

Feb 2020

## CSH Policy Brief

# Effects of the US-China Trade Agreement from Jan 2020

*The new trade agreement between China and the USA will cost Germany, with a time lag, up to 8.7 billion euros per year, Austria up to 1.5 billion euros per year. In a few sectors there will be positive effects on the economy.*

### Background

On Jan 15, 2020 the USA and China signed a trade agreement in which China promised to increase imports of goods and services from the US by 200 billion USD over the next two years. It is expected that Chinese imports from other countries will decrease accordingly.

### The CSH innovation

Previously published studies on the consequences of such an agreement on Europe focus on the decline in direct exports to China. Hardly any consideration is given to a possible higher demand for European products in the US or other indirect effects deriving from existing trading networks between European countries.

The CSH has developed a method that takes such indirect effects into account. The new model provides a much more detailed picture of the effects of trade agreements.

### Results in detail

Applied to the new trade agreement, the CSH model shows that export declines in Europe are partly attenuated and partly amplified by indirect effects.

Germany is the country that is the most affected by export declines. The decline in the value of all goods and services produced in Germany will be up to 7.5 billion euros per year due to direct effects. When all indirect effects are





taken into account, the loss could add up to 8.7 billion euros per year.

This decline also affects countries that are strongly integrated into German supply chains, such as Austria, the Czech Republic or Poland. For Austria, the CSH model shows annual declines of up to 0.3 billion euros directly caused by the trade agreement. When all indirect effects are included, the declines add up to around 1.5 billion euros per year. The losses for Austria are thus much higher than the direct trade relations with China would suggest—due to the strong interdependencies between the Austrian and the German economy. Most affected is the manufacturing sector with branches like the automotive industry, mechanical engineering and electronics manufacturers.

Sectors with strong export activity to the US, on the other hand, could benefit from a rising US demand, e.g. pharmaceutical products. According to the CSH model, positive effects amount to up to 146 million euros per year.

It should be noted that many of the effects of the US-China trade agreement will arrive in Europe with a time lag. In comparable events, it took about five years before the full economic effects were visible.

### **Conclusion of the CSH**

The CSH model shows that Austria can expect a significant decline in exports as a result of the China-US trade agreement if no countermeasures are taken. At the same time, new opportunities are opening up, as the US will be a growing market for many products over the next two years.

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Lit.: P. Klimek, S. Poledna, S. Thurner, Quantifying economic resilience from input–output susceptibility to improve predictions of economic growth and recovery. *Nature communications*, 10 (1) (2019) 1–9



## **About the CSH**

The Complexity Science Hub Vienna was founded with the aim of using Big Data for the benefit of society.

Among other things, the CSH systematically and strategically prepares large data sets so that they can be used in agent-based models. These simulations allow the effects of decisions in complex situations to be tested in advance and systematically assessed. Thus, the CSH provides fact-based foundations for an evidence-based governance.

