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# Divining the level of corruption: a Bayesian state-space approach<sup>☆</sup>

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## Abstract

This paper outlines a new methodological framework for combining indicators of corruption. The state-space framework extends the methodology of the Worldwide Governance Indicators (WGI) to fully make use of the time-structure present in corruption data. It is estimated using a Bayesian Gibbs sampler algorithm.

The state-space framework holds many advantages from a practical, an estimation and a theoretical point of view. Most importantly, it significantly expands the period for which the index can be computed while at the same time addressing the selection bias issues that trouble the Corruption Perceptions Index (CPI). In addition, its estimates are more stable and have smaller confidence intervals than both CPI and WGI. Because the estimation is transparent and data is entered without any manipulations, the estimation procedure is more objective.

*Keywords:* Corruption perception, State-space model, Bayesian econometrics, Worldwide Governance Indicators

*JEL:* C43, O17, O57, P16, P26

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## 1. Introduction

Researchers looking at the effects or determinants of corruption are faced with the difficulty of having to choose one out of the more than 70 individual indicators available. Each indicator differs in availability in time, countries covered, exactly what it is trying to measure, and where or with whom it was collected. Because that one indicator that meets all requirements often proves elusive, most studies resort to aggregated indicators of corruption. The two most

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