

As quick as a flash update

November 2020



- Early-reporting hedge funds outperform their late-reporting counterparts
- This outperformance is consistent through time and cannot be explained by style biases
- Replicating early reporters strengthens the returns of our Alternative Beta strategy

As quick as a flash update: how replicating early reporters can strengthen returns

Firms that are quicker to file their annual and quarterly reports command a significant premium relative to those that report late. In the same way, early-reporting hedge funds outperform their late-reporting counterparts. We recently conducted research into the potential drivers of this outperformance, whether it is attributable to style biases and how we can use this information to strengthen our Alternative Beta hedge fund replication strategy. The results indicate that by replicating the performance of early-reporting hedge funds, we can achieve better returns.

Alternative Beta, our hedge fund replication strategy, is based on extensive research showing that the returns provided by the broad hedge fund industry predominantly stem from (implicit) time-varying exposures to well-known market betas. The strategy aims to mimic this performance without actually investing in hedge funds; rather, it dynamically invests in markets that drive the returns of the broad hedge fund industry. Over more than a decade, we have delivered a high correlation with broad hedge fund index returns while outperforming the investable HFRX Global Hedge Fund Index (HFRX Index).

We continuously conduct research to further improve the strategy's returns. Our previous studies have focused on which type of model best suits our replication and performance targets and what investment universe can best reflect the returns of the broad hedge fund industry. In this article, we explore a different topic: whether using early-reporting hedge funds' returns as input for our replication model could improve investment returns. This research stems from multiple studies over the past decade on the relationship between the timeliness of earnings announcements and subsequent investment returns.

The empirical evidence suggests that early-reporting companies outperform their late-reporting peers¹. There are two prominent explanations for this. First, this discrepancy can arise if managers who report early have better

processes and corporate governance, enabling them both to report in a timely manner and to better monitor and manage performance and risk. In other words, reporting time reveals information about the quality of the firm. The second explanation is that the behavioural bias towards sharing good news quickly while delaying negative news (for example, until it can be bundled with good news) leads to divergence in performance between early-reporting and late-reporting firms. This explanation implies that early reporting is a proxy for better idiosyncratic news that the company is eager to reveal.

Most of the research on this topic has focused on individual companies and their stock performance. However, the arguments given to explain the outperformance of early-reporting companies also apply to hedge fund managers. In this article, we show that early-reporting hedge funds also outperform. Moreover, we find that this outperformance is robust through time and not driven by specific style biases. Finally, we investigate whether this outperformance is replicable. In other words, we examine whether we can improve the return potential of our Alternative Beta replication strategy by using early-reporting hedge funds as input for our replication model.

¹See for example Begley, J., & Fischer, P. E. (1998) and Bannouh, K., Geng, D. & Peeters, B. (2019)

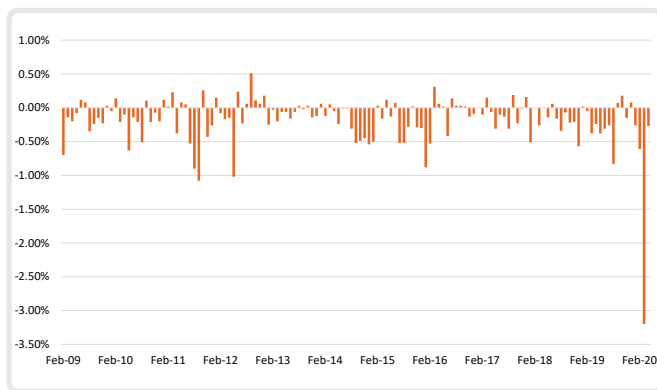
Data

Our research is based on the broadly diversified non-investable HFRI Fund Weighted Composite Index (HFRI Index), which we currently use as input for our Alternative Beta strategy's replication model. The HFRI Index is a non-investable equally weighted index that currently contains over 1,300 different hedge funds and is well diversified across all major hedge fund substyles².

