

Global Portfolio Strategy February 2017

February 14, 2017

Europe: Can the Ugly Duckling Strike Back?

Regime Changes: Moving Back to Neutral

Continental Europe Becomes Our Favorite Region

- Even in a low-growth world many European companies have managed to produce ever-higher free cash flow margins. They're a leveraged play on a global recovery because their operating leverage is greater than in previous cycles and surpasses that of their developed world peers.
- Europe's economy is healing and the rate of job creation has converged with that in the U.S., boding well for consumption. The tailwind from the region's monetary and fiscal policy mix should support that trend, particularly when coupled with the new U.S. administration's expansionary bent. One consequence could be a still-stronger Dollar, benefiting European companies, especially the global cyclicals.
- Our Regional Allocation Indicator, that recommends region and country bets, drawing upon stock-level expected returns along with variables that quantify stresses in equity markets and real economies, has changed its message. The U.K. has ceded the top spot to Continental Europe as the post-Brexit weakening of the Pound lessened, eroding the benefit from improved competitiveness. The dynamism of profits in Continental Europe has been the swing factor.
- Appendix 1 on page 13 lists attractive stocks in Continental Europe as judged by our Global Stock Selection Model. We sort the stocks by their free cash flow yields and margins, highlighting those where the skepticism is greatest. Capital equipment, energy, industrial commodities and media issues make the cut.

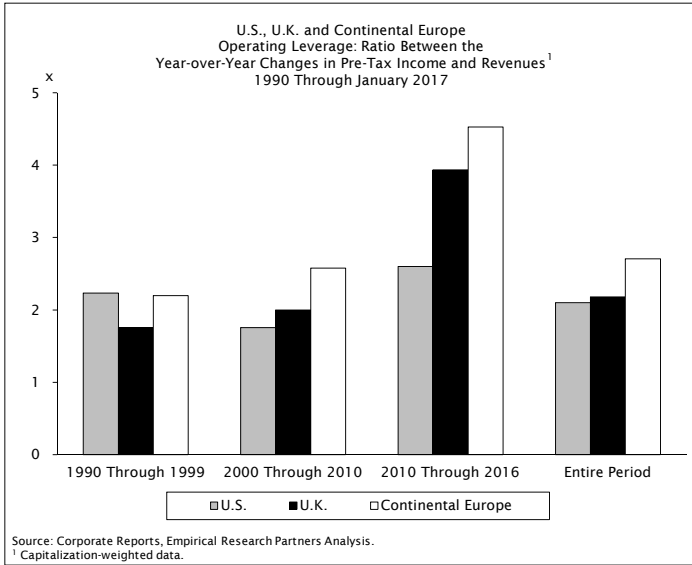
Value Is Dead, Long Live Value

- In the immediate aftermath of the Brexit vote valuation spreads across the non-U.S. developed world widened markedly, causing our regional regime forecasts to move to value-oriented stances. Spreads have since reversed that spike and are now below average. As in 2012 fears of a global economic catastrophe got built into the stock market and then quickly dissipated, this time around without help from central bankers. Today only Japan's regime remains value-tilted, while that in the U.K. and the global one have shifted back to neutral. The regime in Continental Europe remains in a neutral stance.
- In the second-half of last year non-U.S. developed world value stocks outperformed by more than +15 percentage points and we believe their run isn't over. Historically value stocks have outperformed after a move back to a neutral regime, generating +5 points of alpha in the next year. They've also produced excess returns after spreads have passed through the neutral line.
- The nature of the value argument changes as for a time they become the momentum leadership. The relative returns of value and momentum are usually anti-correlated, but not now, and there're a high proportion of value stocks with good momentum characteristics. That rare combination has historically generated +6 percentage points of alpha per annum. Appendix 2 on page 14 lists the international issues that appear in the top quintiles of valuation and nine-month price momentum. Financials stand out.
- We believe that the leadership of the market is unlikely to change at this point. The share of cyclicals among cheap stocks remains high and is consistent with the expectation that the probability of a recession is still above 50%. Despite their recent underperformance fundamentally-stable companies remain overvalued.

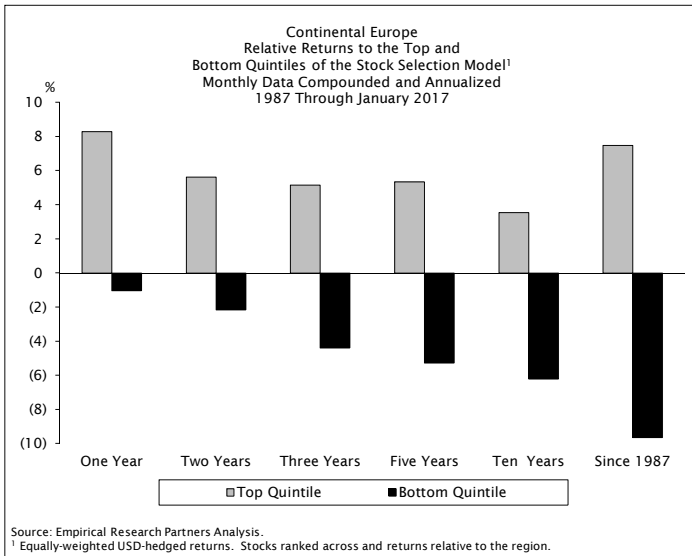
Sungsoo Yang (212) 803-7925 Nicole Price (212) 803-7935 Yi Liu (212) 803-7942 Yu Bai (212) 803-7919 Yuntao Ji (212) 803-7920 Iwona Scanzillo (212) 803-7915

Conclusions in Brief

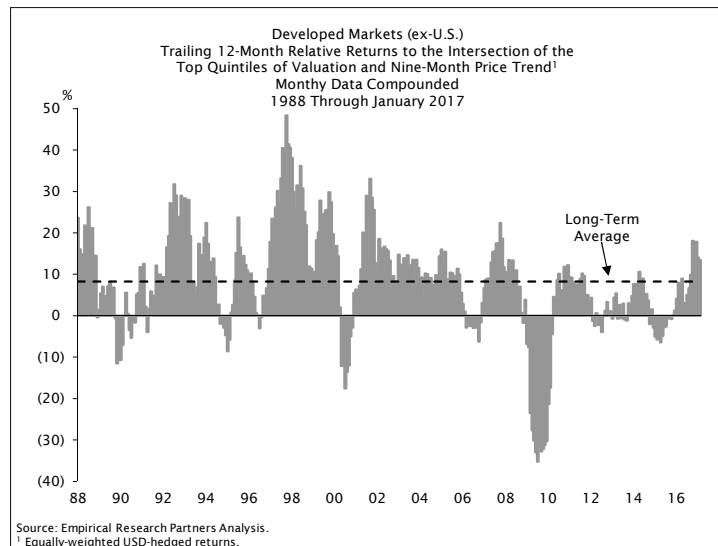
- Continental Europe is a leveraged play on a global recovery:



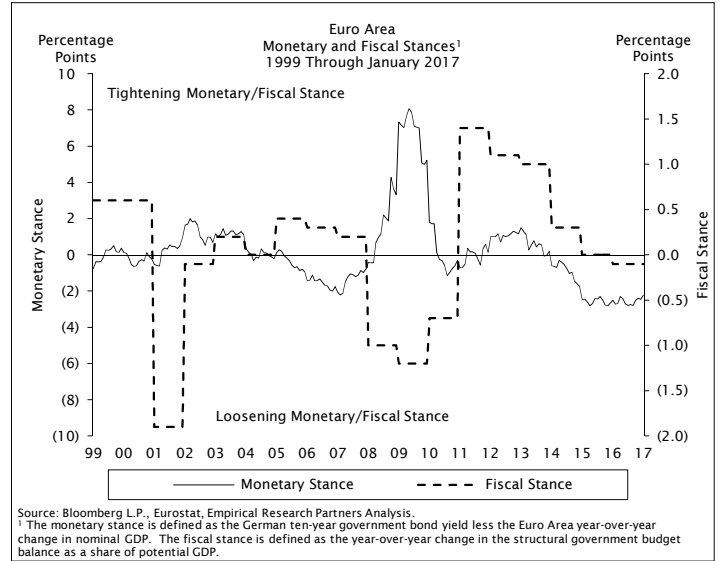
- Our stock picking model has been very efficacious in Europe:



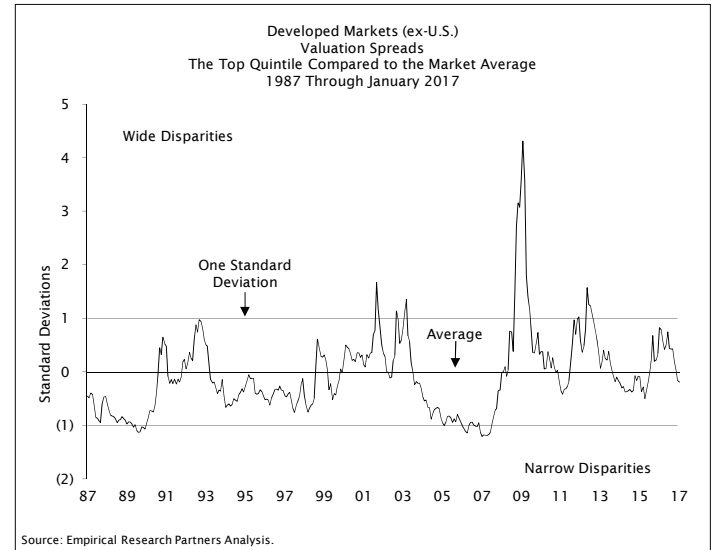
- This setting is now less favorable for a value strategy, but momentum is a tailwind:



