

# What's in Style

## Quality Shines in Extreme Times

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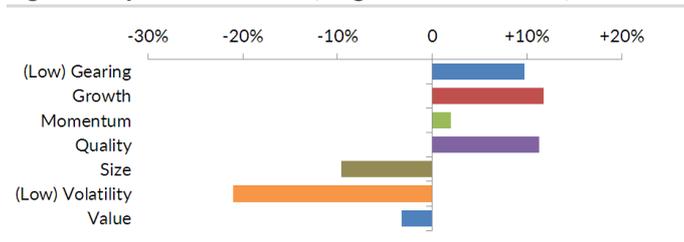
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Post the COVID-19 sell-off, Structural Growth has provided the largest gains (+19%), however, Cyclical (+17%) and Defensive Yield (+15%) track closely behind. The close alignment of the market thematics can also be explained via the mean average pairwise stock-to-stock correlation, currently at the highest level since 2007 (indicating the market moving as one).

### Quality leads the way post sell off

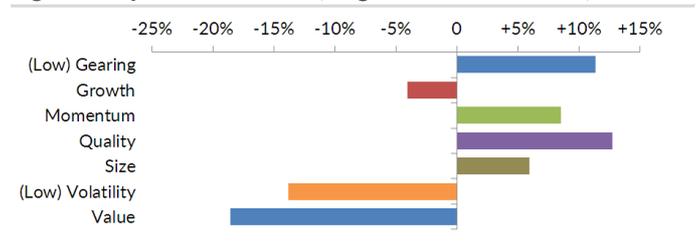
Using the differential performance between the best and worst factor constituents provides the best measure of a style factors contribution. We find that over the last two months (post the COVID-19 sell-off), Growth, Quality and Low Gearing were the dominant style factors within the NZ market. Despite the rapid market sell-off in March, Value has not necessarily featured as a dominant factor. We also present factor returns for the three month period (ie looking through the sell off in March) to May 2020. Again we see Quality and Low Gearing as the dominant style factors for the three month period.

**Figure 1. Style factor returns (long-short, two months)**



Source: Forsyth Barr analysis

**Figure 2. Style factor returns (long-short, three months)**



Source: Forsyth Barr analysis

We construct, through our factor database, long (and short) portfolios for each of the style factors. In a low growth environment, with significant economic risk, investors will continue to look for quality exposure. We outline in Figures 3 & 4 the top 15 companies which currently screen well for Quality.

**Figure 3. Quality exposure**



Source: Forsyth Barr analysis, Bloomberg

**Figure 4. Quality screen fundamentals**

Code	12mth fwd PE	12mth fwd div. yield	EPS growth
CNU	n/a	+3%	+12%
ATM	31.1x	+0%	+16%
PPH	36.7x	+0%	+27%
RBD	26.7x	+0%	+5%
SML	13.0x	+0%	+17%
MFT	27.5x	+2%	+24%
MEL	27.0x	+5%	+5%
GNE	15.4x	+6%	+14%
FPH	n/a	+1%	+12%
SKL	13.3x	+7%	+6%
PFI	26.6x	+3%	+5%
FRE	17.7x	+4%	+14%
VCT	33.8x	+5%	+3%
KMD	17.6x	+2%	n/a
SPK	18.8x	+6%	+6%
S&P/NZX 50 mean	21.5x	+4%	+12%

Source: Forsyth Barr analysis, Bloomberg

## Contents

### **3. What's Worked in Equities**

A range of charts showing returns by Quant style factor, thematic and metric.

### **7. Longer Term Returns**

Long term (three and five year) and rolling returns (12 and 36 month) by Quant style factor and thematic.

### **11. Where are the Fundamentals?**

A range of charts showing fundamentals across Quant style factors and thematic.

### **15. Global Comparisons**

A range of charts showing global thematic PE multiples, three year EPS growth expectations and dividend yields.

### **17. What is Screening Well**

Charts and tables showing what companies are screening well for each Quant style factor.

### **21. Patterns and Trends**

Regression analysis of market and individual stock drivers.

### **23. Return Dispersion, Expectations & ETR versus History**

Charts showing the return and concentration dispersion, along with Expected Total Returns (ETR), current and historic, for the market and thematic.

### **27. Appendix 1**

A technical explanation of Quant style factors and metrics.

### **28. Appendix 2**

Thematic construction, New Zealand and global markets.

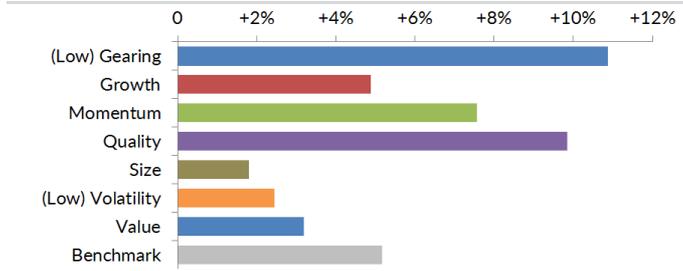
# What's Worked

Points to note:

- Long returns are constructed by calculating the subsequent return of stocks ranked in the top third of the market (in terms of what an average investor would intuitively prefer; where this means a series is inverted [small is preferred to large] we denote using a \*). Short returns are simply the inverse; long-short returns are the difference.
- Explanation of what each metric is and the stock characteristics we are trying to screen for in each style factor, and how each style factor is constructed, are contained in Appendix 1.

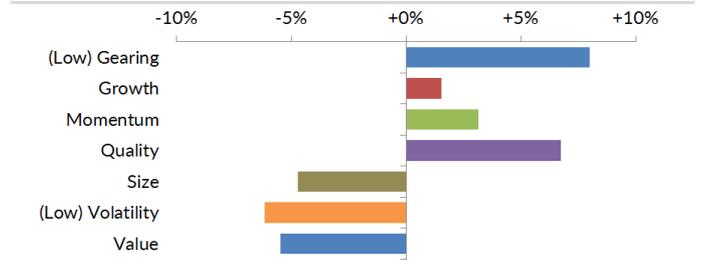
## One Month

**Figure 5. Style factor returns (long only, one month)**



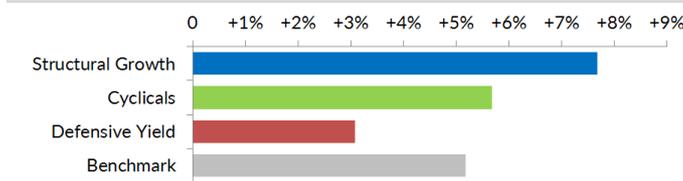
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 6. Style factor returns (long-short, one month)**



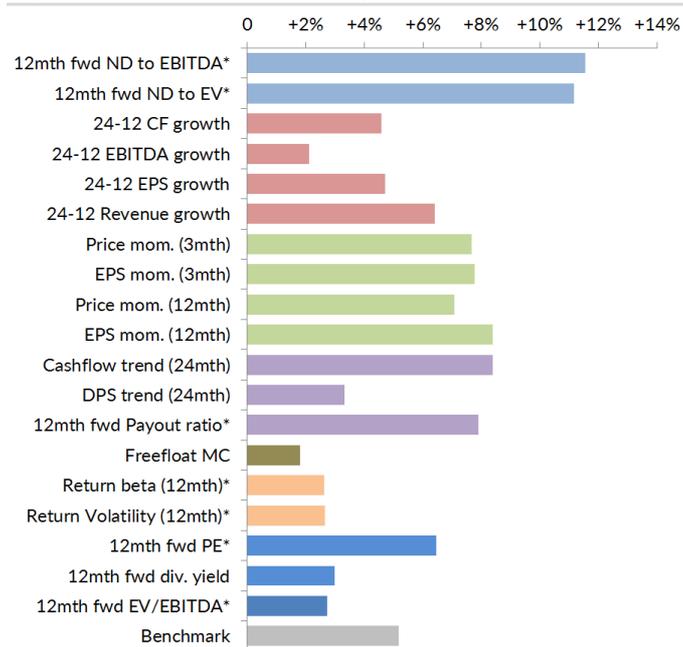
Source: Forsyth Barr analysis, Bloomberg

**Figure 7. Thematic performance, one month**



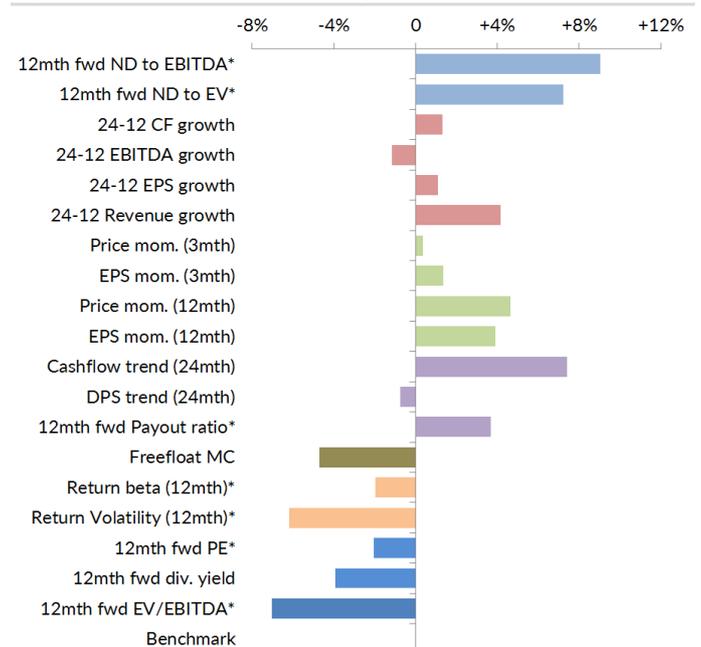
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 8. Style metric returns (long only, one month)**



Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

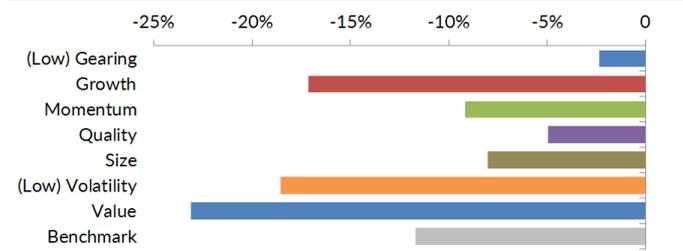
**Figure 9. Style metric returns (long-short, one month)**



Source: Forsyth Barr analysis, Bloomberg

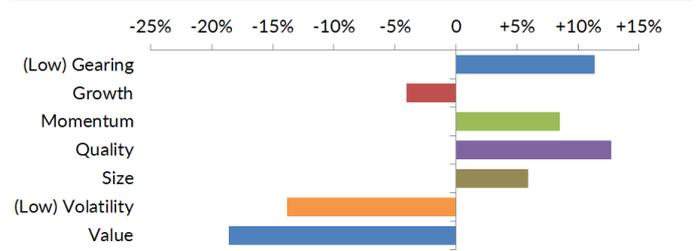
**Three months**

**Figure 10. Style factor returns (long only, three months)**



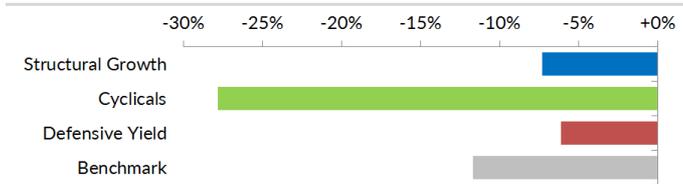
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 11. Style factor returns (long-short, three months)**



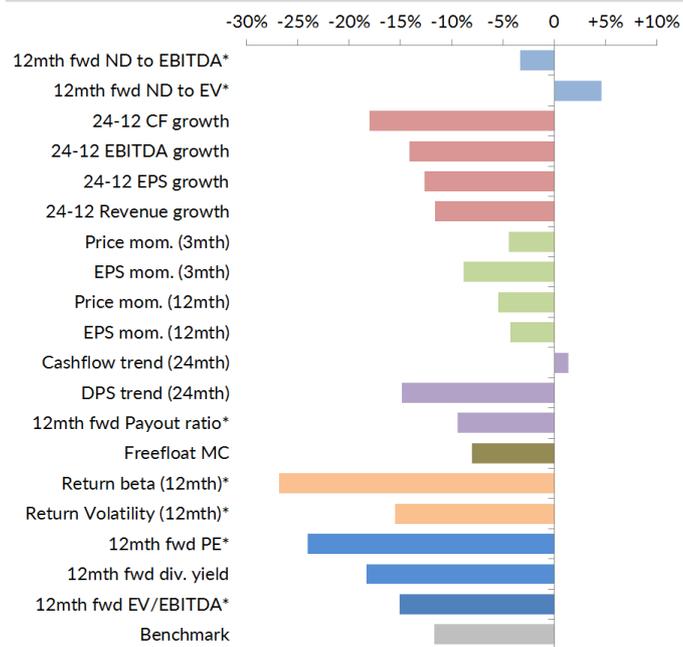
Source: Forsyth Barr analysis, Bloomberg

**Figure 12. Thematic performance, three months**



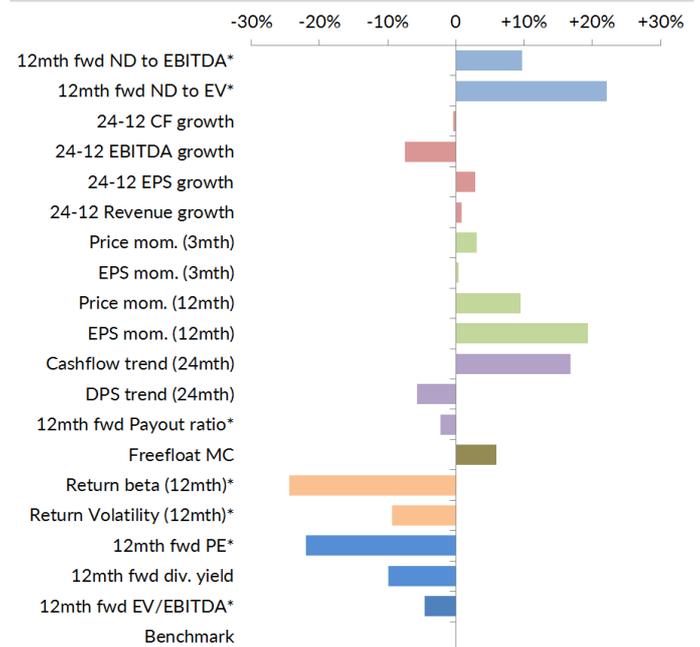
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 13. Style metric returns (long only, three months)**



Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

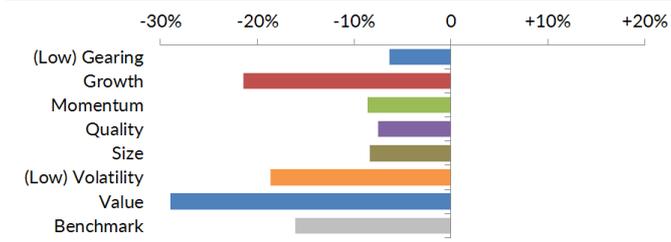
**Figure 14. Style metric returns (long-short, three months)**



Source: Forsyth Barr analysis, Bloomberg

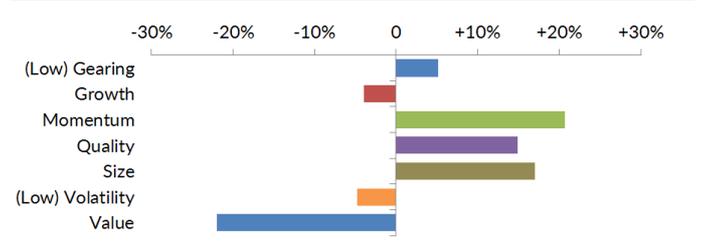
**Six months**

**Figure 15. Style factor returns (long only, six months)**



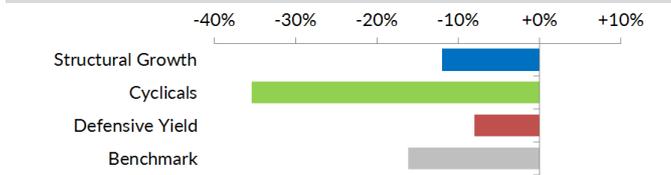
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 16. Style factor returns (long-short, six months)**



