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Medium-term projection for the German economy and scenarios for achieving the targets of the Climate Protection Law

The potential growth rate of the German economy is declining. According to the medium-term projection of the Halle Institute for Economic Research (IWH), potential output is likely to increase by an annual average of just 0.3% in the medium term (2023-2029). The target of climate neutrality by 2045 is likely to be missed by a wide margin without further emission-reducing measures. It could be achieved by means of higher CO_2 prices at significantly lower macroeconomic costs than by means of non-market-based regulatory measures.

The production potential of the German economy will grow at an average annual rate of 0.3% until 2029, which is significantly weaker than in previous years. This is due to a less favourable development of all three factors: labour volume, capital stock and total factor productivity. "Potential growth will be dampened in particular by the decline in the volume of labour due to the shrinking working-age population," says Oliver Holtemöller, head of the Macroeconomics Department and Vice President at the IWH.

The general government budget deficit in the years 2025 to 2029 is around 2% in relation to gross domestic product. Monetary transfers and social benefits in kind will increase more than nominal gross domestic product due to demographic factors, and this additional expenditure will be financed by higher social security contribution rates. The structural budget deficit is likely to exceed the EU threshold of 1.5% in the medium term.

Based on the long-term projection for production, we also estimate the extent to which CO_2 emissions are likely to decrease, given the current legal situation. Greenhouse gas emissions are expected to fall slightly. "However, the legally required climate neutrality is likely to be missed by 2045 if no further measures are taken to reduce emissions," says Oliver Holtemöller.

The effects of an emissions reduction that corresponds to the EU-level target of achieving net greenhouse gas neutrality by 2050 are analysed in two alternative scenarios: In the *emissions volume fine-tuning scenario*, it is assumed that non-market-based measures such as regulations are used in addition to $\rm CO_2$ emissions trading to achieve the emissions targets. In the *market price scenario*, climate neutrality is achieved exclusively through $\rm CO_2$ emissions trading with decreasing quantity restrictions across Europe. The stronger increase in energy prices compared to the fine-tuning scenario means stronger incentives for investments in research and development and faster energy-saving technical progress. The macroeconomic production loss required to achieve the emission targets is significantly lower than in the fine-tuning scenario, but it cannot be completely avoided. This also has consequences for compliance with the European debt rules, which focus more strongly on the debt ratio since their reform in 2024. Ceteris paribus, the debt ratio will be higher if the gross domestic product in the denominator of the ratio is lower.

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The IWH Forecasting Dashboard (ForDas)



The IWH-ForDas is an interactive platform for comparing macroeconomic forecasts from various institutes on the German economy.

Keywords

business cycle, capital stock, climate neutrality, demography, economic growth, emissions, forecast, Germany, gross domestic product, labour market, productivity

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The extended version of this projection contains three boxes (all in German):

Box 1: On the assumptions used for the projection

Box 2: The IWH medium-term projection and the new EU fiscal rules

Box 3: Macroeconomic model

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Drygalla, Andrej; Heinisch, Katja; Holtemöller, Oliver; Lindner, Axel; Sardone, Alessandro; Schult, Christoph; Zeddies, Götz: Mittelfristige Projektion der gesamtwirtschaftlichen Entwicklung und Szenarien für die Erreichung der gesetzlichen Emissionsziele. IWH, Konjunktur aktuell, Jg. 12 (4), 2024, 170-187. Halle (Saale) 2024.

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