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2007 Global Pension Assets Study

Watson Wyatt Worldwide

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2007 Global Pension Assets Study

Key findings

P11	2006 Assets (\$bn)	2006 Assets/ GDP (%)
US	13,963	105
Japan	3,084	69
UK	2,338	99
Canada	1,027	81
Netherlands	873	132
Australia	743	100
Switzerland	565	148
Germany	312	11
France	158	7
Ireland	112	51
Hong Kong	62	33
Total	23,237	81

Increased pension assets provides some potential relief from adverse demographics

- The countries in our 'P11' Survey – the largest workplace pensions systems (characterised as 'second pillar savings' by the World Bank) - have grown their pension assets over the last 10 years at a compound annual rate of 7.5%, leading to pension asset pools of 81% of GDP (up from 58%). With the exception of France and Germany, these countries will expect these asset pools to provide some resilience to the effects of adverse demographics in which dependency ratios (workforce population/ total population) are set to rise significantly.

Pension fund asset allocation shows signs of becoming more defensive, but slowly

- Pension funds now have a global average around 60% equities, 26% bonds and 14% other assets (around half in cash, half in alternative assets). Funds carry around a 20 percent overweighting to equities and around a significant underweighting to bonds relative to global capital market opportunities. We see in the recent trends a levelling off in the growth of the equity content and anticipate a point of inflexion in which both bond allocations and alternative assets are set to grow. Factors driving this more defensive change include.
 - Improved funding positions allowing investment goals to be moderated
 - Changes to local regulation and accounting that previously favoured equities
 - Maturing liabilities - risk tolerance should naturally reduce as time horizons shorten.

The mix of asset class (beta) and active management (alpha) risk taking is adjusting

- The current allocation to equities supports an investment goal of around 1.7% per annum over bonds. Most funds have higher goals sourced from the premium return from active investment management. We suggest these goals have been increased recently and commonly would be in excess of a further 1% per annum. Pension funds must accept the significance of the zero sum game argument: that while excellent governance can deliver such a premium, in aggregate funds will not capture such a return, with increased investment costs making the picture rather more problematic.

2007 Global Pension Assets Study

Key findings

Six faces of change

1. **Increased use of LDI (Liability Driven Investment) approaches**
2. **Increased use of absolute return mandates and alternative assets**
3. **Alpha beta separation and integration**
4. **Beta prime innovation, capturing systematic 'alpha' effects in index form**
5. **Reducing DB funds' risk budgets to match with sponsor covenant and risk appetite**
6. **Increasing fund power to influence pricing and product design, particularly when there is collaboration**

DC continues to grow faster than DB due to higher coverage of the workforce

- As at the end of 2006, DB assets were 58% of the total, DC assets were 42%. DC assets have continued to grow faster than DB assets principally because of their higher contribution flows. The average growth of DC over the period since year end 1997 is 9.8% per annum compared with 5.5% per annum for DB. In Australia, DC is the dominant approach. In Switzerland and the US DC is the majority approach. In the other countries DC is less influential.

The industry 'Road-map' is complex, being driven by multiple inter-related factors

- The Watson Wyatt 'Road-map' of the investment industry emphasises the connections that govern changes: fund governance and drivers, investment management product and management issues, consulting industry issues, people issues and investment strategy and content
- One new element of the road-map is the investment talent bubble that is building up as global liquidity causes substantial growth in alpha seeking strategies, often supported by leverage. The pricing and capacity challenges for achieving sustainable alpha have bid up the price of talented people

Pension fund investment is subject to change on an unprecedented level

- Pension fund investment is subject to change on an unprecedented level (see panel opposite). We highlight six changes that are affecting the industry materially. Four of these changes concern investment strategy of which the most prominent is LDI. The impact of technology, particularly with respect to knowledge on finance theory and best practice, is making the clock-speed of change tick substantially quicker than in any prior period in the industry.

Survey coverage

- The survey covers 11 markets in total, with total pension assets in these countries totalling just over \$23,200bn (81% of the GDP of these countries - *IMF*)
- These 11 countries have the largest corporate workplace pensions systems and we use the shorthand 'P11' to denote them. We estimate that P11 pension assets comprise around 95% of global pension assets
- We analyse seven of these 11 countries in greater depth by excluding the four smallest markets of the P11 (France, Germany, Ireland and Hong Kong). We use the shorthand 'P7' to denote these countries. P7 assets are over 97% of P11 and over 90% of global pension assets.
- Our analysis is divided into four sections
 1. Asset sizes including growth statistics (P11), comparison of asset sizes with GDP (P11) and liabilities (P7)
 2. Asset allocation (P7)
 3. DB and DC shares of global pension assets (P7)
 4. Current issues in the pensions market

P11
US
Japan
UK
Canada
Netherlands
Australia
Switzerland
Germany
France
Ireland
Hong Kong

P7
US
Japan
UK
Canada
Netherlands
Australia
Switzerland

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1. Asset sizes and comparisons

- i. Asset sizes including growth statistics (P11)
- ii. Comparison of asset sizes with GDP (P11) and liabilities (P7)

Global pension asset sizes (\$bn)

End 1996 and 2006 - table

- Total pension assets in the P11 totalled US\$23,237 trillion at year end 2006
- This represented an 105.8% increase from the end of 1996 in US dollar terms
- The total compound annual growth rate of aggregate assets over the 10 year period was 7.5%, again in US dollar terms
- Most of the countries have at least doubled their pension fund assets in local currency terms during the period 1996-2006
- The United States, Japan and the United Kingdom, respectively, were the biggest pension fund markets in 1996 according to their asset size, and this remains the case in 2006
- The pension fund assets of these three countries represented around 85% of the total in 1996 and 2006
- Considering the US alone, the US represented the largest market by some margin at the end of both 1996 and 2006, representing nearly 60% of total pension fund assets globally at both dates

Pension fund assets as at end 2006

Country	Total assets (billion USD)	Total assets (billion USD)
	End 1996	End 2006
Australia	192.0	743.4
Canada	429.0	1,026.8
France	68.0	157.9
Germany	204.0	311.7
Hong Kong	25.0	62.0
Ireland	33.0	111.9
Japan	2,007.0	3,083.7
Netherlands	349.0	873.3
Switzerland	261.0	565.3
UK ¹	950.0	2338.4
US ²	6,774.2	13,963.1
Total (USD)	11,292.2	23,237.4

