Relative Strength Filter
Global Summary

Group Selection
Priced as of December 31, 2018

Note: Group tickers incorporate hyperlinks to decile charts, and then a link to our Toolkit of the group members.

See back pages for user guide and disclaimer.
Sources for all charts: BMO Capital Markets
Table of Contents

3. Sector View
4. Strength Changes Last Session
5. Resource Summary
6. Energy
7. Materials
8. Industrials
9. Consumer Discretionary
10. Consumer Staples
11. Health Care
12. Financials
13. Information Technology
14. Telecom
15. Utilities
16. Real Estate
17. User Guide
Sector View

Sector Relative Strength Profiles*

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<thead>
<tr>
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<tbody>
<tr>
<td>Energy</td>
<td>26% / 35% / 40%</td>
<td>/ / / -21% / -28% / -24%</td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>24% / 29% / 37%</td>
<td>/ / / 19% / 13% / 16%</td>
<td></td>
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<tr>
<td>Industrials</td>
<td>29% / 37% / 44%</td>
<td>/ / / 11% / 0% / 7%</td>
<td></td>
</tr>
<tr>
<td>CMR Disc</td>
<td>27% / 34% / 39%</td>
<td>/ / / 12% / 6% / 10%</td>
<td></td>
</tr>
<tr>
<td>CMR Stap</td>
<td>36% / 47% / 55%</td>
<td>/ / / 22% / 11% / 18%</td>
<td></td>
</tr>
<tr>
<td>Hlth Care</td>
<td>44% / 51% / 56%</td>
<td>/ / / -2% / -7% / -4%</td>
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</tr>
<tr>
<td>Financials</td>
<td>28% / 38% / 47%</td>
<td>/ / / 18% / 7% / 13%</td>
<td></td>
</tr>
<tr>
<td>Info Tech</td>
<td>35% / 42% / 48%</td>
<td>/ / / 9% / 2% / 8%</td>
<td></td>
</tr>
<tr>
<td>Comm Srv</td>
<td>34% / 43% / 51%</td>
<td>/ / / 21% / 13% / 17%</td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td>44% / 58% / 64%</td>
<td>/ / / 40% / 27% / 31%</td>
<td></td>
</tr>
<tr>
<td>Real Estate</td>
<td>41% / 53% / 61%</td>
<td>/ / / 17% / 6% / 10%</td>
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</table>

*Three terms define the relative performance Z-Score rating versus the markets (US = S&P 500; GBL = MSCI AC World; CDA = S&P/TSX Composite)
(a) % Outperforming - what percentage of sector members is outperforming the market,
(b) Reward/Risk - how consistent is the median relative strength performance of the sector membership ( / / ranking),
(c) Trend Psn - what is the net percentage of the sector members which are breaking above/below relative strength channels.
The strength z-Score is weighted 60% towards the trend parameters (% outperforming and reward/risk ratios) and 40% towards the trend positions (reversals of trends). Gridlines are placed at 0.5 increments.

See Help Pages for further details
Resources

December 31, 2018

Mark Steele (416) 359-4641

- Gold (67 stocks, $188bn)
- Coal & Uran (21 stocks, $70bn)
- Spec Chm (11 stocks, $22bn)
- Frst Prd (19 stocks, $202bn)
- Csr Mat (28 stocks, $202bn)
- Comd Chm (43 stocks, $363bn)
- OG Rfmkt (43 stocks, $363bn)
- Silver (10 stocks, $17bn)
- O G Drill (12 stocks, $20bn)
- Copper (74 stocks, $74bn)
- OG Equip (97 stocks, $372bn)
- OG E&P (103 stocks, $372bn)
- Steel (59 stocks, $36bn)
- Alumin (10 stocks, $35bn)
- Pap Pkg (17 stocks, $96bn)
- Pap Prod (25 stocks, $96bn)
- Dvrs Mng (25 stocks, $96bn)
- Divers Chm (22 stocks, $305bn)
- Fert & Ag (29 stocks, $166bn)
- OG St Tr (73 stocks, $537bn)
- Int O & G (91 stocks, $1632bn)

Indus Gas (7 stocks, $188bn)
Mt Gls Cnt (16 stocks, $56bn)
OG Rmkt (19 stocks, $454bn)
OG Drill (12 stocks, $20bn)
Copper (74 stocks, $74bn)
OG Equip (97 stocks, $372bn)
OG E & P (103 stocks, $372bn)
Steel (59 stocks, $36bn)
Alumin (10 stocks, $35bn)
Pap Pkg (17 stocks, $96bn)
Pap Prod (25 stocks, $96bn)
Dvrs Mng (25 stocks, $96bn)
Divers Chm (22 stocks, $305bn)
Fert & Ag (29 stocks, $166bn)
OG St Tr (73 stocks, $537bn)
Int O & G (91 stocks, $1632bn)
December 31, 2018

