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Coauthorship and subauthorship patterns in financial economics

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ABSTRACT

Acknowledgments are a special kind of intellectual partnership. Acknowledged scientists in published papers are called subauthors. We examine collaboration patterns between authors and subauthors in four finance journals from 1994 to 2013: the Journal of Finance, the Review of Financial Studies, the Journal of Financial Economics and the Journal of Financial and Quantitative Analysis. We employ social network analysis and discover that the majority of subauthors form a compact giant component with small average distances between the nodes. Moreover, the subauthorship network in finance has a non-overlapping structure, exhibiting low clustering coefficients and a plethora of cohesive groups of nodes.

1. Introduction

Economic exchange is an emergent property of the social structure in which exchanging agents are embedded, inseparable from social relations (Kamath & Cowan, 2015). In consequence, financial markets are organized within a social framework (MacKenzie, 2011). Market participants are subjected to relational patterns, not necessarily reasonable, carrying micro-sociological characteristics (Carruthers & Stinchcombe, 1999; Millo & MacKenzie, 2009). Financial economists and market participants are two interdependent social spaces and are constitutive of financial markets (Chick & Dow, 2005). Financial economists interpret and affect the markets through their theories (Callon, 1998; Mackenzie, 2006; Preda, 2007). The field of finance constitutes a social space in the sense that it has a distinct cultural identity which is shaped by the social "establishment of reputation", and the epistemological, promotion of knowledge, elements of scholarly activity (Vieira & Teixeira, 2010, p.631). Market participants often transform market institutions and structures while implementing the theories that financial economists construct. Therefore the production of science is an outcome of the causal relation between financial markets and the academic community of financial economists. Within the production of science, publishing a paper in a highly esteemed academic journal certifies one's reputation in the academic community; it is also a precondition for one's membership in the academic elite (Vieira & Teixeira, 2010).

In the production of novel research, the role of subauthors is often essential; subauthors are those people whose help is acknowledged by the authors. Subauthorship is the means that indirectly facilitates the diffusion of scientific thought (Glänzel & Schubert, 2004; Lee-Pao, 1992; Heffner, 1981). Subauthors in finance often come from both the academic community and the market. This implies that subauthorship can help disperse the discipline's outcomes to the markets. Subauthorship may also be associated to social capital which is the accumulation of social relations as a result of the interaction of the community's members; advisory contribution to a paper's output can help increase the researcher's academic reputation.

The complexity of tasks within the discipline and the ongoing competition for access to the uneven allocation of resources, reinforce scientific collaboration (Mulkay, 1976; Whitley, 2000). Subauthorship, consisting in a paper's footnote acknowledgments, is indirectly connected to scientific innovation and, moreover, subauthorship implies assistantship (Cronin, McKenzie, Rubio, & Weaver-Wozniak, 1993). An author's social standing can be reflected in the number and the identity of the subauthors who provide him with a range of academic advice. Furthermore, subauthors are agglomerated in social space.[1] Academic journals constitute a social space in the sense that they gather researchers who systematically collaborate to produce research papers. In this social space, researchers communicate in order to assess the output of their scientific work, while writing a paper. This space is structured

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[1] According to Bourdieu, 1989a, 1989b social space "presents itself in the form of agents endowed with different properties that are systematically linked among themselves" p. 19.

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upon the researchers' social background and upon a shared set of hypotheses, the fundamental principles that define the discipline (Kuhn, 1996; Latour, 1987; Racherla & Hu, 2010; Whitley, 2000). A social space is a symbolic space in the sense that it accommodates status groups of different lifestyles (Bourdieu, 1989a, 1989b). In this context, the symbolic perception of the social world takes two forms: a) the aggregate, when a person acts as a representative of the social group he belongs to, so as to reinforce his group's power (Bourdieu, 1989a, 1989b); subauthors encourage and promote their groups' influence, b) the individual perception of the social world; subauthors of similar impact tend to cooperate to foster their academic fame.

The contribution of subauthorship to science still remains blurred; this essay addresses the structure of subauthorship in financial economics. The rest of the paper is organized as follows. Section 2 discusses prior research, Section 3 analyzes subauthorship networks in finance and Section 4 concludes.

2. Prior research

Prior research has explored social networks in finance, in the context of both academic collaborations and capital markets. Boss, Elsinger, Summer, and Thurner (2004) mapped the Austrian interbank market, where nodes are banks and links are claims and liabilities. They found that better connected banks are more resilient to market turmoil. Furthermore, they found that the network has low clustering coefficient and short average path length. This means that the banks were mostly connected with their headquarters and that the headquarters were interconnected. Baum, Rowley, and Shipilov (2004) mapped investment-bank syndicated networks. They discovered the highly connected banks and found that this network had small-world properties. Cetorelli and Peristiani (2013) recorded international stock-exchange activity during the years 1990–2006 to assess the degree to which the major financial events affected the reputation of global financial centers. They created a rating list of the financial centers' reputation according to their ability to attract foreign IPOs. They concluded that American stock markets were the most central in the global network of capital markets. Pool, Stoffman, and Yonker (2015) investigated the social relations of the fund managers with respect to their geographical proximity. They found that increasing portfolio overlaps happen when managers are in the same media market.

