THE GROWING ROLE OF MOMENTUM FACTOR IN PORTFOLIO MANAGEMENT

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The fund management industry is in a fundamental transformation process reshaping the investment decision-making process. The problem is the consistent underperformance of fund managers, the poor quality of advisory services, in the face of more demanding investors.

Mutual funds underperformed their benchmarks 72% of the time for too many years.

Hedge funds as a whole delivered a miserable return of 2% over the last 10 years.

Wealth managers must improve the quality of their services.

As more and more capital is leaving active funds to invest in passive ETFs, active managers are under pressure to deliver more value (performance) to investors and justify the high fees.

Innovative technology for market analysis and portfolio management can bring efficiency and higher returns, can add transparency and discipline at low cost.
US MUTUAL FUNDS: more than 70% underperform the benchmark

Breakdown for US Equity Funds:

<table>
<thead>
<tr>
<th>Fund Category</th>
<th>Comparison Index</th>
<th>One-Year (%)</th>
<th>Three-Year (%)</th>
<th>Five-Year (%)</th>
<th>Ten-Year (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Domestic Equity Funds</td>
<td>S&amp;P Composite 1500®</td>
<td>87.23</td>
<td>76.77</td>
<td>80.82</td>
<td>76.54</td>
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<tr>
<td>All Large-Cap Funds</td>
<td>S&amp;P 500</td>
<td>86.44</td>
<td>76.25</td>
<td>88.65</td>
<td>82.07</td>
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<tr>
<td>All Mid-Cap Funds</td>
<td>S&amp;P MidCap 400</td>
<td>66.23</td>
<td>70.48</td>
<td>85.37</td>
<td>89.71</td>
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<tr>
<td>All Small-Cap Funds</td>
<td>S&amp;P SmallCap 600</td>
<td>72.92</td>
<td>80.40</td>
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<td>87.75</td>
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<tr>
<td>All Multi-Cap Funds</td>
<td>S&amp;P Composite 1500</td>
<td>83.74</td>
<td>76.31</td>
<td>84.02</td>
<td>84.03</td>
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<tr>
<td>Large-Cap Growth Funds</td>
<td>S&amp;P 500 Growth</td>
<td>96.01</td>
<td>71.08</td>
<td>91.50</td>
<td>89.52</td>
</tr>
<tr>
<td>Large-Cap Core Funds</td>
<td>S&amp;P 500</td>
<td>79.28</td>
<td>77.32</td>
<td>88.77</td>
<td>84.30</td>
</tr>
<tr>
<td>Large-Cap Value Funds</td>
<td>S&amp;P 500 Value</td>
<td>78.59</td>
<td>80.98</td>
<td>86.67</td>
<td>58.76</td>
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<tr>
<td>Mid-Cap Growth Funds</td>
<td>S&amp;P MidCap 400 Growth</td>
<td>56.25</td>
<td>66.48</td>
<td>89.42</td>
<td>91.81</td>
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<tr>
<td>Mid-Cap Core Funds</td>
<td>S&amp;P MidCap 400</td>
<td>58.39</td>
<td>70.43</td>
<td>85.62</td>
<td>88.42</td>
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<tr>
<td>Mid-Cap Value Funds</td>
<td>S&amp;P MidCap 400 Value</td>
<td>73.61</td>
<td>72.73</td>
<td>85.35</td>
<td>85.71</td>
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<tr>
<td>Small-Cap Growth Funds</td>
<td>S&amp;P SmallCap 600 Growth</td>
<td>64.49</td>
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<td>67.92</td>
<td>82.13</td>
<td>89.25</td>
<td>88.14</td>
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<td>Small-Cap Value Funds</td>
<td>S&amp;P SmallCap 600 Value</td>
<td>94.31</td>
<td>90.00</td>
<td>89.68</td>
<td>86.59</td>
</tr>
<tr>
<td>Multi-Cap Growth Funds</td>
<td>S&amp;P Composite 1500 Growth</td>
<td>87.85</td>
<td>72.20</td>
<td>84.51</td>
<td>83.33</td>
</tr>
<tr>
<td>Multi-Cap Core Funds</td>
<td>S&amp;P Composite 1500</td>
<td>86.60</td>
<td>81.62</td>
<td>85.94</td>
<td>85.20</td>
</tr>
<tr>
<td>Multi-Cap Value Funds</td>
<td>S&amp;P Composite 1500 Value</td>
<td>69.42</td>
<td>68.35</td>
<td>82.47</td>
<td>79.64</td>
</tr>
<tr>
<td>Real Estate Funds</td>
<td>S&amp;P US Real Estate Investment Trust</td>
<td>80.14</td>
<td>86.23</td>
<td>91.49</td>
<td>78.08</td>
</tr>
</tbody>
</table>

