OECD Composite Leading Indicators:
Turning Points of Reference Series and Component Series

<table>
<thead>
<tr>
<th>OECD Countries</th>
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<tbody>
<tr>
<td>Australia</td>
<td>Germany</td>
<td>Lithuania</td>
<td>Spain</td>
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<td>Austria</td>
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<td>Canada</td>
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<td>Chile</td>
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<td>New Zealand</td>
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<td>Estonia</td>
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<td>Finland</td>
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<td>France</td>
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<table>
<thead>
<tr>
<th>Non-member economies</th>
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<tr>
<td>Brazil</td>
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<td>China</td>
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<td>India</td>
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<tr>
<td>Indonesia</td>
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<tr>
<td>Russian Federation</td>
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<tr>
<td>South Africa</td>
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<table>
<thead>
<tr>
<th>Area</th>
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<tbody>
<tr>
<td>OECD Total</td>
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<tr>
<td>OECD + non-member economies</td>
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<tr>
<td>Major seven countries</td>
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<tr>
<td>OECD Europe</td>
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<tr>
<td>Euro area</td>
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<tr>
<td>Four big European countries</td>
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<tr>
<td>NAFTA</td>
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<tr>
<td>Major five Asia countries</td>
<td></td>
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</tbody>
</table>
Australia

Component Series (Unit)
Permits issued for dwellings sa (number)
Manufacturing - Orders inflow: tendency sa (% balance)
Manufacturing - Production: tendency sa (% balance)
Manufacturing - Employment: tendency sa (% balance)
Share prices: S&P/ASX 200 index (2015=100)
Terms of trade
Yield 10-year commonwealth government bonds (% p.a.) inverted

Source
Australian Bureau of Statistics (ABS)
ACCI Westpack
ACCI Westpack
ACCI Westpack
Reserve Bank of Australia
Australian Bureau of Statistics (ABS)
Reserve Bank of Australia

Reference chronology of turning points
Trough 2001M2, Peak 2002M6, Trough 2003M4, Peak 2008M2, Trough 2011M2, Peak 2012M5,
Trough 2015M5, Peak 2018M4
Austria

Component Series (Unit)

Manufacturing - Production: future tendency sa (% balance)  
Manufacturing - Order books: level sa (% balance)  
Manufacturing - Business situation of Germany: present sa (normal=100)  
Consumer - Confidence indicator sa (% balance)  
Job vacancies: unfilled sa (persons)  
Spread of interest rates (% p.a.)

Source

European Commission  
European Commission  
IFO Institute, Germany  
European Commission  
European Commission  
European Central Bank

Reference chronology of turning points

Peak 1974M2, Trough 1975M6, Peak 1977M8, Trough 1978M5, Peak 1980M1, Trough 1981M10,  
Peak 2012M2, Trough 2015M3, Peak 2018M2
Belgium

Component Series (Unit)

- Passenger car registrations sa (number)
- Manufacturing - Employment: future tendency sa (% balance)
- Manufacturing - Export orders inflow: tendency sa (% balance)
- Manufacturing - Demand: future tendency sa (% balance)
- Manufacturing - Production: tendency sa (% balance)
- Consumer - Confidence indicator sa (% balance)

Source

- European Automobile Manufacturers’ Association
- European Commission
- National Bank of Belgium
- European Commission
- European Commission

Reference chronology of turning points

Canada

**Component Series (Unit)**

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deflated Monetary aggregate M1 sa (2010 cad)</td>
<td>Statistics Canada</td>
</tr>
<tr>
<td>Manufacturing - Industrial confidence indicator (USA - PMI) sa</td>
<td>Institute of Supply Management USA</td>
</tr>
<tr>
<td>Consumer - Confidence indicator (2015=100)</td>
<td>Conference Board Canada</td>
</tr>
<tr>
<td>Spread of interest rates (% p.a.)</td>
<td>Statistics Canada</td>
</tr>
<tr>
<td>Ratio of inventories to shipments <em>inverted</em></td>
<td>Statistics Canada</td>
</tr>
<tr>
<td>Share prices: S&amp;P/TSX composite index (2015=100)</td>
<td>Statistics Canada</td>
</tr>
</tbody>
</table>

