

Global Portfolio Strategy April 2017

Dollar Moves and Their Implications for International Equities

Regime Change in Japan: Back to Neutral

Dollar Moves: Many Moving Pieces

- Since mid-2014 the trade-weighted Dollar has appreciated by +23%, a move that's left its *inflation-adjusted* level in the 90th percentile of the distribution since 1973, just (14)% below the peak seen in 1985. By comparison the Euro, Yen and Pound stand in the 40th, 29th and 3rd percentiles of their historic distributions. The impact from Dollar moves on international equities is complex and unstable in character.
- Moves in exchange rates can impact profitability through translation effects that are affected by the currencies used for invoicing. Japanese exporters invoice 50% of their shipments in dollars, while the equivalent number for Euro-Area companies is about a third. 60% of the Euro-Area companies' shipments are invoiced in their own currency. That explains why passthrough rates are higher for Japanese exporters, as moves in the Dollar are almost fully reflected in their top line. Translation effects aren't as weighty for Euro-Area exporters.
- Complicating the matter, the determinants of Dollar moves are time-varying. Dollar strength can result from mounting fears, or conversely, faster U.S. growth vis-à-vis the rest of the world. Dollar strength would also result from the implementation of a destination-based tax in the U.S., putting Japanese exporters most at risk. The U.S. is the destination for a fifth of their shipments, while it's the end market for just 7% of the output of their Euro-Area counterparts. Moreover, a tax on imports would hurt the U.S. operations of German and Japanese auto makers that have trade deficits of (19)% and (11)% respectively, while subsidiaries of machinery, computer and electronics makers show modest surpluses.
- We ranked the international issues based on the correlation of their relative returns with Dollar moves and among the top-decile names the financials are a standout, making up 34% of the cohort. A big part of that is comprised by European financials and within that region they make up 50% of the most-correlated names. That's consistent with our view of European banks being the biggest beneficiaries from President Trump's policies because of the inflationary implications they pack and their flow-through to the Dollar. Appendix 1 on page xx provides the list of international large-cap issues in the top-decile of correlation of relative returns with the moves in the Greenback, with European financials a standout.

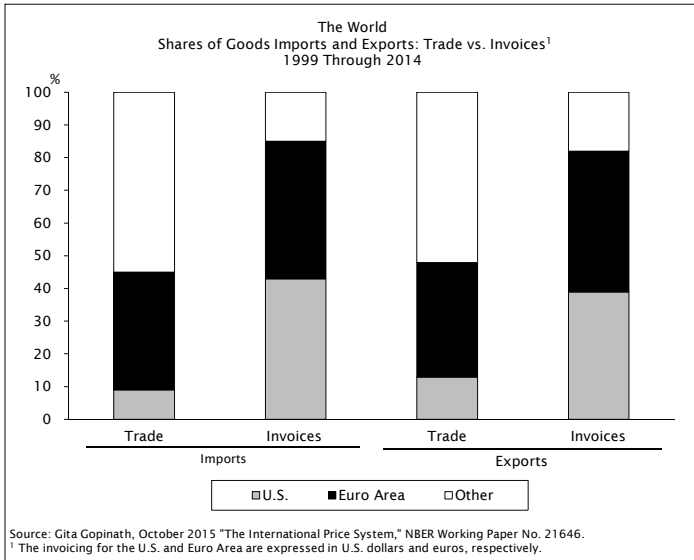
Regime Change in Japan: Back to Neutral

- At the end of March our regime indicator in Japan shifted from a value-tilted stance to a neutral one. Among our regime indicators the one in Japan had been the only that remained in a value-oriented position. Since it moved to a value-tilted position, value has outperformed by about +17 percentage points, but the outperformance has weakened in the last few months. A value strategy could continue to be useful because, historically, when the regime indicator switched to a neutral stance, value generated on average a +5 percentage point outperformance in the following year across the non-U.S. developed world.
- Last July we favored industrial cyclicals (i.e., industrial commodities and capital goods) as their relative free cash flow yields were in the top-decile of history. They've since revalued as worries regarding Chinese growth have waned and the Yen has weakened. Our conviction on these stocks is now lower.

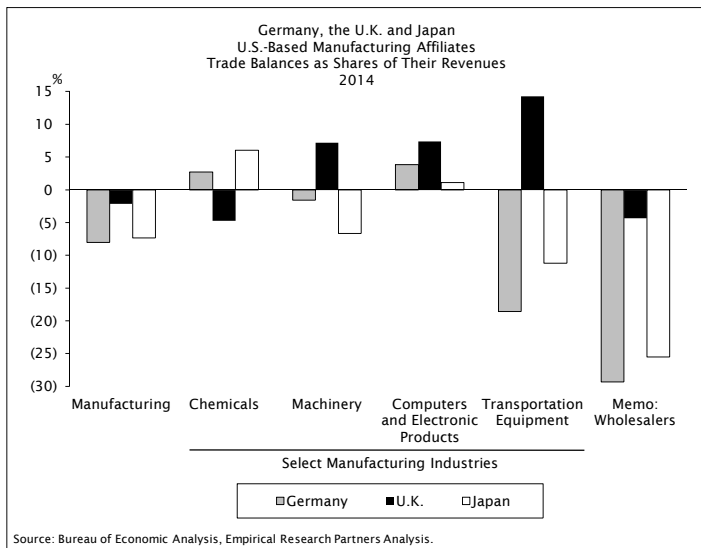
Sungsoo Yang (212) 803-7925 Nicole Price (212) 803-7935 Yi Liu (212) 803-7942 Yu Bai (212) 803-7919 Yuntao Ji (212) 803-7920 Iwona Scanzillo (212) 803-7915

Conclusions in Brief

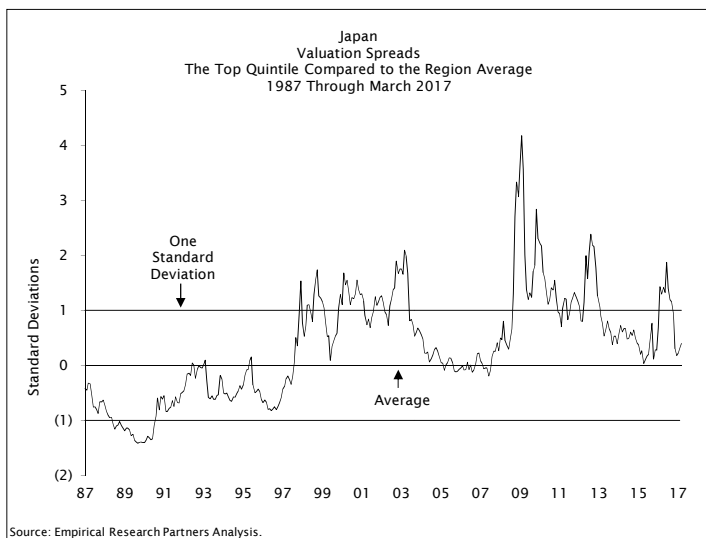
- The currency impact on companies is complex, and the invoicing currency matters:



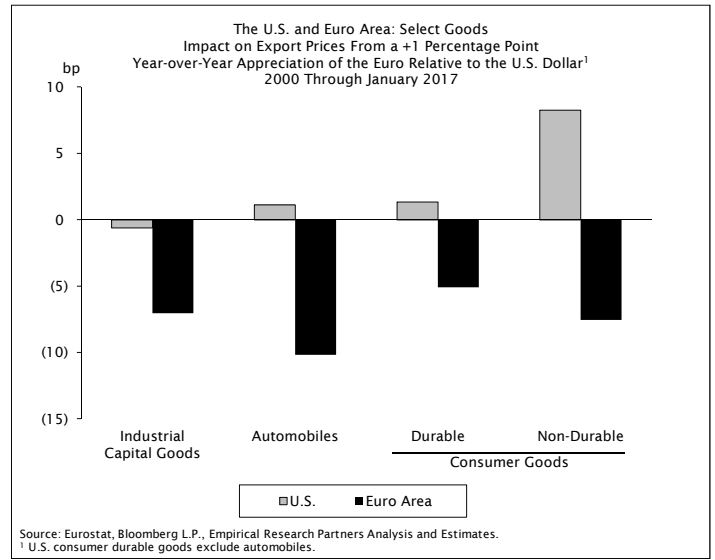
- A destination-based tax in the U.S. would hurt the operations of foreign automakers there:



