LA FRANÇAISE INVESTMENT SOLUTIONS RESEARCH

IS YTD 2019 PERFORMANCE OF ARP FUNDS A MIRROR IMAGE OF 2018?

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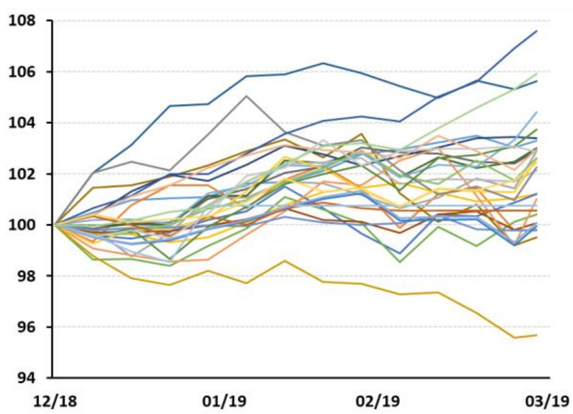
IS YTD 2019 PERFORMANCE OF ARP FUNDS A MIRROR IMAGE OF 2018 OR AN ALTOGETHER DIFFERENT STORY?

The alternative risk premia (ARP) industry delivered robust performance in the first quarter of 2019 ("Q1"), exactly like equity markets. A legitimate question, therefore, is if there is a causal link. Beyond assessing the market neutrality of the ARP industry, it is also interesting to ask if the same factors that penalized the ARP industry in 2018 were drivers of the rebound in Q1. This study is therefore a continuation of the research paper published in Risk.net earlier this year – titled "The common drivers behind alt risk premia's difficult year".

To start, how big was the overall rebound in Q1? Figure 1 shows the cumulative returns of 30 multi-asset, multi-style, long/short funds selected as being most representative of the ARP industry. The universe of funds is the same as that used in our 2018 analysis, with one exception. A fund that closed at the end of 2018 was replaced by one launched in 2018. Returns are denominated in US dollars. For funds that only offer share classes in euros, calculations account for the spread between the Fed funds rate and Eonia. There are some big winners and a few losers, but the rebound is almost universal.

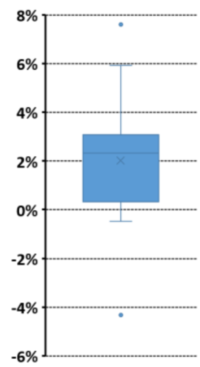
FIGURE 1: CUMULATIVE PERFORMANCE OF ARP FUNDS OVER Q1 2019



Sources: Bloomberg, LFIS.

Figure 2 shows the distribution of Q1 returns across ARP funds. On average, the ARP industry posted a strong 2% return in US dollar terms, but with a significant level of dispersion.

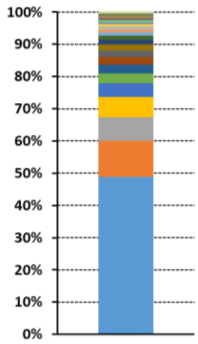
FIGURE 2: DISTRIBUTION OF RETURNS AMONG ARP FUNDS OVER Q1 2019



Sources: Bloomberg, LFIS.

Let's now analyze whether there is a link between this rebound and the main factors that drove the ARP industry in 2018. "The common drivers behind alt risk premia's difficult year" revealed that 50% of the risk of the 30 funds was, on average, explained by their exposure to the first principal component analysis (PCA) factor. Of course, funds varied in their exposure to this factor, so that their weights in the factor – as shown on figure 3 – are not equal.

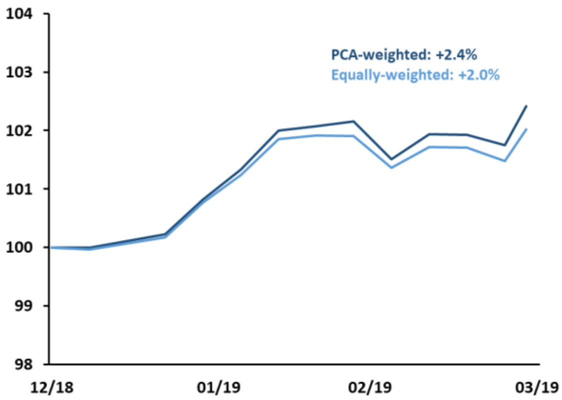
FIGURE 3: FUNDS' WEIGHT IN THE FIRST PCA FACTOR IN 2018



Sources: Bloomberg, LFIS.

Nevertheless, as shown on figure 4, the magnitude of the Q1 rebound is similar whether we consider a PCA-weighted (+2.4%) or equally-weighted (+2.0%) industry composition.

FIGURE 4: CUMULATIVE PERFORMANCE OF THE ARP INDUSTRY OVER Q1 2019



Sources: Bloomberg, LFIS.

Our research revealed that over 2018, the performance of the first PCA factor and therefore of the ARP industry as a whole could be explained by a few factors. Table 1 shows the results of three independent regressions, each of which considers a different set of explanatory variables. The first column is the results of the regression of the same PCA factor versus the equity market only. The two last columns show the results of regressions of the same PCA factor versus the four strategies often talked about as the culprits for the ARP sector's poor year, namely "trend following", "short volatility", "FX Carry EM" and "Equity Multi-Factor". The "5-factor" model also considers the market. These last regressions have R^2 of 85%. That is, the risk of the first PCA factor is almost fully explained by its exposure – or beta – to the four or five selected strategies.

