Digging down under quant performance

September 2018

Research Signals

As an export economy, Australia is vulnerable to global economic developments which have caused many global markets to decline in recent months. However, the Australian share market ended August trading near ten-year highs off early-April lows, despite trade tensions between major trading partners - the US and China - before correcting in the early days of September. Given the heightened trade rhetoric over the course of this year, we review the Australian economic landscape and recent quantitative model and factor performance within the Research Signals Global Factor Library.

- Services and manufacturing firms maintain a positive view on the outlook for the year, despite recent moderation in the private sector economy and outflows in equity ETFs
- All five of our thematic models recorded positive performance thus far this year for buy-rated stocks and negative returns for sell-rated stocks relative to the market, led by the Earnings Momentum (1.48% average monthly spread) and Price Momentum (1.20% average monthly spread) models
- From a long-only perspective, earnings revisions factors and measures of fundamental growth outperformed on average year-to-date, while low profits as a ratio of sales was successful in identifying underperforming stocks

Contacts

Research Signals · research-signals@markit.com

Confidential. © 2018 IHS Markit™. All rights reserved.

IHS Markit

Introduction

We begin with a review of macroeconomic activity to provide a setting for our quantitative model and factor review. GDP growth reached 3.4% year on year for the June quarter. However, the rate of growth in business actitivity in the Australian private sector economy eased again in August, with the Commonwealth Bank Composite Output index, a GDP-weighted average of the services and manufacturing indexes, posting at 52.0 in August, down from 52.3 in July. A reading above (below) 50.0 indicates improvement (deterioration) in business activity on the previous month, thus, the current reading indicates moderate expansion in business activity, though it has eased to a new survey low from the survey's May 2016 inception.

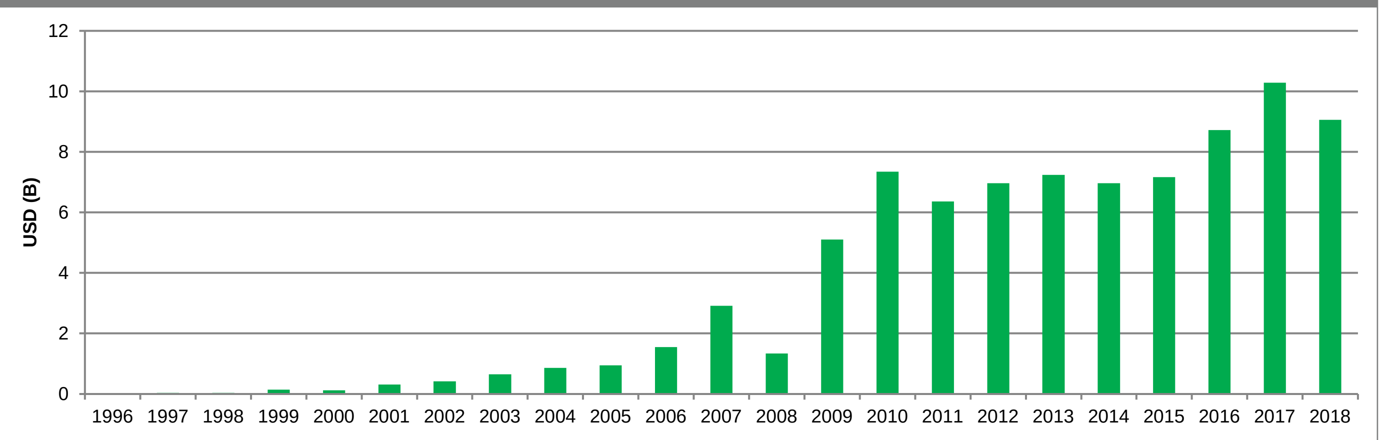
At the sector level, the services PMI dipped to 51.8 in August, from 52.3 in July, amid increased competition and softer demand. The manufacturing sector also remains relatively soft, with a slight increase in the August PMI to 53.2, supported by favorable exchange rates and greater orders from Asian markets, though July data (52.4) experienced a noticeable decline in rate of improvement from 55.0 the prior month. Nevertheless, services and manufacturing firms maintain a positive view on the outlook for the year.

While the latest PMI data are less favorable, modestly improved retail and trade activity did not affect the monetary policy stance of the Reserve Bank of Australia (RBA), which left the official cash rate target unchanged at 1.50% at its 7 August meeting. Weakness in household finances and inflation continue to affect the RBA's delay in monetary policy tightening, which IHS Markit expects to remain on hold for the foreseeable future.

In equity markets, after a strong finish in the the final quarter of 2017, Australian equities opened up 2018 with volatile trading and finished Q1 well in the red. The market handsomely recovered in Q2 and stocks continued to inch toward the November 2007 all-time high, finishingAugust with their fifth straight monthly gain. However, equity ETF assets under management (AUM) have come off their 2017 peak of $10.3 billion and now reside at $9.1 billion (Figure 1), according to IHS Markit ETF Analytics (as of 9 September 2018). Recent ETF outflows drove the AUM deflation (Figure 2), particularly in Q3, putting flows on track for their first annual decline since 2012.

