2010 Global Pension Asset Study

1. Asset size

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

TOWERS WATSON

Global pension assets

Evolution 1999-2009 – USD Billion

P13

- Global pension assets to the end of 2009 were USD 23,290 bn, up more than USD 3 trn from 2008. This is a 15.1% growth in assets compared to the previous year, but not sufficient to recover the losses from 2008's financial crisis, when assets fell 21.3%.
- This growth is largely explained by the good performance of markets around the world and the high exposure of pension funds to equities.
- The largest value of pension assets are held by the US and Japan, together accounting for more than 70% of total assets, though their share has been decreasing in recent years.
- The smallest markets in descending order are Brazil, South Africa, France, Ireland and Hong Kong.

Market	Total assets (USD billion)	Total assets (USD billion)
	Year-end 1999	Year-end 2009e
Australia	271	996
Brazil	70	392
Canada	652	1,213
France	70	178
Germany	188	411
Hong Kong	23	85
Ireland	49	102
Japan	2,630	3,152
Netherlands	400	990
South Africa	76	201
Switzerland	310	583
UK[1]	1,385	1,791
US[2]	10,195	13,196
Total (USD)	**16,318**	**23,290**

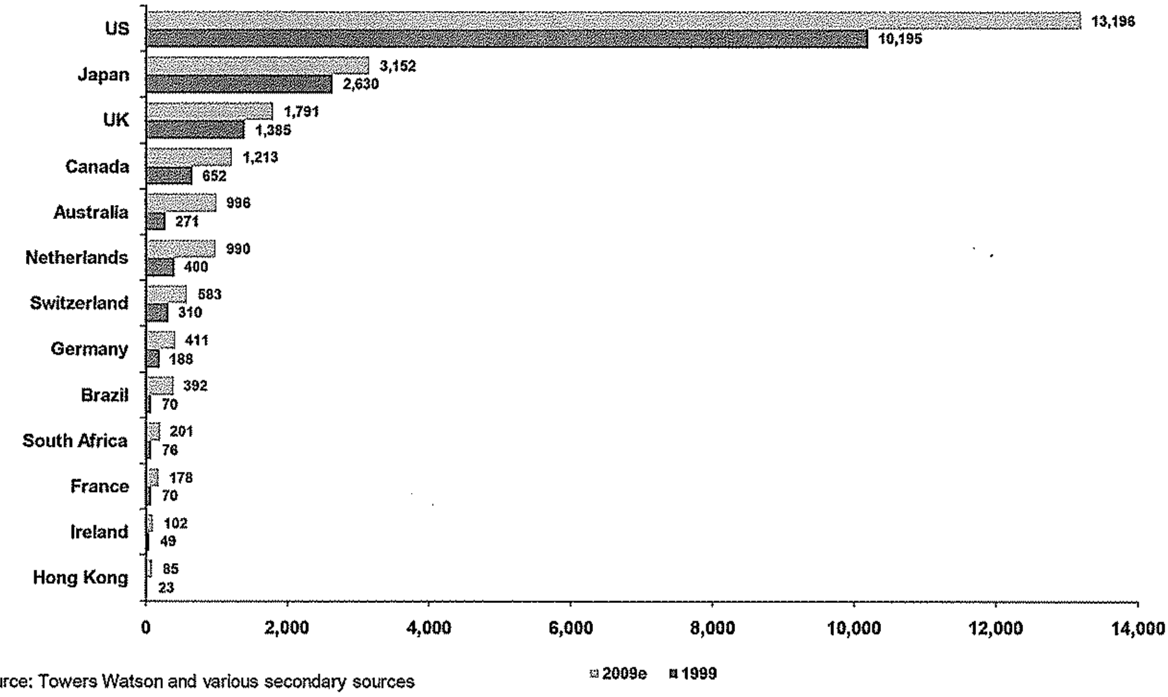
Source: Towers Watson and various secondary sources

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

P13

Global pension assets

Evolution 1999-2009 – USD Billion



Source: Towers Watson and various secondary sources

P13

Global pension assets

Relative weights of each market

- During the past decade, pension fund assets in the US, Japan and the UK have decreased relative to other economies in the P13.
- Despite slower growth, the US, Japan and the UK remained the three largest pension markets in the world.
- Brazil is the fastest growing market of the group, followed by Hong Kong and Australia, which is now claiming the fifth place in the P13.

Country	End 1999	End 2009e
Australia	1.7%	4.3%
Brazil	0.4%	1.7%
Canada	4.0%	5.2%
France	0.4%	0.8%
Germany	1.2%	1.8%
Hong Kong	0.1%	0.4%
Ireland	0.3%	0.4%
Japan	16.1%	13.5%
Netherlands	2.5%	4.2%
South Africa	0.5%	0.9%
Switzerland	1.9%	2.5%
UK[1]	8.5%	7.7%
US[2]	62.5%	56.7%
P13	100%	100%

Source: Towers Watson and various secondary sources

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

Global pension assets growth rates

Compound Annual Growth Rates – *Local Currency – 2009e*

- Annual growth rates are significantly different when comparing 2008/09 rates to those of 2007/2008. The markets' recovery in 2009 following the world financial crisis is evident. While in 2008 most of the markets suffered heavy losses, in 2009 they performed positively.
- On average, global pension assets, measured in local currency, grew by 15.6% over the last year, compared to the 10.6% fall of 2008.
- Japan's poor results in 2008 were not reversed in 2009, as pension assets there still show a negative CAGR in the last 5 years and very modest growth in the last 10 years.
- 5-year growth rates now range from –0.9% in Japan to 19.2% in Brazil, the fastest growing market in the study.

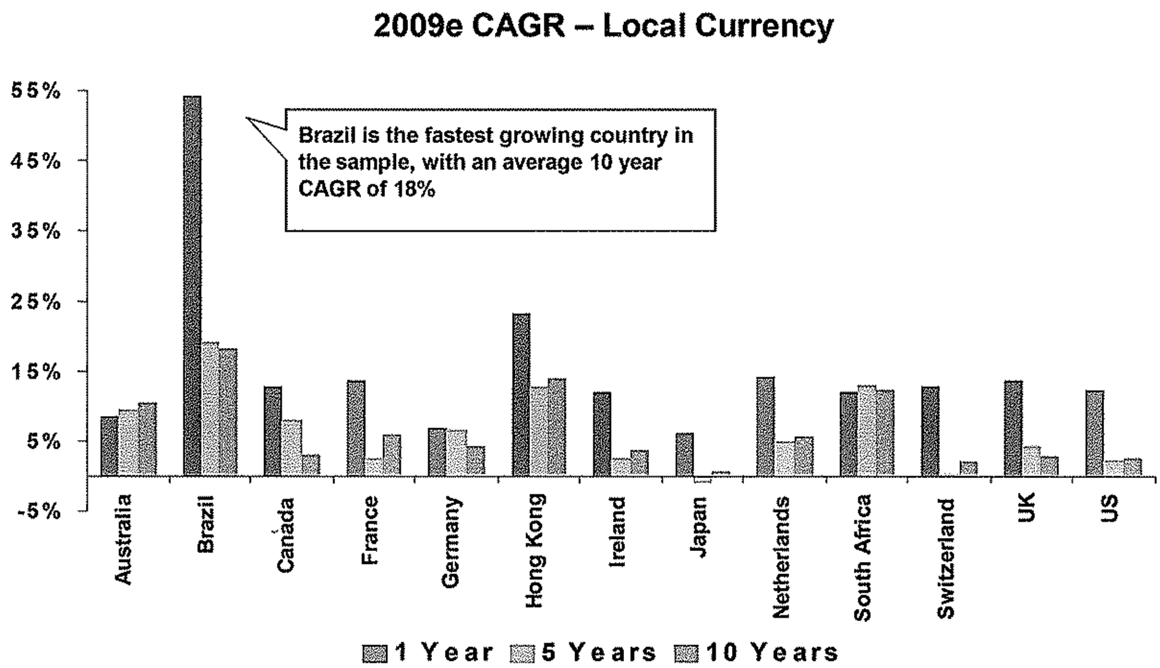
Market	1-year (31/12/07 - 31/12/08) Actual	Growth rates to 2009e (Local Currency)		
		1-year (31/12/08 - 31/12/09)	5-year (31/12/04-31/12/09) CAGR	10-year (31/12/99-31/12/09) CAGR
Australia	-17.2%	8.5%	9.4%	10.4%
Brazil	-3.8%	54.3%	19.2%	18.3%
Canada	1.5%	12.7%	8.0%	3.1%
France	-6.0%	13.8%	2.6%	5.9%
Germany	1.1%	6.8%	6.7%	4.3%
Hong Kong	-8.7%	23.3%	12.9%	14.0%
Ireland	-26.7%	12.2%	2.7%	3.8%
Japan	-12.0%	6.1%	-0.9%	0.8%
Netherlands	-16.0%	14.2%	4.9%	5.6%
South Africa	0.5%	12.1%	13.0%	12.3%
Switzerland	-11.6%	12.8%	0.2%	2.0%
UK[1]	-26.5%	13.6%	4.3%	2.8%
US[2]	-23.3%	12.2%	2.5%	2.6%
Average	-10.6%	15.6%	6.6%	6.6%

Source: Towers Watson and various secondary sources

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

Global pension assets growth rates

Compound Annual Growth Rates – *Local Currency*



Source: Tower Watson and various secondary sources

Global pension assets growth rates

Compound Annual Growth Rates – *USD*

- In 2008 global pension funds assets decreased on average by 21.3%, however during 2009 they rose by 15.1%.
- This growth occurred in all the markets in the study, especially in Brazil, South Africa and Australia where pension assets grew by 108%, 43% and 40% respectively.
- In 2009 Japan had the lowest growth rate of 4%. This is in contrast to 2008 when it was the best performer having grown assets by 9% in USD terms, thanks to a significant currency appreciation.
- The most rapidly growing pension asset markets during the last 10 years are Brazil, Australia and Hong Kong respectively, while Japan, UK and the US have the lowest 10-year growth rates.

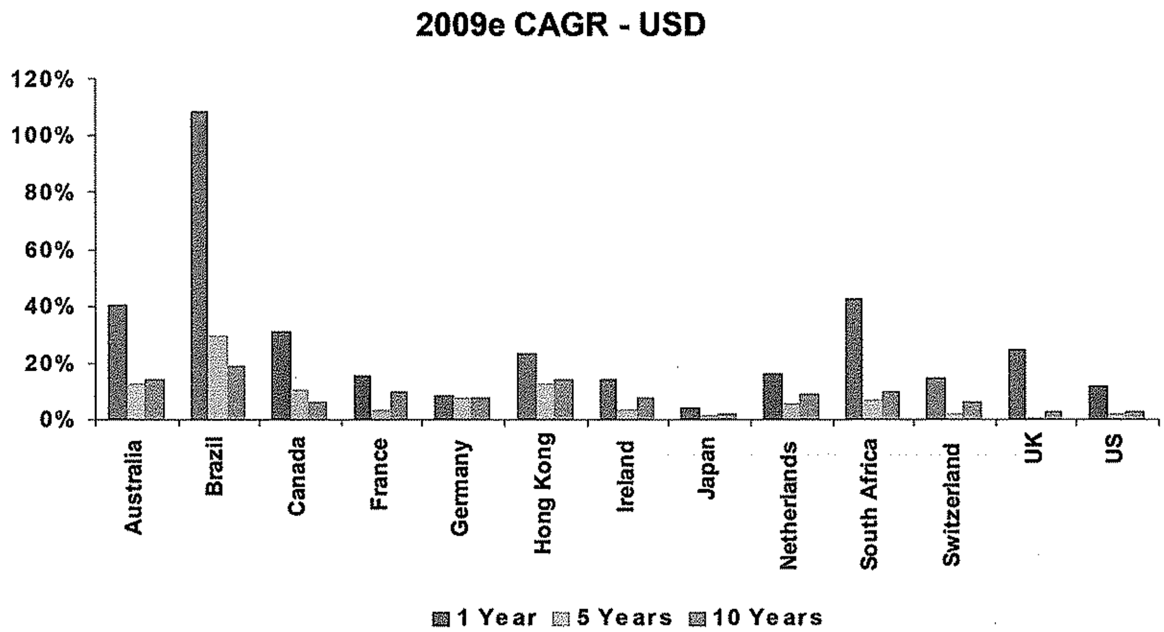
Market	1-year (31/12/07-31/12/08) Actual	Growth rates to 2009e (USD)		
		1-year (31/12/08-31/12/09)	5-year (31/12/04-31/12/09) CARG	10-year (31/12/99-31/12/09) CARG
Australia	-34.7%	40.3%	12.5%	13.9%
Brazil	-27.4%	108.3%	29.9%	18.8%
Canada	-10.2%	31.2%	11.0%	6.4%
France	-9.9%	15.7%	3.6%	9.8%
Germany	-3.2%	8.6%	7.7%	8.1%
Hong Kong	-8.0%	23.2%	12.9%	14.0%
Ireland	-29.8%	14.0%	3.7%	7.6%
Japan	9.4%	4.0%	1.3%	1.8%
Netherlands	-19.5%	16.2%	6.0%	9.5%
South Africa	-28.0%	42.9%	7.0%	10.3%
Switzerland	-5.6%	14.7%	1.9%	6.5%
UK[1]	-46.7%	25.0%	0.4%	2.6%
US[2]	-23.3%	12.2%	2.5%	2.6%
World	-21.3%	15.1%	3.3%	3.6%

Source: Towers Watson and various secondary sources

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

Global pension assets growth rates

Compound Annual Growth Rates – *USD*



Source: Towers Watson and various secondary sources

Global pension assets growth rates

Currency impact on USD Compound Annual Growth Rates

- During 2009 the Brazilian real, the Australian dollar and the South African rand were the three currencies that appreciated most against the US dollar, between 27.4% and 35.0%, thus making growth rates in USD appear much larger.
- Other currencies that appreciated against the USD were the Canadian dollar (16.5%) and the British pound (10.0%). The Euro had a moderate appreciation of only 1.7% during 2009.
- Only the Hong Kong dollar (-0.1%) and the Japanese yen (-2.0%) depreciated against the USD in 2009.
- Over longer periods, almost all countries show larger growth rates in USD. During the last 10 years the Swiss franc had the biggest appreciation (4.4%), while in the last 5 years the Brazilian real appreciated 8.9%.
- The only countries where the effect of currency movements were negative in the last 5 and 10 years were South Africa (-5.3% and -1.8% respectively) and the UK (-3.7% and -0.1% respectively).

