SwissAnalytics

Looks Can be Deceiving:

Qualitative Hedge Fund Due Diligence vs. Quantitative Time-Series Analysis

April 2009

Summary

In this study, we have examined the benefit of performing proper qualitative due diligence instead of only relying on the quantitative time-series analysis of a fund's track record. We did so by running a comparative analysis of our comprehensive database of qualitatively and quantitatively analyzed single hedge funds.

Over the years, we have analyzed several hundred hedge funds within our existing framework, of which 127 funds have been qualitatively and quantitatively monitored over different time periods. We compared the total risk assessed for each fund and strategy on the one hand using a variety of quantitative traditional and non-traditional methods of time-series analysis and, on the other hand, applying our qualitative due diligence framework, which covers organizational, operational and strategy related risks, among others.

The assessed levels of risk are expressed as risk scores ranging from 1 (lowest risk) to 5 (highest risk).

Key Findings:

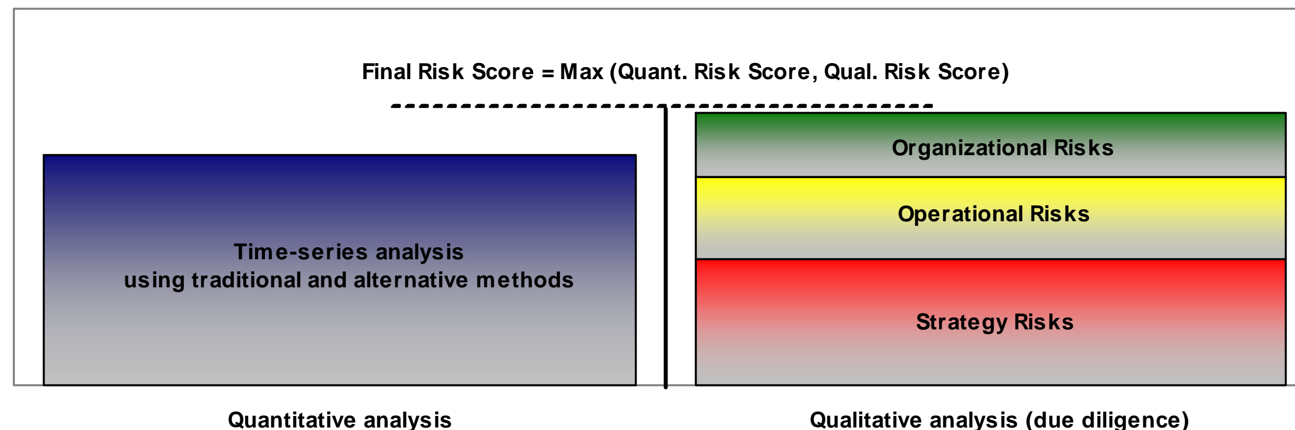
- Across all strategies and funds, the average initial qualitative risk score of 2.78 compares to an average quantitative risk score of 2.52, indicating that SwissAnalytics qualitative due diligence framework tends to reveal additional risks than the quantitative-only risk assessment.
- The distribution of the quantitative risk scores shows a massive 'right tail'. This 'right tail' implies a disproportionately high frequency of very low-risk quantitative risk assessments, which we shall prove to be unwarranted.
- For 61 % of the funds across all strategies, we assessed the fund to be riskier than its track record would suggest. The amount of additional risk detected varies widely among the different strategies: Asset Backed Securities, Regulation D (PIPEs), Equity Market Neutral, Relative Value and Lending all exhibit significantly higher risk than can be derived from the quantitative analysis.
- On the other hand, an in-depth quantitative analysis of L/S Equity and CTA strategies already captures a substantial part of their strategy risks. Nevertheless, given the persistence of organizational and operational risks across all strategies, it remains prudent to conduct full qualitative due diligence on all alternative investment funds before investing, and monitor such risk factors closely thereafter.
- Over time, some strategies have had significantly deteriorating quantitative risk scores, meaning that the true risks behind the strategies eventually materialized in the returns of the funds. This was particularly the case for Lending and Distressed strategies.

Bringing qualitative and quantitative analysis together

We would like to start with a short introduction explaining our approach to due diligence.