Figure 1

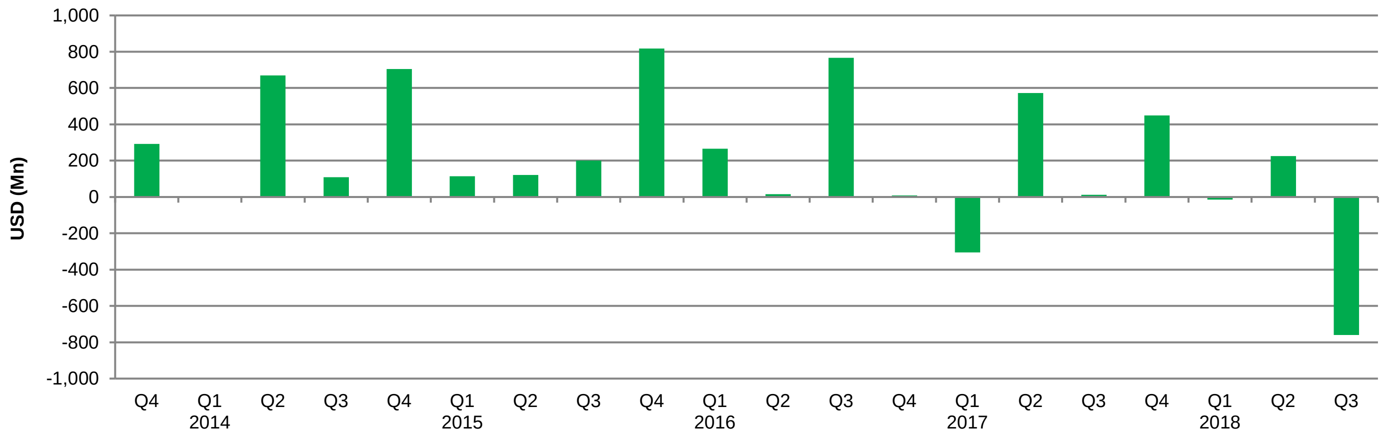
Australia equity ETF AUM



Source: IHS Markit © 2018 IHS Markit

Figure 2

Australia equity ETF flows



Source: IHS Markit © 2018 IHS Markit

Given this backdrop, we review year-to-date model and factor performance from the Research Signals 350+ Global Factor Library in order to paint the picture of how well quantitative strategies have performed in the market and which factors have been the drivers of performance. The equity signals in our library are derived from a variety of sources including financial, technical, industry-specific, proprietary IHS Markit-owned and alternative data sources to support stock selection. The factors span several themes including value, quality, momentum, liquidity and risk.

Factor performance is computed over our Australia STDCAP universe which is subject to a minimum USD 100 million market capitalization. The universe size has averaged around 230 names over the past 10 years and now stands at just over 250 (see Figure A1 in the Appendix). Financials (40%) currently comprise the largest portion of the universe by market capitalization, followed by Basic Materials at 17% (see Figure A2 in the Appendix).

Model performance

Research Signals offers multi-factor models focused on specific regions of the world economy that cover a full range of popular investment themes. Our Australia/New Zealand models have been running live since January 2008 and include the following five styles:

- Deep Value Model (DVM) seeks to identify securities trading at a steep discount to their intrinsic value
- Relative Value Model (RVM) is an alternative approach to DVM which considers valuation indicators on an industry- or sector-adjusted basis, thus mitigating the concentration risk that may arise in the DVM methodology
- Earnings Momentum Model (EMM) incorporates analyst forecasts alongside past earnings strength to estimate future earnings potential
- Price Momentum Model (PMM) combines price changes with several risk factors to provide a consistent 1- to 3-month investment signal
- Value Momentum Model (VMA) is a comprehensive approach including factors that span the value, price and earnings momentum style spectrum

Confidential. © 2018 IHS Markit. All rights reserved.

In computing monthly model performance, we start by ranking stocks by multi-factor values at the start of the month from 1 to 100, with 1 being the best. Stocks are then divided into quintiles with the highest 20% ranks comprising quintile 1 (Q1) and the lowest 20% ranks assigned to quintile 5 (Q5). At the end of the month, average monthly stock returns are computed across each quintile group. We then report model performance at the Q1 and Q5 extremes by computing average returns in excess of the market (local currency). The long-short spread is also calculated based on an investment strategy going long the highest ranked names (Q1) and shorting the lowest (Q5), capturing the Q1-Q5 spread which is a common gauge of overall model efficacy.

Model ranks are computed on the Australia-New Zealand 250 universe which is the top 250 stocks in the region by market capitalization and is currently comprised of approximately 93% Australian names. We report year-to-date performance here, while performance over additional universes and historical time periods can be found on the Research Signals platform.

Table 1 summarizes model performance results including the monthly average and its annualized value along with the the hit rate (percentage of months with positive values) for the Q1-Q5 spreads and the Q1 and Q5 excess returns. First, we highlight that all five style models recorded positive performance thus far this year. The average Q1 (buy-rated) excess returns are positive (with the exception of Relative Value: -0.02) and the average Q5 (sell-rated) excess returns are negative, translating to positive average spreads.