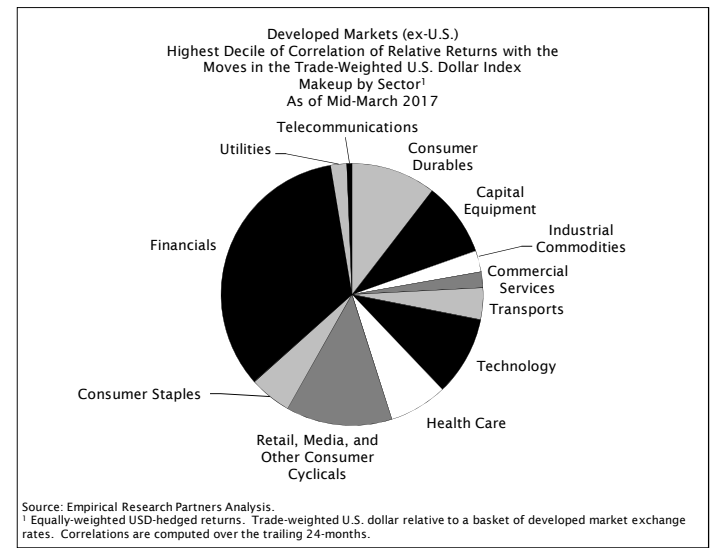
- Valuation spreads narrowed in Japan and our regime indicator has shifted to a neutral stance:



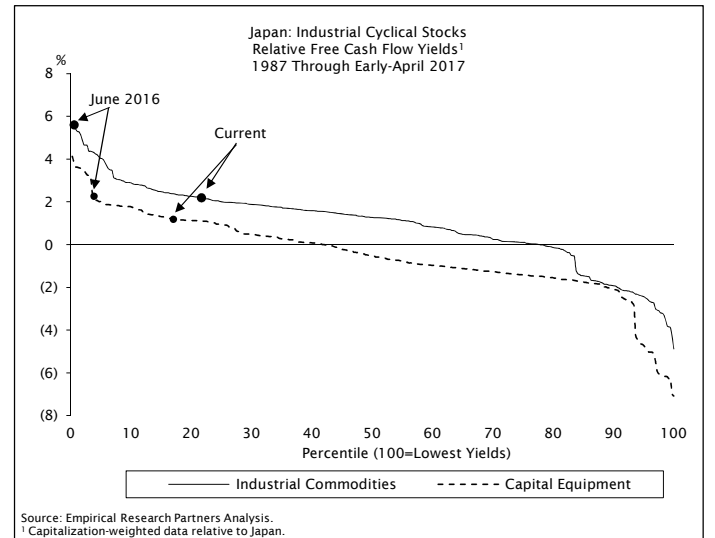
- European exporters adjust their prices to currency changes, their U.S. peers don't:



- The group of stocks with relative returns correlated to Dollar moves is skewed towards financials:



- The value case for Japanese industrial cyclicals has weakened somewhat:



Dollar Moves and Their Implications for International Equities

The Currency of Invoice Matters

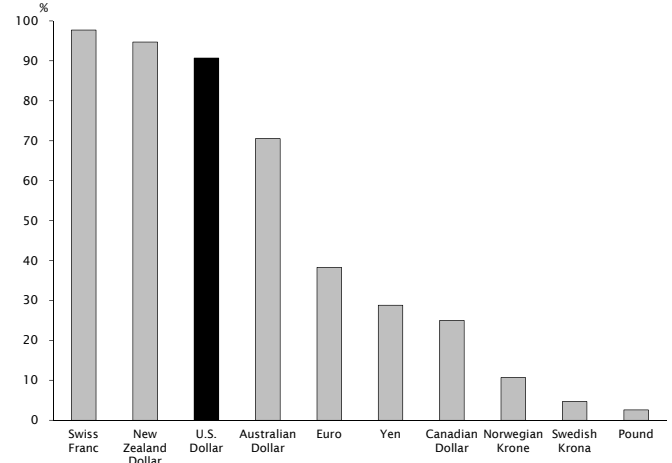
Since the Financial Crisis currency movements within the developed world have been large, resulting in noticeable shifts in competitiveness. The nominal trade-weighted U.S. Dollar is a good example of that, steadily appreciating by +33% since it bottomed in early-2011 and by +23% since mid-2014 when it shot upward. It now sits close to a 15-year high (see Exhibit 1). A better proxy of a country's competitive position, though, is provided by the *real* effective exchange rate, and on that metric the U.S. Dollar is in the 90th percentile of richness since 1973, (14)% below the 1985 peak, while the Euro, Yen and Pound are at much lower readings (see Exhibit 2).

Exhibit 1: Trade-Weighted U.S. Dollar Index¹
(March 1973 = 100)
1973 Through March 2017



Source: Federal Reserve Board.

Exhibit 2: G10 Real Effective Exchange Rates¹
Current Readings Compared to Long-Term History
Percentile (1=Lowest, 100=Highest)
1973 Through March 2017



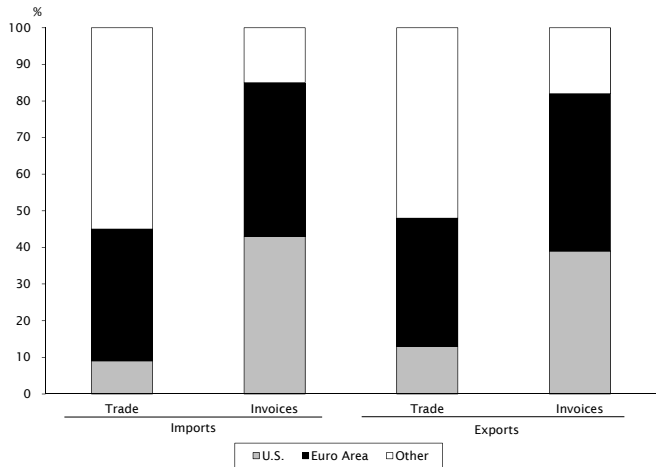
Source: Bank for International Settlements, Bloomberg L.P., Empirical Research Partners Analysis.

¹ Using a narrowly-defined set of developed market exchange rates.

¹ Using a narrowly-defined set of developed market exchange rates.

Global trade is disproportionately invoiced in dollars (see Exhibit 3), so that currency's moves could impact the bottom line of the companies through different channels. We've done some work on that, looking at the effect on export prices as well as the impact on the margins of cyclical companies.

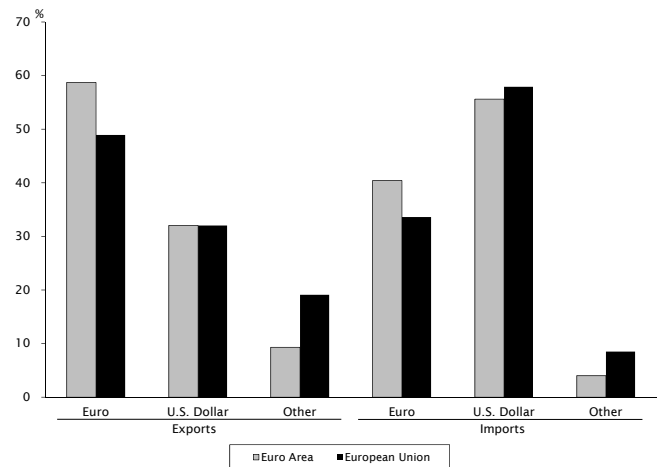
Exhibit 3: The World
Shares of Goods Imports and Exports: Trade vs. Invoices¹
1999 Through 2014



Source: Gita Gopinath, October 2015 "The International Price System," NBER Working Paper No. 21646.

¹ The invoicing for the U.S. and Euro Area are expressed in U.S. dollars and euros, respectively.