The index's monthly performance figures are updated three times a month: a flash update on the fifth working day of the month, a mid-month update and a month-end update. The flash update includes the performance of roughly 30% of all hedge funds included in the index. It takes four full months after the end of a given month until all hedge funds have reported their performance and the final performance number for that month is published. For instance, the January performance figures become final on 1 June.

Figure 1 shows the difference in return between the final HFRI performance (HFRI Final) and the performance as reported in the flash update (HFRI Flash). The figure illustrates that most of the performance updates are negative revisions, averaging 20 bps per month. This is in line with findings in the equities literature that early-reporting managers outperform on average.

Figure 1: HFRI Final minus HFRI Flash performance



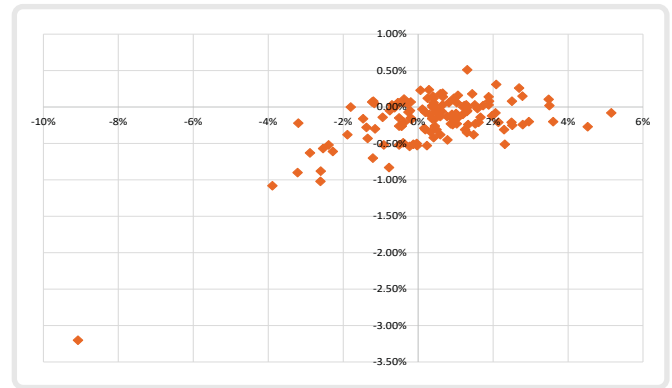
Source: HFR, NN Investment Partners. Period covers February 2009-April 2020.

The most extreme negative revision took place in March 2020. While initial performance already indicated that March had been a disappointing month for hedge funds, this figure was adjusted downwards by more than 3% to a final performance of -9.1%.

Figure 2 shows that revisions tend to be more negative in the case of negative final HFRI performance. Revisions are also negative on average in the case of positive performance, but this is less pronounced. This suggests

that underperforming hedge funds delay reporting if performance is disappointing.

Figure 2: Revisions versus HFRI final performance

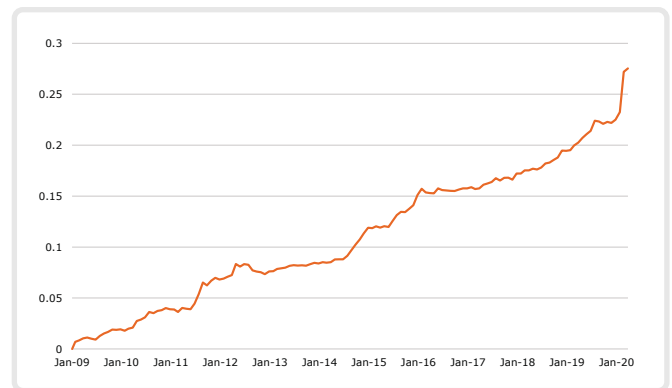


X-axis: final HFRI performance; Y-axis: monthly revisions

Source: HFR, NN Investment Partners. Period covers February 2009-April 2020.

Figure 3 shows that revisions have been consistently negative through time on a cumulative basis, leading to approximately 27% outperformance for HFRI Flash over the past 11 years. This consistent outperformance provides clear incentives to investigate whether we can further improve the performance of our replication strategy by assessing the superior returns of early-reporting hedge funds.

Figure 3: HFRI Flash minus HFRI Final cumulative performance



Source: HFR, NN Investment Partners. Period covers February 2009-April 2020.

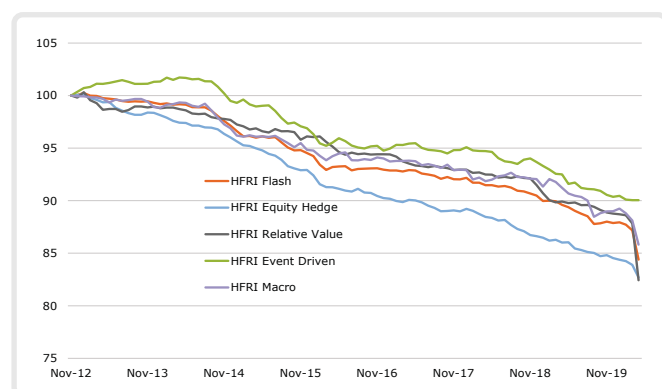
Performance drivers

Before researching whether we can use this outperformance to strengthen our Alternative Beta strategy, we first assessed whether the differences in performance might result from composition biases between the Flash and Final update. We found that the negative