Source: Watson Wyatt Worldwide and various secondary sources

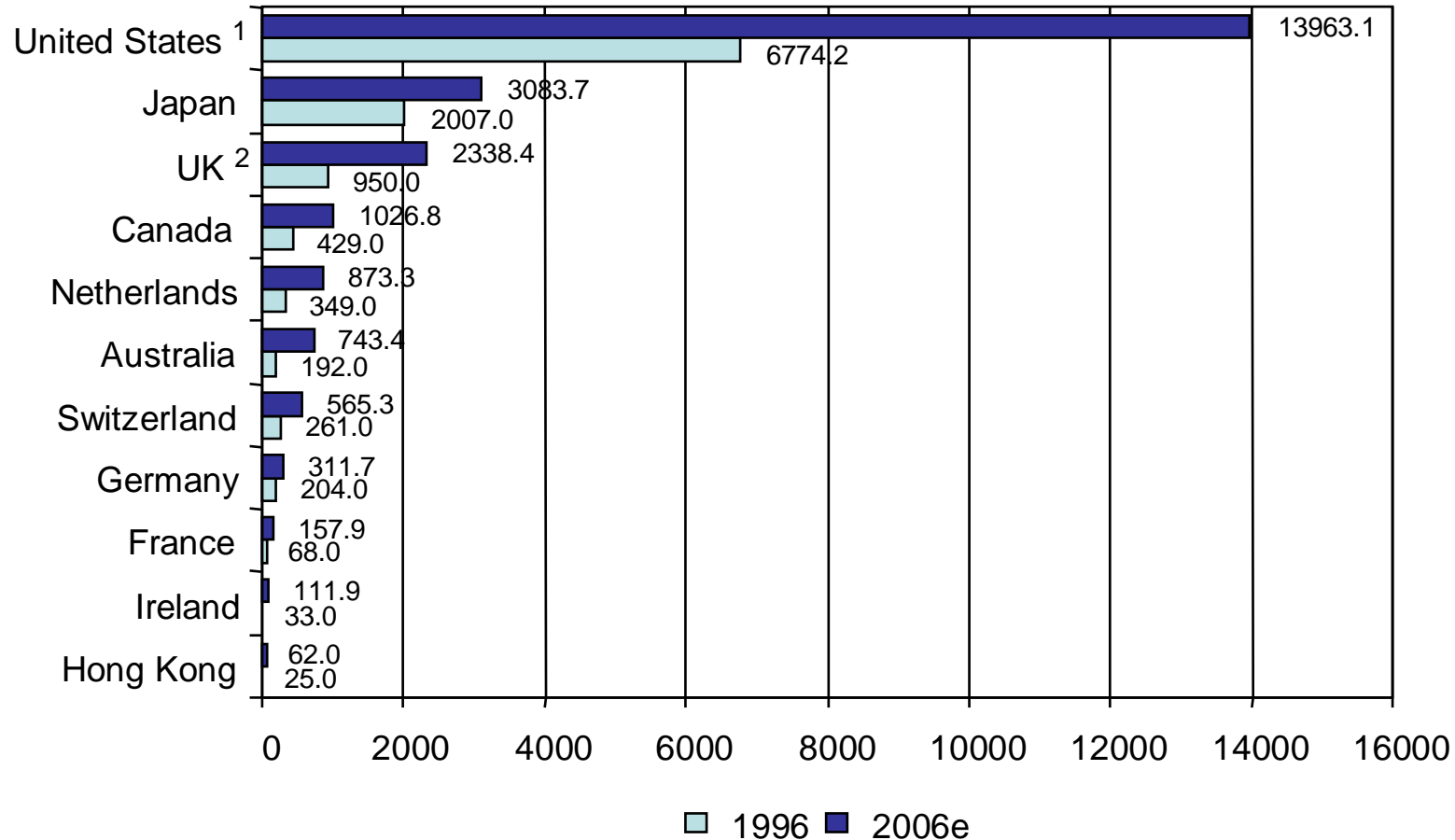
¹ Excludes Personal and Stakeholder DC assets as at end 2006 and end 1996

² Includes IRAs as at end 1996 and end 2006

Global pension asset sizes (US\$bn)

End 1996 and 2006 - chart

Institutional pension fund assets (US\$ billion)



¹ Includes IRAs as at end 1996 and end 2006

² Excludes Personal and Stakeholder DC assets as at end 2006 and end 1996

Global pension asset growth

1 yr, 5 yr, 10 yr percentage growth rates by country - table

10 year growth

- Over the 10 year period Australia (part of the P7 and thus more important) and Ireland (only in the P11) had the highest growth rates respectively, growing at 14.6% and 13.0% respectively
 - Mandatory DC contributions in Australia and the establishment of the National Pensions Reserve Fund in Ireland help to explain these growth rates
- Conversely Germany (part of the P11) and Japan (part of the P7) had the lowest growth rates over this period of 3.8%p.a. and 4.7%p.a. respectively

5 year growth

- Over the 5 year period Hong Kong (only part of the P11) had the highest growth rate of 14.6%p.a. The US, accounting for nearly 60% of global assets at the end of 2001 and 2006 was just behind with growth of 14.5%p.a.
- Canada (of the P7) was the laggard over this period with assets growing at just 2.3%p.a.

P11 pension fund assets growth rates

Country	Growth rates (local currency)		
	1-year (31/12/05- 31/12/06)	5-year (31/12/01- 31/12/06) CAGR	10-year (31/12/96- 31/12/06) CAGR
Australia	11.4%	12.3%	14.6%
Canada	13.1%	2.3%	7.4%
France	7.4%	5.4%	8.2%
Germany	0.8%	2.6%	3.8%
Hong Kong	17.4%	14.6%	9.6%
Ireland	8.8%	10.8%	13.0%
Japan	8.6%	5.7%	4.7%
Netherlands	5.9%	6.1%	9.1%
Switzerland	4.5%	8.3%	7.0%
UK ¹	7.2%	10.4%	7.9%
US ²	12.6%	14.5%	7.5%
Total (USD)	13.3%	13.6%	7.5%

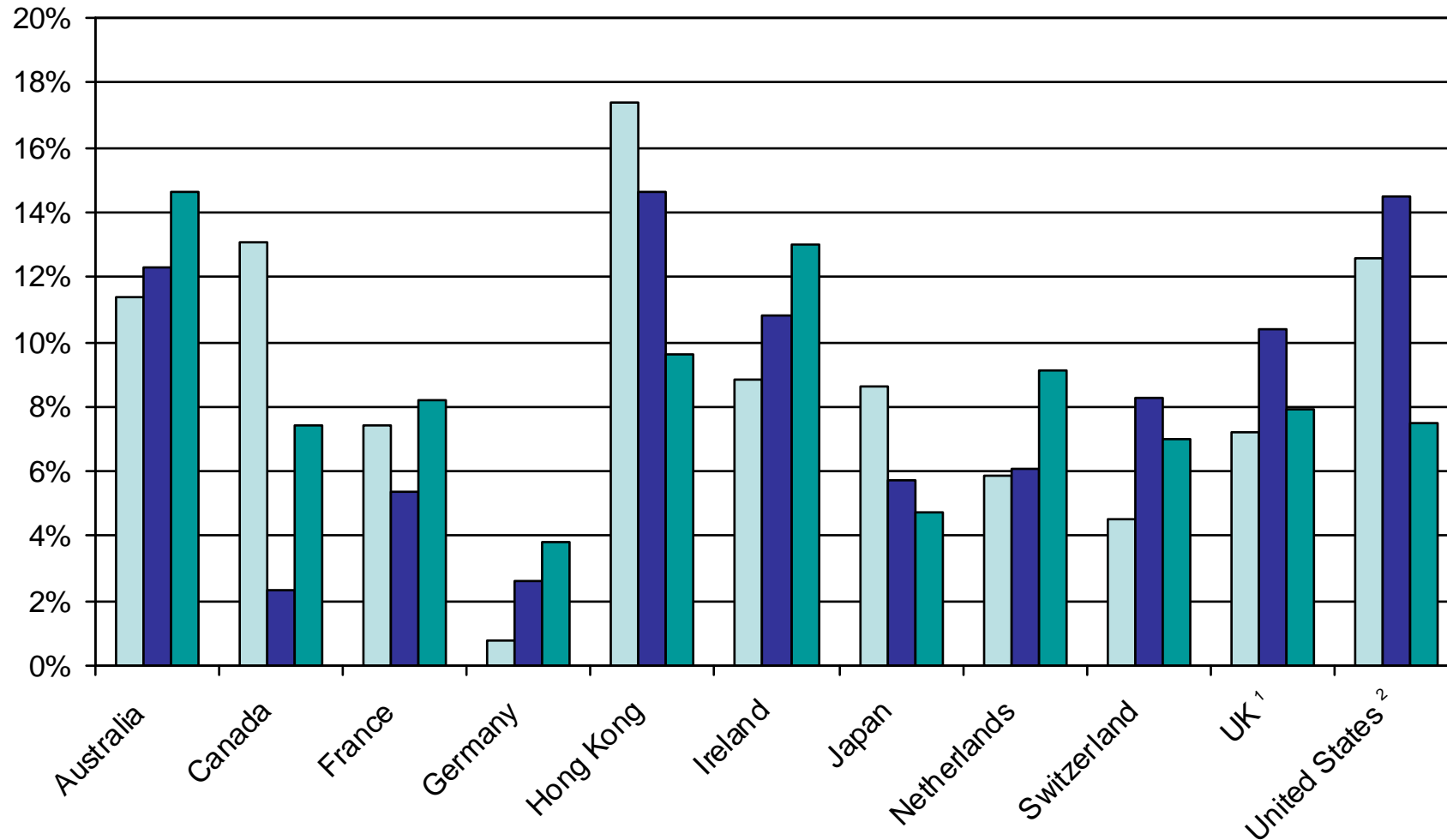
Source: Watson Wyatt Worldwide and various secondary sources