Exhibit 4: European Union
Share of Exports and Imports by Invoice Currency
2014

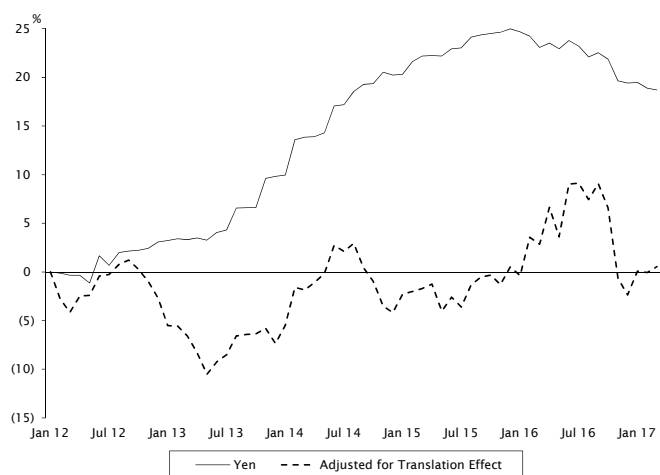


Source: Eurostat, Empirical Research Partners Analysis.

The most obvious and direct impact of currency moves are translation effects, but the larger consequences depend on a number of other factors. One important dimension, often forgotten, is the currency invoicing composition in international trade. Japanese exporters invoice only a small proportion in Yen, and about 50% in dollars. European exporters stand midway, with about half of their trade invoiced in euros, owing to the fact that a large part of their activity is with other parts of the European continent, leaving about a third of the total to be denominated in dollars (see Exhibit 4 overleaf).

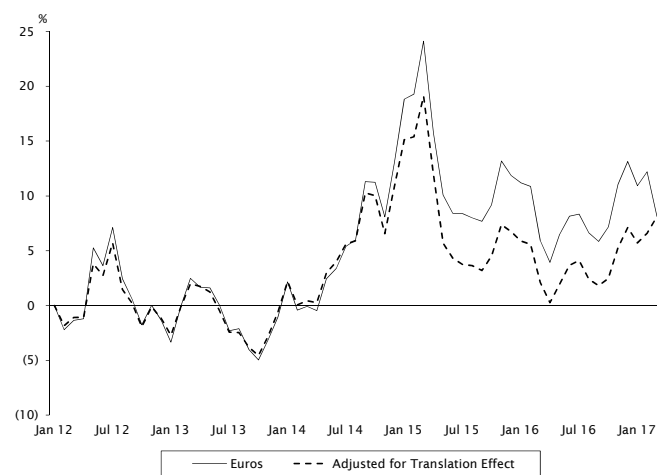
Those compositional differences explain why the passthrough in export prices has been quite different in Japan and Europe. Japan is a price taker, exporting essentially in dollars, so a move in the latter is almost fully reflected in the exporters' top line, at least in the short-run (see Exhibit 5). That behavior is reflected in the macroeconomic data, and the ECB recently noted that the reaction of Japanese exports to the Yen's depreciation during Abenomics had been modest, consistent with Japan's invoicing practices.¹ That could explain why the correlation between the Yen's moves and those of Japanese stocks has been close to 95% over that period. We've been repeatedly asked at what point will Japanese stocks stop following the Yen moves, given the circumstances we doubt that'll happen any time soon. By comparison the translation effects are more limited in Europe as 60% of their exports are invoiced in euros (see Exhibit 6).

Exhibit 5: Japan Revenue Growth in Yen and Adjusted for Translation Effect¹ (Jan. 2012 = 0) 2012 Through March 2017



Source: Empirical Research Partners Analysis.

Exhibit 6: Continental Europe Revenue Growth in Euros and Adjusted for Translation Effect¹ (Jan. 2012 = 0) 2012 Through March 2017



Source: Empirical Research Partners Analysis.

¹ Trailing twelve-month data excluding financials and utilities.

¹ Trailing twelve-month data excluding financials and utilities.

The Passthrough From Euro-Dollar Moves on European and U.S. Export Prices

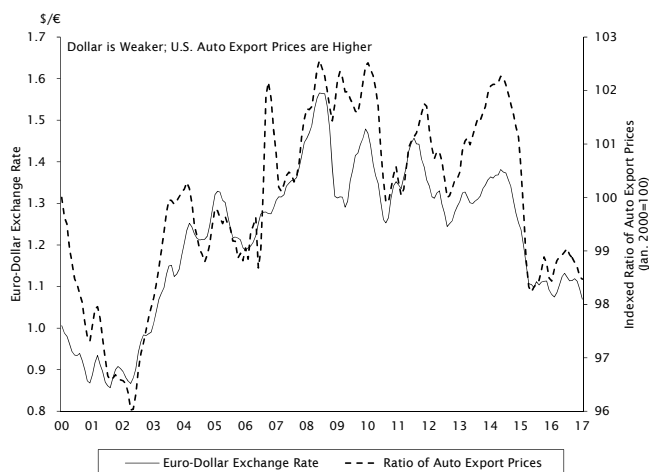
We find that moves in the exchange rate aren't fully passed through to prices of exported goods, a conclusion that's consistent with the academic literature. The auto sector provides a good case study as shown in Exhibit 7. A depreciation of the Euro against the Dollar, as has been the case since May 2014, has been associated with an increase in relative export prices of European autos (priced in euros) compared to those of their U.S. counterparts (priced in dollars). This again is a function of the invoicing currency. Because European exporters invoice part of their shipments in dollars, an appreciation of the Greenback without a commensurate price-tag adjustment would result in higher export prices when translated in euros. By contrast, because almost all U.S. exports are invoiced in dollars, its moves wouldn't impact the export deflator of those country's exporters.

Importantly though, the passthrough rate from the exchange rate to export prices is much lower than 1:1, suggesting that exporters do adjust their price-tag to some extent. They use the depreciation of their local currency to lower prices in foreign currency, conversely their margins don't fully absorb the appreciation of their local currency, rather they increase their selling prices in foreign currency.

¹ ECB Economic Bulletin, Issue 3/2015, Box I pp. 15-18.

Comparing the U.S. and the Euro Area on a number of sectors, we find that a one percentage point strengthening in the Euro compared to the Dollar results in a decrease of between (5) and (10) basis points in the Euro-based prices of European exports (see Exhibit 8). With 30% of them priced in dollars this suggests that less than half of the currency moves are reflected in prices.

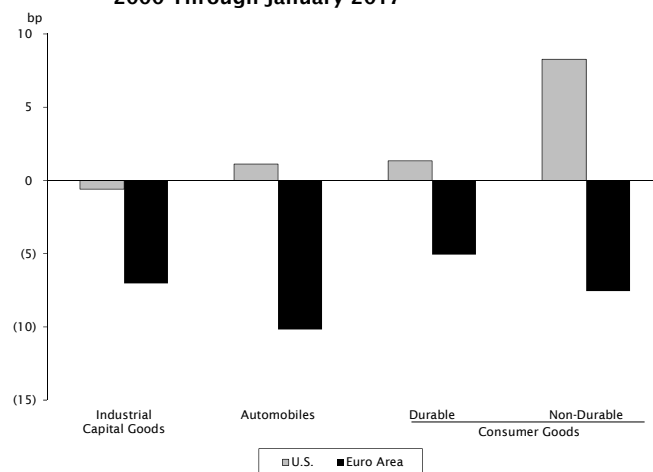
Exhibit 7: The U.S. and Euro Area Euro-Dollar Exchange Rate and the Indexed Ratio of Auto Export Prices (Jan. 2000=100)¹ 2000 Through January 2017



Source: Eurostat, Bloomberg L.P., Bureau of Labor Statistics, Empirical Research Partners Analysis.

¹ Smoothed on a trailing three-month basis.

Exhibit 8: The U.S. and Euro Area: Select Goods Impact on Export Prices From a +1 Percentage Point Year-over-Year Appreciation of the Euro Relative to the U.S. Dollar¹ 2000 Through January 2017



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

¹ U.S. consumer durable goods exclude automobiles.

The effect is *even* more muted for U.S. companies, with export prices barely budging across those categories after moves in the Dollar-Euro exchange rate, save for those of non-durable consumer goods. That's consistent with the fact that U.S. exporters invoice about 97% of their exports in dollars.²

We find, nevertheless, that U.S. companies absorb *some* of the Dollar appreciation in their margins by cutting prices for their exports. Those for U.S. autos have steadily declined by one percentage point since they peaked in 2014. The case is more extreme for exports of non-auto consumer durable goods, with prices declining by (7)% since they peaked in 2012. However, since then, domestic prices for those goods fell by (9)%, so the additional markup for exports amounted to only +2 percentage points.