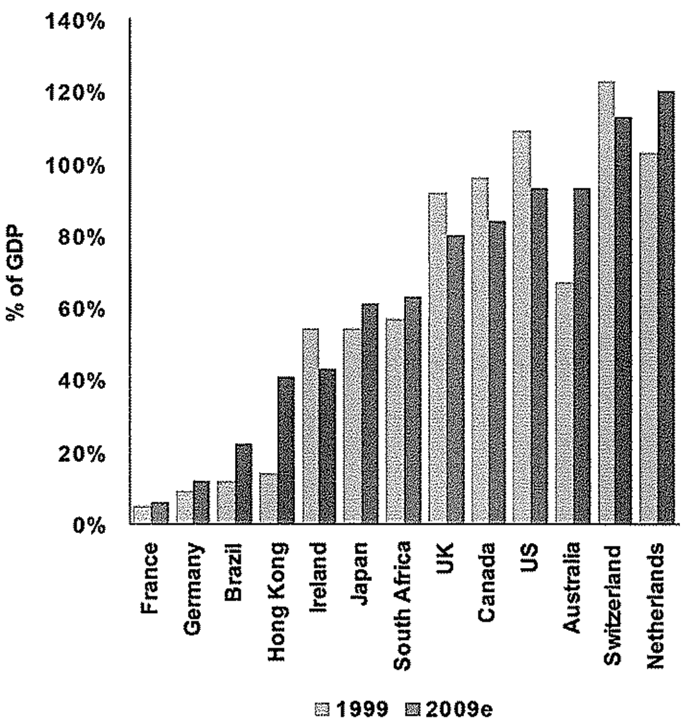
Market	Currency effects at 2009 Variation in FX (LC/USD) rates		
	1-year (31/12/08-31/12/09)	5-year (31/12/04-31/12/09)CARG	10-year (31/12/99-31/12/09)CARG
Australia	29.3%	2.8%	3.2%
Brazil	35.0%	8.9%	0.4%
Canada	16.5%	2.8%	3.2%
France	1.7%	1.0%	3.6%
Germany	1.7%	1.0%	3.6%
Hong Kong	-0.1%	0.1%	0.0%
Ireland	1.7%	1.0%	3.6%
Japan	-2.0%	2.3%	1.0%
Netherlands	1.7%	1.0%	3.6%
South Africa	27.4%	-5.3%	-1.8%
Switzerland	1.7%	1.7%	4.4%
UK	10.0%	-3.7%	-0.1%

Source: Towers Watson and various secondary sources

Global Pension Assets vs. GDP in Local Currency

Market	Pension assets as % of GDP		
	1999	2009e	*Change*
Australia	67%	93%	26%
Brazil	12%	22%	11%
Canada	96%	84%	-12%
France	5%	6%	1%
Germany	9%	12%	3%
Hong Kong	14%	41%	27%
Ireland	54%	43%	-11%
Japan	54%	61%	7%
Netherlands	103%	120%	17%
South Africa	57%	63%	6%
Switzerland	123%	113%	-10%
UK[1]	92%	80%	-12%
US[2]	109%	93%	-16%
World[3]	76%	70%	-6%

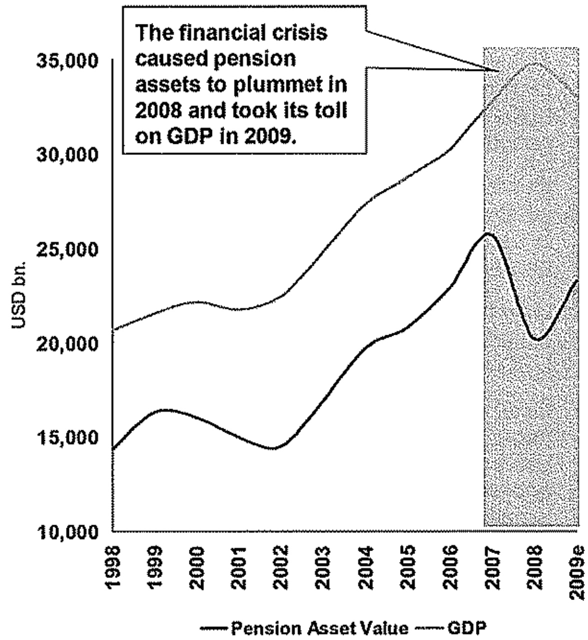
Source: Towers Watson and various secondary sources
GDP values in Local Currency from IMF
[1] Excludes Personal and Stakeholder DC assets
[2] Includes IRAs
[3] World pension assets and GDP in USD



Global Pension Assets vs. GDP

P13

- The average ratio of pension assets to GDP of the P13 increased from 58% in 2008 to 70% in 2009 - still down from its peak of 78% reached in 2007.
- The recovery is explained by two factors: rebounding of stock markets and a decline in GDP in all countries, except South Africa. While pension assets increased by 15%, the P13's GDP[1] decreased by 5%.
- The Netherlands has the largest proportion of pension assets to GDP (120%) followed by Switzerland (113%) and Australia (93%).
- Countries with the lowest ratios are France (6%) and Germany (12%).
- During the last 10 years, the pension assets to GDP ratio improved the most in Hong Kong (27%), Australia (26%) and the Netherlands (17%), while the biggest deterioration occurred in the US (-16%), Canada (-12%) and UK (-12%).

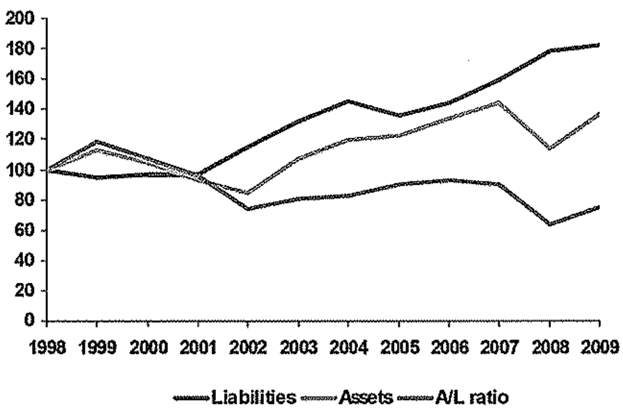


Source: Towers Watson, the IMF and various secondary sources
[1] World GDP measured in USD and country GDP in Local Currency

DB asset/liability indicator – global basis

P13

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
1999	-5.1%	12.5%	18.5%	18.5%
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%	36.5%	-24.9%	10.2%

Source: Towers Watson and various secondary sources

DB assets only within asset totals

UK assets exclude Personal and Stakeholder assets

US assets include IRAs

Brazil and South Africa are not considered in the analysis

Mortality changes are not incorporated in these figures

- Global pension fund balance sheets recovered significantly during 2009.
- The global asset/liability ratio is still down by 25% from its 1998 level.
- At an individual market level, asset/liability levels went up in 2009 in all markets. In several markets they are still lower than in 1998, the worst situation being the UK (-43%).

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 2008, collected by Towers Watson and from various secondary sources.
  - Estimates as at year-end 2009 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' 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 countries. 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 2008). 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 will 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.

2010 Global Pension Asset Study

2. Asset Allocation (P7)

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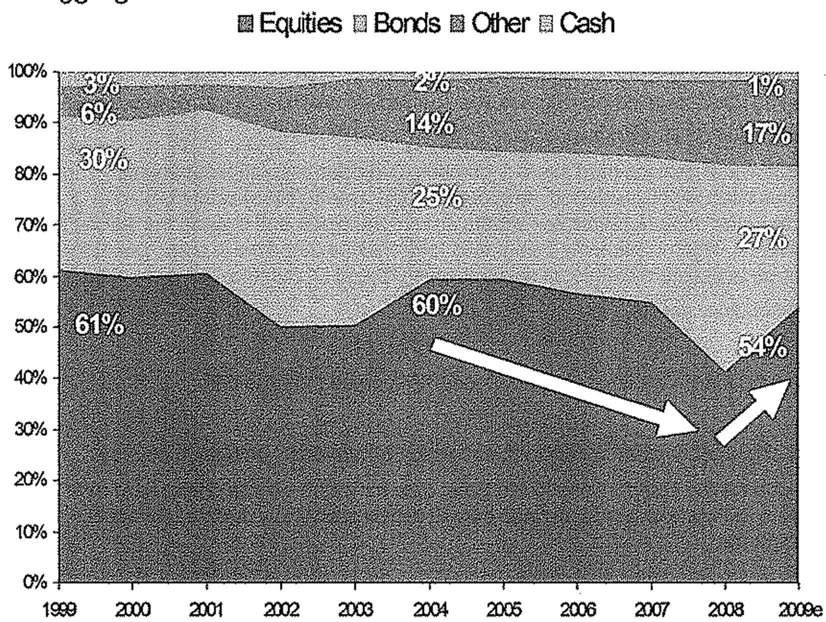
P7

Pension assets allocation

Aggregate P7 asset allocation from 1999 to 2009



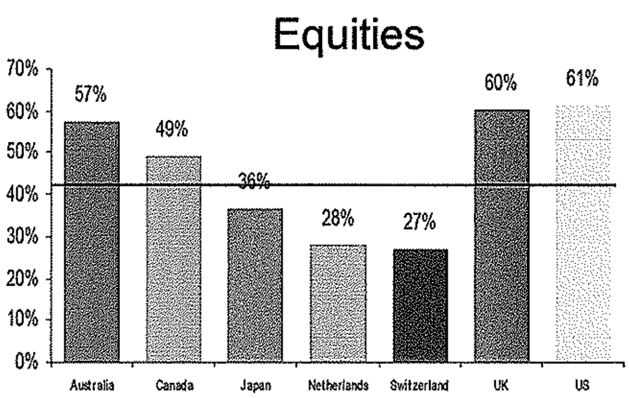
Source: Towers Watson and various secondary sources

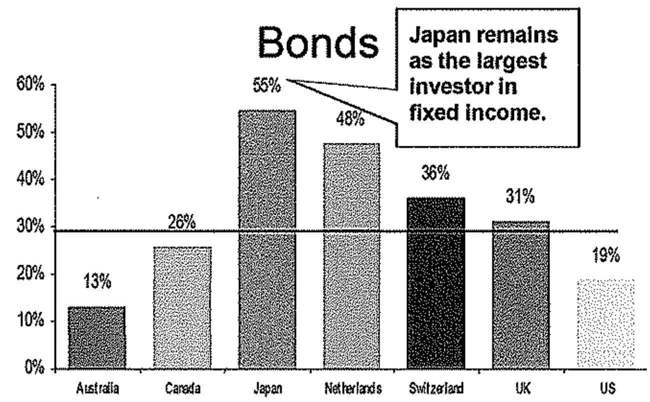
- Bond allocations increased from 24.5% in 2005 to 32.1% in 2008. However in 2009 allocations fell back to 26.9%.
- Equity allocation increased in 2009 to 54.4% from 48.0% in 2008.
- Exposure to alternative assets continues to grow, extending a long-established trend and reflecting pension funds' growing appetite for diversification.

P7

Pension assets allocation

Equities and Bonds in 2009





— Average of the sample

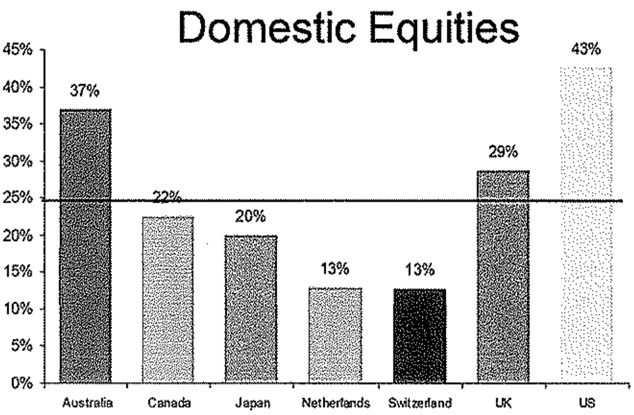
- Every market experienced a shift to greater exposure to equities and reduced exposed to bonds compared to the previous year.
- The US, UK, Australia and Canada continue to retain above average equity allocations. Japan, the Netherlands and Switzerland all have higher than average exposure to bonds.

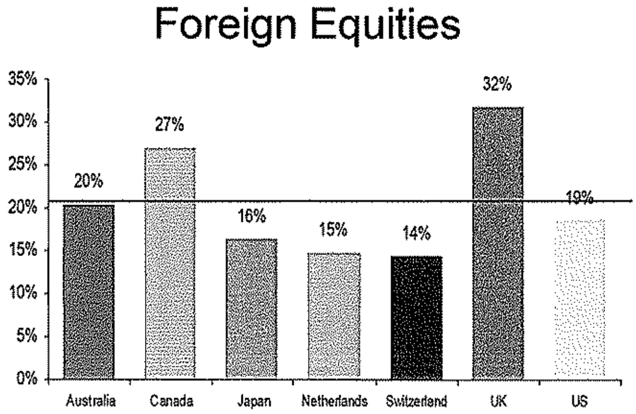
Source: Towers Watson and various secondary sources

P7

Pension assets allocation

Equities in 2009





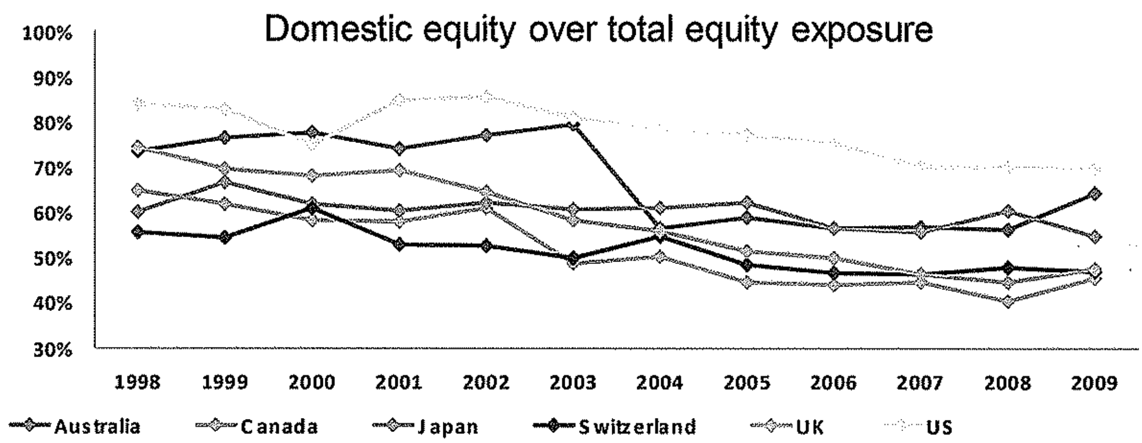
- All countries increased their allocation to domestic equities and most increased allocations to foreign equity, with the exception of Australia and Canada.
- Most countries have similar amounts of assets in domestic and foreign equities, with the exceptions of the Australia and the US, where domestic equities are predominant.

Source: Towers Watson and various secondary sources

P7

Pension assets allocation

Domestic equity exposure



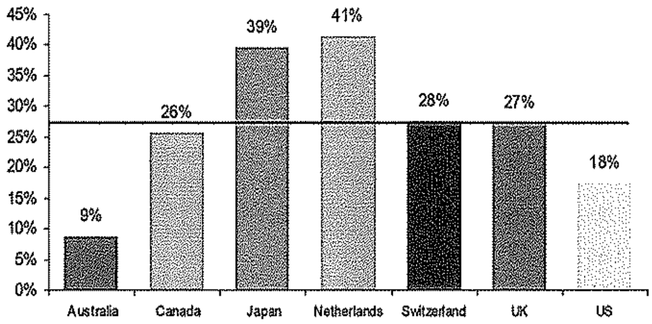
- Since 1998, domestic equity importance have been falling in most of the countries considered.
- The US pension market remains as the most dependent on domestic equities, with around 70% of total equities invested in domestic companies.

