

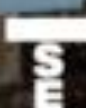
11th Toulouse Economics and Biology Workshop

INEQUALITY IN NETWORKS

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Study in
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School of
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11th TOULOUSE ECONOMICS AND BIOLOGY WORKSHOP – INEQUALITY IN NETWORKS

ABSTRACTS

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ABSTRACTS

Sarah Alami Social capital in transitioning societies

Although inequality is often applied to material outcomes like wealth and income, for the vast majority of human evolutionary history, differences in material capital have been less salient than differences in embodied (health, acquired knowledge, and skills) and social capital (resources gained through social networks and relationships). Cooperation and reliance on social support networks have been integral to human survival, reproductive success, and well-being. This legacy is evident in various aspects of human behavior, including the pursuit of social status, an inclination towards gregariousness, and decision making regarding major life choices such as where to live, whom to marry, and what subsistence strategy to adopt.

Here, I will present several lines of research that explore the role social networks play in more traditional small-scale societies. I draw on data collected in forager-horticulturalist communities in Amazonian Bolivia as well as agro-pastoral and nomadic pastoral groups in Morocco's High Atlas mountains, asking questions such as: how gender interacts with social status, the role of social support networks and post-marital residence in childcare, the costs and benefits of inter-group ties including cross-ethnic marriage, and how economic development and climate shifts may be influencing traditional social support networks.

Michael Bailey Inequality in online networks

Using social network data from Meta, we attempt to measure the structure, function, and quality of people's online social connections. We find that social capital (the value people derive from their social circles) is unequally distributed and this has important consequences for people's mobility, health, job prospects, and economic opportunity. We measure how unequal networks impact several different outcomes including ability to migrate, start a business, socially integrate into a new community, and find a job. Meta's Data for Good program has released several publicly available datasets on social connectedness which we hope will provide an invaluable resource for the research community to perform similar studies.

Per Block Interdependence in mobility networks generates inequality

A primary determinant of inequality is how individuals are sorted into jobs and occupations with varying rewards. Much contemporary empirical research assumes a direct connection between individual characteristics and outcomes, i.e., that people are driven in their choices and actions by their attributes. Thus, statistical analyses study a dependent (outcome) variable, that is predicted by independent (explanatory) variables, on the level of individuals. These analyses necessitate assuming independent observations.

However, in reality individuals are not independent and primarily driven by variables, but by other people around them: Human beings are inherently social. Consider the classic friendship network: whether you like me depends not (only) on your or my attributes, but also on whether I like you, and whether your other friends like me. Mobility networks in which people move between social positions (such as jobs and occupations) have similar interdependence: for example, which occupation I work in is decidedly influenced by the occupational aspirations of those around me. As people influence each other in their decisions where to work, the patterns of job changes make up a complex interdependent system that can be represented as a mobility network. Social science theories discuss this interdependence on an abstract level, but a translation to quantitative modelling and explicit network theorising is – to date – lacking.

In this talk I outline the importance of considering inter-dependence in individual outcomes and show how this can be studied in a quantitative framework using the example of mobility networks and inequality. Using statistical tools recently developed for this purpose, we can model network structures to understand the emergent tendencies that underlie these mobility networks. I apply this framework to the social determinants of mobility of professors between universities, to how women moving into specific occupations leads to men leaving, explaining a large part of occupational sex segregation, and to inter-generational mobility, that is, how children's social status depends on the status of the parents.

Matt Elliott Investment in social ties, risk sharing, and inequality

This article investigates stable and efficient networks in the context of risk sharing, when it is costly to establish and maintain relationships that facilitate risk sharing. We find a novel trade-off between efficiency and equality: the most stable efficient networks also generate the most inequality. We then suppose that individuals can be split into groups, assuming that incomes across groups are less correlated than within a group but relationships across groups are more costly to form. The tension between efficiency and equality extends to these correlated income structures. More-central agents have stronger incentives to form across-group links, reaffirming the efficiency benefits of having highly central agents. Our results are robust to many extensions. In general, endogenously formed networks in the risk-sharing context tend to exhibit highly asymmetric structures, which can lead to stark inequalities in consumption levels.

Matthew Jackson The roles of social capital and homophily in determining patterns of inequality and immobility

The structure and origin of divisions in connections across groups are explored, as well as the implications for economic mobility. Various forms of social capital serve different purposes, and are shown to have different implications in data combining network information with demographics and economic outcomes. We also discuss a variety of ways in which homophily impacts people's opportunities and information, and why inequality is persistent and exhibits strong geographic patterns.

Balázs Lengyel Urban networks of innovation and inequality

By providing space for intensive social interaction that can mix people and knowledge, cities have become the engines of economic and technological progress. However, urban social networks have remained fragmented that influences innovation outcomes and perpetuates inequalities. In this talk, I will discuss a traditional small-world network framework of closure and bridging. Using the example of collaboration networks in European innovation, I will demonstrate the relationship between bridging across network fragments of different technologies and new knowledge combinations. Then, using the same framework, I will summarize research on online social networks and the dynamics of income inequality in cities. This line of inquiry suggests that the urban geography of residential areas, mobility pathways and urban barriers can explain why social networks are fragmented. The talk will conclude by suggestions for future research in areas of urban policy, experienced segregation, and spatial network diffusion.