The top performing models were Earnings Momentum (Figure 3) and Price Momentum (Figure 4). For Earnings Momentum buy-rated stocks on a year-to-date basis, the model Q1 portfolio recorded an average return of 0.98% in excess of the market, or 11.74% annualized, with a 75% hit rate. Stocks which were sell-rated posted an average excess return of -0.50 (-6.02% annualized) and correctly underperformed in all but 25% of months. In turn, the overall Q1-Q5 spread came in at 1.48% on average (17.77% annualized) with an impressive 100% hit rate.

Price Momentum was also a positive strategy for the year, with an average Q1-Q5 spread of 1.20%, or 14.34% annualized, and a 63% hit rate. The Q1 (buy-rated) portfolio was the strongest contributor with an average monthly return of 0.77% in excess of the market (9.28% annualized) and 75% hit rate. Finally, Table A1 in the Appendix lists Australian stocks that are recently ranked in Q1 (buy-rated) according to both the Earnings Momentum and Price Momentum Models, which includes several large cap names such as Macquarie Group, Goodman Group and Santos.

Table 1

Australia-New Zealand 250 average monthly model performance statistics (%), Jan 2018 - Aug 2018

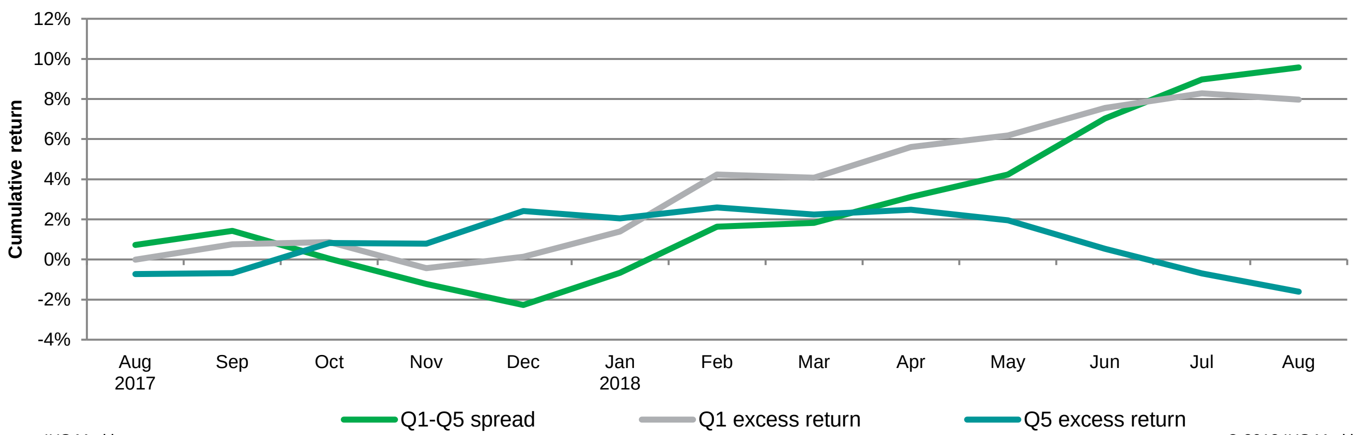
Statistic		Deep Value	Relative Value	Earnings Momentum	Price Momentum	Value Momentum
Q1-Q5 spread	Average	0.34	0.49	1.48	1.20	1.16
	Annualized	4.10	5.84	17.77	14.34	13.96
	Hit rate	75%	75%	100%	63%	63%
Q1 excess return	Average	0.12	-0.02	0.98	0.77	1.09
	Annualized	1.44	-0.24	11.74	9.28	13.10
	Hit rate	50%	50%	75%	75%	75%
Q5 excess return	Average	-0.22	-0.51	-0.50	-0.42	-0.07
	Annualized	-2.65	-6.09	-6.02	-5.06	-0.86
	Hit rate	38%	25%	25%	38%	63%