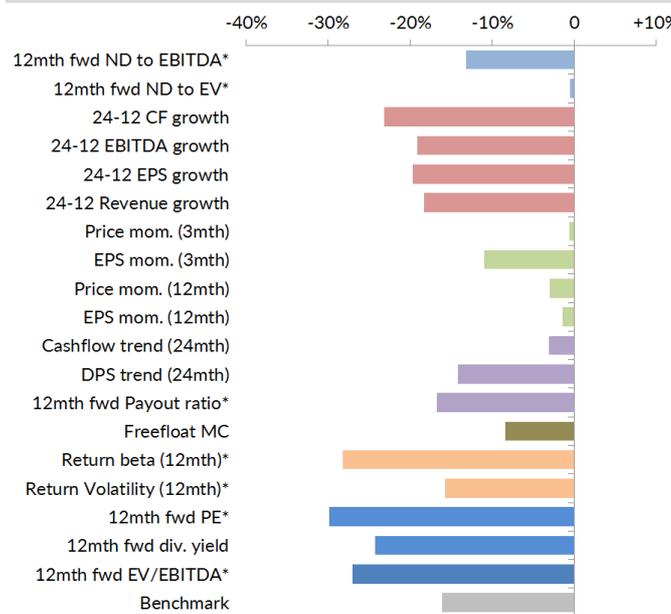
Source: Forsyth Barr analysis

**Figure 17. Thematic performance, six months**



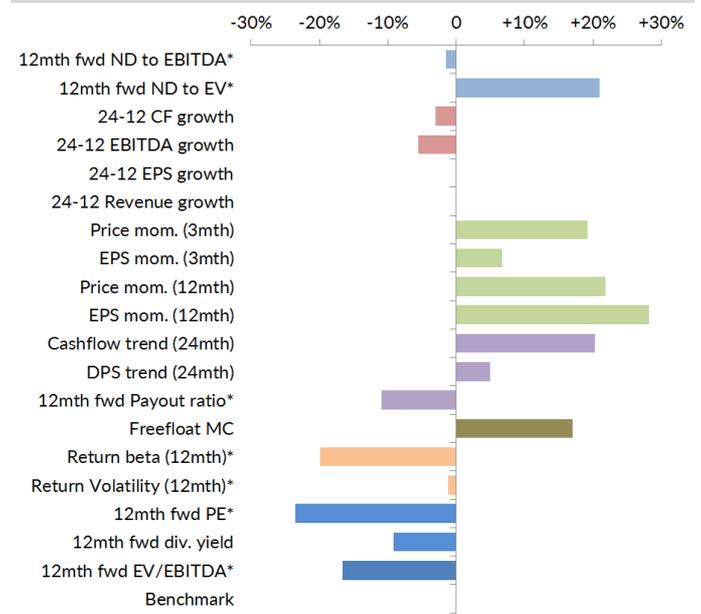
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 18. Style metric returns (long only, six months)**



Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

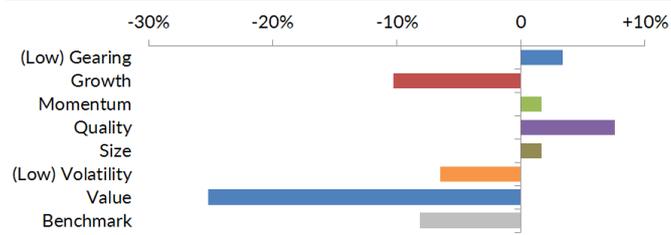
**Figure 19. Style metric returns (long-short, six months)**



Source: Forsyth Barr analysis

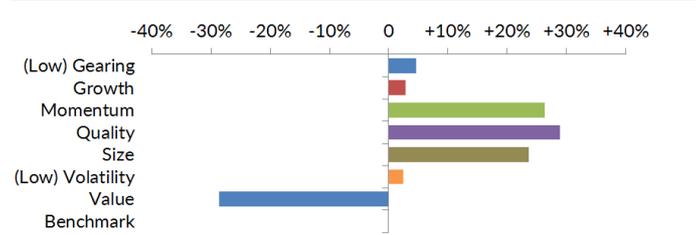
**12 months**

**Figure 20. Style factor returns (long only, twelve months)**



Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 21. Style factor returns (long-short, twelve months)**



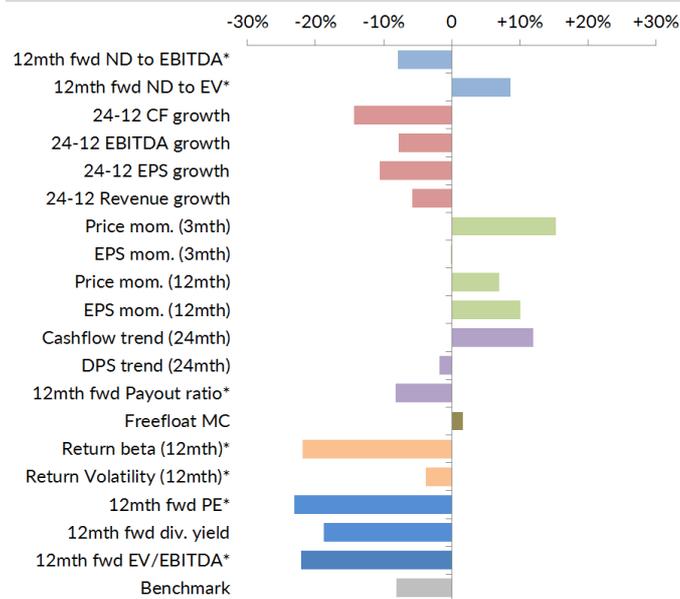
Source: Forsyth Barr analysis, Bloomberg

**Figure 22. Thematic performance, twelve months**



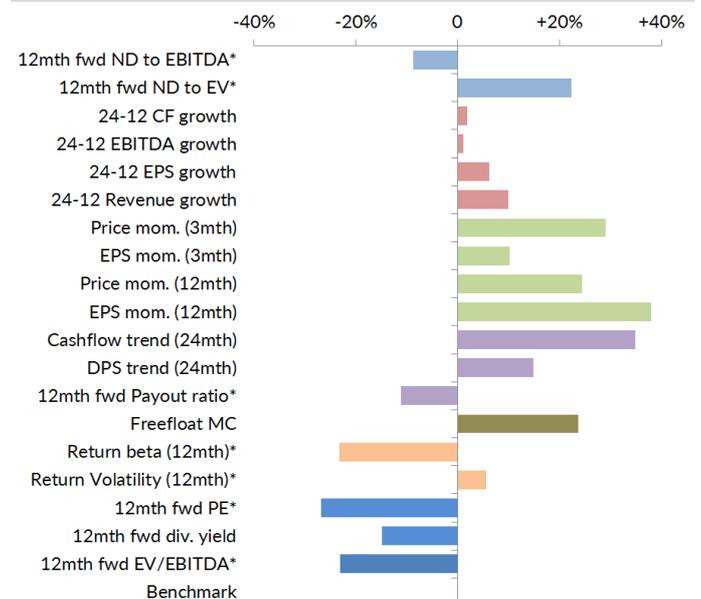
Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 23. Style metric returns (long only, twelve months)**



Source: Forsyth Barr analysis, Bloomberg, Returns: average of individual portfolio member returns

**Figure 24. Style metric returns (long-short, twelve months)**



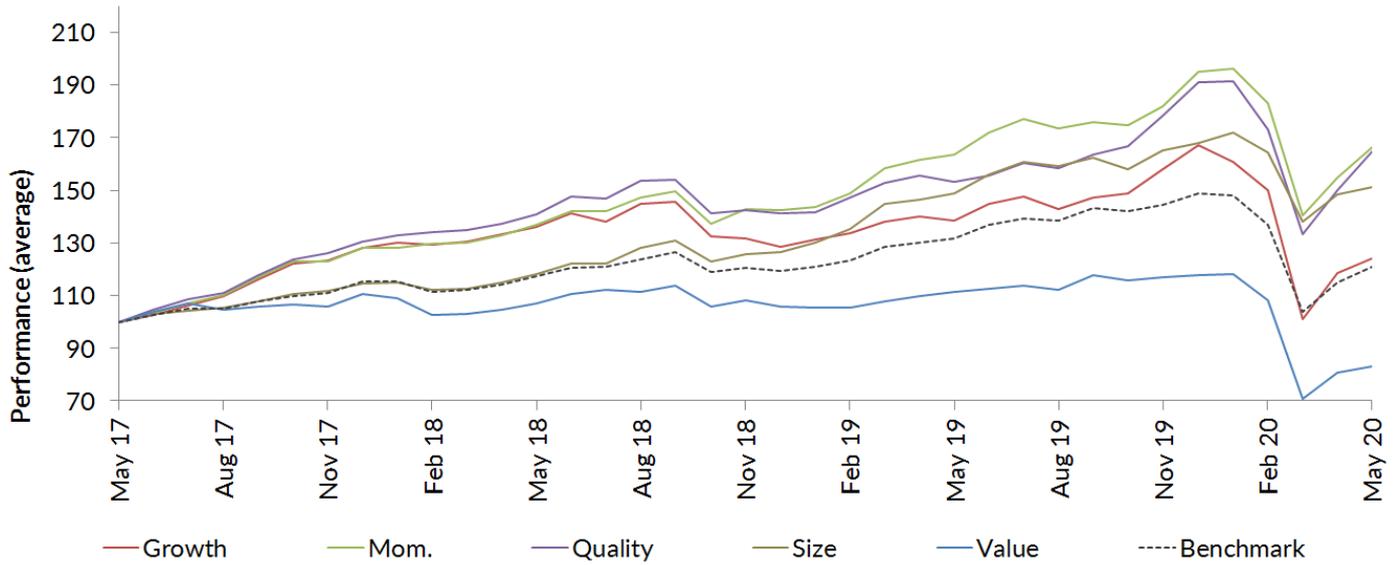
Source: Forsyth Barr analysis, Bloomberg

## Longer term

### Quant styles

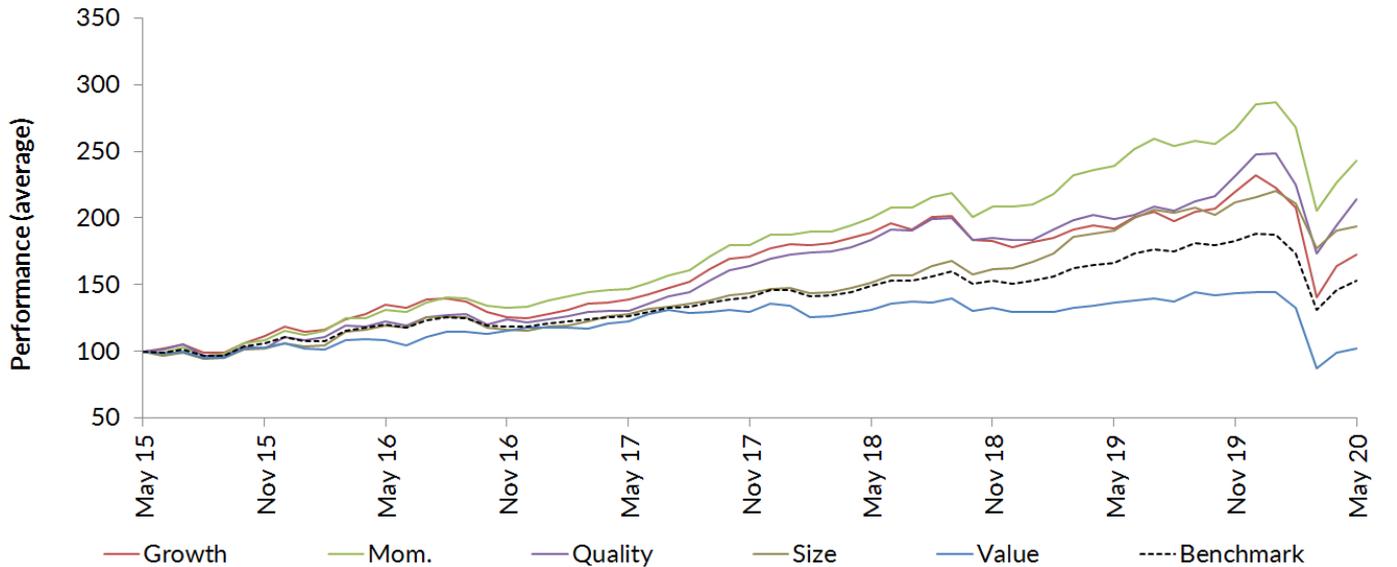
Below we present the returns of our style factors over a three and five year period.

**Figure 25. Three year long-only Quant style factor performance**



Source: Forsyth Barr analysis, Bloomberg

**Figure 26. Five year long-only Quant style factor performance**

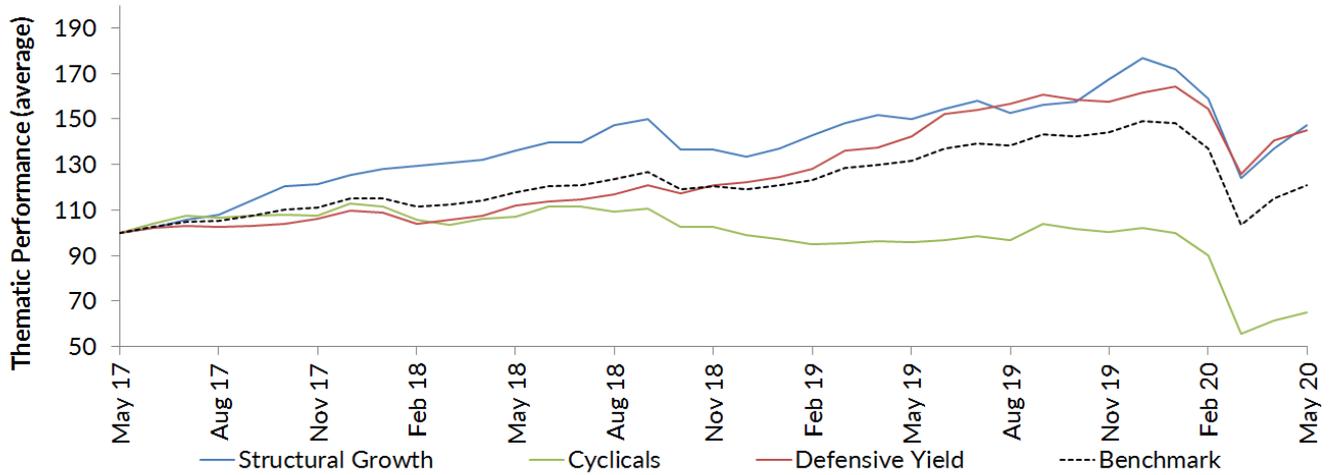


Source: Forsyth Barr analysis, Bloomberg

**By thematic**

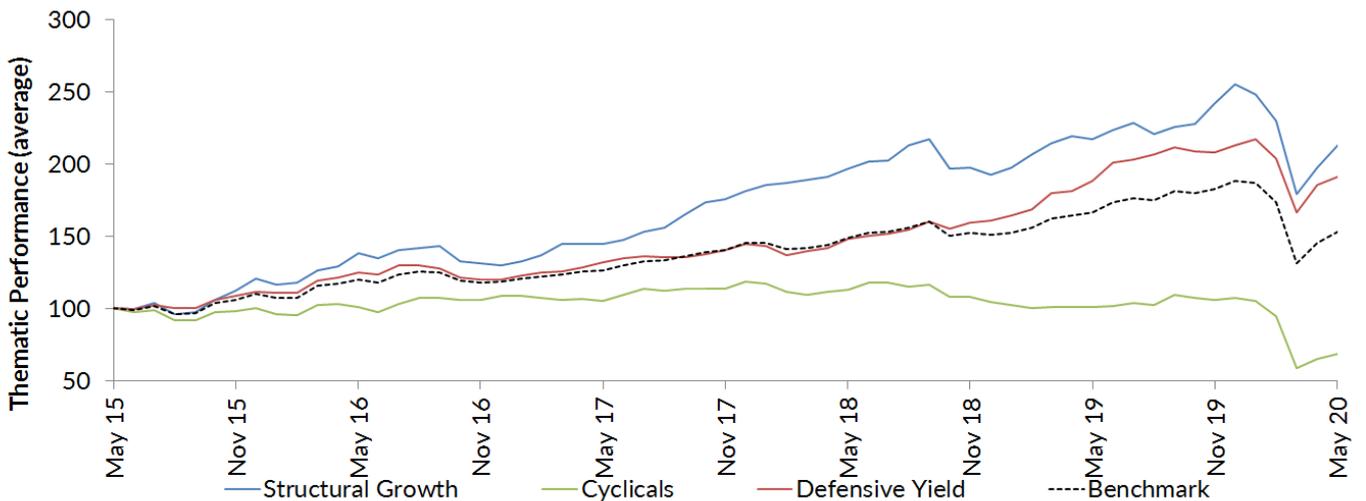
Below we present the returns of our Forsyth Barr defined thematics over a three and five year period.

