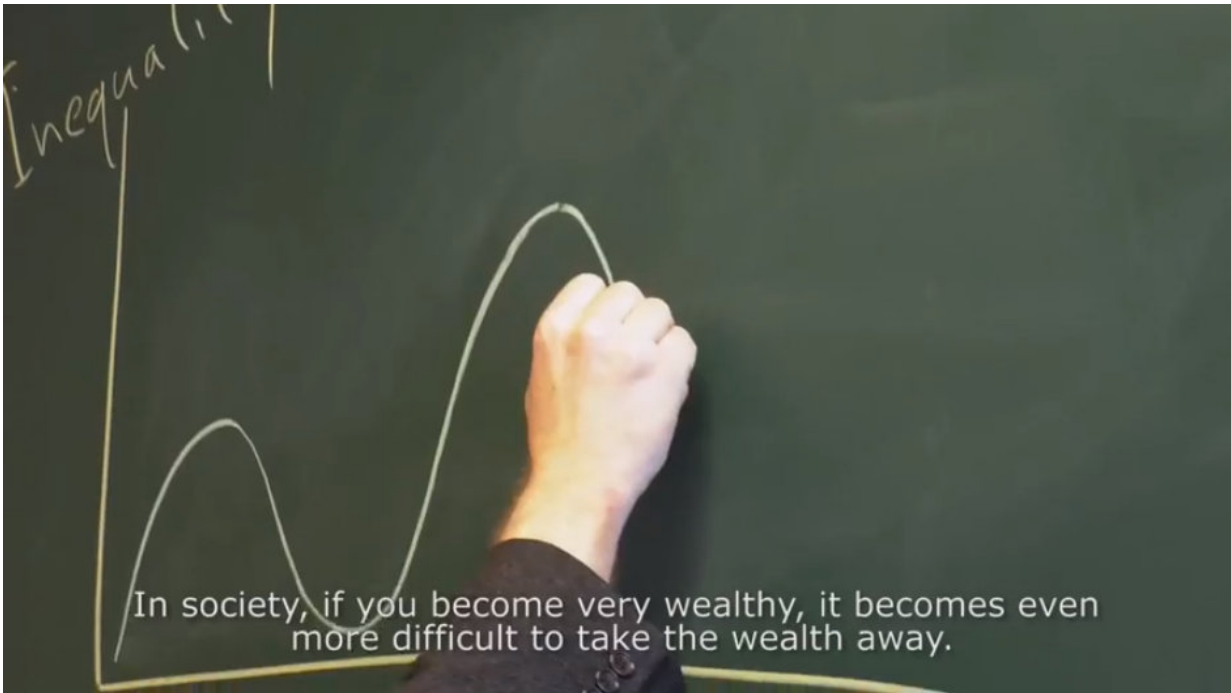


Upscaling is a catalyst for inequality

November 28 2017



The laws of nature are what drive wealth inequality within a given society – unless society takes action to counteract their effect, such as by adopting laws on taxation. The larger the scale, the greater the inequality. Today's globalisation trend is thus a process that naturally reinforces inequality. At the same time, globalisation also makes it more difficult to provide societal counterbalance. This conclusion is drawn by Marten Scheffer and two fellow ecologists from Wageningen University &

Research, along with Utrecht University historian Bas van Bavel, in a publication on inequality that combines insights gleaned from nature and society. The article will appear in the authoritative *PNAS* on 27 November.

Economically speaking, most societies are dominated by a small elite. In the same way, communities in nature are typically dominated by a small portion of the total number of species. "It's estimated that 1 percent of the world's population own half of total wealth. In the Amazon, 1 percent of tree species account for half of all biomass. Our work shows that this curious fact may be more than just coincidence," according to Marten Scheffer. "In this special collaboration between economic historian Bas van Bavel and our Wageningen team, we have demonstrated that major similarities exist between the patterns of [inequality](#) in nature and [society](#). Inequality naturally grows as scale increases."

Structural counterbalance

In nature, inequality is counteracted by [natural](#) enemies – including disease – that have an above-average effect on the dominant species. Among microbiologists, this process is known as the 'kill the winner' principle. Within societies, disasters such as war can temporarily work as equalising forces. Structural counterbalance, however, must come from targeted institutions such as taxation. As the scale of the economy expands, it is becoming increasingly difficult to enact such compensation. "This situation is what we are seeing as a result of the current globalisation," according to Van Bavel. "Only once before in human history have we encountered a similar process: in the early modern era, when the counterbalance that had been establish at a local level in the Middle Ages was surpassed by the increasing political and economic scale. Eventually, in the nineteenth and twentieth centuries, we formed a new system of counterbalance at the national level. What we

should do today is once again establish a counterbalance, this time at the global level. In fact, it's crucial that we do so, in light of how inequality is a major cause of social and political tensions as well as economic stagnation. Realising such a worldwide form of governance will nevertheless pose a tremendous challenge."

Unique collaboration

The project marks the first time that historian Van Bavel and ecologist Scheffer have worked together. Despite their highly different backgrounds, the two discovered that they share a common interest in the origins and effects of inequality. Which hidden mechanisms are at work there? And how can they cause a system to become so unstable? Van Bavel: "As it turned out, the ecological, mathematical and historical insights dovetailed rather neatly; each one picked up where the other left off."

More information: Marten Scheffer et al., "Inequality in nature and society," *PNAS* (2017). www.pnas.org/cgi/doi/10.1073/pnas.1706412114

Provided by Wageningen University

Citation: Upscaling is a catalyst for inequality (2017, November 28) retrieved 26 April 2024 from <https://phys.org/news/2017-11-upscaling-catalyst-inequality.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.