Source: IHS Markit

© 2018 IHS Markit

Figure 3

Australia-New Zealand 250 Earnings Momentum Model returns

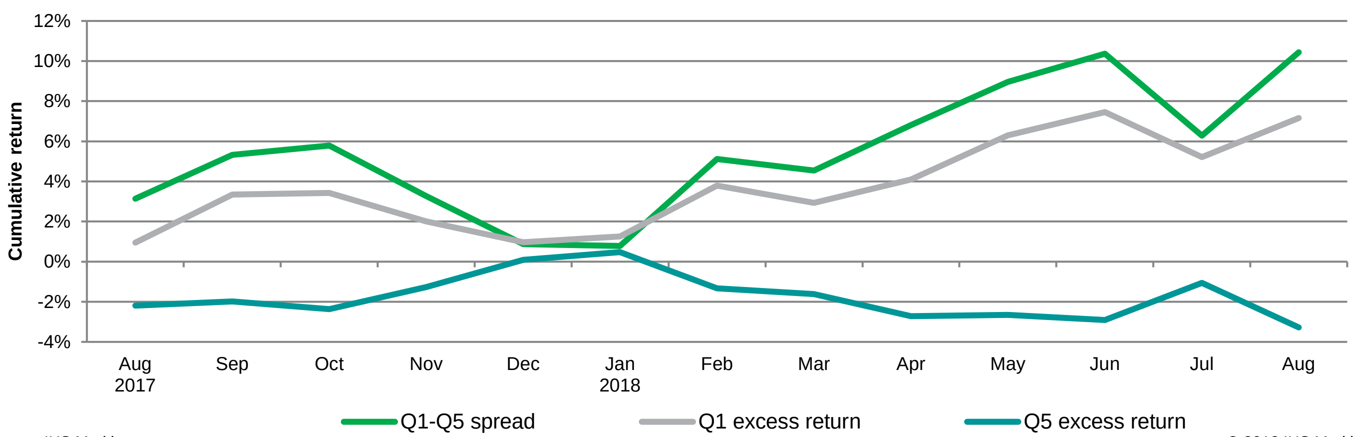


Source: IHS Markit

© 2018 IHS Markit

Figure 4

Australia-New Zealand 250 Price Momentum Model returns



Source: IHS Markit

© 2018 IHS Markit

Factor performance

We also analyze recent factor performance from our 350+ factor library which powers single-factor and multi-factor model approaches. We begin with a review of top performing factors from a long-only perspective, in other words, factors which were the most successful at identifying buy candidates or stocks to overweight. This analysis is based on factors with the strongest Q1 excess returns (Table 1).

Several styles are represented among the top performing factors thus far this year. Consistent with model performance results observed in the previous section, several Earnings Momentum signals were among the most successful signals this year, including Time Weighted Earnings Revision Dispersion which turned in the third highest excess return of 1.19%, indicating positive returns to firms with improving analyst outlook. A closer look at a time series of returns (Figure 5) confirms mostly consistent outperformance over the past year with positive returns in all but three months.

Confidential. © 2018 IHS Markit. All rights reserved.

Management Quality and Historical Growth factors were also positive signals on average, represented by commonly followed factors such as Return on Assets (1.10%) and Reinvestment Rate (1.06%), suggesting that investors favored strong fundamentals based on growth potential. These measures have also been consistently rewarded, though over a longer period since the start of 2017 (Figure 6). Indeed, Reinvestment Rate has recorded a 75% over this period, while Return on Assets attained an 85% hit rate, with the trend in investor behavior outlasting a variety of stock market conditions including range bound trading through most of 2017 in addition to the bull market run since October 2017 and its accompanying corrections.

Table 1

Australia STDCAP top average monthly Q1 excess returns, Jan 2018 - Aug 2018

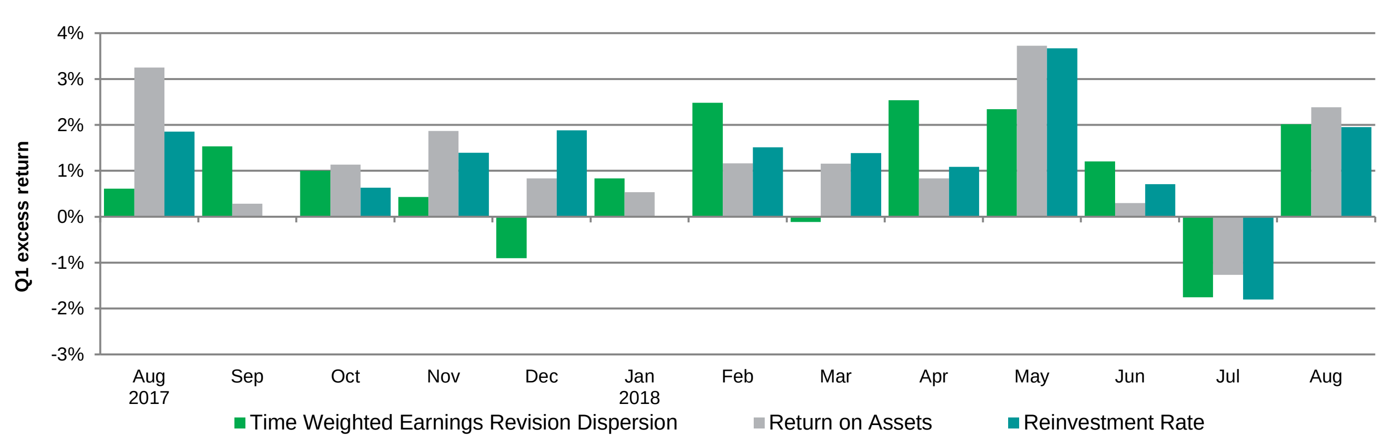
Factor	Q1 excess return (%)	Factor group	Coverage (%)
Operating Cash Flow to Assets	1.24	Management Quality	96
Unexpected Profitability	1.22	Management Quality	86
Time Weighted Earnings Revision Dispersion	1.19	Earnings Momentum	77
Pretax Return on Net Operating Assets	1.18	Management Quality	68
20 Day Relative Short Sentiment	1.14	Short Sentiment	87
Return on Assets	1.10	Management Quality	97
Profitability Ratio	1.10	Management Quality	96
Reinvestment Rate	1.06	Historical Growth	95
Change in Operating Liability Leverage	1.05	Management Quality	96
Net Debt to EBITDA	1.03	Management Quality	84
Sustainable Growth Rate	1.01	Historical Growth	95
Cash Flow Leverage	0.96	Liquidity, Risk & Size	90
Working Capital Accruals	0.93	Earnings Quality	86
Averaged Last 6-M EPS Revisions for FY1	0.92	Earnings Momentum	93
Slope of 52 Week Price Trend Line	0.92	Price Momentum	96

