

Global Equity Strategy

UBS Evidence Lab: Introducing Transcriptlytics – linking management sentiment to performance

Equity Strategy

Global

UBS Evidence Lab "Transcriptlytics" provides non-traditional view on sentiment

The UBS Evidence Lab Data Science team has developed a proprietary framework for systematically analysing company conference call transcripts, enabling us to extract forward-looking information from management sentiment. For this report, the team analyzed over 118,000 transcripts across nearly 7,000 US & European companies over the last 7 years, providing the basis for insights across region, sector and company. Given the dynamic nature of the process, the database grows as every new transcript adds incremental value. In the current report, we focused on net sentiment, specifically changes over time, which varies dramatically across companies and sectors.

US sentiment at post-crisis high and rising; Europe now rising as well

Across both the US and Europe, sentiment is at a cycle peak as measured by the average net sentiment (i.e. % positive language less % negative language from conference call transcripts) based on company-level conference call transcripts. Importantly, confidence is fairly broad-based with most sectors also sitting at or near cycle highs across both regions. More importantly, momentum is positive, as net sentiment in the US increased by over 80bps, the largest one quarter change since 2010, while net sentiment in Europe increased nearly 50bps. On a relative basis, the regional gap declined steadily, bottoming in Q2 2017, but has recently widened as the rate of change in the US has exceeded Europe over the last two quarters. At the industry level, Energy, Pharma and Insurance are notable instances where sentiment in Europe is higher than the US.

Largest changes in sentiment linked to outperformance, greatest in short term

Our analysis suggests relative performance is greatest when net sentiment sees a significant inflection. On average, the companies with largest positive changes in net sentiment saw an average 1-week outperformance of 0.6% in the US and 0.8% (34% and 56%, respectively, on an annualized basis), in Europe relative to instances with the smallest net sentiment changes (after dividing the changes in net sentiment on a bottom-up basis into quintiles). While outperformance over longer time periods is notable, the annualised return is greatest in the first week; in other words, our data suggests an element of decay as we move past the earnings call. For example, for Technology firms in the US, the largest increases in sentiment tend to outperform S&P 500 by an average of 1.5% in the first week following the earnings call compared to an average of 0.4% for the S&P 500. We present data across both Europe and US.

Strategy: reiterate view for 3%+ Q2 beat in US; multiple uses for the data

The positive momentum in net sentiment, an 8%+ Q1 earnings surprise and a solid macro backdrop reinforce our US Equity Strategy expectation for a Q2 beat of 3%+ in the US ([link](#)). Furthermore, the trend also reinforces the optimism seen in terms of corporate spending ([UBS Evidence Lab CFO survey](#)) and increased corporate flow through share buybacks, dividends and M&A ([link](#)). In a separate note today, we present a limited number of single stock examples using the data in Europe ([see European single stock examples](#)). While we focused on aggregate net sentiment measures compared to earnings and relative performance to average changes in sentiment in today's report, we feel we are still only scratching the surface of what looks like a useful data set. We believe the methodology and output can be a useful tool where sentiment changes diverge from earnings price reactions, with the potential to incorporate complexity measures and identify thematic shifts in management focus through language.

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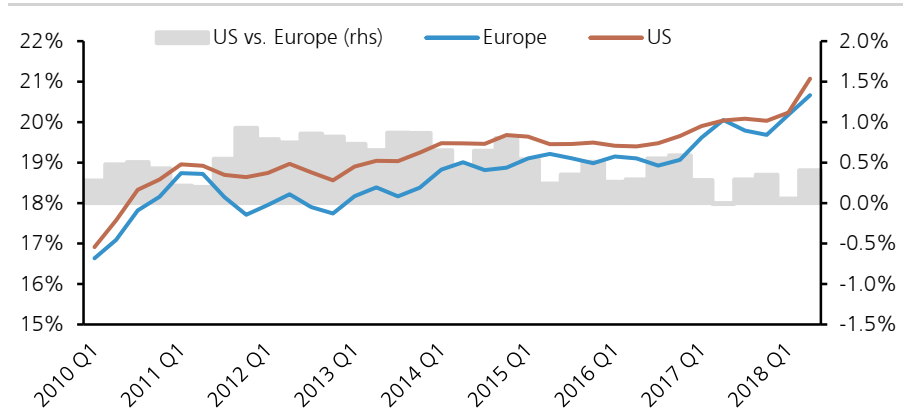
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Our story in pictures

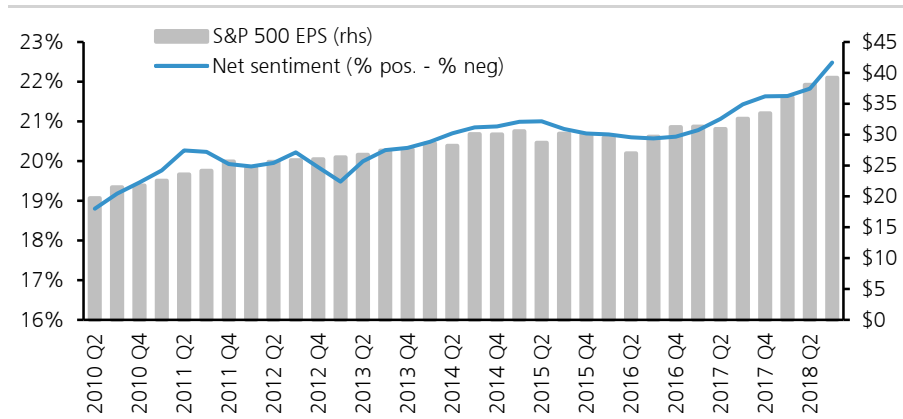
Figure 1: Net sentiment over time, US vs. Europe



Source: UBS Evidence Lab Data Science.

US net sentiment has been consistently higher than Europe since the financial crisis.

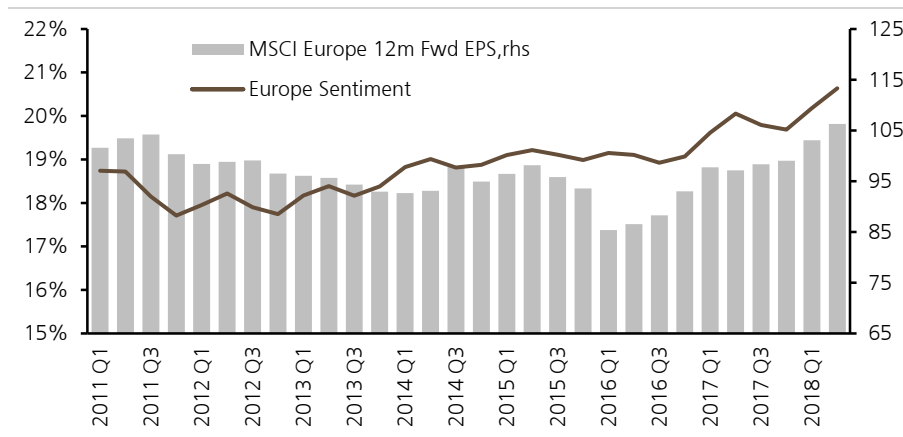
Figure 2: Net sentiment vs. S&P 500 earnings per share, 2010-present



Source: UBS Evidence Lab Data Science, S&P, FirstCall, FactSet

The rise in US net sentiment has mirrored S&P 500 EPS.

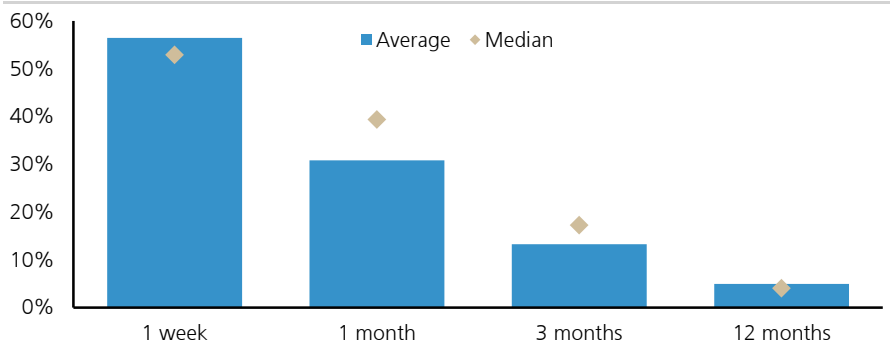
Figure 3: Net sentiment vs 12 month forward MSCI Europe EPS



Source: UBS Evidence Lab Data Science, UBS Strategy, MSCI

Europe's more lacklustre profit recovery (until 2017) has meant there has been a growing gap between the two data points.

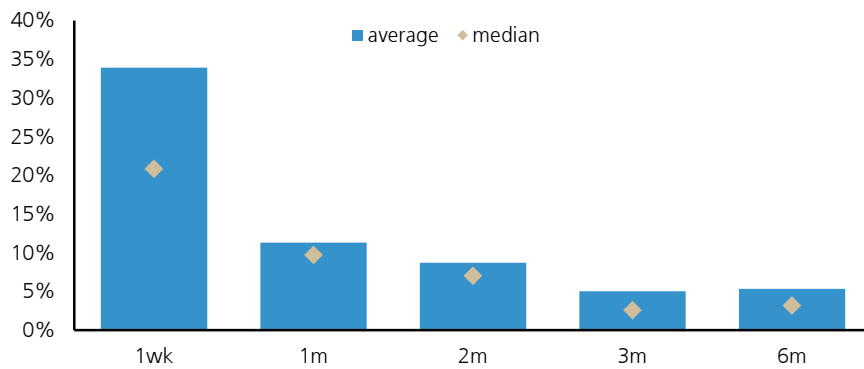
Figure 4: Europe - Relative performance, 1st vs. 5th quintile (annualised)



Source: UBS Evidence Lab Data Science, UBS strategy

In Europe, the largest vs. smallest changes in net sentiment have produced contrasting share price performances; on a non-annualised basis, 1wk median outperformance is 0.8% (0.9% on average).

