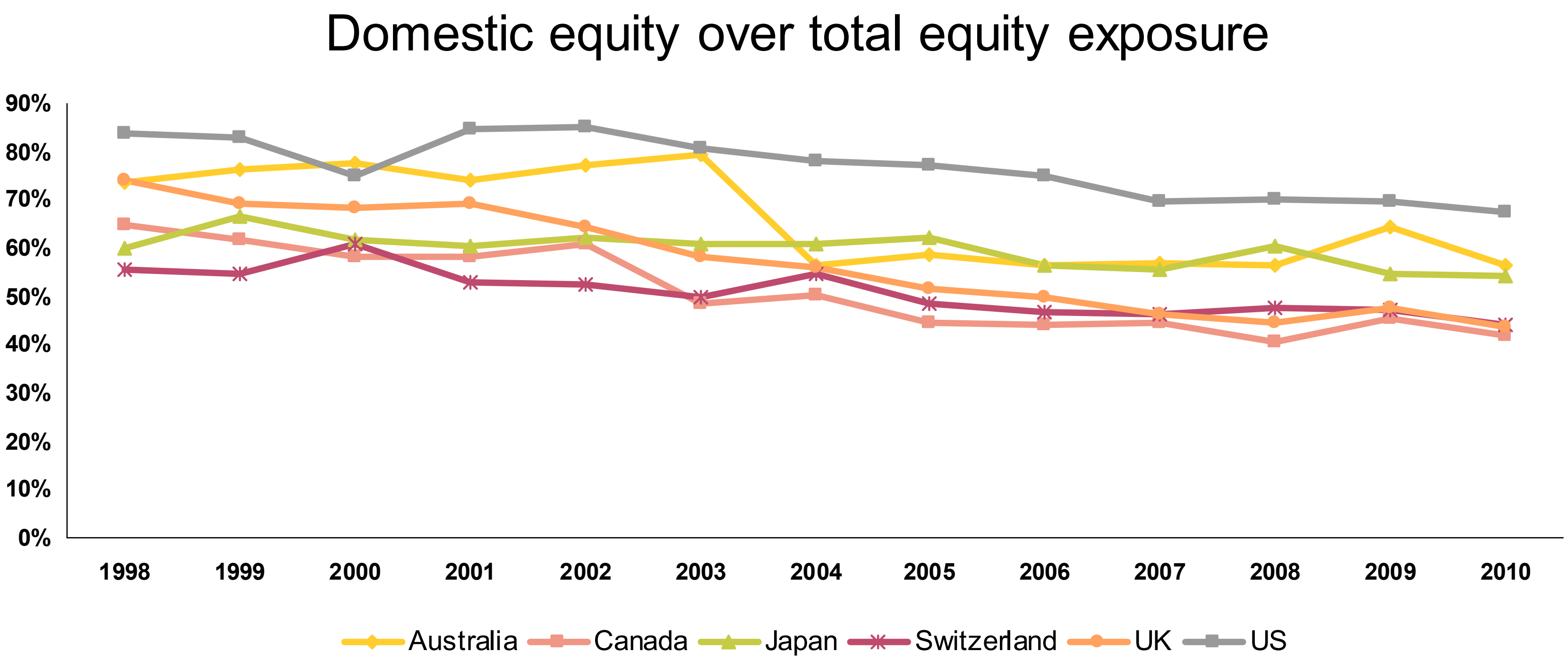
Aggregate – end 2000 versus end 2005 versus end 2010