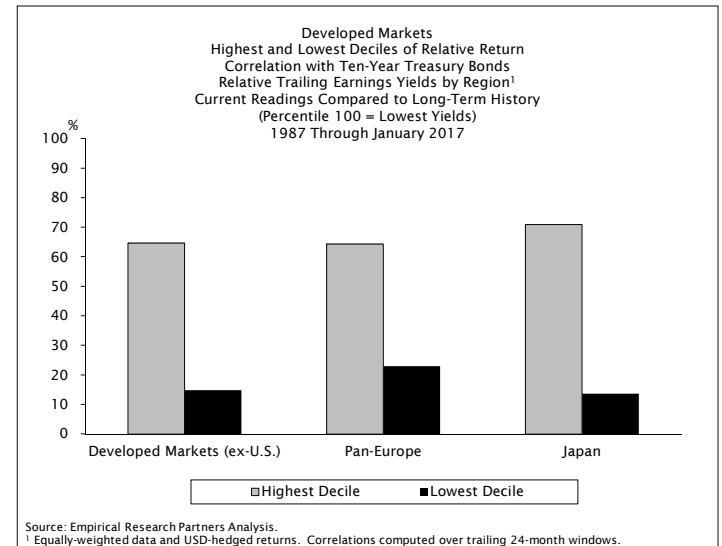
- Headwinds are becoming tailwinds, the recovery could gain momentum:



- Most regional regimes moved back to neutral, valuation spreads are now below average:



- Some strategies remain stretched, the leadership of the market is unlikely to change:



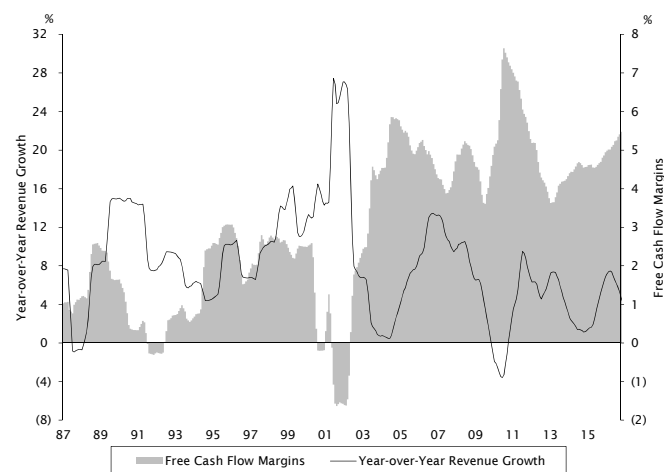
Europe: Can the Ugly Duckling Strike Back?

The High Beta Play?

The case for investing in European equities is built on two complementary ideas: high operating leverage and an acceleration of the cyclical pickup in the economy.

We find that European companies have learnt to live in a low-growth environment and have generated healthy free cash flow margins despite pedestrian top-line growth (see Exhibit 1). The pattern is similar to what we see in other parts of the developed world and is linked to our Bretton Woods II thesis. Continental Europe, however, is a particular case in that operating leverage has increased compared to previous cycles and is elevated compared to that of other parts of the world (see Exhibit 2). That's in part a function of the snail-like rate-of-change in the top line. Still, Europe is a leveraged play on a global economic expansion.

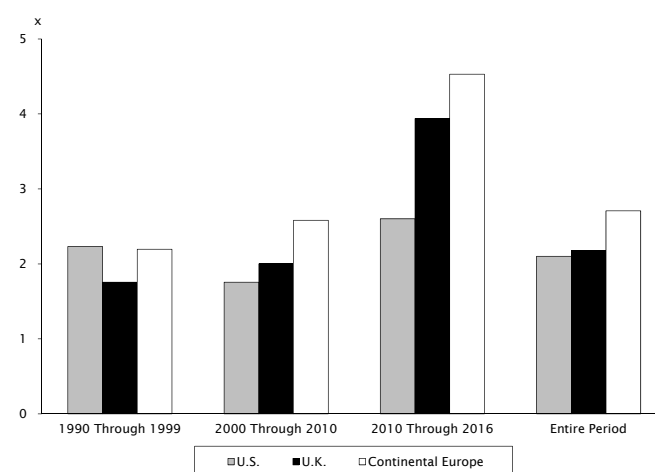
**Exhibit 1: Continental Europe
Free Cash Flow Margins and
Year-over-Year Revenue Growth'
1987 Through January 2017**



Source: Corporate Reports, Empirical Research Partners Analysis.

¹ Excluding financials, energy and utilities. Trailing twelve-month revenue growth rates are capitalization-weighted. Free cash flow margins on a trailing twelve-month basis. All data are smoothed on a trailing three-month basis.

**Exhibit 2: The U.S., the U.K. and Continental Europe
Operating Leverage: Ratio Between the
Year-over-Year Changes in Pre-Tax Income
and Revenues'
1990 Through January 2017**



Source: Corporate Reports, Empirical Research Partners Analysis.

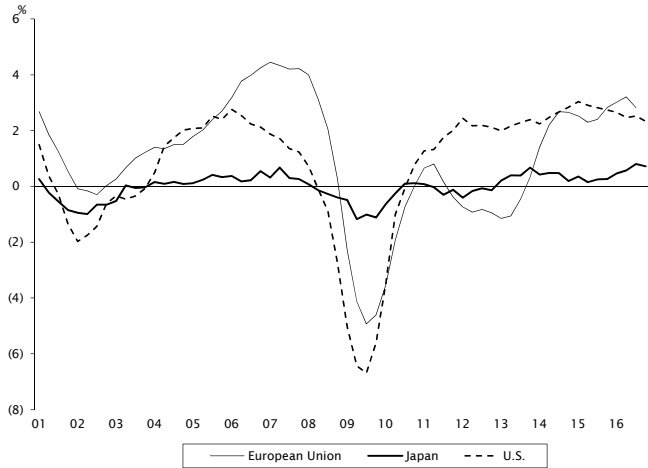
¹ Capitalization-weighted data.

Meanwhile, the recovery in Europe seems to be showing signs of improvement. The labor market is healing and even though Europe's recovery has lagged that in the U.S. it's now accelerating and the growth rates have converged (see Exhibit 3). This is a lagging indicator as it signals that the economy has improved to a level where companies have enough confidence to invest in the future. It's also a leading indicator as consumption is closely-linked to job creation in Europe, hence household expenditures should improve in the future. Household surveys in Europe validate this view, after a very-depressed stretch consumers are considering making big-ticket purchases, decisions that reflect the state of the labor market (see Exhibit 4). We highlighted in the past that valuations of consumer cyclical issues in Continental Europe were too pessimistic; this is at odds with these recent macroeconomic developments.

An important driver of the economic improvement has been the policy mix. Exhibit 5 shows that throughout the history of the Euro Area monetary and fiscal policies have sent opposite messages most of the time. This year marks an exception in that the aggressive fiscal consolidation has come to an end and the fiscal position is turning slightly stimulative while the monetary stance remains very accommodative. That cocktail should be supportive of growth.

With the tide rising, albeit slowly, most sectors are now enjoying margin expansion (see Exhibit 6). By comparison in the early part of last year only cyclicals stood out in this regard.

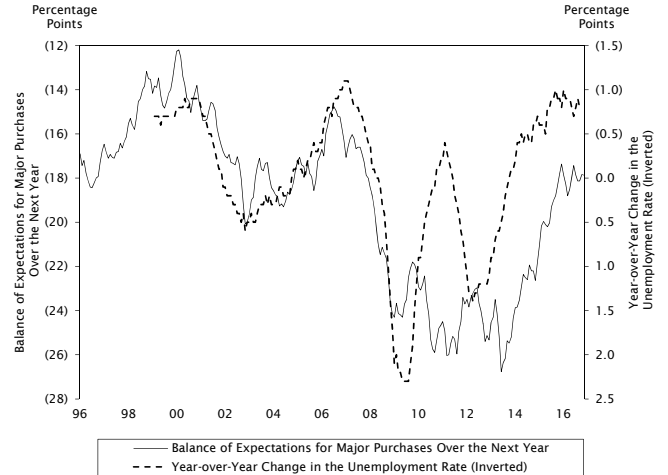
**Exhibit 3: The European Union, Japan and the U.S.
Year-over-Year Changes in Employment
2001 Through 2016¹**



Source: European Central Bank, Bureau of Labor Statistics, Japan's Statistics Bureau, Empirical Research Partners Analysis.

¹ Data for the European Union through Q3 2016.

**Exhibit 4: Euro Area
Consumer Surveys
Balance of Expectations for Major Purchases
Over the Next Year and Year-over-Year Change
in the Unemployment Rate^{1,2}
1996 Through January 2017**

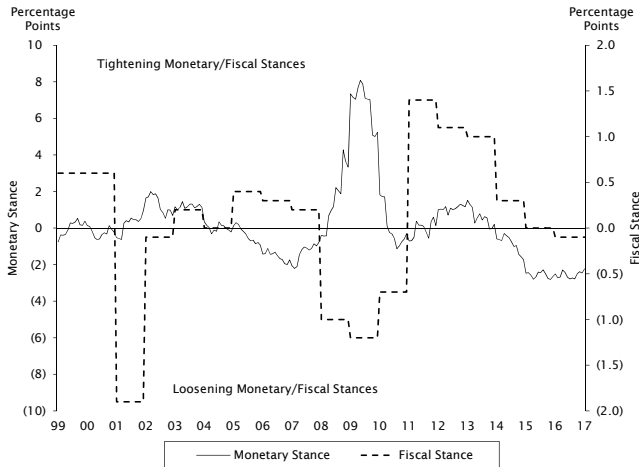


Source: European Commission, Eurostat, Empirical Research Partners Analysis.

¹ The balance is calculated as the share of consumers expecting to make a major purchase over the next year minus the share that doesn't.

² Year-over-year change in the unemployment rate through December 2016.

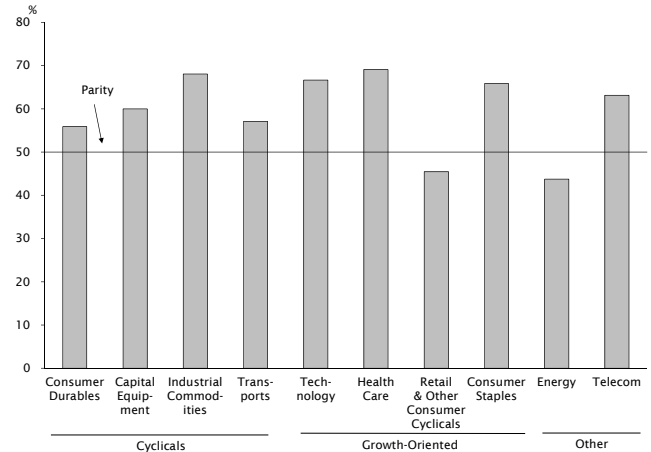
**Exhibit 5: Euro Area
Monetary and Fiscal Stances¹
1999 Through January 2017**



Source: Bloomberg L.P., Eurostat, Empirical Research Partners Analysis.

