The Effects of Coauthorship on the Quality of Financial Research Papers

Abstract
This paper analyzes whether formal collaboration in terms of coauthorship enhances paper quality in financial research. Analyzing all papers presented at DGF annual meetings in the period from 1996 to 2005, we report the following major findings: First, we find superior paper quality of coauthored papers compared to sole-authored papers. This holds true for two quality proxies, publication probability and publication quality (as measured by the original and the updated *Jourqual* rating). Second, the capability of scholars, measured by a citation measure derived from citations in *Google Scholar*, shows to be an additional important factor for explaining paper quality. Third, the employed methodology of a paper (e.g., empirical analysis, theoretical analysis) does not systematically affect paper quality. However, it is important to differentiate between empirical and theoretical papers. Whereas coauthorship shows to be a quality enhancing factor for empirical papers, this does not hold true for theoretical papers. Fourth, the origin of data is a crucial determinant of the publication success for empirical papers. In particular, papers which exclusively analyze data from Germany are published in less reputable journals.

Keywords: Coauthorship, Team Production, Journal Rating, Google Scholar, H-Index, Finance Conference

JEL Classification: G00

A. Introduction

Over the last decades, one observes an increasing trend towards coauthorship across academic disciplines. There exists a large literature which documents this trend not only in financial research (e.g., Holder et al., 2000; Manton and English, 2007; John von Freyend and Walter, 2008), but also in economics (McDowell and Melvin, 1983; Barnett et al., 1988; Hudson, 1996; Laband and Tollison, 2000), general business (Manton and English, 2007) accounting (Brown, 2005), and management and organization (Acedo et al., 2006). For economics, Hudson (1996) demonstrates that in 1950, only 8% of papers published in the *American Economic Review* are coauthored, whereas the respective fraction increases to 55% in 1993. Complementing and more recent evidence for financial research is presented by Manton and English (2007). They show that the fraction of coauthored papers published in the *Journal of Finance* increased from 39% in the early 1970s to 76% at the beginning of the millennium. Given the tremendous increase of coauthorship a natural question arises: Does collaboration lead to higher quality research? Or putting it differently: Is the criterion whether a paper is coauthored or not a significant factor for determining the paper's success in the reviewing process?

With respect to individuals, not papers, there exists an exhaustive literature which explores success factors of academics in the field of economics and business (see Graber et al., 2008; Schulze et al., 2008; Heining et al., 2008, and the numerous references therein). Among other success factors as, e.g., the reputation of the school granting the Ph.D., this literature stresses the decisive role of publications for the progress of an academic career as both, quality and quantity of publications are crucial for tenure and salary decisions. In lieu of this finding, it is surprising that only few studies focus on the determinants of paper quality.

The literature on paper quality splits into two categories. The first strand of literature measures paper quality by means of publication probability. Laband and Tollison (2000) and Brown (2005) analyze manuscripts which are submitted to specific journals. Laband and Tollison (2000) analyze 2,708 paper submissions to the *Journal of Political Economy* in the period from 1982 to 1986. They show that coauthored papers are more successful in the reviewing process. In particular, coauthored papers have an acceptance probability (publication probability) which is about 23% higher than for sole-authored papers.[1] Brown (2005) examines the relation between formal and informal collaboration and the rate of acceptance in the *Accounting Review* in the period from 2002 to 2003. Analyzing 305

[1] In addition, Presser (1980) finds for social psychology papers that coauthored papers have a higher acceptance rate than sole-authored papers.

papers submitted to this journal, he finds that informal collaboration, as measured by the number of acknowledgements, increases the likelihood of acceptance, whereas formal collaboration in terms of coauthorship is an insignificant factor.[2]

In the second strand of literature, some recent studies analyze paper quality for published papers, not working papers. In particular, paper quality is measured by the number of citations a publication triggers. Glänzel (2002) explores coauthorship patterns in the sciences for the period from 1980 to 1998 by analyzing 693,800 publications. By studying publications in the fields of biomedical research, chemistry, and mathematics, he finds that the number of citations increases with the number of coauthors. Acedo et al. (2006) trace citations triggered by publications in the most important management and organization journals in the period from 1980 to 2002.[3] Analyzing a total of 11,022 publications, they find that coauthored publications are more likely to be cited and, if cited, attract more citations than papers written in sole-authorship. A recent paper by Chung et al. (2008) deals with the role of coauthorship in the finance academe. Analyzing 4,030 papers published in the five most prestigious finance journals[4] in the period from 1988 to 2005, they find that papers with a large number of authors are cited most frequently. Finally, Medoff (2003) analyzes citations triggered by 568 publications published in the year 1990 in eight elite economics journals.[5] Unlike the finding of the studies reviewed above, he finds that coauthored papers are cited as often as sole-authored papers. This contradictory finding might be explained by the rather small sample set of Medoff's study and the fact that the year 1990 could be an exception rather than the rule.

The literature reviewed above provides, in general, evidence for a superior quality of coauthored papers. At least, no study indicates that coauthorship has a negative influence on paper quality. However, although the evidence seems to be quite comprehensive, the cited studies face the following limitations which we try to overcome with our study: First, the reviewed studies limit themselves to a group of papers which are published or pursue publication in elite journals. According to the papers which analyze journal submissions, the samples consist of submissions to *Journal of Political Economy* and *Accounting Review*. As

[2] An insignificant role of coauthorship is also documented by Piette and Ross (1992).
[3] These journals are *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Journal of Management*, *Management Science*, *Organization Science*, *Strategic Management Journal*, *Organization Studies*, *Journal of Management Studies*, and *Human Relations*.
[4] These journals are *Journal of Finance*, *Journal of Financial Economics*, *Review of Financial Studies*, *Journal of Financial and Quantitative Analysis*, and *Financial Management*.
[5] These journals are *American Economic Review*, *Econometrica*, *International Economic Review*, *Journal of Economic Theory*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Review of Economic Studies*, and *Review of Economics and Statistics*.

both journals belong to the most prestigious journals in their field, submissions to these journals do not provide a good representation of the universe of working papers which strive for publication. Similar critique can be formulated with respect to the studies which analyze citations of published papers. Again, the reviewed studies only examine publications in the most prestigious journals. From the perspective of the universe of papers which aim for publication, these studies deal with rather small differences in paper quality of very selective papers. We expand the literature in this respect as we examine a broader set of financial research papers, i.e., papers presented at *Deutsche Gesellschaft für Finanzwirtschaft* (*German Finance Association*) annual meetings, henceforth DGF annual meetings. As these papers are subsequently published in a wide array of journals,[6] we thereby overcome the restriction of focusing only on elite journals. To the best of our knowledge, examining conference papers has hitherto not been pursued when analyzing the role of coauthorship.[7] Second, the studies analyzing publication quality always refer to citations of individual papers. However, especially in Germany, publication success is usually not measured by individual paper's citations but by a rather crude measure: the rating of the journal in which the paper is published. Thus, we do not analyze citations of individual papers but measure paper quality by the most commonly employed journal ratings in Germany, *JOURQUAL1* and *JOURQUAL2*.[8] Third, there is little evidence for omitted factors which could determine paper quality besides coauthorship. One factor largely ignored thus far is the employed methodology. In addition, it is unknown whether the regional origin of data has an influence on the success in the reviewing process for empirical papers. Therefore, we expand the literature by including omitted variables to the analyses, like the average age of contributing authors, the employed methodology and, for empirical papers, the regional origin of data. We thereby answer the question whether papers analyzing data from Germany are published in more or less reputable journals than the remaining empirical papers.

The major findings of our study can be summarized as follows: With respect to general determinants of paper quality, we find evidence that paper quality is higher for coauthored papers than for sole-authored papers. This holds true for two proxies of paper quality, publication probability and, for published papers, publication quality. In addition, the

[6] See John von Freyend and Walter (2008).

[7] Johnson et al. (2002) and John von Freyend and Walter (2008) analyze manuscripts presented at finance conferences. However, both studies are explorative by nature and do not explicitly analyze success factors of papers in general or the role of coauthorship in particular. In addition, Thomas Cummingham and Zavodny (2008), Fabel et al. (2003), and Hinshaw and Siegfried (1995) analyze activities on academic conferences. However, they regard acceptance at conferences as the criterion for success and do no link presentation to subsequent publication.