¹ Excludes Personal and Stakeholder DC assets for all periods

² Includes IRAs in all periods

Global pension asset growth

1 yr, 5 yr, 10 yr percentage growth rates by country - chart



¹ Excludes Personal and Stakeholder assets

² Includes IRAs

□ 1 year ■ 5-year CAGR ■ 10-year CAGR

Global pension assets vs GDP

	Pension assets as % of GDP		
	1996	2006e	Change
Australia	46%	100%	+54%
Canada	70%	81%	+11%
France	4%	7%	+3%
Germany	8%	11%	+2%
Hong Kong	16%	33%	+17%
Ireland	44%	51%	+7%
Japan	43%	69%	+26%
Netherlands	85%	132%	+47%
Switzerland	86%	148%	+62%
UK ¹	79%	99%	+20%
United States ²	87%	105%	+19%
Weighted average	58%	81%	+24%

Source: Watson Wyatt Worldwide and IMF

¹ Excludes Personal and Stakeholder assets at the end of 1996 and 2006

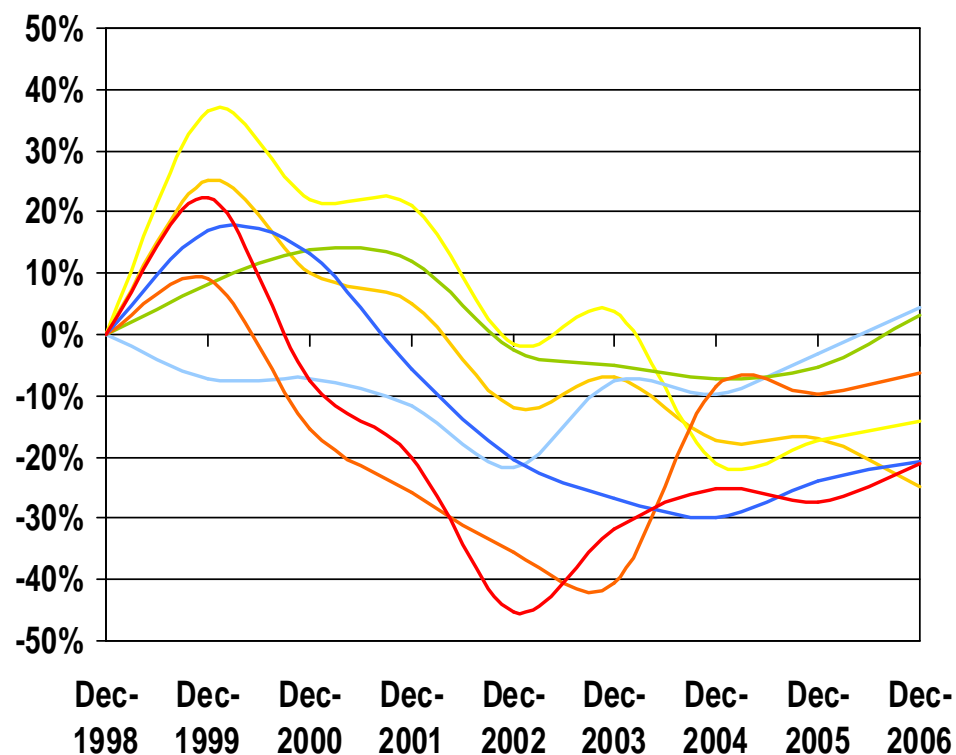
² Includes IRAs at the end of both 1996 and 2006

- Switzerland showed the greatest improvement in its pension assets as a proportion of GDP
- Germany and France saw very little change
- On a weighted average basis, pension asset proportions relative to GDP climbed by 24%

DB asset/liability indicator – country-by-country basis

Per cent change from 31/12/1998 (local currency)

Estimated asset/liability indicator



— Australia
— Canada
— Japan
— Netherlands
— Switzerland
— UK
— US

- In last year's update we noted that times remained challenging for defined benefit funds
- This year we have seen a marked improvement in the balance sheet position in most countries, with only Australia showing some deterioration (where DB funds are in the minority in any case)
- Whilst our estimates for 2006 cannot take account of additional contributions to funds, the widespread indication of increased corporate contributions towards the end of 2005 should partly explain the improvements seen here.

Source: Watson Wyatt Worldwide, Bloomberg

¹ DB assets only within asset totals

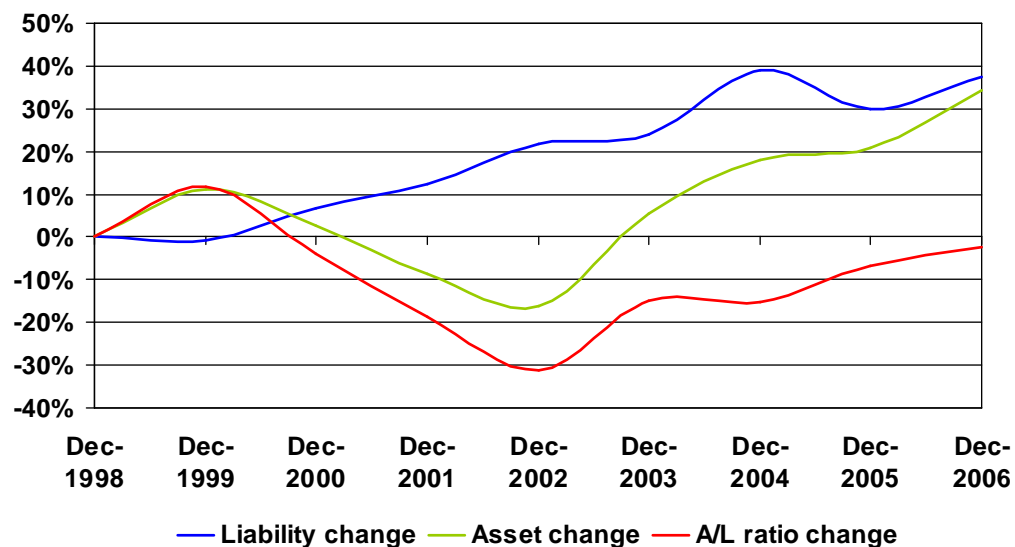
² UK assets exclude Personal and Stakeholder assets in all periods

³ US assets include IRAs in all periods

DB asset/liability indicator – global basis

Per cent change from 31/12/1998 (US dollar terms)

Estimated asset/liability indicator



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
1999	-0.8%	11.0%	11.9%	11.9%
2000	6.9%	2.5%	-4.1%	-14.3%
2001	12.5%	-8.7%	-18.8%	-15.4%
2002	21.6%	-16.2%	-31.1%	-15.1%
2003	24.0%	5.3%	-15.1%	23.2%
2004	38.9%	17.9%	-15.1%	-0.1%
2005	29.8%	20.9%	-6.9%	9.8%
2006	37.5%	34.4%	-2.3%	4.9%

Source: Watson Wyatt Worldwide, Bloomberg

¹ DB assets only within asset totals

² UK assets exclude Personal and Stakeholder assets in all periods

³ US assets include IRAs in all periods

- The marked improvement in the balance sheet position at the individual country level has fed through to the aggregate global balance sheet position
- The relatively strong performance of equities over the period helps to explain the trend seen here
- Equities substantially outperformed bonds over 2006 helping assets to outperform liabilities over the period.

Methodology for this section

- In this survey we seek to provide estimates of pension fund assets (that is, assets whose official primary purpose is to provide pension income). This data is comprised of:
 - Hard data typically to the end of 2005 sourced by Watson Wyatt as well as various secondary sources
 - Estimates as at the end of 2006 based on index movements, typically for the 2005 period
- In previous years we focused on 'institutional pension fund assets' only, primarily pillar 2 (occupational pensions) assets. This year the survey has been widened slightly with DC assets within the US now including 'IRAs' for all years. This change has occurred to better capture retirement assets around the globe and essentially expands the survey into pillar 3 (individual savings) space, where it is clear that pillar 3 assets are primarily being used for pensions purposes. The change also better enables us to estimate the global split between DB and DC assets. Over proceeding years we hope to expand the DC asset totals for other markets as well; for example we hope to expand the UK pension asset base to account for Personal and Stakeholder assets as well.

Comparison with GDP

- This section compares total pension fund assets within each country to GDP at current prices sourced from the IMF.

