

Sensitivity of selected US equity funds to macro factors

Sensitivity of US equity funds

The chart data shows the sensitivity of the six largest US equity funds to changes in macroeconomic factors: US default spreads, term spreads, dividend yields and volatility. IPE and PureGroup selected the largest funds, in terms of assets, from the Morningstar database. The funds are Vanguard US 500 Stock index, Robeco US Premium Equities, Franklin US Opportunities fund, Legg Mason ClearBridge US Aggressive Growth fund, Morgan Stanley Investment Funds US Advantage and JPMorgan US Select Equity Plus fund.

The higher the sensitivity of each fund to the macro factor, the higher the probability that performance will respond to changes in that factor. The top graphs show the sensitivity of the funds to the factors, while the bottom bar charts show the monthly movements of the factors over the past five years. The data was analysed using PureGroup's Forward Perspective Model, a macroeconomic factor model built for the investment industry, covering open-ended, closed-end and exchange-traded products. The model analyses an investment product's positioning to leading economic factors.

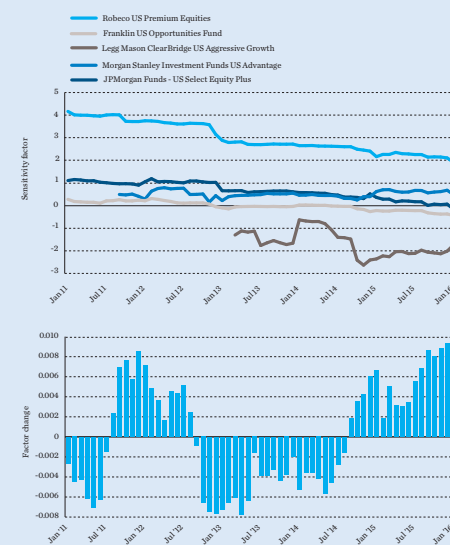
US default spreads

The default spread is the difference in yield between BBB and AAA US corporate bonds. Default spreads may rise as there are signs that corporate America is highly leveraged. Wider default spreads are likely to be the most favourable for the Robeco fund, as it has a relatively strong positive sensitivity to this factor. The Morgan Stanley fund is also positioned to benefit from an expansion in spreads, albeit to a lesser extent than the Robeco fund. The JP Morgan and Franklin funds are unlikely to be affected significantly by changes in spreads, because of their low absolute sensitivities. The Legg Mason fund is relatively more responsive to changes in spreads. This fund's negative sensitivity to this factor means that it is not effectively positioned for an expansion in spreads.

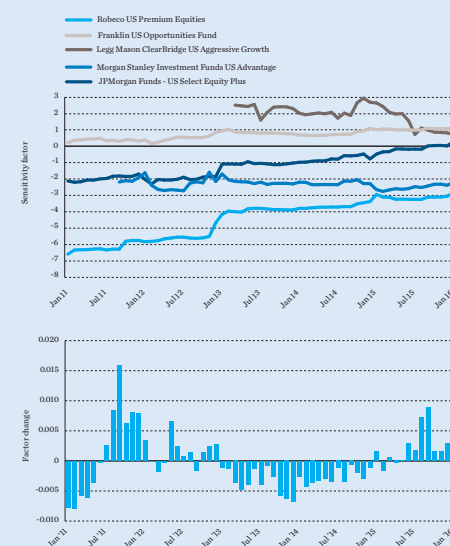
Term spreads

The term spread is the difference in value between long and short-dated government bond yields. US term spreads are unlikely to expand, despite conditions in the world's largest economy being fairly supportive. With interest rates at rock bottom in most of the developed world, US long-term yields may appear relatively more attractive to

1. Sensitivity to US default spreads



3. Sensitivity to US dividend yields



Source for all data: PureGroup

investors who lack viable alternatives. The relatively strong positive sensitivity of the Morgan Stanley fund may not be as advantageous as expected. It is also unlikely to be a drawback as term spreads, as stable growth means that a contraction in term spreads is unlikely. This means that this factor may not have a significant positive impact on the returns of the Legg Mason fund. The remaining funds shown in the chart are less likely to be affected by any changes in this economic factor.