²<https://www.hedgefundresearch.com/compare-hfr-index-types>

performance revisions are present across all hedge fund substyles: Macro, Equity Hedge, Relative Value and Event Driven (Figure 4). Consequently, the underperformance of HFRI Final versus HFRI Flash cannot solely stem from different exposures to hedge fund styles.

Figure 4: Cumulative revision per hedge fund style

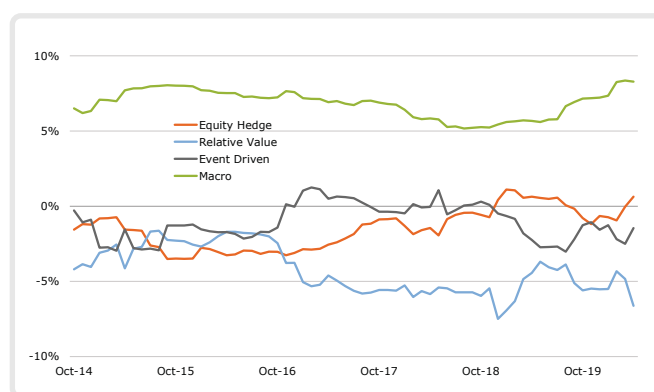


Source: HFR, NN Investment Partners. Period covers November 2012-April 2020.

Hedge Fund Research does not provide the reporting date for each hedge fund included in the HFRI Index. It's therefore not possible to directly assess which hedge funds drive the differences in performance between HFRI Flash and HFRI Final and whether the composition of HFRI Flash is consistent. We therefore used aggregate performance data to assess this question.

If certain hedge fund styles outperform consistently, and they are overrepresented in early (flash) updates, then investment styles can also partly explain the difference in performance between HFRI Flash and HFRI Final. To explore this hypothesis, we first performed a style analysis whereby we regressed the performance of the Flash and Final updates on the performance of the Flash and Final substyles. Figure 5 shows the difference in betas (weights) coming out of the regression³ performed on HFRI Flash and HFRI Final.

Figure 5: Weight differences per hedge fund style



Source: HFR, NN Investment Partners. Period covers November 2012-April 2020.

Overall, the differences in exposure to different hedge fund styles have been relatively stable through time. The HFRI Flash does exhibit a structurally higher weight for macro hedge fund managers. This is not surprising as macro managers (which include commodity trading advisors) typically trade more liquid, exchange-traded contracts that are marked to market daily. This means that pricing complexity is less of a hurdle, hence their ability to report more quickly.

To assess the return impact of this modest but structural difference in style exposures, we performed a Brinson attribution, breaking down the difference between HFRI Flash and HFRI Final performance in terms of allocation, selection, and interaction effect⁴.

Table 1 shows a positive selection effect for each hedge fund style. Allocation effects are minor and vary between -1.3% (relative value) and +1.3% (macro). Overall, the allocation effects and the interaction effect mostly cancel each other out. This means that almost the entire performance difference between HFRI Flash and HFRI Final is attributable to selection effect. These results confirm our intuition that the outperformance of early-reporting hedge funds is not due to style-specific elements.

Table 1: Breakdown of HFRI Flash and HFRI Final performance

	HFRI flash return	HFRI final return	HFRI flash weight	HFRI Final weight	Allocation	Selection	Interaction
Equity Hedge	33.1%	10.7%	47.0%	48.5%	-0.5%	10.5%	0.3%
Relative Value	32.4%	14.2%	15.4%	19.7%	-1.3%	2.8%	0.8%
Event Driven	21.8%	10.4%	9.4%	10.5%	-0.2%	1.1%	0.1%
Macro	20.1%	7.3%	28.1%	21.3%	1.3%	3.6%	-0.9%
Total			100.0%	100.0%	-0.7%	18.0%	0.4%

Source: HFR, NN Investment Partners. Period covers November 2012-April 2020.

