IMPACT OF SOCIAL NETWORKS ON PUBLISHING IN *AMERICAN ECONOMIC REVIEW*

by

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ABSTRACT

This study investigated the impact of social networks on publishing in *American Economic Review* and found that any connection with the members of the journal's editorial board significantly influenced the chance of getting the article published in *AER*. Article quality and the number of years since the authors received their Ph.D. also have a significant positive impact on the likelihood of publishing an article in *AER*. The influence of these factors was found to be significant even during the early years of professional career. The study found that authors' affiliation to the top schools did not have a significant effect on the odds of publication in *American Economic Review*. However, the presence of authors' editorial board connection prevailed over authors' affiliation in determining the likelihood of publishing an article.

CHAPTER 1. INTRODUCTION

The size of economic profession is getting larger day by day and the efficiency of researchers is also increasing with the advent of better computing facilities and analytical software. Also, literature searches and acquisition of articles are expedited with various web-based tools. This has resulted in a manifold increase in the number of articles submitted for publication. However, over these years the size of the so called lead journals in economics has not increased. Though in the recent past, number of journals in the peripherally associated fields of economics has increased, publishing an article in the top mainline journals is considered to have more value in the course of professional development. This is because the publications determined the contribution of an economist, especially academic economists, to the profession and usually determined their monetary benefits also (Graves, Marchand and Thompson, 1982). It is at this juncture that social and professional networks[1] have come into play in the publication of article in a lead journal.

Problem focus and objectives

There has been large discontent with the perception that people with some kind of association with the members of the editorial board of lead journals got their articles published more easily, while the acceptance rate of articles from people not associated with the editorial board were adversely affected. Many studies (Laband, 1985; Wu, 2007; Bardhan, 2003) showed an increase in the share of articles authored by people from a few[2] schools in the lead journals[3] of economics, while there was a reduction in the share of articles from individuals from other schools. This has further enhanced the allegation that the editorial boards show favoritism towards their friends, personal associates or colleagues in such a way that they publish poorer quality papers, while ignoring better papers from people in other universities. In extreme cases, the editorial board members, who did not have an article published in that journal, have more

[1] Refers to a set of agents / ties characterizing some relationship (or lack of relationship) among different agents (Brass, Butterfield and Skaggs, 1998)
[2] Harvard University, University of Chicago, Massachusetts Institute of Technology and Princeton University
[3] *American Economic Review, Journal of Political Economy, Quarterly Journal of Economics*

than one article published in the journal during the period in which they are in the editorial board.

Favoritism towards friends and colleagues is considered to be one of the least ethical practices in academic publishing (Sherrell, Hair and Griffin, 1989) and the incidence of this unethical behavior increases with the frequency of interaction between the individuals (Brass, Butterfield and Skaggs, 1998). The main accusation is that the benchmark for publication employed by the editorial board to articles submitted by the influential authors is lower than the one that must be met by individuals with no connection to the editorial board.

At this juncture, the objective of this study is to find answers to the questions

(i) Does authors' connection with the editorial board influence publication of their articles in *American Economic Review*?

(ii) If such a network effect exists, what are the factors affecting publication in *American Economic Review*?

Scope of the study

Many researchers like Laband and Piette (1994) and Medoff (2003) have attempted to investigate editorial board favoritism from different perspectives and have generated many arguments pro and against the favoritism shown by editorial boards of lead journals in economics towards some authors. However, all these studies were restricted to a single year and did not explore the temporal dimension. This study uses a different approach in the sense that, a panel dataset of 256 random authors published in *American Economic Review* over a period of 21 years from 1980 to 2000 was used to capture the impacts of author-editorial board connection, in addition to the author quality and article quality, on publishing an article. Since the earlier articles by Siegfried (1994) and Wu (2007) showed differences in the share of pages contributed by authors from different schools in the past decades, this study also investigates the influence of authors' affiliation over the 21 year time period on getting the paper published.

Even with all these possibilities, the study has its own limitations. Variables like author quality, article quality and author – editorial board connection are qualitative variables and are

measured in the best way possible[4] with the available resources, adopting and/or modifying these variables as used in previous studies of Laband and Piette (1994) and Medoff (2003), though readers may disagree with the approach used in this study.

The organization of the thesis is as follows. A detailed review of the past literature is presented in chapter 2. Chapter 3 summarizes the data and variables used for empirical analyses and also explain the expected effects of independent variables on publishing in *AER*. Chapter 4 explains the empirical model employed in this study. Chapter 5 discusses the results of the study and Chapter 6 presents the conclusion.

[4] See chapter 3 for detailed discussion

CHAPTER 2. REVIEW OF LITERATURE

Although there is widespread accusation that the author – editorial board connection plays a major role in publication of an article in lead journals of economics, the literature concerning empirical analyses of this unethical behavior is very thin. This chapter attempts to comprehend all the relevant literature concerning the factors influencing the publication of articles in lead journals of economics. The literature is broadly classified as those pertaining to (i) trends in publication in lead journals of economics (ii) empirical studies on the impact of social networks on publication.

2.1. Publishing behavior in lead journals of economics

Siegfried (1994) explored the trends in the institutional affiliation of authors of articles published in the *American Economic Review* (*AER*), the *Journal of Political Economy* (JPE), and the *Quarterly Journal of Economics (QJE)* over the four decades since 1950. The study found that the share of *AER* pages contributed by people affiliated with Harvard University, MIT, University of Chicago and Princeton University, as a group in each decade, had declined from 22 percent in the 1950s to 17 percent in the 1980s. Among the major contributors, University of California-Los Angeles and University of Western Ontario were the only two universities which experienced an increase in share of contributed pages by at least one percent from the 1960s to the 1980s. The study also found that, since the 1960s, eight universities had lost at least one percentage of the share of *AER* pages, led by Yale and University of California-Berkeley with 2.6 percentage losses and Stanford with 1.9 percentage losses. During the period from 1960s to 1980s, authors at less prolific institutions[5] contributed towards 15 percent of the total pages in *American Economic Review*, which were contributed earlier by authors at highly prolific institutions[6].

Siegfried's study further revealed that, during 1950s to 1970s, there was a decline in the concentration of authors from the four most prolific publishing institutions in *JPE* and *QJE*. The

[5] Institutions whose faculty as a group accounted for less than one percent of the *AER* pages
[6] Institutions whose faculty as a group accounted for more than one percent of the *AER* pages

aggregate share of *JPE*'s top four institutional sources of articles declined from 28 percent in 1950's to 19 percent in 1980's.

However, the extension of Siegfried's study by Wu (2007) observed a reversal in the previous trend. He could find that the concentration of authors from Harvard University, MIT, University of Chicago and Princeton who published in top journals of economics increased during the period from 2000 to 2003 and was significantly higher compared to any other period in the last fifty years. More than 19 percent of the pages published in *American Economic Review* were contributed by authors affiliated to these four schools. In *QJE* and *JPE* these figures were more than 40 percent and 26 percent, respectively. Wu attributed these trends in *QJE* and *JPE* partly to a shift in the editorial process, where the editors rejected a paper without asking for comments from referees, while in *AER* all the submitted articles were forwarded to at least one referee for review.

