

**Responses to the Referee's Comments**  
**"Does Corruption Matter for the Environment? Panel Evidence from China"**

**Changes from the original version are written in red.**

**This paper studies an important question - whether corruption impacts the environment - which has the potential to make a significant contribution. The question has been studied in some contexts, but there is significant room for new insight to be drawn if such an analysis is done well.**

**However, the methods employed in this paper are not particularly useful or sufficient for filling these gaps in the literature. The authors gather data to create a panel but then do not employ well-known modern econometrics techniques that could allow for either stronger inference or causal inference. For example, instead of using cointegration methods, I would strongly urge the authors to consider using standard panel fixed effects methods and finding suitable instruments for an instrumental variables estimator that could remove the bias associated with the endogeneity of bribery.**

In the revised manuscript, the empirical results obtained from the fixed effect are also included for comparison (p. 11, lines 1-2; p. 22, Table 5). It should be, however, pointed out that the endogeneity of corruption could be a potential weakness of our work; our findings should thus be viewed with caution. To avoid this, what is needed is a good instrumental variable when estimating Eq. (1). But the existing literature on the topic does not offer a proper instrumental variable, which is exogenous yet highly correlated with corruption. Further, we realize that, even if the proposed instrument is available in the literature, our use of provincial-level panel data might have made it more difficult for the instrument to be collected in China. The relatively consistent findings based on the two dynamic panel estimators and traditional FE should somehow mitigate our concern with the endogeneity issue and strength the credibility of our findings (p. 11, endnote [5]).

**Furthermore, the authors do not consider the economics literature on how corruption impacts the environment closely enough, and the paper would benefit from more insight into what gaps in the literature the paper can truly address. If the main contribution is that the question is now studied in the China context, then perhaps the authors could explain what new things we learn more generally from studying the China context.**

In the revised manuscript, more discussion on the economic literature on corruption has been added as follows: *"Examples include, but are not limited to, Lopez and Mitra (2000), Damania et al. (2003), Fredriksson et al. (2003), Fredriksson and Svensson (2003), Welsch (2004), He et al. (2007), Cole (2007), Woods (2008) and Leitao (2010). Damania et al. (2003), for example, examine the corruption-environment nexus in a panel data of developing and developed countries, and find that corruption indeed reduces environmental policy stringency. He et al. (2007) employ cross-country data and confirm the findings of Damania et al. (2003) in that a*

*higher level of corruption always reduces the quality of environmental regulation. Woods (2008) reports that political corruption serves to systematically weaken state environmental programs in the United States. However, attention of most studies has been on cross-country data when investigating the corruption-environment nexus. Thus, the existing literature does not directly address the issue in China. This observation has motivated us to conduct this line of research (p. 5, last paragraph; pp. 14-17)".*

In addition, we have highlighted what new things we learn from the current research as follows: *"The key policy variable, cor, seems to have the desired effect. The estimated coefficient is negative for all three models. The statistical significance is high for the FMOLS and fixed effects, and lacking for the DOLS. For example, the FMOLS coefficient (-0.17) implies that, for other things being equal, China can reduce SO<sub>2</sub> emissions by about 0.17% as the number of anti-corruption cases increases by one percent. To our knowledge, this is a new finding that has not been documented yet in the empirical literature. As a policy matter, this suggests that effective anti-corruption measures would improve the environment through the enforcement of environmental regulations in China. From a methodological perspective, this finding explains why the complementary features of different modelling approaches would be desirable to draw more robust conclusion and thus better understand the corruption-environment nexus in China (p. 12, 3<sup>rd</sup> paragraph)."*

**Overall, I like the topic of this paper and applaud the authors for identifying an important research question. However, there is still significant room for improvement in regards to employing modern econometrics methods to answer the question.**

Thank you for your constructive suggestions and comments!