

Network and Spatial Analyses

19. February 2020

Lecture:

Topics in Economic Geography II.

- Economic growth and development
- FDI/MNEs
- Why networks?

Seminar:

Econometrics reminder

Course Github page: https://github.com/bokae/anet_course



Technological change drives
economic growth in the long-run

Economic growth

Neoclassical growth

The economy combines inputs into outputs.

Production factors explain only a relatively small part of economic growth since the Industrial Revolution.

Technological innovation generating more output per unit of input resulting in greater total factor productivity (Solow 1956, Swan 1956).

Endogenous growth

Knowledge benefits from increasing returns, unlike physical commodities, due to inherent externalities (Lucas, 1988, Romer 1986).

Regional growth

Neoclassical regional growth

One-sector model: marginal product depends on the ratio of capital and labour. Capital and labour flows in opposite direction. In interregional equilibrium, capital-labour ratio is the same across regions.

Two-sector model: allowing for different production functions, factors can move in the same direction.

Endogenous regional growth

Increasing variety of specialised goods and increasing associated knowledge base (Romer 1986).

Private investments in human capital (Lucas 1988).

Knowledge spillovers based on patent citations are concentrated in space (Jaffe et al. 1993).

Innovation

Schumpeter

“The fundamental impulse that sets and keeps the capitalist engine in motion...” Schumpeter (1943), pp. 82-83.

New product (quality), new production process, new market, new source of raw materials or other inputs, new organizational structure.

Oslo Manual

“An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations.” Oslo Manual (2005), pp. 46.

Product, process, marketing and organisational innovation.

Innovation systems

Innovation systems

Moving away from a linear model of innovation.

An innovation system is an ensemble of factors affecting the creation and diffusion of innovation.

Interactive learning of economic actors.

Variations

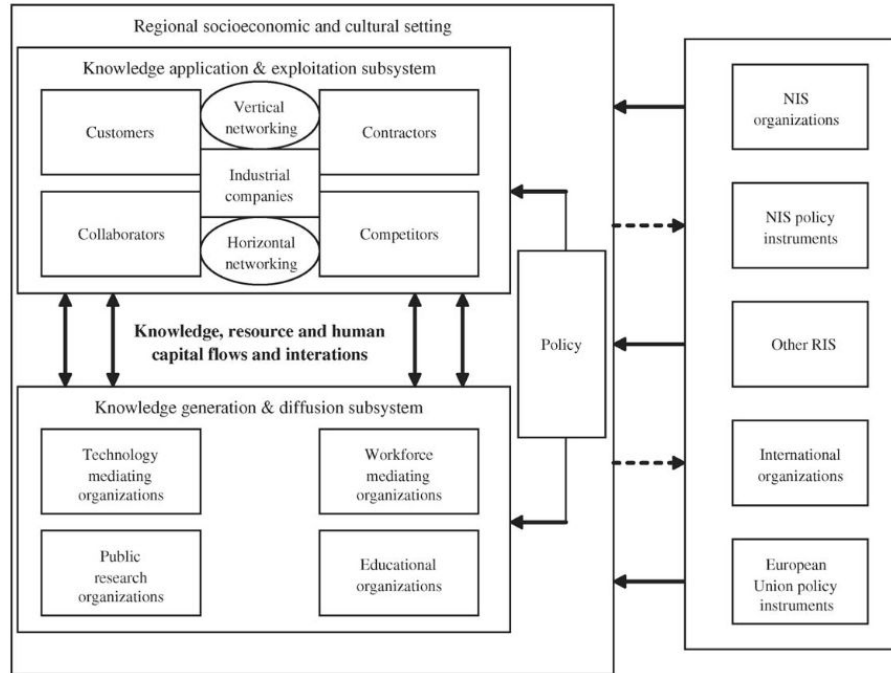
National systems of innovation (Freeman 1987).

Technological innovation systems.

Sectoral innovation systems.

Regional innovation systems.

Regional innovation system



RIS deficiencies

System failure (Edquist 2001).

Peripheral regions (organisational thinness).

Old industrial regions (lock-in).

Metropolitan regions (fragmentation).

