

# Weather extremes and trade policies were main drivers of wheat price peaks

April 28 2017

---

Price peaks of wheat on the world market are mainly caused by production shocks like those induced, for example, by droughts, researchers found. These shocks are exacerbated by low storage levels as well as protective trade policies, the analysis of global data deriving from the U.S. Department of Agriculture shows. In contrast to widespread assumptions, neither speculation across stock or commodity markets nor land use for biofuel production were decisive for annual wheat price changes in the past four decades. This finding allows for better risk assessment. Soaring global crop prices in some years can contribute to local food crises, and climate change from burning fossil fuels and emitting greenhouse gases is increasing weather variability.

"Food security, to a large extent, is a matter of prices. Hence our interest in understanding what drives variations from one year to another," says lead author Jacob Schewe from the Potsdam Institute for Climate Impact Research (PIK).

When global wheat prices, along with those of other staple crops, skyrocketed in 2007 and 2008, and again in 2010 and 2011, poor people in many developing countries suffered—these temporary price rises have even been linked to food riots in several countries. "These recent peaks, as others, have been preceded by severe droughts that reduced crop production. Now, we can show that such weather-induced shocks have the potential to induce strong price increases," says Schewe. "Moreover, they can trigger protective trade policy responses, including hoarding or export bans, which further exacerbate the global effects of production

shortfalls, even though they may seem rational from a country's point of view. This happened during the recent price peaks."

## **Commodity speculation a minor factor for annual prices**

"While cross-market speculation might further exacerbate the problem on monthly or shorter time-scales, the data indicate that in the end, it was a minor factor for annual [prices](#)," adds co-author Christian Otto. This is despite the fact that the sudden price increase in 2007/2008 coincides with speculation by index funds driven out of the collapsing U.S. housing and stock markets.

The researchers developed and applied a rather simple computer simulation of wheat markets. By comparing the results to observation data from past years, the scientists checked that the computer simulations fit reality. Importantly, the factor of supply and demand from storage—also based on existing data from markets—is integrated in these calculations. The simulation model could be applied for assessments of future wheat price fluctuations under climate and land use changes.

"The good news: Our study helps to understand what can be done if we want to limit food price peaks in the future," says Katja Frieler, co-author of the study and vice-chair of PIK's research domain Climate Impacts and Vulnerabilities. "First, besides improving productivity, experts can seek to carefully adjust trade policies as well as storage capacities. Second, stabilizing the climate by reducing greenhouse gas emissions is key if we want to limit the risks of [weather](#) extremes around the globe."

**More information:** Jacob Schewe et al, The role of storage dynamics

in annual wheat prices, *Environmental Research Letters* (2017). [DOI: 10.1088/1748-9326/aa678e](https://doi.org/10.1088/1748-9326/aa678e)

Provided by Potsdam Institute for Climate Impact Research

Citation: Weather extremes and trade policies were main drivers of wheat price peaks (2017, April 28) retrieved 20 April 2024 from <https://phys.org/news/2017-04-weather-extremes-policies-main-drivers.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.