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Current water level of the Rhine brings back memories of the year 2022

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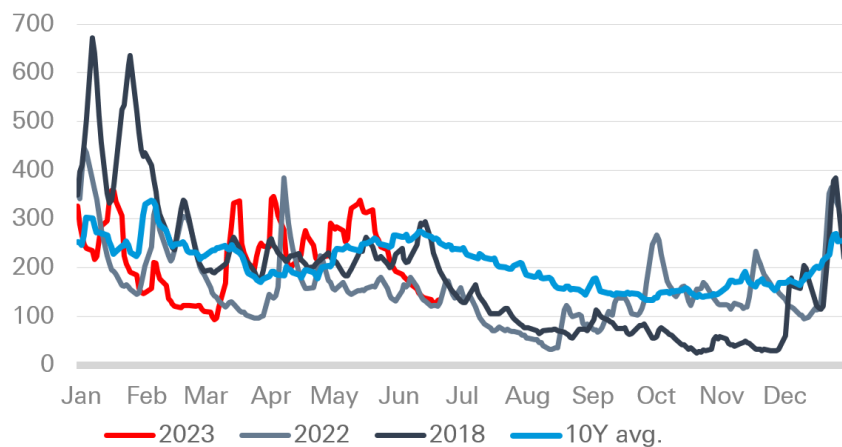
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The current development of the Rhine's water levels brings back memories of the previous year, when there were massive problems for Rhine navigation during summer. Since June, the level has fallen by a similar rate as last year or in 2018, which also saw a draught. Should the water levels approach or reach the lows of 2018 or 2022, this could impair the recovery of the German economy, which we already expect to be very modest.

Current water levels remind of 2018 and 2022

Rhine water levels in centimeters, refers to measuring point Kaub



Sources: Bloomberg Finance LP, German Federal Waterways and Shipping Administration

A look at the current development of the Rhine's water levels brings back memories of the previous year, when there were massive problems for Rhine navigation during summer. Should the water levels approach or reach the lows of 2018 or 2022, this could impair the economic recovery (GDP growth Q2: 0.2% qoq, Q3: 0.4%), which we already expect to be very modest (GDP 2023: -0.3%, see [Focus Germany](#)).

The low precipitation of recent weeks and the below-average snowfall of the past winter (especially in the catchment areas of Switzerland) are currently causing Rhine levels to drop noticeably. The levels at the closely followed gauge at Kaub have dropped since mid-May. Kaub attracts special attention because it is centrally located in the so-called Middle Rhine rocky stretch (i.e. the navigation channel is narrow and shallow). There, water levels below 135 cm (75 cm) mean that a large container ship (class Va, 200 TEU (Twenty-foot



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equivalent unit), or up to 3,000 tonnes, length 110m, draft about 3m) usually has to reduce its upload to approximately 50% (30%).

Although the current water levels are still well above the critical level for navigation, the development is nevertheless concerning, as the levels are already well below the 10-year average. Since June, the momentum has been about the same as last year's trend or that of 2018, which was also a draught.

Characteristic of German inland waterway transport is the carriage of dry and liquid bulk goods, with shares of 58.5% and 24.7%, respectively, of the total volume transported in 2022. In comparison, the share of container transport is 10%. Production in the chemical and petroleum processing industries, in particular, but also container transport in general, is therefore likely to be affected by capacity restrictions due to lower water levels.

In 2018, inland waterway freight transport (197.9 million tons) was down 11.1% yoy. Last year, the low water levels of the Rhine (Aug. 7-19, 40cm on avg.) and many other rivers also impacted inland waterway transport. As a result, freight transports in August 2022 were more than a quarter (-26.8%) lower than in the same month a year earlier. At 11.7 million tons, the volume of goods transported on inland waterways in August 2022 was lower than at any time since German unification.

As water levels fall, the loading capacity of ships decreases. Conversely, this means that more ship space must be made available for the same amount of cargo. The costs increase considerably because, in addition to the lower utilization of the existing ships, the chartering of additional space becomes necessary. To cover the additional costs, contractually agreed low water surcharges are levied depending on the water levels at reference gauges (e.g. Kaub or Duisburg-Ruhrort for the sections of the Rhine south or north of Koblenz).

For 2018, the [Kiel Institute for the World Economy \(IfW\)](#) estimated that manufacturing industry output fell by about 1% when water levels at the Kaub gauging station fell below the 78-centimeter mark for a 30-day period. In November 2018, low water may have reduced industrial production by 1.5% compared to counter-factual levels. Given a share of industrial production in total gross value added of about 25%, this corresponded to a decline in GDP of close to 0.4 % that time.

Although mainly raw materials and intermediate products of important upstream production stages are transported via the Rhine, today's conditions seem less dramatic to us so far. On the one hand, industrial activity is currently more subdued and, on the other, the experience of recent years has probably contributed to adjustments in the potentially affected supply chains. Last but not least, this also includes [adapted \(tank\) ship types](#).

The combination of news about too little rain, the possibility of regional water shortages (e.g. [German Environment Agency](#)), forest fires and falling river levels is likely to further fuel the debate on climate action.

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