Source: Towers Watson and secondary sources

Pension asset allocation

Domestic equity exposure



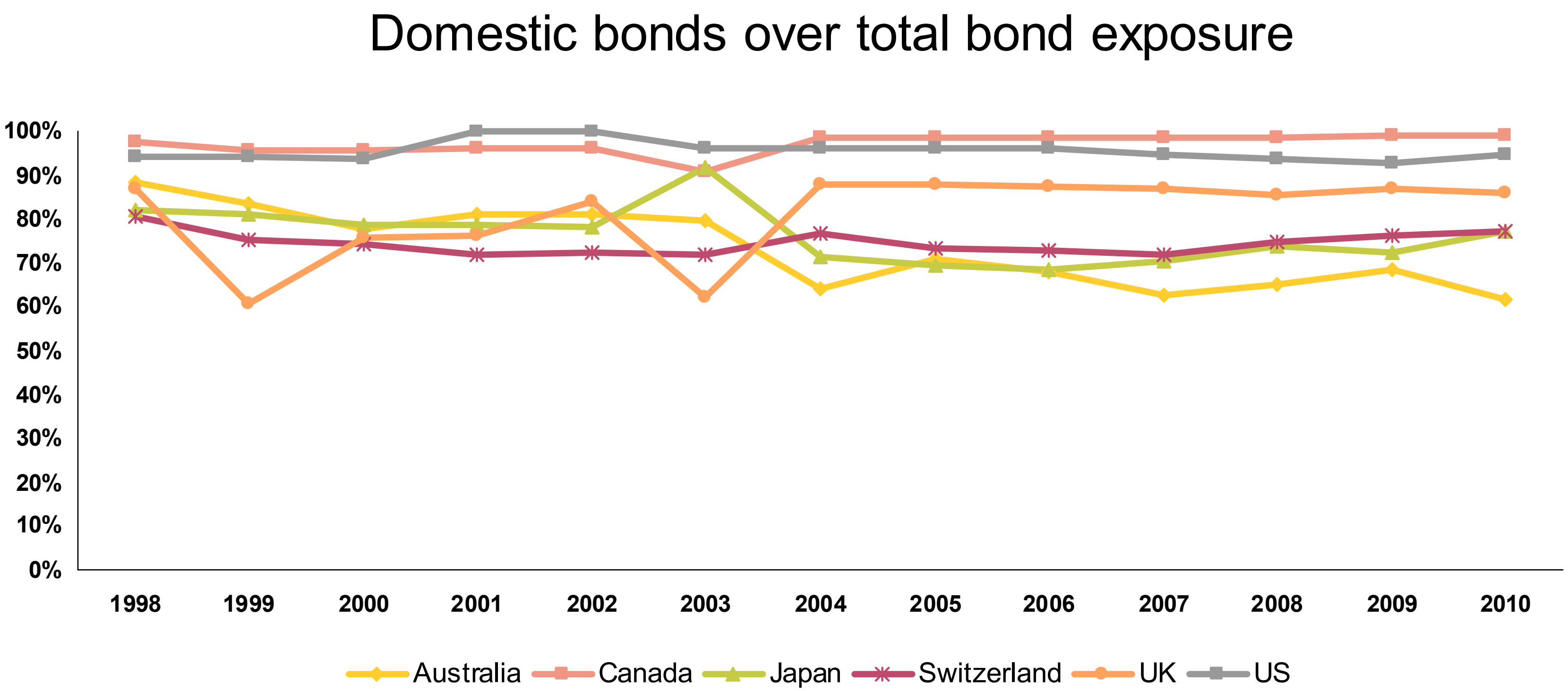
- There is a clear sign of reduced home bias in the equity space, as the weight of domestic equity in pension assets portfolios has been falling in almost all cases.
- The US pension market remains the most dependent on domestic equities, with around 70% of total equities invested in its own market. This is reduced from a level of over 80% more than a decade ago.

Source: Towers Watson and secondary sources

Note: Netherlands not considered

Pension asset allocation

Domestic bonds exposure



- With regards to fixed income investment, most of the investment is in domestic bonds, with very little exposure to foreign bonds – the need for liability hedging limits the use of foreign bonds.