Bardhan (2003) observed that, of total 463 articles published in *Quarterly Journal of Economics* during the ten years from 1991 to 2000, about 30 percent were from authors affiliated to Harvard University or MIT at the time of publication. The article argues that the tendency towards local concentration further increased over time because, of the total of 576 articles published from 1971 to 1980, only about 17 percent were by authors from the Harvard University or MIT.

Schweser's (1983) paper delineated the rational behavior of an academic writer and explored whether it was consistent with the observed trends in academic publishing. The study analyzed the trends in publication of economists in *Journal of Finance* from 1964 - 1975 and the results revealed that academic researchers observed "diminishing marginal returns to publishing" and academic writers responded by not publishing more than one article in the journal. The author found that the rewards from publishing an article extended from intuitive returns *viz.*, better reputation and rank to monetary rewards such as tenure and promotion, raise in remuneration, better career opportunities and greater mobility. In determining monetary and professional rewards, the study found verification of diminishing marginal returns on academic

publishing. The paper concludes, given that the monetary costs of academic publishing were mostly underwritten by the university to which the author is affiliated with, the costs incurred by the writer were primarily private costs, measured in terms of the time and effort on researching and writing the article, missing career prospects such as foregone external consulting fee and lost free time. The study found that, consequently, a rational academic writer seeks to maximize the gap between the expected returns and the expected costs of publishing and in most cases attempted to trim down the costs of research and writing in every stage of output.

2.2. Empirical studies on the impact of social networks on publication

Laband (1985) compared the size of articles contributed by authors who had the same institutional affiliation with the editorial board members of the publishing journal and those who did not have any institutional affiliation with the editorial board. He could find that authors who shared the same institutional affiliation as the editorial board members published significantly lengthier articles in the "home-grown journals" than the unfamiliar authors.

Laband and Piette (1994) observed that individuals with some sort of connection to the editorial board had published twice as many lead articles when compared to those who did not have any connection with the editorial board members. Bardhan (2003) reveals that about ten percent of the articles published in QJE during 1990s were written by at least one of the author belonging to QJE's editorial board.

Laband and Piette (1994) explored whether editorial board members use their personal connection to get high quality articles published in their journal by analyzing 1051 articles published in twenty eight top journals of economics in 1984. The authors assumed that some sort of author – editorial board connection existed if (i) both the authors and any of the editorial board members were affiliated to the same institution during the same period; (ii) any of the authors of the article has received his/her Ph.D. from the same university to which any of the editorial board members were affiliated to in the same year; (iii) the author and any of the editorial board member has received their Ph.D. from the same university during the same period. The authors estimated a linear regression and an ordered probit model in order to

quantify the impact of the author-editorial board connection on the number of citations received by the article. The author – editorial board connection was positive and highly significant. The authors argue that since the editorial process is highly competitive, editorial board members used their contacts to get high quality articles published in their journal and seldom published sub-par papers authored by colleagues and former graduate students.

Medoff (2003) examined articles published in six[7] core economics journals in 1990 for the author – editorial board connection. Medoff further modified the author – editorial board connection variable by introducing two more criteria in addition to Laband and Piette's (1994) criteria i.e., an author – editorial board connection existed if the author has presented the paper in a seminar or workshop in the institution to which any of the editorial board member is affiliated with or any of the authors of the article was a former student of any of the members of the journal's editorial board. Medoff employed a Tobit maximum likelihood estimation and the empirical results showed that the articles authored by individuals with any editorial board connection, especially by those who are in the editorial board of the publishing journal, were statistically and numerically of higher quality than that of articles authored by those without editorial board connections and this quality difference did not decrease over time.

Both Laband and Piette's (1994) and Medoff's (2003) study showed that, in addition to the author – editorial board connection variable, the authors' stock of citation, length of the article, the article being a lead article also had a positive and significant influence on the number of citations received by the article.

Blank (1991) and Broder (1993) in their empirical studies observed that the chances of a paper being published increased when the referee knew that the author was affiliated to top ranked school.

Addis and Villa (2003) in their empirical study observed that in Italy, women's advancement in economics profession was curtailed by the composition of editorial boards of

[7] *American Economic Review, Econometrica, International Economic Review, Journal of Political Economy, Quarterly Journal of Economics and Review of Economic Studies*

Italian economics journals. The authors argue that since men and women considered different scientific interests and since men's standard of academic value prevailed, women economists could not build strong publication records compared to that of their male colleagues, which in turn undermined women's employment, promotion and remuneration and even the structure of the profession. The authors further contend that the exclusion of women from the professional networks in Italy even resulted in a predisposition supportive of the methods and contents of economics preferred by male economists.

CHAPTER 3. THE DATA AND THE VARIABLES

A list of authors of all the articles and original notes published in *American Economic Review* for a period from 1980 to 2000 was collected. Papers and proceedings of the annual meeting of the American Economic Association, presidential addresses, Nobel Prize lectures, comments and replies were excluded from the dataset. Year of publication of the article and number of authors for each article were collected from the respective issues of the journal. A sample of 256 authors was selected for the analytical purpose.

Detailed information on the *AER* authors, which included the Ph.D. granting institutions, year of receiving the Ph.D. and the authors' institutional affiliation over the years were collected from five[8] American Economic Association directories and the respective authors' websites. The list of editors, co-editors and associate editors of *AER* from 1980 to 2000 were compiled from each issues of the journal and their professional history was recorded in the similar way as it was done for the authors. The number of citations received by the author of the *AER* articles was collected from Social Sciences Citation Index for a period from 1970 to 2005. Care was taken to exclude self citations from the list.

Dependent variable

The binary dependent variable (*publish*) measures whether the author has published an article in *AER* or not in each year during the period from 1980 to 2000. It is coded as 1 for any year in which the author has published in *AER* and zero otherwise.

Independent variables

The explanatory variables used in this study were author's quality, potential article quality, author – editorial board connection, author being an editorial board member of *AER*, author's gender, number of years since the author has received his/her Ph.D., dummies for author affiliated with Harvard, MIT, top nine schools[9] other than Harvard and MIT, schools ranked

[8] American Economic Association Directories 1981, 1985, 1989, 1993, 1997

[9] Harvard University, University of Chicago, University of California – Berkeley, Stanford University, University of Pennsylvania, Massachusetts Institute of Technology, Yale University, North-western University, Princeton University

tenth to sixteenth[10] and schools ranked seventeen to thirtieth[11] (Coupe, 2002 and Roessler, 2004).

