Data mining confirms that culture makes cities richer

Emerging Technology from the arXiv

One of the puzzles of modern cities is that economic factors such as investment, jobs, and income do not fully explain their prosperity.

In the last century, the French anthropologist Pierre Bourdieu came up with an idea that might account for this. He proposed that prosperity is also the result of cultural factors such as education, intellect, and knowledge. He called this "cultural capital" and argued that it plays a crucial role in people's success.

Perhaps, then, the success of cities depends not only on economic development but also on cultural capital. On an anecdotal level, that seems plausible. There are numerous examples of poor neighborhoods that have become prosperous after attracting creative individuals and industries.
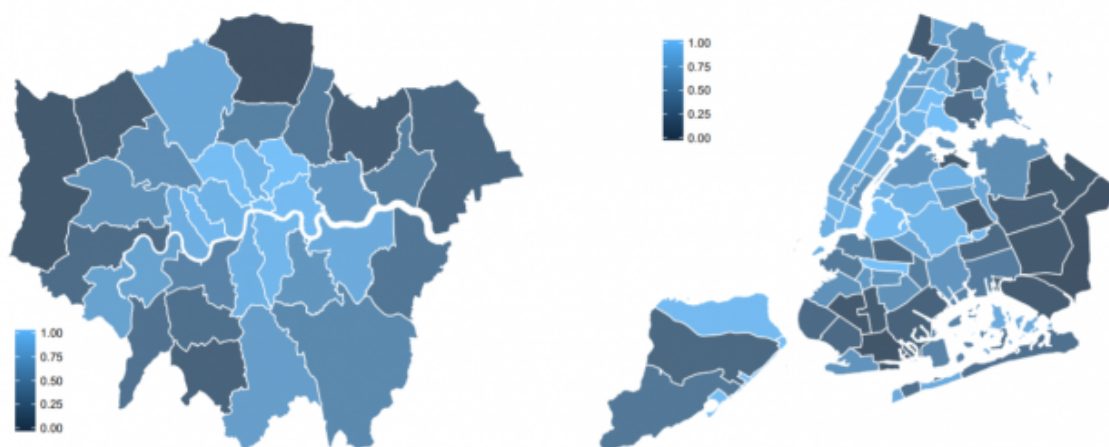
But this idea is difficult to prove, because while economic investment is straightforward to measure, cultural capital is not. What's needed is a reliable way to measure cultural capital so that it can be used in this kind of comparison.

Enter Desislava Hristova at the University of Cambridge in the UK and a couple of colleagues, who have found a way to measure cultural capital in cities and its contribution to their success.

The technique uses photos posted to Flickr and tagged with words that link them to various areas of creative activity widely associated with culture, such as advertising and marketing, architecture, publishing, crafts, films and TV, music, and so on.

Hristova and co mined the photo-sharing site to find geotagged photos labeled with these words in New York and London. They found some 1.5 million photos in total, taken between 2010 and 2015.

The geotagging allowed the team to link each photo to one of the 33 boroughs in London and the 70-odd community districts in New York. And that gave them the ability to rank and compare changes in cultural activity over time in these places.

These cities also publish figures related to urban development—the Index of Multiple Deprivation for London and the Social Vulnerability Index for New York. Then there is data on house prices, which the team used as a proxy for prosperity in cities.

The results provide interesting evidence that appears to back Bourdieu's ideas at a city level for the first time. "We are able to show that economic capital alone does not explain urban development," say Hristova and co. "The combination of cultural capital and economic capital is more indicative of neighbourhood growth in terms of house prices and improvements of socio-economic conditions."

Indeed, the team break down the economic and cultural activity for each locality in these cities, showing how areas benefit from cultural activity.

There are some weaknesses in the approach. One puzzle is that in 2012 London hosted the Olympic Games, an event that was preceded by a huge investment in cultural activities such as dance, music, and theater in London, as well street parties and obviously sporting activity. And yet the group's data shows no spike in cultural activity in London at that time.

Another factor is the role of science and technology. In recent years, education specialists have begun to study the impact on people's work and lifestyles of their knowledge and understanding of science. They call this "science capital."

Science capital seems to play a significant role in people's life and work trajectories, so it is not beyond reason that it could also play a role in the prosperity of cities that exploit it. Oxford and Cambridge in the UK and Boston and San Francisco in the US might be good examples. But Hristova and co do not consider this.

Still, what they have come up with is an innovative way to link human behavior within cities to economic prosperity. There's clearly much more to mine from this kind of data. We'll look forward to seeing what it reveals.

Ref: arxiv.org/abs/1804.03760 : The New Urban Success: How Culture Pays