Comparison with liabilities

- This section compares the progress of *defined benefit* assets within each country to the progress of liabilities
- Defined benefit assets are updated for capital contributions to the latest date for which we can obtain hard assets data for (typically the end of 2005). From that date onwards defined benefit assets are simply updated for asset movements obtained using index estimates
- We do not use hard liability figures over any period, and simply account for the change in liabilities that will result from changes in bond yields (or more precisely changes in respective government bond yields)
- The asset/liability indicator for each country may change from year-to-year as prior DB asset totals and DB/DC splits are restated.

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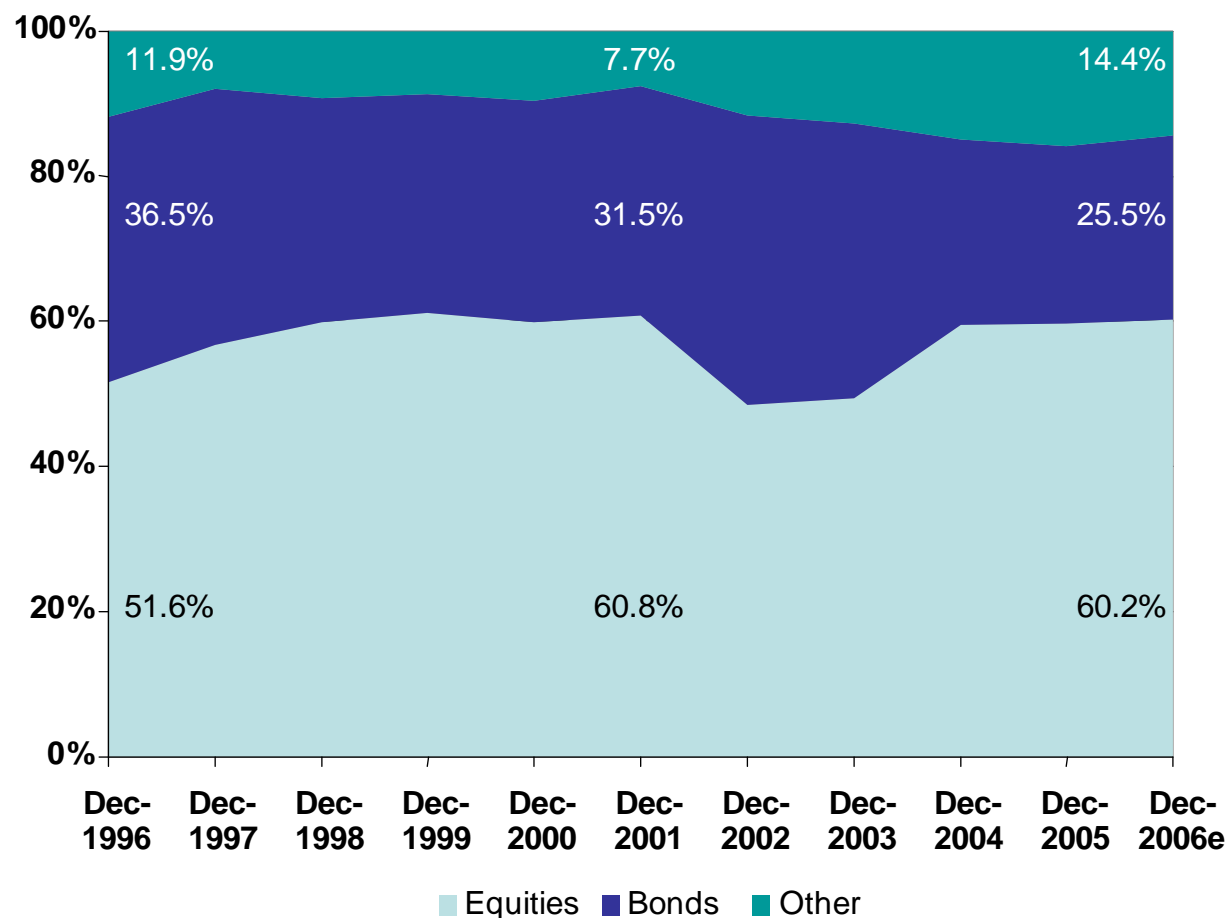


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2. Asset allocation (P7)

Global pension fund assets

Aggregate P7 asset allocation from 1996 to 2006

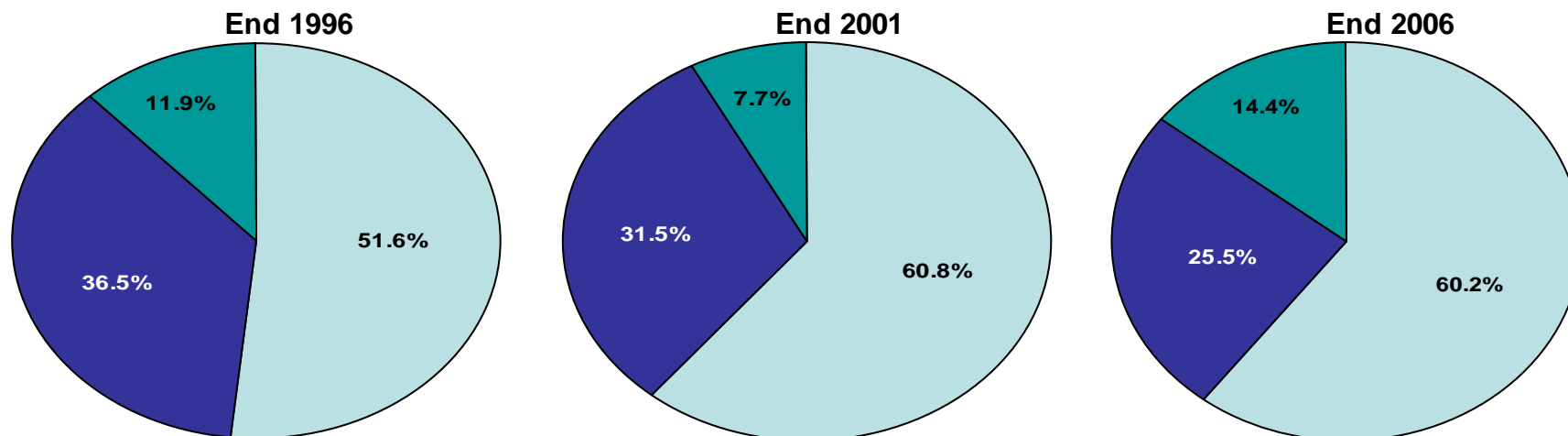


Source: Watson Wyatt Worldwide and various secondary sources

- Asset allocation tends to 'drift' with market movements as limited amounts of pension assets are rebalanced to a strategic asset allocation benchmark
- Much of the detrimental impact of equity bear markets after the turn of this century can clearly be seen in the reductions in equity content and increase in bond proportions from 2001
- Equity content has increased more recently with the reverse in the relative performance of bonds and equities over the 3 years from the end of 2003
- Other assets – especially real estate, and to a lesser extent hedge funds, private equity and commodities, have also shown growth in recent years as pension fund assets have been subject to wider diversity in strategy.