One reason why passthrough rates have gone down is that companies have moved production closer to the end user. Data from the Japanese Ministry of Economy, Trade and Industry show that nominal exports of Japanese firms have grown by slightly more than 50% between 1999 and 2014, but revenues of their overseas subsidiaries have more than tripled over the same period.

Effect on Competitiveness: European and Japanese Cyclical

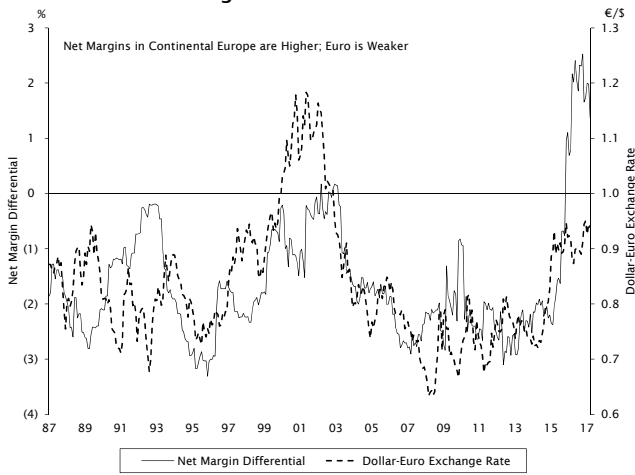
Dollar moves could have implications on the margin behavior of the companies. In Continental Europe global cyclicals are the most sensitive to a move in the exchange rate (see Exhibit 9). By contrast, in Japan, it's more the domestic ones that are affected (see Exhibit 10). We think this boils down, to a large extent, to differences in their cost structures.

The reaction of the global cyclicals' revenues is higher in Japan than in Continental Europe, consistent with the view expressed earlier that Japanese exporters are more price takers in international trade than European ones. But in terms of their cost structure, Japan is also more impacted, as nearly 70% of Japan's imports are invoiced in dollars. In short, even the cyclicals in Japan that we regard as domestic are heavily influenced by the fate of the Yen, that's another reason to believe that the Japanese stock market performance won't de-correlate from the moves in the Yen.

This analysis highlights once more the complexity of the currency impact on the companies, translation effects being only one side of it, while differences in cost structures matter too and could lead to an opposite reaction.

² Gita Gopinath, October 2015 "The International Price System," NBER Working Paper No. 21646.

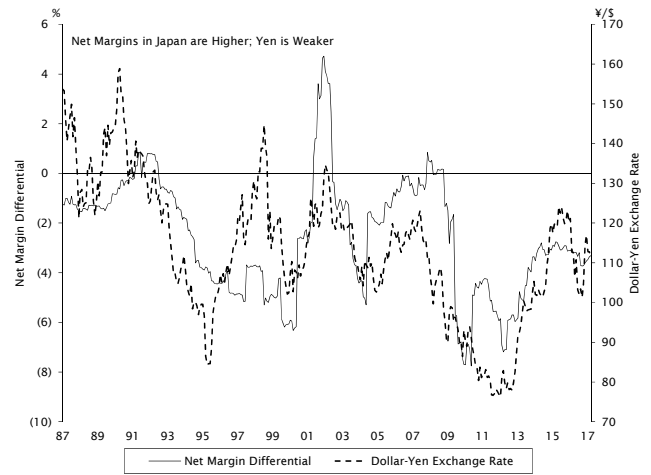
Exhibit 9: Continental Europe: Global Cyclical Stocks
Net Margin Differentials With Respect to
Their U.S. Counterparts and the
Dollar-Euro Exchange Rate¹
1987 Through March 2017



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

¹ Global cyclicals include industrial commodities, energy and capital equipment stocks.

Exhibit 10: Japan: Domestic Cyclical Stocks
Net Margin Differentials With Respect to Their
U.S. Counterparts and the Dollar-Yen Exchange Rate¹
1987 Through March 2017



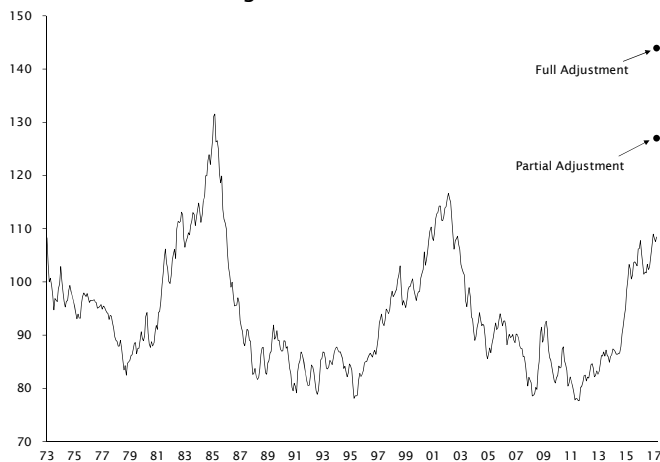
Source: Corporate Reports, Bloomberg L.P., Empirical Research Partners Analysis.

¹ Domestic cyclicals include transports, consumer durables, technology, retail and other consumer cyclicals.

The U.S. Border Tax's Implications on Japanese and European Exporters

The implementation of a destination-based tax in the U.S. will lead to an appreciation of the Dollar, although it's difficult to predict how much the adjustment will be and how long it will take (see Exhibit 11). Forecasting the impact on international equities is difficult, but we did some basic work looking at the exposure of European and Japanese companies to the U.S. market through the prism of their exports and the operations of their U.S.-based foreign affiliates, as reported by the BEA. Exhibits 12 and 13 show the regional makeup of Japanese and Euro Area exports. On that front Japanese companies are more exposed to an import tax in the U.S., as that country makes up 20% of Japan's shipments, almost the same share as that made up by China and slightly lower than that made up by the rest of developing Asia. The exposure is much smaller for Euro Area exporters, with the U.S. share close to 7%, about 1/6th the share made up by intra-Euro Area exports.

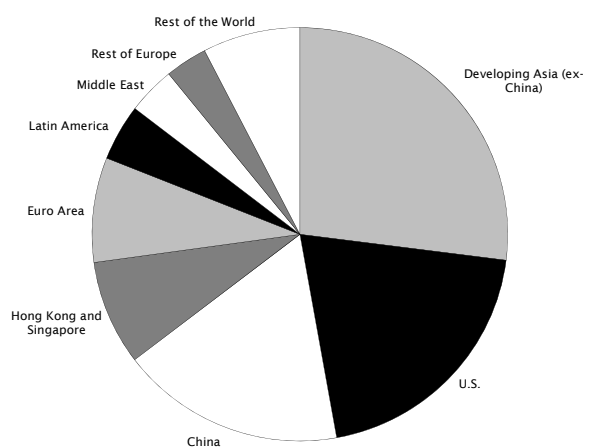
Exhibit 11: Real Trade-Weighted U.S. Dollar Index
and Its Estimated Full and Partial Adjustment
Due to Destination Tax¹
(March 1973=100)
1973 Through March 2017



Source: Jason Furman, February 2017. "Border Adjustment as Tax Policy and as Macroeconomic Policy," Peterson Institute for International Economics Conference of Border Tax Adjustment and Corporate Tax Reforms, Federal Reserve Board.

¹ Using a narrowly-defined set of developed market exchange rates.

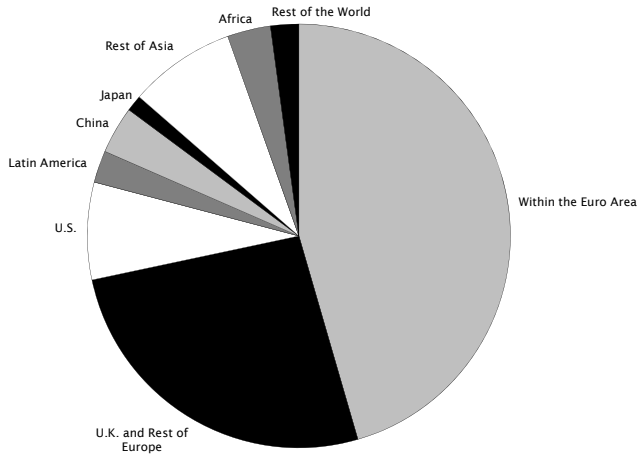
Exhibit 12: Japan
Shares of Goods Exports by Destination
2016



Source: Ministry of Finance, Empirical Research Partners Analysis.

