Dorsey, Wright & Associates
Relative Strength Investing

September 2013

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Client Portfolio Manager

www.dorseywrightmm.com
Research Services:

♦ "Daily Equity & Market Analysis Report" — a daily research report covering global capital markets, focusing upon tactical asset rotation and risk management.

♦ Extensive technical analysis website available with over 7,000 domestic stocks, 19,000 international stocks, 15,000 mutual funds, and 1,100 ETFs charted on a Point & Figure basis

♦ 29 different Guided ETF Model Portfolios, covering the scope of asset classes and ETF providers

♦ Weekly ETF Reports featuring each of the 29 guided models.

♦ DWA Media produces its own multimedia (video) presentations and weekly podcasts


Most Recently Published Book by DWA: Point & Figure Charting, 3rd Edition

DWA Background:
Founded January 1987

Money Management Services & Products:

♦ Exchange Traded Funds:
  - PowerShares DWA Technical Leaders (PDP)
  - PowerShares DWA Developed Leaders (PIZ)
  - PowerShares DWA Emerging Leaders (PIE)
  - PowerShares DWA Smallcap Leaders (DWAS)

♦ Unit Investment Trusts with First Trust:
  - Dorsey, Wright RS Dividend Trust
  - Dorsey, Wright RS Top 50 Trust
  - Dorsey, Wright RS International Dividend Trust

♦ Mutual Funds:
  - Arrow DWA Balanced Fund (DWAFX)
  - Arrow DWA Tactical Fund (DWTFX)

♦ Separately Managed Accounts:
  - Numerous account choices, from “Systematic RS” to “Global Macro”
Investment Methodology

Trend Analysis
Measuring Direction of Movement

The DWA Evaluation Process
Supply & Demand

Relative Strength
Measuring Magnitude of Movement

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The Rise of “Smart Beta” or Factor-Based Investing

• Relative Strength (Momentum)
• Low Volatility
• Other Value-Based Factors

“Interest in ‘smart beta’ investment strategies is accelerating. Inflows into advanced beta funds reached $15 billion in the first three months of 2013, up 45.3 percent on a same period a year ago.”

---Financial Times, June 16, 2013
Factor-Based Investing

• The “active managers don’t outperform!” mantra is false, because it is incomplete.

• The challenge facing active managers is more a function of failure to systematically execute rather than a failure to find effective return factors.
# Exhibit 1: The Performance of Momentum, Value, Growth & the S&P 500 since the 1930s

<table>
<thead>
<tr>
<th>Summary of Index Performance by Decade</th>
<th>1930s</th>
<th>1940s</th>
<th>1950s</th>
<th>1960s</th>
<th>1970s</th>
<th>1980s</th>
<th>1990s</th>
<th>2000s</th>
<th>1930-2000s Present</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAGR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French High Momentum</td>
<td>2.3%</td>
<td>12.9%</td>
<td>23.3%</td>
<td>14.1%</td>
<td>10.3%</td>
<td>18.6%</td>
<td>23.1%</td>
<td>0.6%</td>
<td>13.1%</td>
</tr>
<tr>
<td>French Value</td>
<td>-5.8%</td>
<td>17.2%</td>
<td>22.3%</td>
<td>10.7%</td>
<td>12.3%</td>
<td>20.4%</td>
<td>14.3%</td>
<td>4.0%</td>
<td>11.6%</td>
</tr>
<tr>
<td>French Growth</td>
<td>1.6%</td>
<td>7.4%</td>
<td>17.5%</td>
<td>8.0%</td>
<td>3.4%</td>
<td>15.8%</td>
<td>20.0%</td>
<td>-1.3%</td>
<td>8.9%</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>-0.5%</td>
<td>9.0%</td>
<td>19.3%</td>
<td>7.8%</td>
<td>5.9%</td>
<td>17.6%</td>
<td>18.2%</td>
<td>-0.9%</td>
<td>9.4%</td>
</tr>
<tr>
<td><strong>Sharpe Ratio</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French High Momentum</td>
<td>0.21</td>
<td>0.73</td>
<td>1.49</td>
<td>0.71</td>
<td>0.29</td>
<td>0.53</td>
<td>1.13</td>
<td>-0.05</td>
<td>0.55</td>
</tr>
<tr>
<td>French Value</td>
<td>0.15</td>
<td>0.88</td>
<td>1.23</td>
<td>0.51</td>
<td>0.38</td>
<td>0.75</td>
<td>0.73</td>
<td>0.16</td>
<td>0.41</td>
</tr>
<tr>
<td>French Growth</td>
<td>0.19</td>
<td>0.53</td>
<td>1.27</td>
<td>0.35</td>
<td>-0.08</td>
<td>0.42</td>
<td>0.98</td>
<td>-0.17</td>
<td>0.36</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>0.15</td>
<td>0.59</td>
<td>1.38</td>
<td>0.35</td>
<td>0.04</td>
<td>0.54</td>
<td>0.96</td>
<td>-0.15</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Source: RBC Capital Markets Research, Dr. Kenneth R. French
Relative Strength Research