**Reference chronology of turning points**

Chile

Component Series (Unit)

Production in total mining sa index (2015=100)
Retail trade - Confidence indicator sa (% balance)
Manufacturing - Production: tendency sa (% balance)
Monetary aggregate M1 sa (CLP)
Share prices: IPSA index (2015=100)
I ITS Net trade (f.o.b. - c.i.f.) sa (CLP)

Source

National Statistical Institute of Chile
ICARE
ICARE
Central Bank of Chile
Santiago Stock Exchange
Central Bank of Chile

Reference chronology of turning points

Peak 1997M12, Trough 1999M4, Peak 2001M2, Trough 2003M10, Peak 2008M3, Trough 2009M8,
Peak 2013M7, Trough 2017M3, Peak 2018M4
## Czech Republic

### Component Series (Unit)

<table>
<thead>
<tr>
<th>Component</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOP Capital account, debit (czk)</td>
<td>Czech National Bank</td>
</tr>
<tr>
<td>Services - Demand evolution: future tendency sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Manufacturing - Production: tendency sa (%)</td>
<td>European Commission</td>
</tr>
<tr>
<td>CPI HICP All items (2015=100) inverted</td>
<td>Czech Statistical Office</td>
</tr>
<tr>
<td>Consumer - Confidence indicator sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>ITS Exports f.o.b. total sa (czk)</td>
<td>Czech Statistical Office</td>
</tr>
<tr>
<td>Share prices: PX-50 index (2015=100)</td>
<td>Czech Statistical Office</td>
</tr>
</tbody>
</table>

### Reference chronology of turning points

Denmark

Component Series (Unit)

Total retail trade (Volume) sa (2015=100)  Statistics Denmark
Passenger car registrations sa (number)  Statistics Denmark
Manufacturing - Employment: future tendency sa (% balance)  European Commission
Manufacturing - Production: future tendency sa (% balance)  European Commission
Central bank official discount rate (% per annum) inverted National Bank of Denmark
Deflated monetary aggregate M1 (dkk) National Bank of Denmark
ITS Mineral fuels, lubricants and related materials exports deflated CPI energy sa (dkk)  Statistics Denmark
Consumer - Confidence indicator sa (% balance)  European Commission

Reference chronology of turning points

Estonia

Component Series (Unit)

Manufacturing - Export order books: level sa (% balance)
Total retail trade (Value) sa (2015=100)
Passenger car registrations sa (2015=100)

CPI Food excl. Restaurants (2015=100) inverted
Share prices: OMX Tallin index (2015=100)
ITS Net trade (f.o.b. - c.i.f.) sa (Eur)

Source

European Commission
Eurostat
European Automobile Manufacturers’ Association
Statistics Estonia
NASDAQ OMX Baltic
Eurostat

Reference chronology of turning points

Trough 2009M9, Peak 2012M11, Trough 2016M6, Peak 2018M11

OECD Composite Leading Indicators
http://www.oecd.org/std/leading-indicators/
Finland

Component Series (Unit)

CPI All items (2015=100) inverted
Consumer - Confidence indicator sa (% balance)
Spread of interest rates (% p.a.)
Manufacturing - Production: tendency sa (% balance)
Domestic PPI Industrial activities (2015=100)
Manufacturing - Finished goods stocks: level sa (% balance) inverted
Share prices: OMXH index (2015=100)
Services – Demand evolution: future tendency (% balance)

Source

Statistics Finland
European Commission
European Central Bank
European Commission
Statistics Finland
European Commission
Bank of Finland
European Commission

Reference chronology of turning points

Peak 1985M4, Trough 1987M2, Peak 1990M1, Trough 1993M2, Peak 1995M5, Trough 1996M6,
2019M1
## France