**Figure 27. Three year Forsyth Barr thematic performance**



berSource: Forsyth Barr analysis, Bloomberg

**Figure 28. Five year Forsyth Barr thematic performance**



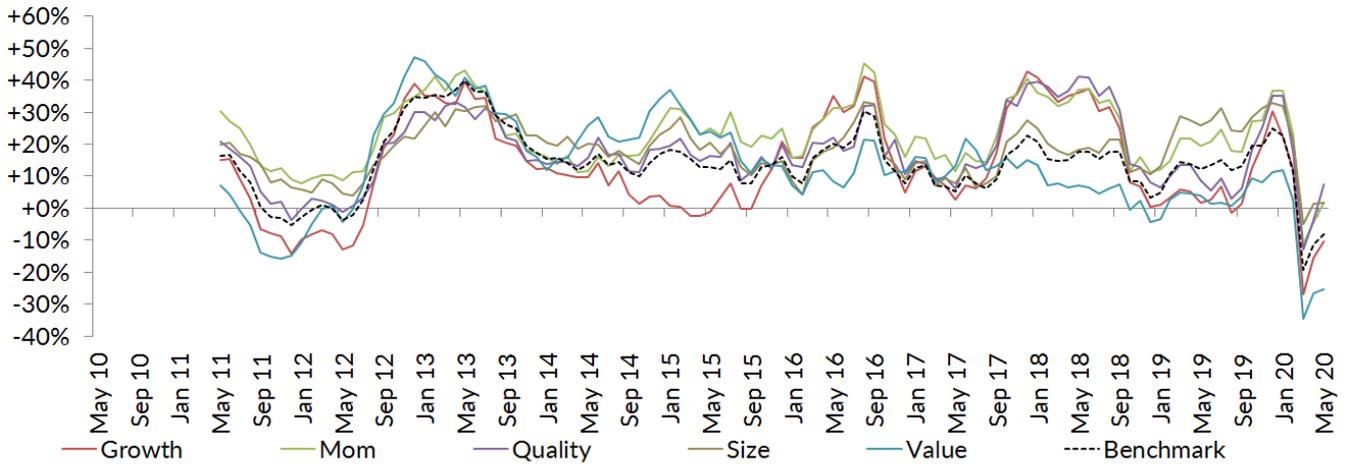
Source: Forsyth Barr analysis, Bloomberg

## Rolling Returns

We also present 12 and 36 month rolling returns for each Quant style factor and thematic.

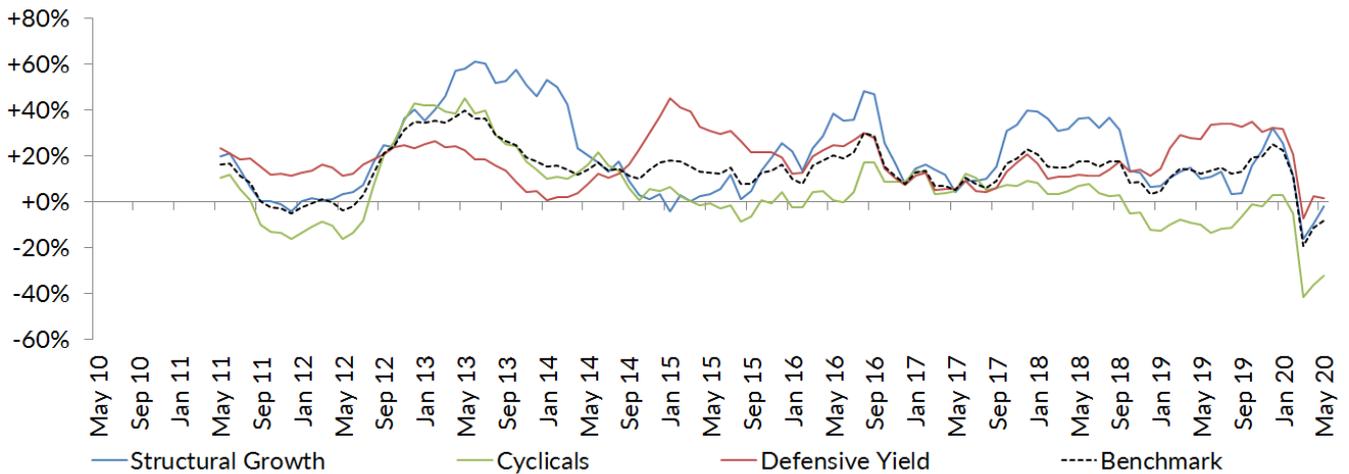
### Twelve months

Figure 29. Quant Style Factor 12mth Rolling Returns (average)



Source: Forsyth Barr analysis

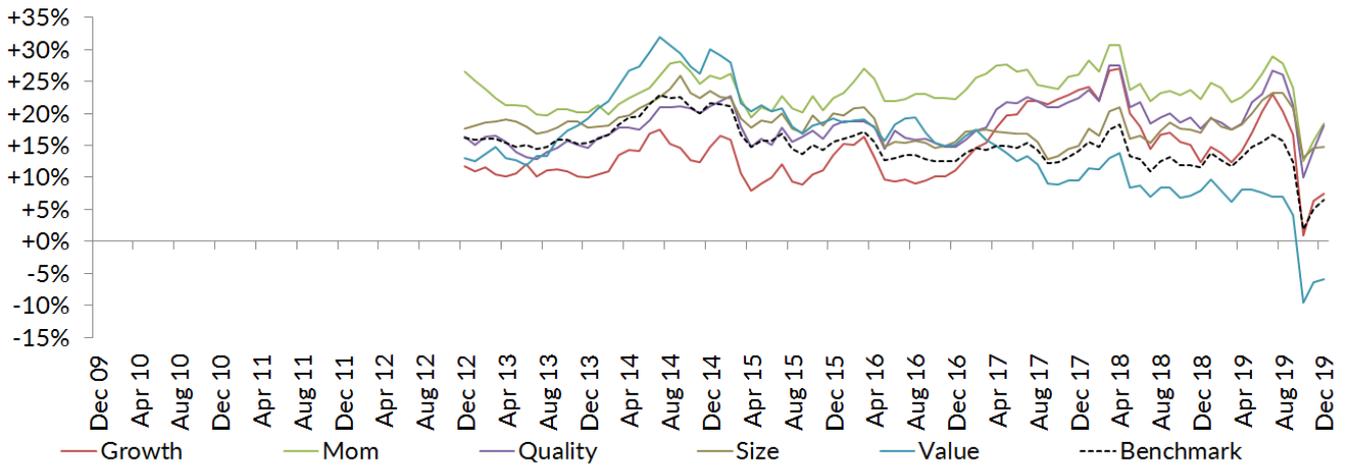
Figure 30. Thematic 12mth Rolling Returns (average)



Source: Forsyth Barr analysis

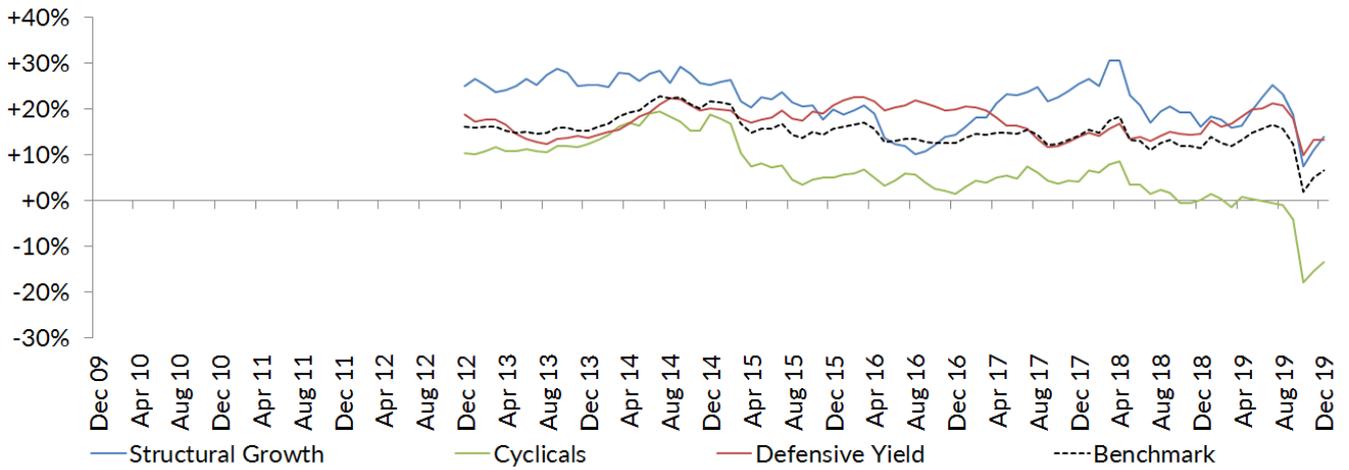
**Thirty six months**

**Figure 31. Quant Style Factor 36mth Rolling Returns (average)**



Source: Forsyth Barr analysis

**Figure 32. Thematic 36mth Rolling Returns (average)**



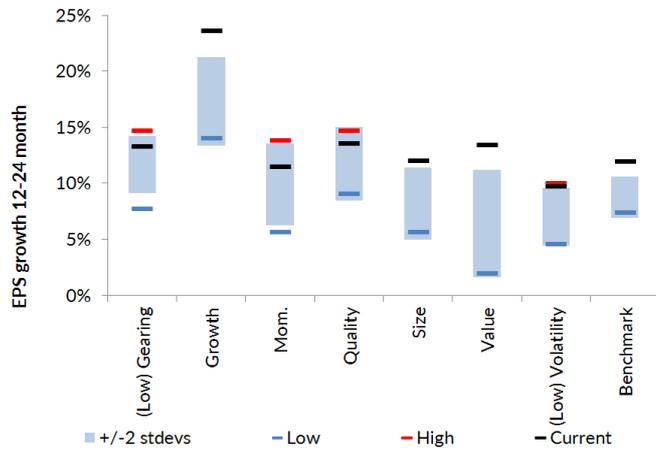
Source: Forsyth Barr analysis

# Where are the Fundamentals

## Quant style factors and thematics

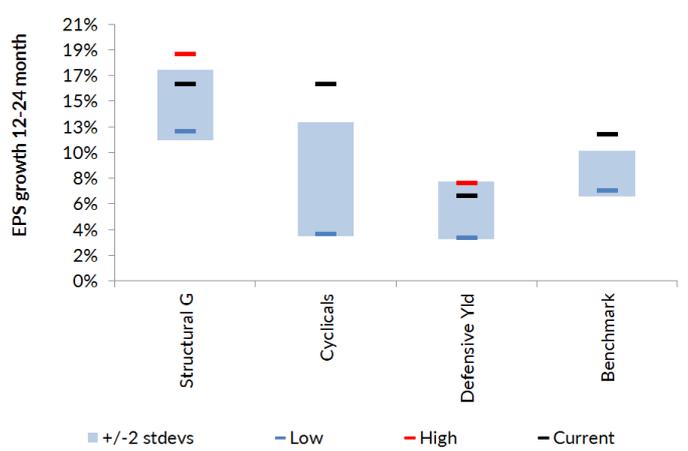
Below we highlight how our long-only quantitative style portfolios stack up in terms of normalised 12-24 month EPS growth, 12 month forward PE and 12 month forward net dividend yield, in terms of both spot and relative to the five-year history.

**Figure 33. 12-24 month forward EPS growth: Factor**



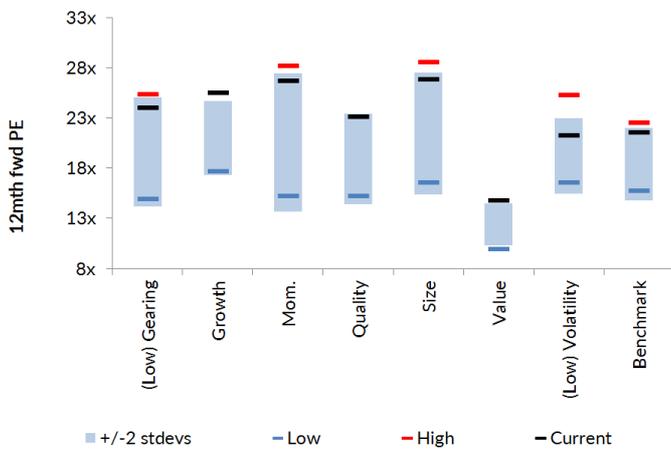
Source: Forsyth Barr analysis, Bloomberg

**Figure 34. 12-24 month forward EPS growth: Thematic**



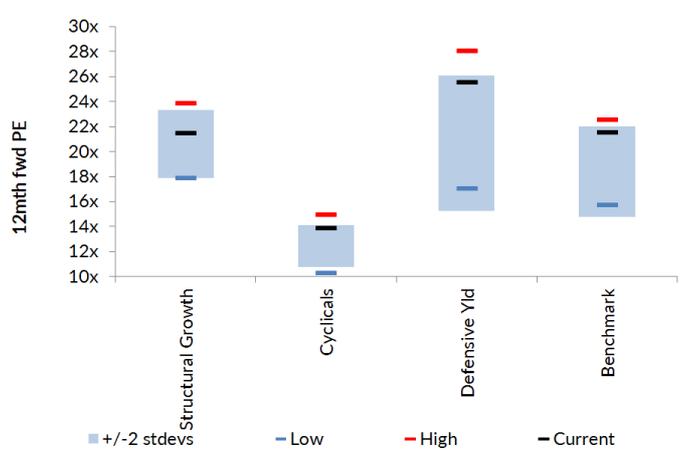
Source: Forsyth Barr analysis, Bloomberg

**Figure 35. 12 month forward PE: Factor**



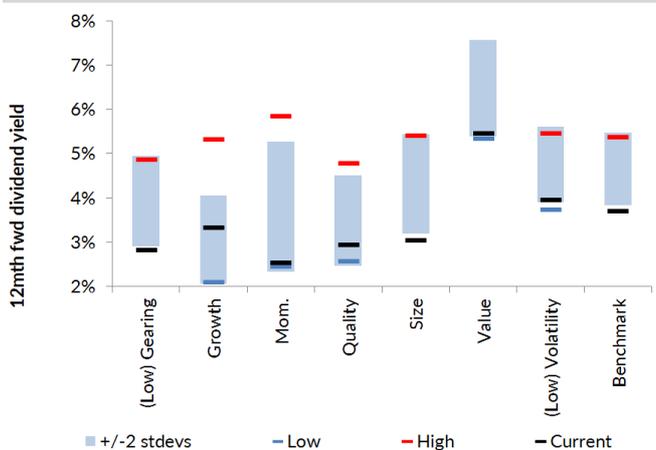
Source: Forsyth Barr analysis, Bloomberg

