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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

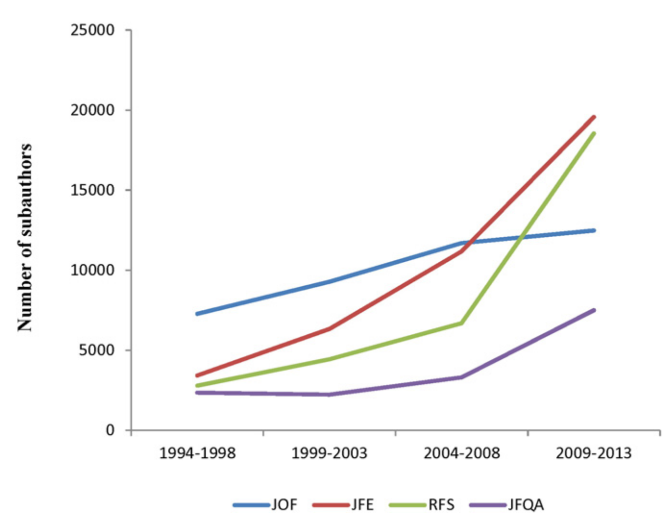

Fig. 1. Number of subauthors (1994–2013).

Table 1
Influential subauthors according to indegree and outdegree centrality.

JOF		JFE		RFS		JFQA	
Indegree	Outdegree	Indegree	Outdegree	Indegree	Outdegree	Indegree	Outdegree
R. Stulz	R. Stulz	B. Schwert	M. Massa	M. Spiegel	L. Zhang	J. Ritter	A. Kumar
C. Harvey	A. Subrahmanyam	W. Schwert	R. Stulz	M. Weisbach	J. Franks	P. Malatesta	G. Jiang
J. Ritter	J. Graham	R. Stulz	R. Roll	R. Jagannathan	F. Longstaff	H. Bessembinder	R. Walkling
R. Stambaugh	V. Acharya	Y. Amihud	V. Acharya	S. Titman	R. Stulz	S. Brown	M. Lemmon
R. Green	F. Longstaff	A. Shleifer	A. Subrahmanyam	R. Uppal	C. Mayer	J. Karpoff	A. Subrahmanyam
A. Shleifer	A. Kumar	J. Ritter	J. Yang	M. O'Hara	J. Griffin	W. Ferson	J. Kale
S. Brown	T. Chordia	S. Titman	C. Lin	F. Allen	J. Wang	R. Masulis	H. Chen
H. Bessembinder	S. Titman	M. Roberts	H. Cronqvist	L. Starks	I. Strebulaev	J. Hasbrouck	G. Korniotis
J. Stein	A. Karolyi	C. Jones	G. Bakshi	J. Hasbrouck	M. Massa	A. Karolyi	R. Huang
W. Ferson	D. Hirshleifer	M. Baker	Y. Li	J. Stein	R. Michaely	J. Coles	P. Tkac
K. French	M. Massa	A. Edmans	L. Zhang	C. Clifford	A. Purnanandam	P. Schultz	M. Campello
J. Campbell	L. Zhang	V. Acharya	A. Karolyi	B. Dumas	S. Rossi	J. Harford	B. Lee
P. Malatesta	G. Bakshi	A. Karolyi	T. Chordia	J. Campbell	H. Spamann	T. Loughran	L. Wu
J. Karpoff	A. Shleifer	J. Wurgler	N. Wang	M. Brennan	H. Servaes	A. Ang	M. Roberts
R. Jagannathan	J. Lerner	M. Lemmon	J. Harford	A. Shleifer	M. Cremers	C. Harvey	A. Zhdanov
Y. Amihud	R. Michaely	W. Ferson	R. Koijen	M. Fishman	G. Bekaert	Y. Amihud	W. Bailey
S. Titman	J. Ritter	R. Masulis	T. Chemmanur	M. Roberts	A. Butler	J. Conrad	G. Zhou
M. Flannery	J. Griffin	R. Jagannathan	Y. Ma	D. Gromb	A. Subrahmanyam	B. Barber	T. Chemmanur
W. Schwert	N. Naik	A. Rampini	M. Officer	L. Glosten	D. Hirshleifer	K. John	H. Ryan
A. Karolyi	M. Lemmon	W. Goetzmann	J. Graham	R. McDonald	L. Zheng	M. Flannery/L. Starks	P. Kumar

research papers and short communications. We traced the 20 most influential subauthors based on network metrics of degree centrality, closeness and betweenness centrality. Network density, clustering coefficient and average distance helped us explore the social structure of financial economists who contributed to scientific papers in four leading academic journals in finance.