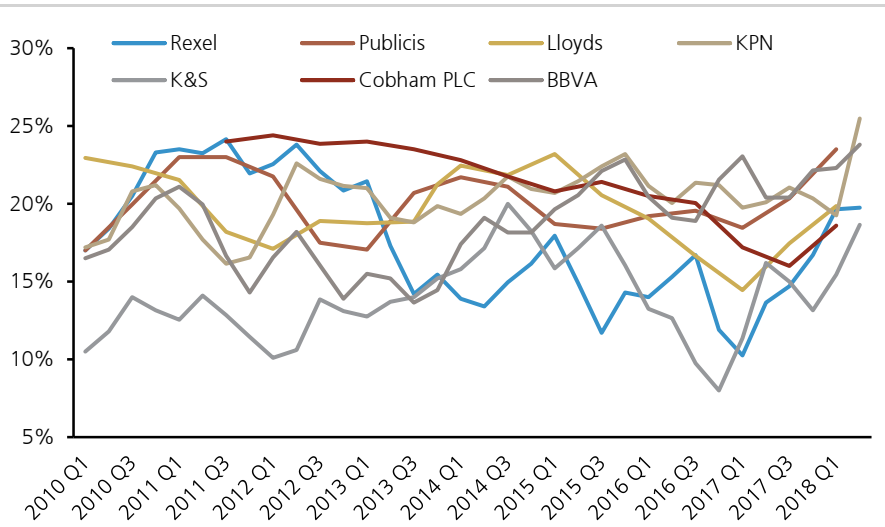
Figure 5: Relative performance, 1st vs. 5th quintile (annualised)



Source: UBS Evidence Lab Data Science, S&P, FirstCall, FactSet

The same conclusion can be seen in the US when looking at returns of 1st quintile net sentiment changes minus 5th quintile.

Figure 6: Single shares to focus on in Europe ([link](#))



Source: UBS Evidence Lab Data Science

In a separate note today we show net sentiment data for 7 stocks in Europe.

Key takeaways & methodology

- In aggregate, transcripts contain helpful, forward-looking data. Extreme changes in net sentiment over the last 7 years (the data set) have often coincided with better (or worse) periods of share price performance.
- This is a part of an investment process rather than the investment process itself. The usefulness of the data is premised on it being a non-traditional form of analysis and idea generation. Intuitively, it will be most useful in combination with bottom-up stock analysis, other data sets which indicate change (e.g. Glassdoor) and a systematic analysis of consensus to understand where market expectations and management sentiment are at odds.
- The absolute level of net sentiment is relatively less helpful as a guide. Companies present results in different ways which can make significant differences to the headline net sentiment score.
- Instead, we focus on the delta in net sentiment as the basis for comparison. During the course of our analysis we have varied the length of the look-back periods (quarter on quarter, six month and year on year change in net sentiment). While this clearly does make a difference in the results produced, the change is not uniform. We split the data sets between the US & Europe, looking at performance independently, and then compared results across regions. The answers were broadly the same – change in net sentiment matters more than level, and companies seeing a high positive change have generally seen better share price performance than those seeing a high negative change.
- At country level, the averaging impact removes a proportion of the volatility, however, graphs of net sentiment often reflect a historic narrative e.g. US recovery faster than Europe, Q4 2017 / Q1 2018 boost in the US versus Europe, Brexit pause in the UK relative to Europe
- US net sentiment over the last 7 years has tracked S&P 500 earnings data, irrespective of whether you look at level or change. Europe is more nuanced as the recovery has been slower to take hold. Still, the moves over the last 2 years have been more consistent.
- There are inherent challenges in comparing performance of sectors and regions to the changes in net sentiment data given the timing of transcripts during any given period. As a result, we use a bottom-up approach to measure relative performance and have limited the analysis to members of the MSCI Europe and S&P 500, which can be expanded in collaboration with sector teams.
- There are some sectors which clearly seem to work better than others – one of the areas for future investigation will be to attempt to understand why.
- The scale of the data set enables us to use bespoke taxonomies to follow the path of a particular theme.
- Initial analysis points to the data being more consistently helpful on the positive rather than the negative side. Whilst this is a subject for further investigation, we suspect that this is because of the amount of positive emphasis in company conference calls. Analysis suggests that the difference between the most positive changes and the most negative changes is a key data point.

Systematic analysis of transcripts is additive to the overall investment process.

Absolute level of net sentiment is a starting point...

...but what really matters is the delta and in particularly at extremes.

At the country level the historic narrative has matched the changes in net sentiment...

...and in the US maps well to S&P 500 EPS.

Sector comparison is more difficult given the inherent time lag between company conference calls during any given period.

- Disconnect between the bottom up analysis of a company, the company projected image via the net sentiment score on a conference call and the consensus view of the shares is a starting point for idea generation; we will also investigate in future the difference between the scripted and Q&A part of conference calls
- The Transcriptlytics data provided by UBS Evidence Lab contains a number of different data sets. At the individual company level it aggregates positive and negative sentiment via use of a taxonomy, looks at complexity of vocabulary, change in emotion and word maps. In this piece we are going to focus predominately on the net sentiment indicator.

Net sentiment analysis is an idea generation tool.

Other forms of transcript analysis not covered in this note.

In the rest of the note we split the findings and the methodology between Europe and the US

Measuring sentiment - methodology

Transcriptlytics is a framework developed by UBS Evidence Lab Data Science that systematically analyzes earnings call transcripts at scale using text analytics algorithms. For this report, the team employed Transcriptlytics to analyze more than 367 million words over 118,000 transcripts from earnings calls held by nearly 7,000 companies in the US and Europe between 2010 and present. For each transcript, the framework follows a data science process that involves ingesting the raw transcript, extracting the text and other information, pre-processing and cleaning the extracted text, analyzing the text along various dimensions, linking the results to key metadata, visualizing the results aggregated at various granularities, and analyzing the statistical relationships between the results and outcomes of interest.

The dimension of focus for this report is net sentiment, which is defined as the percentage of language in a transcript that is positive minus the percentage of language that is negative. Each word in the data set is assigned a score indicating its positivity, negativity, and neutrality, and then the scores are aggregated to produce an overall measure. Word-level scores are assigned by applying a lexicon produced by a proprietary model that calculates sentiment polarities for words based on the extent to which they are present in statements that have been labelled for sentiment by humans. The application of the lexicon for word-level scoring also considers several elements of the context surrounding the word.

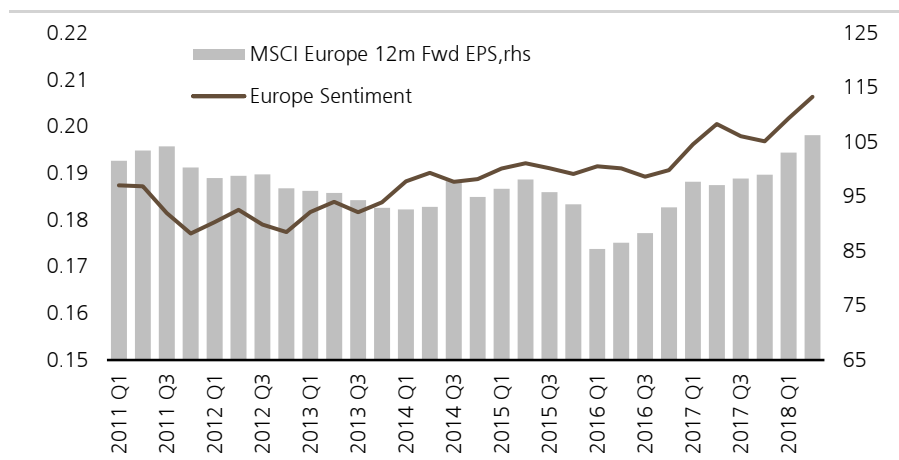
In addition to net sentiment, Transcriptlytics also analyzes transcripts for language complexity and for topic. Complexity analysis highlights the ease of understanding of language based on characteristics of text related to comprehension. Topic analysis indicates the content of the discussion by illustrating the observed frequencies of topic-associated words in the data set. These and other dimensions will be explored in-depth in future reports.

**UBS Evidence Lab provides our research analysts with rigorous primary research. The team conducts representative surveys of key sector decision-makers, mines the Internet, systematically collects observable data, and pulls information from other innovative sources. They apply a variety of advanced analytic techniques to derive insights from the data collected. This valuable resource supplies UBS analysts with differentiated information to support their forecasts and recommendations—in turn enhancing our ability to serve the needs of our clients.*

European overview: corporate sentiment at cycle high and rising

2017 was the first year in this cycle that European EPS growth had a significantly positive move, up 14.5%. For the 6 years leading up to that EPS growth averaged less than zero. With that as a backdrop it is not a surprise that headline European net sentiment data has both lagged the equivalent data in the US and also been more mean reverting. The chart below shows 12 month forward EPS in Europe charted against the average net sentiment for Europe. Net sentiment in Q1 2017 was not enormously different to net sentiment in Q1 2011 and earnings were lower. The real inflection in sentiment came towards the end of 2017 and into 2018 and EPS has largely moved with it.

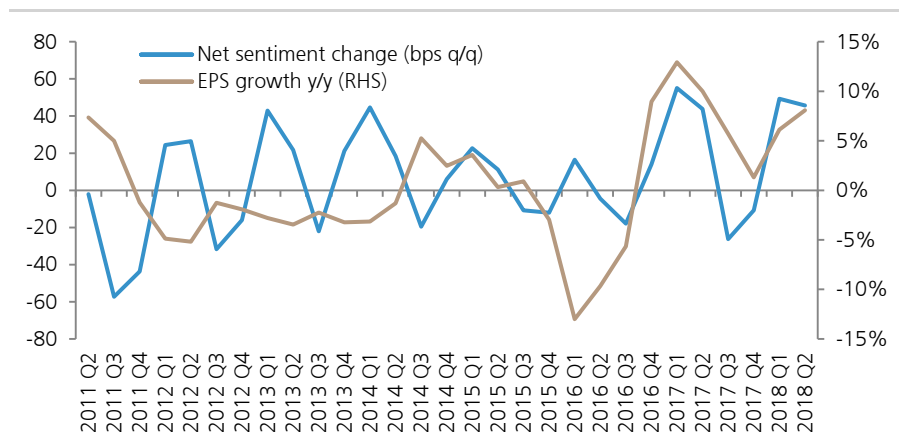
Figure 7: Net sentiment versus European earnings (2011 to today)



Source: UBS Evidence Lab Data Science, UBS Strategy, MSCI

The chart below looks at the same data but as a change quarter on quarter for net sentiment in basis points and year on year change in earnings.

