Skill Analysis

February, 2019

Learning Goals

- Understand Aapryl's basic approach to analyzing skill
- Understand the components of skill in Aapryl
- Understand and interpret the various information provided in Aapryl

Overview

- Managers are often compared to industry benchmarks (market indices) to determine whether they are adding value
- Our view is that the industry benchmarks can be too broad, incorporating various styles that do well in different points of the economic cycles
- Therefore comparing managers to clone portfolios which incorporate style provide a better assessment of a manager's value add
- A manager's alpha or excess return over a clone portfolio is the true value add and can be used to determine future value add by the manager

Review of Key Terms

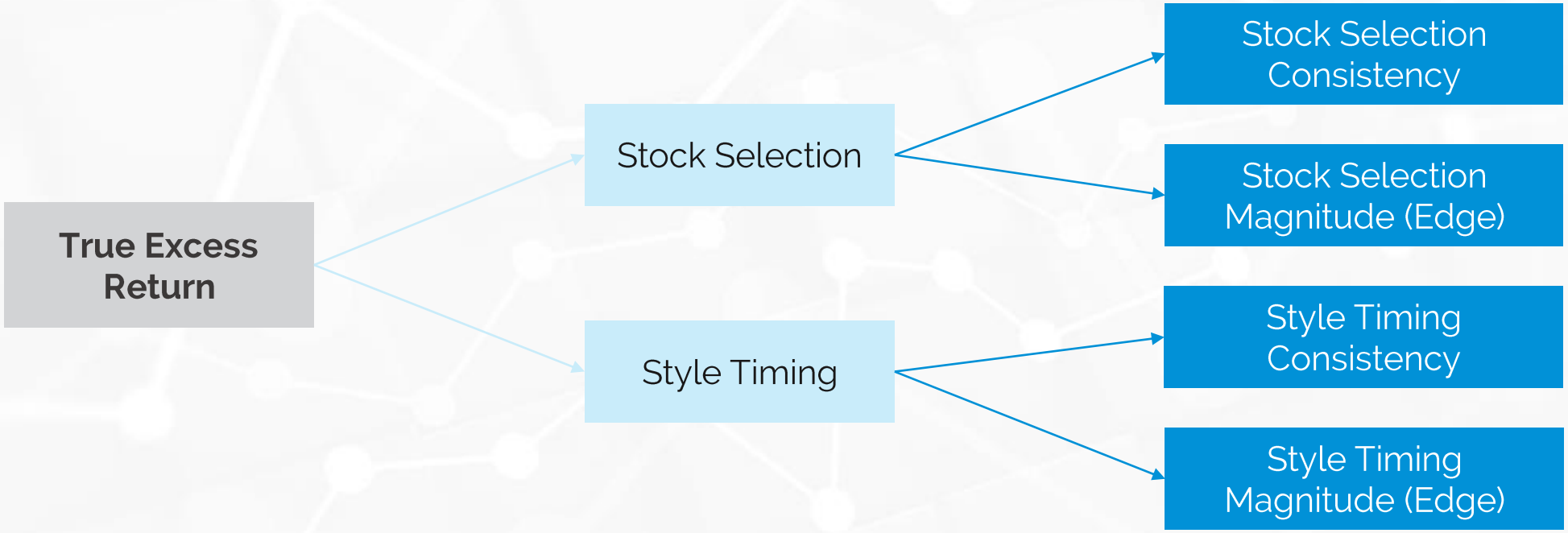
- **Style Analysis:** Regression analysis performed within Aapryl to determine a manager's exposures to various factors
- **Clone Portfolio:** A hypothetical portfolio designed to emulate the market exposure of a portfolio. It is composed of the various factors that influence a manager's return
  - Static Clone uses full history of the manager in regression
  - Dynamic Clone uses last 36 months in the regression
- **Beta:** The portion of a manager's return derived from the market. Within Aapryl, it is the return of a manager's clone portfolio
- **Alpha:** Value add or excess returns over the clone portfolio

