



# The spillover of macroeconomic uncertainty between the U.S. and China

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## HIGHLIGHTS

- We study the spillover of macroeconomic uncertainty between the U.S. and China.
- We construct a monthly aggregate macroeconomic uncertainty index for China.
- The SVAR model suggests a unidirectional spillover from the U.S. to China.
- Both U.S. and Chinese uncertainty have negative effects on China's real economy.

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## ABSTRACT

We investigate the spillover of macroeconomic uncertainty between the U.S. and China since 2002. Following Jurado et al. (2015), we construct a monthly aggregate macroeconomic uncertainty index for China from 224 economic variables. The structural vector autoregression model suggests a unidirectional spillover of macroeconomic uncertainty from the U.S. to China. Both U.S. and Chinese uncertainty have negative effects on China's real economy, but the impact of U.S. uncertainty is greater.

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## 1. Introduction

Since the seminal work of Bloom (2009), measuring aggregate macroeconomic uncertainty and examining its impacts on economies and financial markets have received increasing attention. Jurado et al. (2015) construct a U.S. macroeconomic uncertainty index from a large dataset of economic variables and find that high levels of macroeconomic uncertainty have negative effects on major economic variables. Using different measures, Caggiano et al. (2014) and Baker et al. (2016) reach similar conclusions.

Studies have also documented the spillover effect of macroeconomic uncertainty across economies (see Balli et al., 2017; Mumtaz and Theodoridis, 2017; Antonakakis et al., 2018; Mumtaz, 2018). It is important for researchers and policymakers to understand and quantify the spillover between China and the U.S. in particular, as they are the two largest economies in the world. As no widely used measures of macroeconomic uncertainty in China are based on real

economic variables, Fontaine et al. (2017) use the economic policy uncertainty (EPU) index developed by Baker et al. (2016), which is constructed by counting word frequencies from the media. The China EPU is exclusively calculated from articles published in the South China Morning Post. Fontaine et al. (2017) find evidence that Chinese uncertainty significantly affects U.S. economic activity only during recession periods.

We aim to investigate the spillover effects of macroeconomic uncertainty between China and the U.S. to fill this research gap. First, we follow Jurado et al. (2015) in constructing a monthly aggregate macroeconomic uncertainty index for China from 224 economic variables, with the aim of reflecting the comprehensive uncertainty of macroeconomic fundamentals in China. We then apply structural vector autoregression (SVAR) to study the relationships among U.S. macroeconomic uncertainty, Chinese macroeconomic uncertainty and major Chinese macroeconomic variables. The empirical results suggest a unidirectional spillover of macroeconomic uncertainty from the U.S. to China, and both U.S. and Chinese macroeconomic uncertainty have negative effects on China's real economy. Furthermore, U.S. uncertainty has significant dynamic