Author's quality (*author_qlt*) for a year, following Laband (1994), is measured as his/her stock of citations, excluding self citations, for a period of ten years prior to the concerned year. Author quality is measured with the conception that an author's stock of citations reflects the ability to perform quality research at the "frontier of economic knowledge" (Quandt, 1976) and the expected scientific contribution of the article submitted for publication (Medoff, 2003). Citations, excluding self citations, received for all the articles published by the author were aggregated to get the total stock of citations for an author and the author quality variable was constructed by summing up this aggregated citations for ten years preceding a particular year. Author quality is expected to have a positive influence on the chance of getting the article published in *AER*.

An author's potential article quality (*article_qlty*) for a year is assumed to be the quality of the article published in that particular year which received the maximum number of citations. Therefore an author's potential article quality is measured as the total number of citations, excluding self-citations, received by the most-cited article during five years subsequent to the publication (Laband, 1994) plus citations received by the article, in the year of publication if any. The potential article quality is also expected to have a positive impact on the chance of getting the article published. This is because, in most cases, an article published in *AER* is supposed to be the authors' best one and the *AER* article is expected to receive large number of citations.

Author – editor connection (*eb_conn*) is a binary variable. Author – editor liaison is assumed to exist if the author works in or has received a Ph.D. from the same university to which any of the members of the particular year's editorial board is affiliated with. A connection is also

[10] University of Michigan – Ann Arbor, University of California – Los Angeles, Columbia University, New York University, University of Wisconsin – Madison, London School of Economics, Cornell University

[11] Duke University, University of Maryland – College Park, University of California – San Diego, University of Rochester, Oxford University, Ohio State University, University of Illinois – Urbana Champaign, University of Minnesota – Twin Cities, University of Copenhagen, Carnegie Mellon University, University of California – Davis, University of Texas – Austin, Cambridge University, Boston University

assumed to exist if the author and any of the editorial board members have obtained their Ph.D. from the same school in the same year. Author's and editorial board member's affiliation with National Bureau of Economic Research (NBER) was not considered in constructing this variable, if the authors and editorial board members were full-time employees of a university or any other organization. Author – editorial board member connection is assumed to exist if the author and any of the editorial board members were affiliated to the Federal Reserve System or World Bank in the same year. As hypothesized, if the author – editorial board connection influenced the likelihood of publishing in *AER*, *eb_conn* will have a significant positive coefficient.

An author being an editorial board member (*eb_memb*) is also a binary variable which takes the value 1 for a particular year in which the author was a member of the editorial board of *AER* in that year. Similar to the *eb_conn* variable, *eb_memb* also is supposed to have a significant positive coefficient if the individuals published in *AER* when they were members of the editorial board.

Author's gender (*gender*) is a binary variable with a value 1 for female authors and 0 for male authors. We do not anticipate any particular sign on the coefficient of this variable.

As the variable-name indicates, number of year since the author received his/her Ph.D. (*yrsince_phd*) is the difference between a particular year and the year in which the author received his/her Ph.D. For an author, this variable has a negative value for those years before he/she received Ph.D. The sign on the coefficient of *yrsince_phd* may go either way. This ambiguity is because, with years of experience, authors may produce high quality articles and have a better chance of publishing in *AER*. How ever, previous studies (Laband and Piette, 1994) showed a negative influence of age on higher quality articles.

Different authors' affiliation variables are used in this study. These are binary variables. The first sixteen denote the authors' affiliation with Harvard University, University of Chicago, University of California – Berkeley, Stanford University, University of Pennsylvania, Massachusetts Institute of Technology, Yale University, North Western University, Princeton

University, University of Michigan – East Lansing, University of California – Los Angeles, Columbia University, New York University, University of Wisconsin – Madison, London School of Economics and Cornell University. The other authors' affiliation variables denote authors' affiliation to either Harvard University or MIT (*harmit*), authors' affiliation to any of the other top nine universities except Harvard University and MIT, authors' affiliation to any of the top nine universities (*top9*) and authors' affiliation to tenth to sixteenth ranked universities (*next_tier*). In constructing the authors' affiliation variable, we assumed permanent affiliation criteria *i.e.*, once the author is affiliated with a particular school or the author has received his/her Ph.D. from a particular school, we assumed the variable to be one through out the entire time period. We do not expect any particular sign on each of these variables. However, if the trends in publication in lead journals of economics, as estimated by Siegfried (1994) and Wu (2007) hold, then the coefficients on the top ranked schools may have a positive influence on the chance of getting published.

Twenty one time dummies, one each for years from 1980 to 2000 were also used in the analyses to determine the time effects on the dependent variable.

The data set was left truncated at the year of receiving Ph.D. or at the year of first article publication, for those who started publishing before receiving a Ph.D. Again, it was right truncated at *yrsince_phd* equal to 36 assuming that, on an average, the number of publications by the authors considerably decreases after 65 years[12] as most of the authors retire from active academic life. For analytical purposes, data sets were also created with upper truncation at *yrsince_phd* equal to six years and four years to investigate the chances of publication in *AER* during the early years of professional career.

[12] Taking into consideration that the average age when individuals receive their Ph.D. is 29 years

CHAPTER 4. MODELS

To estimate the impacts of social networks on publishing articles in *American Economic Review*, this study employs three major categories of equations;

(i) Author affiliation – editorial board connection equations

(ii) Grouped author affiliation – editorial board connection equations

(iii) Editorial board connection equations

Editorial board connection – author affiliation equations are aimed at finding how authors' affiliation combined with editorial board connection influence publication in *AER*, while the purpose of the grouped author affiliation equations are to determine the effects of authors' affiliation to different university clusters on *AER* publication. Editorial board connection equation is intended to capture the impact of editorial board connection on publishing in *AER*.

Since the dependent variable is a binary variable, whether the author has published or not in *AER* in a particular year, use of standard ordinary least squares of a binary response model produce biased and inconsistent parameter estimates (Greene, 2003). Therefore binary probit and logit models were considered for this study. However, binary probit models were not converging in most of the cases and as a result we resorted to binary logit models for the empirical analyses. A panel data set is used in this study to control for unobserved heterogeneity arising from the individual author details that are not captured by the explanatory variables. With the purpose of controlling these unobservable characteristics, we estimated fixed and random effects for the binary logit models. How ever, only the results of fixed effects models are reported because the random effects models were not converging in most of the cases and the results are qualitatively similar to that of the fixed effects.