Source: Towers Watson and various secondary sources
Note: Netherlands not considered

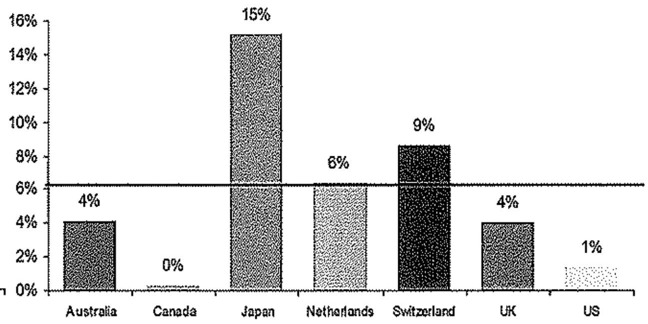
P7

Pension assets allocation
Bonds in 2009

Domestic Bonds



Foreign Bonds



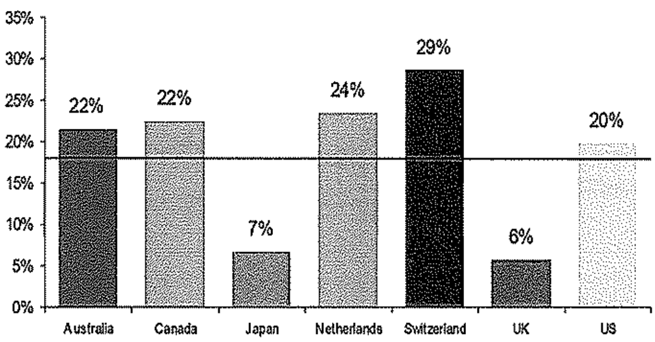
- Every market is less exposed to bonds than the previous year, both in domestic and foreign bonds.
- The exposure to foreign bonds is quite small when compared to investments in domestic bonds.

Source: Towers Watson and various secondary sources

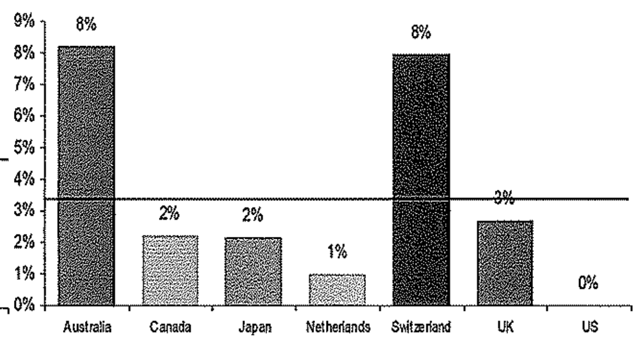
P7

Pension assets allocation
Other assets and Cash in 2009

Other assets



Cash



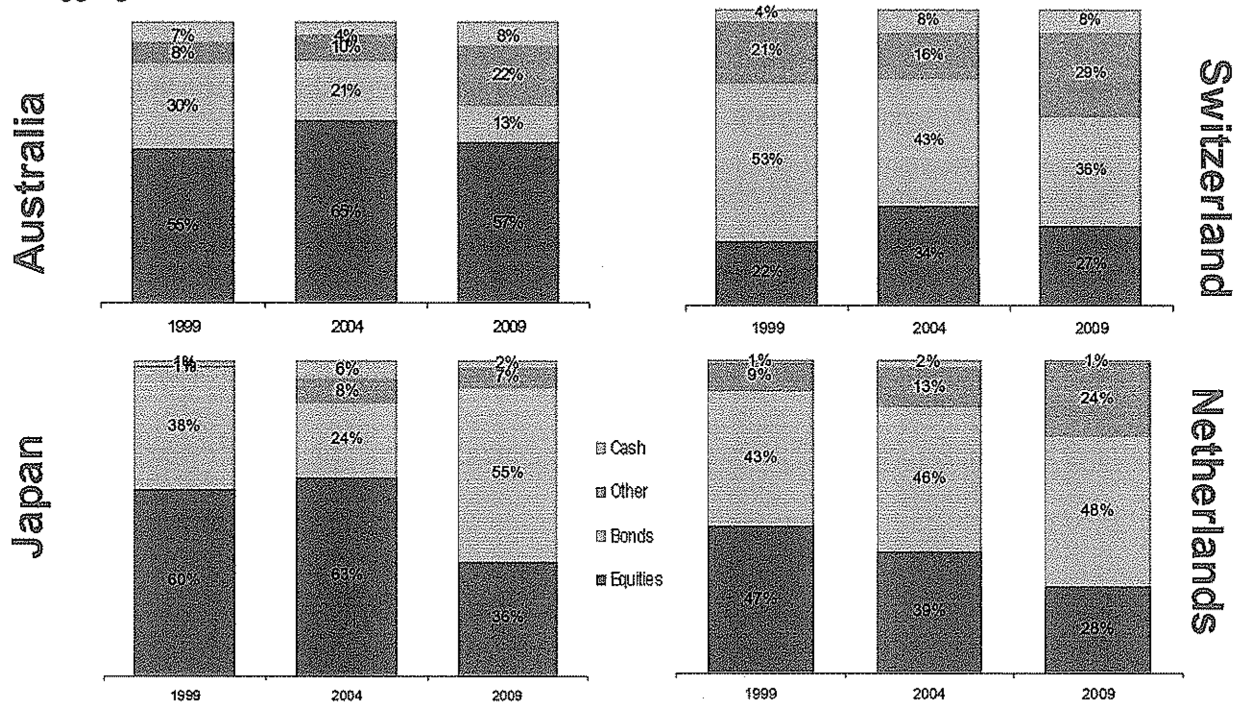
—— Average of the sample

- Australia and Switzerland have by far the largest allocation to cash, while the other P7 countries have very little invested in cash.
- Switzerland and the Netherlands have the highest allocation to alternative assets, followed by Australia and Canada. In Switzerland's case, its allocation to alternative assets is 10% above the average, with this allocation dominated by property assets.

Source: Towers Watson and various secondary sources

Pension assets allocation

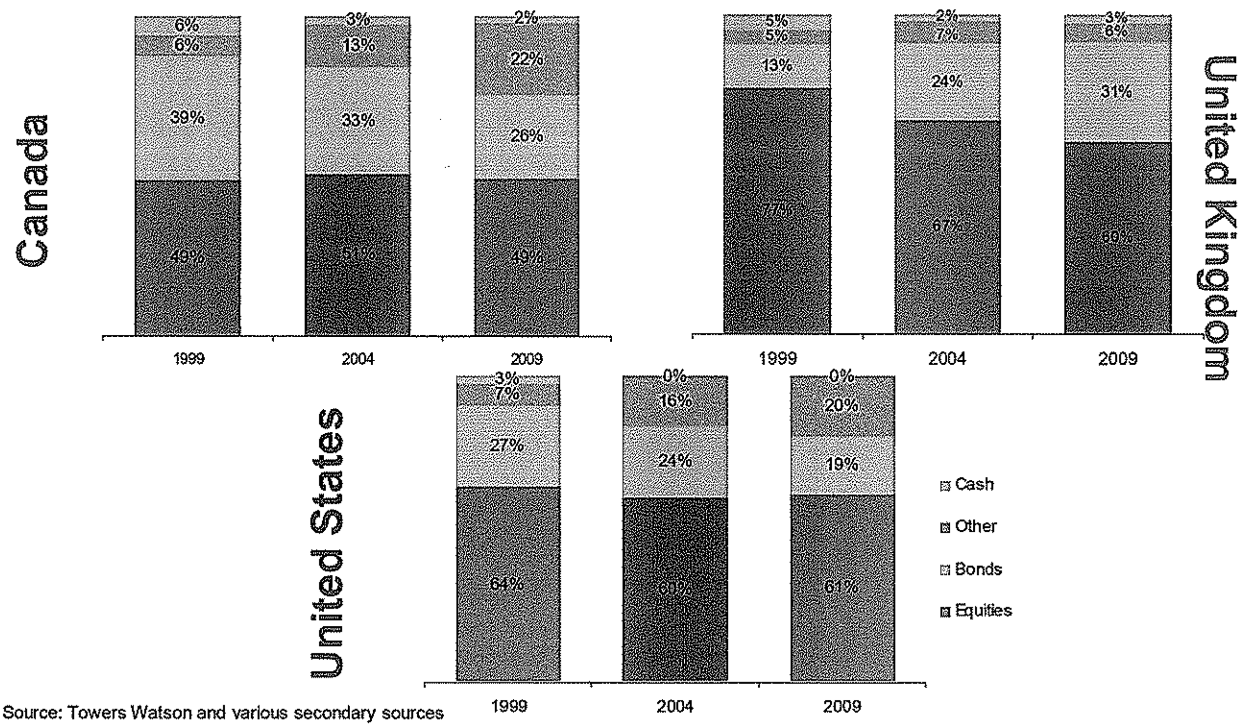
Aggregate – end 1999 versus end 2004 versus end 2009



Source: Towers Watson and various secondary sources

Pension assets allocation

Aggregate – end 1999 versus end 2004 versus end 2009



Source: Towers Watson and various secondary sources

Pension assets allocation
Comments

- Currently, the UK and the US have the highest allocation to equities. However, in the UK it has decreased significantly from 77% in 1999 to 60% in 2009. Conversely, in the US it remains fairly constant - 64% in 1999 and 61% in 2009.
- In Japan and the Netherlands exposure to equities has fallen significantly in the past decade. In both markets, bonds are now the dominant asset.
- Regarding the bond allocations, there is no clear trend, as 4 markets (Australia, Canada, Switzerland and the US) show a decrease in their exposure, while the other 3 (Japan, the Netherlands and the UK) show the opposite trend. The most notable change occurred in the UK, where its bond exposure more than doubled in the last 10 years.
- Allocation to cash remains very small in most markets, with the highest proportion being 8% in Australia and Switzerland.
- Investment in alternative assets continues to grow in all countries, with the exception of Canada.

2010 Global Pension Asset Study

3. DB/DC allocations (P7)

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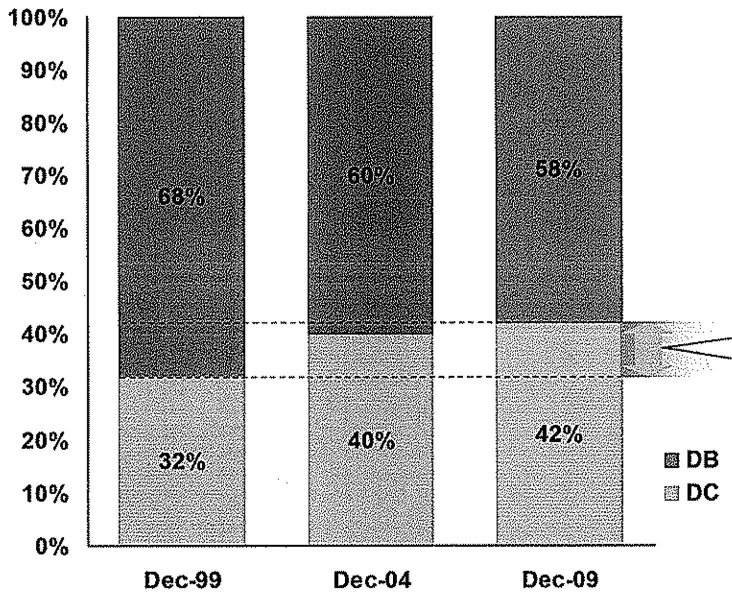
P7

DB/DC asset split

Change over the 10 years to the end of 2009

Defined contribution (DC) fund assets



- During the last decade there has been a strong trend toward the establishment of DC pensions schemes. However DB assets still continue to represent more than half of total assets.

Average growth of DC assets is 6.4% pa vs. DB on 1.6% pa

Source: Towers Watson and various secondary sources

towerswatson.com

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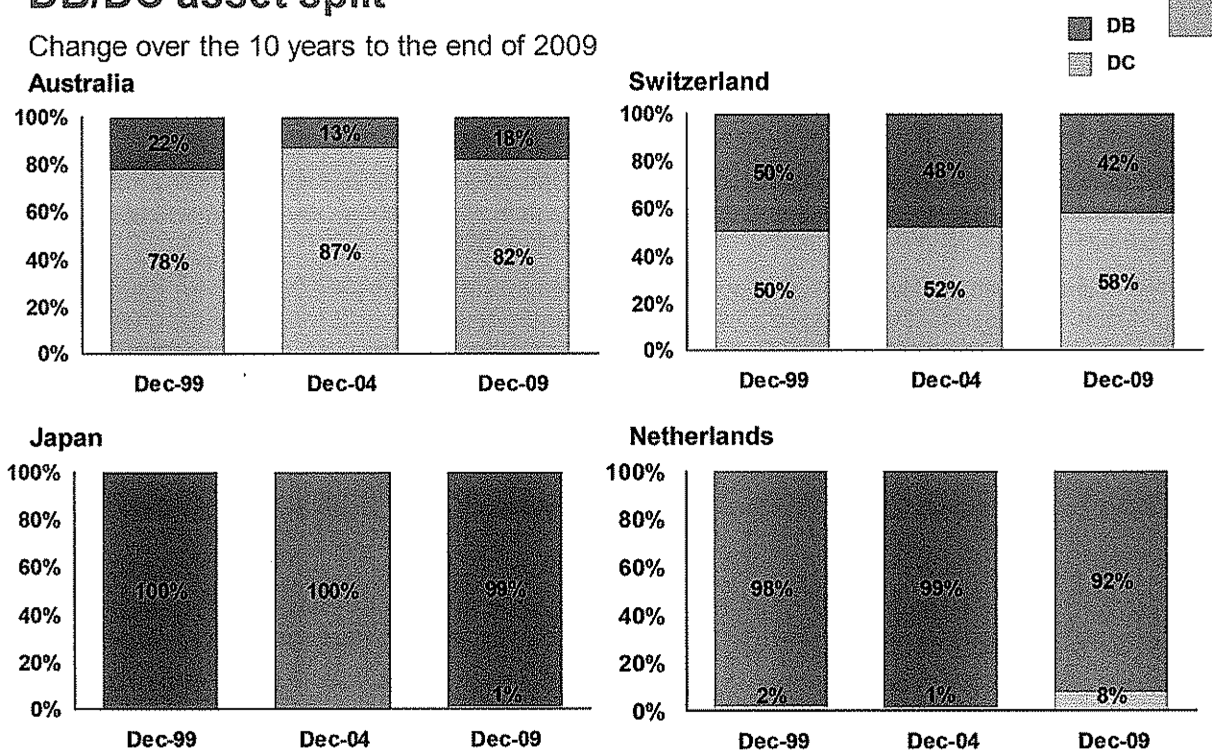
P7

DB/DC asset split

Change over the 10 years to the end of 2009



Source: Towers Watson and various secondary sources

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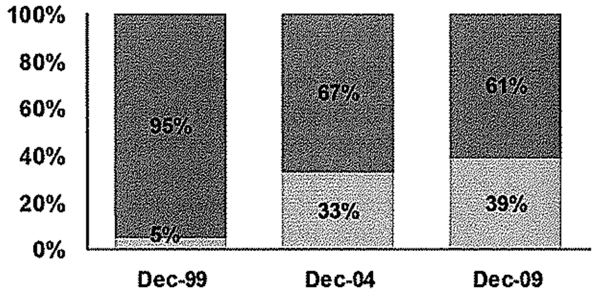
DB/DC asset split

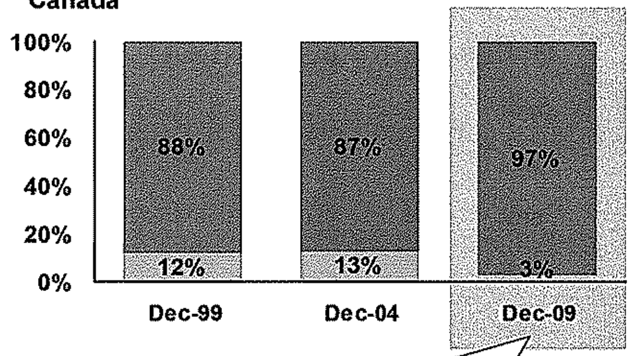
Change over the 10 years to the end of 2009

DB
DC

United Kingdom

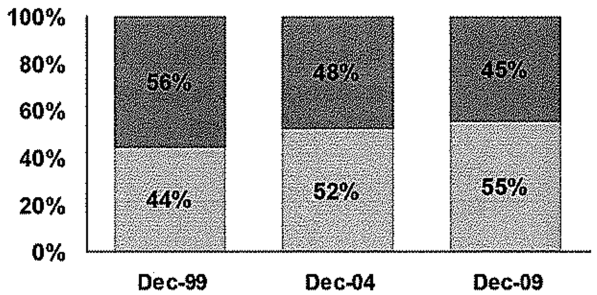


Canada



Canada is the only country in our sample where DC assets have fallen when compared to DB.