Dividend yields

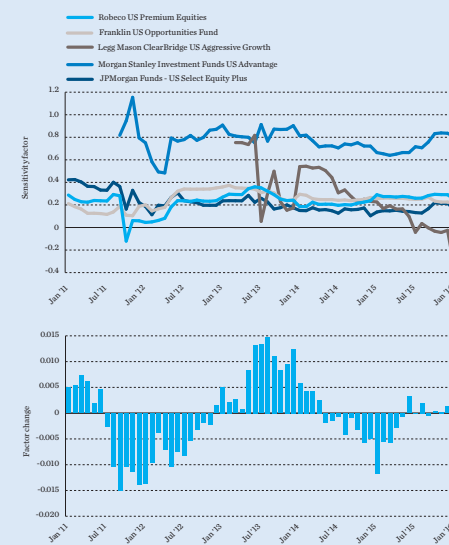
Changes in dividend yields are likely to be predominantly driven by share prices, which are strongly influenced by valuations. Currently, valuations of US equities – measured by Shiller's cyclically adjusted price-earn-

ings ratio (CAPE) – are fairly high by historical standards. Therefore, lower-than-expected earnings may result in a market correction. Falling stock prices may push up dividend yields, which may, in turn, contribute positively to the returns of the Legg Mason and Franklin funds but potentially erode the returns of the Morgan Stanley and Robeco funds. The latter is the most vulnerable to higher dividend yields because of its relatively strong absolute sensitivity. In contrast, the JPMorgan fund is relatively immune to changes in dividend yields because of its low absolute sensitivity.

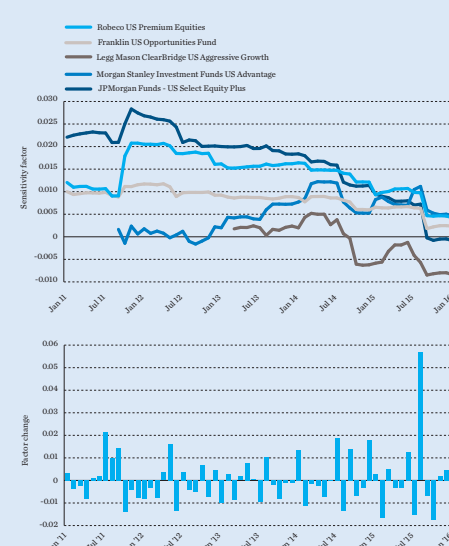
Volatility

Volatility is represented by the VIX index – this measures near term market expectations for equity vola-

2. Sensitivity to US term spreads



4. Sensitivity to US volatility



tility embedded in options prices. In the lead-up to the US presidential election, with fears of a hard landing in China and concerns over Europe, volatility could increase in the coming months. This scenario will probably be most beneficial for the Robeco and Morgan Stanley funds, as they have relatively strong positive sensitivities to volatility. The Franklin fund may also benefit to a lesser extent. On the other hand, higher volatility has the potential to erode the returns of the Legg Mason fund, because of its negative sensitivity. The performance of the JP Morgan fund is unlikely to be affected by swings in volatility as the fund is neutral towards this factor.

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IPE Survey Managers of US Large Caps

In summary

Survey overview

Total number of managers in survey	63
Total invested in US large cap equity (€m)	4,257,547
Total invested for Europe-based institutional clients (€m)*	152,713
Total invested for pension fund clients (€m)*	42,303
Total invested for insurance company clients (€m)*	14,071
Total invested for all other institutional clients (€m)*	81,881