**Figure 36. 12 month forward PE: Thematic**



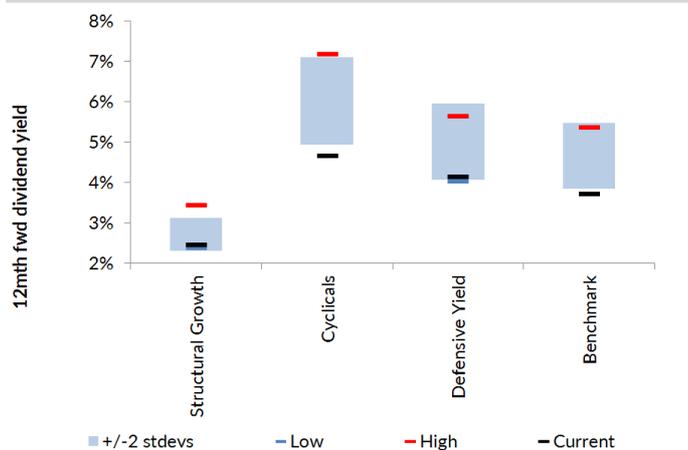
Source: Forsyth Barr analysis, Bloomberg

**Figure 37. 12 month forward net dividend yield: Factor**



Source: Forsyth Barr analysis, Bloomberg

**Figure 38. 12 month forward net dividend yield: Thematic**



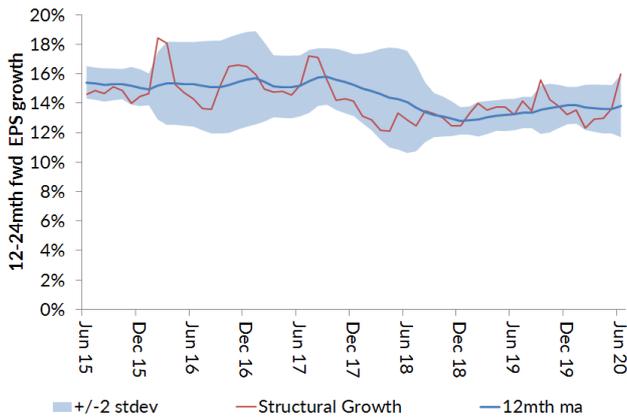
Source: Forsyth Barr analysis, Bloomberg

# Thematic Fundamentals

## Normalised EPS growth

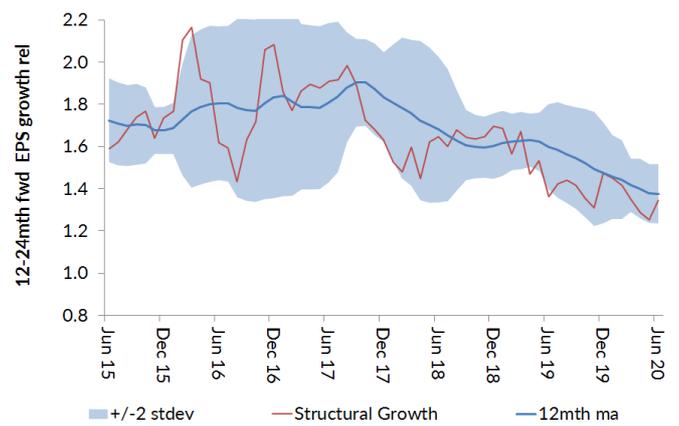
Below we highlight the fundamentals of the S&P/NZX 50, split by thematic (as defined by Forsyth Barr).

**Figure 39. Normalised EPS growth: Structural growth**



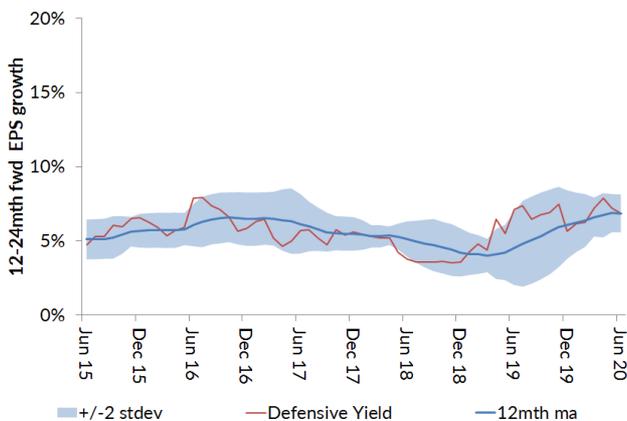
Source: Forsyth Barr analysis, Bloomberg

**Figure 40. Normalised EPS growth relative: Structural growth**



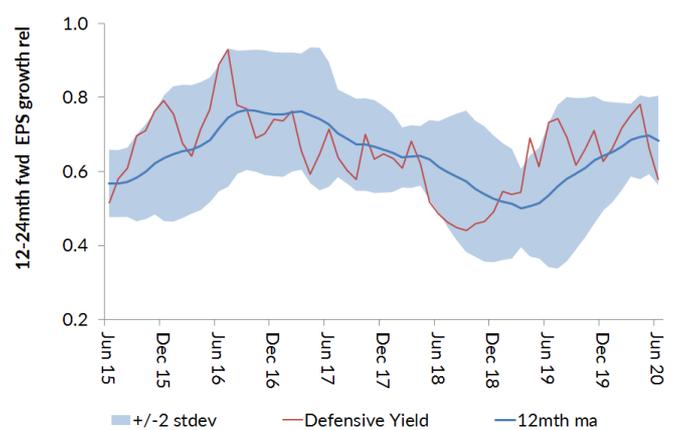
Source: Forsyth Barr analysis, Bloomberg

**Figure 41. Normalised EPS growth: Defensive yield**



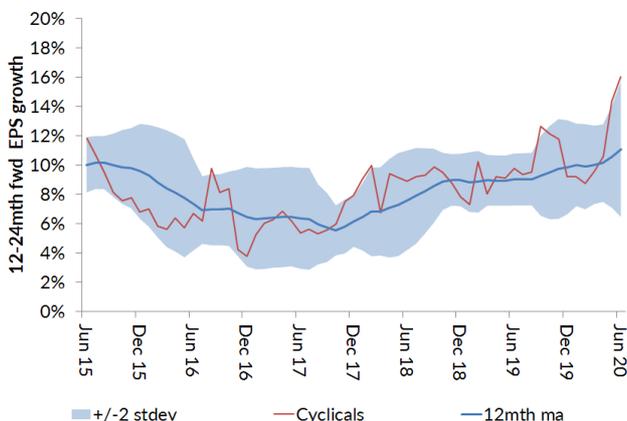
Source: Forsyth Barr analysis, Bloomberg

**Figure 42. Normalised EPS growth relative: Defensive yield**



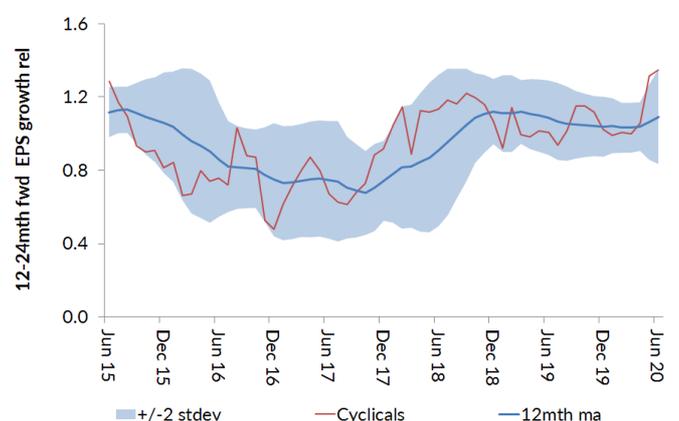
Source: Forsyth Barr analysis, Bloomberg

**Figure 43. Normalised EPS growth: Cyclical**



Source: Forsyth Barr analysis, Bloomberg

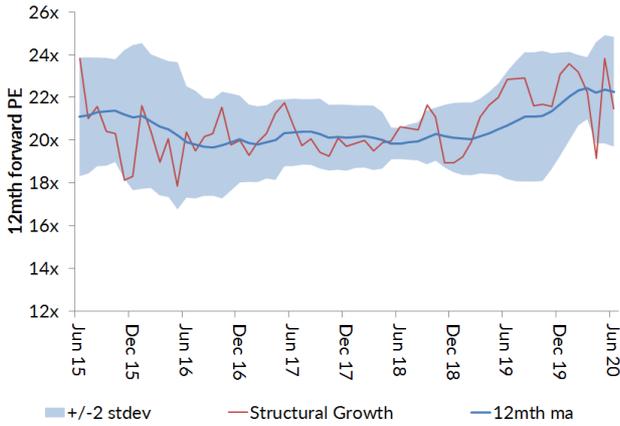
**Figure 44. Normalised EPS growth relative: Cyclical**



Source: Forsyth Barr analysis, Bloomberg

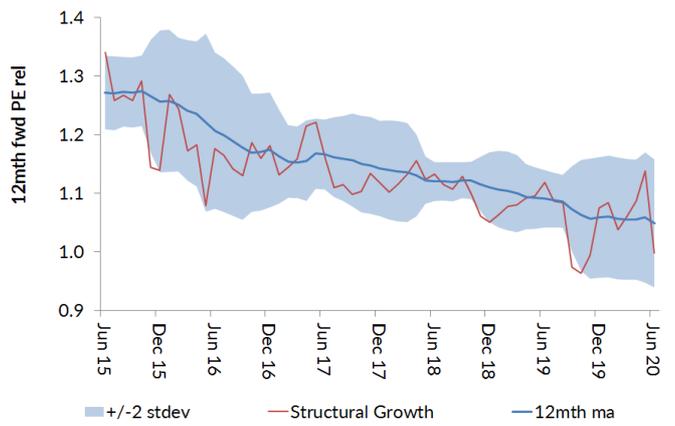
**12 month forward PE**

**Figure 45. 12 month forward PE: Structural growth**



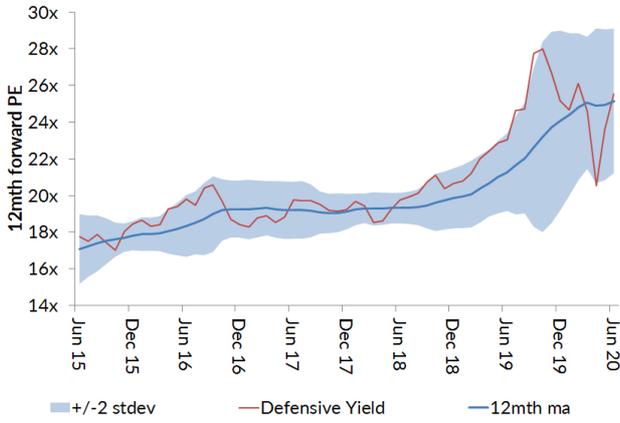
Source: Forsyth Barr analysis, Bloomberg

**Figure 46. 12 month forward PE relative: Structural growth**



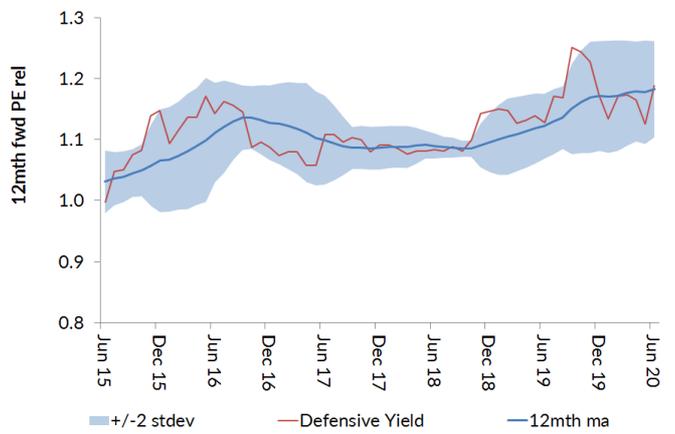
Source: Forsyth Barr analysis, Bloomberg

**Figure 47. 12 month forward PE: Defensive yield**



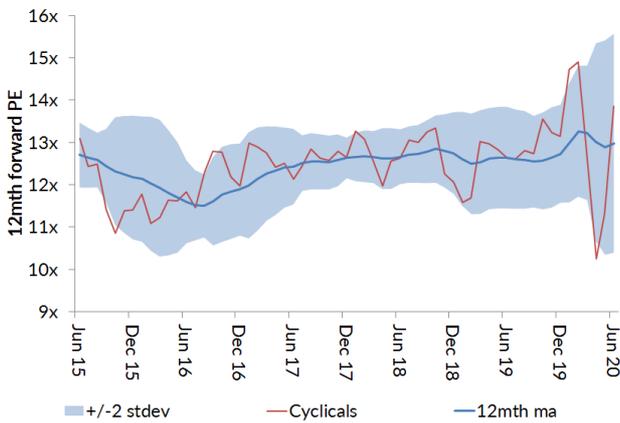
Source: Forsyth Barr analysis, Bloomberg

**Figure 48. 12 month forward PE relative: Defensive yield**



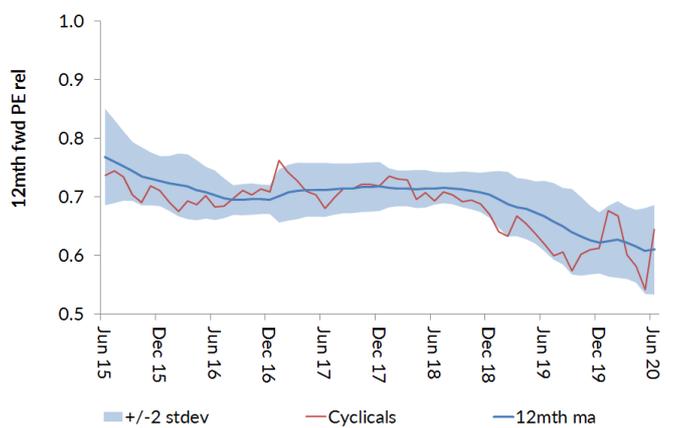
Source: Forsyth Barr analysis, Bloomberg

**Figure 49. 12 month forward PE: Cyclical**



Source: Forsyth Barr analysis, Bloomberg

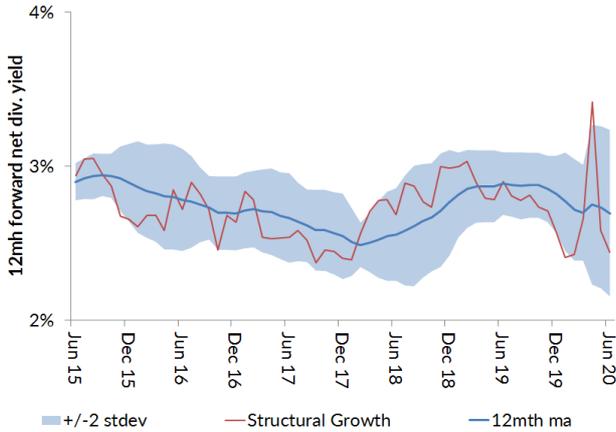
**Figure 50. 12 month forward PE relative: Cyclical**



Source: Forsyth Barr analysis, Bloomberg

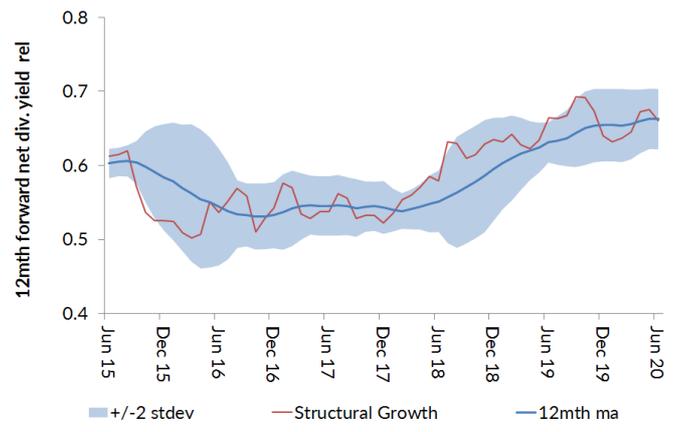
**12 month forward net dividend yield**

**Figure 51. 12 month forward net div. yield: Structural growth**



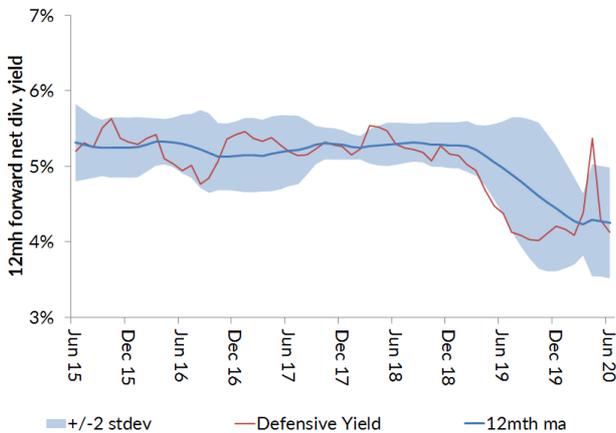
Source: Forsyth Barr analysis, Bloomberg