¹ The monetary stance is defined as the German ten-year government bond yield less the Euro Area year-over-year change in nominal GDP. The fiscal stance is defined as the year-over-year change in the structural government budget balance as a share of potential GDP.

**Exhibit 6: Continental Europe
Share of Stocks with Rising Profit Margins
by Sector¹
Measured Over Four Quarters
As of January 2017**



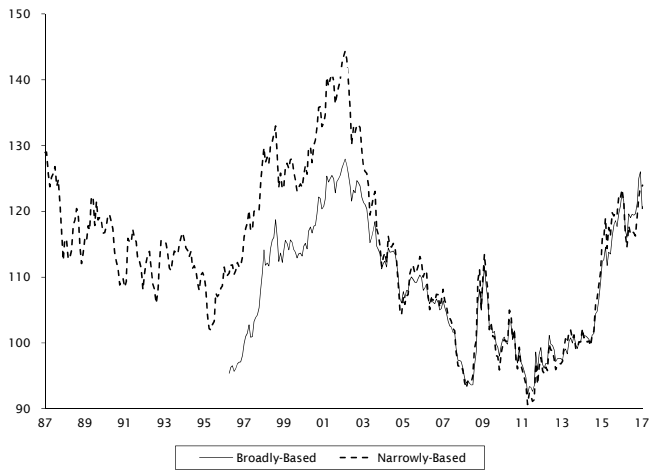
Source: Corporate Reports, Empirical Research Partners Analysis.

¹ Calculated on a year-over-year basis.

External Help: Is Europe the Best Way to Play a U.S. Economic Acceleration?

The appreciation of the U.S. Dollar should be supportive of non-U.S. developed world stocks (see Exhibit 7). Looking more specifically at the Euro, we find that the performance of that currency vis-à-vis the U.S. Dollar is closely-linked to the rate differential in the short part of the curve. We actually find that the best fit is found using the two-year rates (see Exhibit 8). With the ECB unlikely to hike any time soon, while the Fed is on the move, the cross-Atlantic spread is expected to widen. If we use the futures market as a guide we find that this rate widening would be consistent with the Euro dipping below parity against the Dollar.

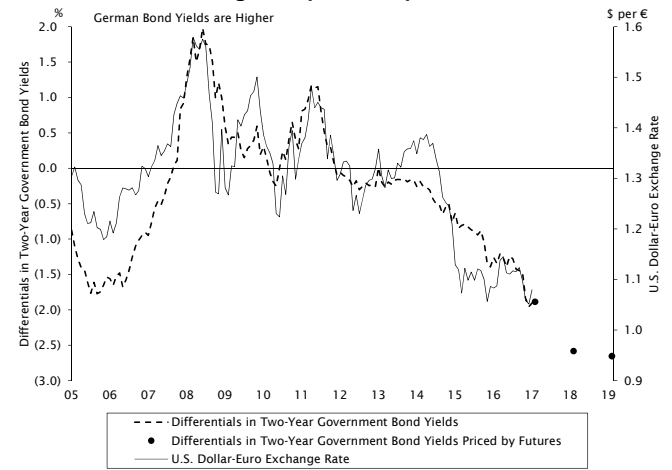
Exhibit 7: Nominal Trade-Weighted U.S. Dollar¹ (2010=100) 1987 Through Early-February 2017



Source: Bank for International Settlements.

¹ The broadly-based trade-weighted dollar is based on a basket of developed and emerging market exchange rates. The narrowly-based version is based on a basket of developed market exchange rates only.

Exhibit 8: The U.S. and Germany Differentials in Two-Year Government Bond Yields and the Dollar-Euro Exchange Rate 2005 Through Early-February 2019E

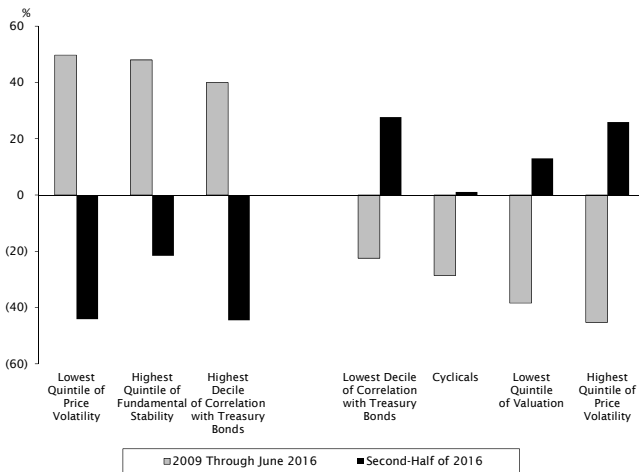


Source: Bloomberg L.P., Empirical Research Partners Analysis.

Interestingly the Dollar is becoming a risk currency, its appreciation during the second-half of last year has been associated with an outperformance of value, cyclical and anti-bond proxies, while it's also associated with an underperformance of stable stocks and bond proxies (see Exhibit 9). This is in contrast with the pattern from 2009 through mid-2016.

Although the Dollar appreciation has favored cyclicals lately the impact hasn't been uniform among them. We compared the relative performance of global cyclical sectors and domestic ones in Continental Europe and the U.S. and found that from 1987 through 2015 the relative performance of the two groups was similar in both regions (see Exhibit 10). Recently, however, the performance of the global cyclicals has been much more favorable in Continental Europe. It's worth highlighting that this conclusion isn't a function of the inclusion of financials among domestic cyclicals; removing that sector would lead to a similar result. Although the dynamism of domestic demand in the U.S. can explain the pattern, this divergence also owes much to the Dollar's appreciation that has been coincidental and has boosted European competitiveness.

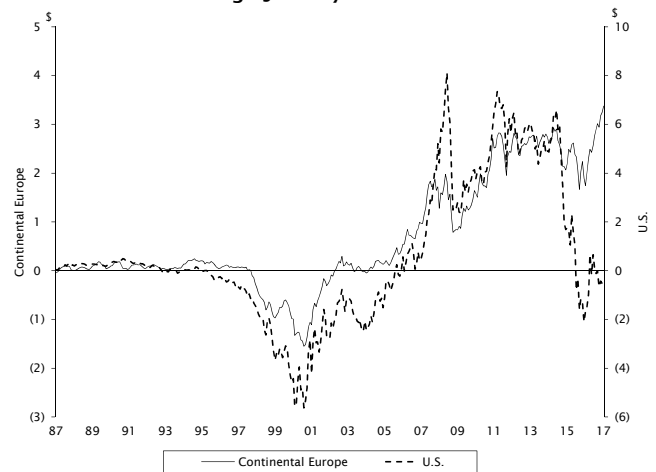
Exhibit 9: Developed Markets (ex-U.S.) Correlation of Relative Returns of Select Strategies with the Moves in the Trade-Weighted U.S. Dollar¹ 2009 Through 2016



Source: Empirical Research Partners Analysis.

¹ Equally-weighted data and USD-hedged returns.

Exhibit 10: Continental Europe and the U.S. Returns of a Dollar Invested in Global Cyclicals Relative to That Invested in Other Cyclicals¹ Monthly Data Compounded 1987 Through January 2017



Source: Empirical Research Partners Analysis.

¹ Equally-weighted data. Non-U.S. returns are USD-hedged. Global cyclicals comprised of energy, industrial commodities and capital equipment. Other cyclicals comprised of retailers, media, consumer services, consumer durables, financials, technology, transports.

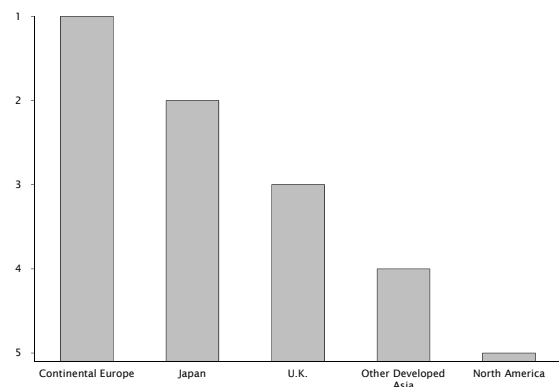
In conclusion, there's increasing evidence of a self-fulfilling recovery emerging in Europe, albeit at a slow pace. This should be consistent not only with a higher optimism priced by the market but also with a continuation of the upward shift in the yield curve. The expansionary policy of the new administration in the U.S. should further support that trend. The fiscal reflation planned wouldn't only boost growth but also lift rates, and that would make a big impact on European banks. This rate move is also consistent with more Dollar appreciation, again helping issues in the non-U.S. developed markets, especially the global cyclical.

Change in Our Regional Allocation Indicator, We Prefer Continental Europe

It's worth highlighting that our Regional Allocation Indicator changed its message at the end of January. The U.K. moved from preferred region to the third spot as the post-Brexit weakening of the Pound has lessened, while the pecking order of the other regions didn't change, leaving Continental Europe at the top of the list (see Exhibit 11).