Fig. 1 presents the distribution of subauthors across time. We observe that the number of subauthors increases across the sample period. The majority of subauthors appear in JFE and RFS.

Our network is a set of vertices connected by edges. The nodes in the subauthors' network exhibit directional relations. A directed graph consists of two sets of information: a set of nodes $N=\{n_1,n_2\dots n_g\}$ and a set of arcs, $L=\{l_1,l_2\dots l_L\}$. Thus, the arc $<n_i n_j>$ is directed from n_i which is the sender to n_j, the receiver. The more ties a node sends or receives the more influential it is in a directed network; "having a favored position means that an actor may extract better bargains in exchanges, have greater influence" (Hanneman & Riddle, 2005). Centrality measures are indicative of a network's structural architecture (Ruhnau, 2000). Individuals occupying a central position in the network "are more likely to be the source of a diffusing idea, piece of knowledge or practice and to be rapidly influenced by circulating information or knowledge" (Djelic, 2004, p. 347). Indegree is the number of arcs terminating at a node, whereas outdegree is the number of arcs originating from a node. High scores of outdegree imply the node's support from the network's members (Wasserman & Faust, 1994). The total degree of a node in a directed graph is the sum of its in- and outdegree. Table 1 reveals the most influential nodes in the subauthors' network. It is noteworthy that 88% of the most frequently occurring subauthors occupied a position as an editor in our sample's journals. Moreover, the most central subauthors come from USA-based affiliations (except for R. Uppal, D. Gromb (UK) and B. Dumas (France)). As an example of a directed network, Fig. 2 illustrates R. Stulz's egonetwork in JOF from 1994 to 2013. Namely, we show R. Stulz's subauthors and also the authors for whom R. Stulz acted as a subauthor. An egonetwork presents the connections of an individual, "focal" node. It includes directly adjacent nodes (Hanneman & Riddle, 2005).