[8] For details on the compilation of *JOURQUAL1* see Henning-Thurau et al. (2004).

capability of scholars, measured through a citation measure derived from *Google Scholar*, a freely-accessible web search engine that indexes the full text of scholarly literature,[9] shows to be an additional important factor explaining paper quality. With respect to the employed methodology in a paper (e.g., empirical analysis, theoretical analysis), we document that methodology does not systematically affect paper quality. However, it is important to differentiate between empirical and theoretical papers. Whereas coauthorship shows to be a positive factor for empirical papers, this does not hold true for theoretical papers. Finally, the origin of data is a crucial determinant of publication success for empirical papers. In particular, papers which exclusively analyze data from Germany are published in less reputable journals.

The remainder of the paper is structured as follows: Section B discusses potential determinants of paper quality. Section C documents the compilation of the database, introduces two proxies for paper quality, and presents descriptive statistics. Section D presents empirical results. We conclude in Section E.

B. Determinants of Paper Characteristics on Paper Quality

I. The Effects of Formal Coauthorship

Given the tremendous rise in coauthorship in recent years, it is interesting to explore the potential motives for scholarly collaboration. There are three motives for coauthorship which are discussed most prominently in the literature (see, e.g., Barnett et al., 1988; Holder et al., 2000; Medoff, 2003; Acedo et al., 2006; Manton and English, 2007; and Chung et al., 2008). First, an important motive for collaboration is that team work advances research quality. As complexity in research is increasing, the need for specialization also increases. In many instances, the expertise of a team of researchers is required to produce high quality research, most notably for empirical papers. According to Hudson (1996), a successful economics papers contains at least two of the following three elements: a novel idea, sophisticated mathematics or advanced theory, and state-of-the-art econometric analysis. Obviously, it is rare to find an individual who can comply with all of these requirements. Second, Barnett et al. (1988) and Acedo et al. (2006) point out that the publication probability of working papers is not only dependent on the substance of scholarly output. In contrast, acceptance could also be affected by affiliations of authors, editors, and co-editors. Assuming that these network effects exist, coauthoring would seemingly increase paper quality, as

[9] For a recent application of *Google Scholar* in financial research see Keloharju (2008).

measured by publication probability and publication quality. Third, a motive for collaboration can be seen in the desire to diversify. Assuming a random factor in the reviewing process, scholars might want to expand the number of papers which they submit to journals by coauthoring. An increased number of papers submitted to journals can reduce the variance of the random elements in the review process. Whereas the first two motives are associated with an increase in, at least, measured paper quality, the last motive should be neutral to paper quality.[10] Whether the positive effect prevails, depends on the actual motives of scholars. In order to get clarity about these motives, Holder et al. (2000) surveyed all coauthors in the journals *Financial Management*, *Journal of Finance,* and *Journal of Financial Economics* with respect to their experience concerning formal collaboration. They document evidence in favor of the first, quality enhancing motive for coauthorship as they document that coauthors engage in collaboration, because they believe that team work yields higher quality research. In particular, they find that "an increase in quality and blending of complementary skills were the most important reasons for coauthorship".[11] Given this finding and the prevalence of empirical results indicating a quality enhancing role of coauthorship, we expect coauthored papers to be of higher research quality leading to higher publication probability and publication quality.

II. The Effects of Other Paper Characteristics

Whether a paper is written by coauthors or in sole-authorship is certainly not the exclusive determinant of paper quality. Thus, in order to finally evaluate the productive role of coauthorship, one has to control for other paper characteristics. One potentially important factor for paper quality on the authors' side is scholarly capability. Obviously, more capable researchers should be able to write papers of high quality which in turn should be especially successful in the reviewing process. By referring to the number of citations triggered, Medoff (2003) and Chung et al. (2008) have shown that the higher the scholarly capability of authors is, the more successfully the paper performs. In contrast, Brown (2005) documents an insignificant role of scholarly capability on acceptance of a paper. Given the evidence that scholarly capability has at least a non-negative effect on paper quality, we expect the average capability of contributing authors to have a positive impact on publication probability and publication quality.

[10] Obviously, there are also forces at work which could decrease paper quality of coauthored work. As Lazear (1999) shows, if the heterogeneity of team participants is too high, coordination costs could decrease the quality of output, thus diminishing paper quality.
[11] Holder et al. (2000), p. 143.

Expectations with respect to the average age of authors are less clear-cut. On the one hand, older authors could have an advantage, because they are more experienced in writing papers. In addition, they might have built up a broad network which, as has been discussed above, can also help to publish a working paper. On the other hand, papers written by young scholars might also have advantages as contributing authors have higher incentives to publish a paper in order to receive tenure. To the best of our knowledge, the question of whether the age of authors determines paper quality has not been addressed in the literature so far. Consequently, the question of whether the age of authors is a significant factor for paper quality, i.e., for publication probability and publication quality, remains an empirical one.

Paper quality can also be determined by characteristics of the paper. Thus, we control for the employed methodology of the paper. In particular, we explore whether paper quality is influenced by whether the paper is empirical or theoretical. There is recent evidence that both types of papers perform equally well. Chung et al. (2008) show that the employed methodology is an insignificant factor for explaining the number of citations an article triggers. Given this finding, we also expect a neutral role of methodology on paper quality. Another potential factor on paper quality for the subset of empirical papers is the regional origin of data. This issue has, to the best of our knowledge, not been addressed before. Common wisdom suggests that studies analyzing data from multiple countries (multi-country studies) have better chances of being published in top-tier journals. Given this common wisdom, we expect to find a superiority of multi-country studies over single-country studies. There is also a common sentiment amongst German finance scholars that studies analyzing data from Germany are hardly publishable in reputable journals. Thus, we expect that papers dealing with German data sets yield to lower paper quality, as measured by our two proxies.

C. Data, Proxies for Paper Quality, and Descriptive Statistics

I. Data

Our study is based on the 700 papers accepted at DGF annual meetings in the period from 1996 to 2007.[12] We gather paper titles and authors' names from the conference programs. In the following, we refer to accepted papers as DGF papers. For the subset of published papers, we use the term DGF publications. In this context, we define a publication as a peer-reviewed

[12] More details on the compilation of the database can be found in John von Freyend and Walter (2008).

journal article.[13] In order to determine whether presented DGF papers are subsequently published in a journal, we consult two bibliographic databases, *WISO* and *EconLit*. The main problem in assigning DGF papers to subsequent publications is a frequently occurring change in title: according to our inquiry, almost half of DGF publications have changed their title. DGF papers which are not found in the databases are searched for in publication lists on authors' personal homepages, if available. In order to guarantee a correct assignment of each paper to a subsequent publication, we surveyed authors to verify or correct our initial assignment in December 2007 via email. According to our survey, 307 DGF papers are published in peer-reviewed journals.

Besides retrieving the number of authors per paper from conference programs, we consulted a number of data sources to control for other potential determinants on paper quality. On the authors' level, we control for scholarly capability and age of authors. Our approach to proxy scholarly capability is based on the number of citations and the distribution of citations an author receives in *Google Scholar*. According to Breuer (2009) employing *Google Scholar* is especially suitable for Germany.[14] He demonstrates for German researchers in the field of business administration that using citations from *Google Scholar* is superior to *SSCI* and *Scopus*, two usually employed commercial citation databases.[15] To measure scholarly capability of a researcher, we retrieve all citations for papers written by this researcher as of September 2008 using the freely available software *Publish of Perish*.[16] Drawing on citations in *Google Scholar*, this software calculates several measures for individual scholarly capability (author impact analysis), most notably the h-index.[17] An h-index of, e.g., 8 indicates that an author has 8 different papers with at least 8 citations per paper. The remaining papers of this author are cited less than 8 times. Thus, the higher the h-index, the

[13] A journal is classified as peer-reviewed if editors claim to have established a double-blind reviewing process. We infer this information from journals' homepages.