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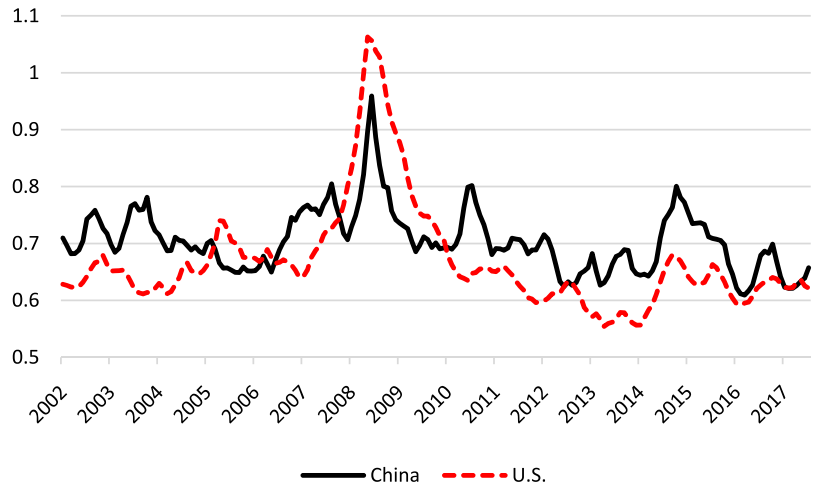
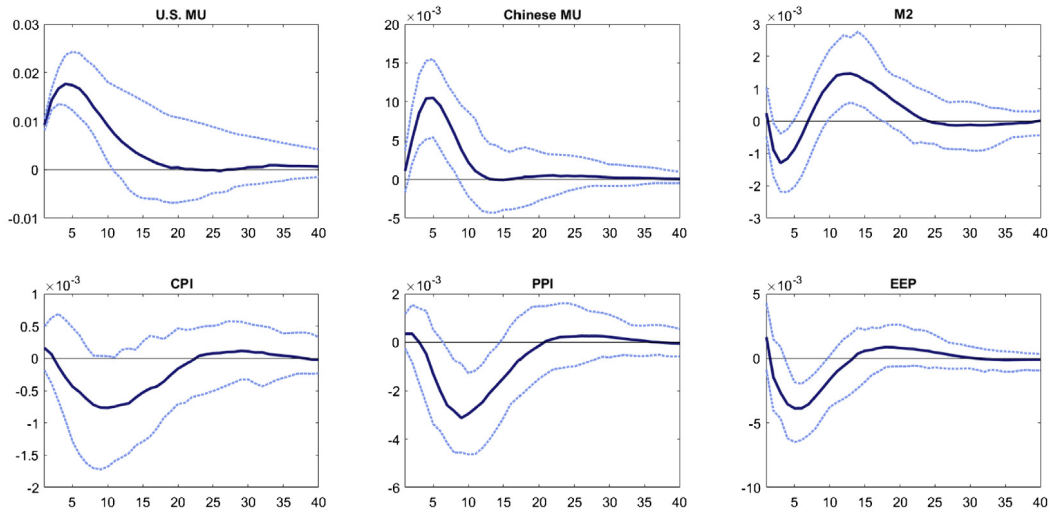


Fig. 1. Chinese and U.S. MU indices.

Responses to a U.S. MU Shock



Responses to a Chinese MU Shock

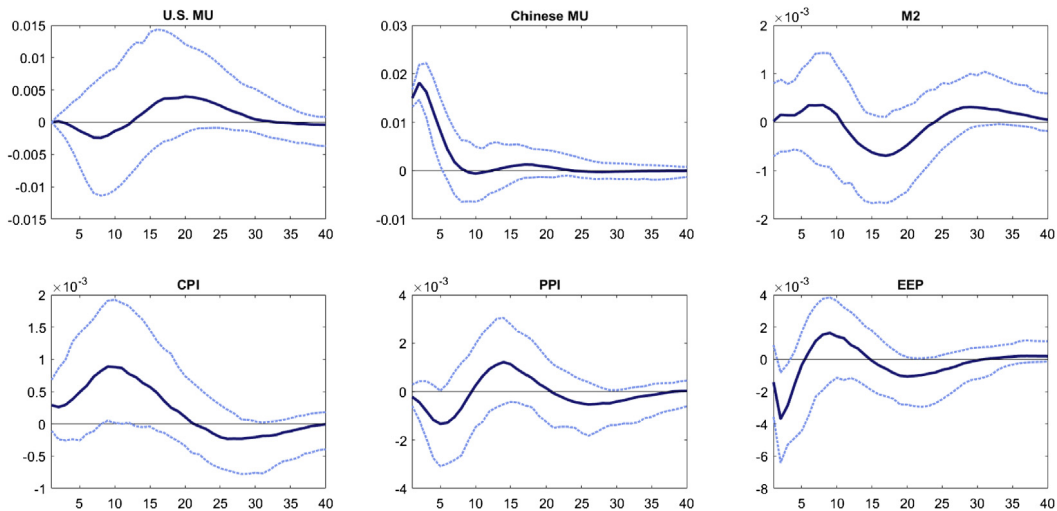


Fig. 2. Empirical impulse responses to a U.S. MU shock and a Chinese MU shock.

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