Source: IHS Markit

© 2018 IHS Markit

Figure 5

Australia STDCAP Q1 excess returns

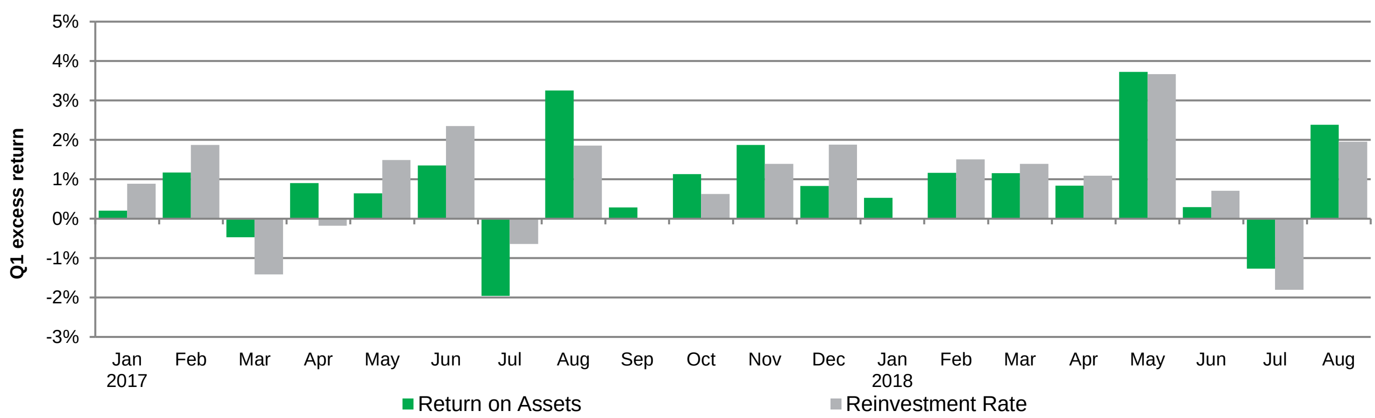


Source: IHS Markit

© 2018 IHS Markit

Figure 6

Australia STDCAP Q1 excess returns



Source: IHS Markit

© 2018 IHS Markit

Next, we report factors which were the most successful at identifying stocks to avoid, underweight or sell (Table 2). We find that sales-deflated profit measures were key among the factors that correctly identified underperforming stocks on average thus far this year. For example, Net Profit Margin D10 names, those with the poorest operating efficiency, lagged the market consistently over the past seven months by an average of 1.11% (Figure 7).

We also draw attention to two proprietary IHS Markit factors whose sell-rated names experienced negative average returns relative to the universe (Figure 7), Monthly Change in Implied Loan Rate (-0.93%) and 1-Year Ahead Regular Dividend Growth (-0.90%). Underperformance to names ranked in Q5 according to Monthly Change in Implied Loan Rate, a Short Sentiment indicator, implies that stocks with the largest monthly increase in the cost to borrow, which can be driven by high shorting demand or low supply, were disfavored by investors. For 1-Year Ahead Regular Dividend Growth, we find that names with the weakest forecasted dividend growth tended to lag the market, a successful strategy on average each month this year.

Table 2

Australia STDCAP bottom average monthly Q5 excess returns, Jan 2018 - Aug 2018

Factor	Q5 excess return (%)	Factor group	Coverage (%)
Operating Cash Flow Ratio	-1.22	Liquidity, Risk & Size	69
Net Current Assets-to-Price	-1.19	Deep Value	69
Net Profit Margin	-1.11	Management Quality	97
Operating Profit Margin	-1.10	Management Quality	88
20-Day Volume Volatility to Price Volatility	-1.07	Liquidity, Risk & Size	99
Pretax Return on Net Operating Assets	-1.07	Management Quality	68
Operating Cash Flow Profit Margin	-1.05	Management Quality	96
Profitability Ratio	-1.04	Management Quality	96
R Sqr of 5-yr TTM EPS Trend Line	-1.04	Historical Growth	94
Forward Return on Equity	-0.99	Management Quality	94
Assets Turnover Ratio	-0.97	Management Quality	97
TTM Gross Profit to Assets	-0.97	Management Quality	90
NOPAT Margin	-0.95	Management Quality	89
Monthly Change in Implied Loan Rate	-0.93	Short Sentiment	89
1-Year Ahead Regular Dividend growth	-0.90	Dividend Forecast	62

