

HARVARD - FAS-ECON -

[Seminar in the Economics of Science & Engineering](#)

DATE: Friday @ 9am on April 10th 2026

SPEAKER/S / PRESENTER/S + MAIN AFFILIATIONS

Galit Eizman, HKS

PAPER TITLE / or / PRESENTATION TITLE (please indicate which)

The Effect of Agglomeration on Higher Education and Local Labor Markets

ABSTRACT:

Do higher education institutions tend to gather, as known for firms and industrial plants (Glaeser, 1997)? and if so- what is the effect of their proximity to each other, on their productivity, quality and connections to local labor markets?

In this paper we examine the existence of agglomeration in the higher education systems, particularly regarding the number of students and faculty growth, R&D expenditures (research productivity), research collaborations, and national ranking by institution type- private or public. After an attempt to analyze the Chinese system, we focused on the USA data.

By making the use of clustering algorithms, we analyze the distribution patterns of the U.S. higher education system, which areas are richer in higher education resources and which areas are relatively lacking in higher educational resources. We also connect the institutions' location to the growth of local specific labor demand and supply.

We suggest a theoretical model in which institutions compete and at the same time benefit from each other, and by empirical evidence we attempt to find the equilibrium point of these two motions.

We use 3 parallel empirical methodologies:

1. E&G index for agglomeration (Ellison-Glaeser, 2019);
2. Kernel Density Estimator (KDE) to identify the clusters, estimate the density, and estimate the impact;
3. Machine learning techniques, using random (unsupervised) clustering algorithm and by the "Elbow" method, finding out the minimum number of higher education system clusters within the U.S. The term 'Clustering algorithm' refers to the process of separating data points into various categories according to their proximity. Data points which are closer to other data points in the same category and distinct from other data points, will be considered as a geographical cluster (see Map 1 below).

Our preliminary results show that research expenditures and collaborations are significantly higher for academic institutions in the same cluster. We have not yet found a significant impact on students and faculty numbers, so our current efforts are dedicated to exploring the impact of density on financial endowments, the number of publications, the number of co-authorships in journals, and the numbers of alumni in surrounding industries.

From our results we can learn that location matters, and how important is networking and geographical proximity to the quality and productivity of higher education and the labor market. These results should be considered by policy makers and stakeholders in planning more efficient systems and optimal allocation of resources, based on geographical location.

CO-AUTHORS / CO-PRESENTERS (if any & please indicate which) (include main affiliations)

Yuxuan Xiong , University of California, Los Angeles

BIO/Bios

Galit Eizman- Short Bio

Galit Eizman is Research Scholar at the Harvard Kennedy School and at the Economic Department of Harvard University since the year of 2010, researching topics of higher education, public policy, public finance and economic growth. Galit was an Economics Professor at Brandeis university from 2018, teaching courses of Econometrics, International trade, Public Sector Economics and Public Speaking (Oral Communication) for Economists. Galit was also teaching Econometrics, Microeconomics and Macroeconomics at Harvard Economics Department and Harvard Kennedy School at the undergraduate and graduate levels. She had positions as a visiting professor at Yale University, Tufts university, Jerusalem College of Technology (Tenure position), Bar Ilan University, and the University of International Relations (UIR) in Beijing, China. Galit also taught for several years at pre-college programs at Harvard and Tufts universities, and established the Youth Research Center at the Harvard Kennedy School. Galit completed her post-doc studies at Harvard University, studied her PhD and MA studies in Economics at Bar Ilan University and her BA in Economics and Education at the Hebrew University of Jerusalem. Galit has presented and published numerous papers regarding budgeting, globalization and innovative policy of higher education at international conferences. She also developed and researched methodologies for teaching economics and working on her book “3D Economics”. Galit registered a patent and a trademark for 3D teaching apparatus in Economics: TeachTouch Economics. Prior to her arrival to the USA Galit worked as in charge of research and external relations in the Planning and Budgeting Committee (PBC) of the Council for Higher Education (CHE) of Israel and as a chief economist for the Israeli Parliament, as such, she is also highly involved with policy making topics and served as a consultant to the US Federal Department of Education.

Yuxuan Xiong- Short Bio

Yuxuan Xiong is a Master of Quantitative Economics student at UCLA and holds dual degrees in Computer Science and Economics from Brandeis University. He conducts data-driven research on education systems, combining machine learning, econometrics, and geospatial methods to measure institutional access, model education agglomeration and market structure, and estimate causal effects using large-scale education datasets. His work aims to translate complex data into policy-relevant insights on equity and educational opportunity. He has presented and published across IEEE, AEFPP, and CTREE.