Asset Allocation

Aggregate – end 1996 versus end 2001 versus end 2006



End 1996 versus end 2001

■ Equities ■ Bonds ■ Other

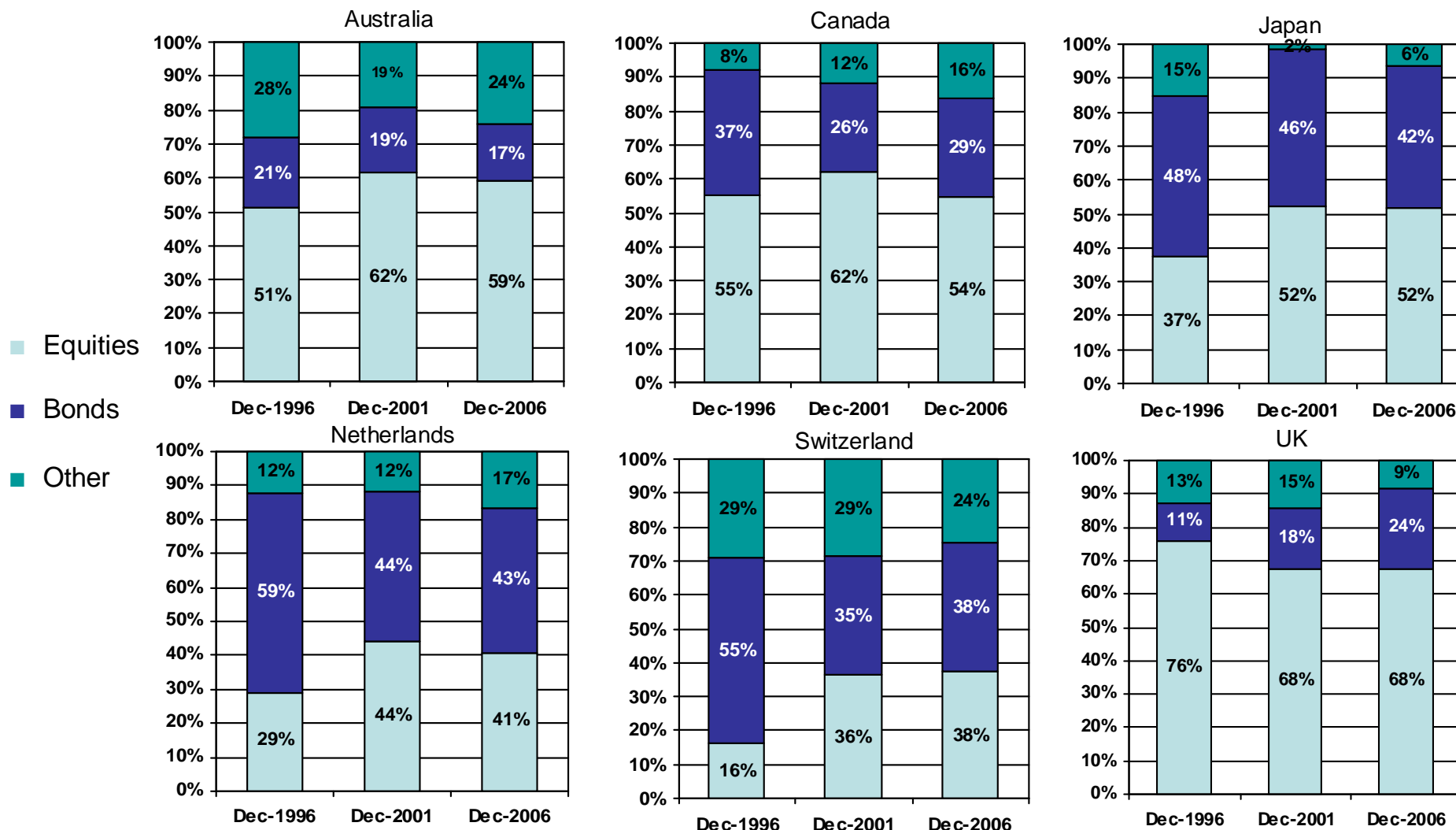
- In line with the bull market in equities as well as some movement out of bonds amongst non Anglo-Saxon countries, equity allocations increased at the expense of the other categories
- The impact of the reasonably singular bet on the equity risk premium in many countries is clear to see.

End 2001 versus end 2006

- The impact of the diversity agenda can be seen over this 5 year period
- There has been a growth in bond allocations in some countries (including the UK) as the de-risking agenda has become more pronounced given the increasing maturity of many funds and the greater impact of mark-to-market accounting and tighter regulatory constraints.
- The number of countries where this has occurred has been limited however, hence the greater impact of asset allocation drift over the period resulting from the outperformance of equities relative to bonds.

Asset Allocation

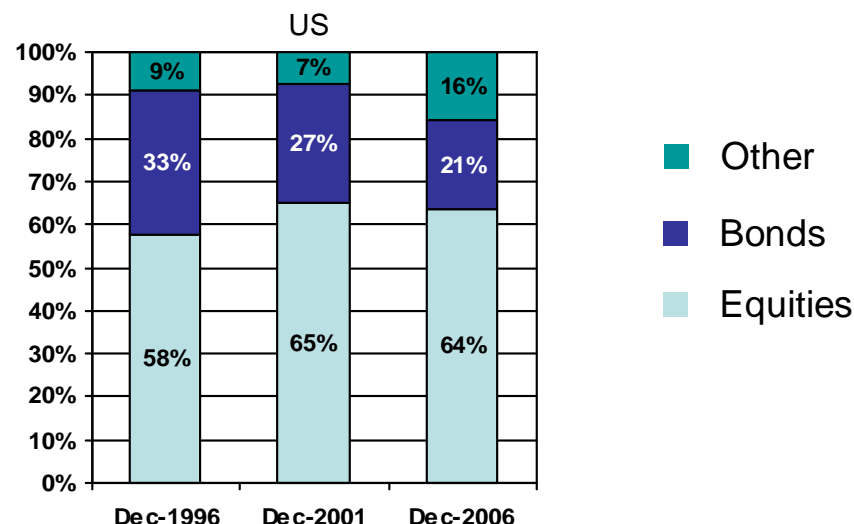
By country - end 1996 versus end 2001 versus end 2006



Sources: Watson Wyatt Worldwide and various secondary sources

Asset Allocation

By country - end 1996 versus end 2001 versus end 2006

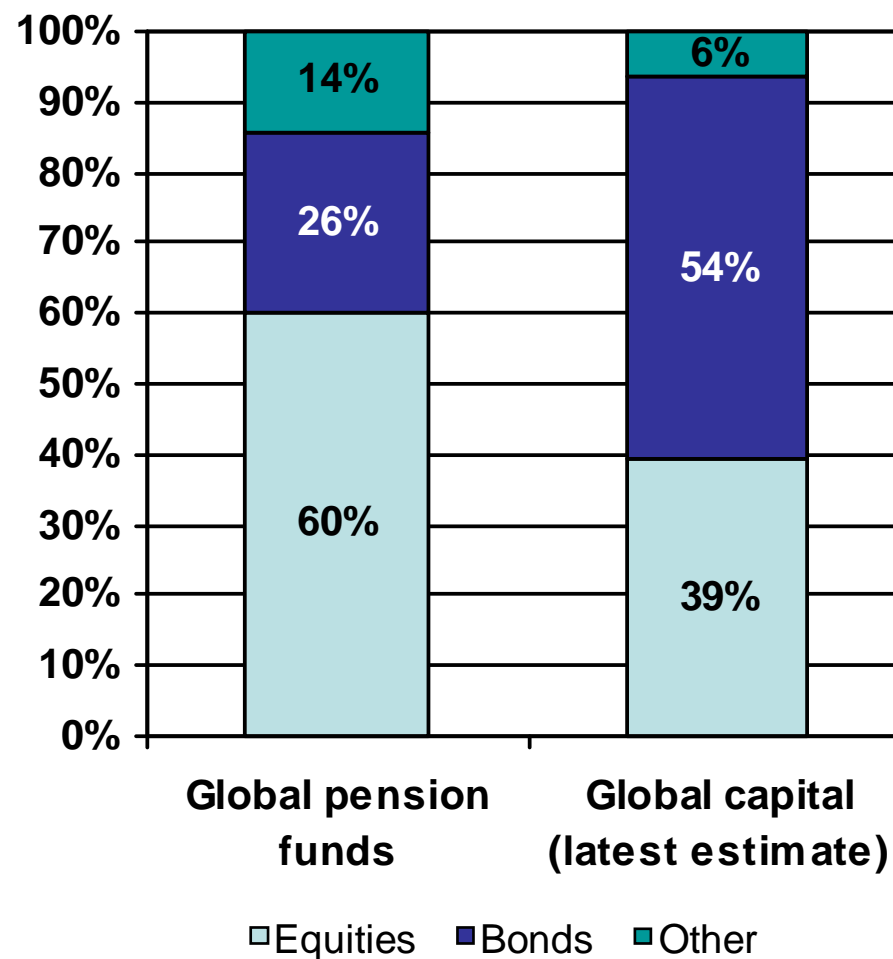


Source: Watson Wyatt Worldwide and various secondary sources

- Australia, Canada, the United Kingdom and the United States (the Anglo-Saxon nations) had the highest allocation to equities at the end of 1996, 2001 and 2006. Their equity allocations at year end 2006 were 59.0%, 54.4%, 67.8% and 63.5%, respectively
- Japan, the Netherlands and Switzerland have traditionally had a higher exposure to bonds which can be clearly seen within the figures here
- Switzerland has had the highest allocation to assets other than equities and bonds throughout the period with Australia also favouring alternative asset classes more than other P7 nations throughout the 10 year period from the end of 1996
- There is some evidence of increasing interest in alternatives within the US in recent periods.