Source: Tödtling - Trippl (2005), pp. 1206

People-based and place-based economic development policy

People-based (spatially blind)

Assumption that factor mobility will lead to the best aggregate outcome of agglomeration and income convergence across space (World Bank 2009).

Human mobility increases income and productivity, depleting unproductive regions of surplus population.

General spatial equilibrium (Glaeser 2008).

Place-based

Local context and institutions matter for factor mobility, and the mobilising of various local capital (McCann 2013).

Benefits of agglomeration may be seized through a more even distribution of mid-sized agglomerations (Crescenzi et al. 2007).

IKEA: Älmhult, Leiden, Delft.

Human development

Economic output and well-being

Strong correlation between GDP per capita and HDI ranking of countries (McGillivray - White (1993)).

Increasing income inequality, stagnating material welfare for many amidst overall plenty (Piketty - Saez 2003).

Issue is not only income, but social and geographical distribution of realising opportunity (Feldman - Storper 2018).

Capability approach

Capabilities to achieve valuable “doings and beings”. Conversion factors in the use of resources and commodities (means).

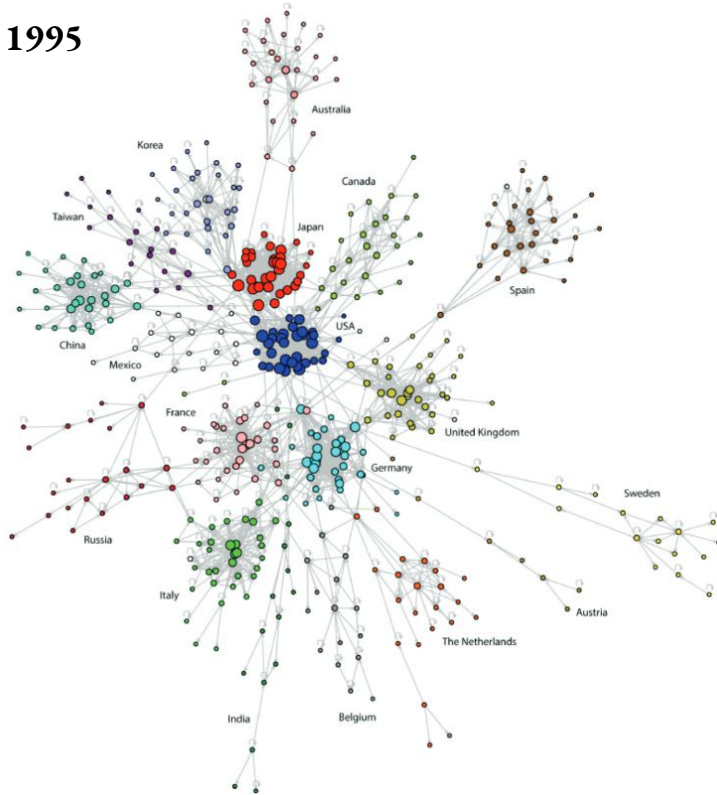
Agency.

Development as extending on the capabilities of individuals (Sen 1990).

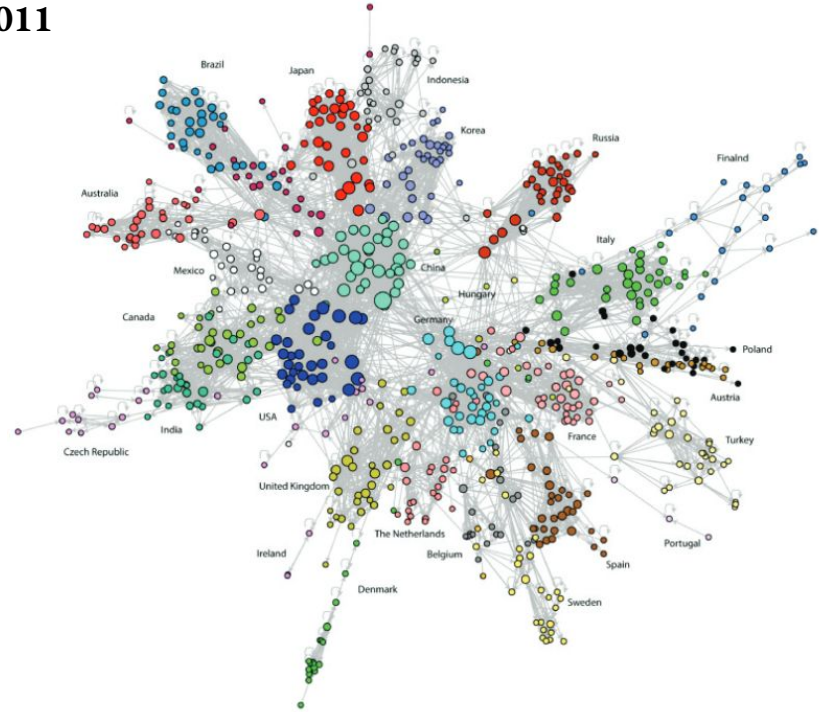
Foreign direct investment and
multinational enterprises
co-evolve with geography.