*Where disclosed

Top 10 - European institutional assets

Company	€m	As at
1 BlackRock	18,252	31/03/16
2 Achmea Investment Management	10,900	30/04/16
3 The Vanguard Group	9,712	31/03/16
4 AXA Inv. Managers - Rosenberg Equities	8,327	30/04/16
5 Allianz Global Investors	7,033	31/03/16
6 BNP Paribas Investment Partners	3,400	31/03/16
7 Man Numeric	3,116	31/03/16
8 Brown Advisory	2,993	31/03/16
9 Goldman Sachs Asset Management Int.	2,869	31/03/16
10 Aristotle Capital Management	2,494	31/03/16

Top 10 - US large cap equity assets

Company	€m	As at
1 The Vanguard Group	1,289,534	31/03/16
2 BlackRock	667,456	31/03/16
3 State Street Global Advisors	508,435	31/12/15
4 T. Rowe Price	244,469	31/12/15
5 Wellington Management International	177,989	31/03/16
6 TIAA	148,331	31/03/16
7 PGIM	110,231	31/03/16
8 Columbia Threadneedle Investments	102,281	31/03/16
9 MFS Investment Management	100,871	31/03/16
10 Dimensional Fund Advisors	76,050	31/03/16

Top 10 - European pension fund assets

Company	€m	As at
1 BlackRock	13,478	31/03/16
2 Achmea Investment Management	8,800	30/04/16
3 The Vanguard Group	4,290	31/03/16
4 Aristotle Capital Management	2,494	31/03/16
5 Man Numeric	2,158	31/03/16
6 Brown Advisory	1,352	31/03/16
7 Wellington Management International	774	31/03/16
8 Barrow, Hanley, Mewhinney & Strauss	769	31/03/16
9 PGIM	752	31/03/16
10 Fidelity International	648	30/03/16

Company name	Achmea Investment Management	AJO	Allianz Global Inv.	Aristotle Capital Management	Artisan Partners	AXA Inv. Managers - Rosenberg Equities
Amount invested in US large cap equity (€m):	10,900	16,138.3	25,295	7,161	1,428	9,730
As at	30/04/16	31/03/16	31/03/16	31/03/16	31/03/16	30/04/16
Total AUM worldwide (€m)	105,000	23,331	435,000	8,496.4	85,273	17,874
Min. market value at which stocks are regarded as US large cap equity (\$bn)	5	4	2	10	(6)	5
Amount of US large cap equity invested for (€m):						
Europe-based institutional clients	10,900	342	7,033	2,493.7		8,327
Pension fund clients	8,800	0	2,493.7			602
Insurance company clients	600	0				6,403
All other institutional clients	1,500	342		0		1,322
US large cap equity invested managed (€m):						
Passively or on an indexed basis	2,000					0
On an enhanced indexed basis	1,500					3,395
Market-neutral strategies						0
Quant-type strategies	6,400	16,138.3				0
Actively with 2-5% outperformance	1,000	16,138.3		7,161		3,397
Actively with 5% plus outperformance						0
130/30 or similar strategy		812				0
Other			100 (1)		1,428 (1)	2,353 (2)
If managed on an active basis:						
Information ratio	0.9	0.8	0.5	0.13	0.11	0.5
Acceptable tracking error	1.0%	4%	4-7% (2); 3-5% (2)	3.6%	7.03%	5%
Description of approach to running US large cap equities:						
Core				X		X
Value		X	X	X	X	
Growth			X			
Enhanced indexing	X					
Quant	X	X	X			X
Top down						
Bottom up		X	X	X	X	X
Thematic						
Concentrated/focused						
Sector						
Absolute return						(6)
Other						
% of US large cap equities portfolio made up of:						
Top 10 positions	17	25	36 (2); 35 (2)	30.9	36.6	22.4
Top 20 positions	26	39	57 (2); 58 (2)	55.7	62.6	37.79
Number of stocks normally held in portfolio	200	80+	40-60 (2); 50-65 (2)	40	30-40	100-200
% of US large cap research done in-house	85	100	90 (2); 80 (2)	100	70	100
Number of investment professionals in US large cap equities team	12	23	13 (2); 71 (2)	16	6	23
Number of US large cap equities portfolio managers in team	12	7	8 (2); 3 (2)	1	4	5