Defining Skill

- Aapryl dissects the non-style portion of performance into 3 categories of excess return:
  - **Total Excess Return (Manager Skill) =** Return minus Manager Clone Return
  - **Style Timing Return** = Dynamic Clone Portfolio minus Static Clone portfolio
  - **Stock Selection Return** = Static Clone Portfolio minus Factor Timing
- Then applies 2 measurements of skill to each:
  1. **Consistency** is similar to the commonly used Batting Average Statistic; it measures the consistency of the over and under performance
  2. **Edge** is a proprietary statistic that measures the magnitude of a manager's stock selection and factor timing returns

Skill Decomposed

Skill Decomposition



Aapryl Excess Return Table

- Shows returns for manager, benchmark and clones
- Shows excess return using both benchmark and clone portfolio
- Shows timing & stock selection

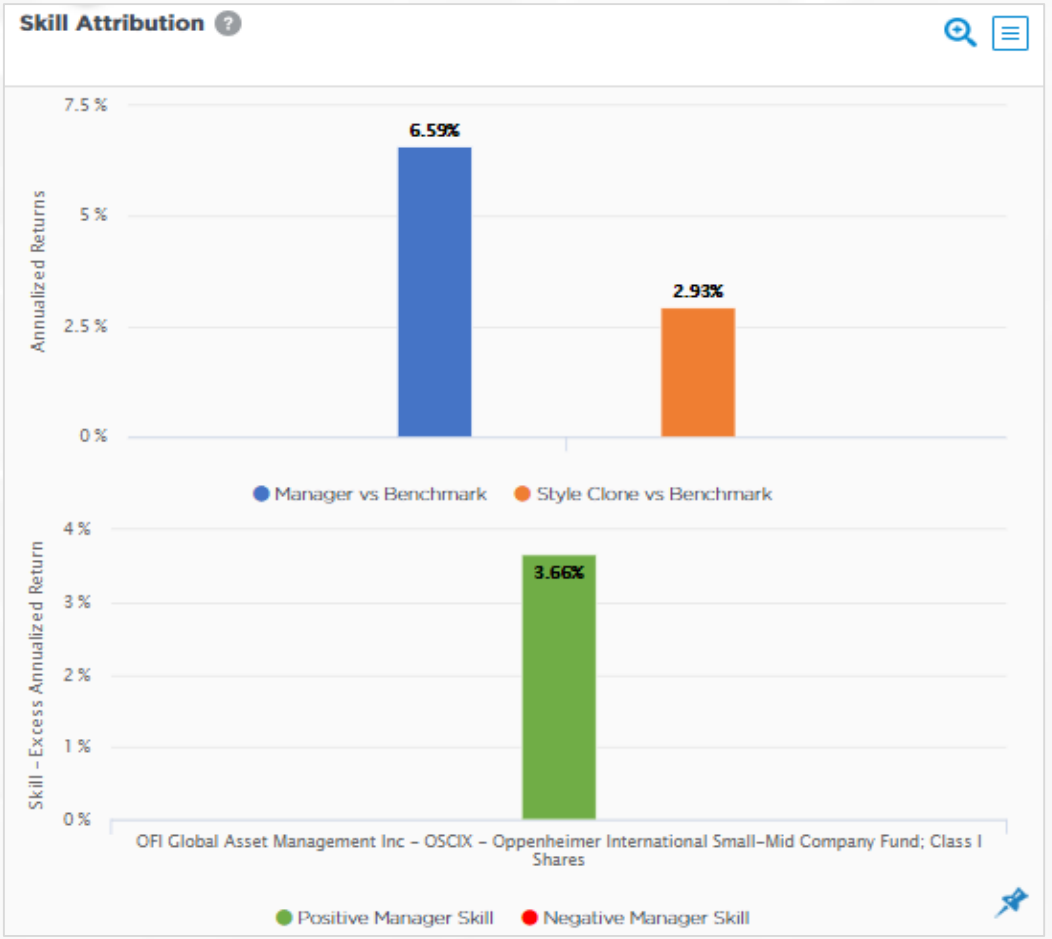
Excess Return Statistics

Russell Global ex-US Small Cap

Manager	9.62%
Benchmark	3.03%
Static Clone	5.96%
Dynamic Clone	6.02%
Traditional	
Manager Vs Benchmark	6.59%
Excess Decomposition	
Style Environment (Static Clone - Benchmark)	2.93%
Return from Skill (Manager - Static Clone)	3.66%
Skill Decomposition	
Style Timing (Dynamic - Static)	0.06%
Stock Selection (Return from Skill - Style Timing)	3.60%