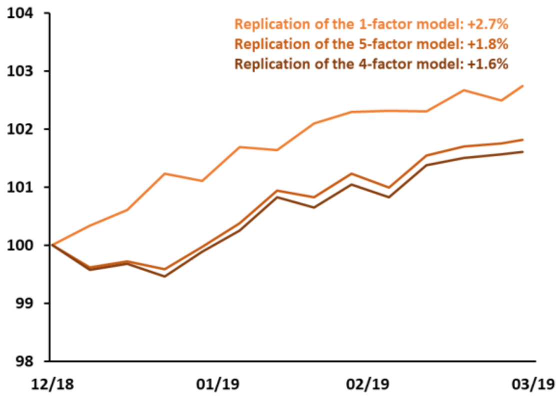
TABLE 1: REGRESSION OF THE FIRST PCA FACTOR OVER 2018

	1-factor	5-factor	4-factor
Alpha (weekly)	-0.15%	-0.07%	-0.06%
Beta			
Market	0.17**	0.03	-
Trend Following	-	0.20**	0.19**
Short Volatility	-	0.26**	0.31**
FX Carry EM	-	0.15**	0.16**
Equity Multi-Factor	-	0.13**	0.13**
Adjusted R^2	31%	85%	85%

Sources: Bloomberg, LFIS.

Let's analyze if the exposure levels observed in 2018 can explain the overall trend of the industry in Q1 2019. Figure 5 shows the cumulative performance of the replication portfolios of the first factor, allocated in line with the betas of the final regression analysis. This is calculated as a beta-weighted average of the performance of the selected strategies, all in excess of cash. To this, the performance of the Fed funds rate has been added to simulate a funded solution. Alpha is not considered. The replication portfolios of the "1-factor", "5-factor" and "4-factor" models posted +2.7%, +1.8% and +1.6% returns respectively.

FIGURE 5: CUMULATIVE PERFORMANCE OF THE REPLICATION PORTFOLIOS OVER Q1 2019



Sources: Bloomberg, LFIS.

The 2.4% realized performance of the ARP industry (see figure 4) is very close to the 2.7% simulated performance of the "1-factor" replication portfolio (see figure 5) which is simply constant 17% exposure to the S&P500 Index (plus the performance of the Fed funds rate). Should this be a concern for the ARP industry?

The answer is no, as the correlation between the two is close to zero (first column of table 2). In other words, the rebound of the ARP industry in 2019 is not due to the rebound in equity markets.

TABLE 2: ARP INDUSTRY VS. REPLICATION PORTFOLIOS OVER Q1 2019

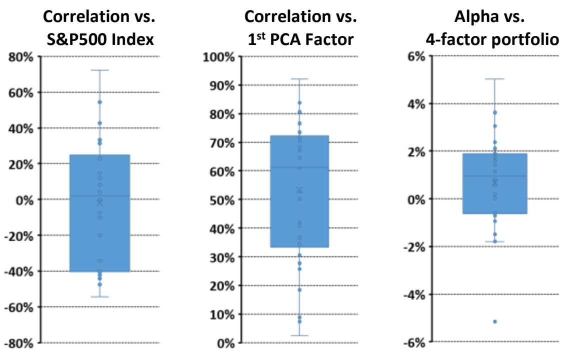
	Replication of the:		
	1-factor model	5-factor model	4-factor model
Q1-2019 Return	2.7%	1.8%	1.6%
Alpha vs. PCA-weighted	-0.3%	0.6%	0.8%
Correlation vs. PCA-weighted	0%	66%	63%
Alpha vs. equally-weighted	-0.7%	0.2%	0.4%
Correlation vs. equally-weighted	1%	66%	63%

Sources: Bloomberg, LFIS.

However, there is significant correlation between the ARP industry and the multi-factor replication portfolios – above 60% – irrespective of the weighting method or multi-factor model considered (see the two last columns of table 2). In other words, the ARP industry remains exposed to "trend following", "short volatility", "FX carry EM" and "equity multi-factor" strategies, which is unsurprising as these are standard premia strategies. However, the percentage of variance explained by the exposure of the ARP industry to these strategies (the R^2) is half that of 2018. The 85% R^2 observed in 2018 (see table 1) is comparable to the square of the correlation value observed in Q1 2019, or a range of 40% ($63\%^2$, see table 2) to 45% ($66\%^2$, see table 2). These results are probably due to a decrease in the volatility of the four strategies rather than a decrease in the exposure of ARP funds to the strategies. The remaining 55% to 60% of the variance can be attributed to portfolio management choices, including the different implementation of the selected strategies; dynamic allocation between strategies or the addition of other style premia. In 2018, these choices reduced the alpha of ARP funds by 0.06% per week (see table 1), or roughly -3% for the year. In Q1 2019, these same choices paid off, with positive alpha for the quarter of between 0.2% and 0.8% depending on weights and multi-factor model considered (see the two last columns of table 2).

Of course, this analysis is only valid for the ARP industry as a whole. Individual funds showed significantly different levels of correlation versus the S&P500 Index and the first PCA factor. Different funds also showed significantly different level of Alpha versus the 4-factor replication portfolio (see figure 6).

FIGURE 6: DISTRIBUTION OF RISK/RETURN CHARACTERISTICS OF ARP FUNDS OVER Q1 2019



Sources: Bloomberg, LFIS.

Again, the sector's results in Q1 2019 strengthen the case – if it still needed – that the universe of ARP solutions is highly heterogeneous.

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