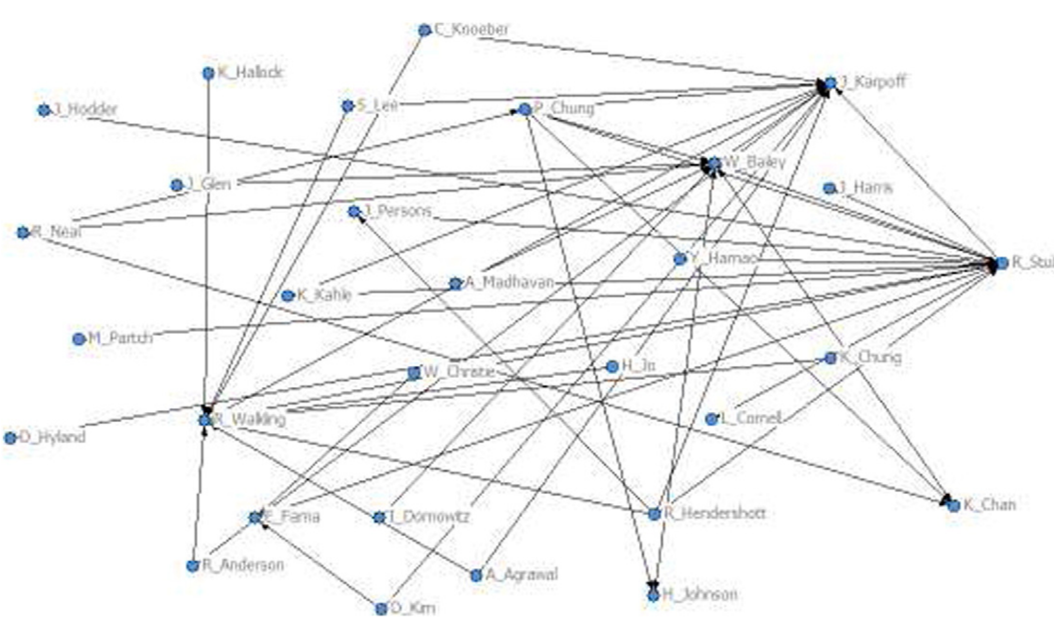

Fig. 2. R. Stulz's egonetwork in JFQA from 1994 to 1998.

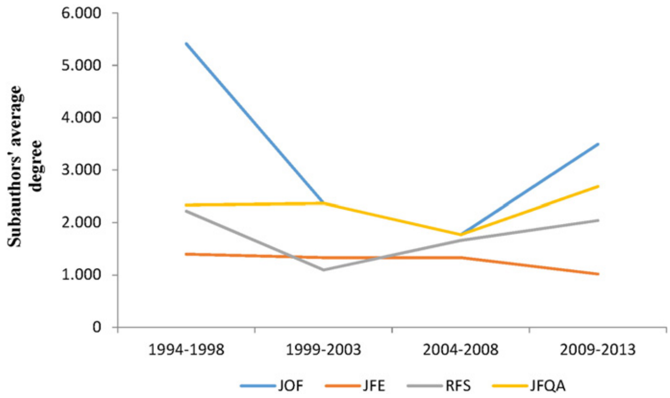

Fig. 3. Average distance between financial economists.

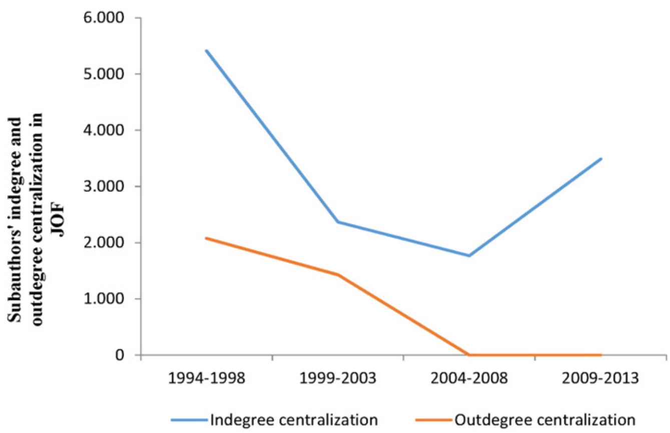

Fig. 4. Indegree and outdegree centralization for the subauthors' network in JOF (%).

In JOF, five of the twenty most central authors (in the coauthorship network) coincide with the most central subauthors (see Appendix for evidence on the most central authors in finance). Furthermore, eight of the indegree-central nodes in JOF coincide with the journal's most betweenness-central nodes and nine of the outdegree-central coincide with the most betweenness-central nodes in JOF. Moreover, the majority of the most statutory authors come from USA-based affiliations and they occupied an editorial position in a leading finance journal during the sample period.[2]

Fig. 3 illustrates subauthors' average distance across the sample period (the average distance in a social network is the average length of the shortest paths between all pairs of nodes). We observe that the average distance for all the journals of our sample significantly increases from 2008 to 2013. This implies that there is a rather slow diffusion of scientific ideas and information in our network.

Figs. 4, 5, 6 and 7 present the average indegree and outdegree centralization, in each of the sample's journals. Centralization expresses the variability in the centrality of the network nodes a percentage. The measures of graph centralization estimate the differences between the centrality scores of the most central point and those of all other points. Centralization, then, is the ratio of the actual sum of differences to the maximum possible sum of differences. In our network the scores of indegree and outdegree centralization vary; this means that the influence of individual actors varies rather substantially, and information is rather unevenly distributed. All in all, there is not substantial concentration (the relations are not tight) in our network. Moreover, in JOF (Fig. 4) and JFE (Fig. 5) in- and outdegree centralization gets disconnected over the years, whereas financial economists in the RFS' and JFQA's are more tightly connected over time (Figs. 6 and 7).