4.1. Author affiliation - editorial board connection equation

To estimate the author affiliation – editorial board connection equation, we used an unbalanced panel dataset of 3881 observations and 256 authors. In order to account for the unobserved, individual specific heterogeneity, usually observed in panel datasets, we estimated fixed effects models of the following form;

$$publish_{it} = \alpha_i d_i + \beta_1 author\_qlty_{it} + \beta_2 article\_qlty_{it} + \beta_3 eb\_conn_{it} + \beta_4 eb\_memb_{it} + \beta_5 yr\,since\_phd_{it} + \beta_6 harv_{it} + \beta_7 chic_{it} + \beta_8 ucber_{it} + \beta_9 stan_{it} + \beta_{10} upa_{it} + \beta_{11} mit_{it} + \beta_{12} yale_{it} + \beta_{13} nw_{it} + \beta_{14} prin_{it} + \beta_{15} umi_{it} + \beta_{16} ucla_{it} + \beta_{17} colu_{it} + \beta_{18} nyu_{it} + \beta_{19} uwi_{it} + \beta_{20} lse_{it} + \beta_{21} corn_{it} + \sum_{t=1980}^{2000} \beta_{t+21} yr_t + \varepsilon_{it}$$

where *i* denotes the individual authors, *t* denotes the years from 1980 – 2000 and *yr* is a vector of time dummies. d_{it} is a dummy variable which takes the value 1 for individual authors *i* and zero otherwise. All the variables and their expected signs are discussed in chapter 3.

The fixed effects logit model was estimated using the maximum likelihood function;

$$\ln L = \sum_{i=1}^{256} \sum_{t=1980}^{2000} \ln P(y_{it} \mid \alpha_i + x_{it}^{'} \beta)$$

where P (.) is the probability of publishing in *AER* in a particular year. The estimations were done using STATA software.

4.2. Grouped author affiliation – editorial board connection equations

The specification of the second model is as follows;

$$publish_{it} = \alpha_i d_i + \beta_1 author\_qlty_{it} + \beta_2 article\_qlty_{it} + \beta_3 eb\_conn_{it} + \beta_4 eb\_memb_{it} + \beta_5 yr\,since\_phd_{it} + \beta_6 harmit_{it} + \beta_7 oth\_top9_{it} + \beta_8 top17\_30_{it} + \sum_{t=1980}^{2000} \beta_{t+8} yr_t + \varepsilon_{it}$$

where *i* denotes the individual authors and *t* denotes the years. The variables and their expected signs are discussed in chapter 3.

4.3. Editorial board connection equation

The editorial board connection equation can be specified as;

$$publish_{it} = \alpha_i d_i + \beta_1 author\_qlty_{it} + \beta_2 article\_qlty_{it} + \beta_3 eb\_conn_{it} + \beta_4 eb\_memb_{it} + \beta_5 yrsince\_phd_{it} + \sum_{t=1980}^{2000} \beta_{t+5} yr_t + \varepsilon_{it}$$

As in the previous models, *i* denote the individual authors and *t* denotes the years.

All the three models were estimated for *yrsince_phd* <= 36 to get the overall impact and with *yrsince_phd* <=6 to get the impact during the early years in economic profession.

To get a better understanding of the probabilities of publishing an article in *AER* caused by the changes in independent variables like article quality, author – editorial board connection and authors' professional experience, marginal effects were calculated.

CHAPTER 5. EMPIRICAL RESULTS

The *AER* publication rates of authors affiliated to the top sixteen schools and those affiliated to the schools ranked seventeenth to thirtieth, as a group, are presented in table 1. The study revealed that the most prolific authors publishing in *AER* are affiliated to New York University, MIT, Harvard, Princeton, Yale and Stanford, and the publication rate was further enhanced when the authors were connected to any of the editorial board members. Over all, the *AER* publication rate of the authors went up by more than two percent when the authors have any connection with the editorial board members. Among the authors from top six prolific publishing schools, those affiliated to Yale increased the publication rate by almost three percent and those affiliated to Stanford and NYU increased their publication rate by more than one percent. Authors from Cornell University and London School of Economics also enhanced the publication rate by more than two percent when they have any editorial board connection.

During the initial six years of their professional career, the most prolific *AER* publishers are from Harvard, NYU, University of Michigan, Princeton, MIT and Stanford. We could find that an editorial board connection during the early phase of the career could enhance the publication rate in *AER* by more than three percent. Authors from schools ranked seventeenth to thirtieth made the highest gain out of any editorial board connection during this phase, when they could increase the *AER* publication rate by almost 6.5 percent. Authors from Yale University increased their publication rate by 5.81 percent, where as those from University of Michigan, Harvard and North Western University improved their publication rates by 4.54, 3.97, and 3.43 percent respectively.

The *AER* authors, on an average, a has received a little less than fifty citations during ten years prior to the publication year and this represent the measure of author quality. Article quality of the *AER* authors, measured by the number of citations received during five years subsequent to the publication of the article, on an average, was 5.53. Among the *AER* authors during 1980 to 2000, Stanford, MIT and Harvard occupies the top three spots regarding author affiliation. Authors affiliated to the schools ranked seventeenth to thirtieth, as a group, also

represent a major part of *AER* authors. This trend in *AER* author affiliation is same during the first six and four years after the authors have received their Ph.D. But authors affiliated to MIT are more than those from Stanford in the initial years. *AER* authors, during sixty percent of their career, had some sort of connections with the members of the *AER* editorial board. How ever, quite understandably, their editorial board contacts are less during the initial years.

As described in the previous chapter, three models were used in this study and each model was estimated with the number of years since the authors have received their Ph.D. truncated at 36, 6 and 4 years. The results of these estimations are presented in table 11, 12 and 13, respectively.

5.1. Model 1: Author Affiliation – Editorial Board Connection Equation

The quality of the article, as expected, significantly influenced the chances of getting an article published in *AER*. Article quality, though an *ex-post* measurement of the number of citations received in five years subsequent to the publication of the article, increased the likelihood of getting the article published in *AER*. Authors' connection with any of the editorial board members also had a significant impact on *AER* publication. How ever the estimation revealed that the editorial board members themselves publishing in *AER* is not significant and hence, could disprove the contention in previous studies.

The authors' tenure in economic profession, measured by the number of years since the authors received their Ph.D., also significantly enhanced the chances of an *AER* publication. More experienced authors can contribute better quality papers in new frontier of the profession so that they have a better chance of publishing in top journals like *AER*. This contradicts the previous studies by Laband and Piette (1994) which says that there is a negative influence.

In order to estimate the impact of author affiliation on getting articles published in *AER*, we estimated the model with variables for each of the top sixteen schools. The authors' affiliation to University of California at Los Angeles and New York University significantly influenced the *AER* publication. How ever, the affiliation of the authors to any of the other top 16 schools did not have a significant impact on *AER* publication.

5.2. Model 2: Grouped Author Affiliation – Editorial Board Connection Equation

In this model, the authors' affiliations were grouped into three major clusters *viz.*, those affiliated to either Harvard or MIT, those affiliated to one of the top nine schools other than Harvard and MIT, and those affiliated to one of the schools ranked tenth to sixteenth. Article quality was highly significant in determining the possibility of publishing the article in *AER*, so was the authors' experience in the profession. The result of this model also is affirmative of the role of editorial board connections in *AER* publication. The positive influence of the authors' affiliation to the second tier schools in getting their article published in *AER* is again due to the NYU – UCLA effect as described in the previous model.