Source: Towers Watson and secondary sources

Note: Netherlands not considered

2011 Global Pension Asset Study

3. DB/DC split (P7)

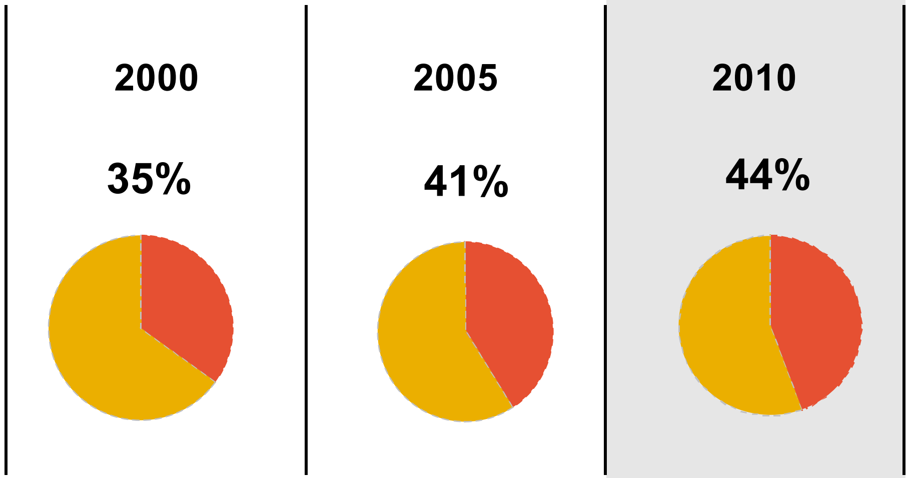
DB/DC asset split

Change over the last 10 years

Defined contribution (DC) fund assets

- During the last decade there has been a clear trend towards the establishment of DC pension schemes. However, DB assets still represent more than half of the total assets.

