“Best single measure of global economic activity in real time”
Bank of England rating of the global PMI

“the most closely monitored business surveys in the world”
European Central Bank paper 2015

“The Euro area composite PMI, which is the most reliable early indicator of growth ….”
JPMorgan research note, January 2017
PMI coverage

- **38+ Countries**
- **24,000+ Companies**
- **83% Global GDP**

- Current coverage
- Expansion pipeline
The need for better economic data

Official data weaknesses:

- Poor coverage of the whole economy
- Often infrequent with delay in publication
- Revision prone
- Volatile

Lead to:

- Policy errors
- Investment allocation errors
- Business decision errors

PMI objective:

- To provide the **earliest**, most **accurate** and most **comprehensive** comparable suite of economic indicators
"PMI-based GDP nowcasts turn out to be more in line with the latest official GDP estimates than the first official or flash GDP estimate.

"Regarding timeliness, two months of the current quarter appears to be generally sufficient, which is 2½ months before the flash GDP estimate."
## Index coverage

Respondents are asked to compare volumes (or prices) in the current month with one month previously, with the exception of Future Expectations.

<table>
<thead>
<tr>
<th>Manufacturing</th>
<th>Services</th>
<th>Whole Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>Business activity</td>
<td>Output</td>
</tr>
<tr>
<td>New orders</td>
<td>New business</td>
<td>New orders</td>
</tr>
<tr>
<td>Backlogs of work</td>
<td>Outstanding business</td>
<td>Backlogs of work</td>
</tr>
<tr>
<td>Employment</td>
<td>Employment</td>
<td>Employment</td>
</tr>
<tr>
<td>Input prices</td>
<td>Input costs</td>
<td>Overall input prices</td>
</tr>
<tr>
<td>Output prices</td>
<td>Prices charged</td>
<td>Purchase prices</td>
</tr>
<tr>
<td>Quantity of purchases</td>
<td>Future expectations*</td>
<td>Wage costs</td>
</tr>
<tr>
<td>Suppliers’ delivery times</td>
<td></td>
<td>Output prices</td>
</tr>
<tr>
<td>Stocks of purchases</td>
<td></td>
<td>Quantity of purchases</td>
</tr>
<tr>
<td>Stocks of finished goods</td>
<td></td>
<td>Suppliers’ delivery times</td>
</tr>
<tr>
<td>New export orders</td>
<td></td>
<td>Stocks of purchases</td>
</tr>
<tr>
<td>Future expectations*</td>
<td></td>
<td>New export orders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Future expectations*</td>
</tr>
</tbody>
</table>
## Panel structure

US Manufacturing PMI

<table>
<thead>
<tr>
<th>Sector</th>
<th>NAICS</th>
<th>Total</th>
<th>Small 0/99</th>
<th>Medium 100/499</th>
<th>Large 500+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, Beverages &amp; Tobacco Products</td>
<td>311-312</td>
<td>12%</td>
<td>2%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Textiles, Clothing &amp; Leather Products</td>
<td>313-316</td>
<td>2%</td>
<td>0%</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>Electrical &amp; Electronic Products</td>
<td>334-335</td>
<td>18%</td>
<td>3%</td>
<td>6%</td>
<td>10%</td>
</tr>
<tr>
<td>Chemicals, Rubber &amp; Plastics Products</td>
<td>325-326</td>
<td>17%</td>
<td>4%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>Transport Manufacturing</td>
<td>336</td>
<td>7%</td>
<td>1%</td>
<td>1%</td>
<td>6%</td>
</tr>
<tr>
<td>Wood &amp; Paper Products</td>
<td>321-323</td>
<td>6%</td>
<td>2%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Metals &amp; Metal Products</td>
<td>331-332</td>
<td>10%</td>
<td>4%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Machinery</td>
<td>333</td>
<td>8%</td>
<td>2%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>324,327,337,339</td>
<td>19%</td>
<td>5%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>-</strong></td>
<td><strong>23%</strong></td>
<td><strong>37%</strong></td>
<td><strong>40%</strong></td>
<td><strong>-</strong></td>
</tr>
</tbody>
</table>