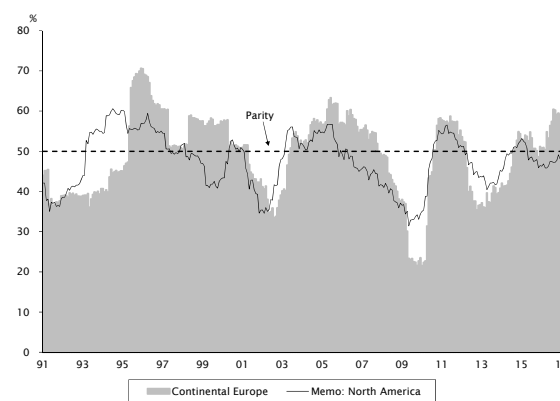
This is consistent with our view of the world and markets. Our indicator is essentially based on bottom-up data that accounts for more than two-thirds of the model's inputs. However, among the top-down variables we use are the exchange rate movements, and more recently they've clearly favored Europe at large and Japan over North America. We also find that the recent dynamism of profit has been more convincing in Europe than in the U.S. Exhibit 12 shows the share of non-financial stocks in Continental Europe and North America that have increased their trailing twelve-month pre-tax margins over the last year. Europe has been slow to recover, as usual, but is now catching up while the profit of U.S. companies is plateauing after eight years of almost continuous increase. Finally, we've underlined repeatedly in the past that European profits are more cyclical and more volatile than the U.S. ones, this is a direct consequence of the fixity of costs that bar European companies from adjusting. As we showed earlier we still like cyclicality and believe stability remains overpriced; to that extent Continental Europe seems more appealing than North America. Exhibit 13 provides more details on the input of the model.

Exhibit 11: Developed Markets Results of the Regional Allocation Indicator (1=Best, 5=Worst) Ranked from Best to Worst As of the End-of-January 2017



Source: Empirical Research Partners Analysis.

Exhibit 12: Continental Europe Share of Stocks with Rising Pre-Tax Margins¹ 1991 Through January 2017



Source: Corporate Reports, Empirical Research Partners Analysis.

¹ Margins are computed using trailing twelve-month data excluding financials. Changes in margins are measured on a year-over-year basis. The share of stocks is smoothed on a trailing three-month basis.

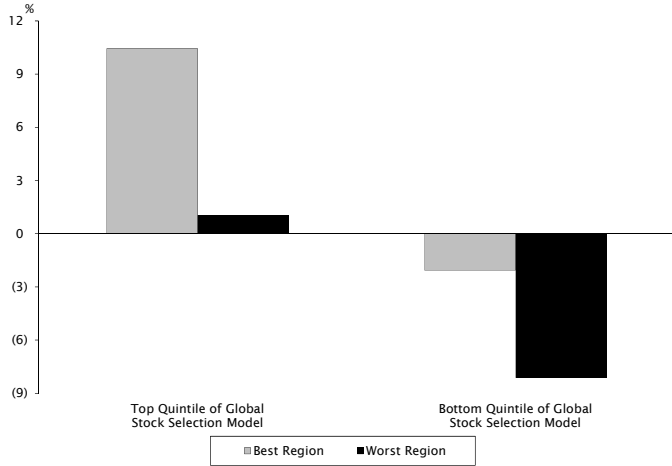
Exhibit 13: Developed Markets : Large and Mid-Capitalization Stocks Regional Allocation Model Detailed Ranks Sorted by Model Ranks As of End-January 2017

Region	Quintile (1=Best; 5=Worst)											Regional Allocation Model	Memo: YTD Weighted Return (USD)	Regional Total Market Capitalization (USD Billion)
	Rolled-Up Stock Level Input						Macroeconomic Input							
	Global Model	Share with Rising Pretax Margin	Small- vs. Large-Cap Cash-to-Market Capitalization	Share of Stocks With Positive Free Cash Flow	Share of Stable Stocks With Strong Price Trends	Real Earnings Yield	Market Volatility Above Trend	Real Effective Exchange Rate		Unemployment Rate Above Trend				
				3	3	4		Detrended Level	Three-Month Change					
Continental Europe	2	1	2	3	3	4	4	3	2	3	1	2.0	\$8,309	
Japan	1	5	3	1	4	2	1	1	1	2	2	3.9	4,511	
United Kingdom	4	4	5	4	2	3	2	2	3	5	3	1.0	2,531	
Other Developed Asia	5	2	4	2	5	1	5	4	4	1	4	6.6	2,110	
North America	3	3	1	5	1	5	3	5	5	4	5	2.3	26,676	

Source: Empirical Research Partners Analysis.

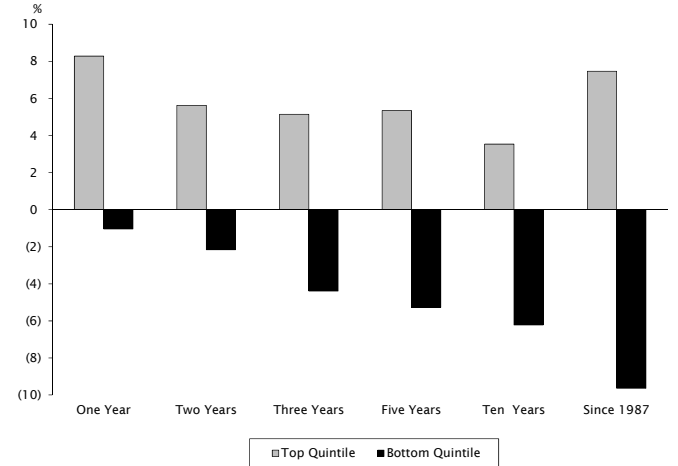
When we introduced our Regional Allocation Indicator, we examined how it can be useful for stock picking. We find, unsurprisingly, that it's easier to find winning stocks in the best ranked region (see Exhibit 14). Our Stock Selection Model in Continental Europe has indeed been useful; it generated an +8.3 percentage point outperformance over the past year (see Exhibit 15).

Exhibit 14: Developed Markets
Relative Returns to the Top and Bottom Quintiles of the Global Stock Selection Model
Contingent Upon Regional Attractiveness
Measured Over One-Year Holding Periods
1992 Through September 2016



Source: Empirical Research Partners Analysis.

Exhibit 15: Continental Europe
Relative Returns to the Top and Bottom Quintiles of the Stock Selection Model¹
Monthly Data Compounded and Annualized
1987 Through January 2017

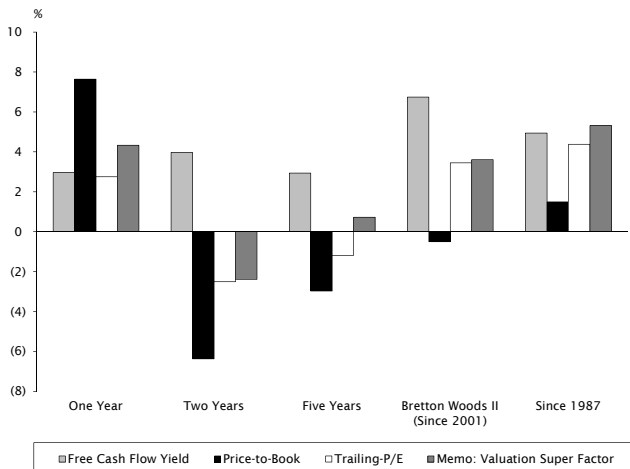


Source: Empirical Research Partners Analysis.

¹ Equally-weighted USD-hedged returns. Stocks ranked across and returns relative to the region.

A fundamental reason why this approach has been successful is its reliance on free cash flow yield as a key valuation construct throughout the Bretton Woods II era (see Exhibit 16). Although deep value factors such as price-to-book are more efficacious during value-oriented regimes, free cash flow yield has been more consistent at generating outperformance. Since 1987 companies with low valuations, as measured by free cash flow yields, but high profitability, as measured by high free cash flow margins, have outperformed by close to +3 percentage points per annum while their opposite numbers have been penalized by a similar amount (see Exhibit 17). The approach has been even more helpful since 2000. So the combination of market skepticism in Europe and a better profit picture creates opportunities for investors to exploit trends.

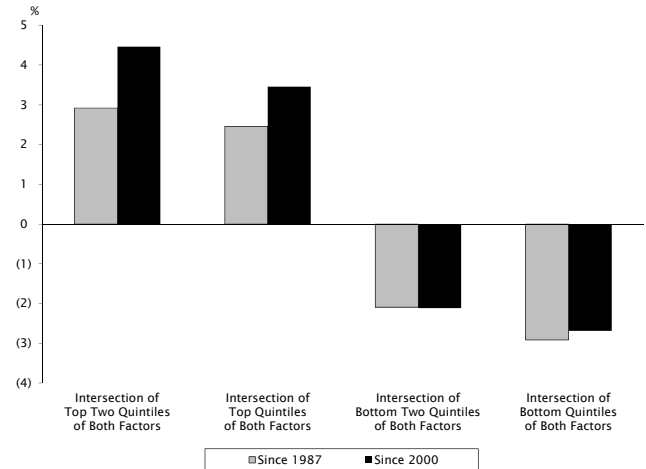
Exhibit 16: Continental Europe
Relative Returns to the Top Quintiles of Select Valuation Factors¹
Monthly Data Compounded and Annualized
1987 Through Early-February 2017



Source: Empirical Research Partners Analysis.

¹ Equally-weighted USD-hedged returns. Stocks ranked across and returns relative to the region.

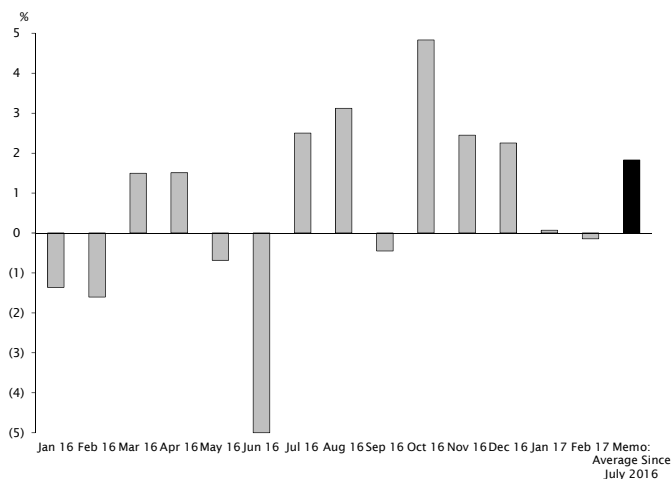
Exhibit 17: Continental Europe
Relative Returns to the Intersection of Free Cash Flow Yield and Free Cash Flow Margin¹
Measured Over One-Year Holding Periods
1987 Through Early-February 2017



Source: Empirical Research Partners Analysis.