[14] In addition, Harzing and van der Wal (2008a) also show that employing *Google Scholar* results in more comprehensive citation coverage than *SSCI*. In addition, Maberly and Pierce (2007) show that of the top fifty finance journals, only 19 are listed in *SSCI*.

[15] In order to track the triggered citations, researchers have traditionally employed the *Social Science Citation Index* (*SSCI*) compiled by *Thomson Institute for Scientific Information* (*ISI*). For a limited set of journals, this database tracks the number of citations each published papers receives by other publications in the same set of journals. More recently, i.e., since 2004, similar information is gathered by the database *Scopus*, which is complied by a consortium of publishing houses led by *Elsevier*. The two databases mostly differ from each other with respect to the universe of journals which are analyzed. For details see Clermont and Schmitz (2008). Most notably, *Scopus* encompasses more journals than *SSCI*.

[16] *Publish or Perish* is a convenient interface to access and evaluate citation data provided by *Google Scholar*. The software as well as more information on its functionality can be found at http://www.harzing.com/pop.htm.

[17] For details see Harzing and van der Wal (2008b). Egghe and Rousseau (2006) also analyze the properties of the h-index.

higher the capability of a researcher.[18] As we analyze determinants of paper quality, we calculate for each DGF paper its h-index as the average h-index of all contributing authors, if available. Finally, 667 DGF papers have an average h-index of authors assigned.

With respect to age of authors at the time of DGF annual meetings, we screened personal homepages, several issues of the "*Mitgliederverzeichnis des Verbands der Hochschullehrer für Betriebswirtschaftslehre*" (*Register of Members of the German Academic Association for Business Research*) as well as the bibliographic database *subito*[19] for the following information: the year of birth, the year of the first university degree (commonly *Diplom*), the year the Ph.D. was received, as well as the year of habilitation, if attained. Where available, we refer directly to the year of birth as the reference point to calculate the age of an author at each annual meeting. Otherwise, we estimate the year of birth by referring first to the year of the first university degree, than to the year of the Ph.D., and finally to the year of habilitation. We proxy individual age of an author by the mean age of his/her peers at each career stage. According to Heining et al. (2008), German economists, on average, pass their first university degree (*Diplom*) at the age of 25, they complete their Ph.D. at the age of 30 and they receive their habilitation at the age of 36. Again, we assign the average age of all contributing authors to each DGF paper, if available. 653 DGF have the information on average authors' age assigned.

In order to classify the content of each paper, we searched for each paper on the homepages of annual meetings, the database *SSRN*, the personal homepages of authors, and, for published papers, the bibliographic databases *WISO* and *EconLit*. We get access to the full text of 626 papers. In a first step, we classify these papers according to the employed methodology in empirical, theoretical, experimental, simulation, and other papers. The allocation to each category is, admittedly, anything but selective. E.g., there are empirical and experimental papers which test a novel theoretical model. In addition, papers which employ simulation techniques often contribute to the literature in a theoretical way. Given these intersections, we apply the following separation criteria: Any paper which analyzes real world (experimental) data is classified as an empirical (experimental) paper. Accordingly, every paper which has a

[18] To assure robustness of our empirical findings, we also employ the generalized h-index, which introduces an age-related weighting to each cited paper, and the g-index proposed by Egghe (2006), which allocates higher weights to frequently cited papers. As results concerning different specifications of capability proxies differ only marginally, we simply present results for the h-index. Results concerning the other measures are available upon request.

[19] *Subito* is a joint service platform by German libraries which allows researchers to access most scientific documents in German libraries (*Fernleihe*). In particular, most Ph.D. theses written at German universities should be available at one of the participating universities and thus can be found under http://www.subito-doc.de.

simulation section is classified as a simulation paper. In consequence, theoretical papers only encompass papers which are purely theoretical. To the remaining category those papers are attributed which fit in neither category, as, e.g., papers on corporate governance systems. We further partition the subset of empirical papers with respect to the geographic origin of data. Thus, we separate papers which analyze data from a single country from those papers which analyze at least two different countries or an entire region (e.g., Finland and Norway or Europe). For single-country studies, we collect the country of data origin.

II. Proxies for Paper Quality

Basically, there exist two approaches to measure paper quality. On the one hand, paper quality can be approached directly by referring to the number of citations a paper triggers subsequently to its publication. Thus, the more attention an article receives, the better its impact and thus its quality. On the other hand, quality can be inferred indirectly by assigning the quality of the journal in which a paper appeared to the paper under consideration. For this indirect approach, two methods can be indentified.[20] First, journal quality is approximated by the number of citations all publications in a given journal receive in other journals. The most widely used citation-based journal rating is the *Journal Citation Report* compiled by *ISI*. However, employing this journal rating is inappropriate for our data set, as John von Freyend and Walter (2008) demonstrate. In particular, only a very small fraction of DGF papers are published in journals which are part of the *Journal Citation Report*. Second, journal ratings can be decoupled from citations but based on expert judgment. In this approach, scholars are surveyed to rank journals according to their judgment.

In Germany, for salary and tenure decisions, paper quality is commonly judged on the basis of the standing of the journal in which the paper is published. We measure paper quality indirectly by referring to the most widely used journal ratings in Germany, i.e., the ratings constructed by the *Verband der Hochschullehrer für Betriebswirtschaft* (*German Academic Association for Business Research*). These journal ratings are based on surveying experts, in particular German business administration professors.[21] We employ both the initial rating, *JOURQUAL1*, compiled in 2004, and the updated version, *JOURQUAL2*, released in 2008.

[20] For a review on the pros and cons of both approaches see, e.g., Frey and Rost (2008) and Breuer (2009).

[21] As Breuer (2009) points out, rankings based on experts' opinion might be associated with some problems. E.g., scholars might behave opportunistically by not revealing their true preferences with respect to a journal. However, expert-based rankings have established themselves as the standard for evaluating research output in Germany. E.g., they are regularly employed by appointment committees for tenure positions at German universities.

Both ratings cover a large array of journals for international and German-based journals and are thus particularly suitable for our analysis.[22] As far as the range of values is concerned, journals listed in those ratings, can take on any value between the lower bound 1 and the upper bound 10, with 10 being the highest rating. In addition, there exists a transformation scheme which translates rating points to an alphabetical scale. E.g., journals in the region 7.00 to 7.99 (8.00 to 8.99) are classified as B-journals (A-journals). Journals with a rating exceeding 9.00 are A+ journals.[23] We refer to the individual journal rating points according to *JOURQUAL1* as *JQ1* and to those of *JOURQUAL2* as *JQ2*.

As mentioned before, we basically refer to two different measures to estimate paper quality: publication probability and publication quality. In terms of publication probability, our first measure is whether a paper is published or accepted for publication in a peer-reviewed journal. Admittedly, this criterion is not very selective, because, e.g., a publication in *Finanz Betrieb* would count as a publication success. Thus, we introduce two more demanding measures of publication probability. In particular, we separate those DGF papers which have at least been published in a B-journal (A-journal) according to *JQ1* or *JQ2*. To measure publication quality, we attribute the particular journal rating *JQ1* or *JQ2* to the DGF publication under consideration. Thus, the statistical analyses dealing with publication quality are restraint to the subsample of DGF papers which are published in journals which have *JQ1* or *JQ2* rating points assigned.

III. Descriptive Statistics

Table 1 displays information on the number of presented papers, the fraction of co-authored papers, the average number of authors per paper, the average number of authors per coauthored paper, the average paper's h-index, and the average age of authors per paper. The information is given for each year, for the entire investigation period, and for three 4-year sub-periods. Subsequently, we refer to period 96-99 as the first sub-period and to period 00-03 (04-07) as the second (third) sub-period. Finally, the respective average values for the period 96-05 are displayed in the last line.

[Insert Table 1 about here]

[22] See Clermont and Schmitz (2008) for a comparison of *JOURQUAL1* with *SSCI* and *Scopus* in the German context.

[23] We do not employ the rating of the *Wirtschaftsuniverstät Wien*. Mingers and Harzing (2007) show that this rating has a very low correlation with the other ratings on the journal quality list which is provided on the website www.harzing.com.