Figure 8: Change in net sentiment vs European EPS growth, 2011 to present



Source: UBS Evidence Lab Data Science, UBS strategy, MSCI

The most interesting aspect of the chart is the dislocation in the period between 2011 and 2014 where the net sentiment data series is mean reverting, EPS growth is broadly unmoved (falls slightly) and reflects the 'start – stop' narrative of Europe post financial crisis. The inflection in 2017 in both earnings and sentiment is in line with the argument that the European strategy team has been putting forward,

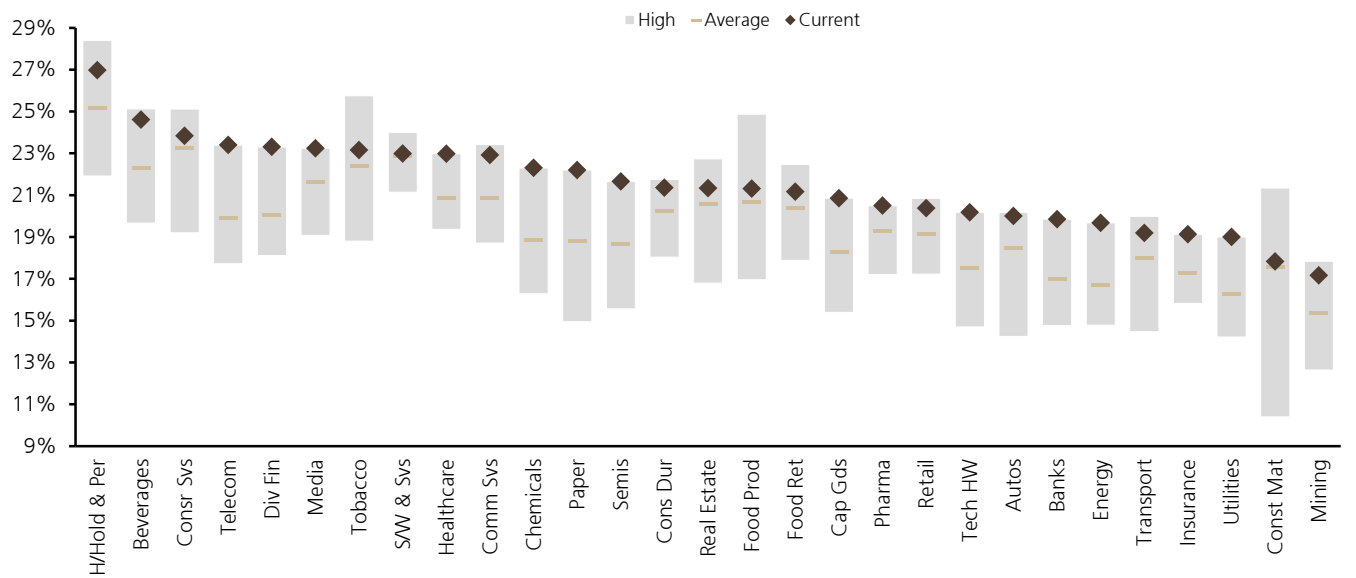
Changes in net sentiment in Europe between 2011 and 2014 reflect the 'start-stop' nature of the European recovery post financial crisis.

Cycle high net sentiment in Europe is a function of a broad upswing across most sectors.

namely that we are early in the earnings cycle for Europe but it is now showing clear signs of happening - [Operating Leverage – is now the time ?](#) .

The rise in net sentiment to the cycle high in Europe is reflected broadly across sectors, almost without exception. The chart below shows the range of net sentiment since the start of the data set (2010) for each of the MSCI sectors, along with the average and the most recent quarter.

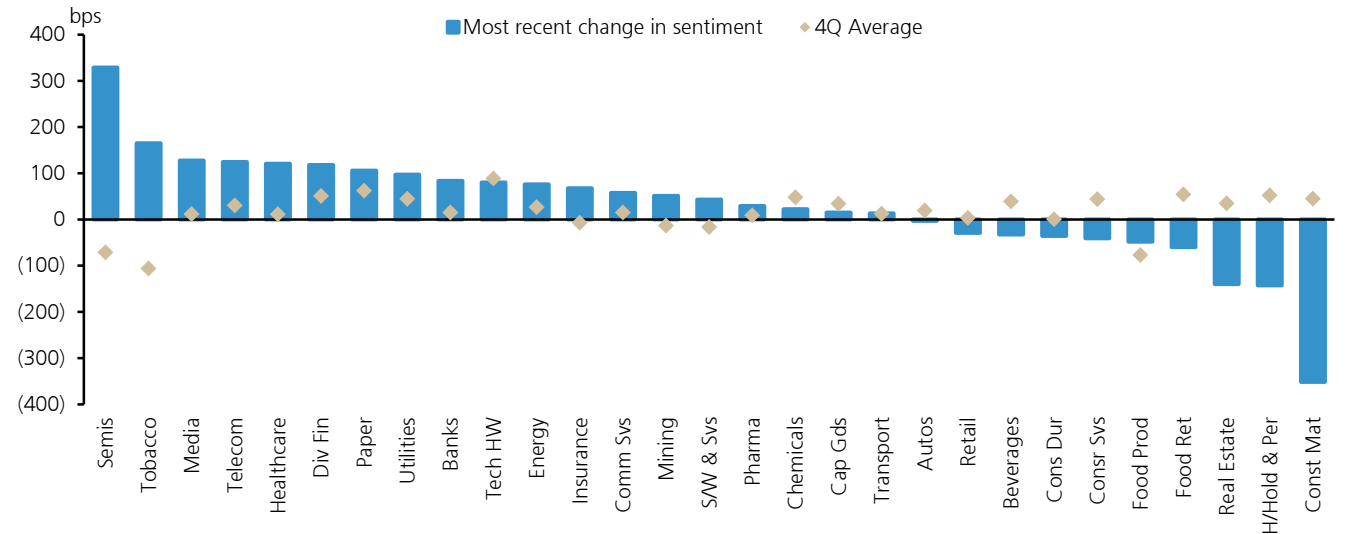
Figure 9: Europe: net sentiment by sector; range, average and current



Source: UBS Evidence Lab Data Science, UBS strategy

Finally, in a European sector context, we show the delta in net sentiment in the most recent quarter and then chart it against the average delta in the last four quarters prior to that to try and look at recent momentum. In the Appendix we briefly present the positive sector view that the European team has on the telco and media sector, both of which screen well in figure 9.

Figure 10: Most recent change in sentiment by sector



Source: UBS Evidence Lab Data Science, UBS Strategy

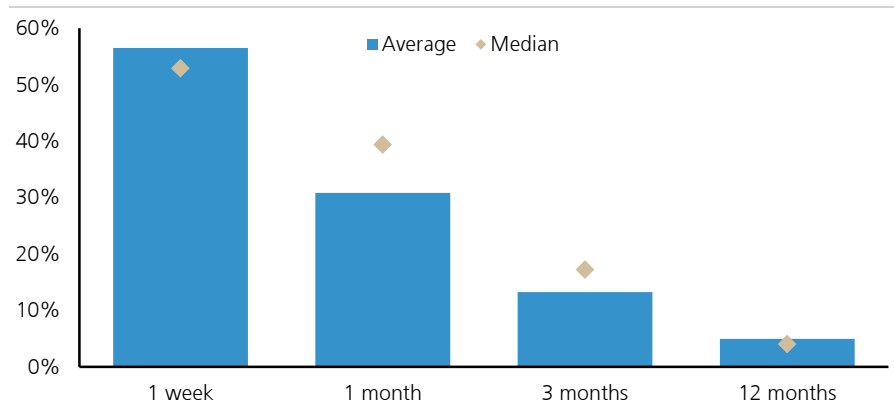
European takeaways – change matters at extremes

As discussed earlier the actual level of net sentiment is not a relevant metric for comparative purposes, however it can provide an interesting pictorial narrative at points of change at the corporate level and also more broadly at the sector and country level. For analysis purposes though change matters more than level and the signals appear to be stronger at the extremes of change.

To analyse this effect at the stock level we took just over 400 companies in Europe and used 29 quarters of net sentiment data, not each company has a data point each quarter, regular US reporting means that the data set is more consistent in the US than here. From the European company data we split the moves in net sentiment for each individual company into quintiles. We then used the transcript date as the starting point for monitoring share price moves and then compared moves in the share price over multiple time periods looking in particular at share price moves after a quintile 1 move in sentiment or after a quintile 5 move in sentiment. We looked at performance in absolute terms, relative to the sector and relative to the market.

The chart below shows the performance relative to the market of companies with top quintile moves in sentiment compared to fifth quintile. The data is annualised, the difference between quintile 1 and quintile 5 performance on a weekly basis is less than 1% (both median and average). The chart implies a fade in the signalling power of the net sentiment data over time.

Figure 11: Relative performance, top quintile change minus bottom quintile



Source: UBS Evidence Lab Data Science, UBS Strategy

The relationship between actual percentage change in share price and change in net sentiment is weak, but what is clear is that in the 7 years of data in Europe, there is a difference between the top and bottom quintiles of the distribution of net sentiment change, albeit there is a wide range of outcomes within the data.

Looking at the different types of performance, the most consistently positive data set is for shares relative to the market. Relative to the sector works less well, presumably, because any individual company transcript will contain sentiment data relating to the broader industry in which it operates.