¹ Equally-weighted USD-hedged returns. Stocks ranked across and returns relative to the region.

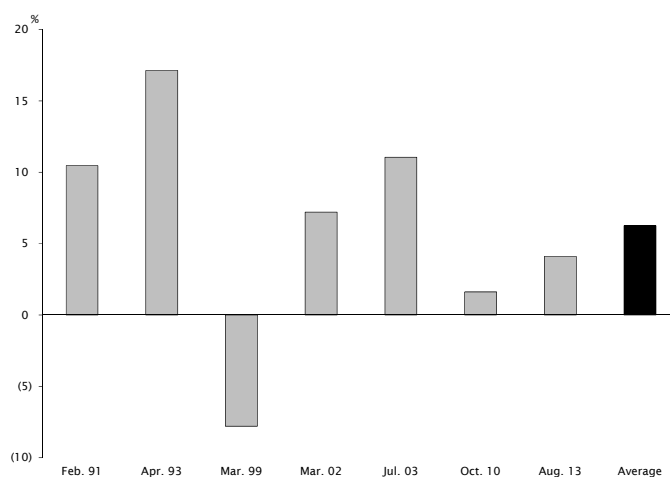
**Exhibit 20: Developed Markets (ex-U.S.)
Monthly Relative Returns to the Top Quintile of Valuation¹
2016 Through Early-February 2017**



Source: Empirical Research Partners Analysis.

¹ Equally-weighted USD-hedged returns.

**Exhibit 21: Developed Markets (ex-U.S.)
Forward One-Year Relative Returns to the
Top Quintile of Valuation from a Starting Point of
Neutral Valuation Spreads¹
Monthly Data Compounded
1987 Through Early-February 2017**



Source: Empirical Research Partners Analysis.

¹ Equally-weighted USD-hedged returns. Corresponding to episodes when spreads have declined to neutral settings.

So history would lead us to think that around a +5 percentage point outperformance of value for the next year is still in the cards. Although that number pales in comparison to the +15 percentage point outperformance during the second-half of last year, the value strategy isn't to be abandoned just yet.

The nature of our argument is changing, however, it's becoming more of a momentum-driven one. Value and momentum strategies tend to be anti-correlated. Exhibit 22 shows that on average the stocks in the cheapest quintile of valuation don't have good momentum characteristics. They're largely underrepresented among momentum stocks; an outcome that holds true about 90% of the time in the top-quintile intersection of the two metrics.

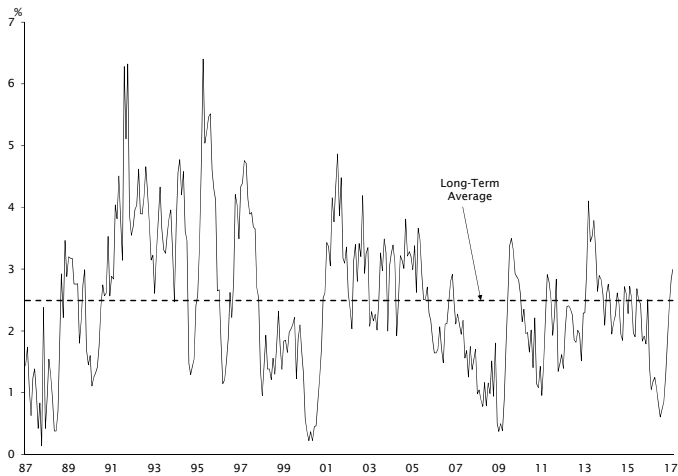
That situation changed radically throughout last year however. At the end of July 2016, only 0.6% of the stocks in our universe scored in the top-quintile of both our valuation metric and nine-month price momentum. Even for value stocks this underrepresentation was extreme, the proportion has been lower only 4% of the time since 1987. Eleven months later, at the end of January this year, we find 3.0% of the issues in the intersection of value and momentum, a high level compared history. The momentum characteristics of value stocks have changed.

This is important because a strategy favoring stocks in the intersection of value and nine-month price momentum is usually a powerful one. While international value stocks have outperformed by almost +6 percentage points per year on average since 1987, the intersection of value and momentum has outperformed by +8 percentage points (see Exhibit 23). That approach also generated a good hit ratio, outperforming almost two-thirds of the months when the global regime was neutral as it is today. We also find that the approach is more efficacious and more stable when the number of issues in the intersection is higher than average, or after a large increase in the number of issues in the intersection, the situation we're facing now.

Currently there're 49 non-U.S. developed world stocks that appear both in the top quintiles of valuation and nine-month price momentum. Appendix 2 on page 14 provides the list of those stocks. Financials stand out.

In conclusion despite the sharp outperformance of value during the second-half of last year and the move of our regimes back to neutral, we believe it's too early to abandon the value strategy. The outperformance we expect is less imposing than what we experienced at the end of 2016 but historical precedents suggest that about a +5 percentage point outperformance is to be expected over the coming year. The nature of our argument however has changed: last summer we were arguing that value stocks were unusually cheap and valuation spreads were pointing to the value strategy being rewarded, we now argue that the momentum of this strategy should be the main driver.

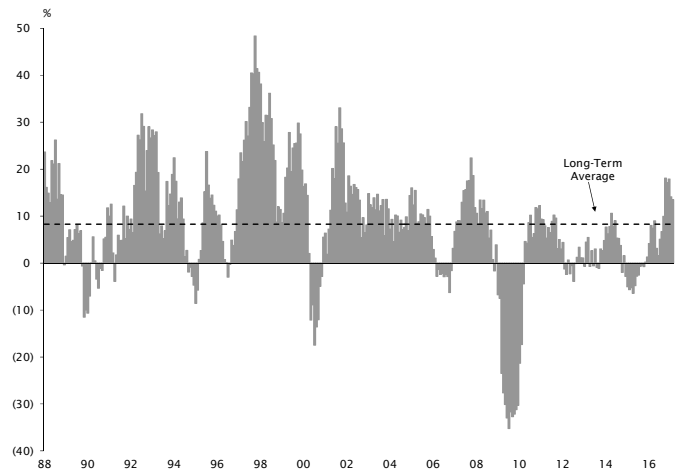
**Exhibit 22: Developed Markets (ex-U.S.)
Share of Stocks in the Intersection of the
Top Quintiles of Valuation
and Nine-Month Price Trend'
1987 Through January 2017**



Source: Empirical Research Partners Analysis.

¹ Equally-weighted data.

**Exhibit 23: Developed Markets (ex-U.S.)
Trailing 12-Month Relative Returns to the
Intersection of the Top Quintiles of Valuation and
Nine-Month Price Trend'
Monthly Data Compounded
1988 Through January 2017**



Source: Empirical Research Partners Analysis.

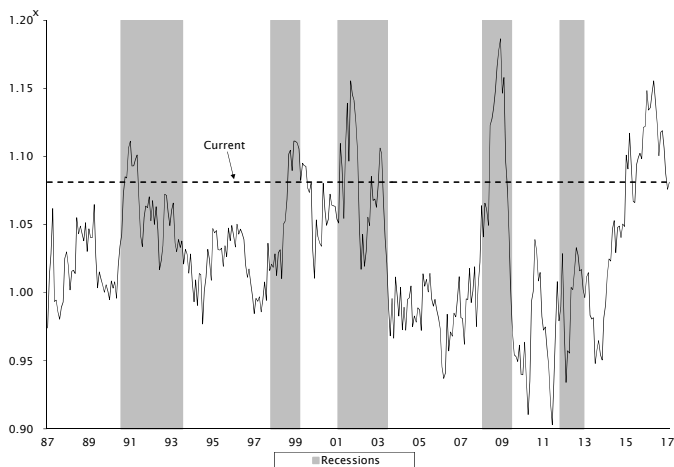
¹ Equally-weighted USD-hedged returns.

Anomaly Watch: Sentiment Excesses Not Fully Corrected

So far we've kept the discussion within the confines of our model. We believe that the market has been polarized and driven by two main related debates: the profit cycle and the direction of interest rates. The sharp rotation since last summer is linked to the market pricing out an excessively pessimistic scenario.

A high proportion of cyclical names among cheap stocks is associated with recessions, it's a symptom of the market penalizing issues that are the most sensitive to the profit cycle (see Exhibit 24). The current proportion of cyclicals among value stocks is still elevated and we find that it would be associated with a probability of recession slightly above 50%. This seems higher than warranted. The market has been too prudent and is still underpricing the profit cycle, especially in the case of cyclical stocks. This has market implications for investors. We've been arguing since July last year that most value opportunities are concentrated among cyclicals and that's still the case.

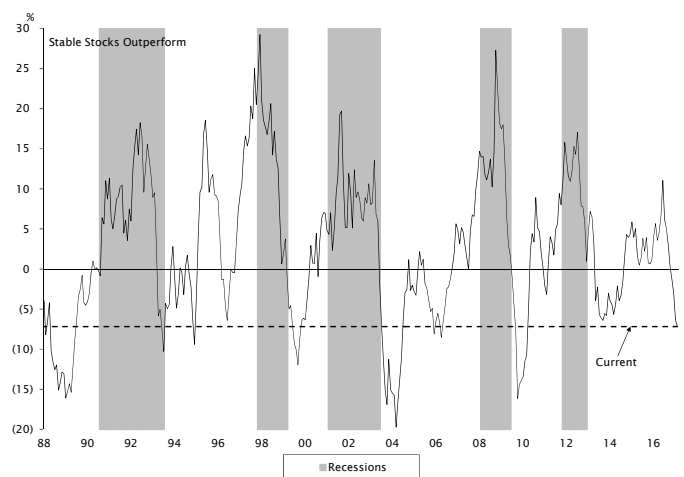
**Exhibit 24: Developed Markets (ex-U.S.)
Top Quintile of Valuation
Share Drawn from Cyclical Sectors'
a Ratio to their Benchmark Weight
1987 Through January 2017**



Source: Empirical Research Partners Analysis.