Betweenness centrality measures the degree to which a node serves as an intermediary between two nodes in order to communicate along the shortest path linking them together. In large networks, betweenness-central nodes act as gatekeepers communicating information and submerge the network's patterns into pair effects (White & Borgatti, 1994). Table 2 presents the most central subauthors according to betweenness centrality. The betweenness of node *i* is the fraction of all directed paths between *j* and k that pass through node *i*.

$$C_B\,(i) = \sum_{j,k} g_{jk}(i)/g_{jk}$$

Closeness centrality measures how close a node is to (incoming arcs) and from (outgoing arcs) all the other nodes in a directed network. It is the sum of inversed distances to all other nodes. Table 3 reveals the twenty nodes with the highest closeness centrality scores. Some of the results coincide across the centrality measures (in JOF, four out the twenty most indegree central are also among the most closeness-degree central). Moreover, R. Stultz is the most central node according to degree and betweenness centrality and J. Karpoff is the most central subauthor with respect to closeness centrality among our sample's researchers.

Fig. 8 shows evidence on the density in the subauthors' network. In a graph, a network's density measures the proportion of arcs present in the network. It is calculated as the number of arcs present divided by the possible number of arcs. Our network's density increases across

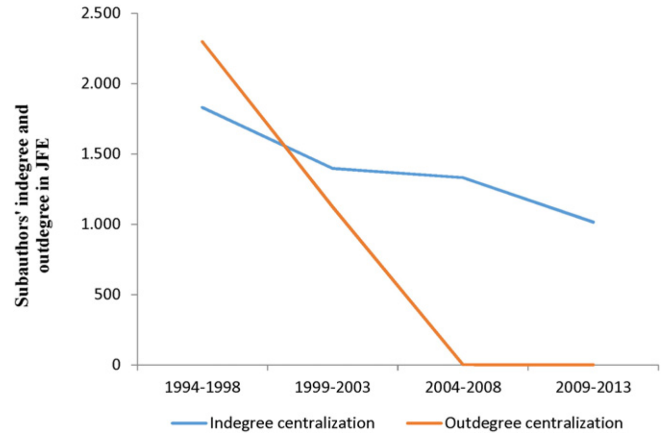

Fig. 5. Indegree and outdegree centralization for the subauthors' network in JFE (%).

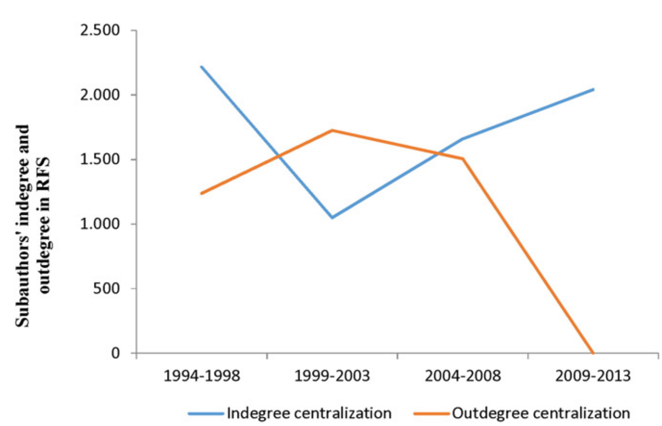

Fig. 6. Indegree and outdegree centralization for the subauthors' network in RFS (%).

[2] See Andrikopoulos and Economou (2015), for evidence on editorial board interlocks in financial economics.