### Component Series (Unit)

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger car registrations sa (number)</td>
<td>INSEE</td>
</tr>
<tr>
<td>Consumer - Confidence indicator sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Manufacturing - Production: future tendency sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Share prices: CAC All-tradable index (2015=100)</td>
<td>Bank of France</td>
</tr>
<tr>
<td>CPI HICP All items (2015=100) inverted</td>
<td>Eurostat</td>
</tr>
<tr>
<td>Manufacturing - Export order books: level sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Construction - Selling prices: future tendency sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Permits issued for dwellings sa (2015=100)</td>
<td>INSEE</td>
</tr>
</tbody>
</table>

### Reference chronology of turning points

Germany

**Component Series (Unit)**

IFO business climate indicator (normal=100)
Orders inflow/demand (manuf.): tendency (% balance)
Export order books (manuf.): expectation (% balance)
New orders in manuf. industry (2010 = 100)
Finished goods stocks (manuf.): level (% balance) *inverted*
Spread of interest rates (% p.a.)
Services – Demand evolution: future tendency (% balance)
Consumer - Confidence indicator sa (% balance)

**Source**

IFO Institute for Economic Research
IFO Institute for Economic Research
IFO Institute for Economic Research
DESTATIS Federal Statistical Office
European Commission
European Central Bank
European Commission
European Commission

**Reference chronology of turning points**

Peak 2001M4, Trough 2005M2, Peak 2008M2, Trough 2009M6, Peak 2011M7, Trough 2013M3,
Peak 2014M2, Trough 2015M6, Peak 2017M11

OECD Composite Leading Indicators
http://www.oecd.org/std/leading-indicators/
Greece

**Component Series (Unit)**

- Cost of construction: residential (materials) (2015=100) *inverted*
- Bank credit to the manufacturing sector deflated sa (euro 2001)
- Services - Employment: future tendency sa (% balance)
- Manufacturing - Production: future tendency sa (% balance)
- Production of manufactured non-durable consumer goods sa (2015=100)
- Total retail trade (Volume) sa (2015=100)
- Retail trade - Volume of stocks: level sa (% balance) *inverted*
- Domestic PPI Industrial activities (2015=100) *inverted*

**Source**

- National Statistical Service of Greece
- Bank of Greece
- European Commission
- European Commission
- National Statistical Service of Greece
- National Statistical Service of Greece
- European Commission
- National Statistical Service of Greece

**Reference chronology of turning points**

Hungary

Component Series (Unit)

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
</tr>
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<tbody>
<tr>
<td>Manufacturing - Production: future tendency sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Registered unemployment: level (all persons) sa</td>
<td>Hungarian Central Statistical Office</td>
</tr>
<tr>
<td>Monthly hours worked: manufacturing sa (hours)</td>
<td>Hungarian Central Statistical Office</td>
</tr>
<tr>
<td>Monetary aggregate M1 sa (HUF)</td>
<td>Bank of Hungary</td>
</tr>
<tr>
<td>Share prices: BUX index (2015=100)</td>
<td>Bank of Hungary</td>
</tr>
<tr>
<td>Central bank base rate (% per annum)</td>
<td>Bank of Hungary</td>
</tr>
<tr>
<td>ITS Imports c.i.f. total sa (HUF)</td>
<td>Hungarian Central Statistical Office</td>
</tr>
</tbody>
</table>

Reference chronology of turning points

Iceland

**Component Series (Unit)**

- Cement sales index
- Current economic situation
- CPI HICP All items
- Spread of interest
- Passengers cars registration sa
- ICEX Main share price index
- Passengers through Keflavik

**Source**

- Statistics Iceland
- Statistics Iceland
- Statistics Iceland
- Central Bank of Iceland
- Statistics Iceland
- http://www.nasdaqomxnordic.com/indexes
- Statistics Iceland

**Reference chronology of turning points**

Ireland

**Component Series (Unit)**

- Exports to Northern Ireland sa (EUR)
- Exports of agricultural products to other Euro sa (EUR)
- Passenger car registrations sa (2015=100)
- Total PPI Mining and quarrying activities (2015=100)
- Share prices: ISEQ index (2015=100)
- Real effective exchange rates - CPI Based (2015=100) *inverted*
- Money supply M2 to Euro area (EUR)