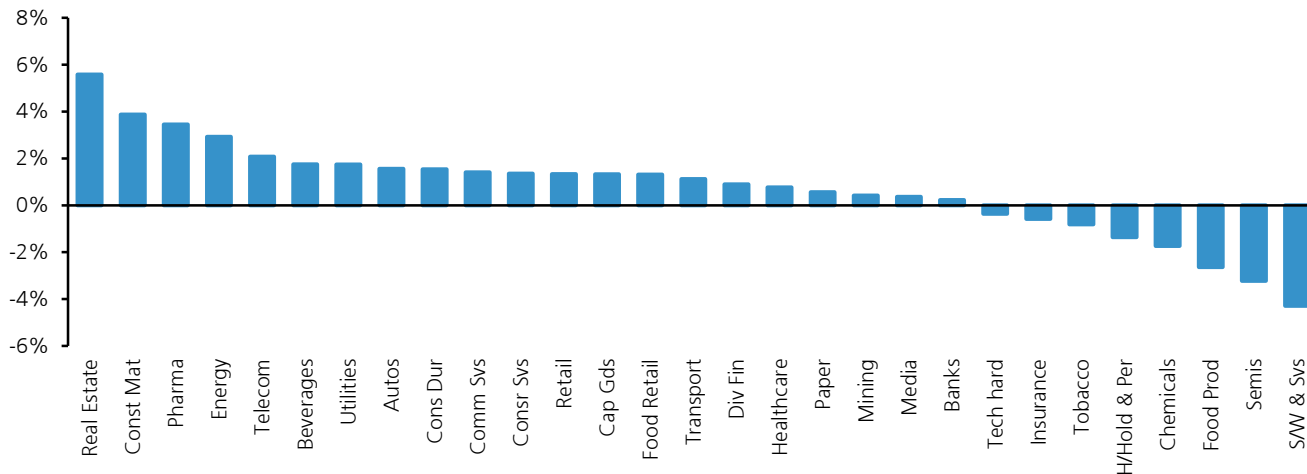
In Europe, change in sentiment matters more than headline number.

Data is noisy; every inflection point is not a point of action.

Actual correlation between share price move and delta in net sentiment is low.

We also aggregated this single stock information to the sector level, this clearly illustrates the sectors where the data set has worked better over the 1 week time period.

Figure 12: 1 week outperformance relative to the market by sector (1st quintile minus 5th quintile)



Source: UBS (Note: Data represents average change in 2Q moving average by sector and industry for the most recent available quarter.)

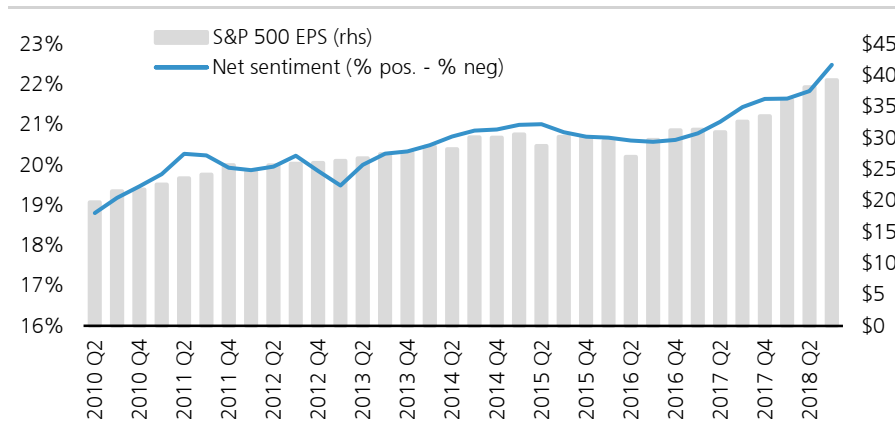
The difficulty of this methodology is the ability to replicate it in an investment environment. Owning the median share performance of a sector over a given time period ex ante is obviously impossible. However, the consistency of the signals across a wide range of sectors would clearly imply that the data set does contain some useful information and actively monitoring changes in net sentiment at both the stock and aggregate sector or country level is potentially a source of idea generation.

However, practical difficulties of replication exist.

US overview: corporate sentiment at post-crisis high and rising

As profits have risen and the cycle ages, management sentiment for S&P 500 companies has steadily increased, and currently sits at a cycle high based on language during the most recent quarterly conference calls. Interestingly, the pace of change has accelerated, likely driven by the additional fiscal boost from tax reform, reinforcing the optimism we've seen through increased corporate spending ([UBS Evidence Lab CFO Survey](#)), share buybacks, dividends and M&A ([\\$2.5tr+ in corporate "flow"](#)).

Figure 13: Net sentiment vs. S&P 500 earnings per share, 2010-present

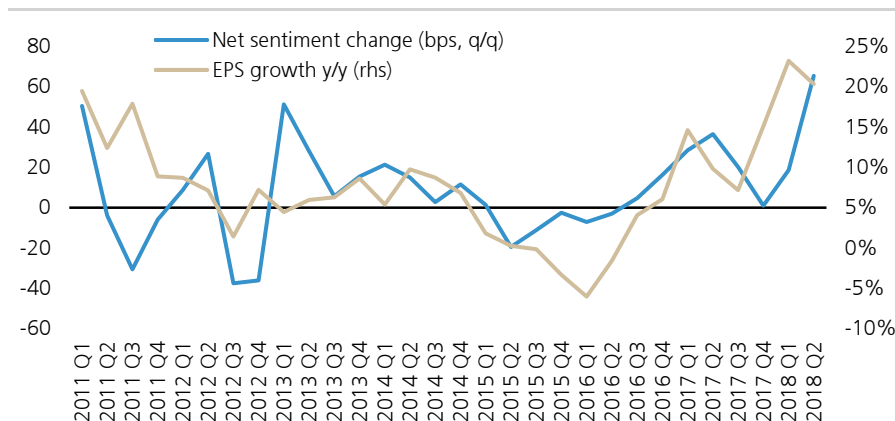


Source: UBS Evidence Lab Data Science, S&P, FirstCall, FactSet

Net sentiment has continued to rise, reaching a cycle peak, as earnings continue to improve; the recent fiscal boost can also help to explain the modest acceleration in sentiment.

While net sentiment is at a post-crisis high, the rate of change remains positive as the profit cycle persists. Historically, the net sentiment measure has tracked earnings growth, though interestingly, inflected higher in Q3 2015 despite earnings growth that continued to decline into mid-2016.

Figure 14: Change in net sentiment vs. S&P 500 EPS growth, 2011-present

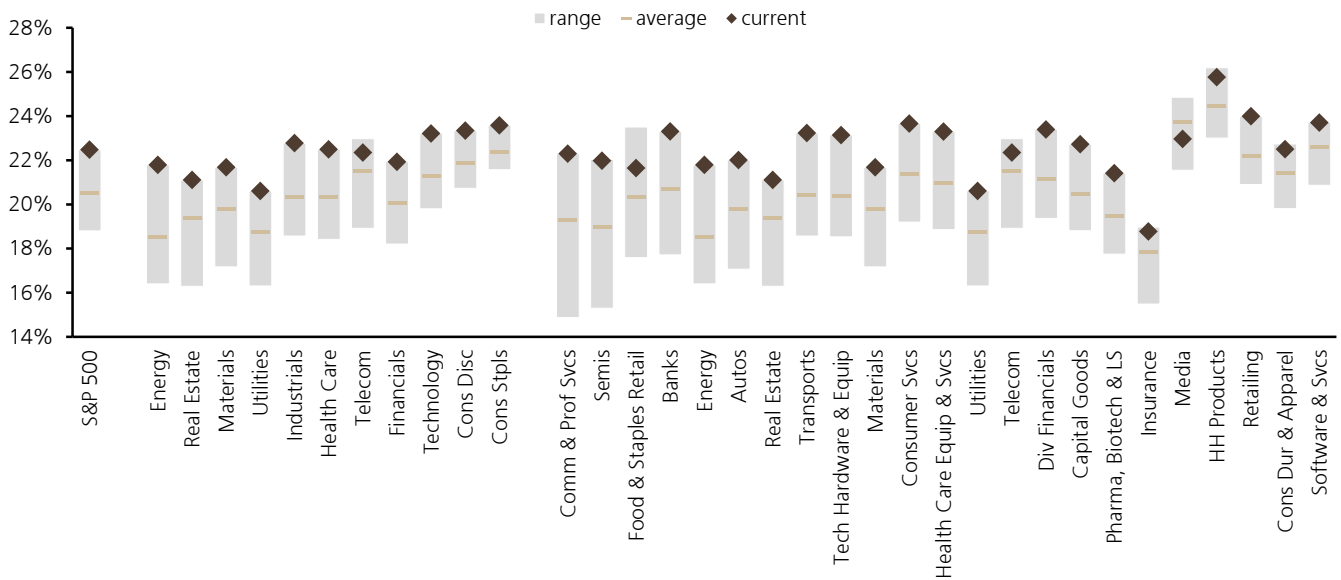


Source: UBS Evidence Lab Data Science, S&P, FirstCall, FactSet

Net sentiment has tracked earnings growth, though there have been some notable exceptions such as early-2013 and mid-2015.