5.3. Model 3: Editorial Board Connection Equation

As in the case of both individual and grouped author affiliation equations, article quality and the number of years since the authors received their Ph.D. have a significant positive impact on the probability of publishing the article in *AER*. Authors' editorial board connection also significantly enhanced the chances of *AER* publication. The result is an evidence of the argument that when the authors' affiliation is not taken in account, a connection with the editorial board significantly determined the chance of getting the article published in *AER*. However, the results showed that being a member of the editorial board did not have a significant influence on the possibility of their articles being published in *AER*.

All the three models were estimated with *yrsince_phd* variable less than or equal to six years to study the impact of author affiliations and editorial board connection in *AER* publication in the initial years of the authors career. Article quality, authors' connection with any of the editorial board members and the authors' tenure in the economic profession had a significant positive impact on publishing in *AER*. How ever, the results showed that authors' affiliation with any of the top nine schools other than Harvard and MIT has a significant negative impact on the possibility of publishing in *AER*. The results thus confirm the argument that author – editorial board connection, along with the article quality determine publication of an article in *AER*.

In order to establish the magnitude of the impact of social networks on the likelihood of getting an article published in *AER*, in contrast to other determining factors like article quality and authors' professional experience, we estimated the marginal effects for the models with *yrsince_phd* as 36, 6 and 4.The results are presented in table 14. The marginal effects for the author – editorial board connection variables in the three models were 0.3695, 0.0003 and 0.0092 respectively and are substantially greater than the marginal effects for the article quality and authors' professional experience. This ascertain the fact that author – editorial board nexus plays the most important role in publication of article in *AER*.

CHAPTER 6. CONCLUSIONS

This study analyzed the impact of social networks *viz.*, the authors' affiliation and authors' connection with the journal's editorial board on publishing in *American Economic Review* using three different models.

All the three models predicted that the article quality, measured by standard citation count, and the authors' professional experience, measured by the number of years since the authors received their Ph.D. have a significant positive impact on the likelihood of publishing the article in *AER*. The study found that authors' affiliation with the top ranked schools did not have a significant impact on publishing in *AER*. However, it was found that any connection with the editorial board significantly determined the chances of getting the article published in *AER*, even when the authors' affiliation is not taken in account. The results also showed that being a member of the editorial board did not have a significant impact on the probability of their articles published in *AER*. The most interesting finding of the study is that the existence of editorial board connection significantly improved the odds of authors affiliated with tenth to seventeenth ranked schools to publish in *AER*.

The study found that editorial board connection significantly influenced the publication chances in *AER*, even during the initial years of the authors' professional career. The study further confirmed the observations by the earlier studies that authors' affiliated to Harvard, MIT and Princeton have a higher publication rate in *AER* during the period from 1980 – 2000.

In a nutshell, the study found that although authors' affiliation to the top schools does not have a significant effect on the odds of publication in *American Economic Review*, the presence of authors' editorial board connection overcame the influence authors' affiliation in determining the probability of publishing an article.

REFERENCES

Addis, E., and P. Villa. "The Editorial Boards of Italian Economics Journals: Women, Gender, and Social Networking." Feminist Economics 9(1) (2003): 75 – 91.

Bardhan, P. "Journal Publication in Economics: A View from the Periphery." The Economic Journal 113 (June 2003): F332 – 37.

Blank, R. M. "The Effects of Double-Blind versus Single-Blind Reviewing: Experimental Evidence from the American Economic Review." The American Economic Review 81(5) (1991): 1041 – 167.

Brass, D. J., K. D. Butterfield, and B. C. Skaggs "Relationships and Unethical Behavior: A Social Network Perspective." Academy of Management Review 23(1) (1998): 14 – 31.

Broder, I. E. ''Professional Achievements and Gender Differences among Academic Economists.'' Economic Inquiry 31(1) (1993): 116 – 27.

Coupé, T. "Revealed Performances: Worldwide Ranking of Economists and Economics Departments." Working Paper, ECARES *Université Libre de Bruxelles*. Online. Available at http://student.ulb.ac.be/~tcoupe/ranking.html June 2002

Graves, P. M., J. R. Marchand and R. Thompson. "Economics Departmental Rankings: Research Incentives, Constraints, and Efficiency." American Economic Review 72(5) (1982): 1131 – 41.

Greene, W. H. Econometric Analysis: Fifth Edition. Pearson Education, Inc. 2003.

Laband, D. N. "Publishing Favoritism: A Critique of Department Rankings Based on Quantitative Publishing Performance." Southern Economic Journal 52 (1985): 510-515.

Laband, D. N., and M. J. Piette. "Favoritism versus Search for Good Papers: Empirical Evidence Regarding the Behavior of Journal Editors." Journal of Political Economy 102 (1994): 194-203.

Medoff, M. H. "Editorial Favoritism in Economics?" Southern Economic Journal 70 (2) (2003): 425-34.

Quandt, R.E. "Some Quantitative Aspects of the Economics Journal Literature." Journal of Political Economy 84 (1976): 741-55.

Roessler, C. "*Econphd.net* rankings 2004 – Universities." Online. Available at http://www.econphd.net/rank/rallec.htm 2004.

Schweser, C. "The Economics of Academic Publishing." The Journal of Economic Education 14(1) (Winter 1983): 60-64.

Sherrell, D. L., J. F. Hair, Jr., and M. Griffin. “Marketing Academicians’ Perception of Ethical Research and Publishing Behavior.” Journal of Academy of Marketing Sciences 17 (Fall 1989): 315 – 24.

Siegfried, J., “Trends in Institutional Affiliation of Authors Who Publish in the Three Leading General Interest Economics Journals,” Quarterly Review of Economics and Finance 34(5) (1994): 375-386.

Wu, S. “Recent Publishing Trends at the *AER*, JPE and QJE,” Applied Economics Letters, January 2007, 14(1) (2007): 59-63.

Table 1. Publication rates in *American Economic Review* by Authors Affiliated with Different Schools

	***yrsince_phd* <=36**		***yrsince_phd* <=6**	
Affiliation	**Overall**	**w/ EB_conn**	**Overall**	**w/ EB_conn**
overall	0.0925	0.1149	0.128	0.1593
Harvard	0.1228	0.1274	0.2212	0.2609
Chicago	0.0941	0.1071	0.0456	0.0667
UCA - Berkeley	0.1024	0.1056	0.1129	0.1143
Stanford	0.1090	0.1193	0.1504	0.1570
UPA	0.0789	0.0875	0.1375	0.1471
MIT	0.1299	0.1358	0.1647	0.1805
Yale	0.1095	0.1379	0.1294	0.1875
North Western	0.1069	0.1086	0.1452	0.1795
Princeton	0.1199	0.1262	0.1750	0.1875
UMI	0.0808	0.0851	0.1796	0.2250
UCA – Los Angeles	0.0666	0.0741	0.1500	0.1538
Columbia	0.0709	0.0798	0.0743	0.0909
NYU	0.1565	0.1667	0.2200	0.2381
UWI	0.1076	0.1141	0.0367	0.0500
London School of Econ.	0.0897	0.1102	0.0743	0.1071
Cornell	0.0869	0.1111	0.0000	0.0000
Top17_30	0.1002	0.1080	0.1321	0.1970