United States



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 go down to 26%

US assets include IRAs

Source: Towers Watson and various secondary sources

DB/DC asset split

Change over the 10 years to the end of 2009

- During the last 5 years all the P7 countries, except for Canada and Australia, increased their DC assets. Over the last 10 years, only Canada has seen its DC assets fall relative to DB.
- DC assets continue to dominate in Australia - 78% in 1999, 87% in 2004 and 82% in 2009. Behind Australia in DC assets are Switzerland (58% in 2009, up from 52% in 2004), the US (55% in 2009, up from 52% in 2004) and the UK (39% in 2009, up from 33% in 2004).
- The countries with the lowest proportion of DC assets at the end of 2009 were Japan (1%), Canada (3%) and Netherlands (8%). Despite a low percentage in the Netherlands, this represented growth of 7% compared to the previous year. Canada is the only country where total DC assets decreased during the last five years when compared to DB.

2010 Global Pension Asset Study

4. Public/Private sector allocations (P7)

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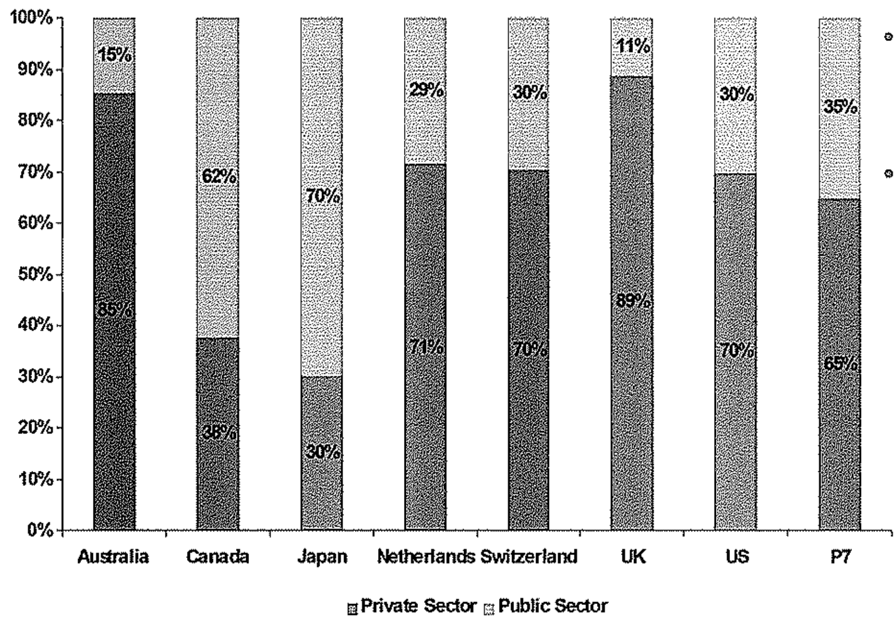
P7

Public vs Private sector

By Countries – Values at 2008



- 70% of pensions assets in Japan and 62% of Canadian assets are held by public sector.
- In the UK and Australia the private sector holds respectively 89% and 85% of total assets.

Source: Towers Watson and various secondary sources

Methodology cannot be stretched to provide an estimate for 2009

Contact details and limitations of reliance

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Limitations of reliance – Thinking Ahead Group

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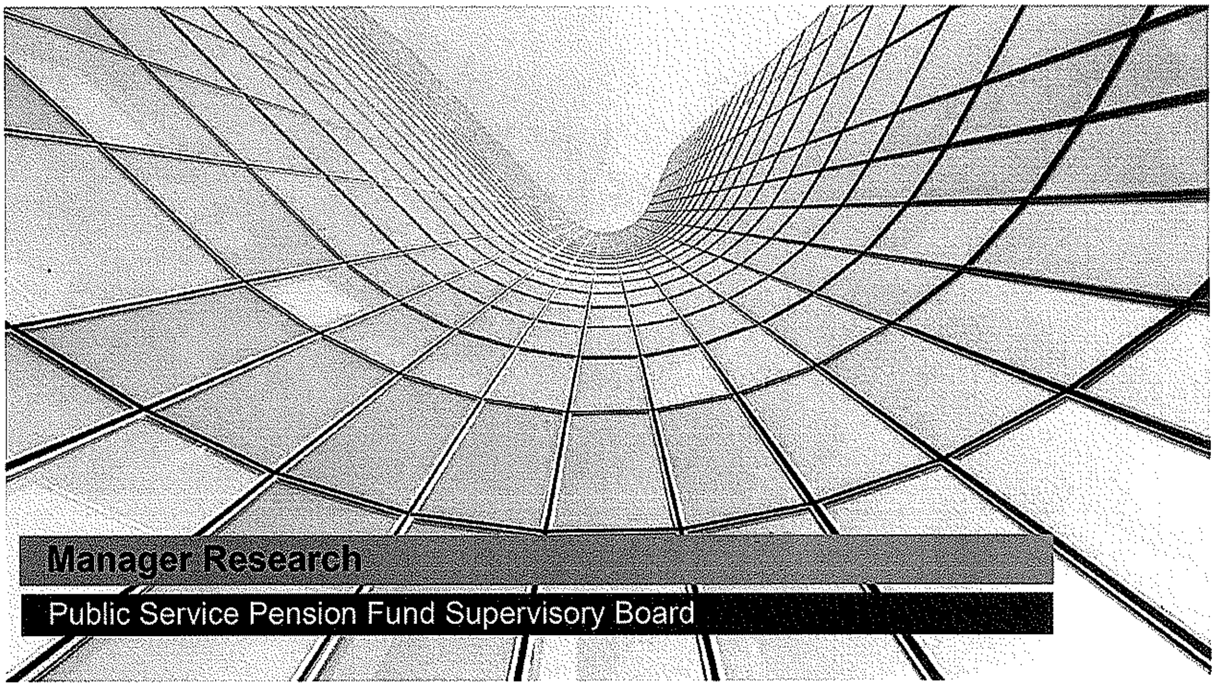


Mark Brugner
14 September 2010

TOWERS WATSON

Our Clients
- Number of investment clients and assets under advice

EUROPE

$1,100 bn assets under advice
on behalf of 300 clients

AMERICAS

$600 bn assets under advice
on behalf of 450 clients

ASIA PACIFIC

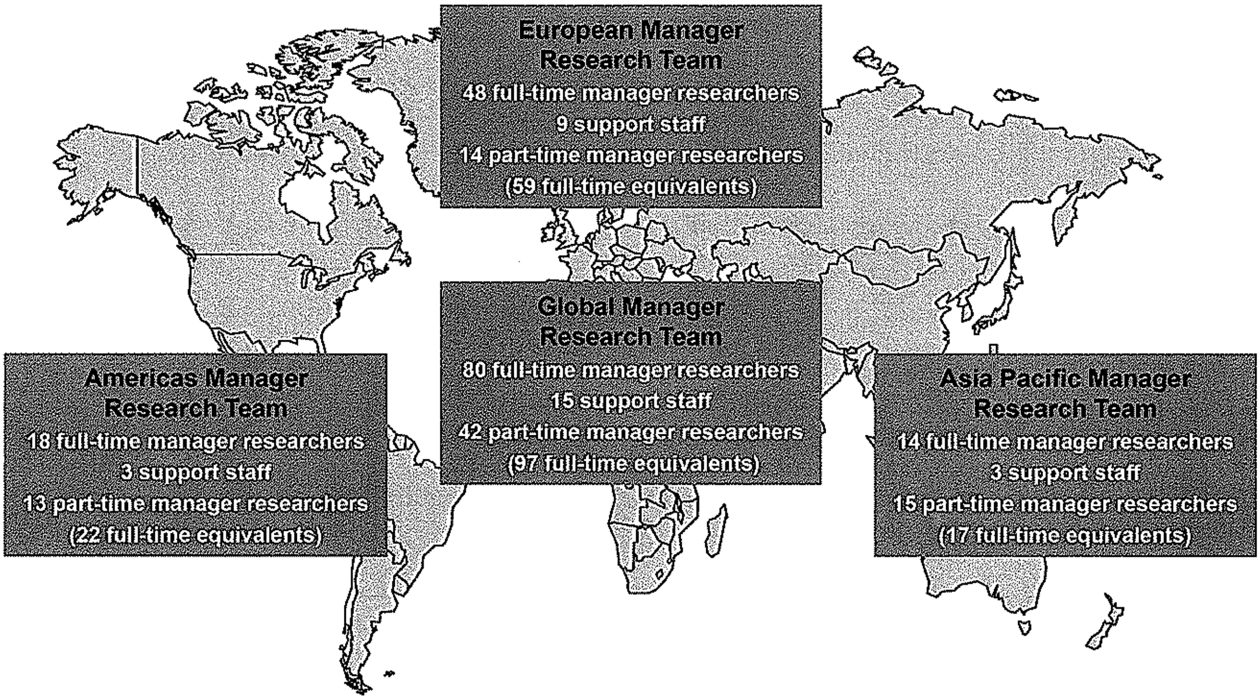
$400 bn assets under advice
on behalf of 250 clients

TOTAL

Globally we advise more than 1,000 pension funds and institutional investors with assets in excess of US$2 trillion.

Global manager research resources

1 June 2010



Global manager research structure

1 June 2010

Craig Baker, FIA
Global Head of Manager Research

- **Global Leadership roles**
  - **Martin Knowles, FIA** — Head of Equities
  - **Margaret Frost, CFA** — Head of Bonds
  - **Jane Welsh*/Craig Baker** — Head of Private Markets
  - **Damien Loveday, CFA** — Head of Hedge Funds
- **Market Leadership roles**
  - **Janice Fritz-Snyder** — US
  - **Zainul Ali, CFA** — Canada
  - **Paul Jayasingha, FIA** — EMEA
  - **Mark Brugner** — Asia
  - **Hugh Dougherty** — Australia

Average years industry experience: 20 years

* Taking six month leave from 1 July 2010

Our researchers in the region

Location	Taiwan				China	Hong Kong				Japan					Korea	Malaysia
Researchers	Janet Li	Rena Pang	Stephen Tong	KoChien Hsu	Jeanne Zhen	Jack Yuan	Mark Brugner	Calvin Wong	Henry Ching	Junji Inoue	Taro Ogai	Tomoya Goto	Toshiya Takenaka	Yasuyo Asada	Andy Jung	Shok Peng Ng
Equity – AP ex Japan							✓	✓								
Equity – Japan								✓			✓	✓	✓			
Equity – GEM							✓	✓								
Equity/ Multi-Asset – Hong Kong							✓	✓								
Equity – Greater China					✓	✓	✓	✓								
Equity - Taiwan	✓	✓	✓	✓	✓		✓									
Equity – Korea							✓								✓	
Equity/ Bonds – Malaysia							✓									✓
Bonds – Japan													✓	✓		
Private Equity					✓				✓							
Infrastructure					✓				✓							
Real Estate, REITs					✓				✓	✓						

The Towers Watson manager research philosophy

The overall goal is to find managers that exhibit a *sustainable competitive advantage*

We believe that successful managers exhibit certain repeating patterns or *success factors*

Qualitative manager research is absolutely key - *there is a high noise-to-signal ratio in performance*

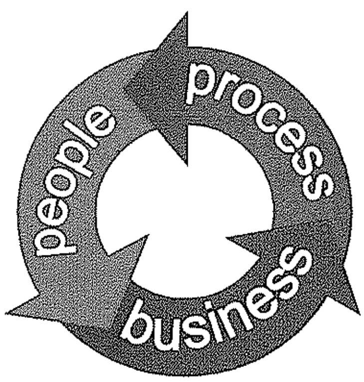
Do not focus on past performance

- Take two different managers
  - Genius Asset Management
  - Idiot Asset Management
- We are lucky enough to know for a fact that Genius is highly skilled and over the very long term will produce 2%pa outperformance with a tracking error of 4%pa
- We also know that Idiot is not at all skilled and over the very long term will underperform by 2%pa with a tracking error of 4%pa
- There is still a 19% chance that Idiot will outperform over the next THREE years
- There is even a 13% chance that Genius will underperform over the next FIVE years

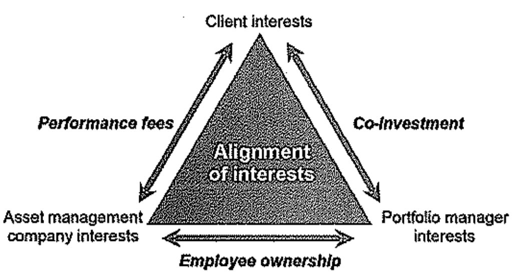
Performance track records are much worse at indicating future performance than people think

The qualities we look for in managers

People
- Investor quality
- Focused decisions
- Depth of resource
- Collegiate culture
- Team dynamics
- Staff turnover



Process
- Clear philosophy
- Insightful research
- Implementing ideas
- Process evolution
- Risk management
- Other impacts



Business
- Long-term focus
- Investment-led
- Stable structure
- Business investment
- Growth management
- Aligned interests

Business

- Read the Report & Accounts
  - how important is asset management?
- Look at recent share price moves
  - are they profitable?
  - are options under water?
- Find out the backgrounds of the key Board members
  - do they understand asset management?
  - has there been continuity?
- Calculate the level of employee ownership
- Understand the business objectives
  - growth or client performance focus?
  - short or long term profitability management?
- Down-rate following the announcement of corporate activity unless there are very good reasons otherwise

Can this business attract the talent of the future?