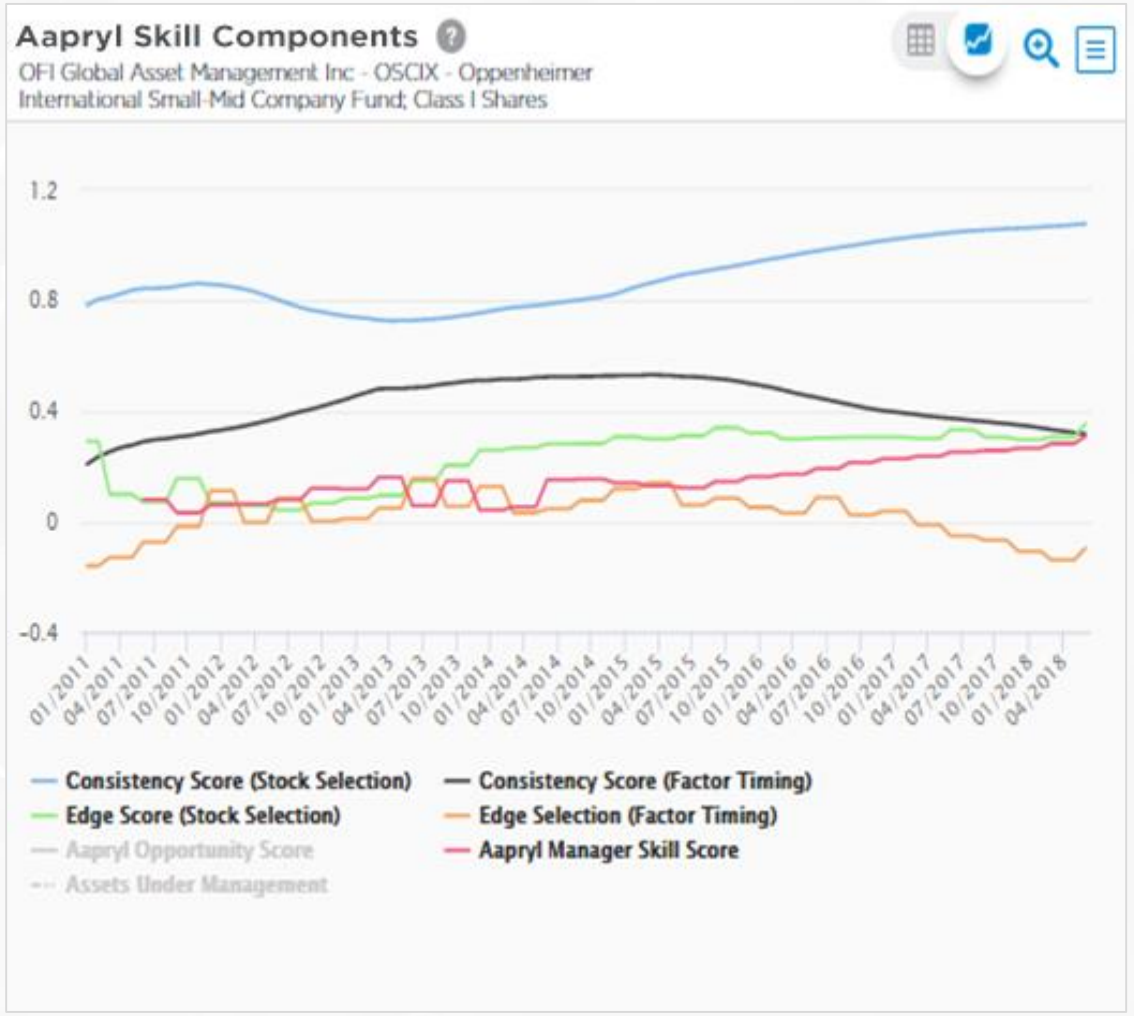
Aapryl Skill Attribution Chart

- The blue bar shows the excess return of a manager against their benchmark
- The orange bar compares the benchmark return to the manager's clone portfolio
- The green bar shows the manager's excess return above its clone portfolio. This is the return