Table 2. Summary Statistics with *yrsince_phd* <= 36

Variable	Obs	Mean	Std. Dev.	Min	Max
publish	3881	0.0925	0.2898	0	1
author_qlty	3881	49.4143	117.1511	0	2704
article_qlty	3881	5.5321	12.6931	0	185
eb_conn	3881	0.5919	0.4916	0	1
eb_memb	3881	0.0234	0.1513	0	1
gender	3881	0.0982	0.2976	0	1
yrsince_phd	3881	12.1036	8.1581	0	36
harv	3881	0.1007	0.3010	0	1
chic	3881	0.0904	0.2868	0	1
ucber	3881	0.0453	0.2081	0	1
stan	3881	0.1229	0.3284	0	1
upa	3881	0.0490	0.2158	0	1
mit	3881	0.1190	0.3239	0	1
yale	3881	0.0353	0.1846	0	1
nw	3881	0.0482	0.2142	0	1
prin	3881	0.0881	0.2835	0	1
umi	3881	0.0670	0.2500	0	1
ucla	3881	0.0232	0.1505	0	1
colu	3881	0.0618	0.2409	0	1
nyu	3881	0.0214	0.1447	0	1
uwi	3881	0.0479	0.2136	0	1
lse	3881	0.0402	0.1964	0	1
corn	3881	0.0178	0.1322	0	1
top17_30	3881	0.1312	0.3376	0	1

Table 3. Summary Statistics with *yrsince_phd* <= 6

Variable	Obs	Mean	Std. Dev.	Min	Max
publish	1139	0.1280	0.3344	0	1
author_qlty	1139	4.4930	9.9175	0	110
article_qlty	1139	5.2740	10.9370	0	100
eb_conn	1139	0.5290	0.4994	0	1
eb_memb	1139	0.0020	0.0419	0	1
gender	1139	0.1260	0.3315	0	1
yrsince_phd	1139	3.1110	1.9974	0	6
harv	1139	0.0990	0.2991	0	1
chic	1139	0.0570	0.2321	0	1
ucber	1139	0.0310	0.1727	0	1
stan	1139	0.1170	0.3213	0	1
upa	1139	0.0320	0.1750	0	1
mit	1139	0.1330	0.3393	0	1
yale	1139	0.0340	0.1819	0	1
nw	1139	0.0420	0.2010	0	1
prin	1139	0.0800	0.2712	0	1
umi	1139	0.0540	0.2252	0	1
ucla	1139	0.0120	0.1102	0	1
colu	1139	0.0350	0.1842	0	1
nyu	1139	0.0200	0.1407	0	1
uwi	1139	0.0490	0.2163	0	1
lse	1139	0.0350	0.1842	0	1
corn	1139	0.0120	0.1102	0	1
top17_30	1139	0.0931	0.2907	0	1

Table 4. Summary Statistics with *yrsince_phd* <=4

Variable	Obs	Mean	Std. Dev.	Min	Max
publish	791	0.1113	0.3146	0	1
author_qlty	791	2.1138	5.1744	0	50
article_qlty	791	4.4981	10.0352	0	76
eb_conn	791	0.5006	0.5003	0	1
eb_memb	791	0.0000	0.0000	0	0
gender	791	0.1302	0.3368	0	1
yrsince_phd	791	2.0594	1.4197	0	4
harv	791	0.0999	0.3000	0	1
chic	791	0.0518	0.2218	0	1
ucber	791	0.0316	0.1751	0	1
stan	791	0.1150	0.3193	0	1
upa	791	0.0265	0.1609	0	1
mit	791	0.1277	0.3340	0	1
yale	791	0.0329	0.1784	0	1
nw	791	0.0379	0.1911	0	1
prin	791	0.0784	0.2689	0	1
umi	791	0.0506	0.2193	0	1
ucla	791	0.0126	0.1118	0	1
colu	791	0.0291	0.1681	0	1
nyu	791	0.0190	0.1365	0	1
uwi	791	0.0506	0.2193	0	1
lse	791	0.0329	0.1784	0	1
corn	791	0.0126	0.1118	0	1
top17_30	791	0.0898	0.2860	0	1

Table 5. Authors affiliated with different universities having editorial board connections in 1980s (*yrsince_PhD* <= 36)

Variable	Obs	Mean	Std. Dev.	Min	Max
harv	1722	0.08885	0.28461	0	1
chic	1722	0.076655	0.266121	0	1
ucber	1722	0.036005	0.186356	0	1
stan	1722	0.10453	0.306035	0	1
upa	1722	0.038908	0.193433	0	1
mit	1722	0.101045	0.301476	0	1
yale	1722	0.011034	0.104491	0	1
nw	1722	0.034263	0.181956	0	1
prin	1722	0.071429	0.257614	0	1
umi	1722	0.033682	0.180461	0	1
ucla	1722	0.02381	0.1525	0	1
colu	1722	0.062137	0.241474	0	1
nyu	1722	0.015099	0.121981	0	1
uwi	1722	0.031359	0.174336	0	1
lse	1722	0.024971	0.156082	0	1
corn	1722	0.010453	0.101734	0	1
top17_30	1722	0.085366	0.279507	0	1

Table 6. Authors affiliated with different universities publishing in *AER* in 1980s (*yrsince_PhD* <= 36)

Variable	Obs	Mean	Std. Dev.	Min	Max
harv	1722	0.015679	0.124268	0	1
chic	1722	0.011034	0.104491	0	1
ucber	1722	0.006969	0.083211	0	1
stan	1722	0.014518	0.119648	0	1
upa	1722	0.004065	0.063646	0	1
mit	1722	0.018002	0.132998	0	1
yale	1722	0.003484	0.058942	0	1
nw	1722	0.004065	0.063646	0	1
prin	1722	0.009292	0.095972	0	1
umi	1722	0.008711	0.092951	0	1
ucla	1722	0.001742	0.041715	0	1
colu	1722	0.005807	0.076006	0	1
nyu	1722	0.002323	0.048154	0	1
uwi	1722	0.005227	0.072126	0	1
lse	1722	0.004065	0.063646	0	1
corn	1722	0.002323	0.048154	0	1
top17_30	1722	0.015099	0.121981	0	1

Table 7. Authors affiliated with different universities and having editorial board connection publishing in *AER* in 1980s (*yrsince_phd* <= 36)