**Source**

- Central Statistics Office Ireland
- Central Statistics Office Ireland
- Central Statistics Office Ireland
- Eurostat
- Central Bank of Ireland
- OECD, Economic Department
- Central Statistics Office Ireland

**Reference chronology of turning points**

Israel

Component Series (Unit)

- Manufacturing - Production: future tendency sa (% balance)
- Total retail trade (Volume) sa (2015=100)
- Domestic PPI Manufacturing (2015=100)
- Share prices: TA 100 index (2015=100)
- Total Departures Of Israelis sa (number)
- Exports of manufactures diamonds prices 2010 (USD)

Source

- Bank of Israel
- Central Bureau of Statistics
- Tel-Aviv Stock Exchange
- Bank of Israel
- Bank of Israel

Reference chronology of turning points

- Peak 1997M1, Trough 1999M1, Peak 2000M9, Trough 2003M9, Peak 2007M12, Trough 2009M6,
- Peak 2011M9, Trough 2012M9, Peak 2014M11, Trough 2015M10, Peak 2018M1
## Italy

### Component Series (Unit)

<table>
<thead>
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<th>Source</th>
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<tbody>
<tr>
<td>Consumer - Confidence indicator sa (% balance)</td>
<td>European Commission</td>
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<tr>
<td>Manufacturing - Order books: level sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Deflated orders for total manufactured goods (Value) sa (2010 = 100)</td>
<td>ISTAT</td>
</tr>
<tr>
<td>Manufacturing - Production: future tendency sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>CPI All items (2010=10) <em>inverted</em></td>
<td>ISTAT</td>
</tr>
<tr>
<td>Imports from Germany c.i.f. (USD)</td>
<td>ISTAT</td>
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### Reference chronology of turning points

Japan

Component Series (Unit)

<table>
<thead>
<tr>
<th>Ratio of inventories to shipments sa (2015=100) inverted</th>
<th>Source</th>
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</thead>
<tbody>
<tr>
<td>ITS Volume of imports/volume of exports sa (2015=100)</td>
<td>Statistics Japan</td>
</tr>
<tr>
<td>Ratio loans to deposits sa (%) inverted</td>
<td>Japan Customs</td>
</tr>
<tr>
<td>Monthly hours worked: manufacturing sa (2015=100)</td>
<td>Bank of Japan</td>
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<tr>
<td>Work started for dwellings sa (2015=100)</td>
<td>Ministry of Construction</td>
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<tr>
<td>Share prices: TOPIX index (2015=100)</td>
<td>Bank of Japan</td>
</tr>
<tr>
<td>Spread of interest rates (% p.a.)</td>
<td>Bank of Japan</td>
</tr>
<tr>
<td>Small Business Survey: Sales tendency (% balance)</td>
<td>Japan Finance Corporation for SMSE</td>
</tr>
</tbody>
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Source

Statistics Japan
Japan Customs
Bank of Japan
Ministry of Construction
Bank of Japan
Bank of Japan
Japan Finance Corporation for SMSE

Reference chronology of turning points


OECD Composite Leading Indicators
http://www.oecd.org/std/leading-indicators/
### Korea

**Component Series (Unit)**

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
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<tbody>
<tr>
<td>Manufacturing - Business situation: future (% balance)</td>
<td>Bank of Korea</td>
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<tr>
<td>Share prices: KOSPI index (2010 = 100)</td>
<td>Bank of Korea</td>
</tr>
<tr>
<td>Stocks of manufactured investment goods (volume) sa inverted</td>
<td>National Statistical Office</td>
</tr>
<tr>
<td>Inventory circulation indicator (manufacturing)</td>
<td>National Statistical Office</td>
</tr>
<tr>
<td>Spread of interest rates (% p.a.)</td>
<td>National Statistical Office</td>
</tr>
<tr>
<td>Net Barter Terms of trade (2015=100)</td>
<td>National Statistical Office</td>
</tr>
</tbody>
</table>