As part of our **qualitative due diligence**, each fund's risk factors are assessed using our proprietary 140 factor profiling framework. Based on strict rules, our analysts hand out scores ranging from 1 (lowest risk) to 5 (highest risk) to quantify the results of their findings. At the same time, we perform a thorough **quantitative time-series analysis** on the returns of a fund using traditional and alternative methods. The findings of our quantitative analysis are also compiled as a quantitative risk score from 1 to 5, allowing for direct comparison. Both approaches are calibrated to deliver a risk score of 3 for funds exhibiting "average risk", however mean scores for funds analyzed tend toward lower risk scores, as our clients are biased toward more attractive funds. As a fund is monitored over time, both the qualitative and the quantitative risk scores change and, as will be shown further in this study, there has been an identifiable convergence of the two scores over time.

The final risk score and outcome of our analysis is always the higher of the two scores, or in other words, the result from the analysis which detected more risk.

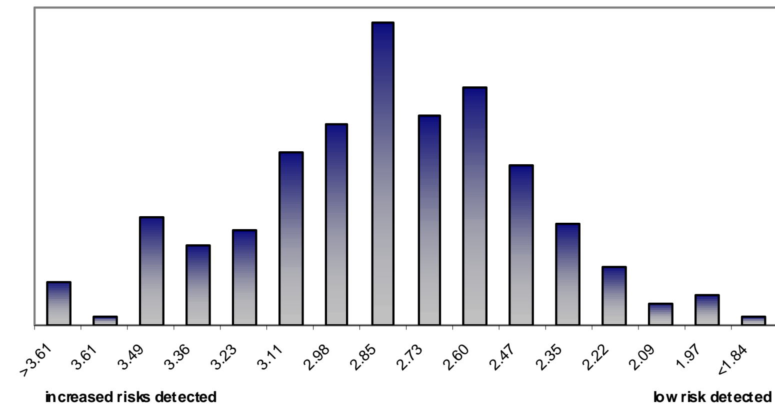


Distribution of the qualitative and quantitative risk scores

- Across all strategies and funds, the average initial qualitative risk score of 2.78 compares to an average quantitative risk score of 2.52.

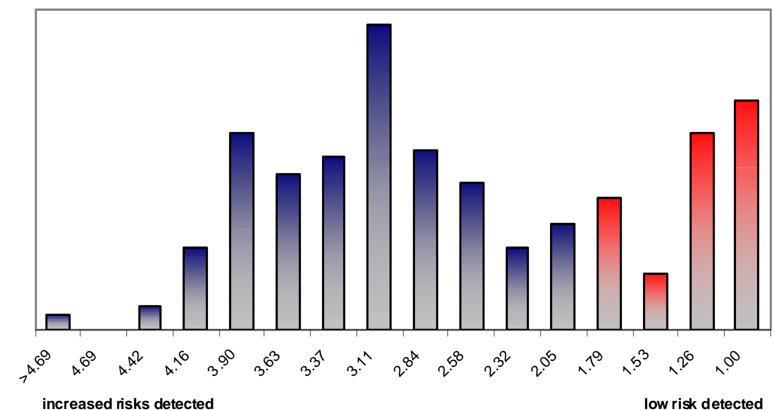
  Thus, the average fund's qualitatively measured risks were assessed to be higher than a purely quantitative analysis would suggest.

  This fact holds despite the extensive quantitative analysis carried out, incorporating Omega, Monte-Carlo and Multi-Factor-Regression analyses, among others.



- As can clearly be seen when comparing the two charts on the right hand side, there is a significant difference in the distribution of the risk scores, with the 'qualitative' distribution resembling more a "bell curve" and the 'quantitative' distribution exhibiting a massive (unjustified) "right tail".