attributable to skill. If skill is negative, the bar will be red



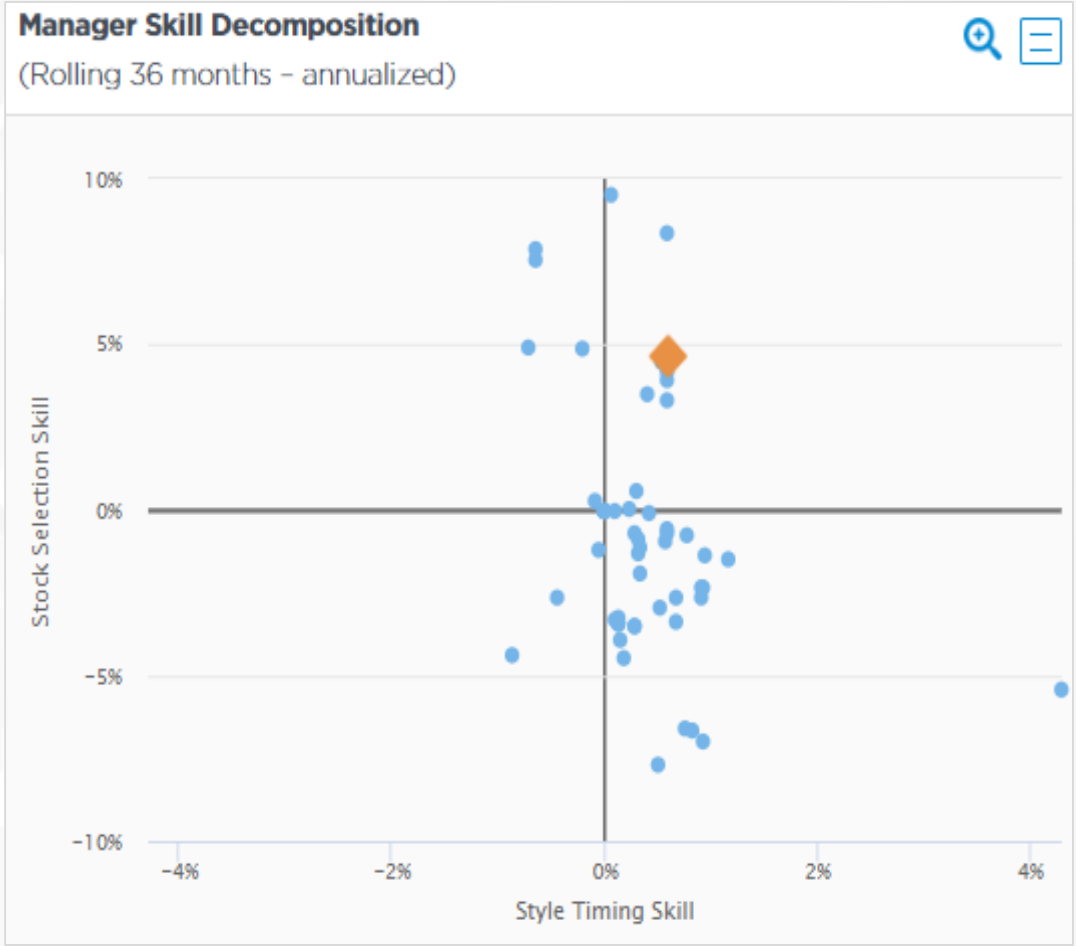
Aapryl Skill Attribution Chart

- Chart shows the skill scores of the different components of excess return
- The scores are based on both:
  1. the returns derived from each skill component
  2. comparison to peer groups