World input-output network

1995



2011



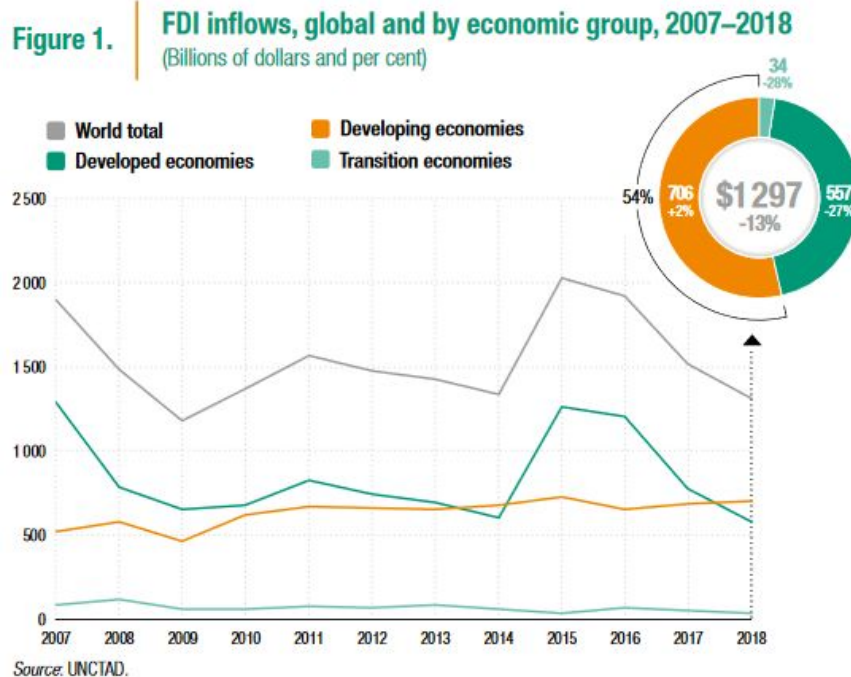
Source: Cerina et al. (2015), pp. 5.

Foreign direct investment (FDI)

FDI

Investment involving management control of a resident entity in one economy by an enterprise resident in another economy.

FDI involves a long-term relationship reflecting an investor's lasting interest in a foreign entity.



Source: UNCTAD (2019), pp. 1.

FDI landscape in 2018

Figure 2. FDI inflows, top 20 host economies, 2017 and 2018
(Billions of dollars)