## Global Sector PMI coverage

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sectors</th>
<th>Sub-sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Materials</td>
<td>Chemicals</td>
<td>Forestry &amp; Paper Products</td>
</tr>
<tr>
<td></td>
<td>Resources</td>
<td>Metals &amp; Mining</td>
</tr>
<tr>
<td>Consumer Goods</td>
<td>Automobiles &amp; Auto Parts</td>
<td>Food</td>
</tr>
<tr>
<td></td>
<td>Beverages &amp; Food</td>
<td>Beverages</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Household &amp; Personal Use Products</td>
</tr>
<tr>
<td>Consumer Services</td>
<td>Media</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tourism &amp; Recreation</td>
<td></td>
</tr>
<tr>
<td>Financials</td>
<td>Banks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Insurance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Financials</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Real Estate</td>
<td></td>
</tr>
<tr>
<td>Healthcare</td>
<td>Healthcare Services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pharmaceuticals &amp; Biotechnology</td>
<td></td>
</tr>
<tr>
<td>Industrials</td>
<td>Industrial Goods</td>
<td>Machinery &amp; Equipment</td>
</tr>
<tr>
<td></td>
<td>Industrial Services</td>
<td>Construction Materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Commercial &amp; Professional Services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>General Industrials</td>
</tr>
<tr>
<td>Transportation</td>
<td>Technology Equipment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Software &amp; Services</td>
<td></td>
</tr>
<tr>
<td>Telecommunication Services</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Global PMI at 13-month high

Global GDP and the PMI

Developed & emerging market output

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Emerging markets

Emerging market GDP and the PMI

Emerging market PMI output
China PMI points to best quarter for nearly six years

China PMI* & economic growth

China GDP, y/y%

China employment

© 2017 IHS Markit
Developed world

Developed world GDP and the PMI

Developed market PMI output

© 2017 IHS Markit
US survey strength adds to scope for further rate hikes

US PMI & economic growth

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>50</td>
<td>40</td>
<td>55</td>
<td>60</td>
<td>65</td>
<td>70</td>
</tr>
<tr>
<td>PMI</td>
<td>45</td>
<td>35</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
</tr>
</tbody>
</table>

US output by sector

- Financials
- Consumer Goods
- Technology
- Industrials
- Basic Materials
- Healthcare
- Consumer Services

Output, sa, 50.0 = no change on previous month

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Eurozone grows at fastest rate since 2011

Eurozone PMI & GDP

Big-four euro nations

Markit Eurozone PMI

Markit Composite PMI Output Index

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Eurozone business outlook

Markit Services PMI Future Expectations Index

Big-four euro nations

Markit Services PMI Future Expectations Index

Germany — France — Italy — Spain

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ECB policy

ECB policy v PMI output

ECB policy v PMI price gauge

* Derived from input cost and supplier delivery times indices.
United Kingdom ends 2016 on 1½ year high

UK PMI & GDP

Bank of England policy

Sources: IHS Markit, ONS
United Kingdom business outlook

Markit/CIPS Services PMI Business Expectations Index

Shaded areas show periods of economic decline or near-stagnation (<0.1%) as indicated by ONS first final estimates of GDP.

UK service sector worries*

* Derived from reasons cited for pessimism about business activity in the year ahead from monthly PMI surveys in Q4 2016.
Global input prices

Composite PMI Input Costs Index

- UK
- Eurozone
- US
- Japan

Manufacturing PMI Input Prices Index,
Q4 2016 average, 50 = no change on prior month

- WORLD
- UK
- Turkey
- Myanmar
- Taiwan
- China
- Mexico
- Netherlands
- Brazil
- Italy
- Canada
- France
- Poland
- Vietnam
- Germany
- Spain
- Greece
- Malaysia
- Austria
- Ireland
- Philippines
- Russia
- Czech Rep.
- S Korea
- India
- Indonesia
- US
- Singapore
- Thailand
- Japan
Global prices and supply chains

Supplier performance and prices

PMI Input Prices Index

PMI Delivery Times index (inverted)

- Global Manufacturing PMI Prices
- Global Manufacturing PMI delivery times

Global orders and oil price

- Global Manufacturing PMI
- Crude oil price (Brent), annual % change

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Global PMI output

- All Sectors
- All services
- All manufacturing

- Technology
- Financials
- Consumer Goods
- Healthcare
- Telecom Services
- Industrials
- Consumer Services
- Basic Materials

- Beverages
- Beverages & Food
- Food
- Banks
- Technology Equipment
- Real Estate
- Software & Services
- Pharmaceuticals & Biotech.
- General Industrials
- Construction Materials
- Automobiles & Parts
- Other Financials
- Healthcare Services
- Insurance
- Industrial Services
- Commercial & Prof. Services
- Industrial Goods
- Household & Personal Use Products
- Media
- Machinery & Equipment
- Paper & Forest Products
- Chemicals
- Tourism & Recreation
- Transportation
- Basic Material Resources
- Metals & Mining
Global autos

Auto sector PMI v global PMI

Auto sector PMI v actual production

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Global autos

Asian vehicle production

European vehicle production

© 2017 IHS Markit
Global autos

Auto sector PMI - costs

Auto sector PMI - supply chains
Global autos

Auto sector PMI – operating capacity

Auto sector PMI – selling prices

Markit PMI Output Prices Index

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Operating margins

PMI margin indicator
(index of selling price inflation minus index of input cost inflation)

-20 -15 -10 -5 0 5

Global manufacturing
Automobiles & Parts

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