As far as coauthorship is concerned, column (2) displays that 63.0% of DGF papers are written by at least two authors. On average, a paper is written by 1.85 authors, as can be inferred from column (3). If a paper is written in coauthorship, the average number of coauthors is 2.34 (see column (4)). We document a tremendous increase in coauthorship during our investigation period. Coauthored papers are a rare exception in 1996, where only 3 of the 34 papers were written by multiple authors. In the later years, however, papers written by a team of researchers represent the overwhelming majority. E.g., in 2007, 73.8% of DGF papers are coauthored papers. In accordance, the average number of authors per paper increases from 1.51 in the first sub-period to 1.99 in the third period. Please note, however, that this increase is primarily caused by the decline of sole-authored papers. The average number of authors per coauthored paper remains fairly stable with 2.30 (2.38) in the first (third) sub-period.

Referring to the scholarly capability of authors, we document an average h-index of 5.09 per paper in column (5).[24] The average h-index per paper is fairly constant throughout our investigation period with a minimum of 4.11 in 2006 and a maximum of 6.87 in 2001. There is also very little variation in the average age of authors per paper. We document that the average paper is written by scholars in their mid thirties with a minimum average age per paper of 33.33 years in 1999 and a maximum average age of 36.71 in 2001.

Table 2 refers to the employed methodology (columns (1) to (5)) and, for the subset of empirical papers, to the regional origin of data (columns (6) to (9)). The first finding is that with 57.7%, the majority of papers are empirical papers. Theoretical papers follow up with 36.3%. The three remaining categories are only of minor importance with a combined fraction of about 6.0%. Although theoretical papers trace empirical papers by some margin, theoretical papers are more common at DGF annual meetings than in international finance journals. According to Chung et al. (2008), only 18.4% of papers published in the most prestigious US finance journals in the period from 1988 to 2005 are theoretical. Accordingly, only 12.0% of papers published in the *European Financial Management* in the period from 1995 to 2008 are exclusively theoretical. With respect to trends over time, we find that empirical papers gain market share at the expense of theoretical papers. In 2007, 67.5% are empirical papers, whereas the fraction of theoretical papers is 26.3%. Referring to the regional origin of data, we find that multi-country studies, represent the minority with 27.4%. However, multi-country studies are becoming more popular in recent years. In the first sub-period, only 14.8% of empirical papers are multi-country studies, whereas the respective fraction more than

[24] See Breuer (2009) for individual h-indices for top performing German business administration professors.

doubles to 30.1% in the third sub-period. Data from Germany is the most important data source for DGF papers. In particular, 40.4% of empirical papers exclusively analyze German data. This fraction is about two times larger than the fraction of the second most important country, the USA (21.6%). However, we observe a decreasing importance of German data. In the first sub period, more than half of all empirical papers deal with German data (59.3%). In contrast, in 2007, papers analyzing solely German data drop to the third place (24.1%), tracing multi-country studies (37.0%) and US studies (31.5%).

[Insert Table 2 about here]

Table 3 displays information on the percentage of published papers in peer-reviewed journals (column (1)), the percentage of papers published in at least a B-journal (column (2) and (3)), the percentage of papers published in at least an A-journal (column (4) and (5)), and, for the subgroup of published papers, the average journal ratings *JQ1* and *JQ2*. Again, the information is given for each year, for the entire investigation period, for the three 4-year sub-periods, and for the period 96-05.

[Insert Table 3 about here]

With respect to the percentage of DGF papers published in peer-reviewed journals, column (1) documents that 43.9% of all DGF papers are finally published or accepted for publication in a journal in December 2007, our deadline for data collection. This figure is certainly downward biased, since DGF papers in the later years are most likely at the very beginning of the reviewing process. This problem is most severe for the two most recent years, 2006 and 2007, where only 18.1% (2006) and 5.0% (2007) of papers are published or accepted for publication. Therefore, we exclude these years from further analyses. In the period from 1996 to 2005, 548 papers have been presented at the annual meetings and 52.9% of those papers have been published in a peer-reviewed journal.

One could argue that a publication in any peer-reviewed journal, independent of the journal's rating, might not be a proper criterion to evaluate paper quality. In contrast, papers should be published in journals with a decent reputation. Considering the period from 1996 to 2005, 34.1% (32.1%) of all papers have been published in at least a B-journal according to *JQ1* (*JQ2*). The respective values for papers which are at least published in an A-journal are considerably lower with 15.5% (12.2%).

With respect to the subset of 307 published papers, 218 (239) are published in journals with a *JQ1* (*JQ2*) rating. In the period from 1996 to 2005, we find the average *JQ1* rating of 7.89;

thus according the initial *Jourqual* rating, the average DGF publication is a B-publication being at the cusp of the A-journal category. The more demanding characteristic of the *JQ2* rating is represented by the considerably lower average of 7.54. Referring to the three sub-periods, we document that papers which are presented in the second sub-period are most successful with an average *JQ1* (*JQ2*) rating of 8.07 (7.71).

D. Results

I. Determinants of Paper Quality

Publication Probability

Papers written in coauthorship seem to be more successful in the reviewing process than sole-authored papers. As can be inferred from Table 4, 63.3% of coauthored papers are subsequently published, whereas the respective fraction for sole-authored papers is only 37.2%. Referring to the criterion whether a paper is published in at least a B-journal or A-journal, we find complementing evidence. E.g., according to the *JQ1* rating, 41.5% (19.1%) of coauthored papers are at least published in a B-journal (A-journal). Again, the respective fractions are considerable lower for sole-authored papers with 22.9% (10.1%). Applying *JQ2* thresholds supports the finding of a superiority of coauthored papers. As results for *JQ1* and *JQ2* thresholds are very similar, in the following we only refer to *JQ1* thresholds in the text. Results for *JQ2* threshold are, however, also displayed in Table 4. The finding that coauthored papers are published about twice as frequently as sole-authored papers is remarkable, considering that in Laband and Tollison (2000) the acceptance rate of coauthored papers is only 23% higher than for sole-authored papers. One can offer two rationales for the divergence. On the one hand, collaboration might be more rewarding in financial research as opposed to economics, the academic discipline analyzed by Laband and Tollison (2000). On the other hand, the value of coauthorship might have increased since their investigation period (i.e., 1982-1986). The second reasoning might find empirical support in the rapid expansion of formal collaboration in recent years.

[Insert Table 4 about here]

The finding that publication probability is considerably higher for team papers is confirmed by logistic regression analyses.[25] We employ five different dependent binary variables which equal one if (i) a DGF paper is published in any peer-reviewed journal (Pub_abs),

[25] We employ robust standard errors for both OLS and logistic regression analyses.

(ii) published in at least a B-journal according to *JQ1* (Pub JQ1>=B), (iii) published in at least an A-journal according to *JQ1* (Pub JQ1>=A), (iv) published in at least a B-journal according to *JQ2* (Pub JQ2>=B), or (v) published in at least an A-journal according to *JQ2* (Pub JQ2>=A), and zero otherwise. As can be inferred from columns (1), (4), (7), (10), and (13) of Table 5, univariate logistic regressions confirm the highly significant influence of the dummy variable TEAM, which equals one if a paper is written by more than one author and zero otherwise, on publication success, no matter which measure for publication probability is applied. The higher publication probability of coauthored papers is also documented by referring to the number of coauthors per paper (NR_AUTH). As can be inferred form Table 4, papers written by three authors are especially successful in terms of publication probability as 70.3% (51.6%) of those papers are published in a peer-reviewed journal (at least in a B-journal). Referring to columns (2), (6), (8), (11), and (14) of Table 5, univariate regressions again document the positive role of coauthorship as NR_AUTH shows to be a positive and highly significant factor in explaining publication probability.