³We used an Ordinary Least Square (OLS) regression with a 24-month rolling look-back window.

⁴The weights of the hedge fund styles are the average weights provided by the style analysis as shown earlier in this section.

Although our research showed that HFRI Flash outperforms HFRI Final, and this is not attributable to differences in style exposures, it remained uncertain whether our replication strategy could capture (part of) this outperformance. If there is alpha in the flash performance that cannot be replicated, or if there is significant turnover in the exposures of the early-reporting hedge funds, this could mean that our replication strategy cannot capture the outperformance. We therefore conducted further research to resolve this uncertainty.

Replicating HFRI Flash performance

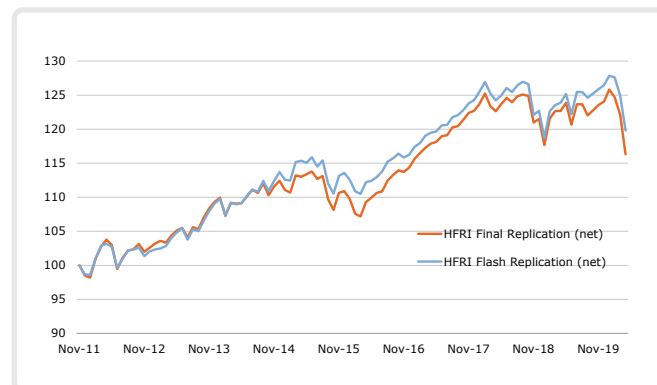
NN IP's Alternative Beta strategy replicates the returns of hedge fund indexes by dynamically allocating to a broad set of liquid markets. The allocation to these markets is determined using a Kalman filter algorithm, which estimates the allocation to each market using the historical returns of the HFRI Index and the markets in which the strategy can invest. We use HFRI performance data because this index has consistently outperformed the HFRX Index (the strategy's benchmark) and because this outperformance is due to persistent manager skill. This prompts the question of whether we can also replicate the superior performance of HFRI Flash – in other words, whether using these superior returns would lead to additional risk-adjusted outperformance for the strategy.

To assess this question, we backtested the portfolio performance using HFRI Flash and HFRI Final. We used the same investment universe⁵ for both tests, for two reasons. Firstly, the 98% correlation between the indexes indicates that the exposure to underlying markets does not differ radically. Secondly, using different investment universes would prohibit a fair comparison. In addition, for

fair comparison, the parameters used in the Kalman filter were the same in both cases and equal to the current implementation in our Alternative Beta strategy.

Figure 6 and Table 2 show the backtested results for both HFRI Flash and HFRI Final.

Figure 6: Backtested results for HFRI Flash and HFRI Final



Source: HFR, NN Investment Partners. Period covers November 2011-April 2020.

Replicating the HFRI Flash performance generated a higher return over the full sample against slightly less risk, leading to an improvement in risk-adjusted return from 0.48 to 0.58 (gross of transaction costs). The impact on tracking error is rather modest, with HFRI Flash replication leading to slightly lower tracking error relative to the HFRX Index and HFRI Flash, but slightly higher tracking error relative to HFRI Final. The latter is to be expected, as the strategy aims to replicate the HFRI Flash. In addition to providing better risk-adjusted returns, the HFRI Flash