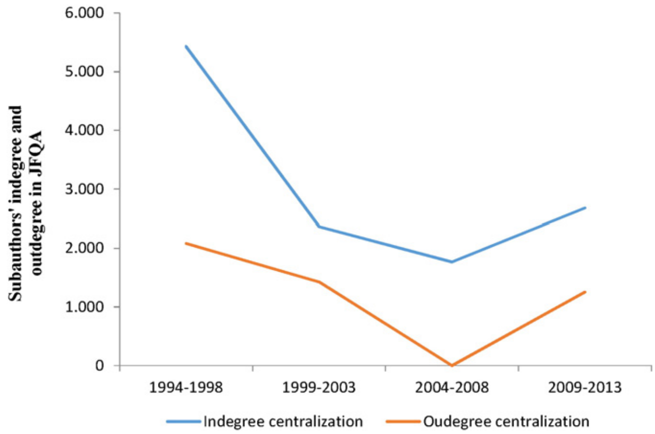

Fig. 7. Indegree and outdegree centralization for the subauthors' network in JFQA (%).

the years. We observe that, in the subauthors' network, density remains rather stable, with the exception of JFQA which exhibits a sharp rise in density (followed by a sharp decrease) from 2004 to 2008. This evidence may be related to the relative stability in the composition of JFQA's editorial board from 2005 to 2008 as opposed to a period of renewal from 2009 onwards.

Fig. 9 unveils the number of maximal cohesive groups (MCGs) per year. An MCG for the subauthors network is the largest possible subset of at least three nodes which receive and send arcs at one another. So, if n_i and n_j belong to the same MCG, then $n_i \leftrightarrow n_j$. With the exception of JFQA, the number of MCGs has been increasing among financial economists. Our network has a plethora of MCGs which implies that the exchange of information between financial economists is microsocially distributed. Namely, subauthors in finance form a plethora of rather introvert closed groups. RFS has the majority of MCGs in our sample period.

Table 4 displays the principal characteristics of network's structure. We present the network's average distance which is defined as the average across pairs of path-connected nodes (Jackson, 2008). The large average distance means that the network is rather disconnected and that the information is transmitted rather slowly. Furthermore, the distance between subauthors in JOF is rather high and tends to increase slightly from 2009 to 2013, while average distance in JFE, RFS and JFQA increases substantially across the sample period. Table 4 also includes the number of components in the subauthors' network:

Table 2
Subauthors with the highest betweenness centrality scores.

JOF	JFE	RFS	JFQA
C. Harvey	R. Stulz	C. Harvey	J. Karpoff
R. Stulz	J. Ritter	D. Hirshleifer	J. Ritter
S. Titman	V. Acharya	R. Stulz	H. Bessembinder
J. Ritter	A. Karolyi	M. Weisbach	C. Lewis
V. Acharya	C. Harvey	S. Titman	A. Subrahmanyam
M. Weisbach	W. Schwert	R. Uppal	W. Bailey
J. Campbell	A. Shleifer	R. Jagannathan	R. Walkling
D. Duffie	Y. Amihud	M. Spiegel	T. Loughran
J. Wang	J. Graham	G. Bekaert	P. Schultz
A. Subrahmanyam	J. Harford	J. Griffin	C. Raheja
D. Hirshleifer	R. Roll	A. Ljungqvist	T. Chemmanur
A. Shleifer	M. Lemmon	P. Veronesi	H. Stoll
A. Karolyi	A. Subrahmanyam	C. Spatt	T. Bali
J. Graham	J. Wurgler	J. Franks	A. Karolyi
Y. Amihud	M. Weisbach	A. Subrahmanyam	A. Madhavan
J. Stein	J. Stein	P. Fulghieri	K. Chan
M. Lemmon	R. Rajan	V. Acharya	K. Kavajecz
R. Jagannathan	H. Bessembinder	M. Cremers	A. Kumar
A. Ljungqvist	L. Zhang	M. O'Hara	K. Wang
C. Jones	L. Zingales	R. Michaely	L. Wu

Table 3
Subauthors with the highest closeness centrality scores.