[Insert Table 5 about here]

As mentioned before, the finding of higher publication probability could be driven by other factors which are omitted in univariate analyses. Therefore, the model specifications in columns (3), (6), (9), (12), and (15) include the average h-index of a paper (H_INDEX), the average age of contributing authors (AGE), a dummy variable EMPIRICAL which equals one if the paper is empirical and zero otherwise, and a dummy variable THEORETCIAL which equals one if a paper is theoretical and zero otherwise. Controlling for these factors, we still find a significant influence of the number of coauthors on publication probability, however to a less extent. In particular, if one applies the threshold that a paper has to be published in at least an A-journal according to *JQ1*, the coefficient on NR_AUTH shows to be positive but insignificant.

The capability of scholars proves to be an important and highly significant factor. The respective coefficients on H_INDEX are positive and significant for all three measures of publication probability. Notably, its significance is increasing the more selective the measure becomes. The finding that papers written by scholars with high research capability are published more often is also documented by average publication probabilities given in Table 4. In particular, publication probability of papers with an average h-index of at least the median (High h-index) is 55.1%, whereas the respective fraction is 49.3% for the remaining DGF papers. The effect becomes even more visible when one looks at the publication

probability in at least A-journals. Here, 19.1% of high h-index papers are published in at least an A-journal, whereas the fraction of low h-index papers is merely 9.4%.

The average age of authors is also an important factor for publication probability. As can be inferred from Table 5, the average age of authors (AGE) is a negative and, with the exception of the A-journal threshold, significant factor for publication probability. In general, the younger the authors of a paper are, the more likely is a subsequent publication. For the more demanding success measure of at least an A-journal publication, age shows to be an insignificant factor. This finding accords with the speculation that younger authors are under higher pressure to publish their working papers in any journal. More senior scholars might give up on a project which does not have the potential to be published in a top-tier journal.

With respect to the methodological approach of the papers, we document evidence that neither empirical nor theoretical papers are published particularly frequently. The coefficients on the variables EMPIRICAL and THEORETCIAL are insignificant in all model specifications. This finding is also supported by publication probabilities displayed in Table 4. Publication probabilities in any journal do not vary much between empirical (58.3%) and theoretical papers (58.4%). Experimental papers seem to be most often published. In particular, 42.9% are published at least in an A-journal. Please note, however, that the subset of experimental papers only consists of 7 papers.

Publication Quality

We now focus on publication quality, not publication probability as the dependent variable. Table 6 presents OLS regression results for different model specifications. Columns (1) to (3) display results for *JQ1* as dependent variable, whereas columns (4) to (6) present respective findings for *JQ2*. With respect to univariate regression results, we find supporting evidence that papers written in teams are of superior quality. The coefficients on TEAM and on NR_AUTH are positive and significant. The positive impact of team characteristics on publication quality is also confirmed in multivariate analyses. This finding is additionally supported by average *JQ1* and *JQ2* ratings displayed in Table 4. Sole-authored publications have a mean *JQ1* rating of 7.69, whereas coauthored papers are associated with a respective value of 7.97. In consequence, we find univocal evidence for a superiority of team papers over sole-authored papers according to our two proxies for paper quality. According to our prediction and in accordance with the baseline finding in the literature, coauthored papers are published more often and, if published, they appear in journals with higher reputation. Our

results concerning the magnitude of the advantage of coauthored paper are, however, hard to compare to the findings in the literature, as prior studies have analyzed citations triggered by individual publications.

With respect to the scholarly capability of authors, we again document that the higher the mean h-index (H_INDEX) of a DGF publication, the higher is the rating of the journal in which the paper is published. The respective coefficients are positive and highly significant for both *JQ1* and *JQ2* ratings. According to Table 4, high h-index publications have a mean *JQ1* rating of 8.00, whereas the respective value for the remaining publications is 7.64. Papers written by frequently cited authors, on average, are published more often and, if published, they appear in more prestigious journals. This result supports the conclusions drawn by Medoff (2003) and Chung et al (2008) who also find scholarly capability being a significant factor for publication quality. Although we find a negative and significant impact of average age (AGE) on publication probability, we do not document a similar effect on publication quality. The respective coefficients are close to zero and insignificant. Given this combined evidence, young authors seem to have especially high incentive to publish their work. Thus, they seem to stick to a paper until a final publication. Publication quality, however, does not seem to be affected by the incentives to enhance an individual's publication list.

With respect to the methodological approach of a paper, we again find that neither empirical nor theoretical publications have a particularly high average *JQ1* or *JQ2* rating. We thereby support the finding of Chung et al. (2008) who also find the employed methodology being an insignificant factor concerning individual paper's citations.

The finding that the employed methodology neither affects publication probability nor publication quality in a systematic way has important implications for performance measurement of scholars. According to our data, there seems to be no need to discount, e.g., publications of empirical researchers for a positive publication bias. In addition, one can consider the insignificance of methodology on publication success as goods news in another respect. Research activities of (young) scholars are not biased in one or the other methodological direction. Assuming that both theoretical and empirical research is equally important, the market for journal publications seems to function quite well.

Empirical Papers vs. Theoretical Papers

Given our finding that coauthorship, on average, has a positive impact on paper quality, we now want to explore whether this finding follows from both empirical and theoretical papers.

Panel A of Table 7 presents regression results for the subset of empirical papers, whereas Panel B displays results for the subset of theoretical papers. In columns (1) to (5), logistic regressions are performed. Here, the dependent variables are binary variables which equal one if a paper has been subsequently published (according to the above mentioned thresholds) and zero otherwise. Columns (6) and (7) show OLS results for published papers with *JQ1* and *JQ2* as dependent variables. The three independent variables are NR_AUTH, H_INDEX, and AGE.

[Insert Table 7 about here]

As can be inferred from Panel A, major findings are confirmed for the subset of empirical papers. The coefficients on NR_AUTH and H_INDEX are strictly positive and significant, both for publication probability (columns (1) to (5)) and for publication quality (columns (6) and (7)). AGE seems to have some weak explanatory power for publication probability. Although the respective coefficients are not significant in all logistic regressions, papers written by younger scholars show a tendency of being published more frequently. As can be inferred from columns (6) and (7), publication quality of empirical papers is independent of the mean age of contributing authors.

For the subset of theoretical papers, a different picture emerges. As displayed in Panel B the number of authors per paper (NR_AUTH) shows little explanatory power with respect to paper quality. With the exception for regressions on the dependent variable Pub_abs, which equals one if the paper is published in any peer-reviewed journal and zero otherwise, the coefficient is close to zero and insignificant. Thus, unlike for empirical papers, team work does not seem to be a quality enhancing factor for theoretical papers.[26] The finding of less potential of collaboration in theoretical work is supported by looking at the fraction of coauthorship for empirical and theoretical papers. Whereas 74.5% of empirical papers are coauthored, the respective fraction is 55.5% for theoretical papers. Thus, theorists seem to rationally refrain from collaboration as team work does not improve paper quality for theoretical papers.

II. Does Data Origin Impact Paper Quality?

The question of whether data origin impacts paper quality has not been addressed in the literature so far. Thus, we explore the effects of data origin both on publication probability

[26] This finding has also been documented by Chung et al. (2008) for selective finance publications.

and publication quality. As can be seen from Table 4, data origin seems to have an influence on paper quality. E.g., empirical papers which draw on data from multiple countries have a publication probability of 47.0%, whereas single-country studies have a considerably higher value with 62.2%. However, this effect might be driven by common characteristics of papers, like the team property or the scholarly capability of contributing authors. Thus, Table 8 presents logistic regression results for different model specifications. The baseline variables are NR_AUTH, H_INDEX, and AGE. To measure the effects of data origin, we subsequently include the dummy variable MULTI_COUNTRY, which equals one if the paper draws on data from more than one country and zero otherwise, and the dummy variable GERMANY, which equals one if the paper draws exclusively on data from Germany and zero otherwise. Columns (1), (4), (7), (10), and (13) include the dummy variable MULTI_COUNTRY. Columns (2), (5), (8), (11), and (14) include the dummy variable GERMANY, but not MULTI_COUNTRY. Columns (3), (6), (9), (12), and (15) include both dummy variables. Please note that in the period from 1996 to 2005, 25.5% of papers analyze data from multiple countries and 44.0% analyze data from Germany.