**Figure 52. 12 month forward net div. yield rel: Structural growth**



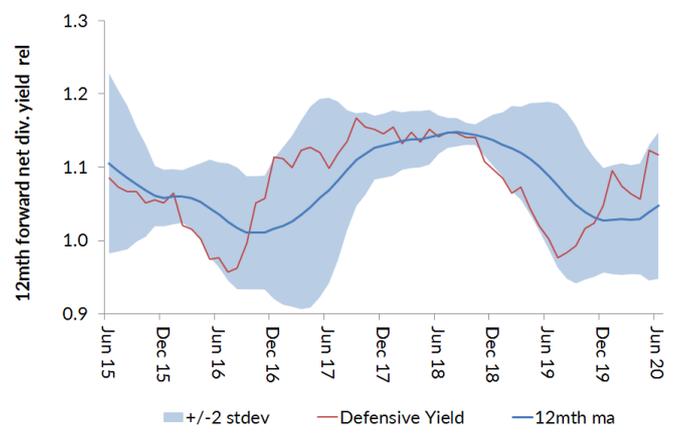
Source: Forsyth Barr analysis, Bloomberg

**Figure 53. 12 month forward net div. yield: Defensive yield**



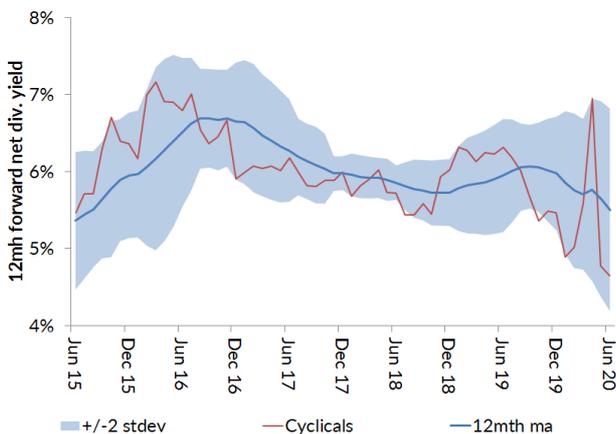
Source: Forsyth Barr analysis, Bloomberg

**Figure 54. 12 month forward net div. yield rel: Defensive yield**



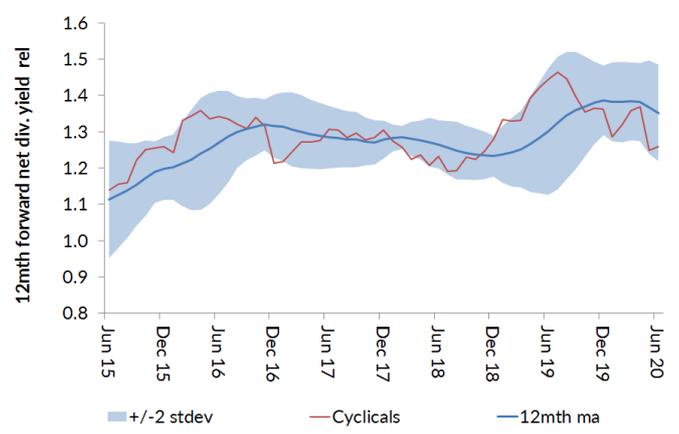
Source: Forsyth Barr analysis, Bloomberg

**Figure 55. 12 month forward net div. yield: Cyclical**



Source: Forsyth Barr analysis, Bloomberg

**Figure 56. 12 month forward net div. yield relative: Cyclical**

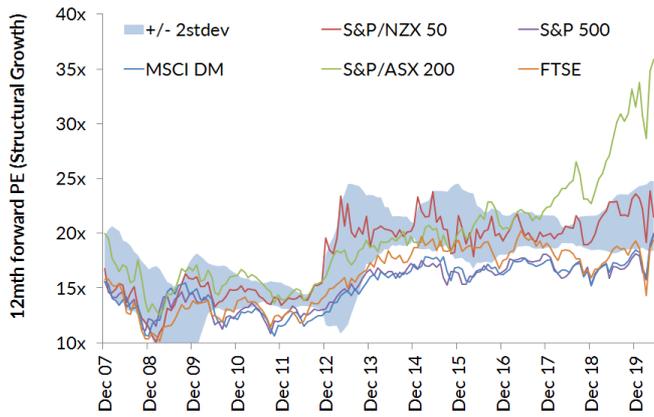


Source: Forsyth Barr analysis, Bloomberg

## Global Comparisons

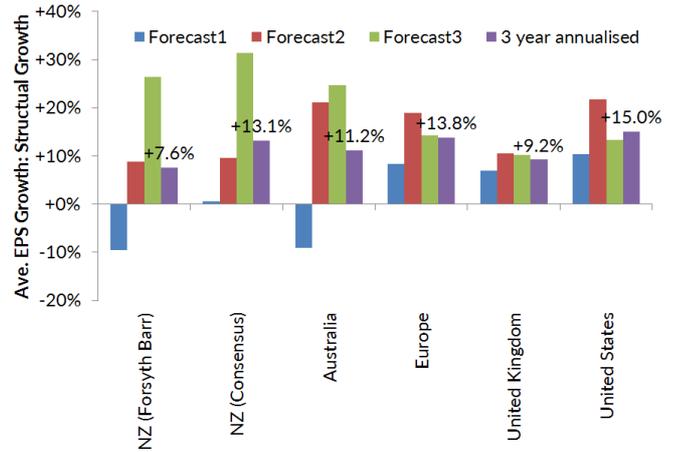
Below we show the comparison of global thematic PE multiples along with the average EPS growth for each global thematic.

**Figure 57. Global 12 month forward PE: Structural growth**



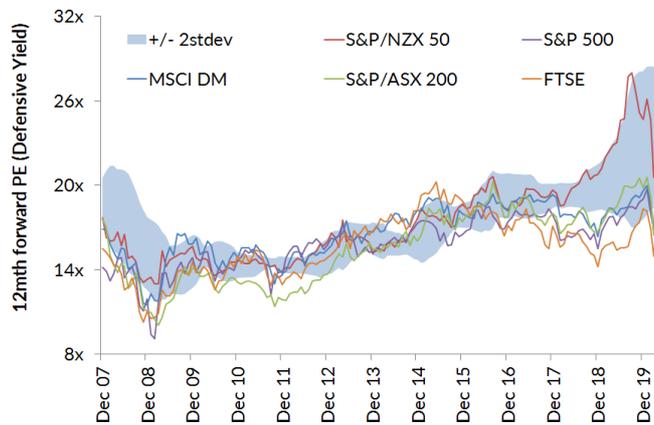
Source: Forsyth Barr analysis, Bloomberg

**Figure 58. Global EPS growth (average): Structural Growth**



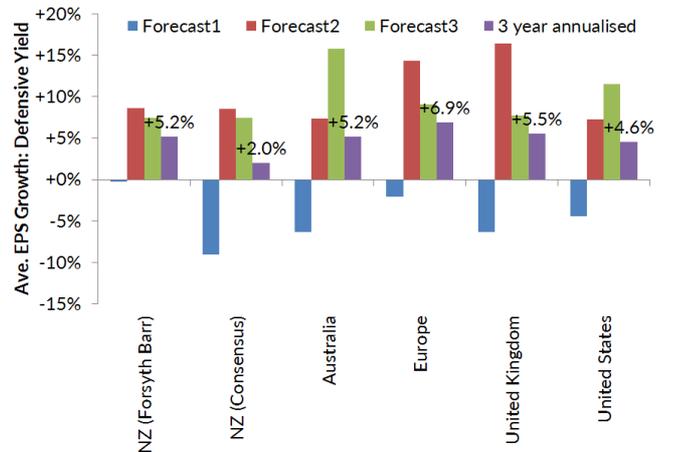
Source: Forsyth Barr analysis, Bloomberg

**Figure 59. Global 12 month forward PE: Defensive yield**



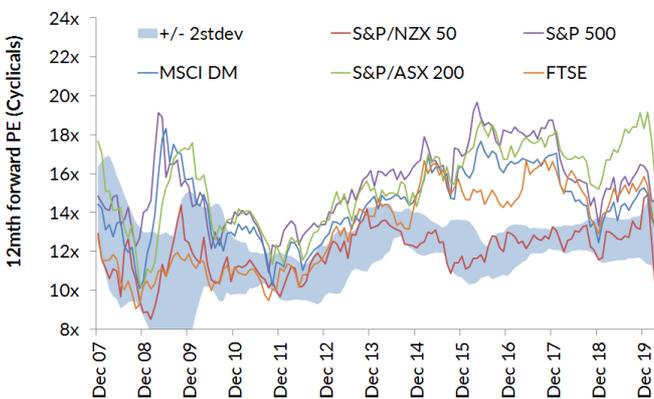
Source: Forsyth Barr analysis, Bloomberg

**Figure 60. Global EPS growth (average): Defensive yield**



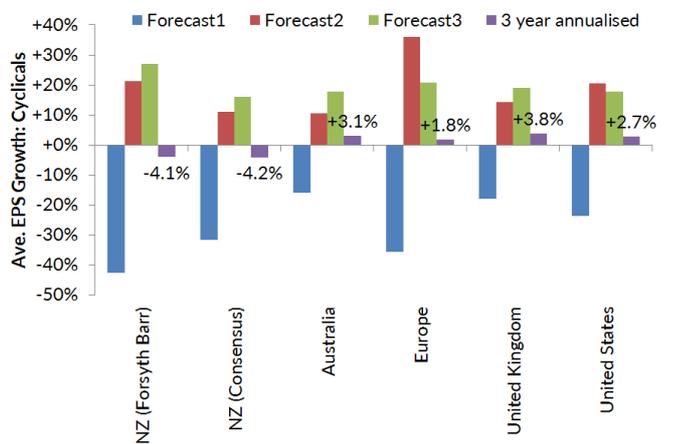
Source: Forsyth Barr analysis, Bloomberg

**Figure 61. Global 12 month forward PE: Cyclical**



Source: Forsyth Barr analysis, Bloomberg

**Figure 62. Global EPS growth (average): Cyclical**

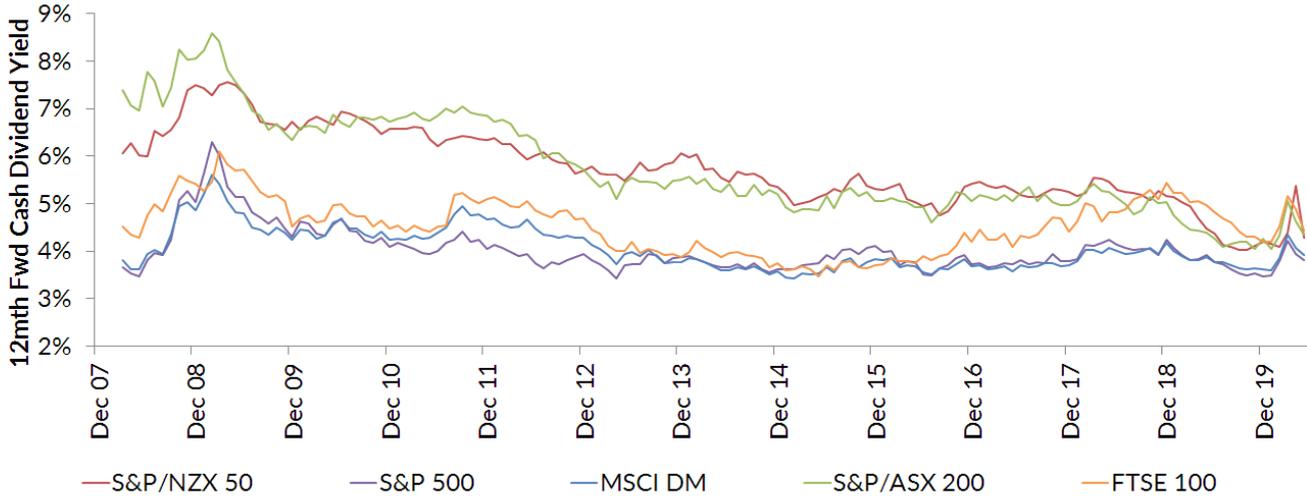


Source: Forsyth Barr analysis, Bloomberg

## Global Comparison

As the hunt for yield continues, we present a comparison of global 12 month forward dividend yields across the Defensive Yield thematic.

**Figure 63. Global 12 month forward net dividend yield: Defensive yield thematic**

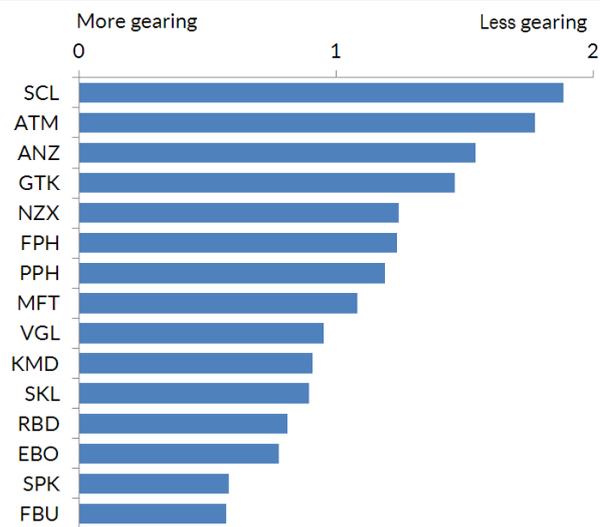


Source: Forsyth Barr analysis, Bloomberg

## What is Screening Well

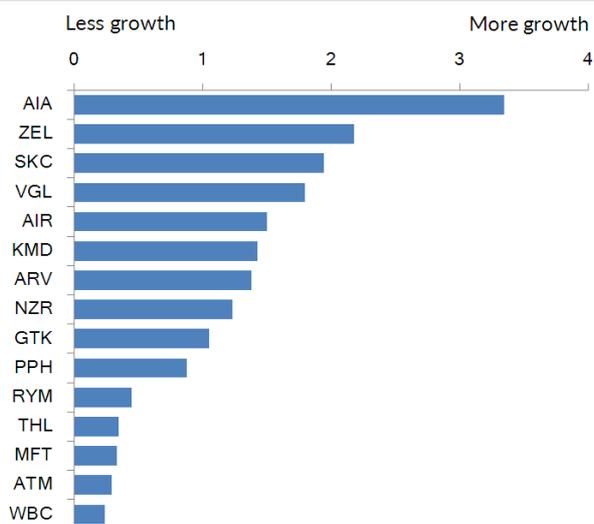
The charts below show the top 15 of each Quant style factor (the long of each factor) as well as each company's relative exposure to that factor.

