Knowledge Clusters

RICHARD FLORIDA @Richard_Florida Jun 7, 2012

Knowledge in Cities: that's the title of a new study published in the May 2012 issue of the journal Urban Studies. Knowledge is a key factor in the growth and development of cities and metros and of the economy as a whole. And the study breaks new ground by identifying 11 distinct knowledge clusters and tracking which have the biggest effect on regional economic growth.

The study identifies the 11 knowledge cluster regions using detailed data from the U.S. Bureau of Labor Statistics Occupational Information Network or O*NET system on the skill and knowledge requirements of more than 800 types of jobs:

- **Comforting Regions**: High knowledge in mental health, less so in engineering and production (e.g. Buffalo, New York and Memphis, Tennessee)
- **Working Regions**: Low knowledge of IT and commerce (e.g. Akron, Ohio and Fresno, California).
- **Thinking Regions**: Knowledgeable in arts, humanities, IT, and commerce. Less knowledgeable in manufacturing (e.g. Columbia, South Carolina and Philadelphia).
- **Building Regions**: High knowledge in construction and transportation (e.g. Dover, Delaware and Reno, Nevada).
- **Innovating Regions**: High knowledge in IT, arts, commerce, and engineering, less so in manufacturing (e.g. Austin and Seattle).
- **Making Regions**: High knowledge in manufacturing. Low knowledge in commerce and humanities (e.g. Elkhart, Indiana and Green Bay, Wisconsin)
- **Teaching Regions**: High knowledge in the humanities and science. Low knowledge in manufacturing (e.g. Athens, Georgia and State College, Pennsylvania).
- **Enterprising Regions**: High knowledgeable in commerce and IT (e.g. Charlotte and Salt Lake City).
- **Farming Regions**: High knowledgeable in food production and manufacturing. Low knowledge in arts and humanities (e.g. Merced, California and Yakima, Washington).
- **Understanding Regions**: High knowledge in arts, sciences, humanities, and IT. Low knowledge in manufacturing (e.g. Charlottesville, Virginia and Iowa City).
- **Engineering Regions**: High knowledgeable of engineering, IT, and commerce. Low knowledge of physical and mental health (e.g. Huntsville, Alabama and San Jose).

These knowledge clusters account for roughly half of regional economic development, after controlling for population size and human capital (measured as the share of adults that are college graduates), according to the study.

At a time when cities, regions, and the country as a whole are struggling to create jobs and generate economic development, the study shows that certain types of work or knowledge clusters add substantially more to regional growth and development than others. At the top of the list are engineering regions which have significantly higher levels of productivity and income than places in the other knowledge-based clusters, according to the study. Three other types of regions — building, enterprising, and making — have more modest but still significant effect on either productivity or income.

Many of the things we think will create growth actually don't. The remaining seven types of regions either have no effect or a negative effect on growth. Teaching, understanding, working and comforting regions have significantly lower levels of productivity and income per capita than other places with similar levels of college attainment and population size, according to the study. This does not mean that these regions are necessarily less productive than the other four, just that they add less to regional development when taken in combination with other factors like human capital.

In this way, the study helps policy-makers distinguish between the kind of economic or knowledge clusters that power growth versus those that don't. Much has been made in recent years of the role of medical and educational institutions, so-called "meds and eds", in spurring economic development. While meds and eds may generate a lot of jobs, they have a limited direct effect on regional productivity and income according to the study.

Mayors, economic developers, and city-builders can use the study's methodology and results to learn more about the knowledge profile of their own economies, identify other regions to study and to benchmark, and determine their underlying economic strength and weaknesses, and opportunities for future growth.

http://www.citylab.com/work/2012/06/knowledge-regions-and-economic-development/1784/