[Insert Table 8 about here]

Logistic regression results confirm that papers analyzing data from multiple countries are associated with particularly low publication probabilities. Most coefficients on the dummy variable MULTI_COUNTRY are negative and significant. This finding comes to some surprise and supposes our prediction of a superiority of multi-country studies. As can be inferred from Panel B of Table 1, there is a sharp increase of multi-country studies in the last years. One would have expected that authors hope to expand their chances of a paper acceptance at reputable journals by analyzing data from more than one country. However, for our data set, we have to document quite the opposite. Concerning publication quality, we do not find a difference between single- and multi-country studies.

Table 9 presents OLS regressions results for different model specifications, where the dependent variables are *JQ1* and *JQ2*. Besides, model specifications are identical to Table 8. Coefficients on MULTI_COUNTRY are insignificant in columns (1) and (4). Thus concerning publication quality, multi-country studies do not differ from single-country studies. This finding is highlighted by the information provided in Table 4. Multi-country studies (single-country studies) are published in journals with an average rating of 7.95 (7.94) according to *JQ1* and 7.55 (7.64) according to *JQ2*.

[Insert Table 9 about here]

With respect to empirical studies analyzing solely German data, we document mixed evidence. Whether a paper analyzes data from Germany is not an important determinant for the two least restrictive definitions of publication probability. However, if one is interested in at least A-publications, the coefficient on GERMANY is negative and significant. Thus, papers analyzing data from Germany have mediocre chances to achieve publication in a top-tier journal. This finding is supported by the information provided in Table 4. Only 10.5% (7.0%) of papers analyzing data from Germany are subsequently published in at least an A-journal according to *JQ1* (*JQ2*). The respective fractions are much higher for US studies (22.9% and 20.8%, respectively) and for other single-country studies (45.2% and 45.2%, respectively). The finding of a mediocre quality of German papers is confirmed when referring to publication quality. The coefficients for GERMANY are strictly negative and significant. German papers, if published, are accepted in journals with rather low ratings. Again, average ratings displayed in Table 4 highlight this finding. The mean *JQ1* (*JQ2*) rating for German publications is 7.62 (7.26), whereas respective values are much higher for the three remaining groups. Multi-country studies have an average rating of 7.95 (7.55), US studies perform even better with an average rating of 8.25 (8.04), and publications analyzing data from remaining single countries perform best with 8.48 (8.28). It is somehow puzzling that papers analyzing data from single countries, excluding Germany and USA, perform best, both with respect to publication probability and publication quality. One might have expected that editors of top-tier journals sympathize with US studies or multi-country studies. This finding is, however, to be treated with caution. Given the small number of other single-country studies, the finding can be biased by outliers. In fact, three papers by Steven Ongena, which explore data from Norway and Belgium, are published in A+ journals.

E. Conclusion

By analyzing all DGF papers in the period from 1996 to 2005, we find complementing evidence for the predominant empirical finding of a quality enhancing role of coauthorship. Although this finding has been documented by other studies before, we believe that our findings expand the knowledge about coauthorship in several respects. First, our study overcomes the close focus on elite journals, which has been prevalent in the current literature. In particular, we document a quality enhancing role of coauthorship for a broader and more diverse spectrum of financial research papers. Second, we document that the scholarly capability of authors is another important factor for explaining paper quality. Novel to the

literature, we refer to *Google Scholar* and a rather new measure, the h-index, to proxy for scholarly capability. The finding that the average h-index of a paper has high explanatory power in predicting paper quality supports the finding of Breuer (2009) that using *Google Scholar* is suitable for evaluating German scholars. Third, we document a negligible role of the employed methodology on paper quality, a result that confirms the finding of Chung et al. (2008) who also documents an insignificance of methodology for publications in elite financial research journals.

One finding is of particular relevance for the future of empirical research on the German capital market. Papers exploring exclusively data from Germany are less successful in the reviewing process. These papers are hardly publishable in elite journals. Given this finding, which accompanies with common wisdom, has important implications for empirical research in Germany. If financial papers dealing with German data have little chances to appear in reputable journals and if publishing in reputable journals is a crucial determinant to receive tenure, younger scholars have low incentives to analyze the German capital market. Given these low incentives, we should expect little advancement in knowledge about the German capital market in the future as relevant studies will not be conducted anymore. The mentioned incentives seem to be at work for quite some time as the fraction of empirical papers dealing with German data fell from 90.0% in 1996 to 24.1% in 2007. It remains an open question whether the German capital market deserves such low attention or whether we witness a failure of the market for journal publications in this respect.

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Table 1. Paper Characteristics Based on Author Characteristics, by Year

Year	(1) Number of DGF Papers	(2) Percentage of Coauthored Papers	(3) Average Number of Authors	(4) Average Number of Authors for Coauthored Papers	(5) Average H-Index of Authors	(6) Average Age of Authors
96	34	8.8%	1.09	2.00	4.59	33.48
97	36	38.9%	1.53	2.36	6.02	34.02
98	36	50.0%	1.61	2.22	4.34	34.69
99	36	58.3%	1.81	2.38	5.00	33.33
00	40	62.5%	1.73	2.16	5.45	35.92
01	69	66.7%	1.88	2.33	6.87	36.71
02	79	62.0%	1.81	2.31	5.33	35.18
03	80	70.0%	1.96	2.38	4.73	35.48
04	73	67.1%	1.92	2.37	5.02	35.33
05	65	75.4%	1.98	2.31	4.67	36.22
06	72	72.2%	1.97	2.35	4.11	35.58
07	80	73.8%	2.09	2.47	4.88	35.98
96 - 07	700	63.0%	1.85	2.34	5.09	35.40
N	700	700	700	441	667	653
96 - 99	142	39.4%	1.51	2.30	5.02	33.89
00 - 03	268	65.7%	1.86	2.31	5.57	35.78
04 - 07	290	72.1%	1.99	2.38	4.67	35.77
96 - 05	548	60.2%	1.79	2.32	5.25	35.29

Table 2. Paper Characteristics Based on Methodology and Data Origin, by Year

Year	(1) Percentage of Empirical Papers	(2) Percentage of Theoretical Papers	(3) Percentage of Experimental Papers	(4) Percentage of Simulation Papers	(5) Percentage of Other Papers	(6) Percentage of Cross-country Studies	(7) Percentage of German Studies	(8) Percentage of US Studies	(9) Percentage of Other Single-country Studies
96	58.8%	35.3%	0.0%	5.9%	0.0%	10.0%	90.0%	0.0%	0.0%
97	52.2%	39.1%	0.0%	4.3%	4.3%	8.3%	41.7%	16.7%	33.3%
98	53.8%	34.6%	0.0%	3.8%	7.7%	14.3%	71.4%	0.0%	14.3%
99	75.0%	25.0%	0.0%	0.0%	0.0%	22.2%	44.4%	16.7%	16.7%
00	50.0%	46.7%	0.0%	3.3%	0.0%	33.3%	13.3%	46.7%	6.7%
01	52.2%	43.3%	1.5%	3.0%	0.0%	31.4%	28.6%	22.9%	17.1%
02	42.0%	50.7%	1.4%	5.8%	0.0%	24.1%	51.7%	6.9%	17.2%
03	52.5%	40.0%	5.0%	2.5%	0.0%	28.6%	42.9%	16.7%	11.9%
04	60.3%	34.2%	1.4%	4.1%	0.0%	20.5%	47.7%	27.3%	4.5%
05	61.5%	30.8%	0.0%	4.6%	3.1%	35.0%	40.0%	17.5%	7.5%
06	66.7%	29.2%	2.8%	1.4%	0.0%	27.1%	39.6%	27.1%	6.3%
07	67.5%	26.3%	2.5%	3.8%	0.0%	37.0%	24.1%	31.5%	7.4%
96 - 07	57.7%	36.3%	1.8%	3.5%	0.8%	27.4%	40.4%	21.6%	10.5%
N	626	626	626	626	626	361	361	361	361
96 - 99	60.0%	33.3%	0.0%	3.3%	3.3%	14.8%	59.3%	9.3%	16.7%
00 - 03	49.2%	44.7%	2.4%	3.7%	0.0%	28.9%	37.2%	19.8%	14.0%
04 - 07	64.1%	30.0%	1.7%	3.4%	0.7%	30.1%	37.1%	26.3%	6.5%
96 - 05	54.6%	39.0%	1.5%	3.8%	1.1%	25.5%	44.0%	18.5%	12.0%