**Figure 64. (Low) gearing exposure**



Source: Forsyth Barr analysis, Bloomberg

**Figure 66. Growth exposure**



Source: Forsyth Barr analysis, Bloomberg

**Figure 65. (Low) gearing screen fundamentals**

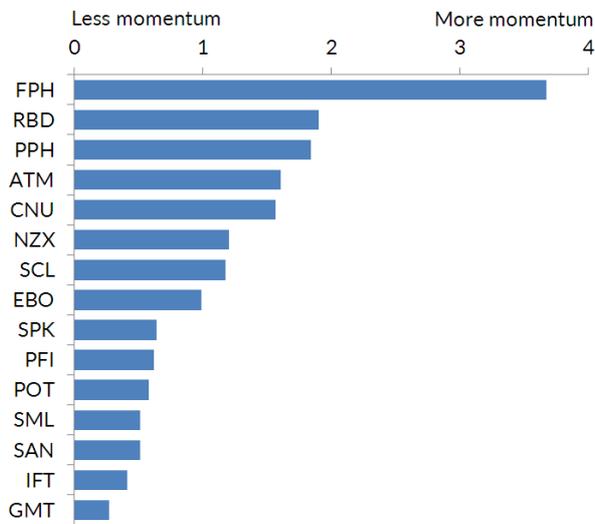
Code	12mth fwd PE	12mth fwd div. yield	EPS growth
SCL	20.6x	+4%	+7%
ATM	31.1x	+0%	+16%
ANZ	12.0x	+4%	+20%
GTK	42.1x	+3%	n/a
NZX	23.7x	+4%	+12%
FPH	n/a	+1%	+12%
PPH	36.7x	+0%	+27%
MFT	27.5x	+2%	+24%
VGL	n/a	+1%	n/a
KMD	17.6x	+2%	n/a
SKL	13.3x	+7%	+6%
RBD	26.7x	+0%	+5%
EBO	20.1x	+3%	+7%
SPK	18.8x	+6%	+6%
FBU	17.9x	+4%	+26%
S&P/NZX 50 mean	21.5x	+4%	+12%

Source: Forsyth Barr analysis, Bloomberg

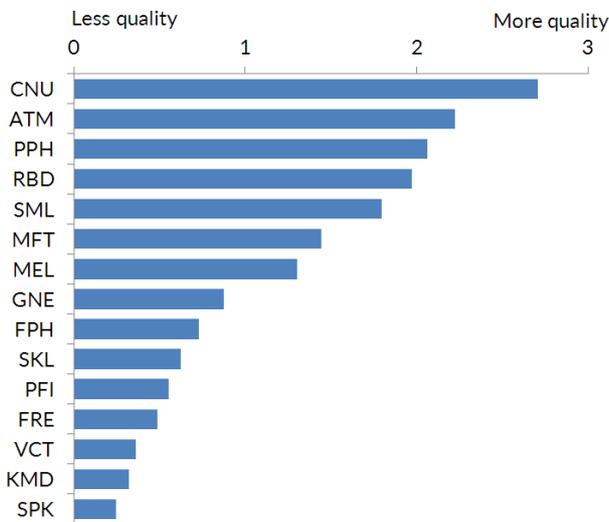
**Figure 67. Growth screen fundamentals**

Code	12mth fwd PE	12mth fwd div. yield	EPS growth
AIA	n/a	+1%	n/a
ZEL	26.6x	+7%	n/a
SKC	42.8x	+5%	n/a
VGL	n/a	+1%	n/a
AIR	n/a	+4%	n/a
KMD	17.6x	+2%	n/a
ARV	17.7x	+3%	+36%
NZR	n/a	n/a	n/a
GTK	42.1x	+3%	n/a
PPH	36.7x	+0%	+27%
RYM	23.9x	+2%	+21%
THL	13.3x	+14%	n/a
MFT	27.5x	+2%	+24%
ATM	31.1x	+0%	+16%
WBC	12.8x	+5%	+23%
S&P/NZX 50 mean	21.5x	+4%	+12%

Source: Forsyth Barr analysis, Bloomberg

**Figure 68. Momentum exposure**


Source: Forsyth Barr analysis, Bloomberg

**Figure 70. Quality exposure**


Source: Forsyth Barr analysis, Bloomberg

**Figure 69. Momentum screen fundamentals**

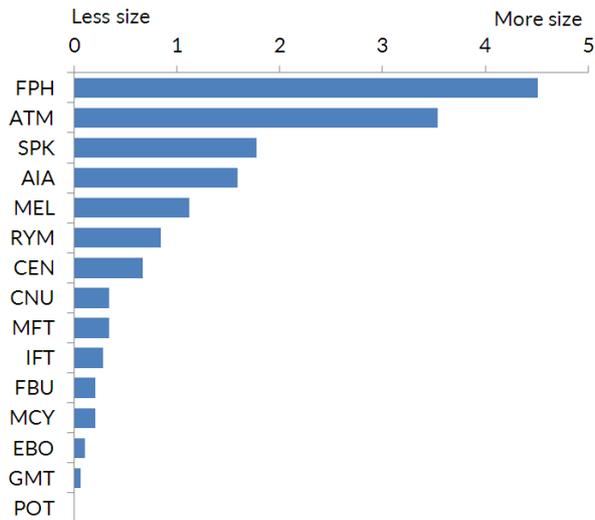
Code	12mth fwd PE	12mth fwd div. yield	EPS growth
FPH	n/a	+1%	+12%
RBD	26.7x	+0%	+5%
PPH	36.7x	+0%	+27%
ATM	31.1x	+0%	+16%
CNU	n/a	+3%	+12%
NZX	23.7x	+4%	+12%
SCL	20.6x	+4%	+7%
EBO	20.1x	+3%	+7%
SPK	18.8x	+6%	+6%
PFI	26.6x	+3%	+5%
POT	49.0x	+2%	+13%
SML	13.0x	+0%	+17%
SAN	13.8x	+3%	+17%
IFT	n/a	+4%	n/a
GMT	31.0x	+3%	+4%
S&P/NZX 50 mean	21.5x	+4%	+12%

Source: Forsyth Barr analysis, Bloomberg

**Figure 71. Quality screen fundamentals**

Code	12mth fwd PE	12mth fwd div. yield	EPS growth
CNU	n/a	+3%	+12%
ATM	31.1x	+0%	+16%
PPH	36.7x	+0%	+27%
RBD	26.7x	+0%	+5%
SML	13.0x	+0%	+17%
MFT	27.5x	+2%	+24%
MEL	27.0x	+5%	+5%
GNE	15.4x	+6%	+14%
FPH	n/a	+1%	+12%
SKL	13.3x	+7%	+6%
PFI	26.6x	+3%	+5%
FRE	17.7x	+4%	+14%
VCT	33.8x	+5%	+3%
KMD	17.6x	+2%	n/a
SPK	18.8x	+6%	+6%
S&P/NZX 50 mean	21.5x	+4%	+12%

Source: Forsyth Barr analysis, Bloomberg

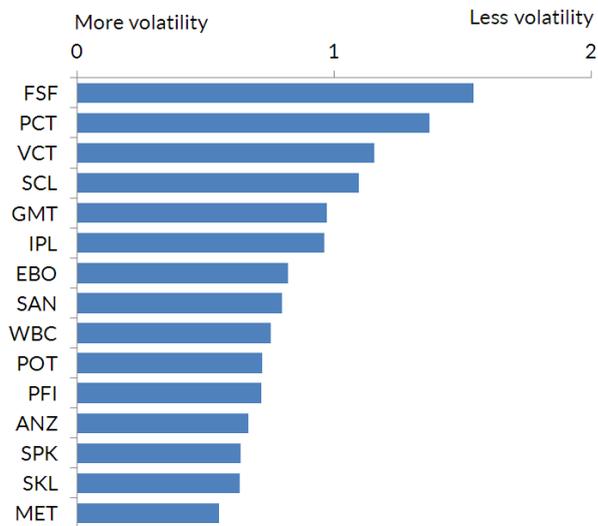
**Figure 72. Size exposure**


Source: Forsyth Barr analysis, Bloomberg

**Figure 73. Size screen fundamentals**

Code	12mth fwd PE	12mth fwd div. yield	EPS growth
FPH	n/a	+1%	+12%
ATM	31.1x	+0%	+16%
SPK	18.8x	+6%	+6%
AIA	n/a	+1%	n/a
MEL	27.0x	+5%	+5%
RYM	23.9x	+2%	+21%
CEN	16.9x	+6%	+4%
CNU	n/a	+3%	+12%
MFT	27.5x	+2%	+24%
IFT	n/a	+4%	n/a
FBU	17.9x	+4%	+26%
MCY	35.8x	+4%	+11%
EBO	20.1x	+3%	+7%
GMT	31.0x	+3%	+4%
POT	49.0x	+2%	+13%
S&P/NZX 50 mean	21.5x	+4%	+12%

Source: Forsyth Barr analysis, Bloomberg

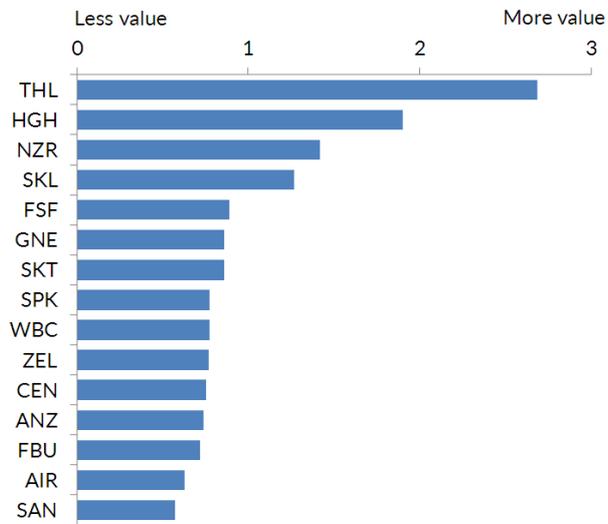
**Figure 74. (Low) Volatility exposure**


Source: Forsyth Barr analysis, Bloomberg

**Figure 75. (Low) Volatility screen fundamentals**

Code	12mth fwd PE	12mth fwd div. yield	EPS growth
FSF	11.9x	+4%	+14%
PCT	22.6x	+4%	+7%
VCT	33.8x	+5%	+3%
SCL	20.6x	+4%	+7%
GMT	31.0x	+3%	+4%
IPL	20.8x	+5%	+4%
EBO	20.1x	+3%	+7%
SAN	13.8x	+3%	+17%
WBC	12.8x	+5%	+23%
POT	49.0x	+2%	+13%
PFI	26.6x	+3%	+5%
ANZ	12.0x	+4%	+20%
SPK	18.8x	+6%	+6%
SKL	13.3x	+7%	+6%
MET	10.6x	+2%	+11%
S&P/NZX 50 mean	21.5x	+4%	+12%

Source: Forsyth Barr analysis, Bloomberg

**Figure 76. Value exposure**


Source: Forsyth Barr analysis, Bloomberg

**Figure 77. Value screen fundamentals**

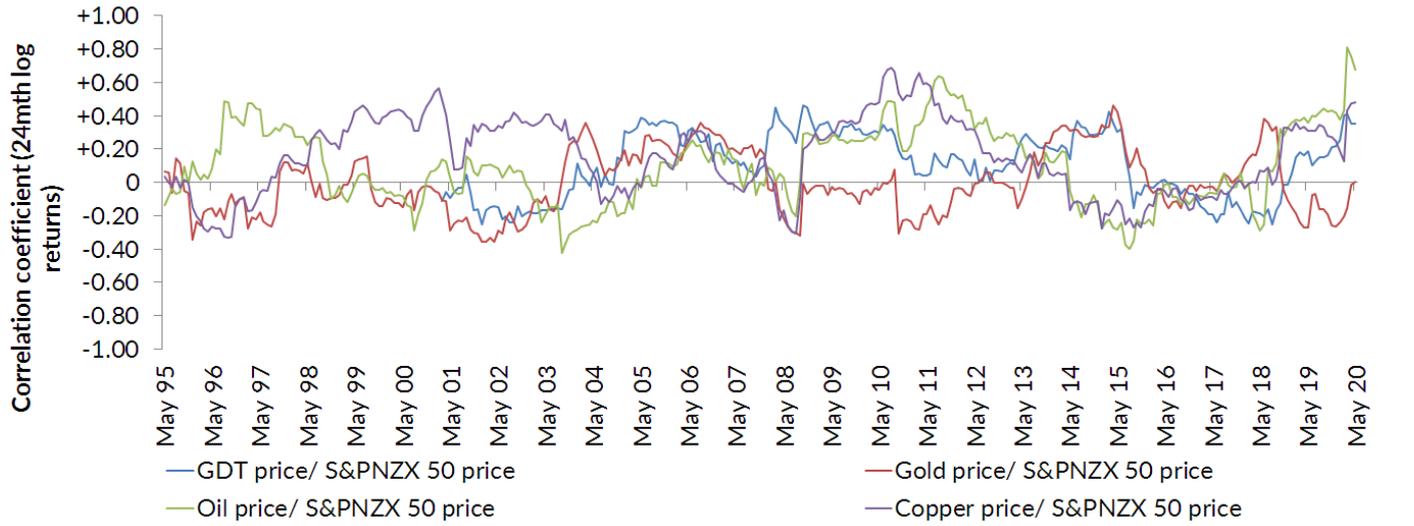
Code	12mth fwd PE	12mth fwd div. yield	EPS growth
THL	13.3x	+14%	n/a
HGH	9.3x	+8%	+13%
NZR	n/a	n/a	n/a
SKL	13.3x	+7%	+6%
FSF	11.9x	+4%	+14%
GNE	15.4x	+6%	+14%
SKT	6.3x	+0%	+4%
SPK	18.8x	+6%	+6%
WBC	12.8x	+5%	+23%
ZEL	26.6x	+7%	n/a
CEN	16.9x	+6%	+4%
ANZ	12.0x	+4%	+20%
FBU	17.9x	+4%	+26%
AIR	n/a	+4%	n/a
SAN	13.8x	+3%	+17%
S&P/NZX 50 mean	21.5x	+4%	+12%

Source: Forsyth Barr analysis, Bloomberg

## Patterns and Trends

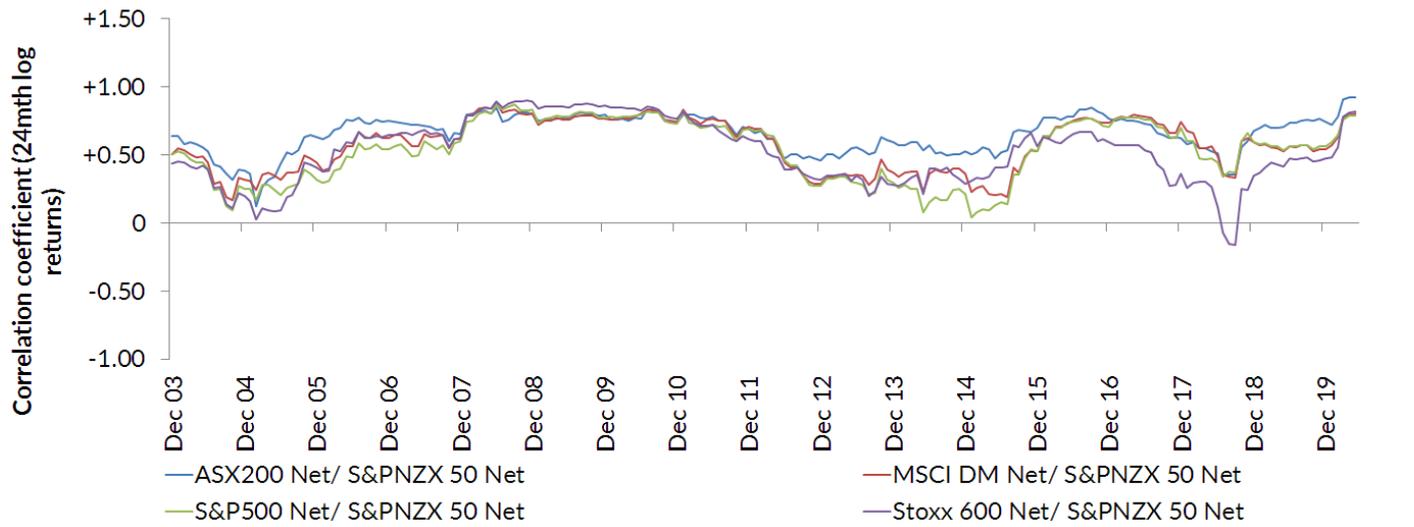
Below we show the correlation of the New Zealand equity market (be it returns or prices with various commodities, currencies, interest rates and other markets) on a 24 month rolling basis.