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2014. Charts and tables are provided for illustrative purposes. Past performance is no guarantee of future results.

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EUROPEAN MUTUAL FUNDS: SIMILAR RESULTS

Figure 2. The percentage of underperforming actively managed funds (using prospectus benchmark)

source: The case for index fund investing for European investors- Vanguard research August 2014.
The performance of the Hedge Fund industry as a whole has been mediocre for more than a decade.

Source: www.thecogentadvisor.com

MANY PROFESSIONAL MANAGERS SIMPLY MISS THE KEY TRENDS
Trends are everywhere all the time

• Superior investment performance is all about capturing trends.

• “The momentum approach avoids the pitfalls of pretending to answer to 2 difficult questions:

  1. why this price action? Understanding the complexity and filtering the noise

  2. how far will it last? Forecasting the unforecastable

• But if forecasting trends is impossible, following trends is possible and lucrative.

• A sound, unbiased assessment of major trends is now part of best practice.

• Thanks to technology today this is possible, easy and low cost.
59% of uptrends record more than a 30% gain
40% of uptrends offer a profit in excess of 50%
19% of uptrends go well above a 100% rise in price

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THE PROBLEM WITH TREND ANALYSIS

• First – use sound methodology.
• Second – avoid human interpretation.
• The problem with traditional Technical Analysis:

Positives : simple, low cost, time effective.

Negatives :
• 1. at the methodology level:
  • Single indicators reliability 51-to-55% - solution a model with different indicators.
  • Volatility and patterns change – solution is a self adaptive model.
  • Lack of massive testing – min. 5 or 6 cycles (25-to-30 years of data) on min. 10k time series.
• 2. at the execution level:
  • Risk of biased interpretation, judgement kills the value.
THE EVOLUTION OF TREND FOLLOWING IS MOMENTUM FACTOR

• What it is:

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Stocks with low returns over the past year tend to have low returns for the next few months, and stocks with high past returns tend to have high future returns```. 
Eugene Fama & Kenneth French.

• For the past 20 years academic studies have repeatedly shown that, on average, shares that have performed well in the recent past continue to do so for some time. Longer-term studies have confirmed a momentum effect which has existed for well over a century.

«Using unique historical data on stock returns spanning 140 years, we examine the returns on one of the most popular mechanical trading strategies-momentum. We confirm that momentum investors have enjoyed large abnormal risk-adjusted returns.»

MOMENTUM IS STRONG AND PERSISTENT

A multi-factor approach has beaten the broader market on a risk-adjusted basis from 1963-2015.

<table>
<thead>
<tr>
<th>ANNUAL RETURN</th>
<th>STANDARD DEVIATION</th>
<th>SHARPER RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Momentum</td>
<td>15.1%</td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>13.8%</td>
<td></td>
</tr>
<tr>
<td>Profitability</td>
<td>15.4%</td>
<td></td>
</tr>
<tr>
<td>Blend</td>
<td>18.6%</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>14.8%</td>
<td>.56</td>
</tr>
<tr>
<td>Value</td>
<td>17.3%</td>
<td>.31</td>
</tr>
<tr>
<td>Profitability</td>
<td></td>
<td>.44</td>
</tr>
<tr>
<td>Blend</td>
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<tr>
<td>S&amp;P 500</td>
<td></td>
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</tr>
</tbody>
</table>

Methodology: Blend is an equal weighting of the top 20 percent of value, size profitability and momentum.

