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Bachelor Thesis

Social Conflict, Economic Policy and Big Data: Can Internet-Based Data Assist in Better Modelling International Refugee Flows?

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Abstract

This paper investigates whether novel Internet-based data can be harnessed to assist in better modelling global refugee flows. We first define core concepts of migration studies, outline the global refugee situation, and discuss limitations of refugee statistics and their implications for economic policy-making. We then introduce the idea of big data and review migration-related research that has previously exploited big data. Building upon theoretical considerations and models of existing literature, our macroeconomic dataset is supplemented with two big data sources: (1) A unique "asylum" index based on Google Trends and (2) the Global Terrorism Database (GTD), which automatically parses global news reporting. Our baseline panel data includes 98 countries in Africa, South America, and Asia over the period from 2005 to 2016. We first estimate panel regressions with fixed effects. Given suspected dynamics in refugee flows ("bandwagon effects"), we then apply system generalised methods of moments (GMM) estimators. With both methods, the Google Trends index yields significant and positive coefficients. Therefore, the index can be plausibly interpreted as a proxy for quantifying the aggregate interest in fleeing and be used for the nowcasting of refugee outflows. Coefficients for the GTD are estimated to be insignificant, which is assumed to be due to the variable's limitation to terrorist incidents. Overall, by showing that big data is apt for improving the modelling efficiency of refugee flows, this paper further advances the field of computational social science.