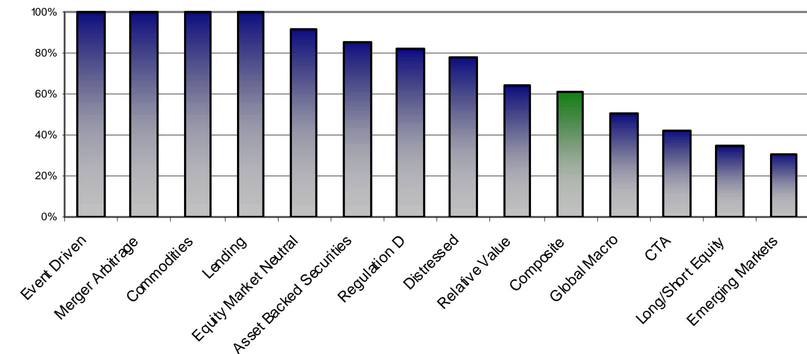
  This "right tail" implies a disproportionately high frequency of low-risk quantitative assessments, which reflects a tendency of quantitative risk analysis to underestimate the risk of certain funds and strategies.



Comparison between strategies

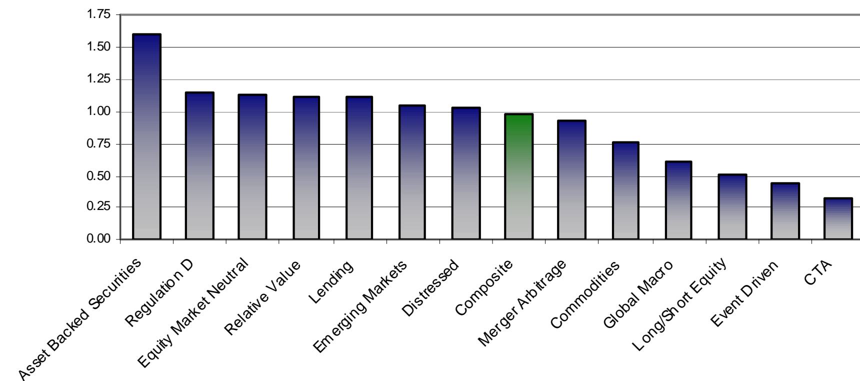
- Across all strategies ("Composite"), our due diligence framework identified that 61% of all funds assessed carry more risk than can be identified by a quantitative analysis.

  In the case of Event Driven, Merger Arbitrage, Commodities and Lending, this was the case for every single fund.



- The amount of additional risk detected varies widely across strategies. However, for most of the strategies with a high percentage of funds exhibiting additional risk from qualitative analysis, such additional risk was also substantial.

  This was most pronounced in ABS, Regulation D, Equity Market Neutral and Relative Value strategies.



