How long can the good times continue?

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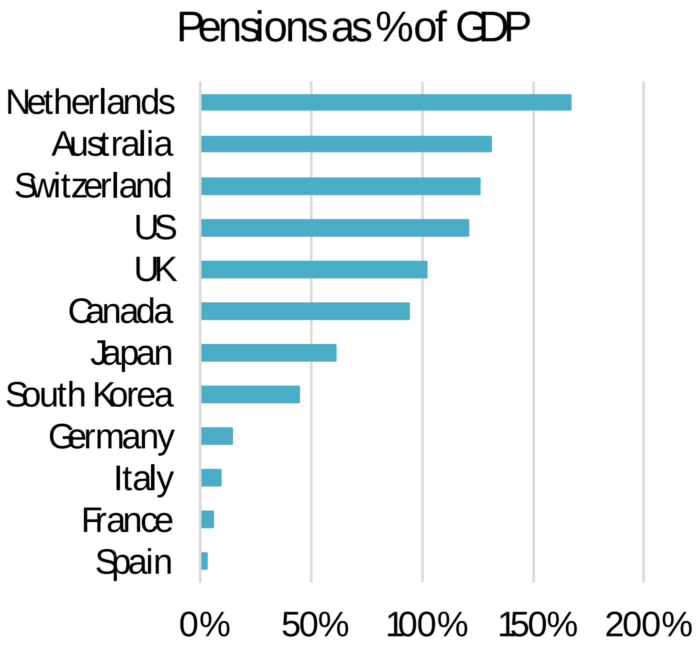
European pension fund landscape (I)



Source: Thinking Ahead Institute and Willis Towers Watson.

	Pension fund/entity	Country	Assets (€'000)
1	Norway Government Pension Fund Global	Norway	858,993,000
2	ABP	Netherlands	387,846,000
3	Pensioenfonds Zorg en Welzijn	Netherlands	185,741,607
4	Arbejdsmarkedets Tillaegspension	Denmark	101,245,000
5	PFA Pension	Denmark	83,218,900
6	Alecta Pensionsförsäkring	Sweden	80,431,700
7	Bayerische Versorgungskammer	Germany	80,400,000
8	Pensioenfonds Metaal en Techniek	Netherlands	68,981,609
9	Kommunal Landspensjonskasse	Norway	63,497,600
10	Universities Superannuation Scheme Ltd	UK	63,482,254
11	BT Group plc	UK	59,564,851
12	Royal Bank of Scotland Group	UK	57,694,911
13	BPF Bouwnijverheid	Netherlands	53,801,665
14	AMF	Sweden	51,860,907
15	Danica Pension	Denmark	51,113,200
16	Keva	Finland	48,524,000
17	Lloyds Banking Group	UK	47,706,556
18	Pensioenfonds van de Metalektro	Netherlands	45,644,456
19	Varma Mutual Pension Insurance Co	Finland	43,127,218
20	Ilmarinen	Finland	37,422,896

Source: IPE Research, 2017 figures.

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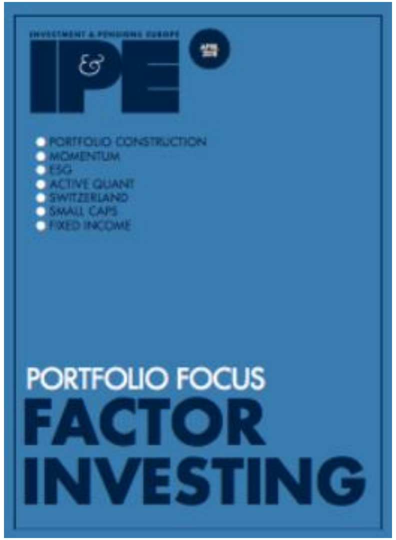
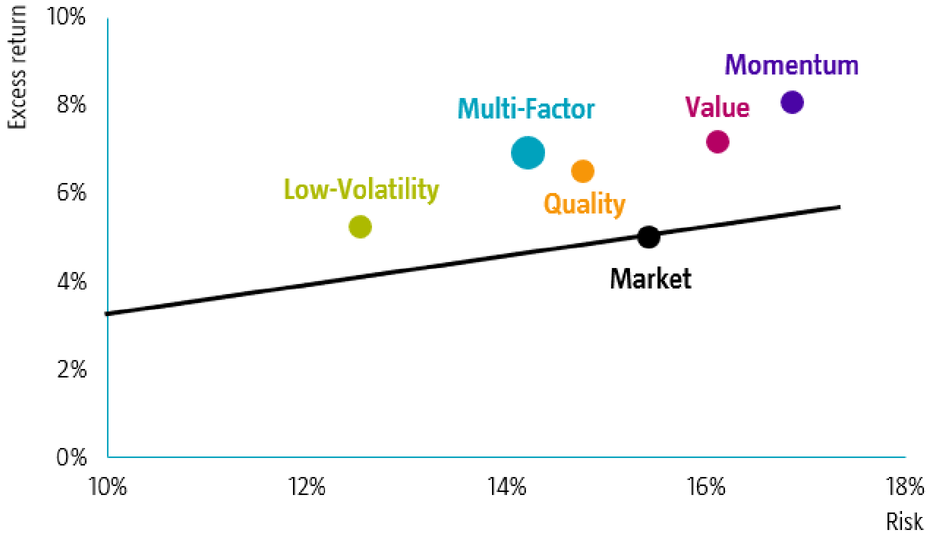
European pension fund landscape (II)