Sources: Kenneth R. French data library; Bloomberg

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MOMENTUM FACTOR

• Academic evidence:
  • A Century of Evidence on Trend-Following Investing, Brian Hurst, Yao Hua Ooi, Lasse H. Pedersen, Ph.D.
  • Anomalies and Market Efficiency, G. William Schwert
  • Dissecting Anomalies, Eugene F. Fama, Kenneth R. French
  • Fact, Fiction and Momentum Investing, Clifford S. Asness, Andrea Frazzini, Ronen Israel, Tobias J. Moskowitz
  • Momentum, Narasimhan Jegadeesh
  • Price Momentum In Stocks: Insights From Victorian Age Data, Benjamin Chabot, Eric Ghysels, Ravi Jagannathan
  • Profitability of Momentum Strategies: An Evaluation of Alternative Explanations, Narasimhan Jegadeesh
  • Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency, Narasimhan Jegadeesh, Sheridan Titman
  • Value and Momentum Everywhere, Clifford S. Asness, Tobias J. Moskowitz, Lasse H. Pedersen

• Industry endorsements of momentum:
  • AM: Blackrock, Invesco, Goldman, Van Eck, First Asset, DB ,.....
  • Index providers: MSCI, FTSE Russell, S&P.
  • Number of ETFs 200+ (including Powershares and Ishares) and growing.

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MISCONCEPTIONS

RISKY IN BEAR MARKETS – wrong
- Old school: measure the performance over the last 6 to 12 months. Late at capturing trend reversals
- New approach: sophisticated multi-factor models, self-adjusting on volatility changes. Faster to react.

HIGH TURNOVER - wrong
- If model is built to filter out price noise

SPECULATIVE - wrong
- Actually the opposite as it prevents letting losses to run
WAYS TO USE MOMENTUM - the technical benefits

- Passive managers use momentum indices either as stand alone or more frequently combined with other strategy factors (value, low volatility, dividend yield, ...).
- Active managers can use momentum models as an overlay at several levels:
  - Validation of investment ideas.
  - Selection, comparison, ranking.
  - Portfolio risk control.
  - Tactical allocation.
  - Strategy optimisation.
  - **Benefits: maximise upside capture and minimise downside.**
  - Is a great fit to value oriented strategies (negative correlation).
WHY ADDING MOMENTUM - behavioral benefits

• Effective risk control methodology “I see momentum analysis as a continuing process of trying to uncover and admit to your inevitable mistakes as a money manager.”

• Keep the common behavioral weaknesses in check:

  • The disposition effect (a very popular trap – cut profitable positions and let losses run).
  
  • The tendency to predict the future.
  
  • Biases.
  
  • Overconfidence.
  
  • Attachments to positions.
  
  • Momentum analysis brings discipline, objectivity, control, transparency, efficiency that enhance the performance.
WHEN IT WORKS, WHEN IT DOES NOT

• it works during bull trends and bear trends, that make 90-to-95% of the time over the last 20 years.

• Short term volatility is irrelevant.

• Ranging phases are irrelevant.

• It does not work at times of dramatic, sharp reversals (V bottom in early 2009), as it takes time to adjust. (historical evidence shows this to happen every 8-10 years).
MOMENTUM STRATEGY - SP500 (15 YEARS)
MOMENTUM STRATEGY - SWISS MARKET (15 YEARS)
MOMENTUM STRATEGY - UK MARKET (15 YEARS)
Rising importance as price action is less and less connected to fundamentals and more and more impacted by liquidity flows and mass psychology.

A stock with great fundamentals may take quarters before the market recognizes the value.

Analysts adjust forecasts just after the fact, offering intellectual substance to the obvious.

There is growing adoption of momentum across an increasing number of premier Asset Managers.
• momentum adoption:
  • 5 years ago less than 2%
  • today 20%
  • in 5 years 50%

• the more participants the more momentum will self-reinforce.

• momentum is here to stay and grow.

• Disregard momentum at your peril.

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To learn more about how the Trendrating Momentum Model can help you to maximize performance and lower risks, please contact us at info@trendrating.net

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