People

- Look through the presentation and try to find top quality people
- Talk in detail about what their competitive advantage is and see if this is where the portfolios are positioned
- Try to understand if they have a structured approach to analysing companies rather than a structured approach to making decisions
- Ask team leaders what the strengths and weaknesses are of their team members
- Try to find out more about the remuneration structure
- Do not automatically look negatively upon organisations that do not have LTIPs
- Sit in on internal meetings

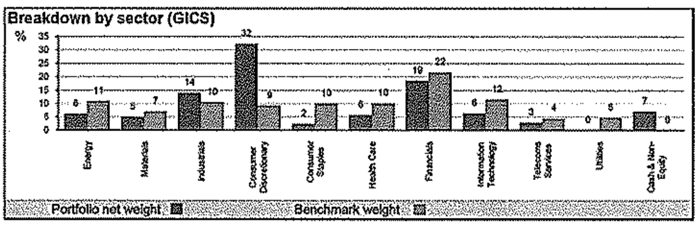
A poor presentation does not indicate a poor manager

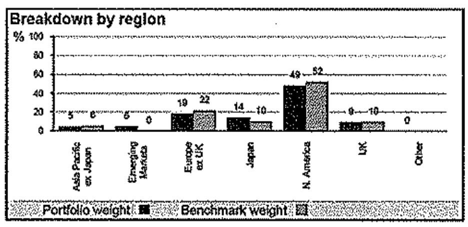
Process

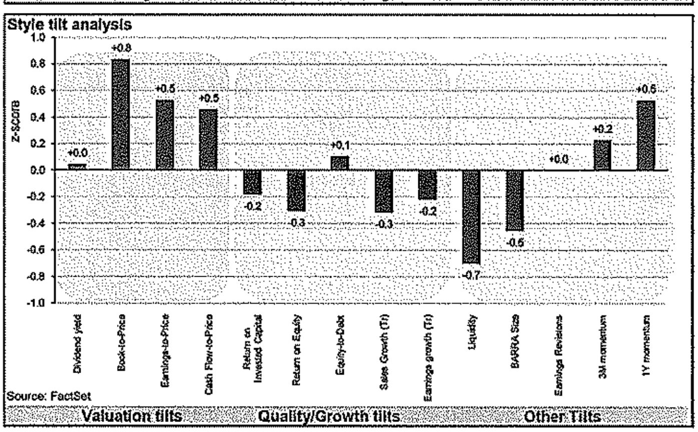
- What do they look for in a company?
- Does the portfolio tie up with this using the quantitative analysis?
- Spend time with analysts going through their valuation models
- What risk controls have been used and do these tie up with the performance pattern?
- Is there sensitivity analysis and scenario testing?
- Work through stock examples
  - How did they come up with the idea?
  - What did they have to do to get it into the portfolio?
  - How did they make the sell decision?
  - How were transaction costs taken into account?

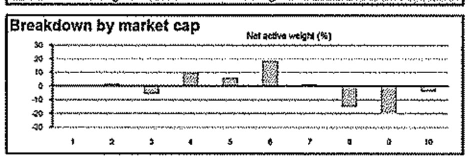
Do they have a better understanding of company business models than the market?

Portfolio holdings analysis









Portfolio risk summary

		contrib (%)
Active risk = 8.3%		
Absolute risk = 28.2%	Market exposure	95.9
	Active risk impact	4.1
B'mark absolute risk = 24.7%		
Portfolio Beta	*1.10*	

Portfolio holdings summary

Positions	No. of issuers	Weight (%)
Long	21	100.0
Short	0	0.0
B'mark not held	1643	-
Net exposure		100.0

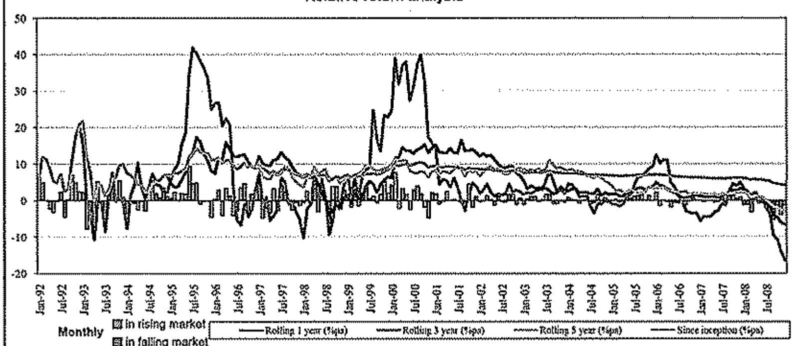
Exceptions

0.0% of the portfolio has been left out of the analysis

B'mark number of stocks 1660

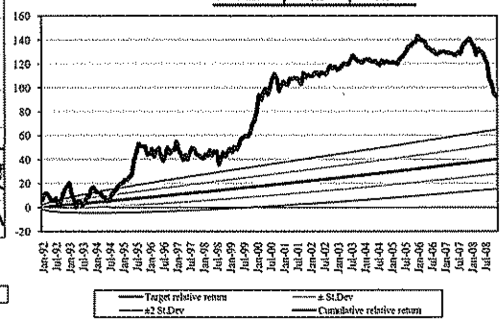
Performance analysis

Relative return analysis

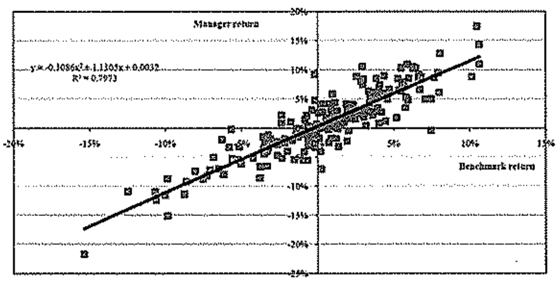


Achieved relative return vs. Target relative return

	Geometric	
	Target (%)	Achieved (%)
Relative ret	2.0	3.9
TrackErr	3.0	9.0



Market timing

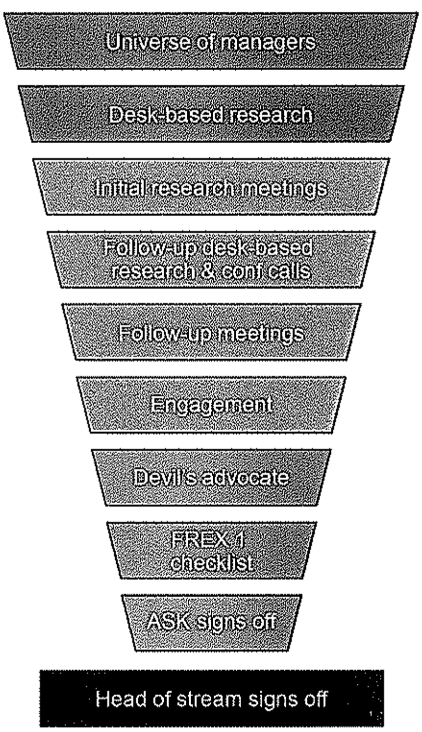


Quadratic parameter	-0.11
Upside capture ratio	2.16
Beat the benchmark in upmarket	
Downside capture ratio	1.01
Not beat the benchmark in downmarket	

Summary statistics

Description	Total 17Ys 0Ms	Conf Interval	5Y	3Y	1Y
Relative return (%pa)	4.2	[3, 5.4]	-2.8	-6.6	-16.3
Tracking error (%pa)	9.0	[8.2, 10]	4.9	5.5	6.6
Information ratio	0.5		-0.6	-1.2	-2.5
Best monthly outp (%)	9.4	n/a	2.5	2.5	2.3
Worst monthly outp (%)	-7.8	n/a	-5.2	-5.2	-5.2
Monthly regr alpha (%)	0.3	[-0.1, 0.7]	-0.3	-0.5	-1.6
Monthly regr beta	1.1	[1.04, 1.22]	1.2	1.1	1.1
Absolute return (%pa)	10.7	[8, 13.4]	1.1	-9.1	-34.3
Absolute volatility (%pa)	19.5	[17.8, 21.6]	16.0	18.1	26.7
Sharpe ratio	0.3		-0.2	-0.7	-1.4
Sortino ratio	0.5		-0.2	-0.9	-2.4
BM abs return (%pa)	6.5	[4.4, 8.7]	4.0	-2.5	-17.9
BM abs volatility (%pa)	15.4	[14, 17]	13.4	15.3	23.6

Typical process for rating managers



Market knowledge, contacts, publications, databases

Experience/stability of team, fees, process/philosophy, quant analysis

Meet key people, detail on process, independent thoughts emails

Review manager's research & quant output, further quant analysis

Sit in on internal meetings & investment discussions, meet more people

Fees, capacity framework, vehicles

One ASK (Area of Specialist Knowledge) member makes case against rating manager highly

Key points to cover before moving to FREX 1 rating

ASK debates all key issues & decides whether to rate FREX* 1

*Our *FREX* (*F*uture *R*eturn *Ex*pectation) rating is based on a scale of 1 – 4, 1 being the highest conviction.

'Traffic light' analysis
- ensuring consistency and objectivity in our views

Business success factors

- Long-term focus on asset management by strong business leaders
- Non-bureaucratic, investment-led culture
- Stable corporate structure
- Significant investment in key aspects of the business
- Successful management of the growth of the business as well as the existing client base
- Business structure and employee interests are aligned with those of clients

People success factors

- Insightful, experienced and motivated investors
- Focused decision-making with clear accountability
- Adequate depth of resources relative to the process employed
- Culture that promotes creative thinking and collaboration
- Effective, cohesive teams with complementary skills and personalities
- Healthy staff turnover, neither too high nor too low

Process success factors

- A clear investment philosophy and process designed to leverage competitive advantages
- Superior research that produces unique investment insights
- Portfolio management that efficiently translates research insights into portfolio positions
- Pro-active consideration of potential process improvements
- Appreciation and management of all risks relevant to the investment approach
- Effective management of wider impacts on performance, such as capacity issues and transaction costs

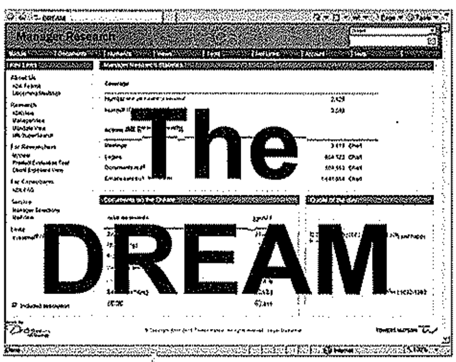
In our view the manager has a weakness in this area

We believe that there is an issue in this area

We have not identified significant issues or weaknesses in this area

Our **Global Manager Research Governance Group**, comprising senior research professionals in each region, ensures that the research output is of the highest quality and checks for consistency in view across ASKs.

Proprietary global manager research network



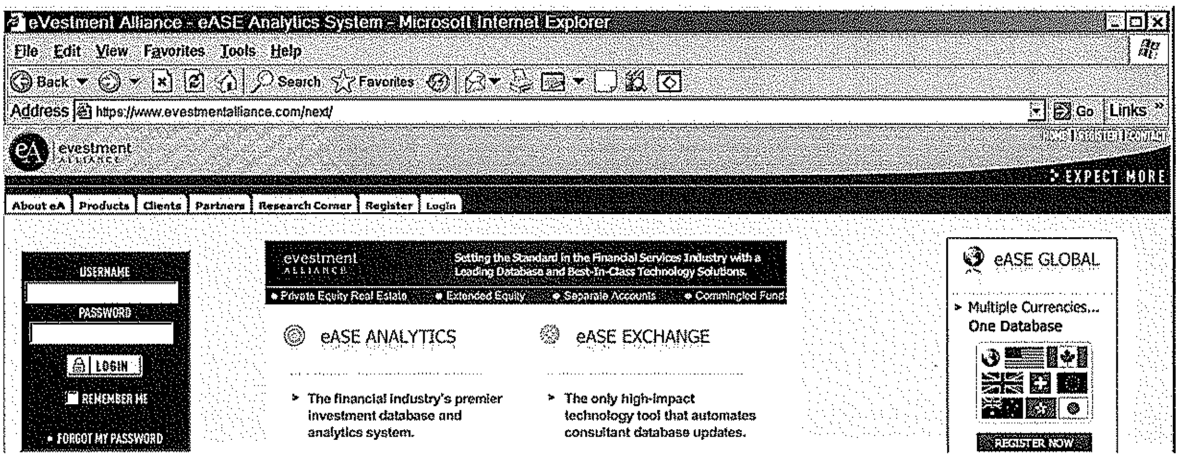
What is in the DREAM?

The Dream provides clients with a window to all of our research, and is the focus of our 100+ researchers worldwide

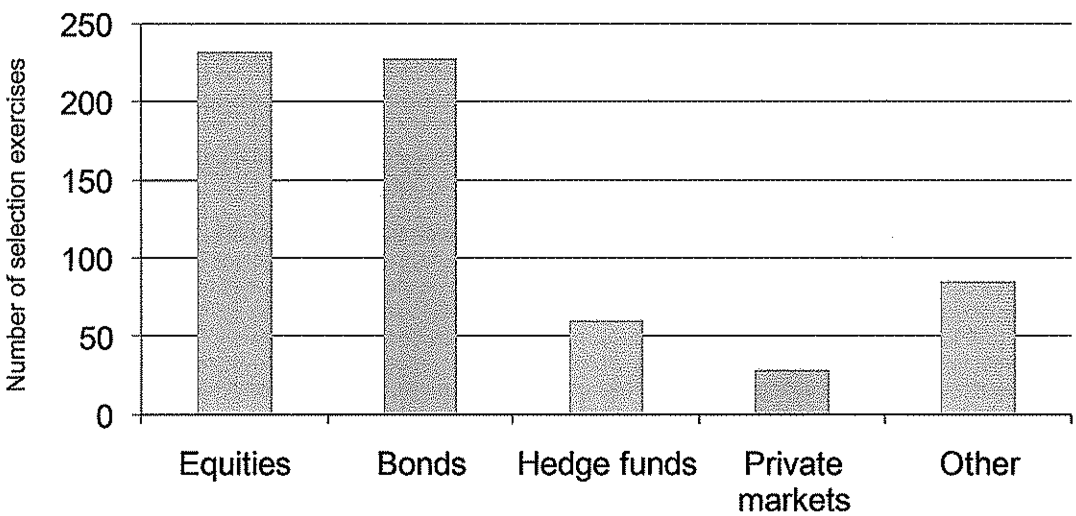
- Manager research output: SWISS analyses, FREX ratings, profiles, traffic light analysis and meeting notes
- Regular and timely updates on changes at your managers
- Quantitative analysis and numeric data (also from eVestment)
- Thought-pieces and publications (The Library)

External *quantitative* investment manager database

- We work closely with eVestment Alliance (eA) to establish a single global quantitative investment manager database for selection and monitoring activities. We extract any new manager level data from eVestment and add it into the Dream



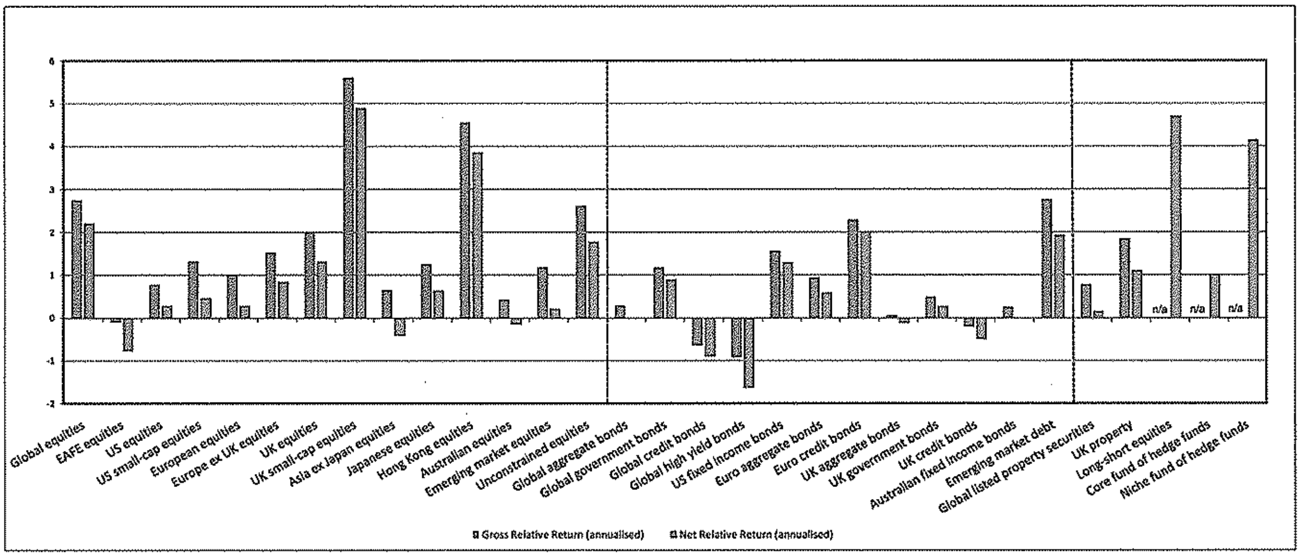
Manager selections for global clients in 2009
By asset class



Source: Towers Watson. This data relates to Legacy Watson Wyatt selection exercises only

Towers Watson model portfolios – All (GBP)

Track record since inception to 31 March 2010



All figures are annualised since inception and are in Sterling. Please note that inception dates vary, but all the models above have been running for at least three years.
Past performance is not necessarily a guide to future investment performance.