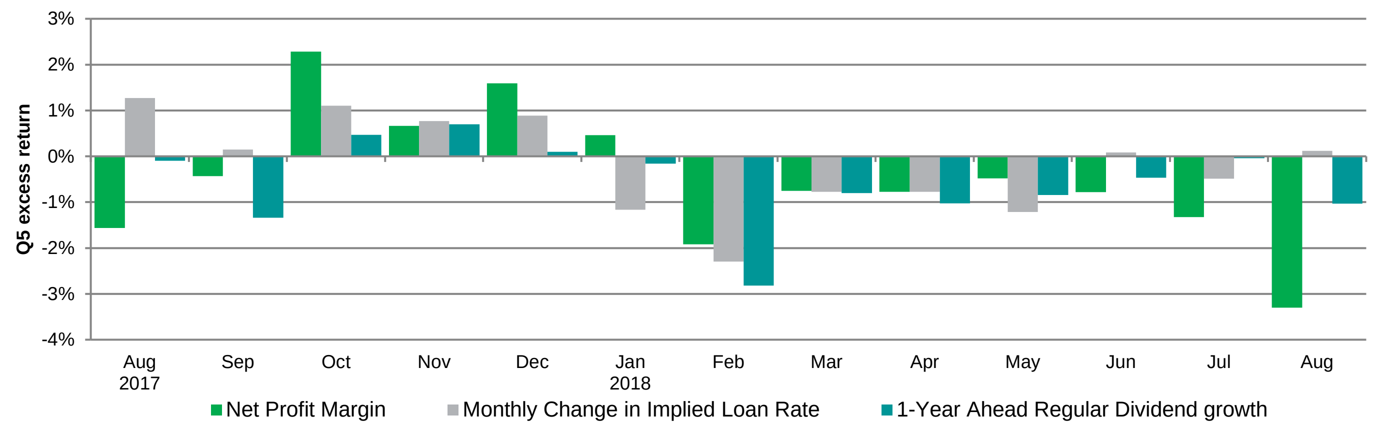
Source: IHS Markit

© 2018 IHS Markit

Confidential. © 2018 IHS Markit. All rights reserved.

Figure 7

Australia STDCAP Q5 excess returns



Source: IHS Markit

© 2018 IHS Markit

Lastly, we review the overall themes that were the most favored and disfavored by investors based on the top and bottom performing factors according to Q1-Q5 average spreads (Table 3). This approach is applicable to the evaluation of factors that may potentially be included in multi-factor approaches as well as long-short investment strategies.

On a spread basis, 8 of the 10 most highly rewarded factors include Management Quality signals led by Pretax Return on Net Operating Assets (2.24%) and Profitability Ratio (2.14%), in line with the above analysis. The sole Liquidity, Risk & Size measure, Operating Cash Flow Ratio (2.14%), also overlaps with this theme. We also highlight 20 Day Relative Short Sentiment (1.77%), whose outperformance suggests that investors avoided names with increasing negative sentiment in the securities lending market, a trend that has been in place since the start of the year (Figure 8). On the other hand, Deep Value measures were represented among the weakest performing signals, indicating that, while not necessarily ebullient, investors showed some confidence in the overall level of the market when taking positions over the course of the year.

Table 3

Australia STDCAP top and bottom average monthly Q1-Q5 spreads, Jan 2018 - Aug 2018