DB/DC



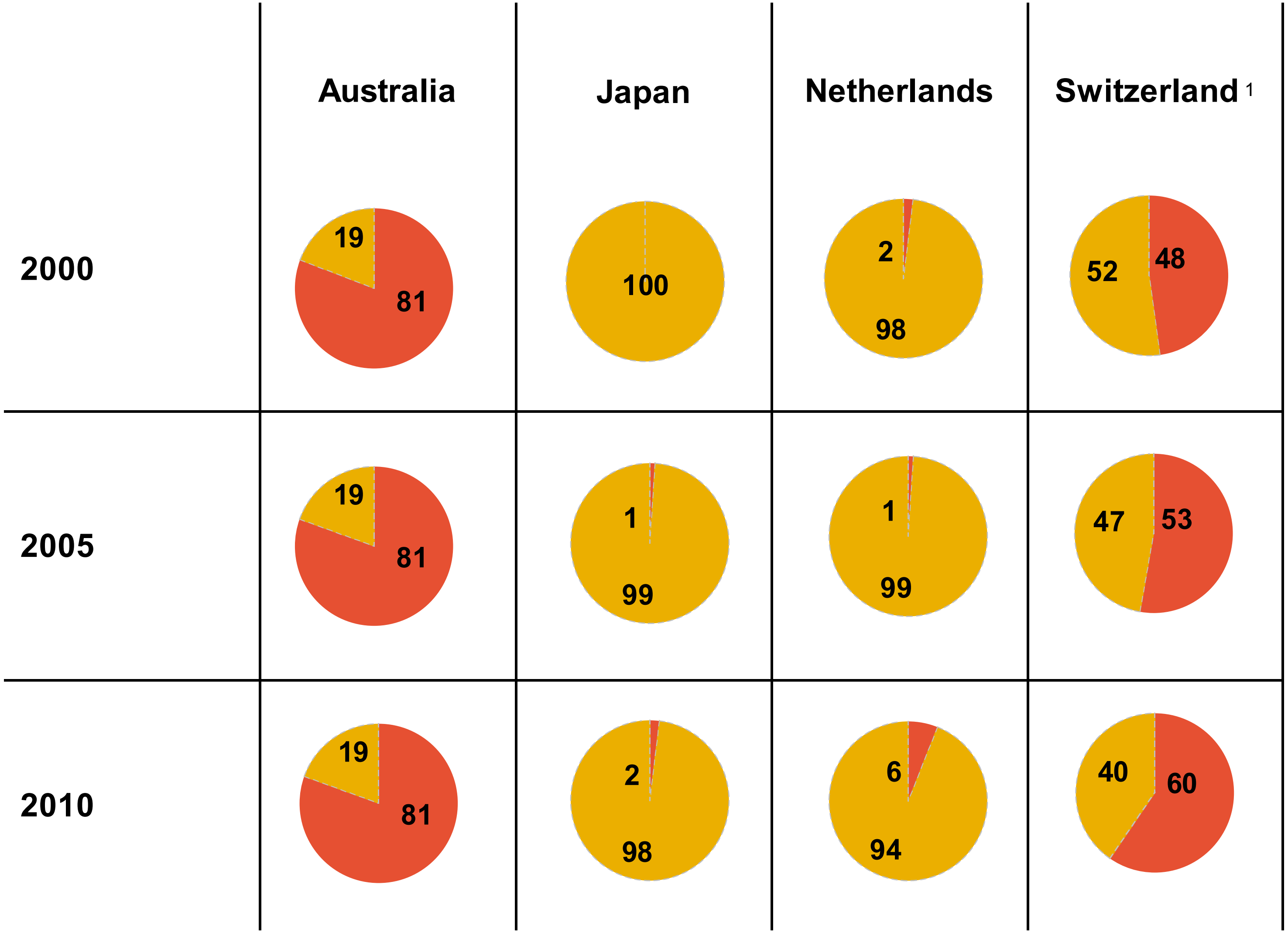
DC ▲ 9%

DC
DB

DB/DC asset split per country

Change over the last 10 years

DC
DB

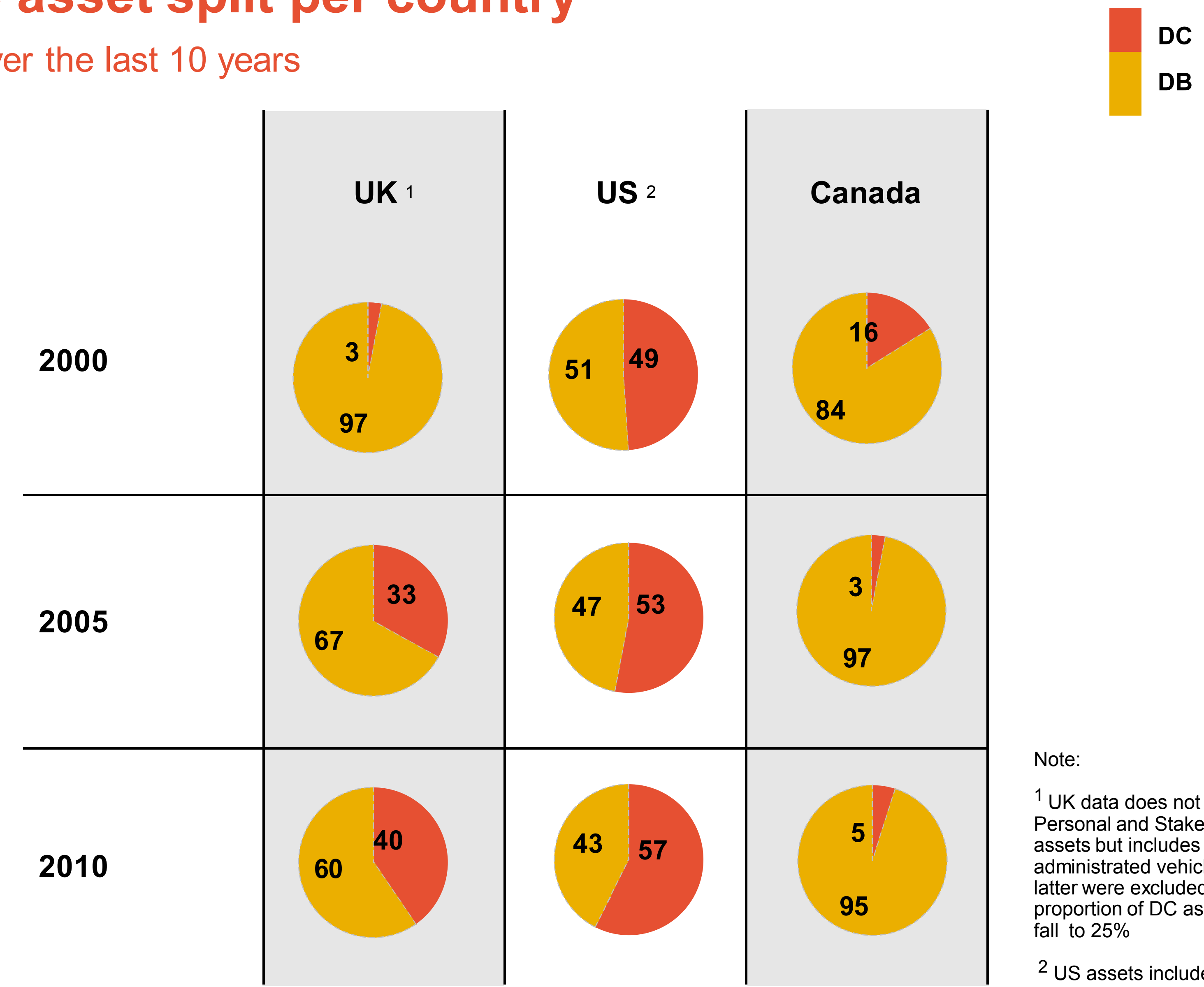


Note:

[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.

DB/DC asset split per country

Change over the last 10 years



P7

Note:

[1] UK data does not include Personal and Stakeholder assets but includes insurance administrated vehicles. If the latter were excluded as well, proportion of DC assets would fall to 25%

[2] US assets include IRAs

DB/DC asset split

Change over the past years

- In the ranking of markets with more DC assets relative to DB, Australia comes first with 81% in 2010. Behind Australia are Switzerland, with 60% and the US, with 57%.
- The markets with the lowest proportion of DC assets at the end of 2010 were Japan (2%), Canada (5%) and the Netherlands (6%). Still, the Netherlands shows a growth of more than five percentage points compared to 2005.
- During the last 10 years DC assets have grown at a rate of 7.5% p.a. while DB assets have grown at a much slower pace of 2.9% p.a.

