

# Global Leading Indicator (GLI)

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Goldman Sachs Global Economics,  
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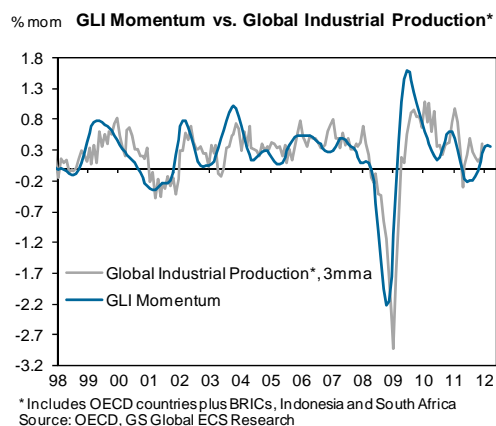
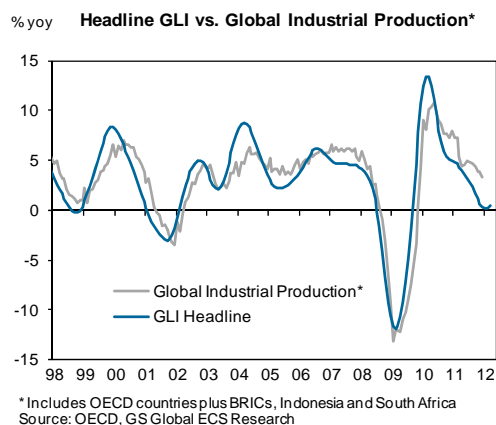
## March Final GLI A Stall in Momentum

Dominic Wilson  
dominic.wilson@gs.com  
+1 212 902 5924

Constantin Burgi  
constantin.burgi@gs.com  
+44 (0)20 7051 4009

Stacy Carlson  
stacy.carlson@gs.com  
+1 212 855 0684

George Cole  
george.cole@gs.com  
44 (0)20 7552 3779



### Monthly Change in Components\*

Improved
Baltic Dry Index
Consumer Confidence Aggregate
Global PMI
GS Australian and Canadian Dollar Trade Weighted Index
Japan IP Inventory/Sales Ratio
US Initial Jobless Claims
Worsened
Belgian and Netherlands Manufacturing Survey
Korean Exports
Global New Orders Less Inventories
S&P GSCI Industrial Metals Index®

\*month over month change

■ **Momentum stalls, Headline up.** Our March Final GLI headline came in at 0.5%yoy, up from last month's revised reading of 0.2%yoy. Monthly momentum fell fractionally to 0.37%mom from a revised 0.38%mom in February. While momentum remains above its long run average, this is the first month where it has not increased after eight months of increasing. The headline series has increased for the second consecutive month and skirted negative territory. We will be watching very closely to see if this presages lower momentum in the months ahead.

■ **Mixed Moves in Components.** Improvements in six components outweighed the deterioration in the other four, pushing momentum up in March but also reflected a mixed picture in the data. US Initial claims improved to the lowest level since April 2008. Consumer Confidence aggregate improved for the fifth consecutive month, and our Global PMI aggregate ticked up as well. Our AUD/CAD TWI aggregate, the Japanese Inventory/Sales ratio and the Baltic Dry Index all improved as well. Against these improvements, our New Orders Less Inventories (NOIN) Aggregate fell for the second consecutive month. Korean exports, S&P GSCI Industrial Metals Index® and our Manufacturing Aggregates all ticked down in March.

■ **Outlook for Industrial Growth Still Solid, But No Longer Improving.** The March Final GLI reading points to continued strength in global cyclical momentum. Despite the stall, momentum remains at strong levels and the headline continues to improve in March. We have highlighted for the past few months that the pace of gains in momentum has weakened somewhat. Additionally, a continuation of the sharp increase in oil prices seen in February could still present headwinds. We add the caveat that some of the weaker data in March might have been caused by some giveback from February due to weather and the boost from Chinese new year. But we will be watching closely for signs that momentum is fading more clearly.



The Global Leading Indicator (GLI) is a Goldman Sachs proprietary indicator that is meant to provide an early signal of the global industrial cycle on a monthly basis. There is an Advanced reading for each month, released mid-month, followed by the Final reading, released on the first business day of the following month. The GLI was introduced in 2002 and has been revised twice since then, in 2006 and 2010. To learn about the latest GLI revamp in further detail, please refer to *Global Economics Paper No 199: 'An Even More Global GLI (Global Leading Indicator)'*.

### Procedure for the Construction of the GLI

**Individual Component Aggregation.** Those components needing aggregation are first standardised. Consumer confidences, Belgian and Netherlands manufacturing surveys, and AUD and CAD TWIs are standardised to a common mean and standard deviation, and then averaged. Global\* PMI and Global\* New Orders Less Inventories are aggregated using GDP in purchasing power parity (PPP) weights.

**Filtering.** To track the business cycle, we extract the underlying cyclical pattern from the 10 components and the IP reference series by filtering out long-term trends and high frequency noise. We use the OECD methodology for cycle extraction to 'double-smooth' the series by running a Hodrick-Prescott filter in two stages (first to remove long-term trends and second to remove high frequency noise).

**Cycle Construction.** The 10 double-smoothed components are equally weighted, producing an aggregated cyclical series. Each component thus has a 10% weight.

**Amplitude Adjustment.** The aggregate cyclical series is rescaled to ensure its amplitude matches the amplitude of the de-trended and smoothed IP reference series. Technically, this procedure equalises their standard deviations.

**Trend Restoration.** We add this 'de-trended' GLI to the long-term trend of the IP reference series obtained from the first stage of the filtering above.

**Transformation.** This 'trend-restored' version of the GLI is then comparable to the IP reference series and is used to construct our **headline** reading, which is a year-over-year change, and the **momentum** reading, which is a month-over-month change.

\*Includes 23 countries: Australia, Austria, Brazil, China, Czech Republic, France, Germany, Greece, India, Ireland, Italy, Japan, Netherlands, Norway, Poland, Russia, Spain, Sweden, Switzerland, Taiwan, Turkey, UK, US.

We, Dominic Wilson, Constantin Burgi, Stacy Carlson and George Cole, hereby certify that all of the views expressed in this report accurately reflect personal views, which have not been influenced by considerations of the firm's business or client relationships.

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