¹ Equally-weighted data. Cyclicals include financials, consumer cyclicals, capital equipment, energy, industrial commodities, technology and transports.

**Exhibit 25: Developed Markets (ex-U.S.): Large-Cap Stable Stocks
Relative Year-Over-Year Returns'
Monthly Data Compounded
1988 Through Early-February 2017**

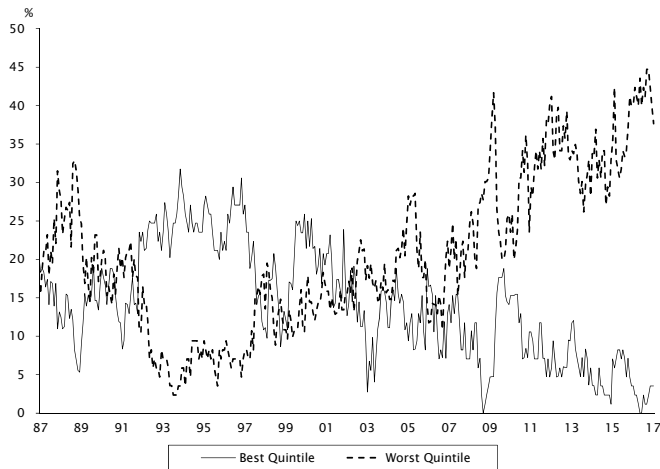


Source: Empirical Research Partners Analysis.

¹ Equally-weighted USD-hedged returns relative to the standard universe.

Despite their recent underperformance the stable strategy remains stretched too (see Exhibit 25 overleaf). Exhibit 26 shows that the cohort of stable stocks is still largely overrepresented in the worst quintile of our valuation metric, while very few of them are cheap. In fact we find only two Canadian stocks that are part of our stable list and that are also in the top quintile of our valuation framework: CIBC and Magna International. This is troublesome for the strategy as the performance of stable stocks depends highly on their valuation. A significant outperformance is to be expected only if those stable stocks score in the top-two quintiles of valuation (see Exhibit 27). Because the cohort is overrepresented among expensive stocks we expect the relative performance of this strategy to be close to zero over the next year.

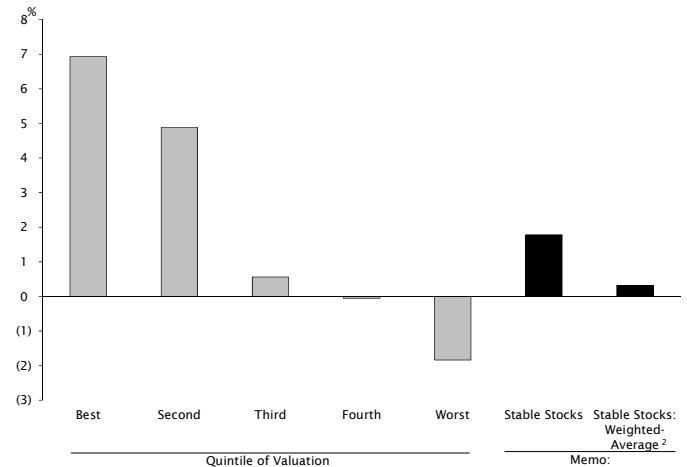
Exhibit 26: Developed Markets (ex-U.S.): Large-Cap Stable Stocks Share in the Best and Worst Quintiles of Valuation¹ 1987 Through January 2017



Source: Empirical Research Partners Analysis.

¹ Equally-weighted data. Stocks ranked across the large-cap universe.

Exhibit 27: Developed Markets (ex-U.S.): Large-Cap Stable Stocks Relative Returns by Quintile of Valuation¹ Measured Over One-Year Holding Periods 1987 Through Early-February 2017



Source: Empirical Research Partners Analysis.

¹ Equally-weighted USD-hedged returns. Stocks are ranked across and returns relative to the large-cap universe.
² Weighted-average of all stable stocks based on their current proportion by quintile of valuation.

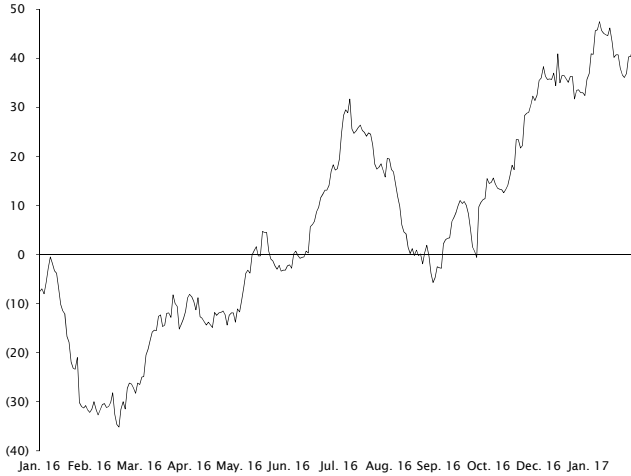
The improvement in the market's sentiment is validated by hard data. Economic data have been genuinely better than expected with the economic surprise index in major economies improving steadily throughout last year and reaching a top-decile level lately (see Exhibit 28). Earnings revisions have followed a very similar upward pattern; on average earnings revisions were down by (1) percentage point last year as analysts were forced to correct their optimistic bias, but the mark was much lower at the beginning of last year and earning revisions have turned positive lately (see Exhibit 29). Fundamentals do support the change in market sentiment.

In short, the recent behavior of stable stocks is consistent with the market pricing out recessionary fears but the correction hasn't been large enough to make them interesting for investors yet.

A final strategy worth highlighting is the cohort of bond and anti-bond proxies. We've highlighted in the past that their pricing was provocative. This is definitely less the case now but anti-bond proxies still have a +1.2% relative trailing earnings yield premium to the market, lower than the +2.6% premium in June of last year, but still comfortably higher than the long-term average of a mere +6 basis point (see Exhibit 30). It's in the bottom quintile of the historic range, showing that those anti-bond proxies remain unusually cheap despite the correction (see Exhibit 31). By contrast, bond-proxies still have higher than usual relative valuations but not to an extent that's abnormal.

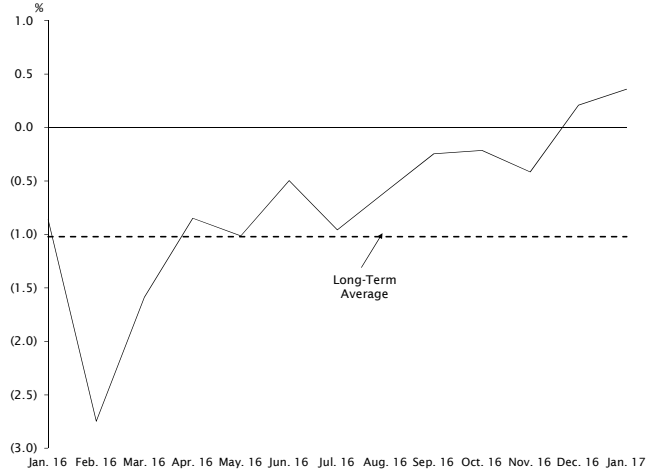
In conclusion we think the leadership of the market is unlikely to change, the excessively cautious sentiment of last summer hasn't yet been fully corrected. We find that cyclicals are still cheap, so are anti-bond proxies, meanwhile stable stocks haven't underperformed enough to become appealing. With value still poised to outperform this points to a relative performance of these strategies to be a continuation of the past seven months.

**Exhibit 28: G10 Economies
Economic Surprise Index
2016 Through Early-February 2017**



Source: Bloomberg L.P., Citigroup Global Markets.

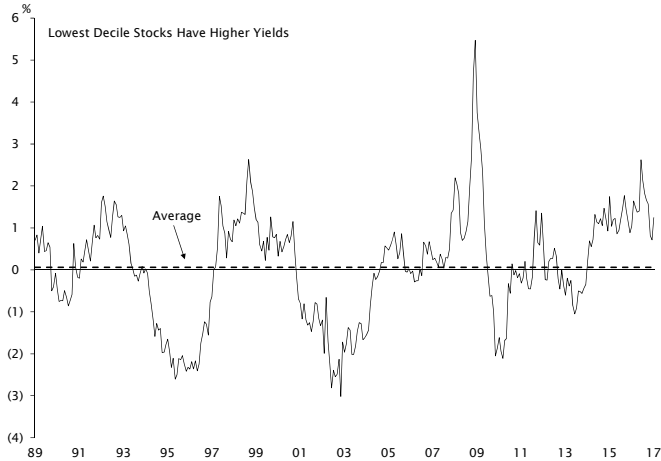
**Exhibit 29: Developed Markets (ex-U.S.)
Smoothed Earnings Revisions¹
2016 Through January 2017**



Source: Empirical Research Partners Analysis.

¹ Equally-Weighted data.

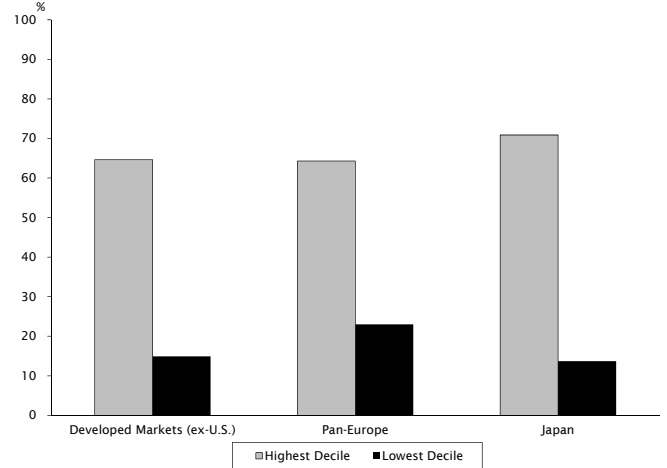
**Exhibit 30: Developed Markets (ex-U.S.)
Relative Trailing Earnings Yields of the Lowest Decile of
Correlation of Relative Returns with Ten-Year Treasury Bonds¹
1989 Through January 2017**



Source: Empirical Research Partners Analysis.

¹ Equally-weighted data. Correlations are computed over trailing 24-month windows.