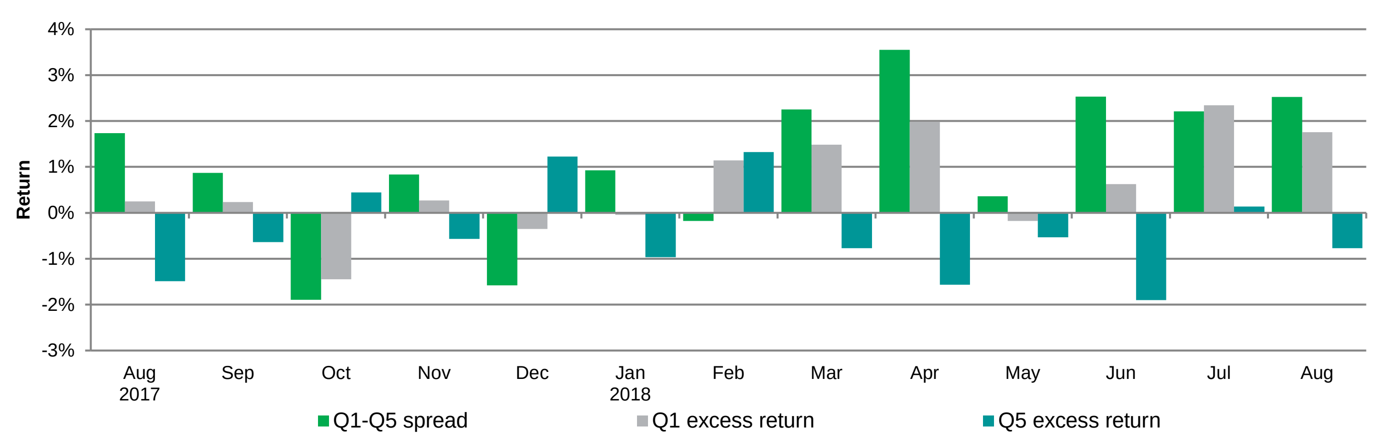
Factor	D1-D10 spread (%)	Factor group	Coverage (%)
Top performers			
Pretax Return on Net Operating Assets	2.24	Management Quality	68
Profitability Ratio	2.14	Management Quality	96
Operating Cash Flow Ratio	2.14	Liquidity, Risk & Size	69
Operating Cash Flow to Assets	1.97	Management Quality	96
Net Debt to EBITDA	1.87	Management Quality	84
Unexpected Profitability	1.81	Management Quality	86
20 Day Relative Short Sentiment	1.77	Short Sentiment	87
TTM Gross Profit to Assets	1.69	Management Quality	90
Forward Return on Equity	1.67	Management Quality	94
Return on Assets	1.65	Management Quality	97
Bottom performers			
Ohlson Bankruptcy Score	-2.08	Liquidity, Risk & Size	69
Price-to-Total Assets	-1.68	Deep Value	97
Natural Logarithm of TTM Sales (USD)	-1.49	Liquidity, Risk & Size	96
Net Asset Value to Price	-1.43	Deep Value	97
Year-over-year Change in Leverage	-1.29	Liquidity, Risk & Size	96
Leading 12 Month Regular Dividend Yield	-1.28	Dividend Forecast	66
Leading 12 Month Total Dividend Yield	-1.23	Dividend Forecast	66
2-Month Active Return	-1.17	Price Momentum	99
Financial Leverage	-1.14	Liquidity, Risk & Size	92
Time Weighted Book Yield	-1.13	Deep Value	93

Source: IHS Markit

© 2018 IHS Markit

Figure 8

Australia STDCAP 20 Relative Short Sentiemnt performance



Source: IHS Markit

© 2018 IHS Markit

Conclusion

We review year-to-date Australian style model and factor performance within the Research Signals Global Factor Library, spanning the months of heightened trade tensions between the US and China, two major trading partners for this export economy. The macro backdrop for equity markets include moderate rates of growth in business actitivity in the service and manufacturing sectors of the Australian private sector economy, along with equity ETF outflows, putting flows on track for their first annual decline since 2012.

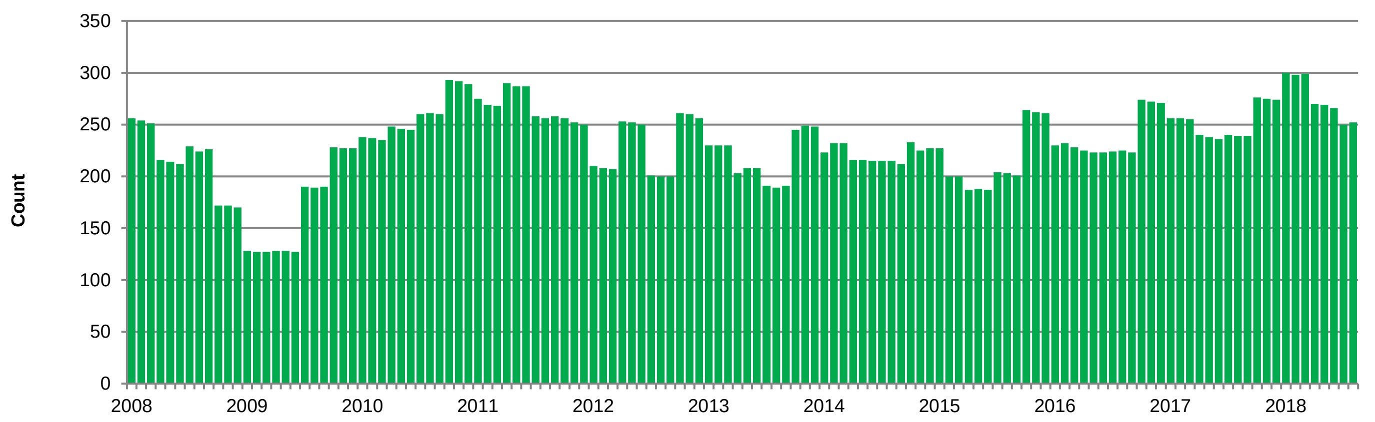
Across our five thematic models - Deep Value, Relative Value, Earnings Momentum, Price Momentum and Value Momentum - we observe positive performance thus far this year. Earnings Momentum was the top performer with an average monthly Q1 (Q5) excess return of 0.98% (-0.50%), resulting in an average monthly spread of 1.48% (17.77% annualized) and 100% hit rate. Price Momentum followed with an average Q1-Q5 spread of 1.20%, or 14.34% annualized, and a 63% hit rate, driven by an average monthly Q1 (Q5) excess return of 0.77% (-0.42%). Stocks that are recently buy-rated according to both models includes Macquarie Group, Goodman Group and Santos.