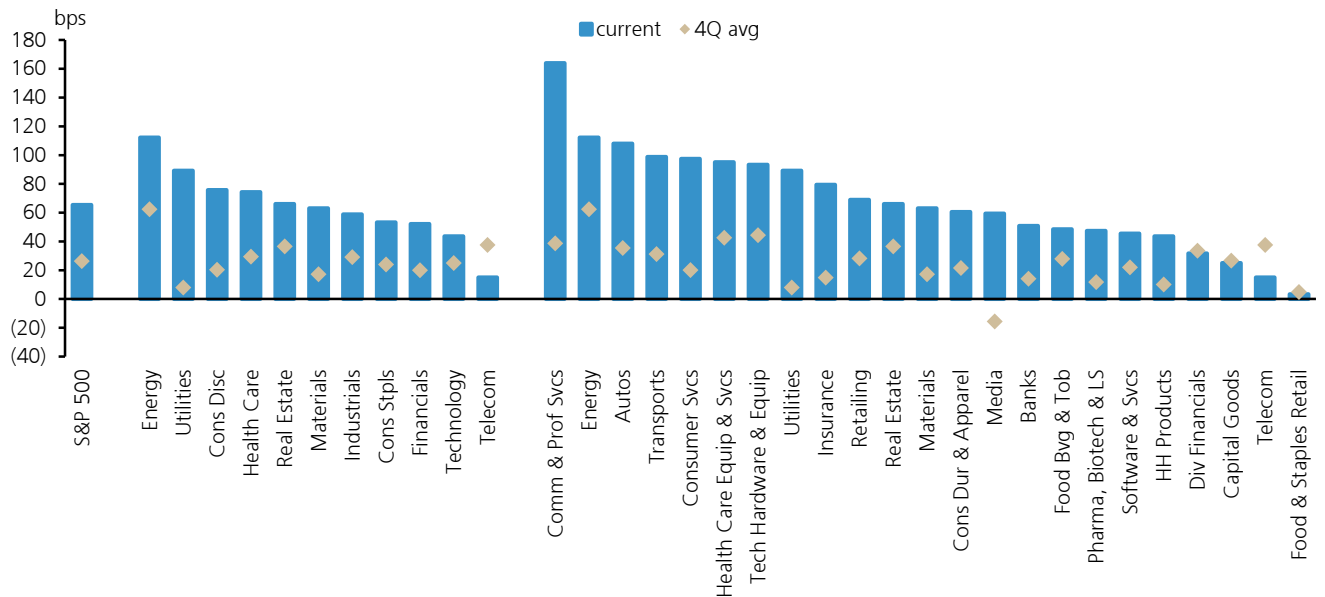
At the sector and industry level outside of Telecom, Media and Food Retailing, net sentiment across nearly all sectors sits at a cycle high. Based on available data back to 2010, cyclical industries (Commercial and professional services, Semis, Banks, Energy) have shown the greatest variability. Higher oil has led to improved sentiment in Energy while lower taxes and continued economic growth has improved sentiment for Discretionary and pockets of Industrials (Commercial and professional services, transports).

Figure 15: Net sentiment by sector and industry group



Source: UBS Evidence Lab Data Science, S&P, FirstCall, FactSet

Figure 16: Most recent change in sentiment & complexity by sector and industry group

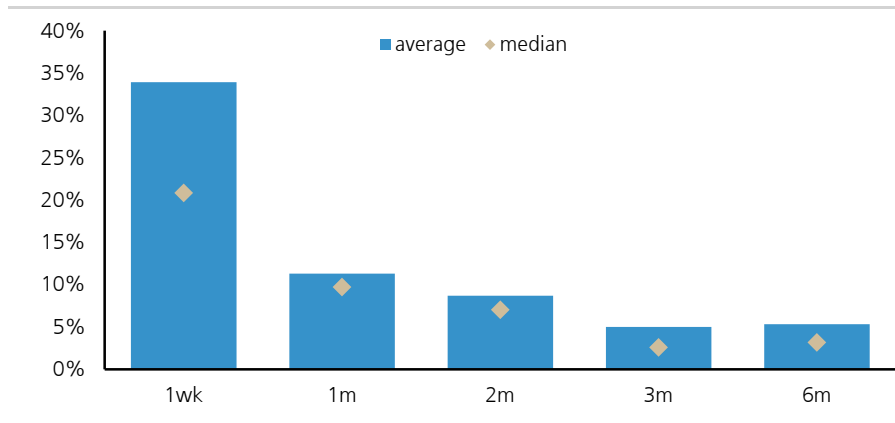


Source: UBS (Note: Data represents average change in 2Q moving average by sector and industry for the most recent available quarter.)

US takeaways: change matters for performance, particularly at extremes

While net sentiment has tracked earnings, we found no meaningful relationship to performance. However, the quarter-on-quarter change in sentiment tends to coincide with higher relative performance, particularly at extremes. For example, on average, S&P 500 stocks saw a one week outperformance of 0.6% (~34% annualized) when the change in net sentiment was in the top 20% of observations relative to each stock's own history. While the outperformance tends to persist, the annualised returns highlight an element of decay post the initial earnings call.

Figure 17: Relative performance, top quintile change minus bottom (ann.)

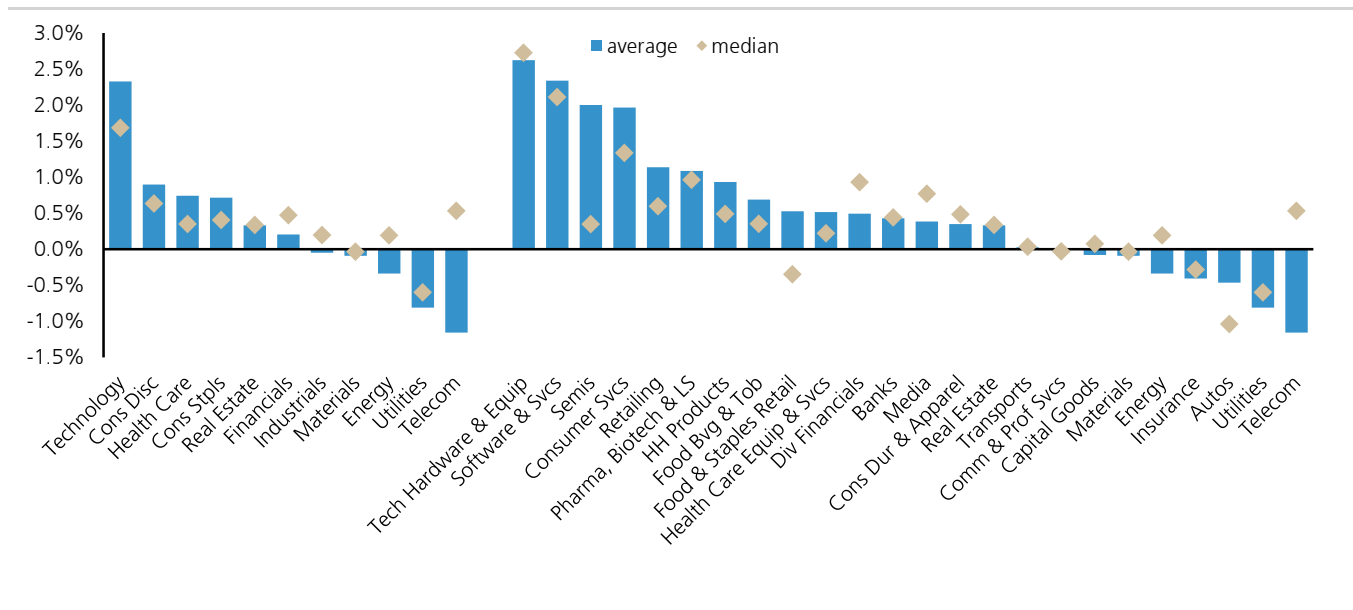


Highest changes in sentiment show a higher relative performance vs. lowest changes; timing also matters

Source: UBS Evidence Lab Data Science, S&P, FirstCall, FactSet

In the short term, Tech stocks have seen the largest outperformance for higher sentiment changes, with the relative performance consistent across Hardware, Software and Semis. In addition, Consumer, Health Care and Financials also saw stronger relative performance for the most positive changes in sentiment.

Figure 18: Relative 1-week outperformance by sector and industry group (top quintile change minus bottom)



Source: UBS Evidence Lab Data Science, S&P, FirstCall, FactSet

While the relative outperformance in aggregate tends to erode over time, Tech is the most consistent. While Telecom underperformed in the short term, the largest increases in sentiment correlated with longer term relative outperformance (as is the case for Health Care), with the largest downward revisions to sentiment coinciding with substantial underperformance over 3 months. In the case of Utilities and Autos, there was no noticeable outperformance with positive changes in sentiment.