JOF	JFE	RFS	JFQA
J. Karpoff	Z. Huszar	L. Glosten	G. Jiménez
B. Schwert	L. Lynch	R. So	R. Stulz
J. Bicksler	M. Boycko	J. Kallunki	S. Hudgins
B. Taylor	S. Hudgins	G. Gorton	M. Alderson
L. Neal	M. Alderson	P. Seguin	Z. Huszar
L. Kochin	G. Jiménez	A. Lo	L. Lynch
F. Langdana	A. Caggese	R. Margo	M. Boycko
N. Ferguson	P. Giordani	J. Mason	A. Caggese
T. Willett	J. Jagtiani	P. Handa	P. Giordani
S. Vahey	G. Bulkley	T. Martikainen	J. Jagtiani
H. Rockoff	R. Rutherford	A. Schoar	G. Bulkley
E. White	W. Brown	J. Chevalier	R. Rutherford
H. Herrmann	S. Ferraro	A. Shleifer	W. Brown
G. Mankiw	A. Craig	C. Spatt	S. Ferraro
V. Quadrini	H. Nguyen	C. Harvey	R. Bali
S. Mac-Donald	R. Comment	E. Kane	B. Hermalin
R. Sauer	D. Osterrieder	R. Heinkel	A. Jacobs
A. Berentsen	S. MacDonald	A. Banerjee	B. Betker
M. Dufwenberg	N. Baker	T. Schwartz	G. Ramírez
G. Benston	D. Chung	J. Tierney	A. Cannella

the financial economists who are connected directly or indirectly to each other belong to the same component, "if and only if there exists a path between them" (Goyal, van der Leij, & Moraga-Gonzalez, 2006, p. 404). We observe that the number of components in our sample has declined significantly across the sample period. This means that the distribution of the information flow between the network's nodes is getting increasingly fast and balanced. Moreover, the small number of network components suggest that scientific novelty is spread across scientists of similar influence.

Moreover, we calculated the average clustering coefficient which measures the degree to which nodes tend to cluster together, linked by common adjacencies (Kleindorfer, Wind, & Gunther, 2009). In a social network, a node's the clustering coefficient is calculated as:

$$C = 3 \times \frac{\text{number of triangles in the graph}}{\text{number of connected triples of vertices}}.$$

We observe that our network's clustering coefficient is rather low and tends to decrease across the years. This means that subauthors in finance shape relatively few clusters.

Furthermore, the subauthors' network presents relatively weak ties (a directed network is weakly connected when its nodes are connected with a semipath; a semipath is a sequence of nodes not repeatedly connected by vertices; directed ties run from authors to acknowledged subauthors). Even though weak ties in a network become less transitive, they act as bridges, thus traversing a larger social distance in a less dense

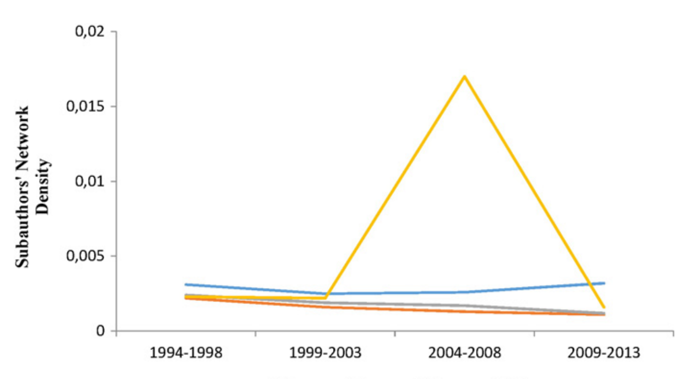

Fig. 8. Subauthors' network density.

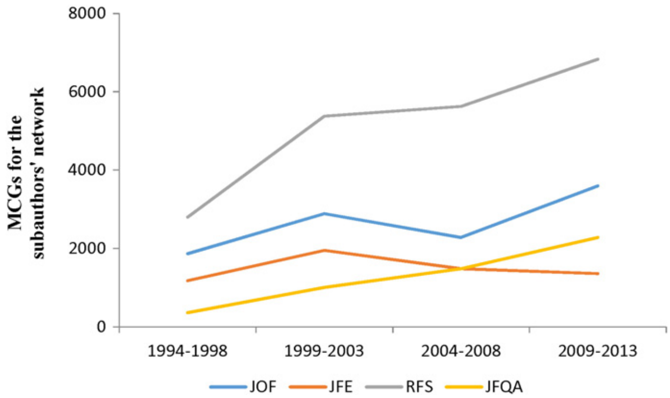

Fig. 9. Maximal cohesive groups (MCGs) for the subauthors' network.

area (Granovetter, 1985; van der Leij & Goyal, 2011). A network that presents few weak links is likely to be scattered into separate MCGs with little communication between these groups (van der Leij & Goyal, 2011). Moreover, the number of isolated nodes in our network exhibits a decreasing trend (except for RFS's isolated subauthors who increase over time). The network's fragmentation slightly decreases; the clustering coefficient increases for the last five-year period, implying that the subauthors' network gets more compact across the years. However, in JFQA average distance is increasing across time and, therefore, our network gets fragmented.