Table 3. Publication Probability and Publication Quality, by Year

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	Publication Probability	Publication Probability in JQ1 >=B	Publication Probability in JQ1 >=A	Publication Probability in JQ2 >=B	Publication Probability in JQ2 >=A	Average JQ1 Rating	Average JQ2 Rating
96	41.2%	32.4%	11.8%	26.5%	2.9%	7.56	7.22
97	55.6%	47.2%	19.4%	33.3%	13.9%	8.06	7.62
98	58.3%	41.7%	19.4%	44.4%	19.4%	7.57	7.24
99	63.9%	36.1%	13.9%	30.6%	8.3%	7.62	7.29
00	57.5%	40.0%	27.5%	42.5%	12.5%	8.28	7.71
01	58.0%	40.6%	23.2%	39.1%	21.7%	8.15	7.80
02	57.0%	38.0%	12.7%	38.0%	10.1%	7.70	7.45
03	60.0%	33.8%	16.3%	35.0%	15.0%	8.30	7.89
04	37.0%	17.8%	6.8%	16.4%	5.5%	7.86	7.49
05	44.6%	26.2%	10.8%	21.5%	10.8%	7.57	7.22
06	18.1%	9.7%	4.2%	11.1%	5.6%	7.71	7.58
07	5.0%	2.5%	1.3%	1.3%	1.3%	8.14	8.19
96 - 07	43.9%	28.0%	12.7%	26.4%	10.3%	7.89	7.55
N	700	700	700	700	700	218	239
96 - 99	54.9%	39.4%	16.2%	33.8%	11.3%	7.71	7.35
00 - 03	58.2%	37.7%	18.7%	38.1%	14.9%	8.07	7.71
04 - 07	25.2%	13.4%	5.5%	12.1%	5.5%	7.71	7.41
96 - 05	52.9%	34.1%	15.5%	32.1%	12.2%	7.89	7.54

Table 4. Publication Probability and Publication Quality, by Paper Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Publication Probability	Publication Probability in JQ1 >= B	Publication Probability in JQ1 >= A	Publication Probability in JQ2 >= B	Publication Probability in JQ2 >= A	Average JQ1 Rating	Average JQ2 Rating
Sole-authored Papers	37.2%	22.9%	10.1%	20.6%	7.3%	7.69	7.35
(N)	(218)	(218)	(218)	(218)	(218)	(58)	(62)
Coauhtored Papers	63.3%	41.5%	19.1%	39.7%	15.5%	7.97	7.61
(N)	(330)	(330)	(330)	(330)	(330)	(150)	(164)
2 Authors	60.8%	37.9%	17.7%	37.9%	12.5%	7.88	7.50
(N)	(232)	(232)	(232)	(232)	(232)	(98)	(110)
3 Authors	70.3%	51.6%	23.1%	45.1%	22.0%	8.12	7.81
(N)	(91)	(91)	(91)	(91)	(91)	(50)	(51)
4 Authors	57.1%	28.6%	14.3%	28.6%	28.6%	8.74	8.25
(N)	(7)	(7)	(7)	(7)	(7)	(2)	(3)
Low H-index	49.3%	29.6%	9.4%	28.6%	7.9%	7.64	7.26
(N)	(203)	(203)	(203)	(203)	(203)	(64)	(72)
High H-index	55.1%	36.8%	19.1%	34.2%	14.8%	8.00	7.67
(N)	(345)	(345)	(345)	(345)	(345)	(144)	(154)
Young Authors	52.0%	33.7%	14.7%	31.0%	10.7%	7.81	7.44
(N)	(252)	(252)	(252)	(252)	(252)	(94)	(100)
Old Authors	53.7%	34.5%	16.2%	33.1%	13.5%	7.96	7.61
(N)	(296)	(296)	(296)	(296)	(296)	(114)	(126)
Empirical Papers	58.3%	40.5%	17.8%	38.6%	15.1%	7.94	7.62
(N)	(259)	(259)	(259)	(259)	(259)	(118)	(125)
Theoretical Papers	58.4%	37.3%	17.3%	34.6%	12.4%	7.88	7.51
(N)	(185)	(185)	(185)	(185)	(185)	(73)	(82)
Experimental Papers	85.7%	57.1%	42.9%	71.4%	42.9%	8.67	8.04
(N)	(7)	(7)	(7)	(7)	(7)	(4)	(6)
Simulation Papers	66.7%	33.3%	22.2%	27.8%	11.1%	8.04	7.36
(N)	(18)	(18)	(18)	(18)	(18)	(6)	(7)
Other Papers	60.0%	0.0%	0.0%	0.0%	0.0%	6.43	5.51
(N)	(5)	(5)	(5)	(5)	(5)	(2)	(1)
Siungle-country Studies	62.2%	44.0%	19.2%	43.5%	16.6%	7.94	7.64
(N)	(193)	(193)	(193)	(193)	(193)	(97)	(103)
Multi-country Studies	47.0%	30.3%	13.6%	24.2%	10.6%	7.95	7.55
(N)	(66)	(66)	(66)	(66)	(66)	(21)	(22)
Data Germany	63.2%	40.4%	10.5%	39.5%	7.0%	7.62	7.26
(N)	(114)	(114)	(114)	(114)	(114)	(56)	(60)
Data USA	45.8%	37.5%	22.9%	39.6%	20.8%	8.25	8.04
(N)	(48)	(48)	(48)	(48)	(48)	(20)	(22)
Data Other Single County	83.9%	67.7%	45.2%	64.5%	45.2%	8.48	8.28
(N)	(31)	(31)	(31)	(31)	(31)	(21)	(21)

Table 5. Determinants of Publication Probability (Logistic Regression Results with Robust Standard Errors)

Dep. Variable	Pub_abs			Pub_JQ1 >= B			Pub_JQ1 >= A			Pub_JQ2 >= B			Pub_JQ2 >= A		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
TEAM	1.07			0.87			0.74			0.93			0.84		
(z-value)	(5.92)			(4.43)			(2.80)			(4.60)			(2.78)		
NR_AUTH		0.69	0.56		0.56	0.39		0.43	0.19		0.53	0.34		0.61	0.41
(z-value)		(5.33)	(3.53)		(4.56)	(2.67)		(2.98)	(1.10)		(4.33)	(2.32)		(3.67)	(2.11)
H_INDEX			0.07			0.08			0.13			0.07			0.10
(z-value)			(1.70)			(2.55)			(3.14)			(2.49)			(2.74)
AGE			-0.06			-0.06			-0.04			-0.04			-0.04
(z-value)			(-2.99)			(-2.98)			(-1.43)			(-1.75)			(-1.30)
EMPIRICIAL			-0.44			0.39			-0.17			0.49			0.09
(z-value)			(-1.01)			(0.90)			(-0.31)			(1.13)			(0.15)
THEORETICAL			-0.09			0.55			0.04			0.54			0.06
(z-value)			(-0.20)			(1.20)			(0.07)			(1.19)			(0.10)
C	-0.53	-1.11	1.48	-1.21	-1.69	0.01	-2.19	-2.51	-1.27	-1.35	-1.72	-0.75	-2.54	-3.15	-1.99
(z-value)	(-3.75)	(-4.63)	(1.95)	(-7.52)	(-6.87)	(0.01)	(-9.72)	(-8.16)	(-1.24)	(-8.04)	(-7.04)	(-0.95)	(-9.75)	(-8.56)	(-1.72)
Pseudo R^2	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.04	0.03	0.03	0.02	0.02	0.03	0.04
N	548	548	436	548	548	436	548	548	436	548	548	436	548	548	436
Prob(Chi^2)	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.01	0.01	0.00	0.02

Table 6. Determinants of Publication Quality (OLS Regression Results with Robust Standard Errors)