Figure 19: Relative performance by changes in sentiment (quintiles), 1wk and 1m

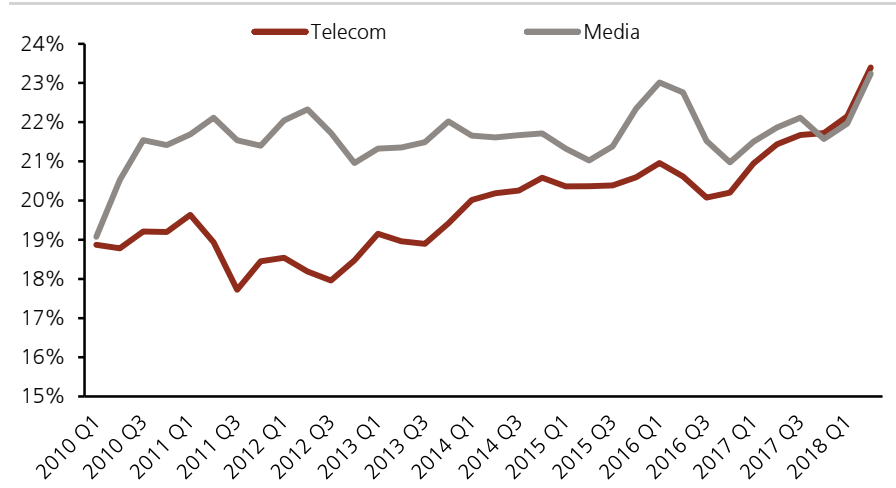
	smallest <-----> largest					smallest <-----> largest				
	Avg 1w fwd					Avg 1m fwd				
	1	2	3	4	5	1	2	3	4	5
Consumer Discretionary	-0.4%	0.0%	0.2%	0.8%	0.5%	-0.2%	0.1%	0.4%	1.3%	0.8%
Consumer Staples	-0.1%	-0.2%	0.2%	0.7%	0.7%	0.0%	-0.1%	0.0%	0.6%	0.8%
Energy	0.1%	-0.3%	0.4%	0.9%	-0.2%	-0.3%	-1.6%	-0.8%	1.2%	-0.2%
Financials	0.1%	0.1%	0.6%	0.2%	0.3%	-0.2%	0.2%	0.2%	0.7%	0.6%
Health Care	-0.4%	-0.1%	0.0%	0.5%	0.3%	0.6%	0.9%	0.7%	1.4%	1.5%
Industrials	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%	0.6%	0.5%	0.9%	0.7%
Information Technology	-0.8%	0.4%	0.6%	1.4%	1.5%	-0.5%	1.4%	0.7%	2.1%	2.5%
Materials	0.2%	0.6%	0.0%	0.0%	0.1%	0.1%	1.1%	0.5%	-0.6%	0.6%
Real Estate	-0.4%	0.0%	-0.1%	-0.4%	-0.1%	-1.1%	-0.7%	-0.4%	-1.3%	-0.8%
Telecommunication Services	1.1%	0.3%	-1.8%	2.1%	0.0%	0.2%	-0.7%	-1.5%	1.8%	3.5%
Utilities	0.3%	-0.5%	-0.2%	-0.2%	-0.5%	0.7%	-1.3%	-0.7%	-0.1%	-1.2%
Automobiles & Components	-0.7%	-0.2%	-0.2%	1.3%	-1.2%	-0.4%	0.5%	-0.7%	0.6%	-2.4%
Banks	-0.1%	0.2%	0.8%	0.7%	0.4%	-0.3%	0.7%	0.8%	-0.2%	0.7%
Capital Goods	0.2%	0.4%	0.3%	0.3%	0.1%	0.3%	1.0%	0.6%	1.1%	0.6%
Commercial & Professional Services	-0.7%	-1.2%	0.1%	0.4%	-0.7%	-0.1%	-1.3%	0.6%	1.1%	-0.7%
Consumer Durables & Apparel	-0.3%	-0.5%	-0.8%	0.6%	0.1%	-0.1%	-0.3%	-0.3%	1.1%	0.1%
Consumer Services	-1.3%	-0.4%	-0.9%	1.5%	0.7%	-1.6%	-1.1%	-0.5%	2.1%	-0.4%
Diversified Financials	-0.1%	0.2%	0.8%	-0.4%	0.4%	-0.3%	-0.1%	-0.1%	1.4%	0.7%
Energy	0.1%	-0.3%	0.4%	0.9%	-0.2%	-0.3%	-1.6%	-0.8%	1.2%	-0.2%
Food & Staples Retailing	0.1%	-0.1%	0.7%	-0.1%	0.7%	0.8%	0.3%	0.5%	0.0%	0.2%
Food Beverage & Tobacco	0.0%	-0.4%	0.3%	0.8%	0.7%	-0.2%	-0.4%	0.3%	0.7%	0.8%
Health Care Equipment & Services	-0.4%	-0.3%	0.1%	1.0%	0.1%	0.5%	1.0%	0.8%	1.5%	0.8%
Household & Personal Products	-0.4%	0.1%	-0.7%	0.7%	0.5%	0.0%	0.8%	-1.3%	0.8%	1.6%
Insurance	0.5%	0.0%	0.1%	0.6%	0.1%	0.0%	-0.1%	-0.2%	0.7%	0.3%
Materials	0.2%	0.6%	0.0%	0.0%	0.1%	0.1%	1.1%	0.5%	-0.6%	0.6%
Media	-0.3%	-0.2%	1.4%	0.4%	0.1%	-0.3%	0.2%	0.4%	1.5%	1.4%
Pharmaceuticals Biotechnology & Life	-0.4%	0.1%	-0.2%	-0.4%	0.7%	0.7%	0.9%	0.6%	1.4%	2.4%
Real Estate	-0.4%	0.0%	-0.1%	-0.4%	-0.1%	-1.1%	-0.7%	-0.4%	-1.3%	-0.8%
Retailing	0.0%	0.6%	0.9%	0.8%	1.1%	0.4%	0.8%	1.4%	1.1%	2.2%
Semiconductors & Semiconductor Eq	-1.2%	-0.8%	-0.8%	2.5%	0.8%	-0.8%	2.2%	-0.8%	3.6%	2.0%
Software & Services	-0.4%	1.0%	0.6%	0.9%	2.0%	-0.2%	1.8%	1.0%	1.5%	2.6%
Technology Hardware & Equipment	-1.6%	0.0%	1.7%	1.5%	1.0%	-1.1%	-0.3%	1.3%	2.2%	2.5%
Telecommunication Services	1.1%	0.3%	-1.8%	2.1%	0.0%	0.2%	-0.7%	-1.5%	1.8%	3.5%
Transportation	0.1%	-0.4%	-0.9%	0.0%	0.1%	-0.5%	0.2%	-0.2%	0.0%	1.9%
Utilities	0.3%	-0.5%	-0.2%	-0.2%	-0.5%	0.7%	-1.3%	-0.7%	-0.1%	-1.2%
S&P 500	-0.2%	0.0%	0.2%	0.5%	0.4%	-0.1%	0.2%	0.2%	0.9%	0.8%

Source: UBS Evidence Lab Data Science, S&P, FirstCall, FactSet

Appendix 1: European sectors – Telecoms & Media

Two of the sectors that screened well in figure 9 for a recent inflection in net sentiment (compared to the previous four quarters) were telecoms and media. Below is a brief summary of the strategy buy cases for those sectors.

Figure 20: Improving net sentiment across European telecoms & media

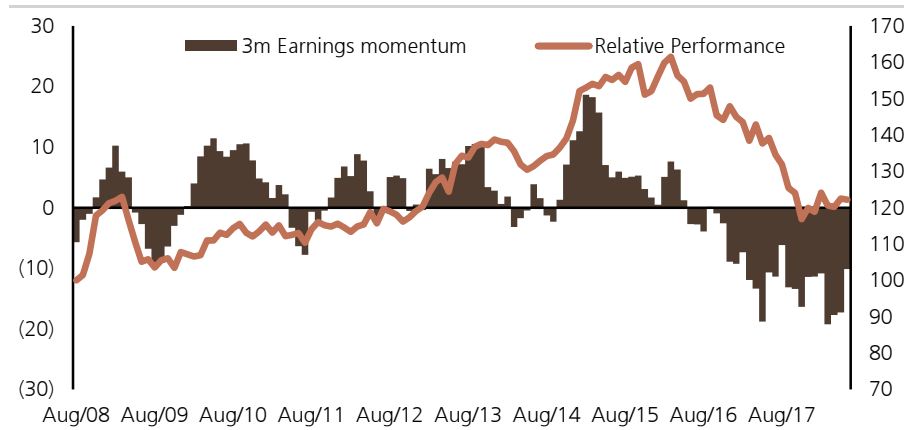


Both European telecoms and media sectors are showing improving net sentiment.

Source: UBS Evidence Lab Data Science

Media – some key charts

Figure 21: Earnings momentum starting to recover



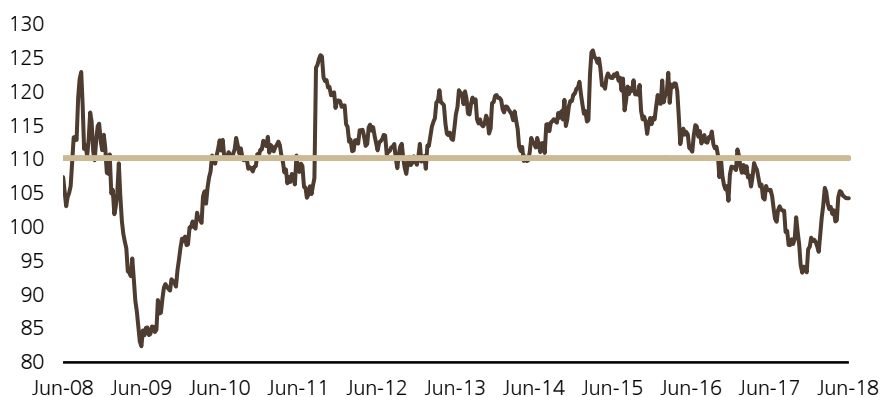
Source: Thomson Datastream, UBS European equity strategy

We rate the media sector an overweight. While we do not expect the sector to deliver stellar earnings growth, we believe the market is pricing in too bearish a scenario. Media has gone through a period of sharp underperformance in 2016/2017 and, while the sector is one of the top performers this year, this is still only a minor bounce back relative to the underperformance of 2016 and 2017.

Confidence numbers tend to correlate with earnings in Media and even after the recent pull back in confidence, numbers still point to significant upside for media earnings.

Finally, valuations remain very attractive as the recent outperformance was supported by earnings. The sector continues to trade at significantly lower relative PE than its post-crisis average.

Figure 22: Media relative PE remains below long term average



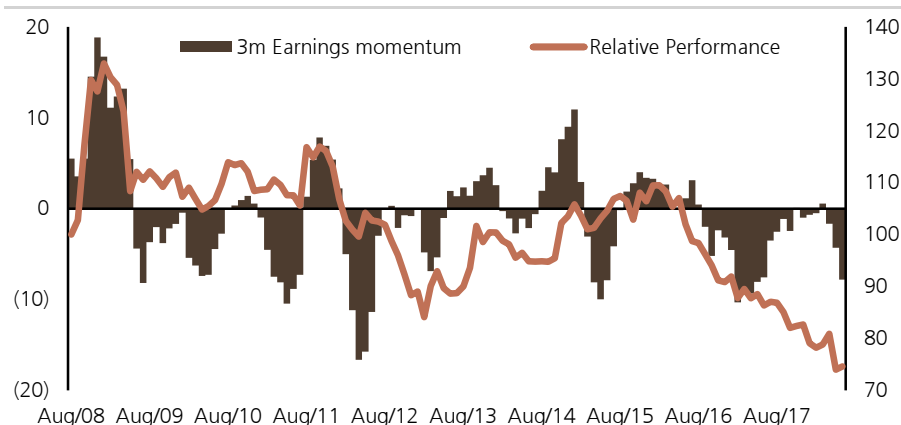
De-rating of the sector has been significant.