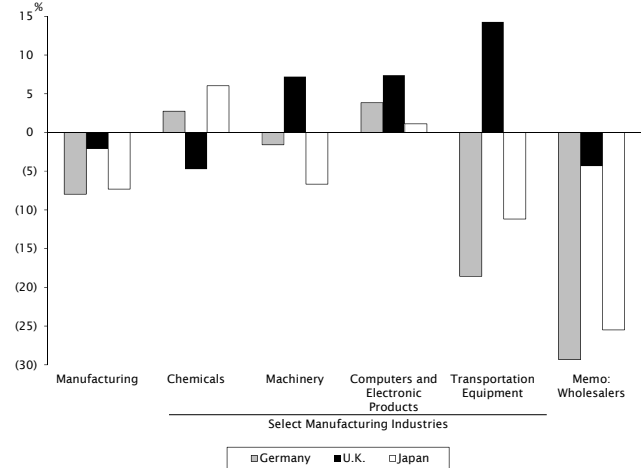
We found a similar result when comparing the revenues of the U.S.-based affiliates, with the U.S. ones making up 27% of the affiliate total in Japan, while the equivalent number for the Euro Area is 18%. Exhibit 14 shows the trade balances of German, U.K. and Japanese manufacturing affiliates operating in the U.S. Chemicals and technology hardware businesses ran modest surpluses, while German and Japanese autos ran big deficits. A border tax adjustment that penalizes imports while subsidizing exports would be detrimental to the U.S. operations of foreign auto makers.

Exhibit 13: Euro Area Shares of Goods Exports by Destination 2016



Source: Eurostat, Empirical Research Partners Analysis.

Exhibit 14: Germany, the U.K. and Japan U.S.-Based Manufacturing Affiliates Trade Balances as Shares of Their Revenues 2014

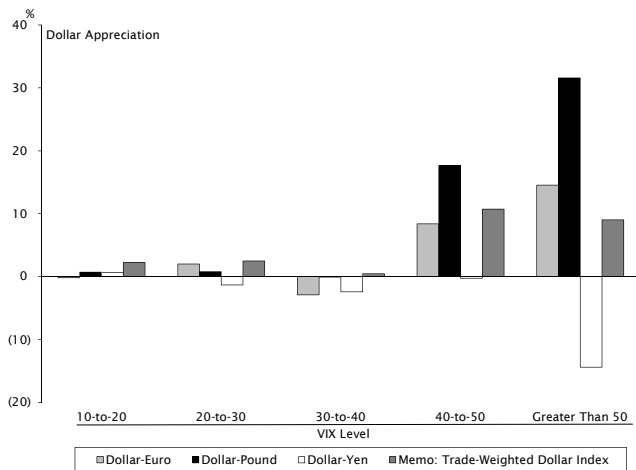


Source: Bureau of Economic Analysis, Empirical Research Partners Analysis.

Conclusion: Dollar Strength Favors European Financials

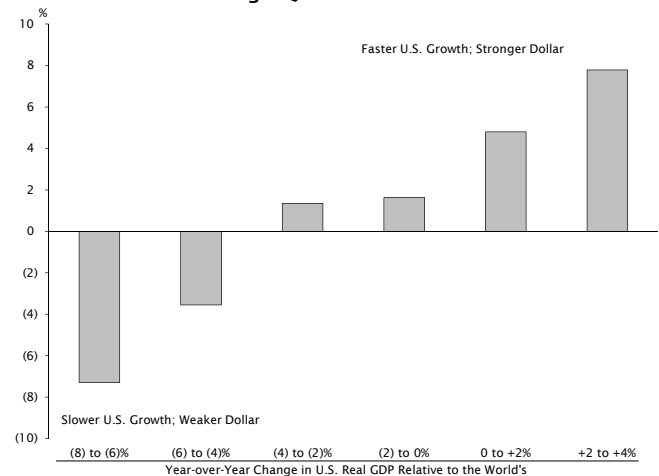
The relationship between Dollar moves and the performance of developed world equity markets is a changing one. Part of that has to do with the Dollar's time-varying characteristics, as its moves have to be considered in a much broader context. In its most basic form, Dollar appreciation can result from mounting fears or, conversely, faster U.S. growth than elsewhere (see Exhibits 15 and 16).

Exhibit 15: Select U.S. Dollar Exchange Rates Average Year-over-Year Changes Depending on the VIX Level¹ 1990 Through March 2017



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

Exhibit 16: Average Year-over-Year Change in the Trade-Weighted U.S. Dollar Index Depending on the Year-over-Year Change in U.S. Real GDP Relative to the World's 1985 Through Q2 2016¹



Source: IMF, Bureau of Economic Analysis, Empirical Research Partners Analysis.

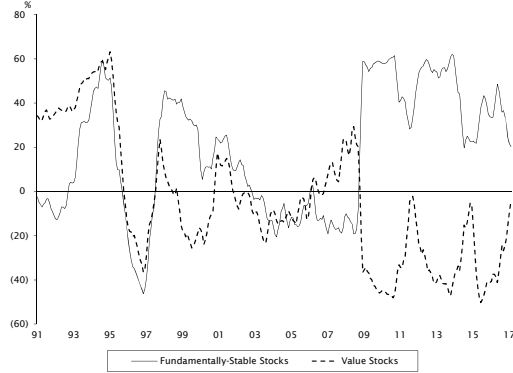
¹ Year-over-year changes computed every month.

¹ Year-over-year changes are computed each quarter. World real GDP on a quarterly basis through Q2 2016.

We believe that, currently, Dollar moves are linked to the market's expectation of the state of the economic cycle, while changes in risk premium have taken a backseat. Exhibit 17 shows what's happened, with the correlation between Dollar moves and the relative returns of fundamentally-stable stocks cut in half since the middle of last year, as shown by the solid line in the chart. The dotted line shows the equivalent result for value stocks, with their anti-correlation, the norm in the post-Crisis period, mostly faded.

In the non-U.S. developed world the financials make up a big part of what's correlated with Dollar strength (see Exhibit 18). That's particularly the case in Europe, where they make almost half of the cohort (see Exhibit 19).

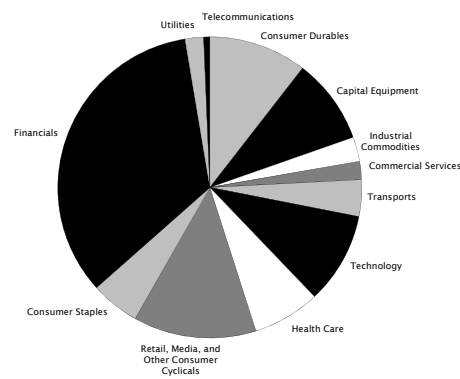
Exhibit 17: Developed Markets (ex-U.S.)
Fundamentally-Stable and Value Stocks
Correlations of Relative Returns With the Moves in the Trade-Weighted U.S. Dollar¹
1991 Through March 2017



Source: Empirical Research Partners Analysis.

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

Exhibit 18: Developed Markets (ex-U.S.)
Highest Decile of Correlation of Relative Returns with the Moves in the Trade-Weighted U.S. Dollar Index
Makeup by Sector¹
As of Mid-March 2017

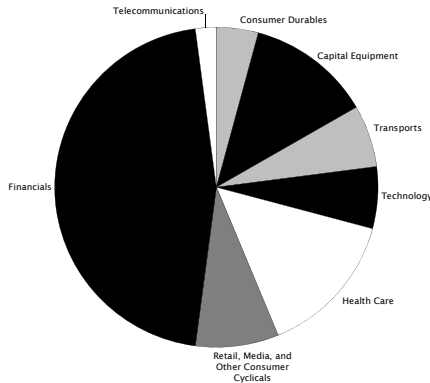


Source: Empirical Research Partners Analysis.