**Energy**

**Coal & Uran**
- 21 stocks; $70bn

**OG RfMkt**
- 39 stocks; $454bn

**OG Drill**
- 12 stocks; $20bn

**OG Equip**
- 57 stocks; $175bn

**OG E&P**
- 103 stocks; $654bn

**OG StTr**
- 73 stocks; $537bn

**Int O&G**
- 31 stocks; $1652bn
Information Technology

December 31, 2018
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Momentum

Strength

SystmSwr ↑
35 stocks; $1138bn

ApplicSwr ↑
77 stocks; $832bn

DataProc ↑
47 stocks; $3954bn

TechDist ↑
13 stocks; $426bn

ComEquip ↑
40 stocks; $380bn

ElecComp ↓
36 stocks; $234bn

InetSrv&In ↑
12 stocks; $75bn

ElecInstr ←
44 stocks; $220bn

ITConsult ↑
49 stocks; $637bn

HdwrSt&P ↑
40 stocks; $1201bn

35 stocks; $1138bn
74 stocks; $1136bn
18 stocks; $96bn
97 stocks; $832bn
42 stocks; $220bn
47 stocks; $3954bn
13 stocks; $426bn
40 stocks; $380bn
36 stocks; $234bn
12 stocks; $75bn
44 stocks; $220bn
49 stocks; $637bn
40 stocks; $1201bn
User Guide 1 - Definitions & Dataset

Group Strength
Our Global Group analysis is based on bottom-up equity relative strength analysis as opposed to industry group (index) relative strength analysis.

Strength Decile Defined By
1. What percentage of a group’s members are outperforming
2. How consistent that outperformance is
3. How the are members positioned (above/below) vs. their trend channels.

Momentum Decile
Rate of change of strength (change in 5-day moving average)

The Underlying Equity Relative Strength Analysis
Each day, for every equity we cover, our relative strength system assesses the best fit trend from a spectrum which covers a minimum trend duration of six months, and a maximum of 4-years. The "best fit" is the trend which maximizes duration, and minimizes deviation from the trend. Our process is flexible, thorough, and because it is run daily, timely.

The Dataset:
- Over 5,700 securities.
- Groups have a:
  ...Median depth of 28
  ...Average depth of 36

Heat Map Colour and Symbol Guide
Strength is highlighted by the background of the group title
- Bright green = best (1st decile) transitions towards...
- Bright red = worst (10th decile)
Momentum is highlighted in the border of the group title
- Colour map for momentum is the same as strength
Symbols to the right of the group ticker show where a group moved from in the previous session. Below the group symbol we highlight the number and total market capitalization of the members in a group. Clicking on the group, which brings up the chart via a hyperlink, will help to clarify the moves.
Our Goals:
- To buy outperforming stocks in favoured groups
- To avoid underperforming stocks in unfavoured groups
- To be alerted of and act on the changes

#1 Rule of Momentum: You can use it only if it exists

- In stable/trending markets, one can buy stocks with high strength and momentum and hold them as long as momentum does not turn negative (trend following).

- In very rotational markets (e.g., where credit, currency, commodity conditions are choppy/changing):
  - Buying high strength and high momentum may be dangerous (buying yesterday's winners).
  - One is better off buying stocks with moderate strength and high momentum (bottom fishing).
User Guide 3 - Buy/Hold/Sell

Buy
- Groups with high strength and high positive momentum (top left) - “In Favour”
- Groups with moderate strength and high positive momentum - “Transitioning to Positive”
- Groups with mediocre strength and high positive momentum - “Gaining Favour”

Buy/Hold
- Groups with high strength and neutral momentum (middle left) - “Maintaining Favour”

Sell
- Groups with low strength and high negative momentum (bottom right) - “Out of Favour”
- Groups with moderately negative strength and high negative momentum - “Transitioning to Negative”
- Groups with mediocre strength and high negative momentum - “Losing Favour”
User Guide 4 - Hyperlinks To Decile Charts & Stock Selection

- Each group is hyperlinked to a chart that shows the relative strength decile as a function of time, and the moving average (momentum).

- Each chart is hyperlinked to the group membership, in our RS Filter Toolkit.
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<td>Buy</td>
<td>Outperform</td>
<td>43.2%</td>
<td>22.8%</td>
<td>57.4%</td>
<td>44.1%</td>
<td>57.0%</td>
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<td>Hold</td>
<td>Market Perform</td>
<td>53.2%</td>
<td>13.1%</td>
<td>40.6%</td>
<td>52.6%</td>
<td>41.1%</td>
<td>41.6%</td>
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<tr>
<td>Sell</td>
<td>Underperform</td>
<td>3.7%</td>
<td>9.5%</td>
<td>2.0%</td>
<td>3.2%</td>
<td>1.6%</td>
<td>5.5%</td>
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* Reflects rating distribution of all companies covered by BMO Capital Markets Corp. equity research analysts.
** Reflects rating distribution of all companies from which BMO Capital Markets Corp. has received compensation for Investment Banking services as percentage within ratings category.
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Mkt = Market Perform - Forecast to perform roughly in line with the analyst’s coverage universe on a total return basis;
Und = Underperform - Forecast to underperform the analyst’s coverage universe on a total return basis;
(S) = Speculative investment;
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