High RS vs. S&P Total Return
10-Year Rolling Returns
1927 - 2012

Source: Ken French Data Library, Global Financial Data. S&P 500 is inclusive of dividends. High RS Index does not include dividends. Returns do not include transaction costs. Past performance is no guarantee of future returns.

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Source: Ken French Data Library, Global Financial Data. S&P 500 is inclusive of dividends. High RS Index does not include dividends. Returns do not include transaction costs. Past performance is no guarantee of future returns.
Relative Strength Calculation

• All major sports have a ranking system. The Point & Figure Relative Strength tool is the ranking system we use for Stocks, ETF’s.

• **Daily Calculation:**

  \[
  \text{Stock or ETF} \times 100 = \text{Relative Strength Index}
  \]

  \[
  \text{Relative Strength Reading}
  \]

• This reading is plotted on a Point & Figure chart which then tells us whether we can expect that stock or ETF to outperform or underperform the base index.
Market Relative Strength
Starbucks (SBUX) vs. S&P Equal Weighted Index (SPXEWI)

With Positive RS…
(4/7/1999 – 2/20/2007)

SBUX: 323.48%
SPXEWI: 87.55%
SPX: 10.01%

With Negative RS…

SBUX: -67.15%
SPXEWI: -53.34%
SPX: -48.35%

With Positive RS…
(3/16/2009 – 6/30/2013)

SBUX: 507.70%
SPXEWI: 168.41%
SPX: 113.07%

The performance numbers are pure price returns, based on the applicable index not inclusive of dividends, fees, or other expenses. Past performance not indicative of future results. Potential for profits accompanied by possibility of loss.
The remarkable thing about relative strength (momentum) is the nice combination of strong performance and relatively short periods of underperformance.

Source: (Fantasy versus Factors, Michael Nairne, 7/23/13)
Replacing Growth With Momentum

![Graphs showing portfolio returns with different momentum strategies](image)

- **Growth & Value (or Core) Portfolio**
  - Portfolio Return: 11.1%
  - Volatility: 15.8%
  - Sharpe Ratio: 0.29
  - Excess Return over Russell 3000: —
  - Tracking Error to Russell 3000: —
  - Information Ratio: —

- **Partially Replacing Growth with Momentum**
  - Portfolio Return: 12.0%
  - Volatility: 15.8%
  - Sharpe Ratio: 0.35
  - Excess Return over Russell 3000: 0.8%
  - Tracking Error to Russell 3000: 1.7%
  - Information Ratio: 0.51

- **Fully Replacing Growth with Momentum (50/50 Momentum & Value Portfolio)**
  - Portfolio Return: 12.8%
  - Volatility: 15.9%
  - Sharpe Ratio: 0.40
  - Excess Return over Russell 3000: 1.7%
  - Tracking Error to Russell 3000: 3.4%
  - Information Ratio: 0.49