¹ Equally-weighted USD-hedged returns. Trade-weighted U.S. dollar relative to a basket of developed market exchange rates. Correlations are computed over the trailing 24-months.

We believe that European banks are the biggest beneficiaries of President Trump's policies, because of the inflationary implications they bear and their flow-through to the Dollar. Their relative returns are highly-levered to the moves in the U.S. yield curve (see Exhibits 20 and 21).³ In the last three months, as the U.S. President has faced difficulty enacting policy, the level of conviction has faded, and the Dollar lost nearly (4)% of its trade-weighted value. Despite that, we believe the market's view that the ECB will remain accommodative in the face of a procyclical U.S. economy is correct (see Exhibit 22). Appendix 1 on page 11 shows the list of international large-cap stocks in the highest decile of correlation of relative returns with the moves in the Dollar, with European financials a standout.

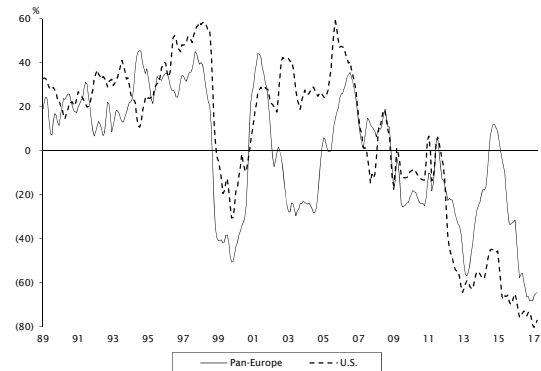
Exhibit 19: Continental Europe
Highest Decile of Correlation of Relative Returns with the Moves in the Trade-Weighted U.S. Dollar Index
Makeup by Sector¹
As of Mid-March 2017



Source: Empirical Research Partners Analysis.

¹ Equally-weighted USD-hedged returns. Trade-weighted U.S. dollar relative to a basket of developed market exchange rates. Correlations are computed over the trailing 24-months.

Exhibit 20: Pan-Europe and the U.S.: Bank Stocks
Correlations of Relative Returns with the Total Return of Ten-Year Treasury Bonds¹
1989 Through March 2017

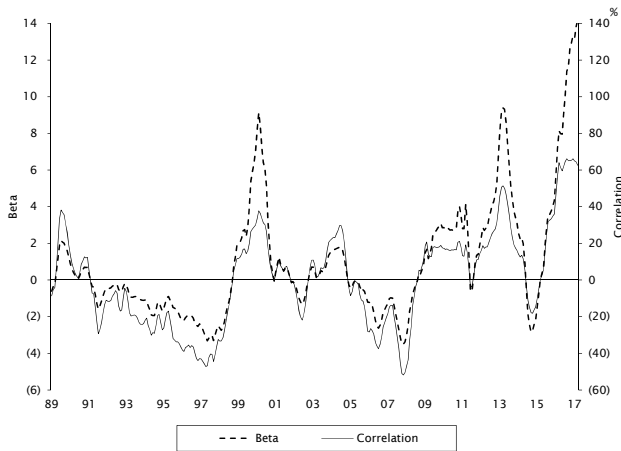


Source: Bloomberg L.P., Empirical Research Partners Analysis.

¹ Constructed using trailing 24-month capitalization-weighted returns relative to each market; smoothed on a trailing three-month basis. U.S. stocks are drawn from the large-capitalization market.

³ Global Portfolio Strategy January 2017. "Pan-European Banks: A Barbell Strategy."

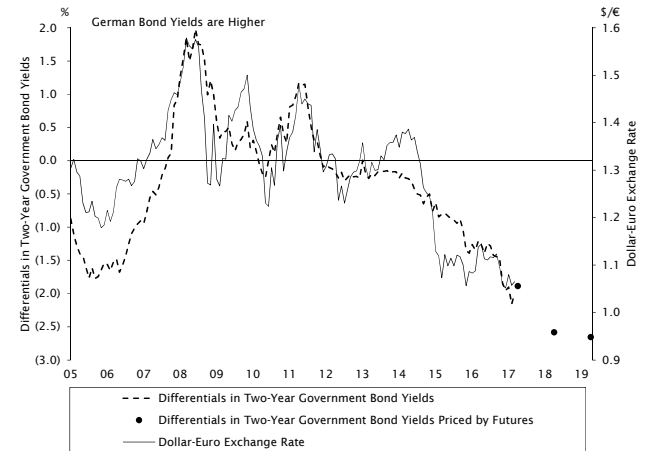
Exhibit 21: Pan-Europe: Bank Stocks
Beta and Correlation of Relative Returns with the Changes in the U.S. Yield Curve¹ 1989 Through March 2017



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

¹ Constructed using trailing 24-month capitalization-weighted returns; smoothed on a trailing three-month basis. Slope of the U.S. yield curve is the spread between the 10-year and 3-month government bond yields.

Exhibit 22: The U.S. and Germany
Differentials in Two-Year Government Bond Yields and the Dollar-Euro Exchange Rate 2005 Through Early-April 2019E



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

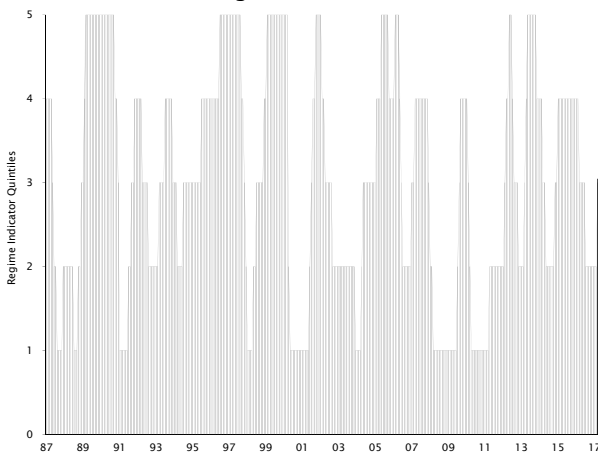
Regime Change in Japan: Back to Neutral

Joining the Pack: Most Regional Regimes Now in Neutral Stances

Since last July, when valuation spreads spiked immediately following the Brexit vote, most of our regional regime indicators had been in either value-tilted or value-driven stances. In October, the regime indicator in Continental Europe was the first to shift back to a neutral position, a move followed at the end of January by the regime indicators in the U.K. and the global one. In the middle of January the U.S. regime indicator also moved to a neutral setting from a value-tilted one. That of Japan eventually followed suit at the end of March (see Exhibit 23).

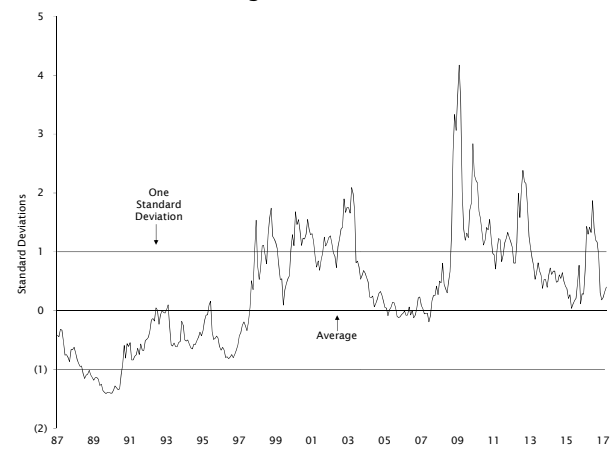
Currently, all our regional regime indicators are in neutral stances, except that in Continental Europe that moved to a growth-tilted position at the end of February.

Exhibit 23: Japan
Growth Regime Indicator (5=Growth-Driven; 1=Value-Driven) 1987 Through March 2017



Source: Empirical Research Partners Analysis.