Source: Thomson Datastream, UBS European equity strategy

See the separate note published today which looks at Transcriptlytics at the single stock level for detail around Buy rated Publicis and WPP.

Telecoms

Figure 23: Earnings momentum



Relative performance has disconnected from earnings momentum.

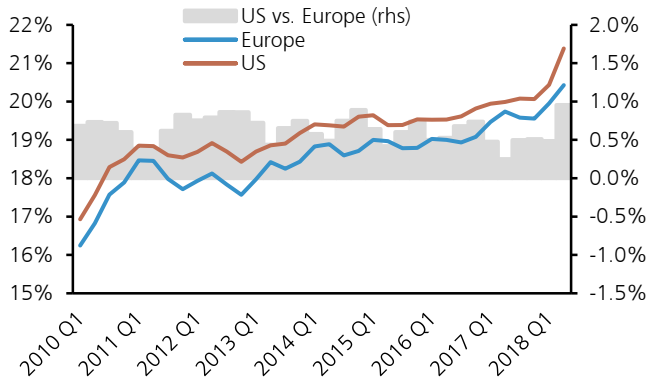
Source: UBS European Equity strategy, Thomson Datastream

We recommend an overweight in the European Telecom sector as we believe the sector is long overdue a bounce back. The performance of the Telcos sector usually holds a very close correlation to the sector EPS momentum but upgrades to earnings in Q1 (albeit modest) were ignored by the market. Even looking at the negative EPS momentum in recent months, performance still seems to be lagging. Going forward the view from within the industry remains more constructive and lead surveys continue to point to confidence by managers in the Telecom sector. Despite these improvements the sector continues to shrink and now only accounts for c3% of European market cap.

Appendix 2: US vs. Europe; key global industry comparison

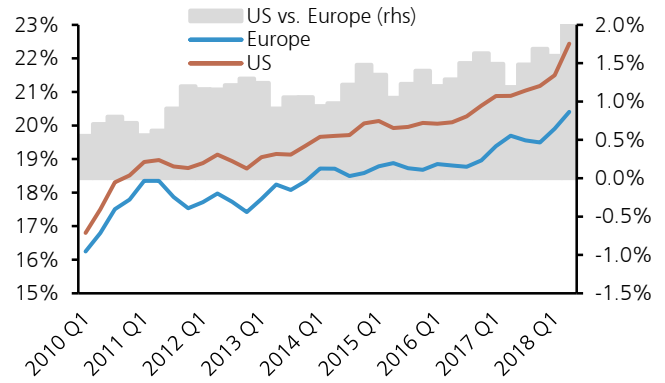
The figures below highlight a select subset of industry comparisons. Despite higher net sentiment in aggregate for the US relative to Europe (Figure 1) for most of the currently cycle, Energy, Insurance and Pharma are notable exceptions.