*Source: AQR Capital Management*
DWA’s 1st ETF was PDP, which launched in March 2007. The Technical Leaders products have proven to meet a market need, with current AUM exceeding $1.9 Billion.
Universe of Over 1500 Names

Relative Strength Arm Wrestling Match

Ranked Strongest to Weakest

PowerShares DWA Technical Leaders Portfolio (PDP)

Top 10 Holdings (100 total)

<table>
<thead>
<tr>
<th>STOCK</th>
<th>TICKER</th>
<th>STOCK WEIGHTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Tower REIT</td>
<td>AMT</td>
<td>2.99</td>
</tr>
<tr>
<td>Starz-Liberty Capital</td>
<td>STRZA</td>
<td>2.65</td>
</tr>
<tr>
<td>Pricolino.Com, Inc.</td>
<td>PCLN</td>
<td>2.61</td>
</tr>
<tr>
<td>General Growth Properties Inc</td>
<td>GGP</td>
<td>2.58</td>
</tr>
<tr>
<td>Gilead Sciences, Inc.</td>
<td>GILD</td>
<td>2.54</td>
</tr>
<tr>
<td>J.B. Hunt Transport Services, Inc.</td>
<td>JBHT</td>
<td>2.51</td>
</tr>
<tr>
<td>Vontas, Inc.</td>
<td>VTR</td>
<td>2.47</td>
</tr>
<tr>
<td>Airgas, Inc.</td>
<td>ARG</td>
<td>2.44</td>
</tr>
<tr>
<td>TRW Automotive Holdings Corp.</td>
<td>TRW</td>
<td>2.39</td>
</tr>
<tr>
<td>Precision Castparts Corp.</td>
<td>PCP</td>
<td>1.90</td>
</tr>
</tbody>
</table>

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# PIE Country Weightings

<table>
<thead>
<tr>
<th>Country</th>
<th>PowerShares DWA Emerging Markets Technical Leaders Index (PIE)</th>
<th>MSCI Emerging Markets Index</th>
<th>Comparative Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>15.09%</td>
<td>3.02%</td>
<td>12.07%</td>
</tr>
<tr>
<td>Philippines</td>
<td>7.71%</td>
<td>1.12%</td>
<td>6.59%</td>
</tr>
<tr>
<td>Turkey</td>
<td>7.53%</td>
<td>2.20%</td>
<td>5.33%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>9.15%</td>
<td>4.08%</td>
<td>5.07%</td>
</tr>
<tr>
<td>Thailand</td>
<td>6.95%</td>
<td>2.17%</td>
<td>4.78%</td>
</tr>
<tr>
<td>Mexico</td>
<td>9.50%</td>
<td>5.05%</td>
<td>4.45%</td>
</tr>
<tr>
<td>South Africa</td>
<td>8.34%</td>
<td>6.83%</td>
<td>1.51%</td>
</tr>
<tr>
<td>South Korea</td>
<td>13.02%</td>
<td>14.52%</td>
<td>-1.50%</td>
</tr>
<tr>
<td>India</td>
<td>2.02%</td>
<td>6.82%</td>
<td>-4.80%</td>
</tr>
<tr>
<td>Taiwan</td>
<td>6.72%</td>
<td>11.80%</td>
<td>-5.08%</td>
</tr>
<tr>
<td>Brazil</td>
<td>3.64%</td>
<td>11.26%</td>
<td>-7.62%</td>
</tr>
<tr>
<td>China</td>
<td>7.70%</td>
<td>17.74%</td>
<td>-10.04%</td>
</tr>
</tbody>
</table>

Source: Dorsey Wright

As of 7/1/2013

Source: PowerShares and MSCI

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Summary

• The market systematically rewards some return factors and systematically punishes others over time

• Multiple return factors have demonstrated the ability to generate excess returns

• Momentum has a long history of providing robust returns

• Combining complementary return factors in a portfolio can improve the risk / return profile
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