Cohen, Frazzini, and Malloy (2008) recorded the academic institutions from which the mutual fund portfolio managers have graduated. They found that managers tend to place higher bets in firms managed by individuals coming from the same affiliation. Moreover, fund managers gain higher returns from these investments. Ljunqvist, Marston, and Wilhelm (2009) applied social network analysis to record the comanagement appointments for securities offerings from 1993 to 2002. Their findings showed that well-connected banks tend to cooperate with equally prominent banks in the network and they seemed more reluctant to cooperate with managers of lesser reputation. Hochberg, Ljunqvist, and Lu (2007) examined the venture capital firms which are connected through syndicated portfolio investment companies. Using social network analysis, they found that well connected firms have better fund performance. Schiavo, Reyes, and Fagiolo (2010) studied the International Trade and International Financial Networks (ITN and IFN). They found that ITN had higher density than IFN, yet both of them had core-periphery characteristics. This implied that the bulk of international trade and financial transactions took place among few countries which act as hubs. The better connected countries were those with higher income, internally linked with few others, shaping dense groups. This kind of network structure could explain the rapid expansion of the financial crisis in developed economies.

In an attempt to accommodate social-capital considerations in the discussion of financial networks, Godlewski, Sanditov, and Burger-Helmchen (2012) explored network centrality in the context of French bank lending markets. They found that the network displayed small-world characteristics, locally dense with a large number of clusters. This kind of network structure facilitates the information flow and reinforces the banks' social capital.

Subrahmanyam (2008) examined whether CEOs' social networks affect their ability to coordinate the firms' board members. He found that the large number of CEO's relations prohibits the board of directors from efficiently exerting control. Subrahmanyam also discussed the difference between the professional and interpersonal social capital and its impact on the diffusion of information within the board. However, his study did not incorporate social-network-analysis metrics. The literature review of Allen and Babus (2009) highlights the ability of social network studies to assess financial stability in the interbank markets. Steinbacher (2009) applied social network analysis to bank corporations in order to explore the agent reactions to the information they receive from financial markets. Steinbacher recorded investor preference in Citigroup stocks and CreditSuisse stocks from 1999 to 2008. He measured degree centrality and network distance and he concluded that the nodes possessing better network positions correspond quicker and better to the market shocks.

Apart from mapping the network of financial institutions, prior research has also explored the network of financial economists. Fatt, Ujum, and Ratnavelu (2010) recorded coauthorship collaboration in papers published in the Journal of Finance from 1980 to 2009. They concluded that connected authors make up 54% of the collaboration network and they discovered the most central authors in terms of degree, closeness και betweenness centralization.

Expanding the literature on financial networks and networks of finance scholars in particular, we apply social network analysis in order to map the network of subauthors in financial economics. Our contribution is twofold: we trace the subauthors who receive the majority of acknowledgments and unveil the maximal cohesive groups of the most prominent subauthors in finance. Our findings show that the number of subauthors exhibits a substantial increasing trend. Moreover, the number of the maximal cohesive groups increases as well. The community of subauthors exhibits a non-overlapping structure; it is permeable, it consists of many maximal cohesive groups and exhibits a rather low clustering coefficient.

3. Social networks in subauthorship

Our data set includes all authors and subauthors who have contributed to published papers in the Journal of Finance (JOF), the Journal of Financial Economics (JFE), the Review of Financial Studies (RFS) and the Journal of Financial and Quantitative Analysis (JFQA) from the first issue of 1994 till the last issue of 2013. We included only original

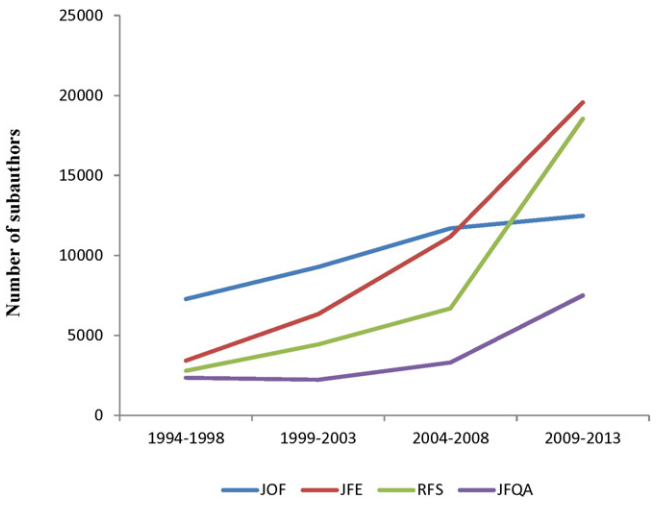

Fig. 1. Number of subauthors (1994–2013).