Exhibit 24: Japan
Valuation Spreads The Top Quintile Compared to the Region Average 1987 Through March 2017

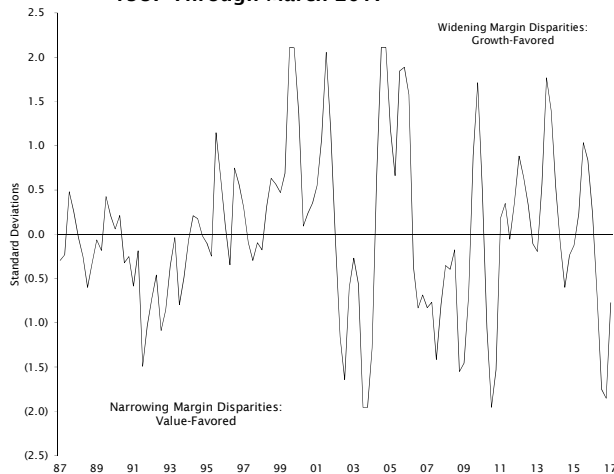


Source: Empirical Research Partners Analysis.

While valuation spreads in Japan haven't narrowed as much as in other regions, they're still fractionally above their long-term average. However, they have started to widen again, and the support for a value stance has thus diminished (see Exhibit 24). Two other factors played an important part in regime change. The narrowing of pretax margin differentials is less extreme than before (see Exhibit 25). Finally, credit risk has diminished and bankruptcy rates have fallen (see Exhibit 26).

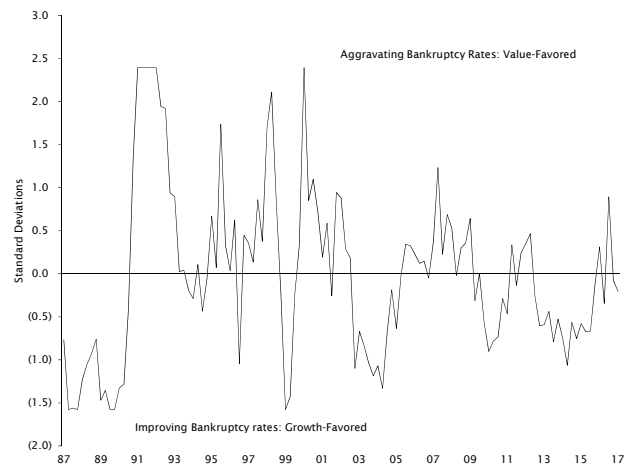
Exhibit 25: Japan

Pre-tax Margins High Versus Low: Quarterly Differentials¹ 1987 Through March 2017



Source: Empirical Research Partners Analysis.
¹ Data smoothed on a trailing three-month basis.

Exhibit 26: Japan Bankruptcy Cases with Total Debt of ¥10 Million or More Year-Over-Year Change 1987 Through March 2017



Source: Empirical Research Partners Analysis.

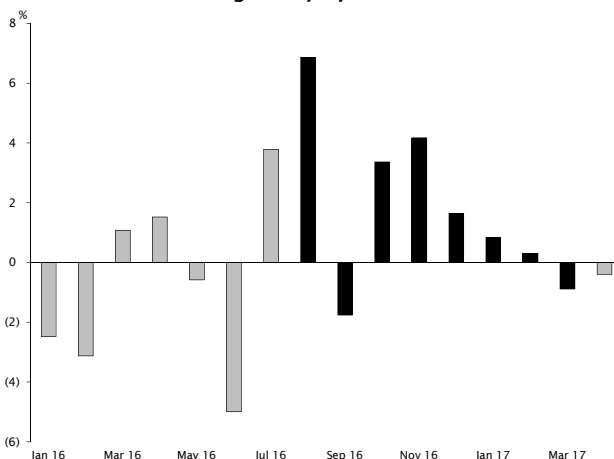
Value in Japan: Any Upside Left?

We've highlighted previously that a move to a neutral regime setting doesn't necessarily mean that the benefits of a value strategy have been exhausted. Since our regime indicator moved to a value-tilted position in Japan value has outperformed by about +17 percentage points. However, the outperformance has waned recently (see Exhibit 27). We would not infer from this, however, that the value strategy has to be abandoned. In the past, value stocks in the non-U.S. developed markets outperformed even when the regime indicator switched to a neutral stance, generating on average a +5 percentage point outperformance in the following year. So a value strategy could continue to be useful, albeit to a much lesser extent than seen over the past eight months.

An interesting case study is provided by the industrial cyclicals (i.e., industrial commodities and capital goods). We highlighted last July that at the time they were unusually cheap, presenting an interesting opportunity for investors. Our argument is now almost-fully eroded, as relative free cash flow yields have migrated away from top-decile readings, and are currently within the top-quartile of the distribution (see Exhibit 28). Their relative returns are largely influenced by worries about growth in the emerging markets, notably in China, and by the Yen appreciation. With the worries on China now much less, and the Yen's depreciation since Summer, the excess pessimism has been priced out, and our conviction on these stocks is now less.

Exhibit 27: Japan

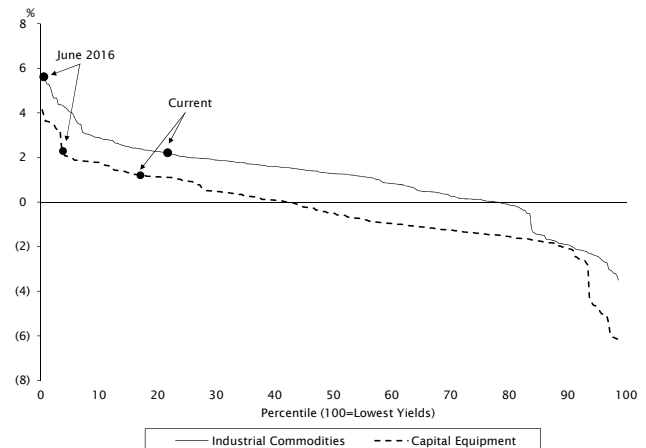
Relative Returns to the Best Quintile of Valuation¹ Monthly Data 2016 Through Early-April 2017



Source: Empirical Research Partners Analysis.
¹ Equally-weighted USD-hedged returns. Stocks ranked across and returns relative to Japan. The black bars indicate months that the Japanese regime indicator was in a value-tilt stance.

Exhibit 28: Japan: Industrial Cyclical Stocks

Relative Free Cash Flow Yields¹ 1987 Through Early-April 2017



Source: Empirical Research Partners Analysis.
¹ Capitalization-weighted data relative to Japan.

**Appendix 1: Developed Markets (ex-U.S.): Stocks With Market Capitalizations Above \$10bn
 Top-Decile of Correlation of Relative Returns with the Moves in the Trade-Weighted U.S. Dollar¹
 As of Early-April 2017**