**Exhibit 31: Developed Markets
Highest and Lowest Deciles of Relative Return
Correlation with Ten-Year Treasury Bonds
Relative Trailing Earnings Yields by Region¹
Current Readings Compared to Long-Term History
(Percentile 100 = Lowest Yields)
1987 Through January 2017**



Source: Empirical Research Partners Analysis.

¹ Equally-weighted data and USD-hedged returns. Correlations computed over trailing 24-month windows.

Appendix 1: Continental Europe: Large and Mid-Capitalization Stocks
 Top Quintile of Global Core Model
 Sorted by Free Cash Flow Yield and Margin
 As of Early-February 2017

Symbol	Company	Price (Local)	Local Currency Code	Free Cash Flow Yield	Free Cash Flow Margin	Quintiles (1=Best; 5=Worst)					Forward P/E Ratio	YTD Return (Local)	Market Capitalization (USD Million)		
						Valuation	Capital Deployment	Earnings Quality and Trend	Market Reaction	Core Model					
Top Two Quintiles of Free Cash Flow Yield and Margin															
LUN DC	H. Lundbeck A/S	305.00	DKK	1	1	3	2	1	1	1	22.1	x	6.2	%	\$8,796
VER AV	VERBUND AG Class A	14.88	EUR	1	1	3	1	1	1	1	16.4		(2.0)		5,578
VPK NA	Royal Vopak NV	39.93	EUR	1	1	2	1	1	5	1	14.4		(11.0)		5,522
MS IM	Mediaset S.p.A.	3.86	EUR	1	1	1	1	1	5	1	NM		(6.0)		4,867
SUBC NO	Subsea 7 S.A.	116.90	NOK	1	1	1	1	1	1	1	9.6		7.0		4,755
LNZ AV	Lenzing AG	135.95	EUR	1	1	4	1	1	1	1	16.8		18.2		3,983
SAZ GY	STADA Arzneimittel AG	48.04	EUR	1	1	1	3	1	2	1	16.5		(2.3)		3,225
ACE IM	Acea S.p.A.	11.61	EUR	1	1	1	1	2	3	1	11.6		0.5		2,648
ICOV GY	Covestro AG	69.26	EUR	1	2	3	2	1	1	1	17.8		6.3		15,070
UPM1V FH	UPM-Kymmene Oyj	22.02	EUR	1	2	2	2	1	2	1	13.6		(5.7)		13,422
EDP PL	EDP-Energias de Portugal SA	2.66	EUR	1	2	1	2	2	3	1	10.4		(8.1)		10,376
NESTE FH	Neste Corporation	32.96	EUR	1	2	2	1	1	3	1	13.3		(9.7)		8,981
SAABB SS	Saab AB Class B	359.80	SEK	1	2	4	1	1	1	1	22.1		5.7		4,442
A2A IM	A2A S.p.A.	1.25	EUR	1	2	1	1	3	4	1	11.3		1.2		4,250
HER IM	Hera S.p.A.	2.14	EUR	1	2	1	1	3	3	1	15.8		(2.3)		3,462
FCC SM	Fomento de Construcciones y Contratas S.A.	7.90	EUR	1	2	1	2	1	4	1	22.9		4.6		3,203
KDB GR	Kabel Deutschland Holding AG	111.95	EUR	2	1	5	3	1	2	1	NM		2.7		10,643
DLG GY	Dialog Semiconductor plc	44.48	EUR	2	1	3	1	2	1	1	19.1		10.7		3,785
GN DC	GN Store Nord A/S	157.60	DKK	2	1	3	1	1	2	1	18.2		7.7		3,594
HEN3 GY	Henkel AG & Co. KGaA Pref	111.65	EUR	2	2	4	1	1	3	1	16.7		(1.4)		47,681
SAND SS	Sandvik AB	119.70	SEK	2	2	4	4	2	1	1	18.9		6.2		16,886
HAV FP	Havas SA	8.27	EUR	2	2	3	1	3	2	1	18.0		3.4		3,728
DOKA SW	dormakaba Holding AG	781.50	CHF	2	2	4	1	1	1	1	25.4		3.2		3,350
DFDS DC	DFDS A/S	329.50	DKK	2	2	2	3	1	2	1	12.3		2.1		2,875
NVG PL	Navigator Company SA	3.41	EUR	2	2	2	3	1	1	1	12.7		4.5		2,678
The Rest (ex-Financials)															
ENEL IM	Enel SpA	3.84	EUR	1	3	1	1	2	4	1	12.0	x	(6.3)	%	\$41,951
REP SM	Repsol SA	13.86	EUR	1	3	1	1	2	1	1	10.1		3.2		22,275
UG FP	Peugeot SA	17.21	EUR	1	3	1	1	4	2	1	7.6		11.1		16,176
FGR FP	Eiffage SA	67.50	EUR	1	3	1	4	2	4	1	14.3		1.9		7,143
SPM IM	Saipem S.p.A.	0.46	EUR	1	3	1	1	2	1	1	23.0		(13.9)		5,007
LIGHT NA	Philips Lighting NV	23.76	EUR	1	3	1	1	3	2	1	10.0		1.5		3,857
VALMT FH	Valmet Corp	14.38	EUR	1	3	2	1	1	2	1	15.8		2.9		2,307
TCH FP	Technicolor SA	3.99	EUR	1	3	1	2	4	5	1	13.3		(22.5)		1,761
ENGI FP	ENGIE SA	10.99	EUR	1	4	1	1	5	5	1	11.0		(9.3)		28,277
FCA IM	Fiat Chrysler Automobiles N.V.	9.97	EUR	1	4	1	1	3	1	1	5.3		15.1		16,462
EOAN GY	E.ON SE	6.90	EUR	1	4	1	1	2	5	1	16.1		3.0		14,726
ACS SM	Actividades de Construcción y Servicios SA	28.58	EUR	1	4	1	1	3	4	1	12.5		(3.6)		9,689
HOT GY	Hochtief AG	133.00	EUR	1	4	2	1	2	1	1	23.1		(0.0)		9,311
VIE FP	Veolia Environnement SA	15.57	EUR	1	4	1	1	5	5	1	13.7		(3.8)		9,262
LHA GY	Deutsche Lufthansa AG	12.11	EUR	1	4	1	1	2	4	1	4.7		(1.3)		6,199
STR AV	STRABAG SE	34.90	EUR	1	4	1	1	3	1	1	14.5		3.7		4,158
CBI US	Chicago Bridge & Iron Co. NV	32.90	USD	1	4	1	1	3	5	1	7.2		3.6		3,268
LOG SM	Compañía de Distribución Integral Logista Holdings S.A.	21.70	EUR	1	4	2	1	4	1	1	16.2		(1.4)		3,129
UN01 GY	Uniper SE	12.72	EUR	1	5	1	1	5	4	1	6.8		(3.0)		4,971
AKE FP	Arkema SA	92.25	EUR	2	3	3	2	2	1	1	14.8		(0.7)		7,608
LXS GY	LANXESS AG	65.50	EUR	2	3	3	1	2	1	1	26.5		5.1		6,440
RAND NA	Randstad Holding NV	54.00	EUR	2	4	1	1	4	2	1	13.3		4.8		10,767
RE FP	Colas SA	148.50	EUR	2	4	1	2	2	1	1	NM		5.4		5,243
MMB FP	Lagardere SCA	23.32	EUR	2	4	1	3	4	4	1	13.1		(11.6)		3,320
DUE GY	Durr AG	79.90	EUR	2	4	2	1	2	2	1	14.7		4.6		3,016
IPN FP	Ipsen SA	74.74	EUR	3	1	4	4	1	1	1	21.6		8.8		6,891
TEMN SW	Temenos Group AG	74.20	CHF	3	1	4	1	1	1	1	32.0		4.7		5,245
LOGN SW	Logitech International S.A.	28.55	CHF	3	2	4	3	2	1	1	21.4		12.4		4,979
SFSN SW	SFS Group AG	88.55	CHF	3	2	4	2	2	1	1	20.7		6.6		3,389
OMV AV	OMV AG	33.50	EUR	3	4	1	1	2	1	1	12.5		(0.2)		12,099
ALPH SW	Alpiq Holding Ltd	83.65	CHF	3	5	1	1	5	2	1	23.0		(1.0)		2,363
ATLN VX	Actelion Ltd.	258.00	CHF	4	1	5	1	1	1	1	33.0		17.0		28,170
ORNBV FH	Orion Oyj Class B	43.92	EUR	4	1	4	1	1	1	1	27.1		3.9		6,633
KBHL DC	København Lufthavn A/S	5,900.00	DKK	4	1	5	5	1	1	1	NM		(4.8)		6,613
KER FP	Kering SA	221.80	EUR	4	3	4	2	3	1	1	19.2		4.7		30,279
STM FP	STMicroelectronics NV	13.19	EUR	4	3	5	2	3	1	1	22.3		22.4		13,350
SFER IM	Salvatore Ferragamo S.p.A.	26.11	EUR	4	3	5	1	4	1	1	22.9		16.4		5,047
Financials															
SAN SM	Banco Santander S.A.	5.22	EUR	na	na	1	5	3	1	1	11.2	x	6.2	%	\$82,689
BNP FP	BNP Paribas SA Class A	60.01	EUR	na	na	1	1	3	1	1	9.8		(0.9)		82,339
CS FP	AXA SA	22.73	EUR	na	na	1	3	4	4	1	9.4		(5.3)		60,336
INGA NA	ING Groep NV	13.64	EUR	na	na	1	3	3	1	1	11.3		2.0		57,826
NDA SS	Nordea Bank AB	106.80	SEK	na	na	2	3	1	1	1	13.3		5.4		48,930
ISP IM	Intesa Sanpaolo S.p.A.	2.18	EUR	na	na	1	1	5	4	1	10.4		(10.0)		39,810
GLE FP	Societe Generale S.A. Class A	44.76	EUR	na	na	1	1	2	1	1	9.8		(4.3)		39,485
ACA FP	Credit Agricole SA	11.97	EUR	na	na	1	1	3	1	1	11.2		1.6		36,783
DANSKE DC	Danske Bank A/S	234.50	DKK	na	na	2	1	1	1	1	12.3		9.5		33,489
INVEB SS	Investor AB Class B	353.20	SEK	na	na	2	3	1	2	1	22.8		3.7		30,604
SHBA SS	Svenska Handelsbanken AB Class A	135.10	SEK	na	na	3	3	1	1	1	16.8		6.7		30,171
SWEDA SS	Swedbank AB Class A	226.30	SEK	na	na	2	2	1	1	1	14.1		2.7		29,453
DNB NO	DNB ASA	140.20	NOK	na	na	1	2	2	2	1	12.8		9.2		28,101
KBC BB	KBC Groupe SA	60.12	EUR	na	na	2	4	1	1	1	12.2		2.2		27,365
SEBA SS	Skandinaviska Enskilda Banken AB Class A	102.40	SEK	na	na	2	3	3	1	1	13.9		7.2		26,130
KN FP	NATIXIS	5.51	EUR	na	na	1	2	3	1	1	13.0		2.8		18,879
EBS AV	Erste Group Bank AG	28.50	EUR	na	na	2	1	4	2	1	10.5		2.4		13,532
CNP FP	CNP Assurances SA	17.58	EUR	na	na	1	4	4	2	1	10.4		(0.1)		13,259
AGN NA	AEGON N.V.	5.10	EUR	na	na	1	3	3	3	1	8.3		(2.5)		11,724
NN NA	NN Group N.V.	31.66	EUR	na	na	1	1	5	2	1	10.0		(1.7)		11,342
MAP SM	Mapfre SA	2.88	EUR	na	na	1	4	2	1	1	11.0		(0.7)		9,730
AMUN FP	Amundi SA	51.75	EUR	na	na	2	1	3	1	1	14.9		4.1		9,563
TLX GY	Talanx AG	31.99	EUR	na	na	1	4	3	2	1	10.1		0.7		8,791
CC FP	Credit Industriel et Commercial SA	176.00	EUR	na	na	1	3	2	3	1	NM		1.3		7,243
TRYG DC	Tryg A/S	133.50	DKK	na	na	4	1	1	4	1	16.3		4.5		5,485
JYSK DC	Jyske Bank A/S	364.00	DKK	na	na	2	1	3	2	1	12.4		8.1		5,079
ELE FP	Euler Hermes Group S.A.	83.93	EUR	na	na	2	1	1	3	1	11.4		0.5		3,850
VONN SW</															

