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## CSH Policy Brief

# Costs of the coronavirus epidemic 2020 for the Austrian economy

*The 2019-nCoV coronavirus outbreak will cost China up to 300 billion euros. For Austria the losses amount to 1.1 billion euros. The manufacturing sector is particularly affected.*

### Background

Since December 2019, the world has been experiencing a rapid spread of the coronavirus 2019-nCoV from the Chinese city of Wuhan. A number of drastic measures have been and are being taken in China and other countries to contain this epidemic, including the quarantine of entire cities or the construction of two new hospitals in Wuhan. Economic activities in the areas of trade, gastronomy or tourism are coming to a standstill. The impact of these measures on other countries and industries is largely uncertain at present.

### The CSH innovation

In studies published so far, the economic consequences of the epidemic are mainly established by comparisons with the SARS epidemic in 2003. However, the size of the Chinese economy has since increased by a factor of 6, and consumption by the Chinese population has become a major driver of the global economy. Comparisons with 2003 are therefore of little use.

The economic impact of 2019-nCoV must be considered in the light of the current international trade linkages between China and the rest of the world. Using a method developed at the CSH by Peter Klimek et al. (2019), it is possible to calculate direct and indirect effects of economic shocks. Thus, the direct economic consequences of the SARS epidemic can be applied to current economic structures and linkages to provide a much more accurate picture of the economic impact of the coronavirus outbreak on Europe.



## Results in detail

As a result of reductions in Chinese trade and tourism, Austria will suffer significant declines in demand. The CSH model calculates that China's trade and tourism will decline by about 90 billion euros. Due to interdependencies with other sectors, the losses will increase to about 300 billion euros (approx. 2.5 per cent of Chinese GDP).

International trade links will lead to losses for Austria of about 1.1 billion euros, especially in the manufacturing sectors. Companies producing electronic and optical products, machines and machine parts, motor vehicles and motor vehicle parts will have to prepare for declines.

## Conclusion of the CSH

The results of the CSH model show that Austria can expect a significant drop in exports, if no countermeasures are taken.

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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*

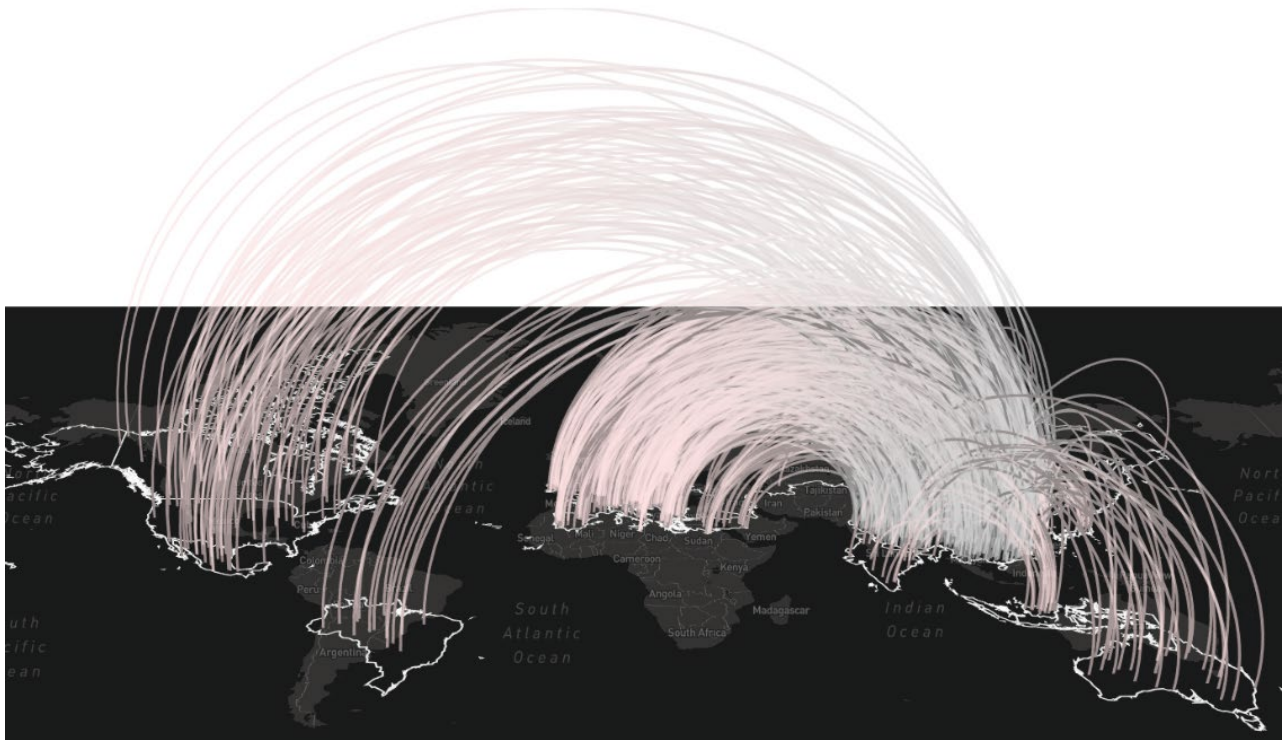
## About the CSH

*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.*





*Due to the close interdependence of the Chinese economy with the rest of the world, measures against the spread of coronavirus 2019-nCoV provokes economic losses in a wide range of economic sectors worldwide.*