Asset allocation comparison

Global pension asset allocation vs distribution of global capital – end 2006



Source of global capital estimate: Bonds: Bank for International Settlements "BIS"; Equities: MSCI Blue Book; Real estate: US - NCREIF/NAREIT, UK - IPD, Eurozone - IPD; Hedge funds: Hedge Fund Research

Source of global pension fund allocation: Watson Wyatt Worldwide and various secondary sources

Methodology for this section

- US assets include IRAs for all periods whilst UK assets exclude Personal and Stakeholder assets
- Cash within this section has been included within 'Other' as opposed to 'Bonds'
- On slide 16 we state "Equity content has increased more recently with the reverse in the relative performance of bonds and equities over the 3 years from the end of 2003." For example, over the 3 years from the end of 2003 the MSCI World index (unhedged - USD) returned 15.2%p.a. whilst the JP Morgan Govt. Bond index (unhedged - USD) returned 3.0%p.a.

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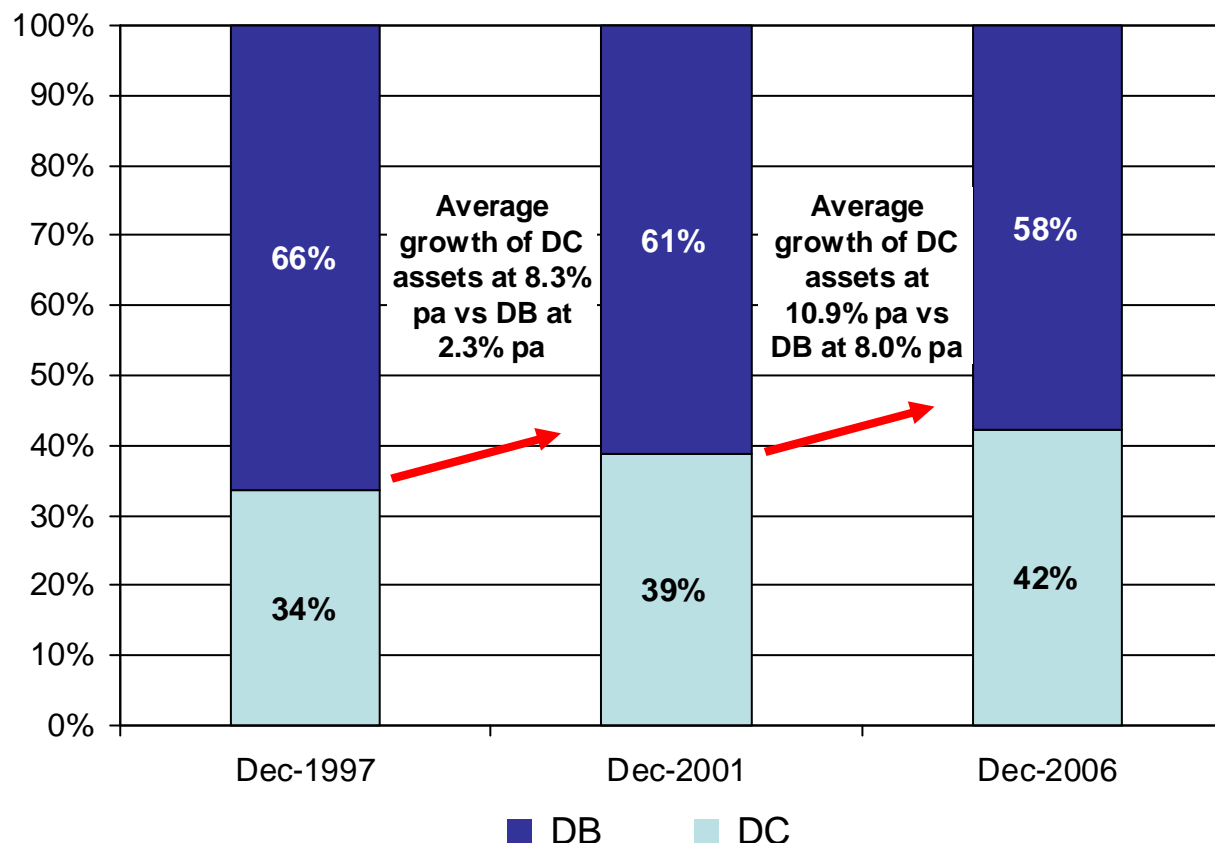
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3. DB/DC allocations (P7)

Global pension fund assets

DB/DC asset split – change over the 9 years to the end of 2006

Defined contribution (DC) participation in total pension fund assets



Source: Watson Wyatt Worldwide and various secondary sources

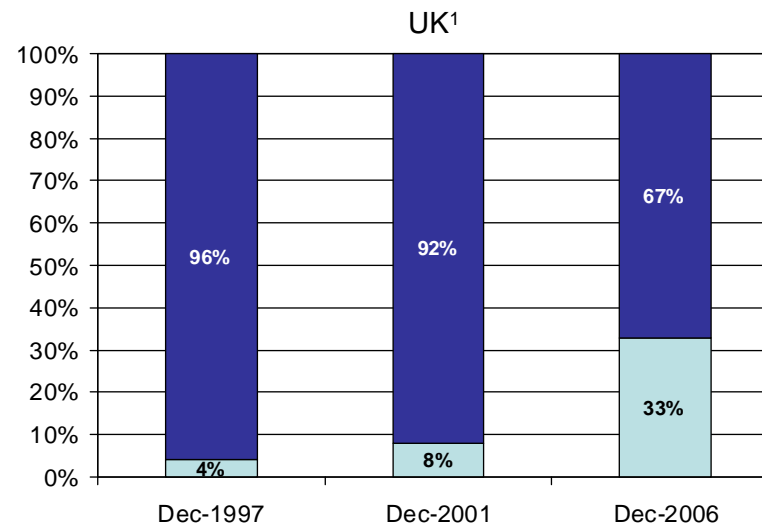
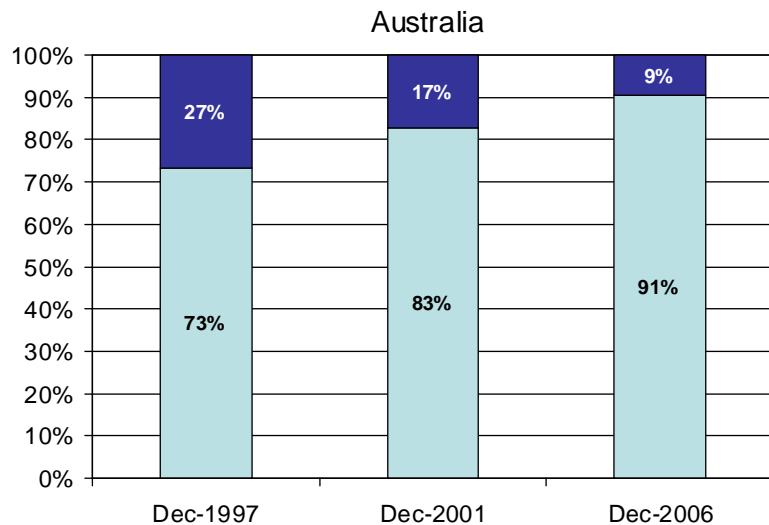
¹ UK assets exclude Personal and Stakeholder assets at the end of 1996, 2001 and 2006

² US assets include IRAs at the end of both 1996, 2001 and 2006

- During the nine year period from the end of 1997 to the end of 2006 the average growth of DC assets (CAGR) was 9.8%p.a. as against a rate of 5.5%p.a. for DB assets
- The slower growth of the DC proportion between the end of December 2001 and the end of December 2006 may stem from:
 - higher equity allocations amongst DC investors at the end of 2001 and thus greater impact from the subsequent bear market
 - large contributions to DB plans in recent periods