**Figure 78. Key commodity price correlations to New Zealand equity market prices**



Source: Forsyth Barr analysis, Bloomberg

**Figure 79. Key overseas market correlations to New Zealand equity market returns**



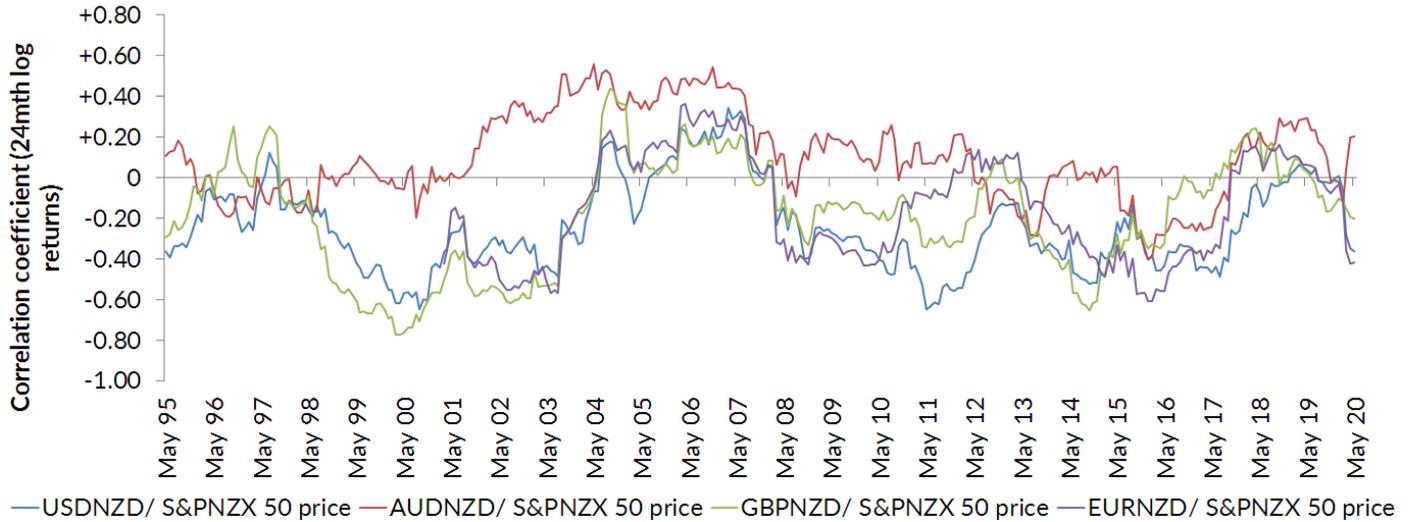
Source: Forsyth Barr analysis, Bloomberg

**Figure 80. Key interest rate duration correlations to New Zealand equity market prices**



Source: Forsyth Barr analysis, Bloomberg

**Figure 81. Key currency correlations to New Zealand equity market prices**

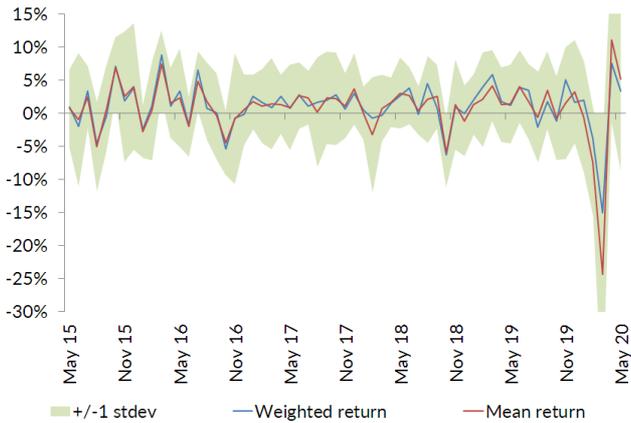


Source: Forsyth Barr analysis, Bloomberg

## Return Dispersion

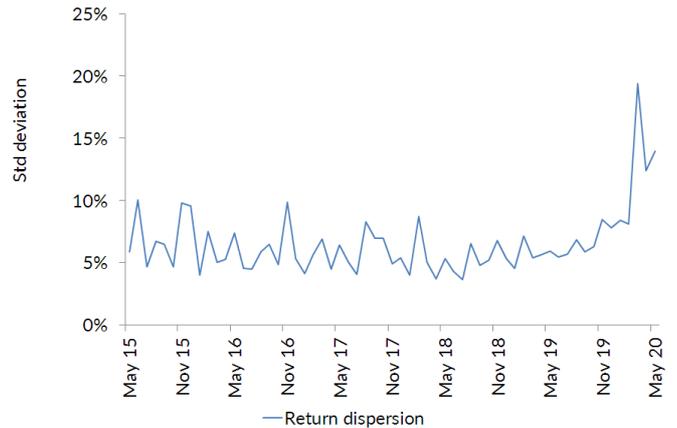
The following charts show the return and contribution dispersion and concentration for the S&P/NZX 50, market leadership, as well as the average pairwise stock-to-stock correlation.

**Figure 82. Return dispersion: Weighted versus average**



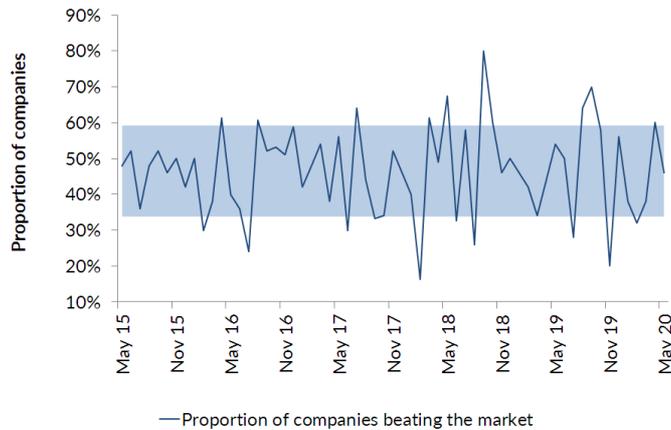
Source: Forsyth Barr analysis, Bloomberg

**Figure 83. Return dispersion**



Source: Forsyth Barr analysis, Bloomberg

**Figure 84. Market leadership**



Source: Forsyth Barr analysis, Bloomberg

**Figure 85. Mean average pairwise stock-to-stock correlation**

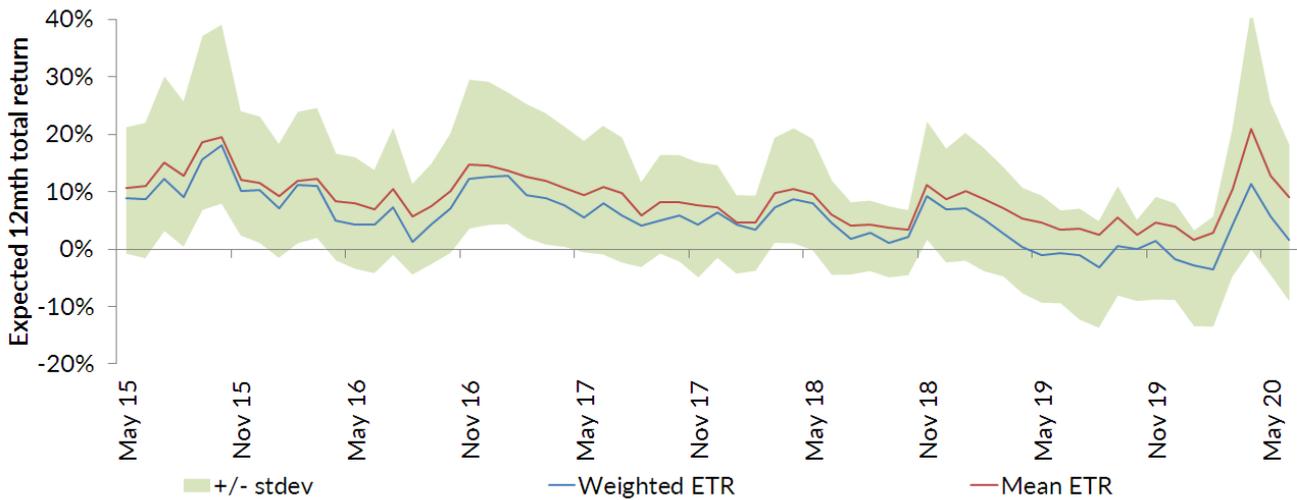


Source: Forsyth Barr analysis, Bloomberg

## Expectations

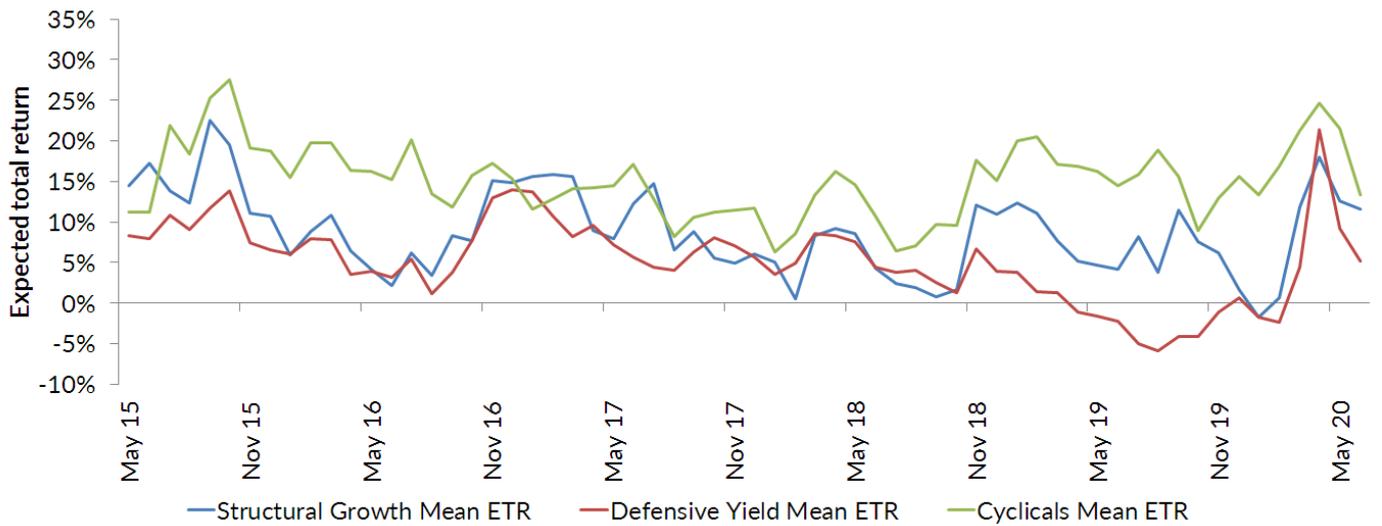
Below we show the mean, range and standard deviation of the Expected Total Return (ETR) for the market and each of the thematic.

**Figure 86. S&P/NZX 50 expected total returns**



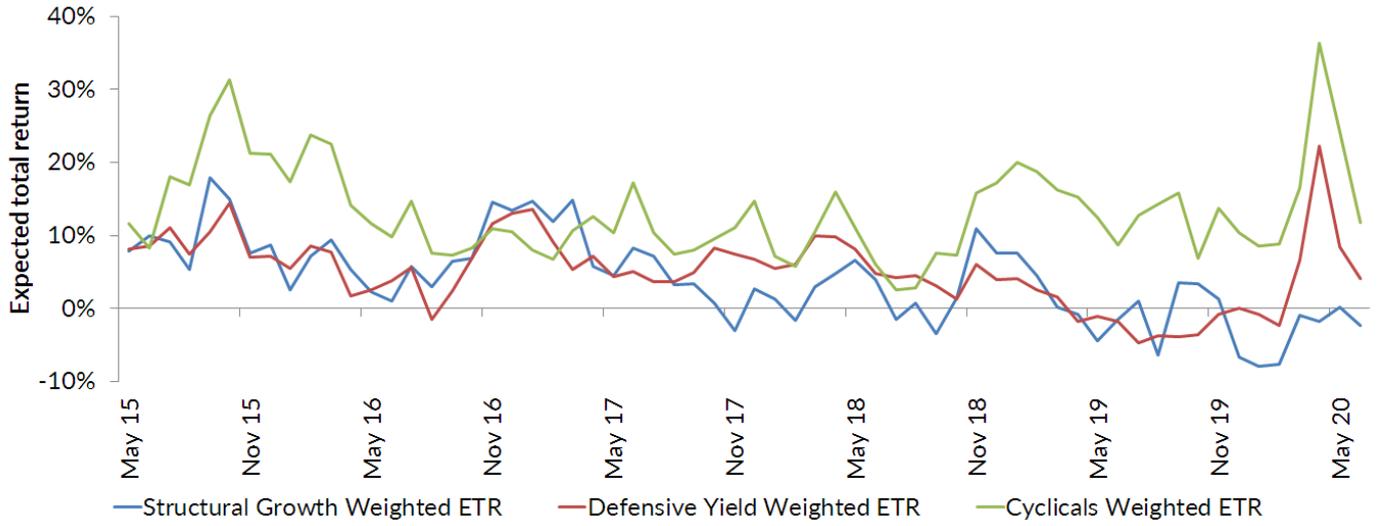
Source: Forsyth Barr analysis, Bloomberg

**Figure 87. Expected average total returns - By thematic**



Source: Forsyth Barr analysis, Bloomberg

Figure 88. Expected weighted average total returns – By thematic

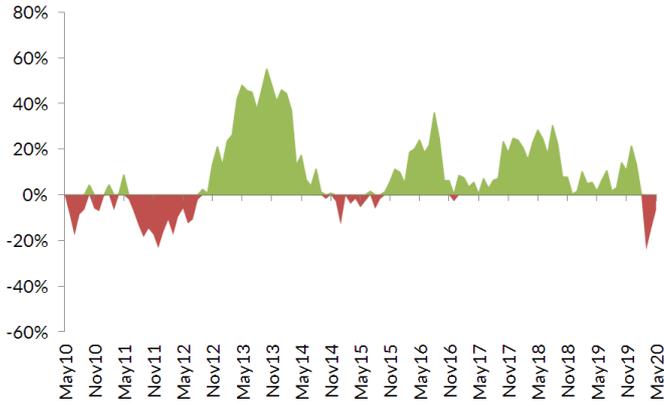


Source: Forsyth Barr analysis, Bloomberg

## ETR versus History

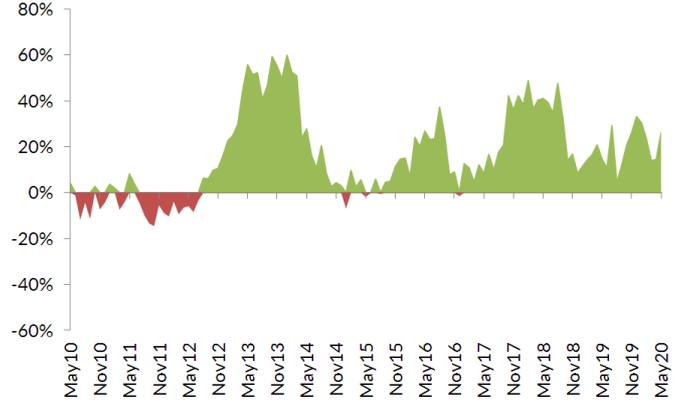
We also present the history of actual 12-month return less the Expected Total Return (ETR), at an average and weighted average level, split by thematic.