Eleanor Power “Reputational poverty traps” and the reproduction of social inequality in South Asia and the world

In this talk, I will introduce a new cross-cultural study, just beginning, into the micro-dynamics of social inequality. With a team including ethnographers, an experimental psychologist, and a modeller, we are examining how people's identities and social position influence how they are perceived by others, and so how they consequently choose to act in the world. A key element of the project is the combination of social network data with experimental games played with known others, where we vary the social exposure of participants' actions. The project centres on three communities in South Asia, complemented by comparative experimental work in a number of other communities arrayed around the globe, all with the aim of exploring if, and if so how, these dynamics result in a “reputational poverty trap” that reinforces social and economic inequality. As the project is just getting underway, I am eager to get the insights of this group, so will introduce the motivation for the project and preliminary results from early fieldwork undertaken in India, Colombia, and Morocco.

Elspeth Ready “We need more guys to go hunting.” **Inequality, network position, and food security in the Arctic**

Understanding how cooperative networks ensure resource access for individuals and groups is a fundamental question in the evolutionary social sciences. In the Canadian Arctic, cooperative networks redistribute traditionally harvested foods within communities and, consequently, understanding the operation of these networks is relevant for promoting food security and adaptation to climate change. In this talk, I present two different theoretical approaches to the question of how food sharing networks might produce resilience to fluctuations in traditional food availability in Inuit communities: one focused on the features of individuals' ego-networks, and one focused on broader structural features of the network. The first analysis demonstrates that low-harvest households tend to have lower quality networks than high-harvest households, suggesting that they may be more vulnerable to disruptions in the availability of country food. This finding contradicts the common assumption that food sharing targets households in need. Yet, the second analysis suggests that the core-periphery structure of the network may actually promote the ability of high-production households to subsidize low-production households. This paradox may explain some of the tensions observed in Inuit communities surrounding food sharing. More generally, the results suggest that analyses at multiple scales may be required to get adequate answers to questions about the consequences of inequality in networks.

Gert Stulp Social mechanisms underlying whether people have children

The demographic transition towards low fertility has marked a period of major social change. Social interactions between people is considered a key driver of the transition. Many studies have attempted to establish how people's networks shape people's desires to have children and the realisation of these preferences. Several social mechanisms are considered important for this important life outcome.

As with many network studies, theorising about these mechanisms has been easier than empirically quantifying them because of the different social mechanisms involved, the bidirectional influence of people's preferences and their networks, constraints of traditionally used methodological approaches, and the difficulty of getting network data.

In this talk, I address how networks are associated with whether people want and have children through both data-driven and theory-driven approaches using a dataset on a representative sample of Dutch women reporting on over 18000 relationships. The data-driven approach allows simultaneously analysing the many different network characteristics that have been proposed to be important and determining which characteristics are most predictive. The results speak to the importance of social learning and social support mechanisms, where the ideas, preferences, and resources of other people shape one's own preferences and behaviour. The theory-driven approach further addresses the opportunities and constraints provided through the network and their potential implications for the formation of inequality, delving into relationship types such as kin and non-kin. In particular, I discuss the association between education and childlessness: this is a rare case in which networks may lead to less favourable outcomes for the higher educated, as they are more likely to remain (involuntarily) childless.

Milena Tsetkova Perceptions of inequality and redistribution decisions

The fact that income and wealth inequality keep increasing in representative democracies presents a puzzle – if most people dislike inequality and democracies respond to the majority vote, then redistribution policies should be implemented and inequality should decrease, not increase. One possible explanation is that people habitually underestimate the amount of inequality in society and misunderstand their own position in the distribution, and hence, demand less redistribution than a perfectly informed voter would choose. This project combines ideas about network effects on perception bias from cognitive psychology with a utility model of inequity aversion from behavioral economics and theoretical research on majority voting from public economics and political theory to investigate how assortativity by wealth (the extent to which individuals observe others with similar/different wealth) and visibility by wealth (the extent to which the rich/poor are more likely to be observed) affect the collectively selected taxation rate under the median-voter rule, the resulting reduction in inequality, and the polarization of vote decisions. We develop an agent-based model and test its predictions in an online experiment with groups of human participants. The findings uncover fundamental limitations to democratic systems and carry implications for political communication and policy.

Yves Zenou Ethnic mixing in early childhood: Evidence from a randomized field experiment and a structural model

We study the social integration of ethnic minority children in the context of an early childhood program conducted in Turkey aimed at preparing 5-year-old native and Syrian refugee children for primary school. We randomly assign children to groups with varying ethnic composition and find that exposure to children of the other ethnicity leads to an increase in the formation of interethnic friendships. We also find that the Turkish language skills of Syrian children are better developed in classes with a larger presence of Turkish children and that these positive effects persist into primary school. We then develop a model of language acquisition and friendship formation, with language skills acting as a key input in the formation of interethnic friendships. Structural estimation of the model suggests that interethnic exposure reduces the share of ownethnicity friends (homophily) and has a non-monotonic effect on the propensity to form ownethnicity friendships beyond what would be expected given the size of the group (inbreeding homophily). Counterfactual analysis indicates that the language skills of Syrian children are as important as ethnic bias for the integration of Syrian children.