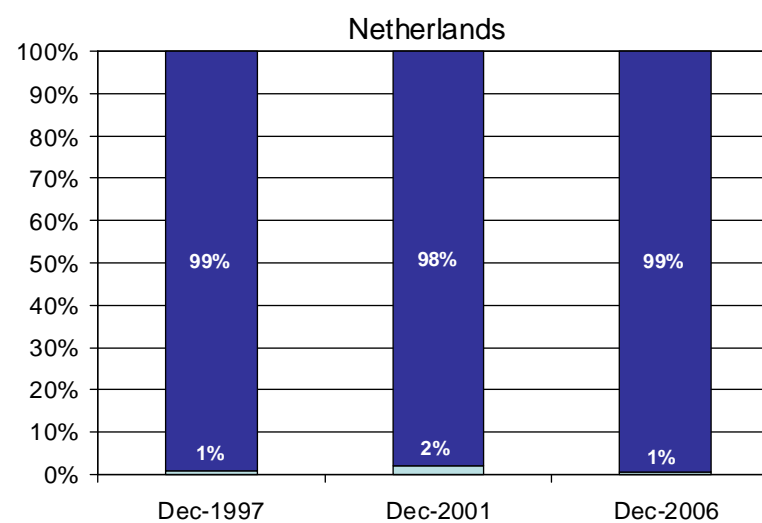
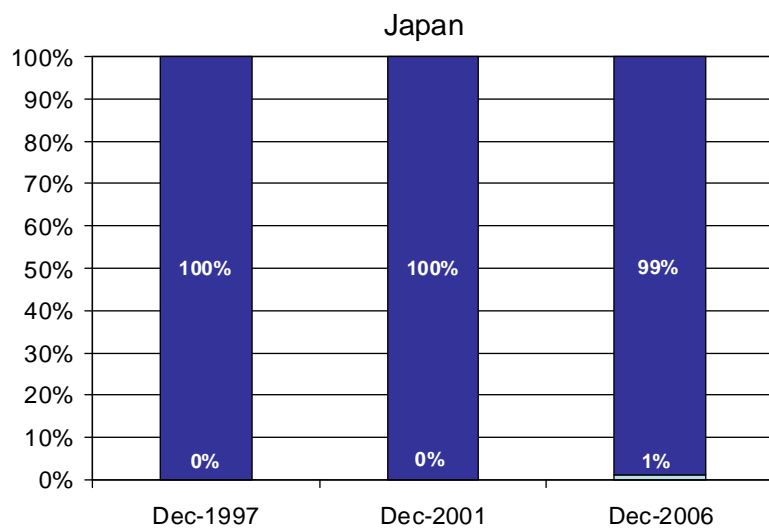
DB/DC asset split

By country – change over the 9 years to the end of 2006



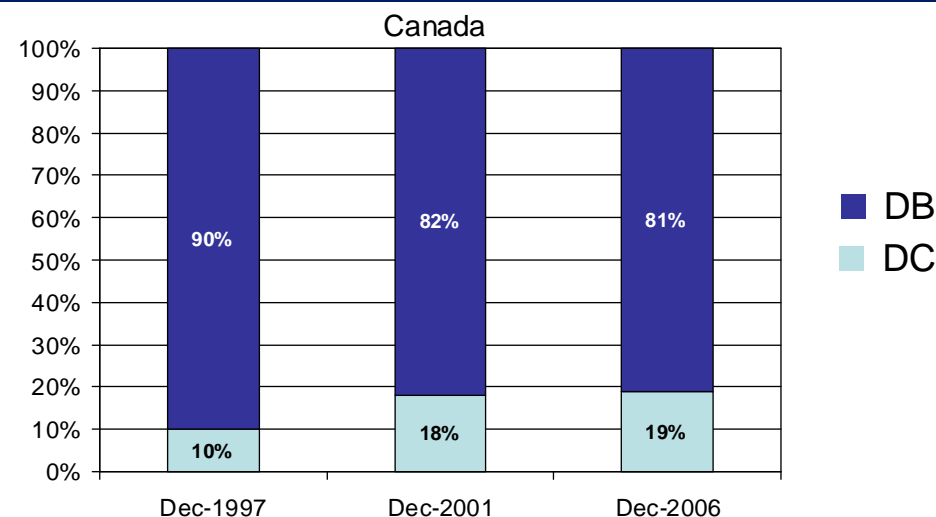
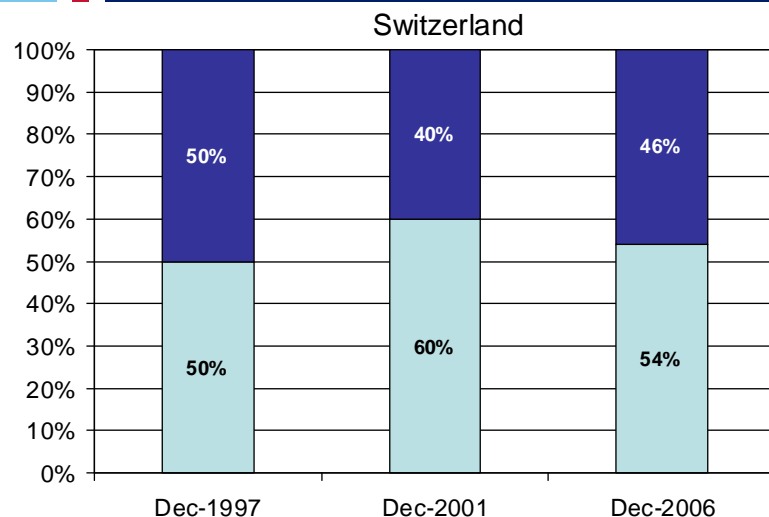
¹ UK DC assets exclude Personal and Stakeholder assets at the end of 1996, 2001 and 2006

■ DB
■ DC



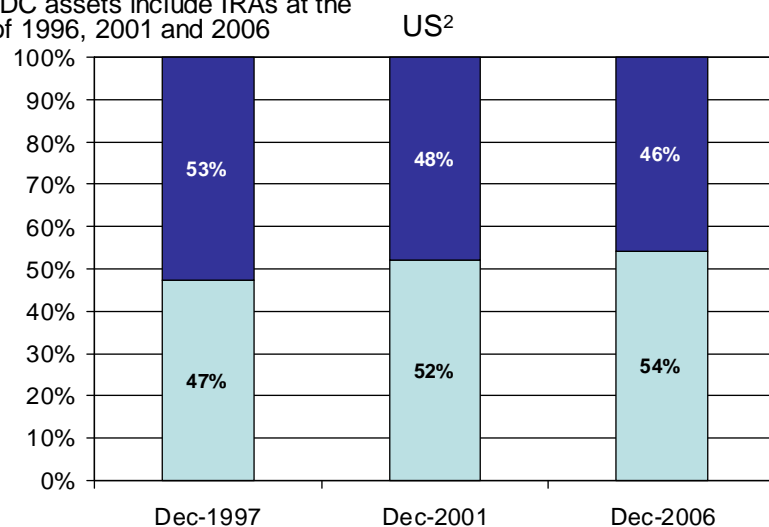
DB/DC asset split

By country – change over the 9 years to the end of 2006



■ DB
■ DC

² US DC assets include IRAs at the end of 1996, 2001 and 2006



- Whilst there has been a secular switch from DB to DC in aggregate, within individual countries large corporate contributions to DB plans may explain shorter-term instability. The same may also result from differential asset allocations between DB and DC assets
- From the end of 1997 to 2006, Australia had the highest proportion of total pension assets made up of DC assets with the DC proportion increasing from 73.4% to 90.6%
- Of the P7 nations the United States stands in second position in terms of total assets comprised of DC at the end of 1996, with 54.0% of assets in DC and an average DC participation of 50.5% throughout the period. (Switzerland had 53.9% in DC assets at the end of 2006.)

