

Understanding democracy and development traps using a data-driven approach

March 18 2015

Why do some countries seem to develop quickly while others remain poor? This question is at the heart of the so-called poverty or development trap problem. Using mathematics on open data sets researchers now present new insights into this issue, and also suggest which countries can be expected to develop faster. The paper is published in the journal *Big Data*.

Why do some [countries](#) seem to develop quickly while others remain poor? This question is at the heart of so-called poverty or development trap problem. Development economists have identified several potential causes of economic development traps, but the issue is complex. Some countries appear to be stuck not only in an economic development trap but also in a political development trap with a lack of democracy.

"So far there is a lack of understanding how the different types of development traps are related and how they interact, possibly reinforcing each other. In our paper we have developed a new method to explore multiple traps," Professor David J.T. Sumpter at the Department of Mathematics at Uppsala University says.

The researchers developed the method and applied it to datasets from the World Bank, UN, Freedom House, Human Rights Data Project, World Values Survey etc. They identified two types of political development traps, in addition to an [economic development](#) trap. One was institutional, where countries with low levels of economic growth and low levels of education fail to develop democracy. The second trap

relates to the values and norms of citizens, which develop more slowly in countries with low levels of democracy and life expectancy.

"We show that many [developing countries](#) like India, Egypt, Jordan or Ukraine lie near the border of a development trap. We also predict how long it will take for these countries to make a transition toward higher democracy and socio-economic wellbeing," explains Shyam Ranganathan, PhD student at Uppsala University and first author.

They show that this time can vary a lot, since investing a small amount in the right sector at the right moment could help the country to leave a trap. On the other hand for countries further from a threshold, a significant investment has to be made over a longer period of time.

"Although we identified relationships between democratic, economic and health related indexes, we should not forget that there remain uncertainties. Events like political changes, conflicts, etc. can lead to sudden changes," says Stamatios C Nicolis, a postdoctoral researcher at Uppsala University.

So while in the long run of 50 to 100 years democratic and economic changes can be expected in most countries, the changes may be delayed or have potential temporal setbacks.

"Traps might appear frustrating from a present perspective, but our models show that we have good reasons to expect that in the future most countries will manage to leave the traps and prosper economically and politically. Moreover, investing in core sectors of these countries, like education, is likely to help to shorten the period for these countries to leave development traps," says Viktoria Spaiser, also postdoctoral researcher in Uppsala.

More information: Ranganathan Shyam, Nicolis Stamatios C., Spaiser

Viktorija, and Sumpter David J.T.. *Big Data*. March 2015, 3(1): 22-33.
[DOI: 10.1089/big.2014.0066](https://doi.org/10.1089/big.2014.0066).

Provided by Uppsala University

Citation: Understanding democracy and development traps using a data-driven approach (2015, March 18) retrieved 5 May 2024 from <https://phys.org/news/2015-03-democracy-data-driven-approach.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.