**Figure 89. Act 12mth return less ETR: Structural gwth (ave)**



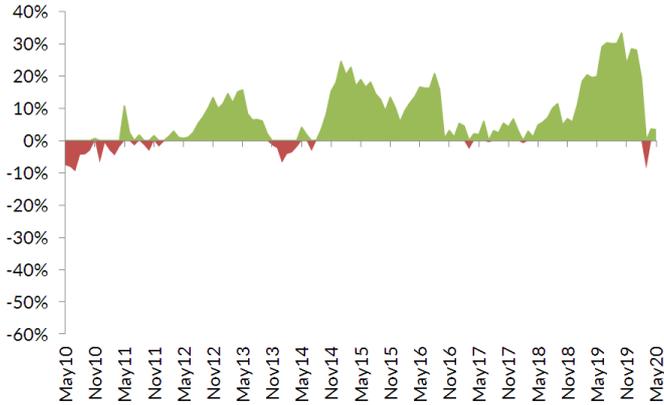
gSource: Forsyth Barr analysis, Bloomberg

**Figure 90. Act 12mth return less ETR: Structural gwth (wgt'd ave)**



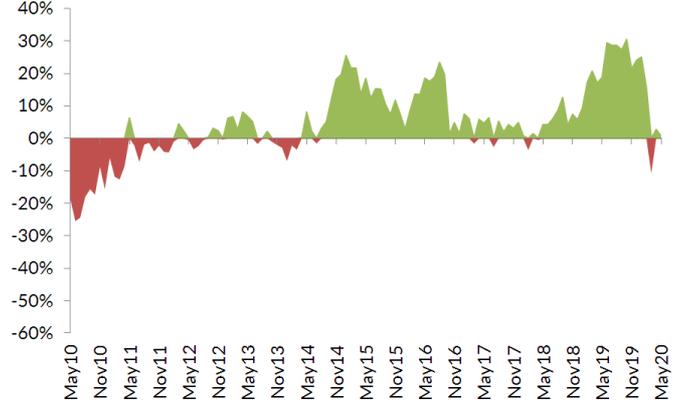
Source: Forsyth Barr analysis, Bloomberg

**Figure 91. Act 12mth Return less ETR: Defensive yield (ave)**



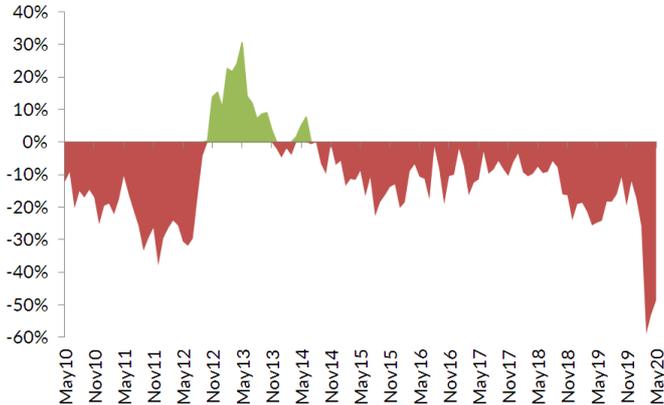
Source: Forsyth Barr analysis, Bloomberg

**Figure 92. Act 12mth return less ETR: Defensive yield (wgt'd ave)**



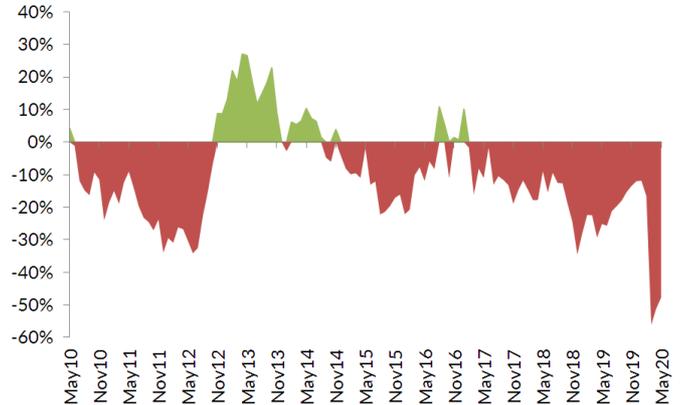
Source: Forsyth Barr analysis, Bloomberg

**Figure 93. Act 12mth return less ETR: Cyclical (ave)**



Source: Forsyth Barr analysis, Bloomberg

**Figure 94. Act 12mth return less ETR: Cyclical (wgt'd ave)**



Source: Forsyth Barr analysis, Bloomberg

## Appendix 1: Metric Definition

The figures below provide a brief explanation of what we are looking for in each style factor, the metrics that we use to screen for those characteristics, and finally, how the screens are constructed.

All data is sourced from Bloomberg.

**Figure 95. What we are looking for in each Quant style factor**

Style Factor	What are we looking for?
(Low) Gearing	Companies with the lowest balance sheet gearing.
Growth	The companies with the highest forecast earnings growth.
Momentum	The companies with the strongest trend in price and earnings in recent history.
Quality	The companies who analysts have consistently upgraded operating cashflows and dividends over time, along with low payout ratios which indicate they have profitable avenues for investment in their own business.
Size	The largest companies, as measured by free float.
(Low) Volatility	The companies with the least volatile recent trading histories.
Value	The least expensive companies.

Source: Forsyth Barr analysis

**Figure 96. What metrics go in which Quant style factor**

Style Factor	Style metric	Explanation
(Low) Gearing	12mth fwd ND to EBITDA*	Ratio of 12 month forward net debt to EBITDA.
(Low) Gearing	12mth fwd ND to EV*	Ratio of 12 month forward net debt to EV.
Growth	12-24 CF growth	24 month forward operating cashflow divided by 12 month forward operating cashflow, less one.
Growth	12-24 EBITDA growth	24 month forward EBITDA divided by 12 month forward EBITDA, less one.
Growth	12-24 EPS growth	24 month forward EPS divided by 12 month forward EPS, less one.
Growth	12-24 Revenue growth	24 month forward Revenue divided by 12 month forward Revenue, less one.
Momentum	Price mom. (3mth)	The t-stat of the estimated slope of the previous 13 weeks of price forecasts.
Momentum	EPS mom. (3mth)	The t-stat of the estimated slope of the previous 13 weeks of 12 month forward EPS forecasts.
Momentum	Price mom. (12mth)	The t-stat of the estimated slope of the previous 52 weeks of price forecasts.
Momentum	EPS mom. (12mth)	The t-stat of the estimated slope of the previous 52 weeks of 12 month forward EPS forecasts.
Quality	Cashflow trend (24mth)	The t-stat of the estimated slope of the previous 104 weeks of 12 month forward operating cashflow forecasts.
Quality	DPS trend (24mth)	The t-stat of the estimated slope of the previous 104 weeks of 12 month forward dividend per share forecasts.
Quality	12mth fwd Payout ratio*	Ratio of 12 month forward dividend per share to 12 month forward operating cashflow per share.
Size	Free float MC	Free float market cap.
(Low) Volatility	Return beta (12mth)*	The covariance of the previous 52 weeks of stock returns and the market, divided by the variance of market returns.
(Low) Volatility	Return Volatility (12mth)*	The standard deviation of the previous 52 weeks of stock returns.
Value	12mth fwd PE*	Ratio of price to 12 month forward earnings.
Value	12mth fwd div. yield	Ratio of 12 month forward dividend per share to price.
Value	12mth fwd EV/EBITDA*	Ratio of EV to 12 month forward EBITDA.

Source: Forsyth Barr analysis

**Figure 97. Calculation of Quant style factors**

Style Factor	Calculation
(Low) Gearing	Average relative difference to 12 month forward net-debt-to-EBITDA and 12 month forward net-debt-to-EV.
Growth	Average relative difference to 12 to 24 month operating cashflow, EBITDA, EPS and Revenue growth.
Momentum	Average relative difference to the t-stat of a univariate regression slope through 13 and 52 weeks of EPS and prices.
Quality	Average relative difference to the t-stat of a univariate regression slope through 104 weeks of 12mth forward DPS and operating cashflow estimates, as well as the z-score of the dividend-to-operating cashflow payout where lower payout is preferred.
Size	Z-score of size.
(Low) Volatility	Average relative difference to the market mean of 12 month observed beta and volatility using weekly returns.
Value	Average relative difference to the market mean of the 12 month forward PE, dividend yield and EV/EBITDA, where lower PEs and EV/EBITDAs are preferred.

Source: Forsyth Barr analysis

The average relative difference refers to the z-score (the difference between the stocks metric and the market mean, divided by the standard deviation of the metric across the market).

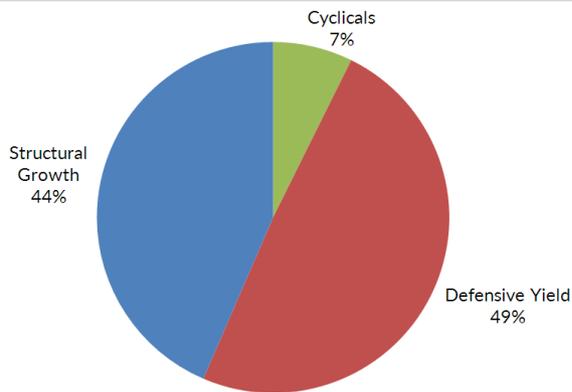
## Appendix 2: Thematic Classifications

**Figure 98. Forsyth Barr GIC Thematic Classification**

Thematic	Global Industry Classification (GIC)
Cyclicals	Consumer Discretionary, Energy, Financials, Industrials, Materials
Defensive Yield	Communication Services, Consumer Staples, Real Estate, Utilities
Structural Growth	Health Care, Information Technology

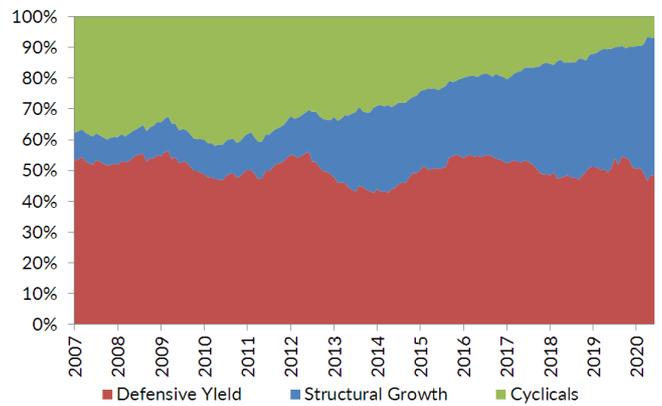
Source: Forsyth Barr analysis

**Figure 99. Spot thematic weights: New Zealand**



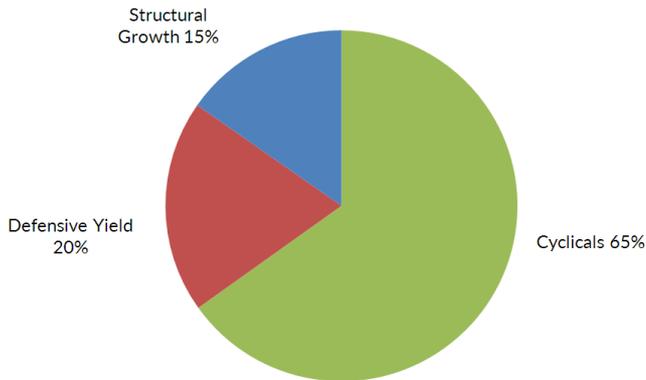
Source: Forsyth Barr analysis, IRESS

**Figure 100. Historic thematic weights: New Zealand**



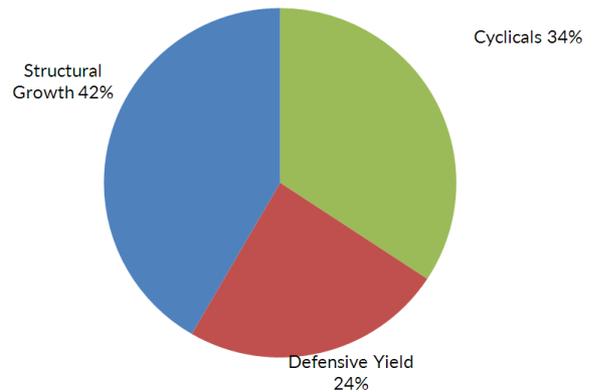
Source: Forsyth Barr analysis, Bloomberg

**Figure 101. Spot thematic weights: Australia**



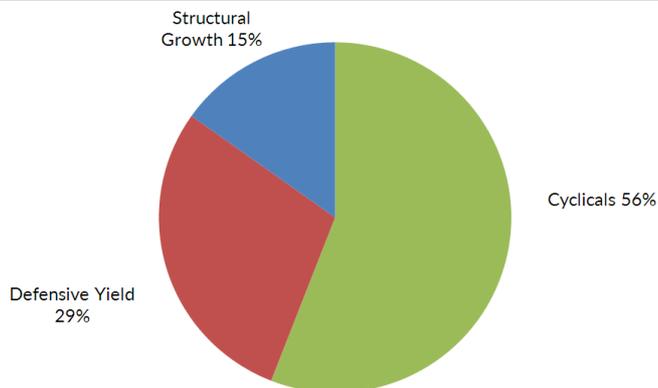
Source: Forsyth Barr analysis, Bloomberg

**Figure 102. Spot thematic weights: United States**



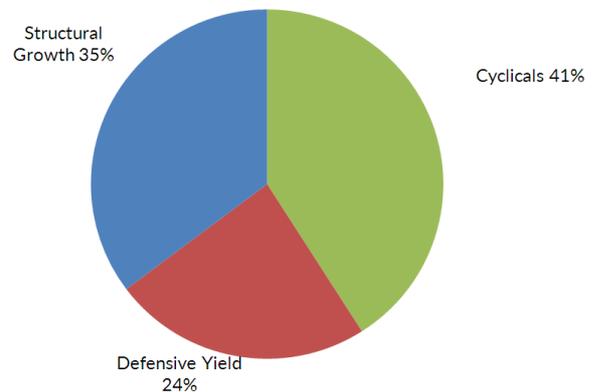
Source: Forsyth Barr analysis, Bloomberg

**Figure 103. Spot thematic weights: United Kingdom**



Source: Forsyth Barr analysis, Bloomberg

**Figure 104. Spot thematic weights: MSCI World**



Source: Forsyth Barr analysis, Bloomberg

**Figure 105. . Forsyth Barr Thematic sectors – alphabetical order**

Code	FB Thematic
AIA	Defensive Yield
AIR	Cyclicals
ANZ	Cyclicals
ARG	Defensive Yield
ARV	Structural Growth
ATM	Structural Growth
CEN	Defensive Yield
CNU	Defensive Yield
EBO	Structural Growth
FBU	Cyclicals
FPH	Structural Growth
FRE	Structural Growth
FSF	Cyclicals
GMT	Defensive Yield
GNE	Defensive Yield
GTK	Structural Growth
HGH	Cyclicals
IFT	Defensive Yield
IPL	Defensive Yield
KMD	Cyclicals
KPG	Defensive Yield
MCY	Defensive Yield
MEL	Defensive Yield
MET	Structural Growth
MFT	Structural Growth
NZR	Cyclicals
NZX	Cyclicals
OCA	Structural Growth
PCT	Defensive Yield
PFI	Defensive Yield
POT	Defensive Yield
PPH	Structural Growth
RBD	Defensive Yield
RYM	Structural Growth
SAN	Cyclicals
SCL	Structural Growth
SKC	Defensive Yield
SKL	Structural Growth
SKT	Cyclicals
SML	Structural Growth
SPG	Defensive Yield
SPK	Defensive Yield
SUM	Structural Growth
THL	Cyclicals
TPW	Defensive Yield
VCT	Defensive Yield
VGL	Structural Growth
VHP	Defensive Yield
WBC	Cyclicals
ZEL	Defensive Yield

Source: Forsyth Barr analysis

**Figure 106. . Forsyth Barr Thematic sectors – by sector**

Code	FB Thematic
AIR	Cyclicals
ANZ	Cyclicals
FBU	Cyclicals
FSF	Cyclicals
HGH	Cyclicals
KMD	Cyclicals
NZR	Cyclicals
NZX	Cyclicals
SAN	Cyclicals
SKT	Cyclicals
THL	Cyclicals
WBC	Cyclicals
AIA	Defensive Yield
ARG	Defensive Yield
CEN	Defensive Yield
CNU	Defensive Yield
GMT	Defensive Yield
GNE	Defensive Yield
IFT	Defensive Yield
IPL	Defensive Yield
KPG	Defensive Yield
MCY	Defensive Yield
MEL	Defensive Yield
PCT	Defensive Yield
PFI	Defensive Yield
POT	Defensive Yield
RBD	Defensive Yield
SKC	Defensive Yield
SPG	Defensive Yield
SPK	Defensive Yield
TPW	Defensive Yield
VCT	Defensive Yield
VHP	Defensive Yield
ZEL	Defensive Yield
ARV	Structural Growth
ATM	Structural Growth
EBO	Structural Growth
FPH	Structural Growth
FRE	Structural Growth
GTK	Structural Growth
MET	Structural Growth
MFT	Structural Growth
OCA	Structural Growth
PPH	Structural Growth
RYM	Structural Growth
SCL	Structural Growth
SKL	Structural Growth
SML	Structural Growth
SUM	Structural Growth
VGL	Structural Growth

Source: Forsyth Barr analysis

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