- Impact of low/negative interest rates
- Strategic move to factor-based strategies in last decade
- Active/passive debate
- The rise of ESG Investing



Choices when allocating towards factors

- Which factors?
- Active manager or "passive" factor index?
- How much turnover?
- Long-only or long-short?
- How to integrate ESG?

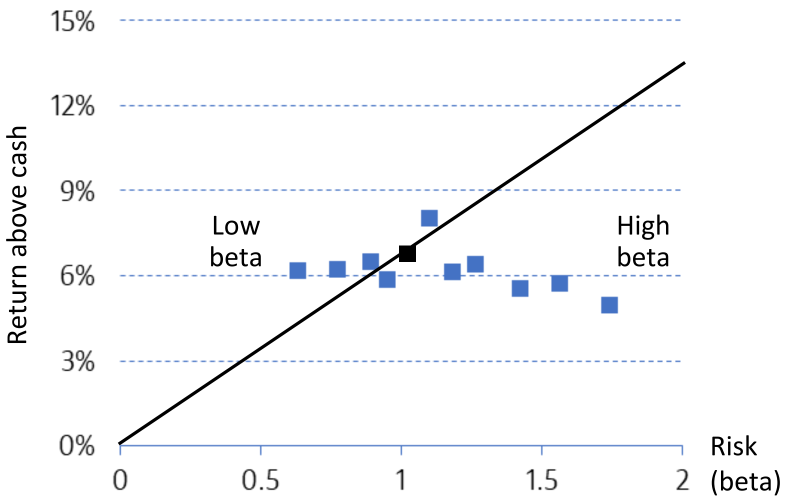


Source: Robeco.

Low-risk stocks: equity returns with lower risk

- **Are the good times coming to an end?**
- **A simple way to adjust an equity portfolio is buying low-risk stocks**

Risk-return relationship US stocks, 1931-2002**



Source: Robeco.

The Volatility Effect

Lower risk without lower return.

David C. Blitz and Pim van Vliet

Citation of Excellence

Emerald

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Efficient markets theory has been challenged by the finding that relatively simple investment strategies are found to generate statistically significantly higher returns than the market portfolio. Well-known examples are value, size, and momentum strategies, whose return premiums have been documented in U.S. and international stock markets. Market efficiency is also challenged if some simple investment strategy generates a return similar to that of the market, but at a systematically lower level of risk.

An interesting study in this regard is an empirical analysis of the characteristics of minimum-variance portfolios by Clarke, de Silva, and Thorley [2006] (CST). These authors find that minimum-variance portfolios, based on the 1,000 largest U.S. stocks over the 1968-2005 period, achieve a volatility reduction of about 25%, while delivering comparable or even higher average returns than the market portfolio.

We present a simple alternative approach to constructing portfolios with similar risk and return characteristics. Specifically, we create decile portfolios that are based on a straightforward ranking of stocks on their historical return volatility. Unlike CST, we effectively use only the diagonal of the historical covariance matrix with this approach. We find that portfolios of stocks with the lowest historical volatility are associated with Sharpe ratio improvements that are even greater than those documented in CST, and statistically significant positive alpha.

Ang et al, [2006] report that U.S. stocks with high volatility earn abnormally low returns over the 1963-2000 period. They focus on a very short-term (one-month) volatility measure, while we concentrate on long-term (over three years) volatility, which implies much lower

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Low-risk investing is not as easy as it seems

Concerns with the low-risk factor

- Overvaluation
- Overcrowding
- Interest rate risk
- Lagging in bull markets
- High tracking error

Pitfalls of ‘passive’ factor strategies

- Paradoxically: limited capacity
  - Limited rebalancing moments
  - Public index -> price arbitrage
- Going against other factors
- Simplicity / complexity

ESG Investing in quant strategies

- Is ESG integration possible in quant strategies? YES
- Make ESG metrics part of portfolio construction:
  - Total ESG score
  - Footprint scores -> water, energy, waste, CO_2
  - Exclusions
  - Customisation is necessary
- Voting and engagement

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