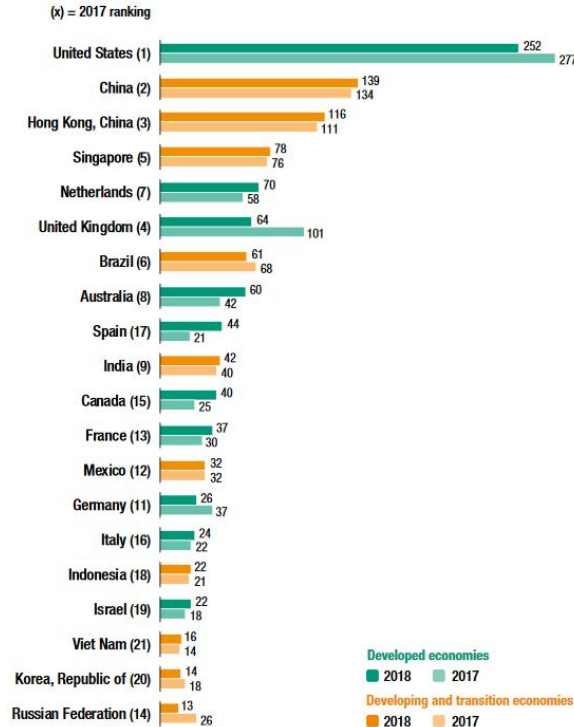
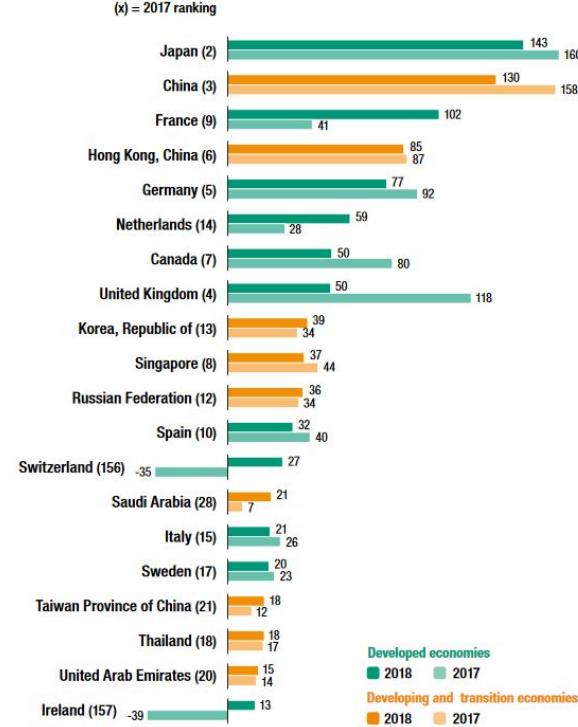


Figure 3. FDI outflows, top 20 home economies, 2017 and 2018
(Billions of dollars)



Multinational Enterprises (MNEs)

OLI paradigm (Dunning 1980)

Ownership advantages: income generating assets unavailable to firms of the host country.

Location advantages: factor endowments located in foreign countries.

Internalization advantages: benefits of internalizing capital, technology and management skills.

Geography

Geography as international geography (Iammarino - McCann 2018).

Close mapping between geographical and technological structures.

Hierarchy of MNE activities maps closely to global urban hierarchy.

MNEs and geography

Concentration in super-regions

Sales, investments and R&D concentrated in super-regions.

Across NAFTA, EU and East Asia, 70% of MNE activities (sales-share) on average conducted within the same super-region (Rugman 2005).

Local knowledge sourcing (Peri 2005).

Concentration in city-regions

Knowledge--related activities of MNEs tend to be concentrated in global cities.

Global cities tend to be well-connected with other locations.

Spillovers to and from MNEs

Spillovers

Benefits to domestic firms with sufficient absorptive capacity.

These spillovers tend to be spatially restricted.

MNEs may try to avoid knowledge-leakages.

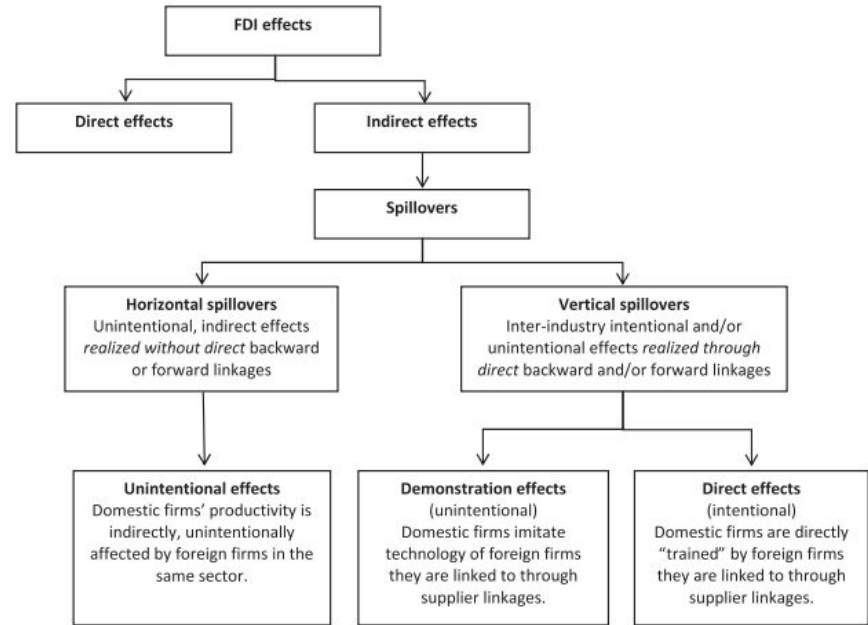


Figure 1. The classification of spillovers.