Symbol	Company	Price (Local)	Local Currency Code	Correlation	Quintiles (1=Best; 5=Worst)								YTD Return (Local)	Market Capitalization (USD Million)
					Super Factors				Memo:					
					Valuation	Capital Deployment	Earnings Quality and Trend	Market Reaction	Core Model	Arbitrage Risk (1=Lowest; 5=Highest)	Forward P/E Ratio			
Consumer Cyclicals:														
Consumer Durables														
7203 JP	Toyota Motor Corp.	6,046.00	JPY	48 %	2	4	4	5	3	1	9.1	x	(11.1) %	\$177,864
7270 JP	Fuji Heavy Industries Ltd.	4,078.00	JPY	48	1	2	1	5	2	2	8.1		(13.1)	28,226
7309 JP	Shimano Inc.	16,700.00	JPY	45	5	5	2	5	5	4	26.2		(8.9)	14,337
Retail and Other Consumer Cyclicals														
LUX IM	Luxottica Group S.p.A.	51.00	EUR	72 %	4	5	2	3	4	5	26.2	x	(0.2) %	\$25,935
ITX SM	Industria de Diseno Textil S.A.	32.74	EUR	44	5	3	2	4	4	1	24.9		0.9	107,677
9983 JP	FAST RETAILING CO. LTD.	35,200.00	JPY	37	5	3	4	4	5	4	32.1		(15.4)	33,911
Media														
ITV LN	ITV plc	2.13	GBP	36 %	4	1	1	4	1	4	13.3	x	3.3	\$10,441
Capital Equipment														
5802 JP	Sumitomo Electric Industries Ltd.	1,818.00	JPY	43 %	1	3	3	1	1	2	12.4	x	9.0	\$12,807
BA/ LN	BAE Systems plc	6.35	GBP	41	5	5	4	3	5	2	14.7		7.4	24,891
AIR FP	Airbus Group SE	71.36	EUR	39	5	4	4	2	4	2	20.5		13.6	58,779
ASSAB SS	ASSA ABLOY AB Class B	182.40	SEK	38	5	2	2	5	4	2	22.9		7.9	22,385
7011 JP	Mitsubishi Heavy Industries Ltd.	448.60	JPY	34	1	5	5	5	4	4	12.7		(14.7)	13,697
Commercial Services and Supplies														
BXB AT	Brambles Limited	9.40	AUD	39 %	4	5	4	5	5	5	17.8	x	(23.0) %	\$11,414
Industrial Commodities														
6988 JP	Nitto Denko Corp.	8,700.00	JPY	42 %	5	3	2	2	5	3	19.1	x	(2.2) %	\$13,775
AGU CT	Agrium Inc.	127.38	CAD	38	3	3	3	4	4	4	18.0		(4.8)	13,084
Transports														
RYA ID	Ryanair Holdings Plc	14.55	EUR	47 %	4	5	2	3	4	3	12.3	x	0.3	\$18,876
9202 JP	ANA Holdings Inc.	341.40	JPY	36	2	4	4	3	3	1	12.8		10.3	10,867
Technology:														
Technology Software and Services														
GIB/A CT	CGI Group Inc. Class A	63.48	CAD	41 %	3	3	3	3	3	1	16.9	x	(1.5) %	\$14,082
CSU CT	Constellation Software Inc.	651.99	CAD	36	4	1	1	1	1	3	22.3		7.1	10,285
Technology Hardware and Semiconductors														
STM FP	STMicroelectronics NV	14.29	EUR	44 %	4	1	4	1	1	5	23.5	x	33.1	\$13,829
6971 JP	Kyocera Corporation	6,240.00	JPY	38	3	4	4	1	3	1	24.3		8.2	21,360
NOKIA FH	Nokia Oyj	4.95	EUR	36	4	4	5	5	5	4	22.5		8.0	30,333
Health Care:														
Pharmaceuticals and Biotechnology														
MRK GY	Merck KGaA	106.80	EUR	39 %	4	3	4	4	4	2	16.8	x	7.7	\$49,464
SAN FP	Sanofi	84.48	EUR	37	2	3	2	2	2	1	14.8		9.9	116,111
ROG VX	Roche Holding Ltd Genusssch.	256.20	CHF	36	3	3	1	4	3	2	16.6		13.7	220,509
Health Care - Equipment and Services														
7733 JP	Olympus Corp.	4,240.00	JPY	45 %	5	2	5	3	5	2	23.3	x	5.6	\$12,968
6869 JP	Sysmex Corporation	6,760.00	JPY	36	5	3	3	5	5	4	32.7		0.3	12,725
FRE GY	Fresenius SE & Co. KGaA	74.84	EUR	33	2	4	2	3	3	1	21.7		0.8	43,840
Consumer Staples														
2503 JP	Kirin Holdings Company Limited	2,135.00	JPY	56 %	3	4	3	3	4	2	24.4	x	12.3	\$17,870
ATD/B CT	Alimentation Couche-Tard Inc. Class B	60.43	CAD	39	3	3	4	4	4	4	17.9		(0.6)	25,894
2802 JP	Ajinomoto Co. Inc.	2,226.50	JPY	39	4	2	3	5	4	3	21.2		(4.8)	11,628
2587 JP	Suntory Beverage & Food Ltd.	4,780.00	JPY	37	3	2	2	4	3	2	30.2		(1.5)	13,563
Financials:														
Banks, Consumer Finance and Other														
8802 JP	Mitsubishi Estate Company Limited	2,040.50	JPY	50 %	5	4	4	3	5	2	28.9	x	(12.0) %	\$25,699
WBC AT	Westpac Banking Corporation	35.21	AUD	49	2	5	4	3	3	1	14.6		8.0	90,200
ISP IM	Intesa Sanpaolo S.p.A.	2.51	EUR	47	1	1	5	4	3	4	11.9		3.3	43,982
GLE FP	Societe Generale S.A. Class A	46.32	EUR	46	1	2	4	2	1	4	10.2		(0.9)	38,819
ANZ AT	Australia and New Zealand Banking Group Limited	31.97	AUD	46	2	3	4	1	2	1	13.2		5.1	71,669
KBC BB	KBC Groupe SA	61.55	EUR	39	1	1	4	1	1	1	12.0		4.6	27,149
BARC LN	Barclays PLC	2.21	GBP	37	3	5	4	2	3	2	10.7		(0.0)	46,195
BNP FP	BNP Paribas SA Class A	61.22	EUR	37	1	2	3	3	1	3	10.6		1.1	79,771
SWEDA SS	Swedbank AB Class A	207.00	SEK	35	1	1	1	2	1	1	13.6		(0.1)	26,042
1925 JP	Daiwa House Industry Co. Ltd.	3,179.00	JPY	35	4	4	2	4	5	1	10.9		0.9	18,981
NDA SS	Nordea Bank AB	102.20	SEK	35	1	2	1	1	1	1	12.6		7.0	46,088
Capital Markets														
TRI CT	Thomson Reuters Corporation	57.72	CAD	46 %	4	1	2	3	2	2	18.4	x	(1.0) %	\$31,185
MQG AU	Macquarie Group Limited	89.60	AUD	40	2	2	3	3	2	1	13.9		2.8	23,027
SDR LN	Schroders PLC	30.37	GBP	38	3	3	3	1	2	1	11.3		3.4	10,146
UBSG VX	UBS Group AG	15.80	CHF	36	1	4	4	5	3	3	12.2		(0.9)	59,791
DBK GY	Deutsche Bank AG	15.70	EUR	36	4	1	5	3	3	5	14.2		2.0	25,251
Insurance														
SREN VX	Swiss Re AG	89.45	CHF	57 %	1	2	2	5	2	1	10.3	x	(7.3) %	\$31,932
CS FP	AXA SA	23.93	EUR	54	1	3	3	3	2	2	9.8		(0.3)	60,972
SAMPO FH	Sampo Oyj Class A	44.17	EUR	49	3	3	2	2	3	1	16.1		3.7	26,177
MUV2 GY	Munich Reinsurance Company	182.75	EUR	47	1	1	4	4	2	1	12.0		1.7	31,242
LGEN LN	Legal & General Group Plc	2.45	GBP	47	2	4	3	2	2	1	11.3		(1.1)	18,038
SLHN VX	Swiss Life Holding AG	321.40	CHF	45	1	2	4	2	1	1	11.1		11.5	10,222
ALV GY	Allianz SE	172.00	EUR	45	2	3	3	2	2	1	11.1		9.6	82,937
AGN NA	AEGON N.V.	4.71	EUR	42	1	3	5	4	2	4	7.9		(9.9)	10,348
AV/ LN	Aviva plc	5.29	GBP	39	2	3	5	3	3	3	9.9		8.7	26,655
HNR1 GY	Hannover Ruck SE	107.95	EUR	39	2	3	2	2	2	1	12.3		5.0	13,842
ZURN VX	Zurich Insurance Group AG	262.20	CHF	38	1	3	4	5	3	1	11.4		(0.5)	31,348
G IM	Assicurazioni Generali S.p.A.	14.77	EUR	37	1	3	4	4	2	5	10.0		4.6	24,329
QBE AT	QBE Insurance Group Limited	12.91	AUD	35	3	2	2	5	4	4	15.6		6.7	13,477
Telecommunications														
DTE GY	Deutsche Telekom AG	16.40	EUR	36 %	2	3	5	5	4	1	18.6	x	0.3	\$81,582
Utilities														
9503 JP	Kansai Electric Power Company Incorporated	1,385.00	JPY	54 %	1	1	2	2	1	5	8.9	x	10.3	\$11,868
9531 JP	Tokyo Gas Co. Ltd.	515.80	JPY	40	2	2	3	4	3	3	20.2		(1.4)	10,896

Source: Empirical Research Partners Analysis.

¹ Correlations based on relative returns and computed over the trailing 24-months.