

Scientific networks: Interaction or Segregation?

A case study on economic research at universities in Vienna.

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Abstract

There has been a wide body of literature discussing networks in scientific communities, especially in the discipline of economics. From a pluralist perspective active interaction between different theories, methods and research traditions is crucial to give a comprehensive picture of economic developments.

We argue that scientific networks, manifesting in citation patterns, can be explained along the lines of three theoretical presuppositions. First, economic schools of thought provide delimited areas in which researchers interact and publish, while interacting significantly less beyond their borders. We expect this to hold especially for the neoclassical mainstream, less so for heterodox schools. Second, the institutionalized structure and orientation of organizations provides frameworks for interaction, which manifests in publications in similar journals as well as similar citation patterns within these publications. Third, the economic crisis in 2008 marked a paradigmatic shift in the orientation of researchers, which is reflected in the structural changes of citation patterns.

In this paper we analyze citation patterns of economists at the two major universities with economics faculties in Vienna. Starting point of the analysis are the publications of the researchers at the Vienna University of Economics and Business in the Department of Economics and the Department of Socio-Economics as well as the University of Vienna in the Department of Economics. To this end we export the citation record of all peer reviewed journal articles of current employees at the respective institutions (reference date 1st February 2015) between 1980 and 2015, listed in the Web of Science (SSCI). We extract forward citation links of each publication. The level of analysis is the respective journal, following the approach of Kapeller & Dobusch (2012).

In a second step we analyze whether the observed networks are organized along the three theoretical presuppositions. Hence we cluster the data according to these principles outlined

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above. First, we categorize the journals into a heterodox and an orthodox group following Lee et al. (2010), who provides this classification for 254 important economics journals. Second, we cluster the data along the institutional structure of universities, departments and institutes. Third, we split our sample into a pre and post crisis data set.

Using network analysis we will make the patterns in the data visible and be able to evaluate the centrality of specific journals for the network(s), depending on the respective subsample. We expect our analysis to yield deeper insights in the structure of scientific networks and reveal patterns of interaction and segregation between the mainstream and the heterodoxy which also manifest in the respective department affiliations of the researchers.

References:

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