Quantitative vs Fundamental Approaches to Equity Investing
Introduction

- The landscape has evolved for active equity investors
  - More information
  - More competition

- But opportunities for active management remain

- How do traditional, fundamental investors need to adapt?

- What do quantitative investors do, and how can they get an edge?
The Opportunity for Active Management Remains…

Dispersion of Quarterly Returns of MSCI World Index Constituents

Source: MSCI, RBC GAM. MSCI World Index performance in Canadian Dollars. Represents range of stock returns that are 1 standard deviation from MSCI World Index returns.
…But the Competition Is Getting Tougher

CFA Charterholders Globally

Number of Bloomberg Terminals

Source: CFA Institute, Bloomberg Data, RBC GAM
Back to Basics: The Fundamental Law of Active Management

Three Drivers of a Portfolio’s Risk-Adjusted Returns

IR \approx IC * \sqrt{N} * TC

Information Ratio (Return Relative to Risk)  
Accuracy of Forecasts (Skill)  
Number of Independent Decisions (Breadth)  
Ability to Express Forecasts (Influenced by Constraints)

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Back to Basics: What Drives a Stock’s Return?

Individual Stock Total Return

- Market Return
- Size, Sector, Country, Currency, etc. (Risk Factors)
- Growth, Value Momentum, etc. (Alpha Factors)
- Business Plan Management, Product, ESG, etc. (Company Specifics)

Return %

Individual Stock Total Return

IIES 2016 – Quantitative vs Fundamental Approaches to Equity Investing
Equity Investment Process Overview
Traditional Fundamental vs Systematic Quantitative

- News/Trends
- Price Information
- Financial Statement Data
- Economic Data
- Anything Else You Can Imagine

Investment Process

Stock Portfolio
Quantitative Investing
What It Isn’t, What It Is

Quantitative Investing is not:

- High Frequency Trading
- Computers robo-trading in a back room
- Math and physics PhDs with no investment knowledge building models

Quantitative Investing is:

- Studying and implementing traditional investment principles
- Doing so systematically
- Harnessing the power of computers to quickly process vast amounts of data
# Fundamental vs Quantitative Investing

How Do They Differ? What Is Their Edge?

<table>
<thead>
<tr>
<th></th>
<th>Fundamental</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research</strong></td>
<td>What Companies Offer the Best Returns?</td>
<td>What is the Best Way to Predict Returns?</td>
</tr>
<tr>
<td><strong>Judgment</strong></td>
<td>Applied Throughout Investment Process</td>
<td>Applied to Design of Investment Process, and to Final Decisions</td>
</tr>
<tr>
<td><strong>Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>The Edge</strong></td>
<td>Deep, Proprietary Insights</td>
<td>Fast, Systematic Decision-Making Applied to a Large Number of Stocks</td>
</tr>
</tbody>
</table>

IIES 2016 – Quantitative vs Fundamental Approaches to Equity Investing
Traditional Fundamental Investing: Getting an Edge
A Company Is More Than Its Numbers

INPUTS
Financial Reports
Management Meetings
Industry Contacts
Media

Management & Board

Business Model

Capital Allocation

Product Potential

Environmental, Social and Governance
Fundamental Investors Focus on Company Specifics
Through Risk Management and Portfolio Construction

Return on an *Individual Stock*

- Business Plan, Management, Product, ESG, etc. (Company Specifics)
- Growth, Value, Momentum, etc. (Alpha Factors)
- Size, Sector, Country, Currency, etc. (Risk Factors)
- Market Return

Portfolio Construction

- Careful management of net common factor exposures – “Risk” and “Alpha”
- Concentrated positions increase “company specific” exposures

Company-Specifics become the biggest driver of performance

Return on the *Total Portfolio*
Quantitative: How to Stay Ahead?
Judgment and Experience Needed Here Too

**INPUTS**
- Real-Time Financial Reports
- Real-Time Market Data
- Proprietary Models
  - Grounded In Economic Logic
  - Judgment and Experience
  - Multiple Factors
  - Ongoing Research

**INPUTS**
Real-Time Financial Reports
Real-Time Market Data
Quantitative Focus on Their Alpha Factors
Through Risk Management and Portfolio Construction

Return on an *Individual Stock*

- Growth, Value, Momentum, etc. (Alpha Factors)
- Business Plan, Management, Product, ESG, etc.
- Size, Sector, Country, Currency, etc. (Risk Factors)
- Market Return

**Portfolio Construction**

- Low net common “Risk” factor exposures
- High net “Alpha” factor exposures
- Large number of holdings, small individual positions diversify company-specific exposure

Return on the *Total Portfolio*

Alpha Factors become the biggest drivers of performance
The Fundamental Law of Active Management¹
Fundamental Manager Perspective

Advantage: Quantitative

Advantage: Fundamental

IR \overset{\approx}{=} IC \star \sqrt{N} \star TC

(Risk-Adjusted Returns) (Skill) (Breadth) (Implementation)

A Different Way to Think About Style Diversification
Quant and Fundamental Can Be Complementary

Fundamental Portfolio Returns

- Company-Specifics

Quantitative Portfolio Returns

- Alpha Factors

- Quantitative and Fundamental Portfolios driven by different things
- Can lead to low correlation of active returns
Both Fundamental and Quantitative Styles Have Worked Well
But Relative Performance Has Come at Different Times

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Median Returns Minus Fundamental Median Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>-6%</td>
</tr>
<tr>
<td>2007</td>
<td>-5%</td>
</tr>
<tr>
<td>2008</td>
<td>-4%</td>
</tr>
<tr>
<td>2009</td>
<td>-3%</td>
</tr>
<tr>
<td>2010</td>
<td>-2%</td>
</tr>
<tr>
<td>2011</td>
<td>-1%</td>
</tr>
<tr>
<td>2012</td>
<td>0%</td>
</tr>
<tr>
<td>2013</td>
<td>1%</td>
</tr>
<tr>
<td>2014</td>
<td>2%</td>
</tr>
<tr>
<td>2015</td>
<td>3%</td>
</tr>
</tbody>
</table>

Median Global Manager Returns Relative to MSCI World Index*

<table>
<thead>
<tr>
<th>Category</th>
<th>Median Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Fundamental Returns</td>
<td>8.2%</td>
</tr>
<tr>
<td>MSCI World Index</td>
<td>6.8%</td>
</tr>
<tr>
<td>Relative Performance</td>
<td>+1.4%</td>
</tr>
<tr>
<td>Median Quantitative Returns</td>
<td>8.8%</td>
</tr>
<tr>
<td>MSCI World Index</td>
<td>6.8%</td>
</tr>
<tr>
<td>Relative Performance</td>
<td>+2.0%</td>
</tr>
</tbody>
</table>

*As of December 31, 2015
Source: eVestment based on monthly returns. Products in large-cap Global core equity universe. Products are then split into those that identified themselves as having a “fundamental” approach or a “quantitative” approach.
Spectrum of Equity Strategies
Fundamental and Quantitative Both Have a Role to Play
Conclusions

- The landscape has evolved for active equity investors
- But opportunities for active management remain
- Traditional fundamental investors need to focus on where they can get an edge
- Quantitative investors need to differentiate themselves to stand apart from the crowd
- Well-executed fundamental and quantitative strategies can be complementary in a portfolio
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