Variable	Obs	Mean	Std. Dev.	Min	Max
harv	1722	0.015679	0.124268	0	1
chic	1722	0.009872	0.098896	0	1
ucber	1722	0.006388	0.079692	0	1
stan	1722	0.013937	0.117265	0	1
upa	1722	0.003484	0.058942	0	1
mit	1722	0.017422	0.130874	0	1
yale	1722	0.002323	0.048154	0	1
nw	1722	0.004065	0.063646	0	1
prin	1722	0.00813	0.089826	0	1
umi	1722	0.005807	0.076006	0	1
ucla	1722	0.001742	0.041715	0	1
colu	1722	0.005807	0.076006	0	1
nyu	1722	0.002323	0.048154	0	1
uwi	1722	0.003484	0.058942	0	1
lse	1722	0.003484	0.058942	0	1
corn	1722	0.002323	0.048154	0	1
top17_30	1722	0.011614	0.107174	0	1

Table 8. Authors affiliated with different universities having editorial board connections in 1990s (*yrsince_phd* <= 36)

Variable	Obs	Mean	Std. Dev.	Min	Max
harv	2159	0.100046	0.300131	0	1
chic	2159	0.06855	0.252746	0	1
ucber	2159	0.045855	0.209218	0	1
stan	2159	0.110699	0.313832	0	1
upa	2159	0.043076	0.203074	0	1
mit	2159	0.117184	0.321714	0	1
yale	2159	0.031496	0.174695	0	1
nw	2159	0.053729	0.225534	0	1
prin	2159	0.086151	0.280652	0	1
umi	2159	0.060213	0.237936	0	1
ucla	2159	0.018527	0.134879	0	1
colu	2159	0.049097	0.21612	0	1
nyu	2159	0.024085	0.153349	0	1
uwi	2159	0.044002	0.205147	0	1
lse	2159	0.034738	0.183159	0	1
corn	2159	0.016674	0.128078	0	1
top17_30	2159	0.116258	0.320608	0	1

Table 9. Authors affiliated with different universities publishing in *AER* in 1990s (*yrsince_phd* <= 36)

Variable	Obs	Mean	Std. Dev.	Min	Max
harv	2159	0.009727	0.098166	0	1
chic	2159	0.006485	0.080283	0	1
ucber	2159	0.002779	0.052656	0	1
stan	2159	0.012506	0.111154	0	1
upa	2159	0.003705	0.060773	0	1
mit	2159	0.013432	0.115143	0	1
yale	2159	0.004169	0.064445	0	1
nw	2159	0.006021	0.077381	0	1
prin	2159	0.011579	0.107008	0	1
umi	2159	0.002779	0.052656	0	1
ucla	2159	0.00139	0.037259	0	1
colu	2159	0.003242	0.056862	0	1
nyu	2159	0.004169	0.064445	0	1
uwi	2159	0.005095	0.071213	0	1
lse	2159	0.003242	0.056862	0	1
corn	2159	0.000926	0.030429	0	1
top17_30	2159	0.011579	0.107008	0	1

Table 10. Authors affiliated with different universities and having editorial board connection publishing in *AER* in 1990s (*yrsince_phd* <= 36)

Variable	Obs	Mean	Std. Dev.	Min	Max
harv	2159	0.009264	0.095823	0	1
chic	2159	0.006021	0.077381	0	1
ucber	2159	0.002779	0.052656	0	1
stan	2159	0.012043	0.109101	0	1
upa	2159	0.003705	0.060773	0	1
mit	2159	0.012969	0.113167	0	1
yale	2159	0.003705	0.060773	0	1
nw	2159	0.005558	0.074363	0	1
prin	2159	0.011579	0.107008	0	1
umi	2159	0.002779	0.052656	0	1
ucla	2159	0.00139	0.037259	0	1
colu	2159	0.003242	0.056862	0	1
nyu	2159	0.004169	0.064445	0	1
uwi	2159	0.005095	0.071213	0	1
lse	2159	0.003242	0.056862	0	1
corn	2159	0.000926	0.030429	0	1
top17_30	2159	0.010653	0.102686	0	1

Table 11. Results of conditional fixed effects models with *yrsince_phd* <= 36

	Model 1		Model 2		Model 3	
	Coef.	**z**	**Coef.**	**z**	**Coef.**	**z**
author_qlty	-0.0010	-0.690	-0.0010	-0.660	-0.0010	-0.560
article_qlty	0.0615*	12.490	0.0620*	12.720	0.0610*	12.680
eb_conn	1.8739*	6.210	1.8730*	6.420	1.9030*	6.510
eb_memb	0.2233	0.470	0.2840	0.600	0.2630	0.550
yrsince_phd	0.6321***	1.740	0.6380	1.750***	0.6430	1.760***
harmit	-	-	1.0460	1.120	-	-
oth_top9	-	-	-0.1180	-0.200	-	-
sec_tier	-	-	1.4860	2.450**	-	-
harv	0.6366	0.630	-	-	-	-
chic	-0.5162	-0.460	-	-	-	-
ucber	-1.2030	-0.910	-	-	-	-
stan	0.0641	0.050	-	-	-	-
upa	0.5426	0.680	-	-	-	-
mit	0.7504	0.720	-	-	-	-
yale	15.1737	0.020	-	-	-	-
nw	0.9262	0.930	-	-	-	-
prin	0.1882	0.270	-	-	-	-
umi	-10.9834	-0.010	-	-	-	-
ucla	3.0127**	2.000	-	-	-	-
colu	0.2147	0.230	-	-	-	-
nyu	2.5315**	2.040	-	-	-	-
uwi	0.4288	0.000	-	-	-	-
corn	1.2086	1.030	-	-	-	-
yr80	-	-	-	-	0.7310	1.460
yr81	-0.7016	-1.400	-0.7040	-1.410	-	-
yr82	-1.4679	-1.880	-1.4850	-1.910	-0.7870	-1.460
yr83	-1.8312	-1.670	-1.8450	-1.680	-1.1470	-1.400
yr84	-3.2320	-2.210	-3.2510	-2.220	-2.5710	-2.180
yr85	-3.0363	-1.690	-3.0550	-1.700	-2.3690	-1.580
yr86	-3.9546	-1.830	-3.9540	-1.830	-3.2800	-1.760
yr87	-4.8008	-1.910	-4.8190	-1.920	-4.1190	-1.860
yr88	-5.6485	-1.960	-5.6620	-1.970	-4.9670	-1.930
yr89	-7.0035	-2.160	-7.0400	-2.170	-6.3410	-2.150
yr90	-7.3788	-2.050	-7.3980	-2.050	-6.7050	-2.030
yr91	-7.8421	-1.980	-7.8720	-1.990	-7.1830	-1.960
yr92	-8.5922	-1.990	-8.6090	-1.990	-7.9250	-1.970
yr93	-9.4310	-2.010	-9.4440	-2.010	-8.7670	-2.000
yr94	-10.4773	-2.070	-10.4710	-2.070	-9.7870	-2.060
yr95	-11.0187	-2.040	-10.9850	-2.030	-10.2870	-2.010
yr96	-11.8073	-2.050	-11.8450	-2.050	-11.1010	-2.030
yr97	-12.8387	-2.090	-12.8910	-2.100	-12.1540	-2.080
yr98	-13.1211	-2.020	-13.1650	-2.030	-12.4520	-2.010
yr99	-14.2242	-2.070	-14.3000	-2.080	-13.5600	-2.070
yr00	-14.4449	-2.000	-14.5260	-2.010	-13.8060	-1.990
LR chi^2	344.11		333.92		326.38	
Log likelihood	-706.17		-711.26		-715.03	