**Appendix 2: Developed Markets (ex-U.S.): Large and Mid-Capitalization Stocks
Intersection of the Top Quintiles of Valuation and Nine-Month Price Momentum
Sorted by Sector, Core Model Rank and Market Capitalization in USD
As of Early-February 2017**

Symbol	Company	Price (Local)	Local Currency Code	Nine-Month Price Trend	Quintiles (1=Best; 5=Worst)					Forward P/E- Ratio	YTD Return (Local)	Market Capitalization (USD Million)
					Valuation	Super Factors			Core Model			
						Capital Deployment	Earnings Quality and Trend	Market Reaction				
Consumer Cyclicals:												
Retail and Other Consumer Cyclicals												
8233 JP	Takashimaya Company Limited	959.00	JPY	1	1	1	4	1	1	14.7 x	(0.5) %	\$3,038
Media												
4676 JP	Fuji Media Holdings Inc.	1,503.00	JPY	1	1	2	4	1	1	15.5 x	(8.1) %	\$3,171
Capital Equipment												
8058 JP	Mitsubishi Corporation	2,535.00	JPY	1	1	1	3	1	1	9.7 x	1.8 %	\$36,207
8053 JP	Sumitomo Corporation	1,423.50	JPY	1	1	1	3	1	1	10.4	3.5	15,917
RE FP	Colas SA	148.50	EUR	1	1	2	2	1	1	NM	5.4	5,243
STR AV	STRABAG SE	34.90	EUR	1	1	1	3	1	1	14.5	3.7	4,158
2768 JP	Sojitz Corp.	290.00	JPY	1	1	1	5	1	1	8.1	2.1	3,230
7011 JP	Mitsubishi Heavy Industries Ltd.	473.00	JPY	1	1	5	5	3	3	13.2	(11.2)	14,205
Commercial Services and Supplies												
DOW AT	Downer EDI Limited	6.73	AUD	1	1	1	5	1	1	16.6 x	10.5 %	\$2,201
Industrial Commodities												
FMG AT	Fortescue Metals Group Ltd	6.45	AUD	1	1	1	1	1	1	7.7 x	9.5 %	\$15,688
4183 JP	Mitsui Chemicals Inc.	503.00	JPY	1	1	1	3	1	1	9.3	(4.2)	4,679
VED LN	Vedanta Resources plc	10.46	GBP	1	1	2	5	1	1	12.3	18.9	3,612
4004 JP	Showa Denko K.K.	1,841.00	JPY	1	1	1	3	2	1	13.7	10.0	2,465
Transports												
9104 JP	Mitsui O.S.K.LinesLtd.	345.00	JPY	1	1	1	5	3	1	31.3 x	6.5 %	\$3,622
AC CT	Air Canada	13.50	CAD	1	1	4	3	1	1	4.3	(1.2)	2,822
Technology:												
Technology Software and Services												
6702 JP	Fujitsu Limited	683.80	JPY	1	1	2	3	1	1	12.6 x	5.3 %	\$13,138
Technology Hardware and Semiconductors												
148 HK	Kingboard Chemical Holdings Limited	28.00	HKD	1	1	2	1	3	1	6.0 x	19.1 %	\$3,902
Health Care:												
Pharmaceuticals and Biotechnology												
SAZ GY	STADA Arzneimittel AG	48.04	EUR	1	1	4	1	1	1	16.5 x	(2.3) %	\$3,225
INDV LN	Indivior PLC	3.26	GBP	1	1	1	1	2	1	12.3	10.0	3,001
Health Care - Equipment and Services												
CLS1 GY	Celesio AG	25.73	EUR	1	1	4	4	2	2	13.6 x	0.1 %	\$5,629
Consumer Staples												
MRW LN	Wm Morrison Supermarkets plc	2.39	GBP	1	1	2	3	1	1	20.3 x	3.8 %	\$7,062
7451 JP	Mitsubishi Shokuhin Co. Ltd.	3,355.00	JPY	1	1	3	4	1	1	13.6	(3.5)	1,751
Financials:												
Banks, Consumer Finance and Other												
BNP FP	BNP Paribas SA Class A	60.01	EUR	1	1	1	3	1	1	9.8 x	(0.9) %	\$82,339
INGA NA	ING Groep NV	13.64	EUR	1	1	3	4	1	1	11.3	2.0	57,826
NDA SS	Nordea Bank AB	106.80	SEK	1	1	3	1	1	1	13.3	5.4	48,930
ACA FP	Credit Agricole SA	11.97	EUR	1	1	1	4	1	1	11.2	1.6	36,783
INVEB SS	Investor AB Class B	353.20	SEK	1	1	3	1	2	1	22.8	3.7	30,604
DNB NO	DNB ASA	140.20	NOK	1	1	1	2	1	1	12.8	9.2	28,101
4 HK	Wharf (Holdings) Ltd.	57.80	HKD	1	1	2	3	2	1	13.5	12.1	22,687
8308 JP	Resona Holdings Inc.	590.90	JPY	1	1	3	1	1	1	8.4	(1.4)	11,729
POLI IT	Bank Hapoalim BM	22.60	ILS	1	1	2	4	2	1	9.3	(1.4)	8,018
8354 JP	Fukuoka Financial Group Inc.	501.00	JPY	1	1	4	5	1	1	10.5	(3.5)	3,872
8418 JP	Yamaguchi Financial Group Inc.	1,249.00	JPY	1	1	3	3	2	1	10.5	(1.9)	2,986
8334 JP	Gunma Bank Ltd.	644.00	JPY	1	1	2	2	1	1	11.2	0.6	2,734
8377 JP	Hokuhoku Financial Group Inc.	1,998.00	JPY	1	1	2	3	1	1	12.4	(0.9)	2,372
8341 JP	77 Bank Ltd.	533.00	JPY	1	1	3	3	1	1	12.4	(5.5)	1,842
8524 JP	North Pacific Bank Ltd.	468.00	JPY	1	1	2	5	1	1	13.9	(2.9)	1,680
8544 JP	Keiyo Bank Ltd.	529.00	JPY	1	1	3	3	1	1	11.5	(0.2)	1,361
NAB AT	National Australia Bank Limited	30.62	AUD	1	1	4	3	2	2	12.8	(0.2)	62,727
UOB SP	United Overseas Bank Ltd. (Singapore)	20.51	SGD	1	1	4	3	2	2	10.7	0.5	23,846
LUMI IT	Bank Leumi Le-Israel Ltd.	15.40	ILS	1	1	5	4	2	2	8.5	(2.9)	6,265
8359 JP	Hachijuni Bank Ltd.	689.00	JPY	1	1	5	5	1	2	16.2	1.6	3,186
Capital Markets												
III LN	3i Group plc	6.94	GBP	1	1	3	1	1	1	7.7 x	(1.4) %	\$8,499
CBG LN	Close Brothers Group plc	14.48	GBP	1	1	2	3	1	1	11.5	0.2	2,702
Insurance												
CNP FP	CNP Assurances SA	17.58	EUR	1	1	3	4	1	1	10.4 x	(0.1) %	\$13,259
MAP SM	Mapfre SA	2.88	EUR	1	1	4	2	1	1	11.0	(0.7)	9,730
UQA AV	UNIQA Insurance Group AG	7.72	EUR	1	1	3	5	3	2	12.3	7.2	2,631
Energy:												
Integrates, Oil Service, Refiners and Other												
REP SM	Repsol SA	13.86	EUR	1	1	1	2	2	1	10.1 x	3.2 %	\$22,275
SUBC NO	Subsea 7 S.A.	116.90	NOK	1	1	1	1	1	1	9.6	7.0	4,755

Source: Empirical Research Partners Analysis.