Source: The authors.

Source: Pavlínek - Zízalová (2016), pp. 336.

FDI and MNEs in CEE

MNEs as agents of change

MNEs were transformative actors in regional economic development during the post-socialist transition.

Dual-economy structure of foreign-owned and domestic firms.

Spillovers between them subject to distance-decay.

Dependent market economy

Institutional differences and complementarity give rise to varieties of capitalism (Hall - Soskice 2001).

Liberal and coordinated market economies.

Dependent market economies (Nölke - Vliegenthart 2009).

Networks can help us
understand economic geography

Networks as interaction

Patent citation and co-inventor networks.

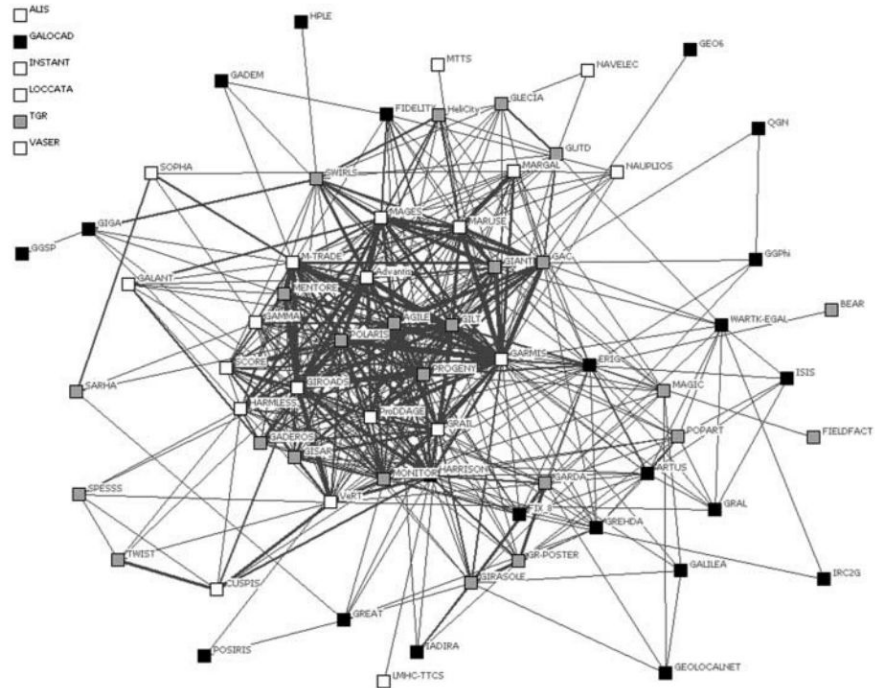
Citation and co-authorship networks.

FP-project cooperation networks.

