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Seth Flaxman graduated from Harvard University in 2008 with a Bachelor's Degree in computer science and mathematics. He is currently a research intern in the Media and Design Laboratory at the Ecole Polytechnique Fédérale de Lausanne. He is doing research on applying information visualization to problems in computer science and network data, with a special focus on global cities.

**Visualizing Global Cities – a dynamic tool for exploring indices of cities**

Abstract:

While there exists a very large collection of statistics about countries, there is a much smaller, less comprehensive body of data available about cities. This is because of an understandable bias on the part of those collecting statistics, namely state governments, to focus on states. The paucity of data about cities is a problem because cities can be viewed as the spatial embodiment of globalization and thus they play an increasingly important role in the global flow of information, people, and goods. The most important cities serving these functions are the so-called “global cities,” and it is these that are our primary focus.

One of the most popular methods of understanding country statistics is the creation of indices by which states are compared based on a collection of factors. For example, the World Economic Forum’s Global Competitiveness Report for 2008-2009 covers 134 countries, evaluating each on nine “pillars” made up of a number of different factors. While many country indices are published every year, there are at present no more than two dozen comprehensive indices of cities. These city indices include the MasterCard Worldwide Centers of Commerce Index, the City of London Global Financial Centres Index, the Mercer Quality of Living Index, and the A. T. Kearney / Foreign Policy ranking of Global Cities.

We have created a online tool, inspired by the OECD eXplorer Online Visualization Tool. Our tool specifically focuses on indices of cities rather than on data about cities, reflecting our interest in understanding the nature of these cities as global cities. We do include basic demographic data about cities. Our tool is structured as follows. A map of the world shows the locations of the cities included in at least one of the indices. Cities are colored by either demographic data or ranking data. We provide scatter plot and parallel coordinates views comparing selected indices. Any number of indicators may be selected by the user and weighted by importance. Unlike other tools, we also include a rank aggregation algorithm which allows a collection of indicators, as selected and weighted by the user, to be combined to provide an on-the-fly global index of cities. In addition, raw data about cities may be weighted and combined to create a new index, which can then be added and compared to the existing indices.

Our tool includes every index we have access to, and it is easily extended to include more indices and data sources. Thus, it provides an as comprehensive as possible picture of global cities, but only on those relatively few dimensions that have been studied. In this way, it serves to highlight the critical lack of data on various important dimensions of cities, from cultural production to inequality to environmental

sustainability. By providing an interactive visualization tool, we hope to promote the creation of new indicators.