Table 2: Backtested results for HFRI Flash and HFRI Final

	HFRI Final Replication	HFRI Flash Replication	ABNetReturn	ABFlashNetReturn	HFRI	HFRI Flash	HFRX
Ann Return (gross)	2.3%	2.7%	2.2%	2.6%	3.1%	5.4%	1.2%
Ann Return (net)	2.2%	2.6%					
Volatility	4.8%	4.7%	4.8%	4.7%	5.5%	4.7%	4.3%
Return (gross) / Risk	0.48	0.58	0.46	0.56	0.55	1.13	0.27
Correlation with HFRI	0.90	0.88	0.90	0.88	1.00	0.98	0.95
Correlation with HFRI Flash	0.90	0.90	0.90	0.90	0.98	1.00	0.94
Tracking error versus HFRI	2.4%	2.6%	2.4%	2.6%	0.0%	1.4%	2.0%
Tracking error versus HFRI Flash	2.2%	2.1%	2.2%	2.1%	1.4%	0.0%	1.6%
Tracking error versus HFRX	2.6%	2.5%	2.6%	2.5%	2.0%	1.6%	0.0%
Max DrawDown (absolute)	-7.5%	-6.4%	-7.5%	-6.5%	-11.5%	-7.6%	-8.9%
Max DrawDown (relative to HFRX)	-5.2%	-4.0%	-5.3%	-4.1%	-6.5%	-1.1%	

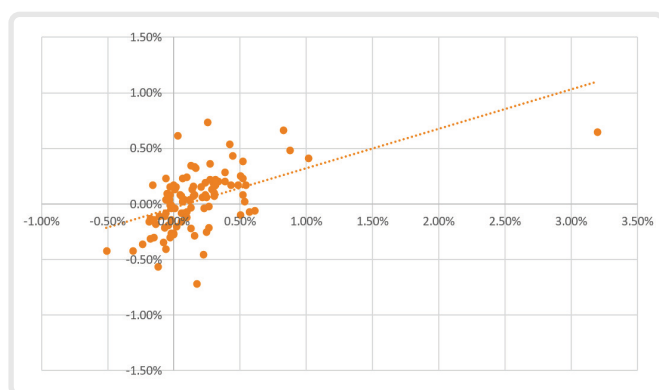
Source: HFR, NN Investment Partners. Period covers November 2011-April 2020.

⁵S&P 500, Russell 2000, Nikkei 225, Nasdaq 100, FTSE 100, Eurostoxx 50, MSCI Emerging Markets, DXY, VIX, Bloomberg Commodity Index, 2Y US Treasuries and 10Y US Treasuries.

replication realized a lower absolute and relative (versus HFRX) maximum drawdown.

Figure 7 shows the relationship between 1) the relative performance of the HFRI Flash replication strategy versus the HFRI Final replication strategy and 2) the relative performance of HFRI Flash versus HFRI Final. The statistically significant positive loading on the difference between HFRI Flash and HFRI Final shows that periods of outperformance in the Flash replicator coincide with periods of outperformance for HFRI Flash itself. In other words, the HFRI Flash replicator generates a higher return because it successfully captures part of the outperformance of HFRI Flash versus HFRI.

Figure 7: Return (HFRI Flash minus Final) versus (Flash replication minus Final replication)



X-axis: HFRI Flash minus HFRI Final; Y-axis: Flash minus Final Replication

Source: HFR, NN Investment Partners. Period covers November 2011-April 2020.

Zooming into the drivers of these return differences, we observe that the replication model assigns different weights (not shown) to the markets and that changes in weights also fluctuate through time. However, these differences are moderate, further proving that replication using HFRI Flash will not significantly change the strategy's exposures. Overall, we conclude that the results are sufficiently strong to switch to HFRI Flash as input for our replication model.

Conclusion

The performance figures of HFRI indexes are typically revised downwards after the initial Flash update. Downward revisions are in line with empirical evidence showing that early-reporting companies generally outperform their late-reporting peers. In this particular setting, we show that this performance gap cannot be attributed to style biases. In addition, the weights of hedge fund styles included in the flash performance are relatively stable, implying low turnover in early-reporting managers, which makes it easier to successfully replicate the early-reporting managers.

Replicating HFRI Flash returns rather than final HFRI performance figures leads to improved returns, reduced volatility and lower drawdowns. The Flash replication outperformance is explained by the Flash outperformance itself, with a statistically significant loading, proving that this outperformance cannot be attributed to noise. Using HFRI Flash performances as input for our replication model therefore represents further improvement of our successful replication strategy.

To learn more about our Alternative Beta strategy, please contact David Freschi, portfolio specialist, at: david.freschi@nnip.com.

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