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# HOW MUCH SHOULD WE TRUST INSTRUMENTAL VARIABLE ESTIMATES IN POLITICAL SCIENCE? PRACTICAL ADVICE BASED ON 67 REPLICATED STUDIES

Speaker

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**ZOOM**

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> Registration: <https://bit.ly/cams20240603a>





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## Abstract

Instrumental variable (IV) strategies are widely used in political science to establish causal relationships, but the identifying assumptions required by an IV design are demanding, and assessing their validity remains challenging. In this paper, we replicate 67 articles published in three top political science journals from 2010-2022 and identify several concerning patterns. First, researchers often overestimate the strength of their instruments due to non-i.i.d. error structures such as clustering. Second, IV estimates are often highly uncertain, and the commonly used t-test for two-stage-least-squares (2SLS) estimates frequently underestimate the uncertainties. Third, in most replicated studies, 2SLS estimates are significantly larger than ordinary-least-squares estimates, and their ratio is inversely related to the strength of the instrument in observational studies – a pattern not observed in experimental ones – suggesting potential violations of unconfoundedness or the exclusion restriction in the former. We provide a checklist and software to help researchers avoid these pitfalls and improve their practice.

## Speaker Bio

Dr Xu's primary research covers political methodology, Chinese politics, and their intersection. He received a PhD in Political Science from Massachusetts Institute of Technology (2016), an MA in Economics from China Center for Economic Research at Peking University (2010) and a BA in Economics (2007) from Fudan University.

His work has appeared in *American Political Science Review*, *American Journal of Political Science*, *Journal of Politics*, *Political Analysis*, *Political Science Research and Methods*, among other peer-reviewed journals. He has won several professional awards, including the best article award from *American Journal of Political Science* in 2016 and the Miller Prize (2018, 2020) for the best work appearing in *Political Analysis* the preceding year.