* indicates 1% significance ** indicates 5% significance *** indicates 10% significance

Table 12. Results of conditional fixed effects models with *yrsince_phd* <= 6

	Model 1		Model 2		Model 3	
	Coef.	**z**	**Coef.**	**z**	**Coef.**	**z**
article_qlty	0.0970*	6.650	0.0970*	6.880	0.0960*	6.840
eb_conn	4.3140*	3.510	3.4970*	3.830	3.3110*	3.730
yrsince_phd	0.6340***	1.750	0.6290***	1.730	0.6330***	1.730
harv	1.0730	0.800	-	-	-	-
chic	-19.8760	-0.010	-	-	-	-
stan	12.7140	0.000	-	-	-	-
mit	25.2520	0.010	-	-	-	-
nw	-1.5640	-1.050	-	-	-	-
prin	-2.0280	-1.820***	-	-	-	-
umi	-14.1990	0.000	-	-	-	-
colu	-14.4230	-0.010	-	-	-	-
top16_30	0.8910	0.870	-	-	-	-
harmit	-	-	1.2690	0.950	-	-
oth_top9	-	-	-1.8780***	-1.670	-	-
sec_tier	-	-	-2.5160	-0.500	-	-
yr80	10.5270	1.470	10.8910	1.600	11.1900	1.630
yr81	9.4840	1.370	9.8100	1.480	10.1020	1.520
yr82	9.5990	1.460	9.9780	1.590	10.2730	1.640
yr83	9.4420	1.510	9.8230	1.660	10.1200	1.700
yr84	8.2680	1.400	8.6650	1.550	8.9690	1.600
yr85	8.3900	1.510	8.7260	1.670	9.0120	1.720
yr86	7.5740	1.460	7.9270	1.630	8.2750	1.690
yr87	6.8660	1.420	7.3800	1.630	7.6820	1.700
yr88	6.3690	1.420	6.6870	1.600	6.9970	1.670
yr89	4.7195	1.130	5.0690	1.320	5.1970	1.350
yr90	5.5433	1.470	5.7590	1.670	5.8650	1.690
yr91	4.6049	1.340	4.8210	1.550	4.8710	1.560
yr92	5.0214	1.640	5.0891	1.850	5.1000	1.850
yr93	3.2098	1.170	3.3030	1.360	3.2640	1.340
yr94	1.5026	0.590	1.6058	0.710	1.5220	0.680
yr95	2.3823	1.180	2.5737	1.480	2.5910	1.490
yr96	1.8603	1.110	2.0319	1.440	2.0330	1.440
yr97	0.9820	0.700	1.0825	0.910	1.0810	0.910
yr98	1.4214	1.300	1.4956	1.530	1.4780	1.520
yr99	-0.0865	-0.090	0.0797	0.080	0.0680	0.070
LR chi^2	119.25		140.8		136.41	
Log likelihood	-178.59		-167.82		-170.01	

* indicates 1% significance ** indicates 5% significance *** indicates 10% significance

Table 13. Results of conditional fixed effects models with *yrsince_phd* <= 4

	Model 1		Model 2		Model 3	
	Coef.	**z**	**Coef.**	**z**	**Coef.**	**z**
article_qlty	0.0960*	5.050	0.0990*	5.190	0.0970*	5.220
eb_conn	3.8878**	2.270	3.9550**	2.370	3.8360**	2.280
yrsince_phd	0.4072	1.110	0.4110	1.110	0.3880	1.000
harv	0.3907	0.160	-	-	-	-
chic	-16.3923	0.000	-	-	-	-
stan	12.6212	0.000	-	-	-	-
mit	15.0463	0.010	-	-	-	-
nw	-15.8355	-0.010	-	-	-	-
prin	-2.9264	-1.540	-	-	-	-
umi	-11.5969	0.000	-	-	-	-
colu	-1.2358	0.000	-	-	-	-
top16_30	0.7717	0.660	-	-	-	-
harmit	-	-	0.5730	0.240	-	-
oth_top9	-	-	-2.6050	-1.510	-	-
sec_tier	-	-	9.0040	0.010	-	-
yr80	5.4781	0.830	6.3680	0.890	6.4320	0.860
yr81	4.6569	0.730	5.4900	0.790	5.5660	0.760
yr82	5.0695	0.840	5.9690	0.900	6.0690	0.880
yr83	5.2614	0.910	6.1650	0.980	6.2870	0.950
yr84	3.7575	0.680	4.6700	0.780	4.8170	0.760
yr85	5.0303	0.970	5.9410	1.040	6.1090	1.020
yr86	3.3705	0.680	4.3300	0.800	4.5130	0.790
yr87	2.8969	0.630	4.1300	0.810	4.4150	0.830
yr88	2.1005	0.490	3.2340	0.680	3.3830	0.680
yr89	1.3681	0.340	2.4220	0.540	2.3190	0.500
yr90	2.6233	0.720	3.3360	0.810	3.1380	0.730
yr91	1.5090	0.450	2.3020	0.600	2.0370	0.510
yr92	2.7068	0.910	3.4870	1.010	3.3030	0.930
yr93	1.3154	0.490	2.1210	0.680	1.9580	0.610
yr94	-0.4333	-0.170	0.3467	0.120	0.2080	0.070
yr95	1.5027	0.760	2.3573	0.960	2.2420	0.890
yr96	0.1649	0.090	1.0668	0.490	0.9923	0.440
yr97	0.6424	0.430	1.4082	0.760	1.3474	0.710
yr98	1.2567	0.990	2.0487	1.330	2.0001	1.290
yr99	-	-	0.6659	0.430	0.6464	0.420
yr00	-0.7404	-0.480				
LR chi^2	96.47		93.32		90.55	
Log likelihood	-77.07		-78.65		-80.03	

* indicates 1% significance ** indicates 5% significance *** indicates 10% significance

Table 14. Marginal Effects

	***yrsince_phd* <= 36**		
Variable	**Coef.**	**Z**	**ME**
article_qlty	0.0610*	12.690	0.0118
eb_conn	1.9086*	6.540	0.3695
yrsince_phd	0.6376***	1.750	0.1234
	***yrsince_phd* <= 6**		
article_qlty	0.0964*	6.840	1.01E-05
eb_conn	3.3111*	3.730	0.0003
yrsince_phd	0.6326***	1.730	6.65E-05
	***yrsince_phd* <= 4**		
article_qlty	0.0974*	5.220	0.0002
eb_conn	3.8365*	2.280	0.0092
yrsince_phd	0.3882***	1.000	0.0009