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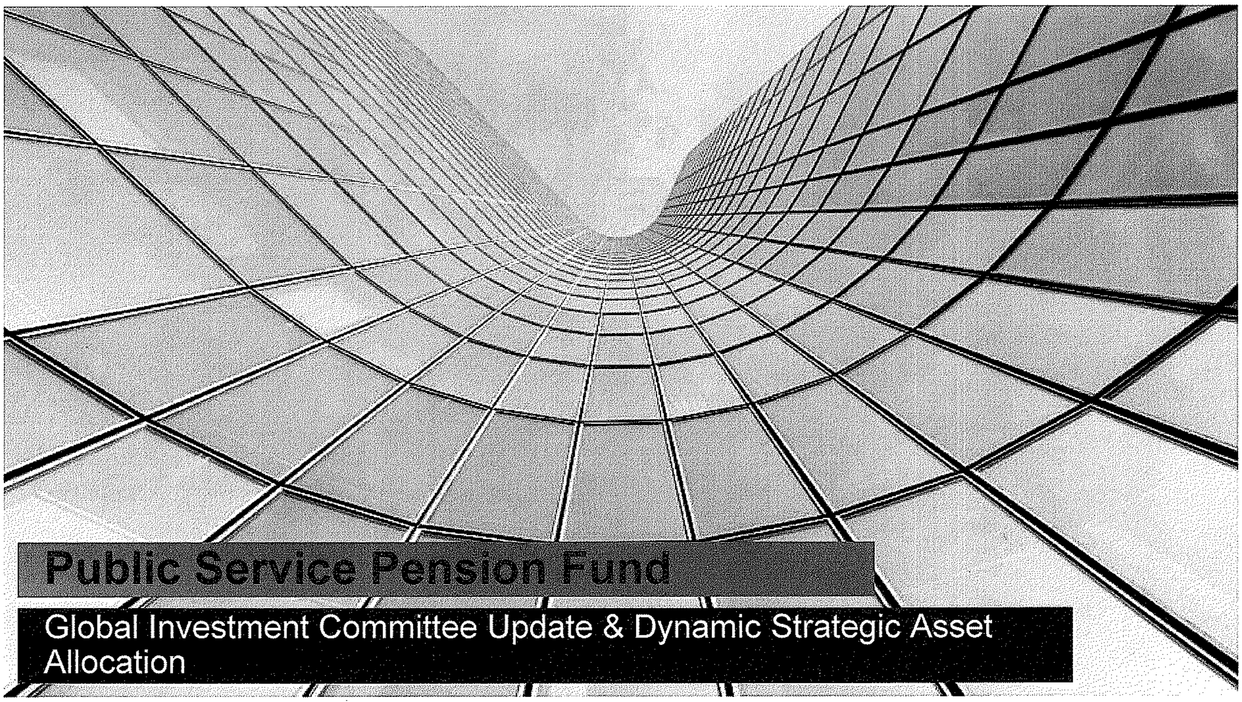


Public Service Pension Fund

Global Investment Committee Update & Dynamic Strategic Asset Allocation

13 September 2010

TOWERS WATSON

Agenda

- Recent Themes
- Strategic views
- Current DSAA views
- Bond Yield Drivers
- Asian perspective

Recent Themes

3 Recent Themes

- **Bonds, Bonds, Bonds**
  - Sovereign default risk, G4 yields, what does Emerging mean?
- **China, China, China**
  - Developments in the RMB – slight loosening of policy, RMB bond issuance
  - Developments in the economy – housing, bank lending, domestic demand
- **Dis-equilibrium**
  - G4 versus emerging growth rates, currencies, inflation
  - Investor risk appetite
  - Strategy for Alternatives

Current DSAA views

Summary of Towers Watson's medium-term asset class views, August 2010

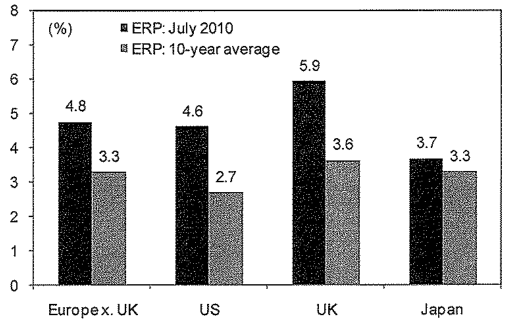
	Asset class	Negative	Negative (moderating)	Slightly negative	Neutral	Slightly positive	Positive (moderating)	Positive
Listed Equities	Global (developed)					⟸		
	Emerging markets					⟸		
	US					⟸		
	Euro area					⟸		
	Japan							
Sovereign Bonds	Global nominal							
	Global inflation-linked							
	EM Sovereign Credit							
Credit	Investment grade							
	High yield							
	Secured loans							
	Emerging market							
Other	Commodity futures							
	Currency (EMFX)							
	Reinsurance							

Global Equities

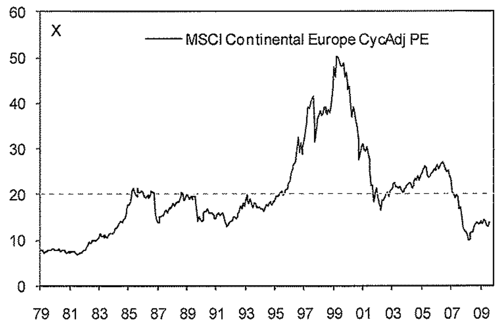
Sharp market falls and extreme volatility

- Equity markets have fallen back to year lows in the last month as investor fears of left-tail sovereign risks and their potential negative impact on global growth have become heightened.
- While value (based on either dividend discount analysis or cyclically adjusted P/E measures) has been brought back into equity markets, the risks around the cyclical recovery have become more fragile; consequently we think equities are only moderately attractive relative to bonds and credit.
- Continental European equities look relatively more attractive than other areas of the market on a PE basis, although this may well be warranted due to higher risks in the banking sector.
- We remain strong proponents of the emerging economy decoupling theme and believe, over the long term, that this will lead to a structural decline in the ERP of emerging markets relative to developed markets.

Risk premiums have risen in all markets



Europe cyclically adjusted PE is significantly below average



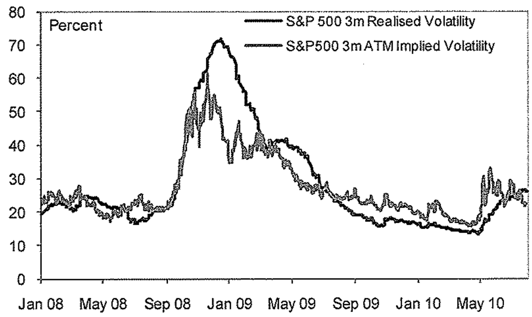
Sources: Bloomberg, Towers Watson

Equity volatility

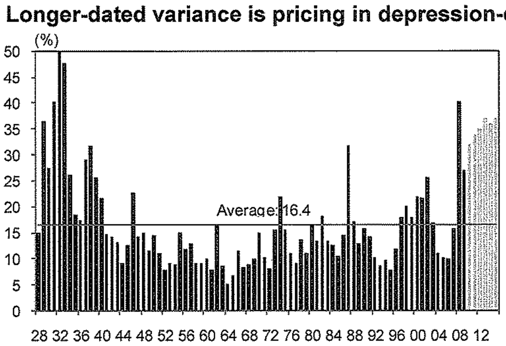
Market implied volatility

- We think uncertainty about the macro environment can drive persistent changes in volatility levels, whereas variations in general risk sentiment cause short term variation.
- Sovereign debt fears, especially in the Euro area, concerns over new bank funding risks and worries about a hard landing in China due to monetary tightening have pushed up equity market volatility sharply. It has also caused an extreme increase in option skew (a useful measure of the market's demand for downside protection).
- Despite the increase in shorter term implied volatility, options implied volatility remains well off its 2008 highs. However, longer dated (5-10y) variance swaps – the market's price of future realised volatility – have gone back to their recent peaks and are pricing in a very high volatility outlook for equities over the medium term – in our view too high.

Shorter term implied volatility has risen but is well off 2008 highs



Longer-dated variance is pricing in depression-era volatility



Sources: Bloomberg, Goldman Sachs, Towers Watson

Emerging Market Equities

EM equity valuations relative to history

- In aggregate, China and EM equity valuations are now trading in line with their medium to long term historical averages (end column of the table on the right) and well within our 'fair value' range of +/- 1 standard deviations from the average.

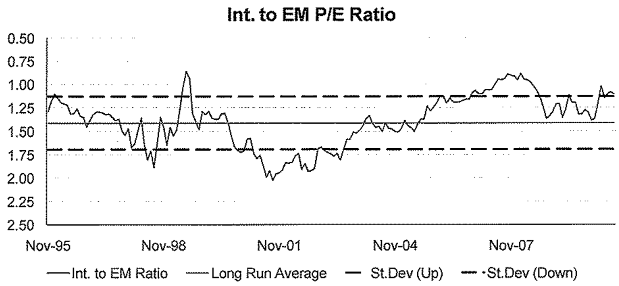
EM relative to developed market equities

- Emerging market valuations are also now 'fair' relative to developed world and US equity markets on most measures.
- The higher price/book in China and EM (relative to developed world) is supported by their significantly higher return on equity (ROE) – a measure of the higher corporate profitability in EM
- EM trades at a moderate discount to developed markets on most earnings and cash measures, which is justified given their higher risk – the current discount is around one standard deviation lower than has been the case historically, but this is supported by higher corporate profitability

Valuation summary for DM and EM equity indices

	P/E	Fwd P/E	P/B	D/Y (%)	ROE (%)	Z-score
World	16.6	11.8	1.8	2.5	10.6	-1.1
USA	16.3	12.3	2.1	2.1	12.7	-0.6
Europe ex-UK	16.0	11.0	1.5	3.3	9.3	-1.0
Asia ex-Japan	16.4	12.2	2.0	2.2	11.9	-0.1
China	17.1	12.31	2.4	2.3	14.2	0.0
EM	15.2	10.6	2.0	2.2	13.2	0.0
DM	16.8	12.0	1.7	2.6	10.3	-0.9
% difference (EM over DM)	-9.9	-12.0	15.7	-14.8	28.4	
Favourable ?	Y	Y	N	N	Y	

EM price-earnings ratio relative to history

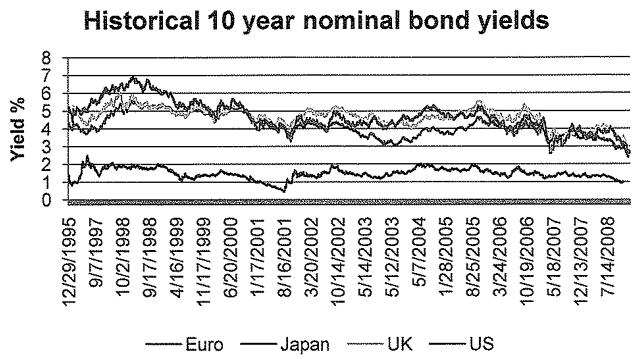


Sources: Bloomberg, Datastream, Towers Watson

Sovereign bonds

- The generalised spike in risk aversion has been a key driver of the recent rally in government bonds in the developed markets – both nominal and real government bond yields are at or close to historical lows across the G3
- While developed market bond yields are low by historic standards, broadly our view is that in the near term yields justified by current loose monetary policy
- Lower inflation and central banks on hold, especially in the US, suggest that longer-dated yields shouldn't rise significantly in the near term, but there appears little scope for them to fall much further.
- We believe that the risks around global sovereign bonds are skewed towards future yield increases.
- We would look for areas of the sovereign bond market where the yield risks are more "balanced" or closer to historical norms.

Global sovereign bond yields are around historical lows



Sources: Bank of America-Merrill Lynch, Towers Watson

Credit – Investment Grade and High Yield

Spreads have narrowed sharply in July

- We estimate the CRP on a diversified IG portfolio to be 1.5% in cash and 0.7% using index credit default swaps. This is above its 20-year average but still under the level of misalignment where we would normally take an active view.
- Spread widening was also, in part, due to large declines in equivalent maturity government yields due to a "flight-to-safety" as risk aversion flared. Nevertheless, global IG corporate bonds do look moderately attractive versus government benchmark rates
- Higher quality high yield bonds remains moderately attractive in cash markets – however, expected excess returns from high yield credit are highly sensitive to assumptions regarding the future economic outlook

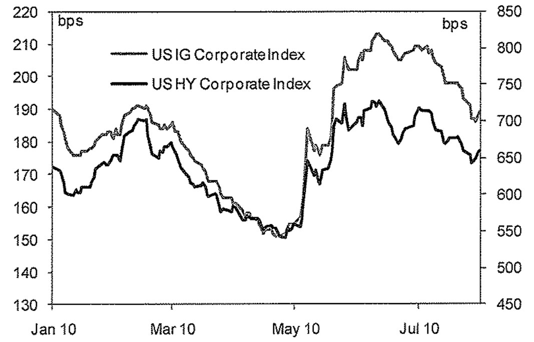
Credit risk premiums are moderately attractive

United States	Risk Premia			Z-score
	Current	20-year avg	Std Dev	
IG CRP (cash)	1.2%	1.0%	0.9%	0.2
IG CRP (synthetic)	0.5%			
HY CRP (cash)	0.8%	0.5%	2.3%	0.1
HY CRP (synthetic)	0.3%			

Notes:
1. The 20 yr averages are taken from our Credit Risk Premium Model (which assumes perfect foresight for Defaults & Downgrades)
2. For Investment Grade, the average and standard deviation are calculated over the period 05/1991 - 06/2009
3. For High Yield, the average and standard deviation are calculated over the period 01/1994 - 06/2009

Sources: Bloomberg, Towers Watson

Spreads, especially IG, are well off their June peaks

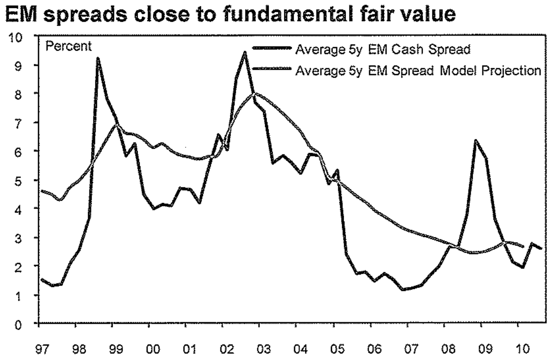


Credit – Emerging markets

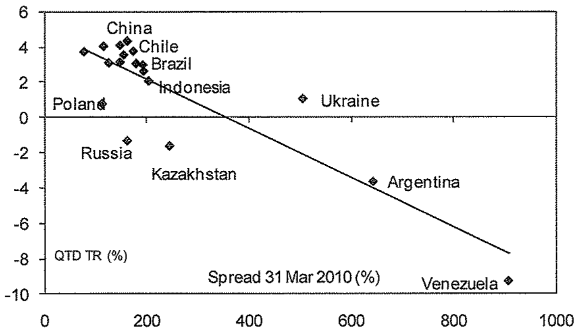
EM sovereign credit

- EM sovereign performance has been in line with other risky asset markets.
- Defensive credits, higher quality credits (e.g. Brazil and Asian USD denominated bonds) performed well during the market falls.
- Spread widening at the broad index level was largely due to significant spread widening in the higher risk/higher beta bonds (e.g. Argentina and Venezuela).
- Overall index spreads are broadly in line with our measure of fair value.