Unlike the rest of the journals, the subauthorship structure in JFE's presents small-world properties. Small-world networks keep a structurally cohesive whole, allowing a small number of ties to reach far away. The network consists of nodes shaping dense communities and the average number of steps between nodes is rather small (Moody, 2004; Tsvetovat & Kouznetsov, 2011). Actually, a small-world structure implies that scientific information (e.g. discoveries, experimental results and theories) rapidly flows through the networks' nodes (Newman, 2012; Casanueva & Larrinaga, 2013). Moreover, JFE presents high clustering coefficient which means that the subauthors' network is highly compact.

4. Conclusion

We have presented the network structure of subauthorship in four finance journals: the Journal of Finance, the Review of Financial Studies, the Journal of Financial Economics and the Journal of Financial and Quantitative Analysis, from 1994 to 2013. We found that the number of subauthors increases in the 1994–2013 period. Moreover, the network's density and the number of MCGs increase over time (except for the Journal of Financial Economics). Our network also consists of a few components; within the components, the subauthors are connected with small average distances. The subauthors' network in finance is weakly connected, exhibiting a rather low clustering coefficient which tends to increase over the last two decades. Despite the fact that subauthorship patterns in finance are rather permeably structured, this network contains almost no isolated nodes. Furthermore, the network is plenty of relatively non-overlapping MCGs, which tend to increase across the sample period. We discovered that this network is split into relatively small groups of nodes which are connected with dense internal links. These groups are sparsely connected to each other. This implies that the network's information flow stays largely within the groups.

Future research could explore the subauthors' social and educational characteristics such as their age, sex and the academic institution where they obtained their PhD. This will shed light on the social and academic identity of these indirect contributors to scientific innovation in financial economics.

Acknowledgment

We have benefited from comments that were made by seminar participants at the 27th SASE Conference in London and the 14th HFAA Conference in Athens, where previous versions of the paper were presented.

Table 4
Subauthorship patterns.

	1994–1998	1999–2003	2004–2008	2009–2013
Subauthors' network in JOF				
Average distance	4.601	4.395	4.685	4.250
Components	17	20	7	4
Number of actors within the largest component	2121	2353	2484	2892
Average clustering coefficient	0.088	0.039	0.046	0.055
Prop. of nodes that cannot reach each other	0.035	0.019	0.006	0.002
Number of MCGs	1868	2887	2284	3601
Subauthors' network in JFE				
Average distance	2.81	3.24	3.77	4.73
Components	2	3	5	4
Number of actors within the largest component	1176	1938	2921	4115
Average clustering coefficient	0.043	0.091	0.064	0.075
Prop. of nodes that cannot reach each other	0.02	0.03	0.04	0.04
Number of MCGs	1181	1953	1482	1362
Subauthors' network in RFS				
Average distance	2.55	2.89	3.43	4.73
Components	6	4	4	1
Number of actors within the largest component	1091	1523	1928	3912
Average clustering coefficient	0.046	0.061	0.053	0.060
Prop. of nodes that cannot reach each other	0.24	0.88	0.89	0.81
Number of MCGs	2802	5375	5624	6831
Subauthors' network in JFQA				
Average distance	3.76	2.74	6.09	6.40
Components	12	4	5	2
Number of actors within the largest component	940	991	1462	2282
Average clustering coefficient	0.040	0.020	0.018	0.001
Prop. of nodes that cannot reach each other	0.05	0.05	0.07	0.01
Number of MCGs	367	1012	1484	2282

Appendix A

Table A1
20 most prominent authors, authors' nationality and attributes in JOF. A financial economist is characterized as "editor" if he has occupied an editorial seat in any of the sample's journals, over the 1994–2013 period.