**Source**

- Bank of Korea
- National Statistical Office

**Reference chronology of turning points**

Latvia

Reference chronology of turning points

Lithuania

Reference chronology of turning points

Luxembourg

Reference chronology of turning points

## Mexico

### Component Series (Unit)

<table>
<thead>
<tr>
<th>Component Series</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees - Manufacturing (D) sa (%)</td>
<td>INEGI</td>
</tr>
<tr>
<td>Manufacturing - Employment: tendency sa (% balance)</td>
<td>Bank of Mexico</td>
</tr>
<tr>
<td>Manufacturing - Finished goods: tendency sa (% balance)</td>
<td>Bank of Mexico</td>
</tr>
<tr>
<td>Manufacturing - Production: tendency sa (% balance)</td>
<td>Bank of Mexico</td>
</tr>
<tr>
<td>Yield &gt;10-year US fed. Gov. securities (% p.a.)</td>
<td>US Treasury Department USA</td>
</tr>
<tr>
<td>CPP Rate (% p.a.) inverted</td>
<td>Bank of Mexico</td>
</tr>
<tr>
<td>Real effective exchange rates - CPI Based (2015=100)</td>
<td>OECD</td>
</tr>
</tbody>
</table>

### Reference chronology of turning points

Netherlands

**Component Series (Unit)**

- Manufacturing - Order books: level sa (% balance)
- Manufacturing - Production: future tendency sa (% balance)
- Manufacturing - Finished goods stocks: level sa (% balance) *inverted*
- Manufacturing - Business situation of Germany: present sa (normal=100)
- Services – Demand evolution: future tendency (% balance)
- Consumer - Confidence indicator sa (% balance)
- Share prices: AEX index (2015=100)

**Source**

- European Commission
- European Commission
- IFO Institute Germany
- European Commission
- European Commission
- Statistics Netherlands

**Reference chronology of turning points**

New Zealand

**Component Series (Unit)**

Manufacturing - Business situation: future sa (% balance)
Consumer - Confidence indicator sa (% balance)
Total retail trade (Value) sa (NZD)
Short term unemployment sa (persons) inverted
Monetary aggregate M1 sa (2015=100)
Yield of 90-day bank bills (% p.a.) inverted

**Source**

New Zealand Inst. Economic Research
Westpac Banking Corporation N.Z.
Statistics New Zealand
Department of Labour N. Z.
Reserve Bank N. Z.
Reserve Bank N. Z.

**Reference chronology of turning points**

Trough 1998M6, Peak 2000M2, Trough 2001M2, Peak 2004M3, Trough 2005M1, Peak 2007M9,
Trough 2009M2, Peak 2010M3, Trough 2013M10, Peak 2017M10
Norway

Component Series (Unit)

<table>
<thead>
<tr>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports to UK (USD)</td>
</tr>
<tr>
<td>Manufacturing, mining and quarrying - Stocks of orders for export (% balance)</td>
</tr>
<tr>
<td>Manufacturing - Production: tendency (% balance)</td>
</tr>
<tr>
<td>Manufacturing, mining and quarrying - General judgment of the outlook for the enterprise in next quarter (% balance)</td>
</tr>
<tr>
<td>CPI All items (2015=100)</td>
</tr>
<tr>
<td>Share prices: OSE20Gl index (2015=100)</td>
</tr>
</tbody>
</table>

UN – Comtrade database
Statistics Norway
Statistics Norway
Statistics Norway
Oslo Børs

Reference chronology of turning points


OECD Composite Leading Indicators
http://www.oecd.org/std/leading-indicators/
Poland

Component Series (Unit)

Real effective exchange rates - CPI Based (2015=100) *inverted*  
3-month WIBOR (% per annum) *inverted*  
Manufacturing - Production: tendency sa (% balance)  
Job vacancies: unfilled sa (number)  
Production of coal (tonnes)

Source

OECD  
Bank of Poland  
European Commission  
Central Statistical Office

Reference chronology of turning points

Peak 1998M1, Trough 1999M1, Peak 2000M11, Trough 2003M1, Peak 2004M3, Trough 2005M5,  
2018M7, Trough 2019M5
Portugal