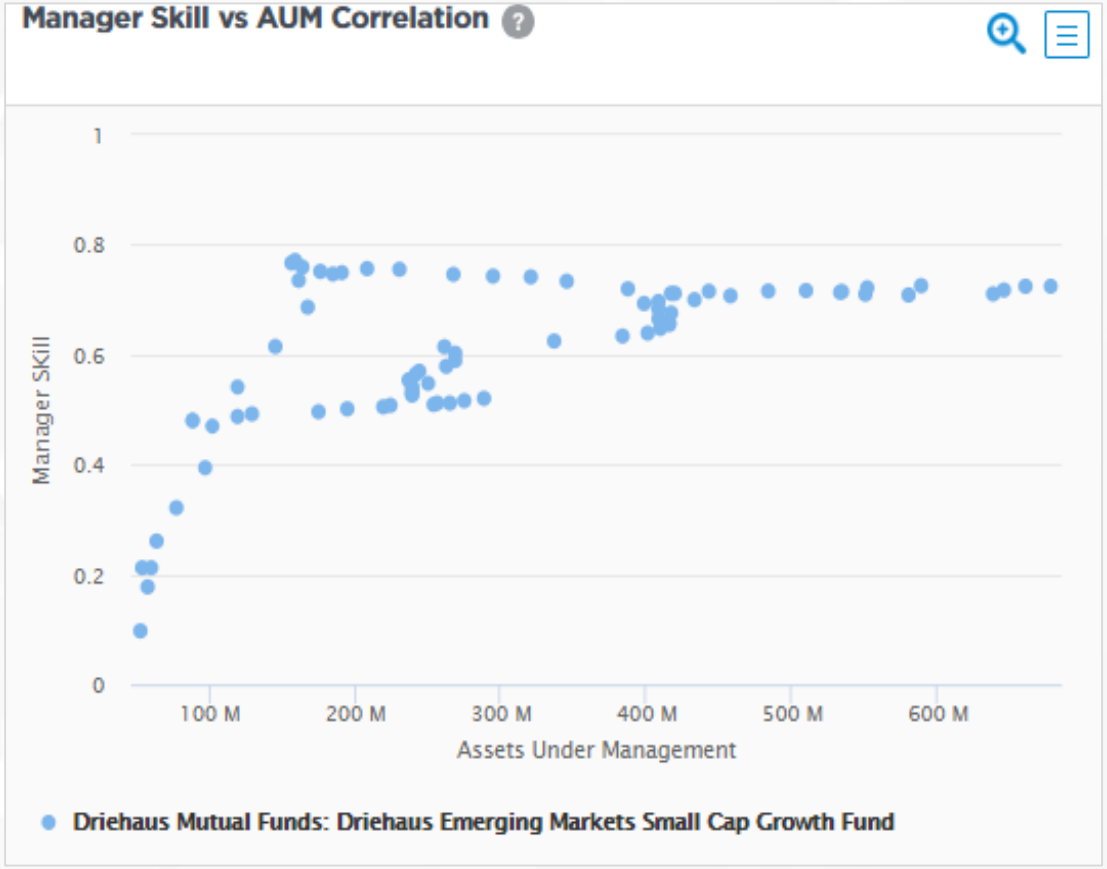
Manager Skill Comparison

- Chart shows managers' stock selection skill versus timing skill
- The orange diamond represents the selected manager
- The small dots all are members of the manager's peer group. The names can be seen by highlighting them in the system



Manager Skill Compared to AUM

- Chart shows the manager skill demonstrated at different levels of AUM
- It allows users to see if skill drops when AUM increases

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