Methodology for this section

- Unfortunately a lack of data means that we can only provide 9 years of history regarding the DB/DC allocation splits over the period. Next year we will be able to provide 10 years of history
- End 2006 DB/DC split estimates achieved by averaging growth over the past 8 years to the end of 2005
- US data includes IRAs for all periods. UK data excludes and Personal and Stakeholder DC assets at the end of 2006 helping to explain the dramatic increase in the DC proportion at the end of 2006 for this country
- Going forward we hope to backfill the history of 'Personal and stakeholder' assets within the UK market and to expand the coverage of DC assets within other markets as well.

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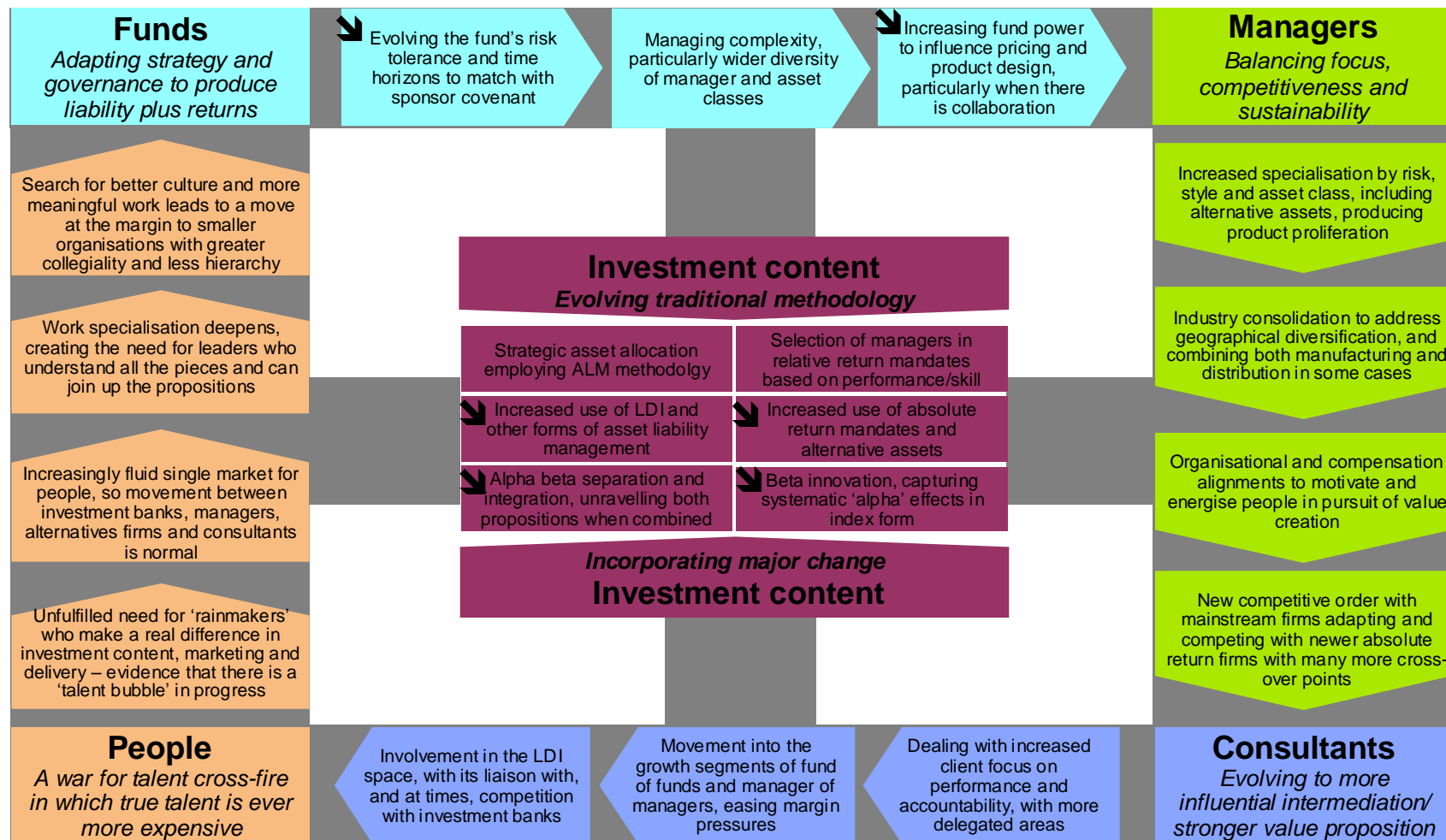


2007 Global Pension Assets Study

4. Current issues

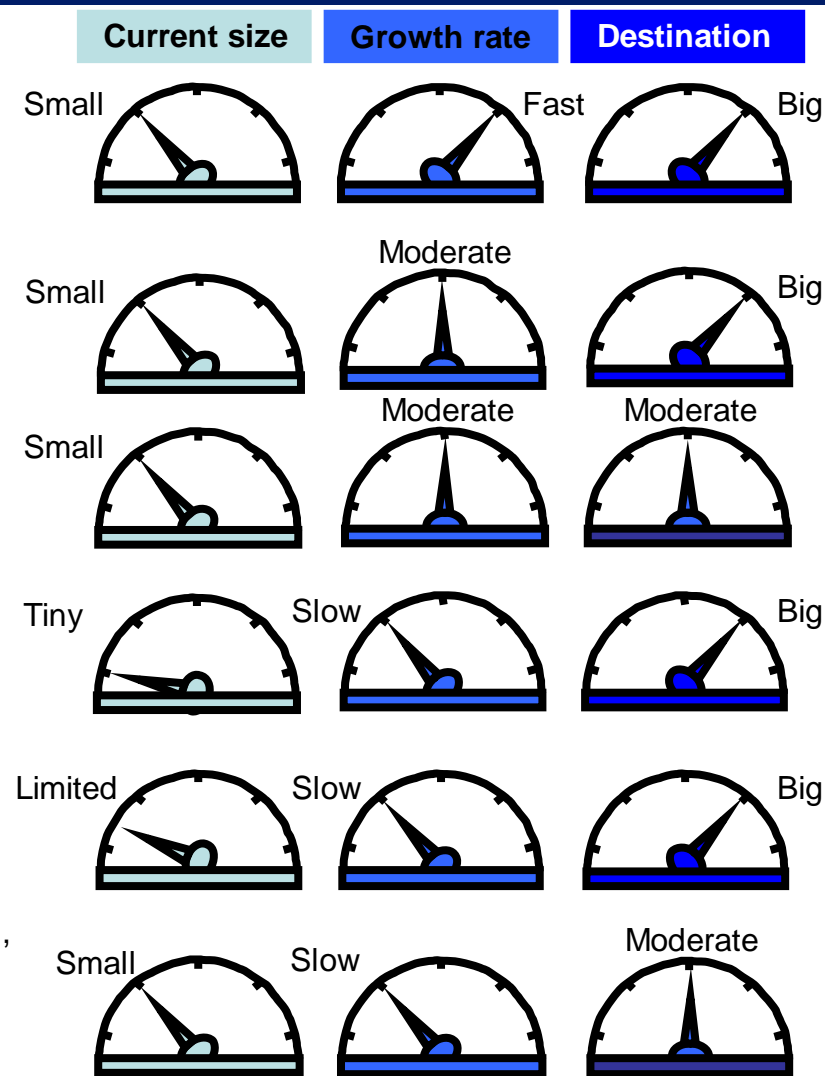
The 2007 investment industry 'Road map'

Including the six faces of change



The six faces of change

1. Increased use of LDI approaches
 - Improved range of products and protocols increase opportunities to manage risks
2. Increased use of absolute return mandates and alternative assets
 - Support for the diversity of strategy concepts, but implementation challenge
3. Alpha beta separation and integration
 - Some complexities and costs of this approach and problems arise unravelling the alpha and beta components when these are combined
4. Beta prime innovation (wealth-weighted indices among others), capturing systematic ‘alpha’ effects in index form
 - Acceptance of inefficiencies of cap–weights is growing, but confidence in new products is limited
5. Reducing DB funds’ risk budgets to match with sponsor covenant and risk appetite
 - The timing and pricing of this move is contentious
6. Increasing fund power to influence pricing and product design, particularly when there is collaboration
 - Funds can collaborate to effect change and create aggregate value in sustainable ways, effecting changes in fee structures, applying corporate engagement, etc



Limitations of reliance

- 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 Watson Wyatt cannot be held accountable for the misrepresentation of data by third parties involved.
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