**Component Series (Unit)**

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial production: electricity, gas &amp; water (2015=100)</td>
<td>INE</td>
</tr>
<tr>
<td>Manufacturing - Production: future tendency sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Manufacturing - Order books: level sa (% balance)</td>
<td>INE</td>
</tr>
<tr>
<td>Manufacturing - Export order books: level sa (% balance)</td>
<td>Lisbon Stock Exchange</td>
</tr>
<tr>
<td>Share prices: PSL-20 index (2015=100)</td>
<td>INE</td>
</tr>
<tr>
<td>Job vacancies: unfilled sa (number)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Services – Demand evolution: future tendency (% balance)</td>
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</tr>
</tbody>
</table>

**Reference chronology of turning points**

Slovak Republic

Component Series (Unit)

<table>
<thead>
<tr>
<th>Retail trade - Confidence indicator sa (% balance)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total retail trade (Volume) sa (2015=100)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Consumers - Expected economic situation sa (% balance)</td>
<td>Eurostat</td>
</tr>
<tr>
<td>Share prices: SAX index (2015=100)</td>
<td>European Commission</td>
</tr>
<tr>
<td>ITS Imports c.i.f. total sa (USD)</td>
<td>Bratislava Stock Exchange</td>
</tr>
</tbody>
</table>

Source

| European Commission |
| Eurostat |

Reference chronology of turning points

Slovenia

Component Series (Unit)

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Manufacture Basic Metals sa (2015=100)</td>
<td>Statistical Office of the Republic of Slovenia</td>
</tr>
<tr>
<td>Manufacturing - Order books: level sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Manufacturing - Production: tendency sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>CPI All items (2015=100) inverted</td>
<td>Statistical Office of the Republic of Slovenia</td>
</tr>
<tr>
<td>EUR/USD exchange rate monthly average (%)</td>
<td>OECD</td>
</tr>
<tr>
<td>Consumers - Expected economic situation sa (% balance)</td>
<td>European Commission</td>
</tr>
</tbody>
</table>

Reference chronology of turning points

Spain

Component Series (Unit)

Manufacturing - Rate of capacity utilization sa (% balance)
Construction - Employment: future tendency sa (% balance)
CPI Services less housing (2015=100) inverted
Share prices: IGBM general index (2015=100)
Passenger car registrations (2015=100)
Consumer - Confidence indicator sa (% balance)

Source

European Commission
Instituto Nacional de Estadística
Bank of Spain
Asociación Española de Fabricantes de Automóviles y Camiones
European Commission

Reference chronology of turning points

Sweden

**Component Series (Unit)**

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield 5-year government bonds (% p.a.) <em>inverted</em></td>
<td>Bank of Sweden</td>
</tr>
<tr>
<td>Overtime hours worked mining &amp; manuf. (%)</td>
<td>Statistics Sweden</td>
</tr>
<tr>
<td>Orders for total manufactured goods (Volume) sa (2015=100)</td>
<td>Statistics Sweden</td>
</tr>
<tr>
<td>Order books (manuf.): level (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Manufacturing - Finished goods stocks: level sa (% balance) <em>inverted</em></td>
<td>European Commission</td>
</tr>
<tr>
<td>Services – Demand evolution: future tendency (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Consumer - Confidence indicator sa (% balance)</td>
<td>European Commission</td>
</tr>
<tr>
<td>Share prices: OMXS30 index (2015=100)</td>
<td>Bank of Sweden</td>
</tr>
</tbody>
</table>

**Reference chronology of turning points**

Switzerland

Component Series (Unit)

Manufacturing - Finished goods stocks: level (% balance) inverted
Manufacturing - Orders inflow: tendency sa (% balance)
Manufacturing - Production: future tendency sa (% balance)
Share prices: UBS-100 index (2015=100)
Consumer - Expected economic situation sa (% balance)
Silver prices (CHF/kJ)

Source
Swiss Economic Institute KOF/ETH
Swiss Economic Institute KOF/ETH
Swiss Economic Institute KOF/ETH
Swiss Exchange
Swiss State Secretariat for Economic Affairs (SECO) & Konso Basel
Swiss National Bank