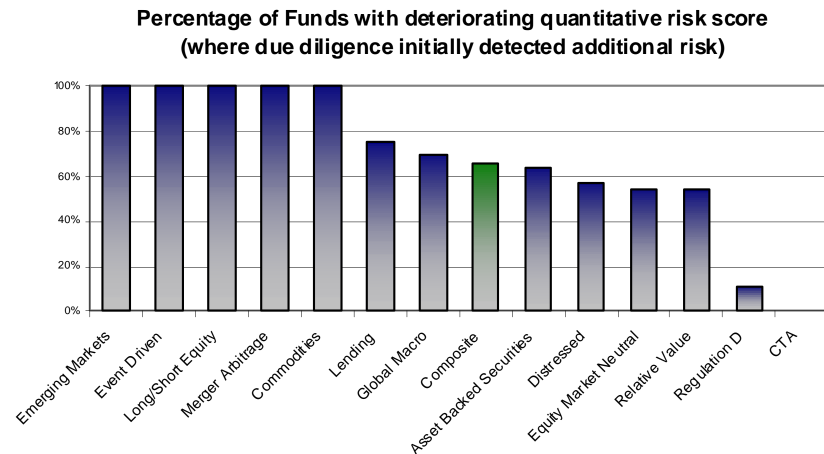
Changes to the risk scores over time

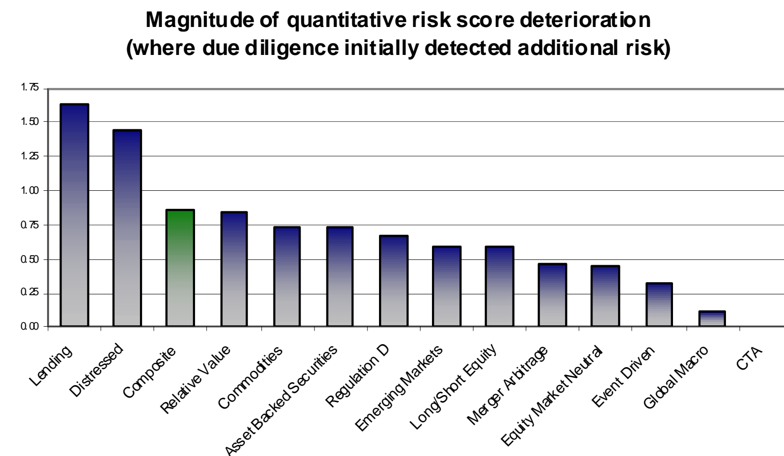
- We continue by looking at the evolution of the funds' risk scores over time, using data from all funds which we have actively monitored. When comparing the initial assessment with the scores from the last period of monitoring, the average quantitative risk score deteriorated by 0.4 points, while the qualitative risk score only worsened by 0.1 points. The funds were monitored over different time periods.

- Even more interesting, however, is to figure out whether we were able to foresee risks that later materialized in the performance of the funds analyzed (see the two charts on the right).

  We have found that 66 % of all the funds where we initially detected more risk through qualitative analysis show a convergence of their quantitative risk scores towards the qualitative one. On average, such convergence eliminated about 51 % of the difference over each fund's monitoring period.

  We can therefore say that in most cases where we detected more qualitative risk, funds' return profiles suffered over time. This has been particularly the case with Lending and Distressed strategies where quantitative risk scores deteriorated substantially over time, meaning that the true risks behind the strategies have eventually materialized in the returns of the funds.





Implications for Hedge Fund Investors

This short study demonstrated the paramount importance of thorough due diligence prior to investing in single hedge funds. An assessment based principally on a fund's track record has been revealed as clearly insufficient for most strategies. Only the combination of the two methods is optimal.

When assessing a fund, the following tasks must be carried out completely and properly, regardless of the fund's high profile or track record:

Due Diligence steps:

- Review of all the legal documents, such as offering memorandum, service provider agreements, DDQs etc.
- Background check of all key persons and the investment management company
- Asset verification with custodians and administrators of the fund
- Review, verification and assessment of the suitability of the portfolio valuation policy
- Evaluation of the fund's strategy: on a stand-alone basis, in a portfolio context as well as under different scenarios
- Evaluation of the manager's ability to carry out the stated strategy
- On-site operational due diligence to verify structural and operational capabilities
- Audit report review: checking the audited financial statements with regards to any inconsistencies or red flags
- Evaluation of the hedge fund's and the investment manager's financial viability
- Special attention should be paid to potential conflicts of interest
- … and, additionally but never just: A comprehensive quantitative time-series analysis using traditional and alternative methods

- **Ongoing monitoring**: Conference calls and visits with manager, style-drift analysis, gathering of updated documentation, news screen etc.

About SwissAnalytics

SwissAnalytics is an independent provider of state-of-the-art hedge fund due diligence, monitoring and investment advisory services for investors in the alternative space. We service banks, pension funds, FoHFs, family offices and other institutional investors. We excel at collecting, analyzing and conden-sing diverse and complex sources of information regarding the risks of alternative investments in concise, usable and easily understandable reports. Our analysts conduct full-service due diligence on the entire range of hedge fund strategies and managers located anywhere in the world in a timely and cost-effective manner.

With over 50 years of single-manager and fund of funds management experience, the firm’s partners are dedicated to delivering superior qualitative and quantitative alternative investment research. Our staff is composed of skilled and experienced alternative investment professionals who work within a structured framework so that every potential red flag is thoroughly researched, analyst bias is minimized and the results of the analyses are directly com-parable to one another.

By providing clients with meaningful analysis on their existing or potential alternative investments, our services complement existing investment processes and can help avoid costly, regrettable investment decisions.

SwissAnalytics is a privately held company with headquarters in Zurich, Switzerland. The company is ISO 9001:2008 certified.

How you benefit:

- Access to state-of-the-art due diligence and hedge fund monitoring
- A cost-efficient and professional solution to partially or completely outsource the risk analysis and monitoring of alternative investments
- A reliable, flexible and scalable service offered by a dedicated due diligence provider
- A second opinion from an independent risk analyst
- Comprehensive and easy-to-understand reports of outstanding quality

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