Authors	Nationality	Attributes
R. Stulz	USA	Editor
C. Harvey	USA	Editor
R. Green	USA	Editor
R. Stambaugh	USA	Editor
J. Ritter	USA	Editor
J. Stein	USA	Editor
K. French	USA	Editor
S. Titman	USA	Editor
J. Campbell	USA	Non-Editor
A. Shleifer	USA	Non-Editor
J. Graham	USA	Editor
Y. Amihud	USA	Non-Editor
R. Jaganathan	USA	Non-Editor
J. Cocrhrain	USA	Non-Editor
E. Fama	USA	Editor
L. Zingales	USA	Non-Editor
S. Kaplan	USA	Editor
M. Brennan	USA	Editor
M. Petersen	USA	Editor
D. Diamond	USA	Editor

Table A2
The 20 most prominent authors, authors' nationality and attributes in JFE. A financial economist is characterized as "editor" if he has occupied an editorial seat in any of the sample's journals, over the 1994–2013 period.

Authors	Nationality	Attributes
R. Stulz	USA	Editor
A. Subrahmanyam	USA	Editor
T. Chordia	USA	Editor
L. DeAngelo	USA	Non-Editor
H. DeAngelo	USA	Editor
C. Harvey	USA	Editor
M. Massa	FRANCE	Editor
H. Hong	KOREA	Editor
J. K. Kang	SINGAPORE	Editor
J. Harford	USA	Editor
David Denis	USA	Editor
M. Lemmon	USA	Editor
H. Bessembinder	USA	Editor
J. Graham	USA	Editor
G. Bakshi	USA	Editor
R. Roll	USA	Editor
V. Acharya	USA	Editor
M. Weisbach	USA	Editor
J. Lerner	USA	Editor
P. Schultz	USA	Editor

Table A3
20 most prominent authors, authors' nationality and attributes in RFS. A financial economist is characterized as "editor" if he has occupied an editorial seat in any of the sample's journals, over the 1994–2013 period.

Authors	Nationality	Attributes
R. Stulz	USA	Editor
T. Noe	UK	Editor
J. Wang	USA	Editor
M. Massa	FRANCE	Editor
A. Thakor	USA	Editor
J. Griffin	USA	Editor
G. Bekaert	USA	Editor
L. Zhang	USA	Editor
R. Michaely	USA	Editor
S. Titman	USA	Editor
V. Acharya	USA	Editor
S. Basak	UK	Non-Editor
P. Dybvig	USA	Non-Editor
M. Cremers	USA	Editor
F. Longstaff	USA	Editor
D. Hirshleifer	USA	Editor
S. Sundaresan	USA	Editor
P. Fulghieri	USA	Editor
A. Subrahmanyam	USA	Editor
A. Edmans	USA	Editor

Table A4
20 most prominent authors, authors' nationality and attributes in JFQA. A financial economist is characterized as "editor" if he has occupied an editorial seat in any of the sample's journals, over the 1994–2013 period.

Authors	Nationality	Attributes
A. Subrahmanyam	USA	Editor
J. McConnell	USA	Editor
S. Titman	USA	Editor
E. Elton	USA	Editor
G. J. Jiang	USA	Non-Editor
B. Lee	USA	Editor
K. Chung	USA	Editor
L. Wu	USA	Editor
M. Gruber	USA	Editor
T. G. Bali	USA	Editor
A. Hovakimian	USA	Non-Editor
J. K. C. Wei	KONG	Editor
C.-S. Kim	KOREA	Non-Editor
N. Bollen	USA	Non-Editor
David Denis	USA	Editor
M. Firth	KONG	Editor
T. Loughran	USA	Editor
W. Goetzmann	USA	Editor
R. Huang	USA	Editor
Y. Y. Kim	USA	Editor
R.-R. Chen	USA	Non-Editor
H. J. Chen	USA	Non-Editor
X. Zhang	USA	Non-Editor

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