Reference chronology of turning points

## Turkey

### Component Series (Unit)

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production of electricity sa (GW hours)</td>
<td>State Institute of Statistics</td>
</tr>
<tr>
<td>Manufacturing - Finished goods stocks: level sa (% balance) <em>inverted</em></td>
<td>Bank of Turkey</td>
</tr>
<tr>
<td>New domestic orders: tendency sa (% balance)</td>
<td>Bank of Turkey</td>
</tr>
<tr>
<td>Manufacturing - Employment: future tendency sa (% balance)</td>
<td>Bank of Turkey</td>
</tr>
<tr>
<td>Prospects for exports (manuf.) (% balance)</td>
<td>Bank of Turkey</td>
</tr>
<tr>
<td>Discounted treasury auction interest rate (% p.a.) <em>inverted</em></td>
<td>Bank of Turkey</td>
</tr>
<tr>
<td>ITS Import c.i.f. of intermediate goods sa (USD)</td>
<td>State Institute of Statistics</td>
</tr>
<tr>
<td>Services – Demand evolution: future tendency (% balance)</td>
<td>European Commission</td>
</tr>
</tbody>
</table>

### Reference chronology of turning points

United Kingdom

Component Series (Unit)

Services – Demand evolution: future tendency (% balance)
Passenger car registrations sa (number)

Consumer - Confidence indicator sa (% balance)
Great British Pound Interbank LIBOR 3 Months Delayed (% p.a.) inverted
Manufacturing - Production: future tendency sa (% balance)
Share prices: FTSE LOCAL UK (£) index (2015=100)

Source

European Commission
Society of Motor Manufacturers and Traders
European Commission
Bank of England
European Commission
London Stock Exchange

Reference chronology of turning points

Peak 1955M9, Trough 1959M1, Peak 1960M2, Trough 1962M12, Peak 1964M9, Trough 1966M12,
Peak 1968M8, Trough 1970M2, Peak 1973M4, Trough 1975M8, Peak 1979M6, Trough 1981M4,
2004M11, Peak 2008M1, Trough 2009M7, Peak 2015M10, Trough 2018M4

OECD Composite Leading Indicators
http://www.oecd.org/std/leading-indicators/
United States

Component Series (Unit)

- Work started for dwellings sa (number)
- Net new orders - durable goods sa (USD)
- Share prices: NYSE composite (2015=100)

Source

- Bureau of the Census
- Bureau of the Census
- New York Stock Exchange
  [https://www.nyse.com/quote/index/NYA](https://www.nyse.com/quote/index/NYA)
- Survey of consumers – Thomson Reuters / University of Michigan
- Bureau of Labor Statistics
- Institute of Supply Management
- Federal Reserve

Reference chronology of turning points

Brazil

Component Series (Unit)

Share prices: BOVESPA - Total return index (2015=100)
Manufacturing - Production: future tendency sa (% balance)
Manufacturing - Order books: level sa (% balance)
Central Bank Policy rate (EOP) (% p.a.) inverted
Services – Demand evolution: future tendency (% balance)
ITS Net trade (f.o.b.-f.o.b.) with EU (USD)

Source

Brazil Yahoo Finance and IMF
Fundação Getulio Vargas, Brazil
IMF
Fundação Getulio Vargas, Brazil
Ministry of Development, Industry and Foreign Trade, Brazil

Reference chronology of turning points

Peak 1997M9, Trough 1999M5, Peak 2000M12, Trough 2003M7, Peak 2004M9, Trough 2006M6,
## China

### Component Series (Unit)

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Production of chemical fertilizer sa (tonnes)</td>
<td>National Bureau of Statistics</td>
</tr>
<tr>
<td>IP Production of manufactured crude steel sa (tonnes)</td>
<td>World Steel Association</td>
</tr>
<tr>
<td>5000 Industrial Enterprises: Diffusion Index: Overseas order level (%)</td>
<td>People’s Bank of China</td>
</tr>
<tr>
<td>Production of total construction sa (m2)</td>
<td>National Bureau of Statistics</td>
</tr>
<tr>
<td>Production of motor vehicles sa (number)</td>
<td>National Bureau of Statistics</td>
</tr>
<tr>
<td>Share prices: Shanghai Stock Exchange turnover (CNY)</td>
<td>Shanghai Stock Exchange</td>
</tr>
</tbody>
</table>