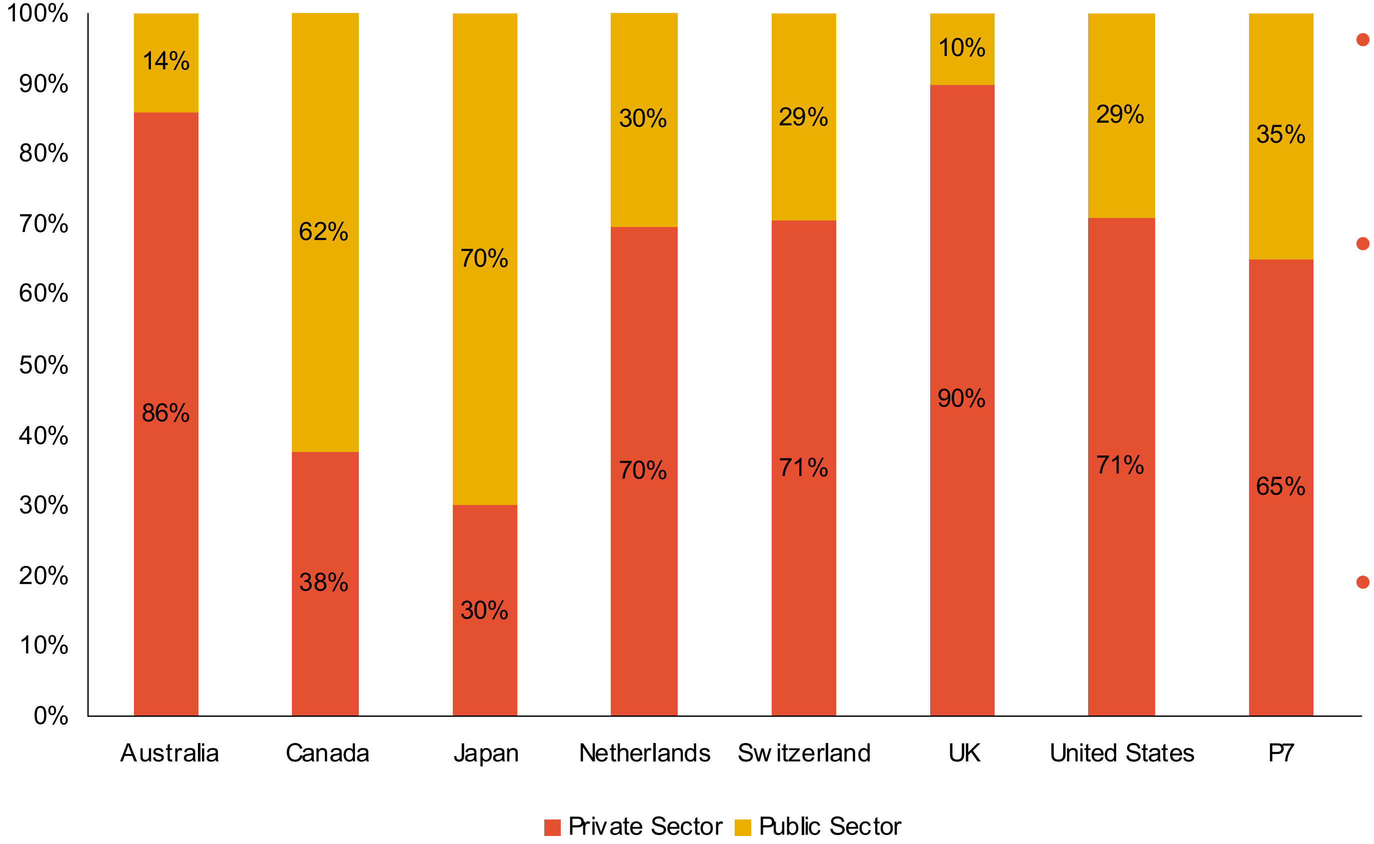
2011 Global Pension Asset Study

4. Public/private sector allocations (P7)

towerswatson.com

Public vs. private sector

By markets – values at 2009



- When considering all markets in P7, 65% are held by private sector and 35% by public sector.
- 70% of pensions assets in Japan and 62% of Canadian assets are held by public sector, being the only markets from the sample with the majority held by that sector.
- In the UK and Australia, the private sector holds respectively 90% and 86% of the total assets.

Source: Towers Watson and secondary sources

Methodology cannot be stretched to provide an estimate for 2010

Contact details and limitations of reliance

Carole Judd
Towers Watson
+44 1737 274329
carole.judd@towerswatson.com

Liang Yin
Towers Watson
+44 1737 284762
liang.yin@towerswatson.com

Limitations of reliance – Thinking Ahead Group

This document has been written by members of the Thinking Ahead Group within Towers Watson. Their role is to identify and develop new investment thinking and opportunities not naturally covered under mainstream research. They seek to encourage new ways of seeing the investment environment in ways that add value to our clients.

The contents of individual documents are therefore more likely to be the opinions of the respective authors rather than representing the formal view of the firm. No action should be taken on the basis of any Thinking Ahead documents without seeking specific advice.

Limitations of reliance – Towers Watson

Towers Watson has prepared this presentation for general information and education purposes only.

In preparing this report at times we have relied upon data supplied to us by third parties. While reasonable care has been taken to gauge the reliability of this data, this report therefore carries no guarantee of accuracy or completeness and Towers Watson cannot be held accountable for the misrepresentation of data by third parties involved.

This report is based on information available to Towers Watson at the date of the report and takes no account of subsequent developments after that date. It may not be modified or provided to any other party without Towers Watson's prior written permission. It may also not be disclosed to any other party without Towers Watson's prior written permission except as may be required by law. In the absence of our express written agreement to the contrary, Towers Watson accepts no responsibility for any consequences arising from any third party relying on this report or the opinions we have expressed. This report is not intended by Towers Watson to form a basis of any decision by a third party to do or omit to do anything.

Please note that investment returns can fall as well as rise and that past performance is not a guide to future investment returns. Towers Watson is authorised and regulated by the Financial Services Authority.