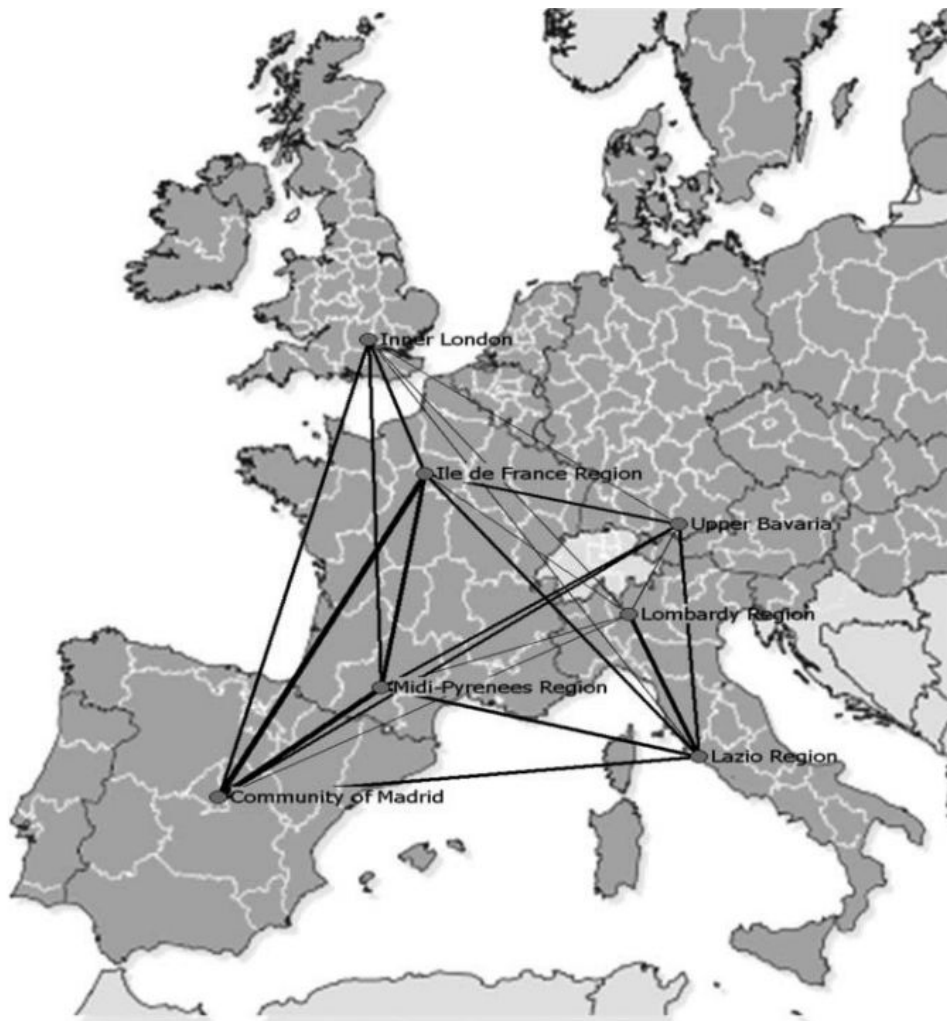
Cluster advice networks.

Ownership networks.

FDI, international trade and labour flows.



Source: Balland et al. (2013), pp. 61.



Source: Balland et al. (2013), pp. 63.