### Reference chronology of turning points

India

Component Series (Unit)

IP Production of manufactured durable consumer goods sa (2015=100)
IP Production of manufactured non-metallic mineral products sa (2015=100)
Passenger car sales sa (number)
Monetary aggregate M1 sa (INR)
Share prices: BSE (100) national index (2015=100)
Call money rate (% p.a.) inverted

Source

Ministry of Statistics
Ministry of Statistics
Society of Indian Automobile Manufacturers
Reserve Bank of India
Reserve Bank of India
Reserve Bank of India

Reference chronology of turning points

## Indonesia

### Component Series (Unit)

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share prices: IDX composite index (2015=100)</td>
<td>Jakarta Stock Exchange</td>
</tr>
<tr>
<td>Central Bank Discount rate (% p.a.) <em>inverted</em></td>
<td>Central Bank of Indonesia</td>
</tr>
<tr>
<td>IDR/USD exchange rate end period (%) <em>inverted</em></td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>Wholesale Price Index (2015=100) <em>inverted</em></td>
<td>Central Bank of Indonesia</td>
</tr>
<tr>
<td>Consumer - Confidence indicator (normal = 100)</td>
<td>Central Bank of Indonesia</td>
</tr>
<tr>
<td>Production of paper and paper products sa (2015=100)</td>
<td>National Bureau of Statistics</td>
</tr>
<tr>
<td>Tourist arrivals sa (number)</td>
<td>National Bureau of Statistics</td>
</tr>
</tbody>
</table>

### Reference chronology of turning points

- Trough 2009M5, Peak 2013M2, Trough 2016M12

OECD Composite Leading Indicators
http://www.oecd.org/std/leading-indicators/
Russian Federation

Component Series (Unit)

<table>
<thead>
<tr>
<th>Component Series</th>
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<tbody>
<tr>
<td>Manufacturing - Order books: level sa (% balance)</td>
<td>GAIDAR, Institute for Economic Policy</td>
</tr>
<tr>
<td>Share prices: RTS index (2015=100)</td>
<td>Central Bank of R.F.</td>
</tr>
<tr>
<td>World market price of crude oil (2015=100)</td>
<td>Hamburg Institute of International Economics (HWWA)</td>
</tr>
<tr>
<td>Manufacturing - Production: tendency sa (% balance)</td>
<td>GAIDAR, Institute for Economic Policy</td>
</tr>
<tr>
<td>Manufacturing - Export order books: level sa (% balance)</td>
<td>GAIDAR, Institute for Economic Policy</td>
</tr>
</tbody>
</table>

Reference chronology of turning points

**South Africa**

**Component Series (Unit)**

<table>
<thead>
<tr>
<th>Series</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing - Orders inflow/Demand: tendency (% balance)</td>
<td>Bureau of Economic Research</td>
</tr>
<tr>
<td>Manufacturing - Confidence indicator (% balance)</td>
<td>Bureau of Economic Research</td>
</tr>
<tr>
<td>Permits issued for total buildings sa (2015=100)</td>
<td>Reserve Bank</td>
</tr>
<tr>
<td>Passenger car registrations sa (2015=100)</td>
<td>Reserve Bank</td>
</tr>
<tr>
<td>Share prices: FTSE/JSE index (2015=100)</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>Spread of interest rates (% p.a.)</td>
<td>Reserve Bank</td>
</tr>
</tbody>
</table>

**Reference chronology of turning points**

OECD

Reference chronology of turning points

OECD + non-member economies

Reference chronology of turning points

Major seven countries

Reference chronology of turning points

OECD Europe

Reference chronology of turning points

Euro area

Reference chronology of turning points

Four big European countries

Reference chronology of turning points

NAFTA area

Reference chronology of turning points

Major five Asia

Reference chronology of turning points