EM spreads close to fundamental fair value



Aggregate spread widening due to higher beta credits



Sources: JP Morgan , Datastream, National Accounts,Towers Watson

EM FX

Asian currencies set for more appreciation

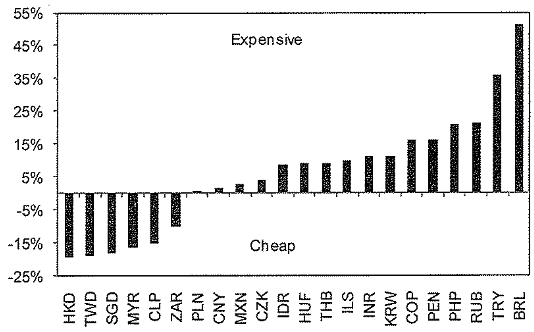
- In the last month EM FX sold off in line with other risky assets, especially EMEA currencies with close trade and capital links to the Euro area.
- We are generally positive on EM fundamentals. A number of Asian currencies look undervalued, and are supported by strong current account surpluses and broader balance of payments flows. These countries are also experiencing advanced economic recoveries and earlier prospects for inflation driven monetary tightening. The recent increase in exchange rate flexibility in the Chinese renminbi also lends support for currency appreciation.
- We continue to recommend a long EM FX position, financed against a basket of industrial economies facing fiscal and financial risks (yen especially).

Sources: JP Morgan, Datastream, Goldman Sachs, Towers Watson

Asia BoP vs Current Account

	CA % GDP			BoP % GDP	
	Latest	Trend over past year	Forecast for 2010	Latest	Trend over past year
Korea	5.1	3.2	0.7	6.8	6.9
India	-3.5	-2.9	-2.5	-0.3	1.2
Malaysia	16.6	15.8	17.8	23.6	15.6
Thailand	5.0	5.0	7.5	8.1	3.0
Taiwan	9.8	10.0	11.4	6.3	6.4
Indonesia	1.0	1.7	2.3	6.1	4.6
Philippines	6.1	5.1	4.4	-1.0	6.9

Some Asian currencies "cheap" vs. USD



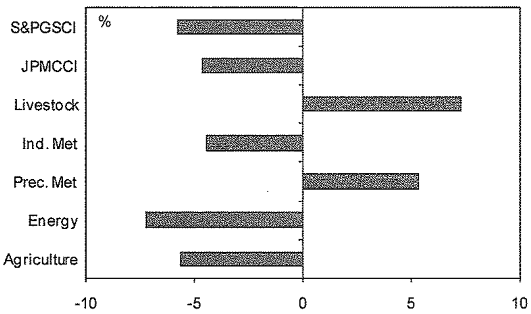
Commodities

Fundamentals should re-emerge as the key price drivers

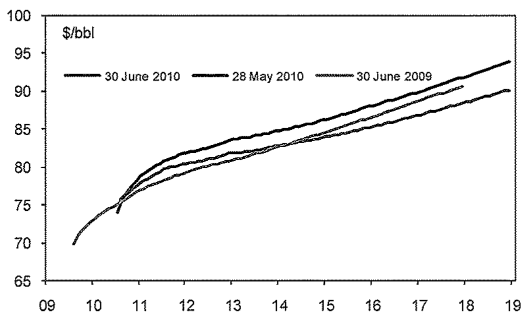
- Growth sensitive commodity markets have proved particularly vulnerable to rising risk aversion and investment returns have been poor this year.
- Global economic recovery risks have grown, especially in China, but for now, commodity demand conditions look sustainable. Additionally, supply constraints are re-emerging in several sectors, including crude oil, and some industrial metals, especially copper.
- Price weakness remains at the front end of price curves. Longer-dated prices of most commodities – all of the base metals – are elevated relative to historical norms, although off their highs. In a number of cases they are still trading above top-quartile cash costs, which should encourage a good supply response, after allowing for the usual issues of project delays and disruptions.

Sources: Bloomberg, Towers Watson

YTD commodity excess returns have been weak



NYMEX WTI futures curve ($/barrel)



Bond yield drivers

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Explanation of current bond yields and future trend

- From a long-term expectations point of view, long bond yields should be a function of a number of "fundamental" factors
  - Essentially, the nominal bond yield should reflect inflation expectations, plus the real bond yield (which is an indicator of growth expectations) plus a risk premium reflecting uncertainty around inflation outcomes
- The difference between current yields and long-term expectations will either be due to an expectation of real yield increases, or the unwinding of "technical" factors which are currently artificially depressing yield levels, such as:
  - Supply-side issues – e.g. due to the fiscal stimulus, quantitative easing, etc...
  - EM (in particular China) FX policy resulting in a build-up of foreign reserves
- We can therefore decompose nominal bond yields as follows:

Inflation expectations

\+

Inflation risk premium

\+

Real bond yield

–

Impact of supply-side issues (QE etc...)

–

Impact of EMFX policy

- The question is then whether the current low level of bond yields is due more to very low growth expectations (which would be reflected in low expected real yields) or to these technical factors, or both

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Reconciliation of current US bond yields with "normative" conditions

Factor	Current (31 Aug 2010)	Medium-term outlook	Long-term assumptions
Inflation expectations	2.3%	2.5%	2.5%
Inflation risk premium	0.3%	0.3%	0.3%
Real yield	1.0%	2.2%	2.2%
Technical			
• Supply side (QE etc...)	-0.5%	-0.25%	-
• EMFX policy	-0.5%	-0.25%	-
10-year bond yield	2.6%	4.5%	5.0%

Comments

- Based on our long-term assumptions, we expect 10-year yields to rise by around 240 bps over a 5-10 year timeframe
  - In particular, our central real yield assumption depicts a scenario of weak growth, but not at "double dip" levels
- This increase in yields is made up of:
  - An increase in inflation expectations of 20bps
  - An increase in real yields of 120bps
  - 100bps due to the unwinding of "technical" factors (assumed to be half supply side, half EMFX policy)
- We expect yields and inflation expectations to trend to our long term expectations over a shorter timeframe than the unwinding of technical factors – this translates to a medium term outlook where yields increase by around 200bps

Asian perspective

Regional issues

- China
- Asian Inflation and Emerging currency
- Alternative Investments
- DSAA

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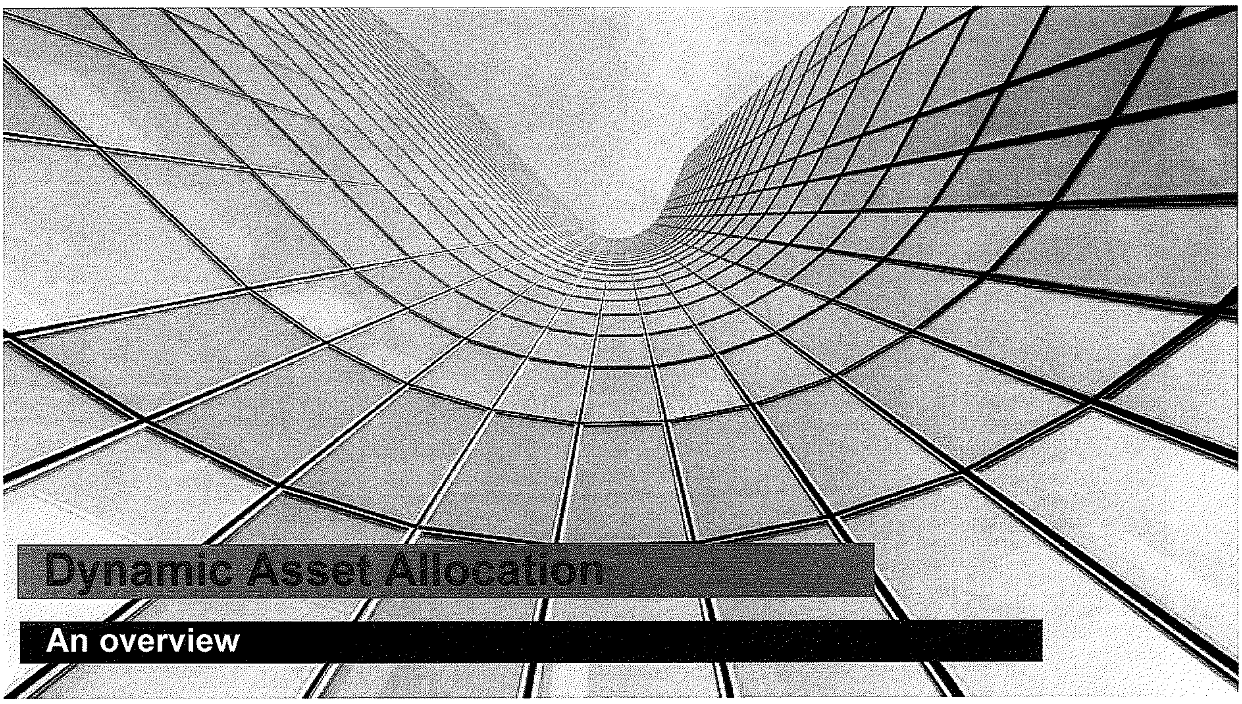


Dynamic Asset Allocation

An overview

Peter J Ryan-Kane CFA
Head of Portfolio Advisory, Asia Pacific

August 2010

TOWERS WATSON

Asset Allocation Strategies

	Strategic Asset Allocation (SAA)	Dynamic Strategic Asset Allocation (DSAA)	Medium Term Opportunities (MOPS)	Tactical Asset Allocation (TAA)
Primary purpose	Deliver return consistent with risk profile	Add incremental return or reduce risk	Add incremental return and diversity	Add incremental return or reduce risk
Timeframe	Long Term	1 - 3 years	3+ years	Months
Breadth	Generally extends to all asset classes	All asset classes Generally long only	All asset classes, but niche focus Generally long only	Liquid assets only Long and short
Typical Implementation	Funds implement directly, via balanced mandates or via advisory	Funds implement directly, or via advisory	Funds implement via Institutional managers	Funds implement via Institutional managers, hedge funds or advisory
Focus	liability profile, cash flow and funding requirements, return, risk	Risk, return, market action, SAA drift	Return	Return

Resourcing of the asset allocation function

Thinking Ahead Group (TAG)
- Identifying new investment thinking and opportunities
- Applying new thinking to current and new issues

HEAD: Roger Urwin / Tim Hodgson
Asian Head: Tim Unger

Asset Research Team
- Strategic economic and financial assumptions
- Capital markets forecasts
- Asset class research

HEAD: David Hoile
Asian Head: Jeff Chee

Global Investment Committee (GIC)

Develop our strategic capital markets positions

Ensure quality and global consistency

Strategy Team
- Asset Liability modelling and developing a risk budget
- Liability management and structured solutions

HEAD: Chris Ford
Asian Head: Peter Ryan-Kane

Portfolio Construction Group
- Structuring portfolios to meet risk and return objectives

HEAD: Chris Mansi
Asian Head: Peter Ryan-Kane

Manager Research Team
- Researching the global universe of investment managers

HEAD: Craig Baker
Asian Head: Mark Brugner

- The Asia-Pacific strategy team has autonomy in relation to the development of assumptions for Asian asset classes – however these are developed within the context of the global assumption setting process.
- The Asia-Pacific strategy team has regular contact and discussions with the global Asset Allocation Group, ensuring complete transparency to the process and rationale underlying the global assumption setting process. We are able to comment upon these assumptions, challenge these where applicable, and provide direct input into the assumption setting process.
- Peter Ryan-Kane sits on the Global Investment Committee and Chairs the Asian Portfolio Construction Group

Formation of Towers Watson asset class views and medium-term portfolio positions

Asset Research
- Analysis of underlying macroeconomic indicators and asset class valuation metrics
- Fundamental research into new asset classes / medium term opportunities

→ **Chart book / analytical input**

Global Investment Committee
- Formulation of asset class views based on analytical input from the Asset Research Team
- Consideration of other external input and qualitative / judgement overlay

→ **Global asset class views**

Asia-Pacfiic Portfolio Construction Group
- Translation of global asset class views into an Asia-Pacific context
- Views on local asset classes

→ **Asia-Pacific asset class views**

Investment Strategy/ Investment Consultant
- Translation of asset class views into portfolio advice taking into account client objectives, liabilities, beliefs and governance.
- Risk budgeting of DSAA positions to assess potential impact on portfolio risk and return

→ **Portfolio advice**

Global functions (with Asian input)	Asia-Pacific functions

Overview of the Towers Watson asset research process

- Geopolitical inputs
- Investment and financial market structural developments
- New investment ideas

Thinking Ahead ↔ **Asset Research** ↔ **Manager Research**

- Outlook for alpha opportunity sets
- New ideas coming from the market

New Asset Classes / Niche "betas"

- Analysis of economic theory and capital markets
- Risk/return drivers
- Correlation with conventional "betas"
- Implementation vehicles

Implementable investment ideas/ "medium term opportunities"

- Emerging market currencies
- Catastrophe risk
- Enhanced commodity futures indices

Existing asset classes

- Analysis of economic theory and capital markets
- Fundamental research → models for "fair value"
- Market absolute and relative value

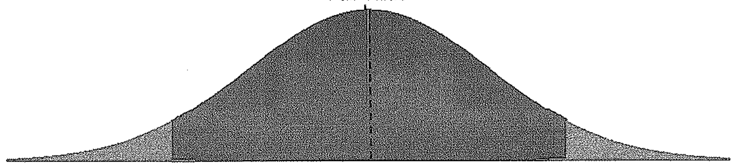
"Tilts" within the current strategic asset allocation to / away from asset classes

- Investment grade credit
- Inflation-linked bonds
- Rebalancing strategies

Global Investment Committee

Dynamic Strategic Asset Allocation – our philosophy

Fair value



Range of market valuations

Occasionally markets get here	Most of the time markets are in this range	Occasionally markets get here
Reversion over medium term more likely	**Medium term reversion not likely**	**Reversion over medium term more likely**

- Noise to signal ratio for tactical decisions is too high to generate consistent excess return
- Pricing could get worse before reversion to fair value occurs

1-3 year horizon

High conviction, low frequency opportunities

- Unsustainable mispricing in existing asset classes
- Niche opportunities
- Strong signal required, e.g. 2 standard deviations from "fair value"

- Pricing anomalies are transitory and reversion to fair value could occur quickly
- Need to be able to make and implement decisions in "real time"

Governance is key

Triggers for putting on and taking off "tilts"

- All medium term tilts require two decisions
- For each "long" tilt a "short" tilt is also required
- Coherent decision making framework required

Towers Watson DSAA framework – overview

Economics
- Understand the secular economic picture (long term)
- Understand the economic / market cycle (medium term)
- Not intended to make short term forecasts of inflation, growth etc...