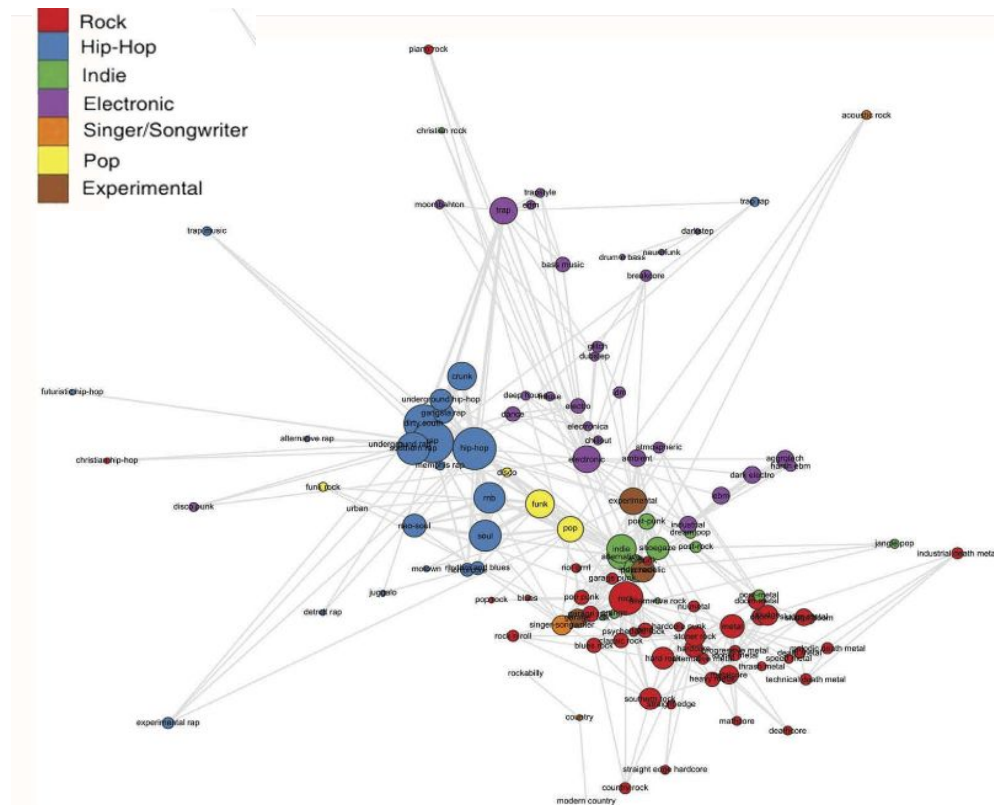
Networks as similarity

Co-occurrence of elements over categories.

Technologies over patents or regions.

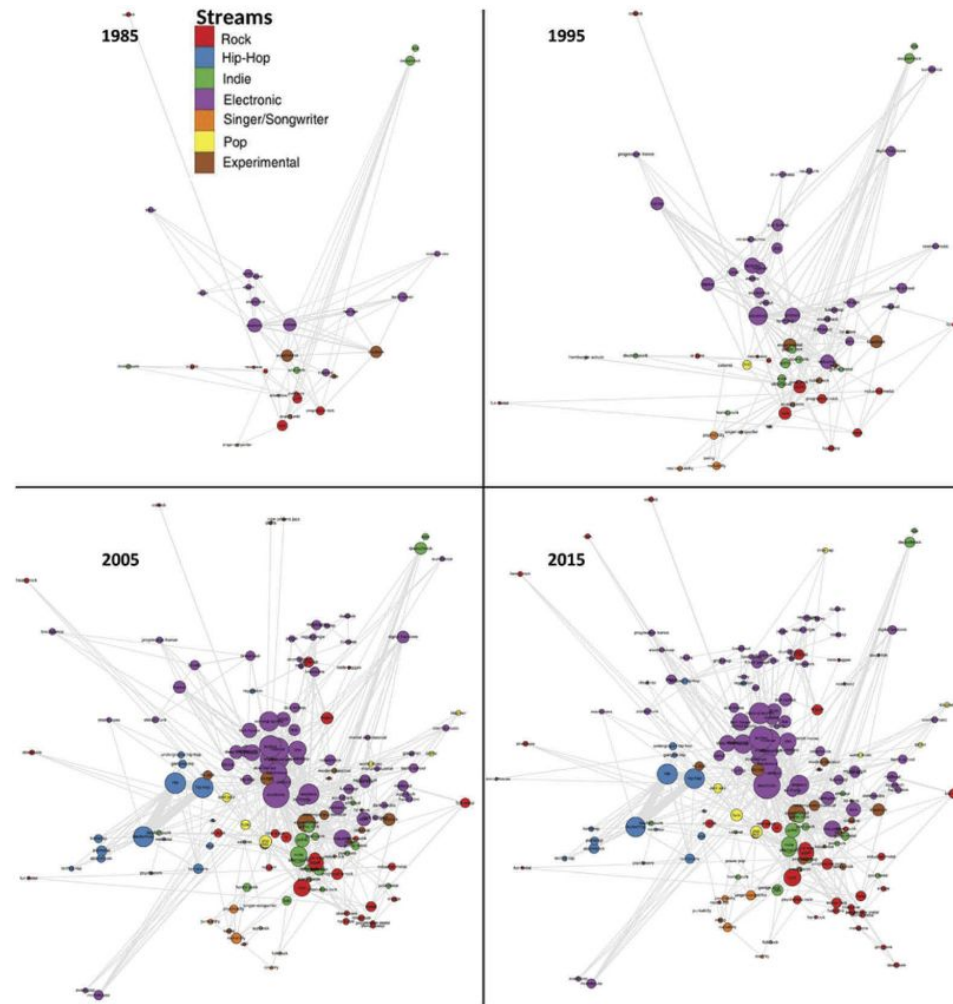
Products over export baskets.

Workers over occupations or tasks.



Source: Klement - Strambach (2019), pp. 398.

Source: Klement - Strambach
(2019), pp. 399.



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