**CSH Policy Briefs** present socially relevant statements that can be derived from CSH research results.

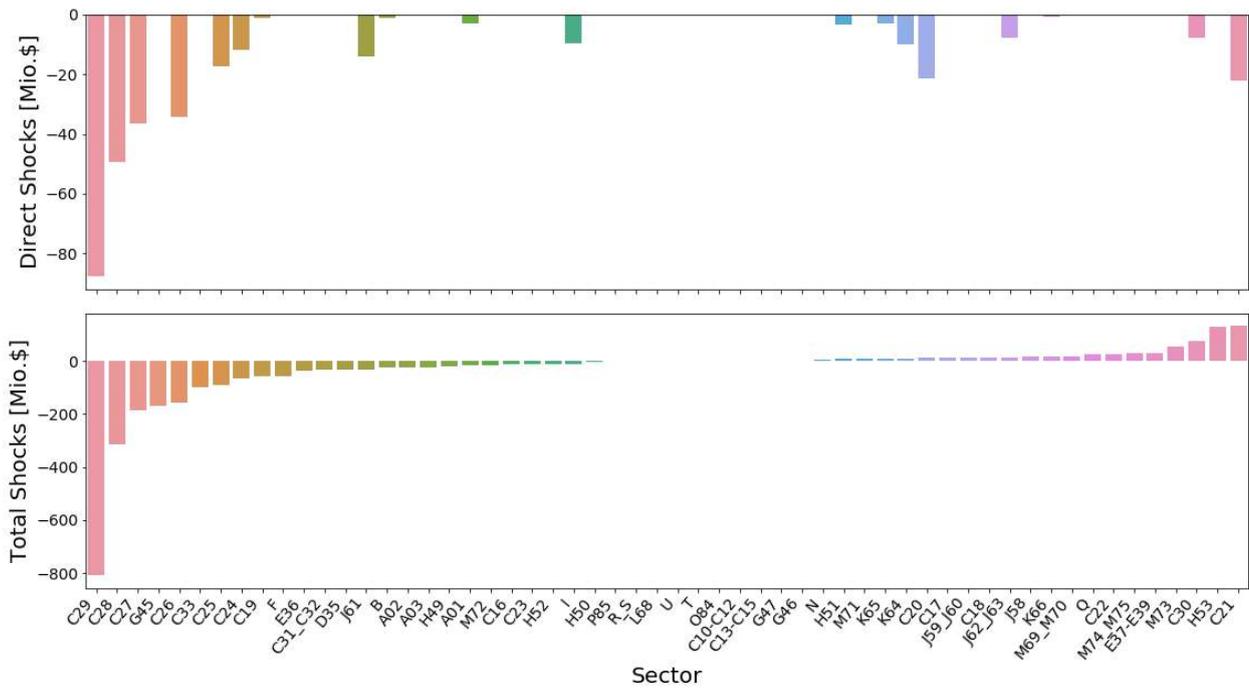


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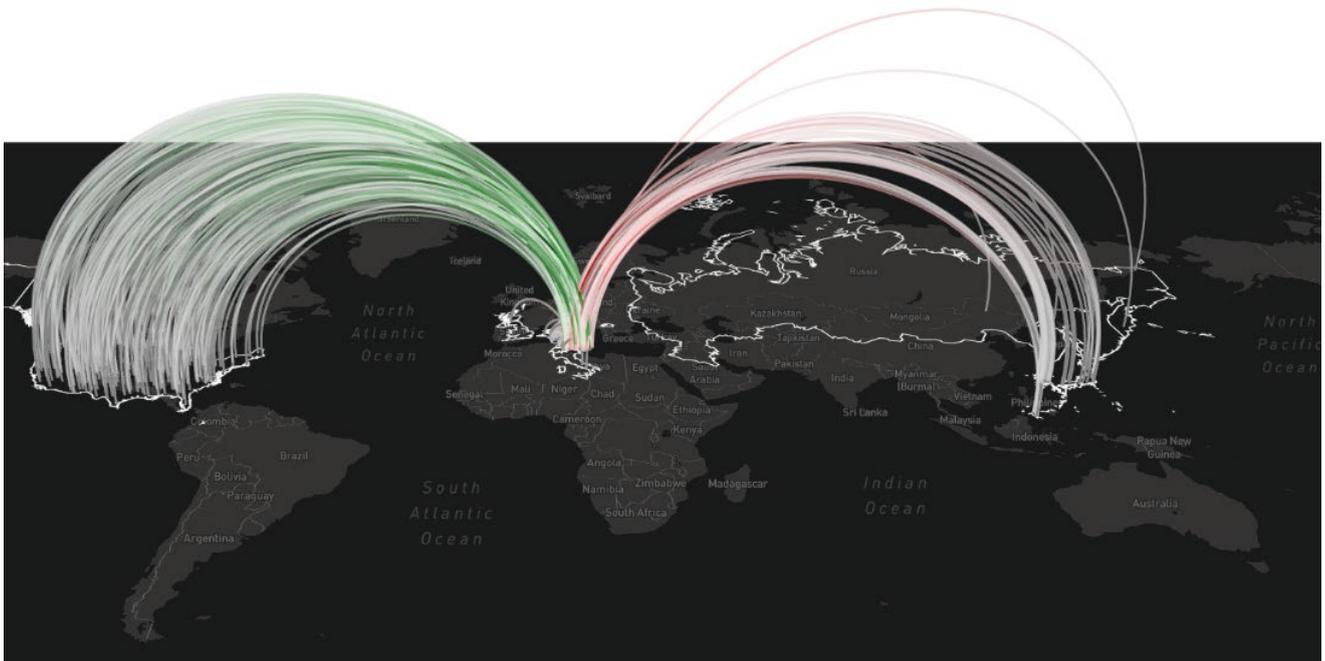


Gesamtschock

*Economic changes in Europe caused by the US-China trade agreement of January 2020. The map on the left quantifies the direct effects, the map on the right additionally considers indirect effects.*



The graph shows the effects of the Trade Agreement on the Austrian economy, broken down by economic sector in ISIC codes. The upper graph shows the direct declines in demand in the sectors, caused by the decline in Chinese imports, the lower graph shows the changes taking into account indirect effects.



The green arcs show positive effects for the Austrian economy due to increased demand from the US, the red arcs show declines in demand. The declines are mainly triggered by China and countries closely linked to China.