Valuation
- Valuation vs historic measures
- Fair value – to what extent is the economics priced in?
- Positions should only be taken at extremes as that is where predictive ability is highest

Breadth
- Equities
- Bonds (nominal / ILBs)
- Credit
- Currency
- Commodities
- Alternatives *

Use
- Timing of entry into new asset classes
- Repositioning or rebalancing current strategy

Timeframe
- 1 to 3 years
- At extremes mean reversion is likely, but no-one can tell exactly when this will happen

- Focus on liquid / relatively liquid asset classes where "tilts" towards / away from the strategic benchmark can be readily made
- For illiquid assets (e.g. real estate, infrastructure), the framework can highlight potential entry points to asset classes and indicate if there are likely to be stresses on particular asset classes
- Dynamic asset allocation shifts will be mostly towards / away from broad asset classes (e.g. equities, credit etc...)
- The framework Incorporates DSAA views within certain asset classes that are relevant to clients, such as being able to differentiate between Asian equities vs. international equities

Examples of analytics – macroeconomic

Indicators of excess debt
- Total debt as % of GDP
- Household debt (vs asset values, vs income)
- Bank debt
- Current account as % of GDP

Credit indicators
- Credit spreads
- Private sector borrowing rates
- Financial conditions index
- Credit losses
- Credit market borrowing
- New loans / credit issuance
- New mortgages
- Bank lending standards

Drivers of economic recovery
- Residential investment
- House prices
- Durable goods demand
- Business inventory
- Unemployment

Fiscal / monetary stimulus
- Government net borrowing
- Central bank balance sheet
- Change in monetary base

Examples of analytics – asset classes

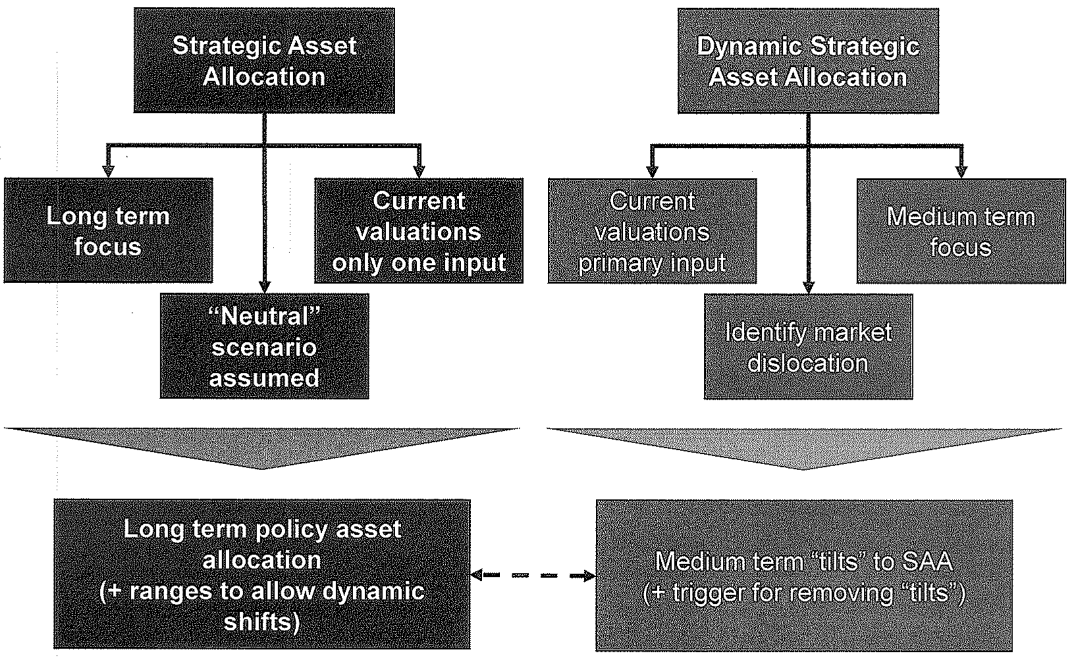
Equities
- Returns – short and long term
- Earnings yield (cyclically adjusted)
- Implied equity risk premium (dividend discount model)
- Implied dividend yield
- Earnings yield vs real bond yields
- Profit measures

Credit
- Returns / spreads – investment grade, loans, high yield
- Model for "fair value" corporate bond spreads
- Implied risk premium based on different downgrade and recovery rate scenarios
- CDS – bond basis
- Financing costs / debt as % of EBITDA

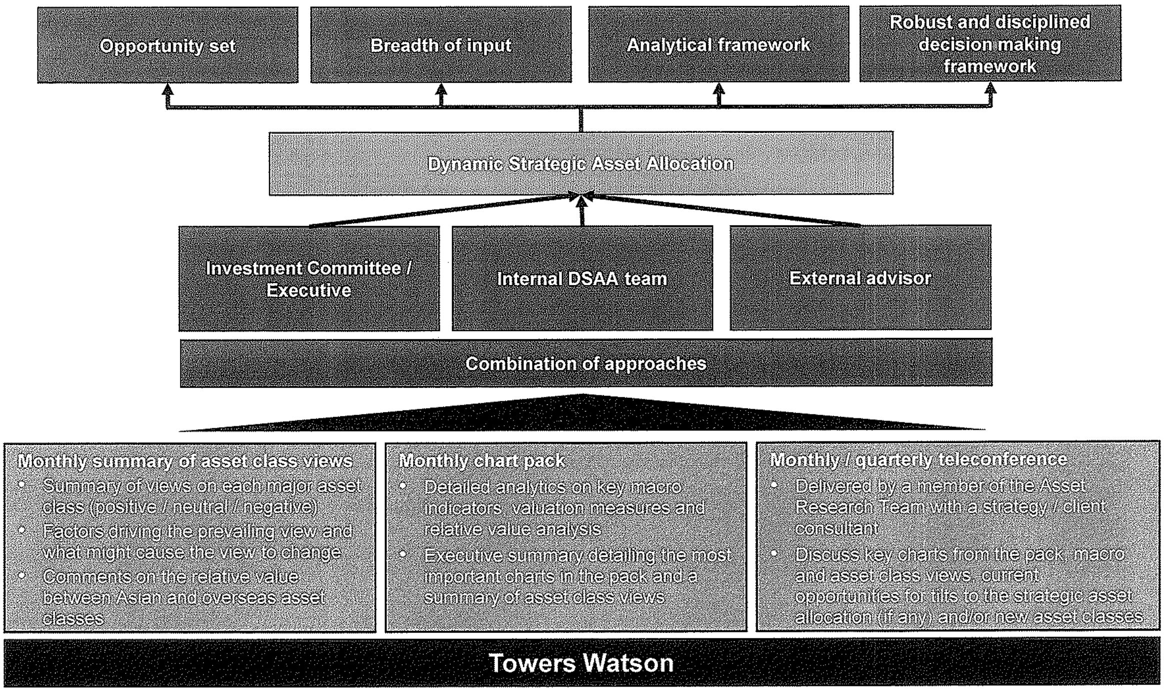
Foreign Exchange
- Changes in major cross-rates
- Equilibrium real exchange rate model
- Balance of payments as % of GDP
- Relative interest rates
- Relative inflation

Commodities
- Spot price changes
- Returns on futures indices
- Forward curves
- Costs of production
- Demand growth / Supply response
- Supply / demand balance
- Inventories

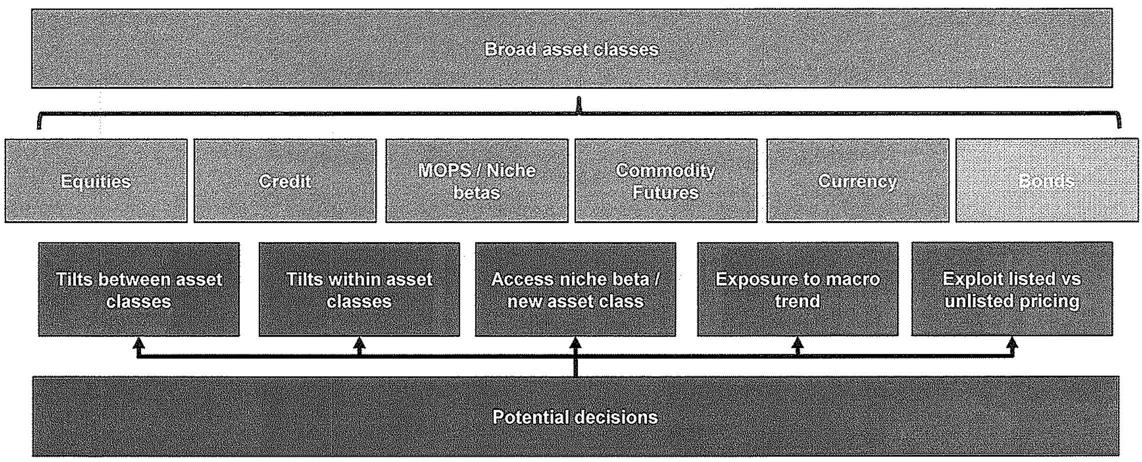
Interaction of SAA and DSAA advice



Implementation of DSAA by clients

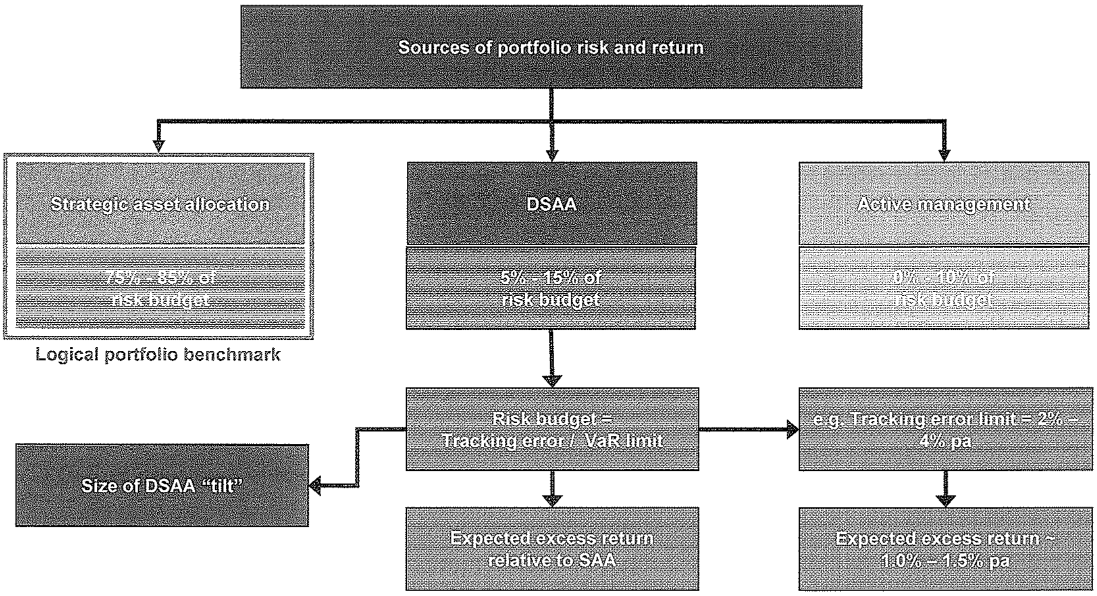


DSAA decision set



- DSAA decisions generally revolve around the composition of the return-seeking part of the portfolio
- DSAA decisions rarely relate to the split between return-seeking and risk-controlling assets
- Focus is generally on relative value between broad asset classes, and within an asset class (e.g. US vs European equities)
- The framework will become more granular over time

Allocation of the risk budget to DSAA



Incorporation of DSAA views into asset class assumptions

- A question that arises once one has medium term views on asset classes is the extent to which (if at all) these views are incorporated into our asset class assumptions
- We note that the asset class assumptions are used for the purpose of assisting in setting the Fund's strategic asset allocation
  - As a result, the assumptions are long term in nature
  - The assumption setting process (generally) assumes that markets are broadly in equilibrium and uses current market valuations as just one input into the process
  - The DSAA process is based primarily on the consideration of relative valuations and other metrics in order to establish whether asset classes are over / undervalued
  - In addition, the DSAA process does not give much information of the time frame over which reversion to "fair value" might occur, nor the price volatility that may be experienced on the way
- Therefore, there is a natural disconnect between the asset class assumptions and DSAA
  - We believe that the asset class assumptions should be used for setting the long term strategic benchmark, and then the DSAA views are used as an overlay to assess what the appropriate current asset allocation should be

Good governance is critical to success

- **DSAA isn't easy**
  - Timeframe for the decision is important
  - Funds should only embark on a DSAA programme if there is a willingness to endure underperformance for some time with a view to this paying off in the long run.
  - It is crucial at the outset to define the parameters of the DSAA process
    - How much active risk relative to the strategy the fund is willing to accept?
    - Is the purpose of the exercise to enhance returns by both underweighting risky assets when they are expensive and overweighting them when they look cheap, or is it more about risk management, so the focus is only on underweighting risky assets when they are expensive?
- **Can a unanimous view be reached easily?**
  - The dynamics of the decision making group are also important.
  - In every market environment there is always a believable rationalization of current market pricing.
    - Is it possible for the Board to take a single view and stick to it – both in the case of the strategy doing poorly in the short run, and in the case of turnover at a Board level, where new Board members may not have bought into the decision.
- **Can it be delegated?**
  - Is this something Boards are willing to delegate?

Implementation Options

- DSAA is not easy – to implement it well requires:
  - Having sufficient opportunities (and/or recognizing the impact of a narrow scope of opportunities)
  - Breadth of input
  - Sound basis for decision making
  - Robust and disciplined decision structure that can tolerate short term underperformance
- There are a number of ways that a fund could implement DSAA:
  - The Investment Committee or Executive could be the decision maker using inputs/insights from a variety of external groups
  - The Fund could hire an internal DSAA team
  - The Fund could appoint an external advisor to whom decisions may or may not be delegated
  - Combinations of these models could be used
- The most appropriate model for a fund will be dependent on the governance, resources and the degree to which the Board is willing to delegate the decision
- Towers Watson is well placed to assist in this regard

Some recent examples of DSAA

Example 1	**2008/9: Recommended an exposure to insurance-based risk premia.** Catastrophe reinsurance is currently attractive due to a number of structural issues in that market and the shortage of capital globally to take on insurance risk.
Example 2	**Q3 2008: Suspension of rebalancing strategies.** In Q3 2008 Towers Watson advised our clients to suspend their normal rebalancing strategies based on our view that equity risk had increased and that further dislocation was possible. Q1 2009 we advised clients to revisit their SAA before rebalancing recommenced.
Example 3	**Q2 2008: Overweight to high grade credit opportunities** by gradually averaging into the market (we took the view that it was still too early for sub-investment grade credit, i.e. significant potential for further market dislocation).
Example 4	**2008: Reduce exposure to commodity futures.** This was due to the increased levels of contango in many futures curves and concerns that the increase in institutional investment interest had reduced the risk premium available.
Example 5	**2007: Establish a medium-term exposure to emerging market currency premia.** We believe that an allocation to emerging market currencies is one of the purest ways to obtain exposure to the higher rates of economic and productivity growth in emerging markets.
Example 6	**2007: Underweight LBO's within the private equity allocation.** We became concerned about the high volume of fund raising, increasingly aggressive multiples and duplication in deals amongst the larger LBO funds.

DSAA offering

- Monthly "chart pack" containing key market indicators, valuation measures and relative value analysis
  - Chart pack will contain an executive summary that contains a high level summary of the most important charts in the pack and also a summary of our current asset class views
- Monthly or quarterly conference call with a member of Towers Watson's Asset Research Team to discuss:
  - Key charts from the chart pack
  - Macro and asset class views
  - Current opportunities for tilts to the strategic asset allocation (if any)
  - Opportunities in new asset classes (if any)

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