Autos marketplace index gauge

Data as of 8.10.2020
Objective:

To provide an at-a-glance high-level signal about the health of our autos search marketplace, **as compared to times of relative normality.** It is a technical analysis agnostic to external indicators and should be treated accordingly.
What comprises the Marketplace Index?
Marketplace Index is a composite metric built to reflect the following behaviors:

- Search volume
- Advertiser participation
- Auction activity
- Searcher intent
How are the signals extracted
A primer on how moving averages (MA) work

<table>
<thead>
<tr>
<th>Date</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/20</td>
<td>500</td>
</tr>
<tr>
<td>3/21</td>
<td>650</td>
</tr>
<tr>
<td>3/22</td>
<td>700</td>
</tr>
<tr>
<td>3/23</td>
<td>400</td>
</tr>
<tr>
<td>3/24</td>
<td>250</td>
</tr>
<tr>
<td>3/25</td>
<td>300</td>
</tr>
<tr>
<td>3/26</td>
<td>425</td>
</tr>
<tr>
<td>3/27</td>
<td>500</td>
</tr>
<tr>
<td>3/28</td>
<td>525</td>
</tr>
<tr>
<td>3/29</td>
<td>700</td>
</tr>
<tr>
<td>3/30</td>
<td>650</td>
</tr>
<tr>
<td>3/31</td>
<td>825</td>
</tr>
<tr>
<td>4/1</td>
<td>900</td>
</tr>
</tbody>
</table>

A simple moving average calculates the average of a selected range of values. For instance, the 3-day moving average for the date of 4/1 would be the average of the values for the dates of 4/1, 3/31, and 3/30.
Line of estimated normality:
This is where we estimate the marketplace signal would register on average during the current month under normal circumstances.
Here our cluster of shorter-term moving averages has consolidated around the estimated line of normality, pulling latent longer-term moving averages with it.

When there is a period with all six short-term moving averages above all six long-term moving averages, this a confirmed market uptrend.
In this example, we see all six longer-term moving averages floating above all six shorter-term moving averages, suggesting a downtrend.

However, the shorter-term moving averages begin to reverse course, and move back through the longer-term moving averages. This is an indication that the marketplace is possibly turning around, and a good opportunity for advertisers to re-enter.
In this example, there is a clear negative gap between the long-term moving averages and the short-term moving averages, and that gap is increasing.

When the cluster of short-term averages demonstrates behavior in the opposite direction, it will be time to think about a yellow signal. Until then, this is firmly a downtrend.
How the auto marketplace is performing
U.S. marketplace signals
# US MARKETPLACE SIGNALS

## Auto marketplace signals – U.S. short window

<table>
<thead>
<tr>
<th>Sub-category</th>
<th>Signal</th>
<th>Signal guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1 OEM</td>
<td><img src="#" alt="Green Circle" /></td>
<td>Marketplace Index is trending above their normality line</td>
</tr>
<tr>
<td>Tier 2 Dealers</td>
<td><img src="#" alt="Red Circle" /></td>
<td>Marketplace Index is trending near their normality line</td>
</tr>
<tr>
<td>Tier 3 Dealers</td>
<td><img src="#" alt="Red Circle" /></td>
<td>Marketplace Index is trending below their normality line</td>
</tr>
<tr>
<td>3rd Parties</td>
<td><img src="#" alt="Red Circle" /></td>
<td></td>
</tr>
<tr>
<td>Parts &amp; Service</td>
<td><img src="#" alt="Red Circle" /></td>
<td></td>
</tr>
</tbody>
</table>

Source: Microsoft Internal Data as of 8.10.2020
Tier 1 maintains growth trajectory into August

• Tier 1 continues to pace nicely in August, maintaining its gap between the short-term and long-term moving averages

• This week, the long-term averages reached the August normality line indicating Tier 1 is meeting prior year August levels

Source: Microsoft Internal Data as of 8.10.2020
Tier 2 retracts some of its positive momentum

- Tier 2 short-term moving averages have flattened this week and started to curve down, as they merge with the long-term moving averages. Short-term growth has dissipated, but levels are still noticeably above the lows.

- August normality line has moved down from the July reference line.

Source: Microsoft Internal Data as of 8.10.2020
Tier 3 keeps up its growth momentum

- Tier 3 has continued to see its short-term moving averages outpace the long term, as it starts to gain ground towards its August line of normality.

Source: Microsoft Internal Data as of 8.10.2020
Third party trending flat in the short term

- Third Party index illustrates how the short-term moving averages are trending flat and in-line with the long-term moving averages, a sign of a lack of momentum in either direction (up or down)

Source: Microsoft Internal Data as of 8.10.2020
Parts & Service experiences downward trends

- After a strong start to the summer, Parts & Service has started to trend down in the short-term, trending below the long-term averages.

- The August line of normality is below the July reference line.

Source: Microsoft Internal Data as of 8.10.2020
International marketplace signals
# Auto marketplace signals – International short window

<table>
<thead>
<tr>
<th>Market</th>
<th>Signal</th>
<th>Signal guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td><img src="yellow.png" alt="Yellow" /></td>
<td>Marketplace Index is trending above their normality line</td>
</tr>
<tr>
<td>Canada</td>
<td><img src="red.png" alt="Red" /></td>
<td>Marketplace Index is trending near their normality line</td>
</tr>
<tr>
<td>France</td>
<td><img src="red.png" alt="Red" /></td>
<td>Marketplace Index is trending below their normality line</td>
</tr>
<tr>
<td>Germany</td>
<td><img src="yellow.png" alt="Yellow" /></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td><img src="green.png" alt="Green" /></td>
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</tr>
<tr>
<td>Singapore</td>
<td><img src="green.png" alt="Green" /></td>
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</tr>
<tr>
<td>Spain</td>
<td><img src="green.png" alt="Green" /></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td><img src="green.png" alt="Green" /></td>
<td></td>
</tr>
</tbody>
</table>

Source: Microsoft Internal Data as of 8.10.2020
Median of August '19 and August '18
3, 5, 8, 10, 12, 15-day moving averages
30, 35, 40, 45, 50, 55-day moving averages

Marketplace Rebound Gauge, Global, Short Window
When short term averages crest long term averages, this is a strong signal the marketplace is reversing

Australia
Canada
France
Germany
Italy
Singapore
Spain
United Kingdom
United States

Data: Microsoft Advertising Internal. January 2020 - Present
Marketplace Rebound Gauge, Global, Long Window

When short term averages crest long term averages, this is a strong signal the marketplace is reversing.

Data: Microsoft Advertising Internal, January 2018 - Present
Strategies and recommendations

Learn immediate and recovery-phase strategies, and how to approach new opportunities and optimize account health in the Digital Advertiser’s Guide to COVID-19
Appendix
COVID-19 curve by international market

Source: Data as of 6.19.2020 [https://www.datacat.cc/covid/](https://www.datacat.cc/covid/)
Autos Marketplace Rebound Gauge, United States, Short Window

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