Figure 24: Autos: US v Europe



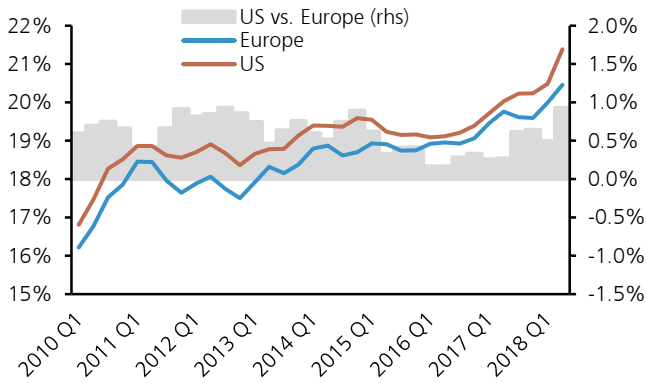
Source: UBS Evidence Lab Data Science

Figure 25: Banks: US v Europe



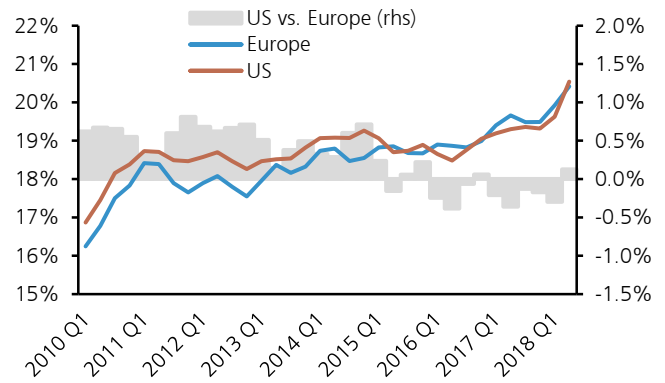
Source: UBS Evidence Lab Data Science

Figure 26: Capital Goods: US v Europe



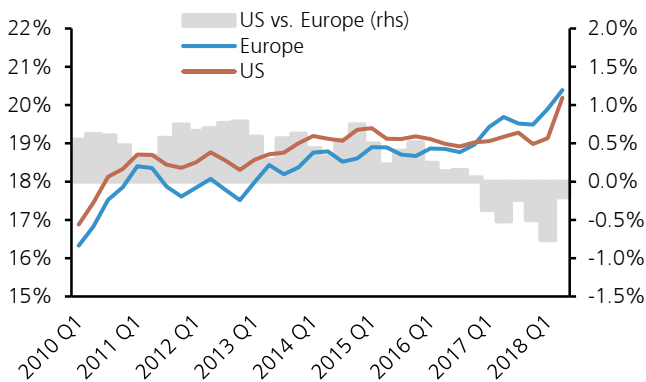
Source: UBS Evidence Lab Data Science

Figure 27: Energy: US v Europe



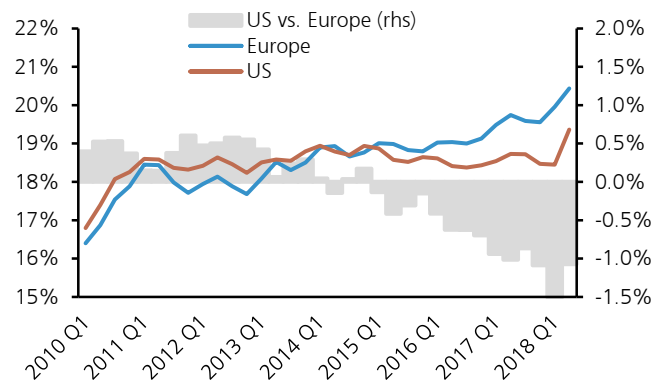
Source: UBS Evidence Lab Data Science

Figure 28: Insurance US v Europe



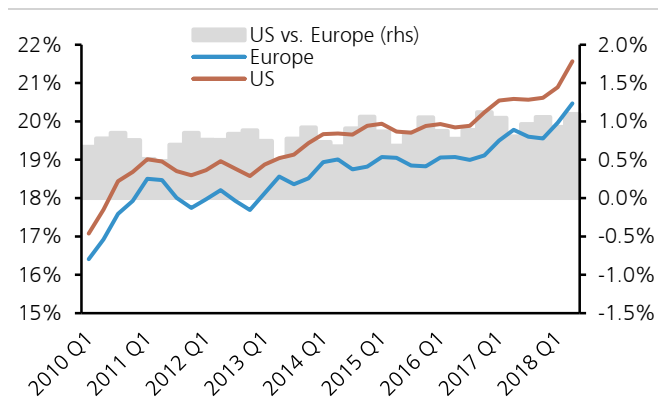
Source: UBS Evidence Lab Data Science

Figure 29: Pharma: US v Europe



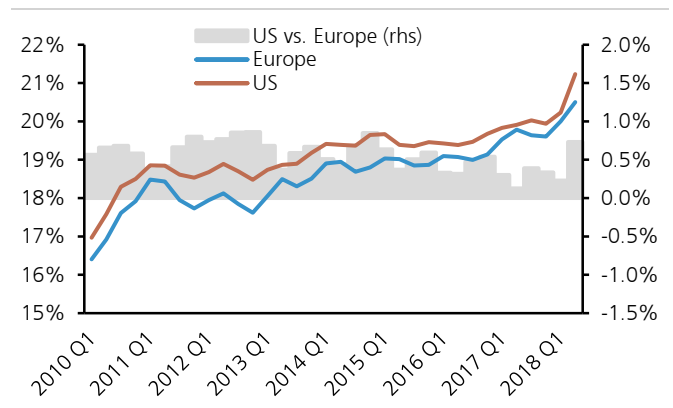
Source: UBS Evidence Lab Data Science

Figure 30: US Tech v Europe semis & tech hardware



Source: UBS Evidence Lab Data Science

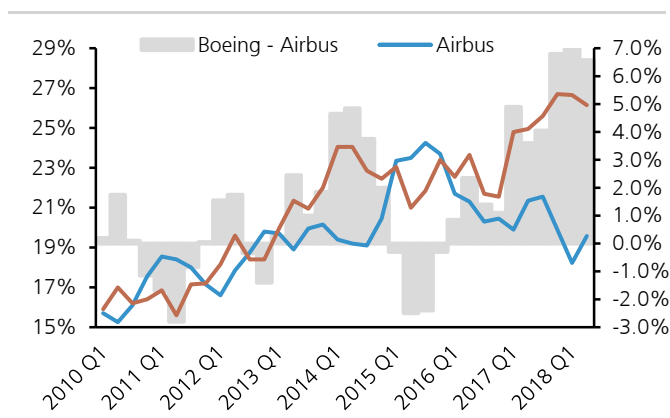
Figure 31: Telcos : US v Europe



Source: UBS Evidence Lab Data Science

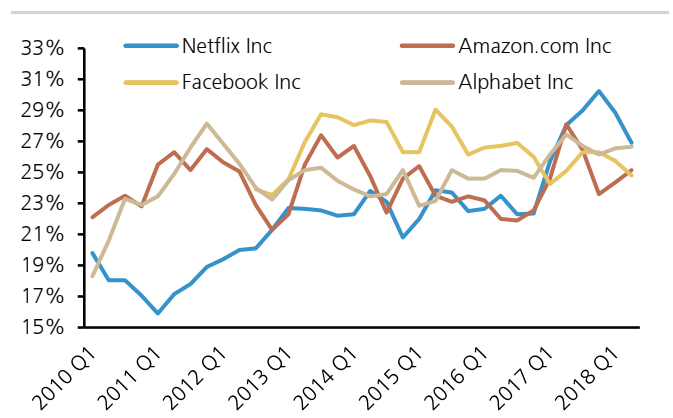
Appendix 3: Thematic examples

Figure 32: Boeing v Airbus



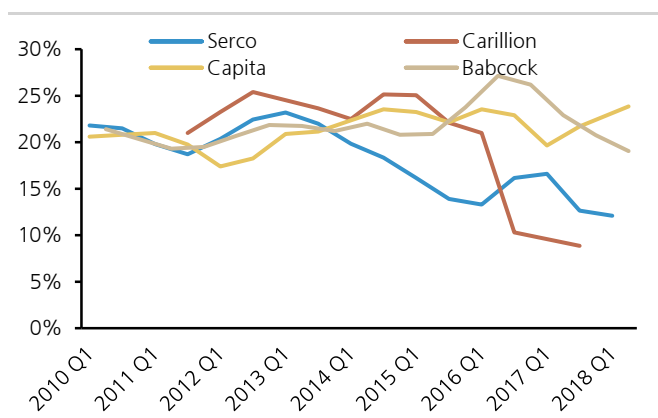
Source: UBS Evidence Lab Data Science

Figure 33: FANGs.



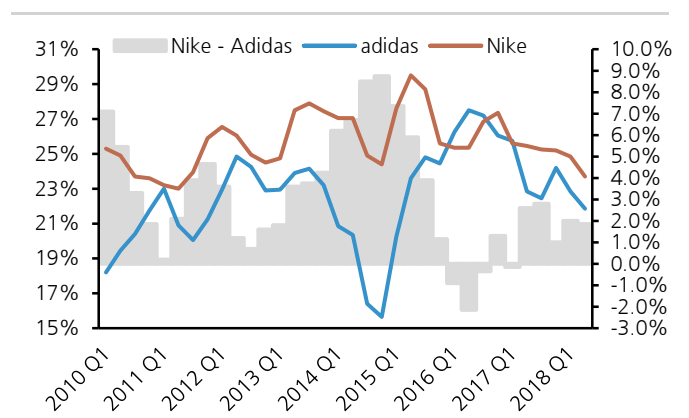
Source: UBS Evidence Lab Data Science

Figure 34: UK Outsourcing



Source: UBS Evidence Lab Data Science

Figure 35: Nike v Adidas



Source: UBS Evidence Lab Data Science8

Valuation Method and Risk Statement

Investing in global equities poses currency, country, industry, and company-specific risks. Valuations can be impacted by company-specific factors, investor risk appetite, as well as changes in the macroeconomic landscape and financial market stability.

Publicis: We see four key risks to our thesis on Publicis: (1) economic growth slows; Publicis revenues are highly correlated with global advertising markets, which are highly dependent on the state of the economy; (2) Structural pressures build with advertisers choosing to reduce spending on media and creative in favour of investment in internal data-driven marketing capabilities; consultancies winning share of brand marketing spend; advertisers directly acquiring media and creative services from media suppliers (e.g., Facebook, Google, Amazon); trust issues leading Advertisers to bring agency capabilities in-house, or to use independent agencies; (3) cost pressure with inflation in talent costs; and, (4) execution risk. Our DCF-derived valuation is based on a WACC of 8.5% and terminal growth of 2%. A 100bps increase in FY17 organic revenue growth has a 1.9% impact on FY17 EPS.

WPP: We see four key risks to our thesis on WPP: (1) economic growth slows; WPP's revenues are highly correlated with global advertising markets, which are highly dependent on the state of the economy; (2) Structural pressures build with advertisers choosing to reduce spending on media and creative in favour of investment in internal data-driven marketing capabilities; consultancies winning share of brand marketing spend; advertisers directly acquiring media and creative services from media suppliers (e.g., Facebook, Google, Amazon); trust issues leading Advertisers to bring agency capabilities in-house, or to use independent agencies; (3) cost pressure with inflation in talent costs; and, (4) execution risk. Our DCF-derived valuation is based on a WACC of 8.6% and terminal growth of 2%. A 100bps increase in FY17 organic revenue growth has a 1.9% impact on FY17 EPS.

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12-Month Rating	Definition	Coverage ¹	IB Services ²
Buy	FSR is > 6% above the MRA.	48%	25%
Neutral	FSR is between -6% and 6% of the MRA.	37%	21%
Sell	FSR is > 6% below the MRA.	15%	13%
Short-Term Rating	Definition	Coverage ³	IB Services ⁴
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 30 June 2018.

1: Percentage of companies under coverage globally within the 12-month rating category.

2: Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

3: Percentage of companies under coverage globally within the Short-Term rating category.

4: Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

KEY DEFINITIONS: **Forecast Stock Return (FSR)** is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months. In some cases, this yield may be based on accrued dividends. **Market Return Assumption (MRA)** is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium). **Under Review (UR)** Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation. **Short-Term Ratings** reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case. **Equity Price Targets** have an investment horizon of 12 months.

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Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
Publicis ¹³	PUBP.PA	Buy	N/A	€60.64	09 Jul 2018
WPP ¹⁶	WPP.L	Buy	N/A	1,211p	09 Jul 2018

Source: UBS. All prices as of local market close.

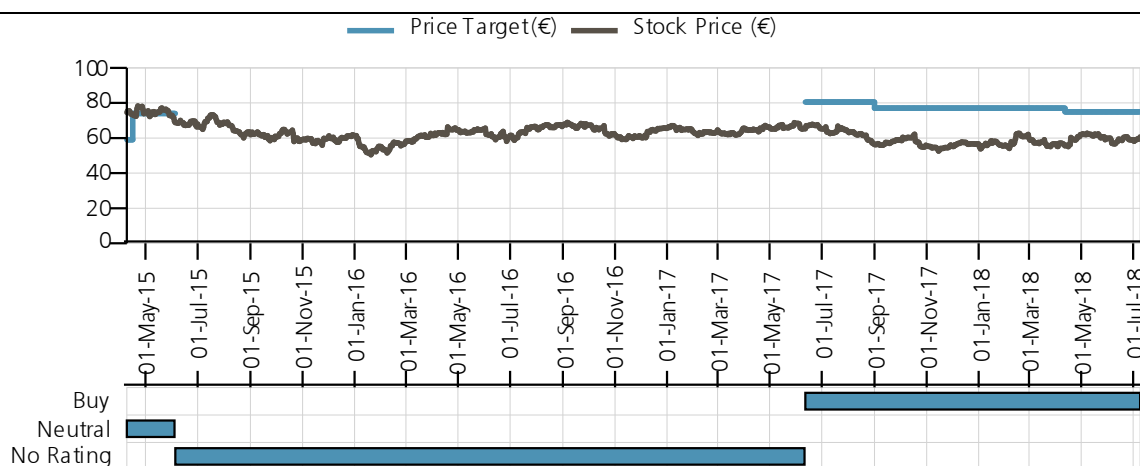
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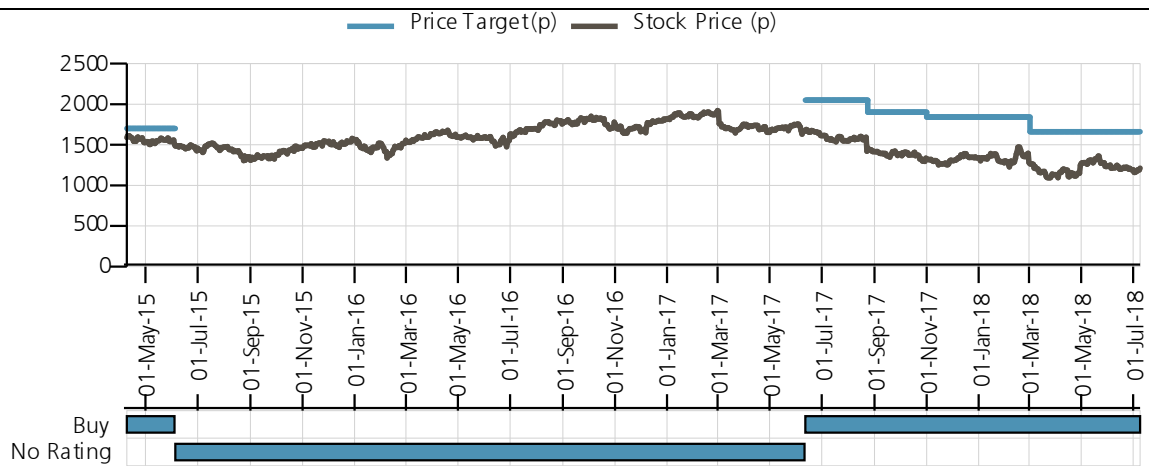
Publicis (€)



Date	Stock Price (€)	Price Target (€)	Rating
2015-04-09	74.63	59.0	Neutral
2015-04-16	73.55	74.0	Neutral
2015-06-05	68.84	-	No Rating
2017-06-12	65.27	80.5	Buy
2017-09-01	56.24	77.0	Buy
2018-04-12	55.52	75.0	Buy

Source: UBS; as of 09 Jul 2018

WPP (p)



Date	Stock Price (p)	Price Target (p)	Rating
2015-04-09	1587.0	1700.0	Buy
2015-06-05	1486.0	-	No Rating
2017-06-12	1669.0	2050.0	Buy
2017-08-24	1462.0	1900.0	Buy
2017-11-01	1322.0	1840.0	Buy
2018-03-02	1266.0	1660.0	Buy

Source: UBS; as of 09 Jul 2018

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