Lastly, factors which were the most successful in identifying buy candidates or stocks to overweight include Time Weighted Earnings Revision Dispersion (1.19%), Return on Assets (1.10%) and Reinvestment Rate (1.06%), capturing positive analyst outlook and fundamental growth. Conversely, poor operating efficiency (e.g., Net Profit Margin) and increasing cost to borrow (e.g., Monthly Change in Implied Loan Rate) were characteristics of stocks with relatively weak returns.

Appendix

Figure A1

Australia STDCAP universe size

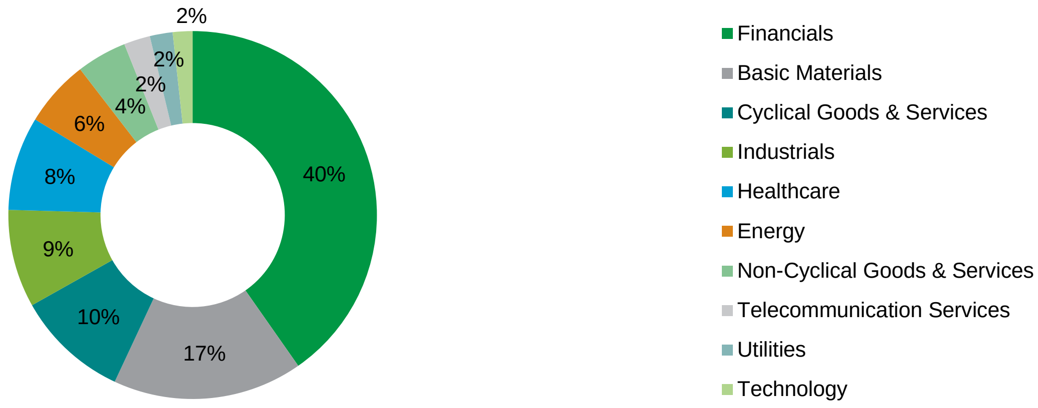


Source: IHS Markit

© 2018 IHS Markit

Figure A2

Australia STDCAP unvierse sector market cap weights - Aug 2018



Source: IHS Markit

© 2018 IHS Markit

Table A1

Australian stocks in Q1 (buy-rated) according to Earnings Momentum and Price Momentum Models, 31 Aug 2018

Factor	Sector
ALTIUM	Technology
ALUMINA LTD	Basic Materials
BLUESCOPE STEEL	Basic Materials
DELEGAT GROUP LTD	Non-Cyclical Goods & Services
EMECO HOLD LIMITED	Industrials
GOODMAN GROUP	Financials
MACQUARIE GP LTD	Financials
NEW HOPE CORP	Energy
PINNACLE INV MGMT	Financials
SANTOS LIMITED	Energy
SEVEN GROUP HLDGS	Cyclical Goods & Services
SEVEN WEST MEDIA	Cyclical Goods & Services
SOUL PATTINSON(WH)	Financials
SUMMERSET GROUP HO	Healthcare
TRADE ME GROUP LTD	Technology
WEBJET LTD	Cyclical Goods & Services

Source: IHS Markit

© 2018 IHS Markit

IHS Markit Customer Support:

Support@markit.com
Americas: +1 877 762 7548
Europe, Middle East, and Africa: 00800 6275 4800
Asia and the Pacific Rim: +65 6922 4210

Disclaimer

The information contained in this presentation is confidential. Any unauthorized use, disclosure, reproduction, or dissemination, in full or in part, in any media or by any means, without the prior written permission of IHS Markit Ltd. or any of its affiliates ("IHS Markit") is strictly prohibited. IHS Markit owns all IHS Markit logos and trade names contained in this presentation that are subject to license. Opinions, statements, estimates, and projections in this presentation (including other media) are solely those of the individual author(s) at the time of writing and do not necessarily reflect the opinions of IHS Markit. Neither IHS Markit nor the author(s) has any obligation to update this presentation in the event that any content, opinion, statement, estimate, or projection (collectively, "information") changes or subsequently becomes inaccurate. IHS Markit makes no warranty, expressed or implied, as to the accuracy, completeness, or timeliness of any information in this presentation, and shall not in any way be liable to any recipient for any inaccuracies or omissions. Without limiting the foregoing, IHS Markit shall have no liability whatsoever to any recipient, whether in contract, in tort (including negligence), under warranty, under statute or otherwise, in respect of any loss or damage suffered by any recipient as a result of or in connection with any information provided, or any course of action determined, by it or any third party, whether or not based on any information provided. The inclusion of a link to an external website by IHS Markit should not be understood to be an endorsement of that website or the site's owners (or their products/services). IHS Markit is not responsible for either the content or output of external websites. Copyright © 2018, IHS Markit™. All rights reserved and all intellectual property rights are retained by IHS Markit.