Dep. Variable	JQ1			JQ2		
	(1)	(2)	(3)	(4)	(5)	(6)
TEAM	0.28			0.27		
(t-value)	(2.29)			(2.31)		
NR_AUTH		0.23	0.16		0.24	0.17
(t-value)		(3.08)	(2.38)		(2.92)	(2.07)
H_INDEX			0.06			0.07
(t-value)			(3.73)			(3.90)
AGE			0.00			-0.01
(t-value)			(-0.01)			(-0.39)
EMPIRICIAL			0.05			0.23
(t-value)			(0.16)			(0.74)
THEORETICAL			0.09			0.22
(t-value)			(0.30)			(0.73)
C	7.69	7.44	7.16	7.35	7.06	(6.80)
(t-value)	(78.10)	(47.93)	(16.26)	(86.97)	(45.51)	(13.34)
R^2	0.02	0.04	0.12	0.02	0.04	0.12
N	208	208	195	226	226	211
Prob(F-Stat)	0.02	0.00	0.00	0.02	0.00	0.00

Table 7. Determinants for Publication Probability and Publication Quality, for Empirical Paper and for Theoretical Papers Separately (Logistic Regression and OLS Regression Results with Robust Standard Errors)

Panel A. Empirical Papers							
Dep. Variable	Pub_abs	Pub_JQ1 >= B	Pub_JQ1 >=A	Pub_JQ2 >=B	Pub_JQ2 >=A	JQ1	JQ2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
NR_AUTH	0.52	0.58	0.55	0.50	0.64	0.20	0.25
(z-value)/(t-value)	(2.29)	(2.99)	(2.30)	(2.62)	(2.40)	(2.26)	(2.29)
H_INDEX	0.07	0.10	0.16	0.08	0.13	0.07	0.07
(z-value)/(t-value)	(1.71)	(2.38)	(3.24)	(1.97)	(2.95)	(3.15)	(3.23)
AGE	-0.07	-0.08	-0.04	-0.04	-0.03	0.00	0.00
(z-value)/(t-value)	(-2.31)	(-2.61)	(-1.26)	(-1.57)	(-0.86)	(0.08)	(0.00)
C	1.26	0.55	-2.12	-0.37	-2.82	7.04	6.63
(z-value)/(t-value)	(1.40)	(0.59)	(-1.75)	(-0.41)	(-2.24)	(14.14)	(11.53)
Pseudo R^2/ R^2	0.04	0.05	0.09	0.04	0.08	0.16	0.16
N	246	246	246	246	246	115	122
Prob(Chi^2)/F-Stat	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Panel B. Theoretical Papers							
Dep. Variable	Pub_abs	Pub_JQ1 >= B	Pub_JQ1 >=A	Pub_JQ2 >=B	Pub_JQ2 >=A	JQ1	JQ2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
NR_AUTH	0.56	0.02	-0.36	-0.01	-0.17	0.11	0.01
(z-value)/(t-value)	(2.05)	(0.07)	(-1.00)	(-0.04)	(-0.43)	(0.98)	(0.12)
H_INDEX	0.10	0.13	0.19	0.13	0.13	0.05	0.08
(z-value)/(t-value)	(1.41)	(2.23)	(2.84)	(2.24)	(1.67)	(2.04)	(2.77)
AGE	-0.05	-0.04	-0.03	-0.03	-0.04	0.01	0.00
(z-value)/(t-value)	(-1.76)	(-1.40)	(-0.79)	(-1.22)	(-0.92)	(0.61)	(0.04)
C	0.93	0.20	-0.96	-0.02	-1.01	7.00	7.02
(z-value)/(t-value)	(0.93)	(0.22)	(-0.82)	(-0.03)	(-0.74)	(10.62)	(11.45)
Pseudo R^2/ R^2	0.05	0.03	0.05	0.03	0.02	0.10	0.12
N	162	162	162	162	162	68	76
Prob(Chi^2)/F-Stat	0.01	0.08	0.04	0.11	0.40	0.10	0.04

Table 8. Determinants of Publication Probability (Logistic Regression Results with Robust Standard Errors), for Empirical Papers

Dep. Variable	Pub_abs			Pub_JQ1 >= B			Pub_JQ1 >=A			Pub_JQ2 >=B			Pub_JQ2 >=A		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
NR_AUTH	0.56	0.55	0.57	0.62	0.58	0.61	0.59	0.49	0.54	0.56	0.51	0.55	0.68	0.56	0.64
(z-value)	(2.74)	(2.71)	(2.77)	(3.20)	(3.00)	(3.04)	(2.38)	(2.01)	(2.10)	(2.92)	(2.66)	(2.80)	(2.52)	(2.06)	(2.24)
H_INDEX	0.07	0.07	0.07	0.10	0.10	0.10	0.16	0.17	0.18	0.08	0.08	0.08	0.13	0.15	0.16
(z-value)	(1.68)	(1.66)	(1.67)	(2.33)	(2.38)	(2.58)	(3.20)	(3.58)	(3.56)	(1.91)	(1.95)	(1.96)	(2.88)	(3.51)	(3.51)
AGE	-0.07	-0.06	-0.07	-0.07	-0.07	-0.08	-0.04	-0.05	-0.06	-0.04	-0.04	-0.04	-0.03	-0.04	-0.04
(z-value)	(-2.31)	(-2.25)	(-2.29)	(-2.66)	(-2.61)	(-2.48)	(-1.24)	(-1.55)	(-1.69)	(-1.57)	(-1.55)	(-1.62)	(-0.83)	(-1.22)	(-1.37)
MULTI_COUNTRY	-0.68		-0.61	-0.67		-0.87	-0.50		-1.24	-1.00		-1.25	-0.67		-1.55
(z-value)	(-2.21)		(-1.70)	(-2.08)		(-2.35)	(-1.12)		(-2.60)	(-2.90)		(-3.19)	(-1.42)		(-3.06)
GERMANY		0.40	0.12		0.05	-0.34		-1.01	-1.50		0.11	-0.42		-1.36	-1.95
(z-value)		(1.47)	(0.36)		(0.18)	(-1.07)		(-2.63)	(-3.65)		(0.42)	(-1.33)		(-3.04)	(-4.08)
C	1.35	0.98	1.26	0.61	0.52	0.89	-2.12	-1.37	-0.94	-0.30	-0.45	0.03	-2.84	-1.88	-1.45
(z-value)	(1.52)	(1.07)	(1.36)	(0.68)	(0.55)	(0.89)	(-1.77)	(-1.17)	(-0.83)	(-0.34)	(-0.49)	(0.03)	(-2.28)	(-1.53)	(-1.20)
Pseudo-R^2	0.05	0.04	0.05	0.06	0.05	0.07	0.09	0.12	0.15	0.06	0.04	0.07	0.09	0.13	0.18
N	246	246	246	246	246	246	246	246	246	246	246	246	246	246	246
Prob(Chi^2)	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00

Table 9. Determinants of Publication Quality (OLS Regression Results with Robust Standard Errors), for Empirical Papers

Dep. Variable	JQ1			JQ2		
	(1)	(2)	(3)	(4)	(5)	(6)
H_INDEX	0.07	0.07	0.07	0.07	0.08	0.08
(t-value)	(3.14)	(3.74)	(3.86)	(3.20)	(4.10)	(4.34)
AGE	0.00	-0.01	-0.01	0.00	-0.01	-0.01
(t-value)	(0.08)	(-0.53)	(-0.72)	(0.00)	(-0.54)	(-0.74)
MULTI_COUNTRY	-0.02		-0.40	-0.15		-0.67
(t-value)	(-0.14)		(-2.12)	(-0.83)		(-3.27)
GERMANY		-0.52	-0.66		-0.67	-0.90
(t-value)		(-3.56)	(-3.81)		(-4.48)	(-5.18)
C	7.04	7.71	7.95	6.64	7.37	7.67
(t-value)	14.02	14.37	13.71	11.54	13.22	13.89
R^2	0.16	0.25	0.28	0.16	0.28	0.34
N	115	115	115	122	122	122
Prob(F-Stat)	0.00	0.00	0.00	0.00	0.00	0.00