The Unequal Returns to Marquee Early Career Accomplishments*

Jingbo Cui† Zhihan Liu‡ Ande Shen§

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Abstract

This paper examines whether early-career breakthroughs mitigate gender disparities in academia. We produce a comprehensive publication dataset from 155 leading economics journals between 1990 and 2022, along with resumes, to construct scholars' career trajectories. Using economists' first Top 5 publication as a benchmark of academic success, we find that the career-advancing benefits of this achievement accrue unevenly between genders. Female scholars experience smaller gains in publications and form fewer new collaborations. These disparities are pronounced among scholars whose first T5 paper is coauthored in mixed-gender teams. We further document that these disparities translate into persistent gender gaps in later promotions.

Keywords: Gender Gap, Economic Profession, Promotion
JEL Codes: J16, I23, J44

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†Division of Social Sciences and Environmental Research Center, Duke Kunshan University, Kunshan, Jiangsu 215316, China. jingbo.cui@duke.edu.

‡Department of Economics, University of Southern California. zliu1600@usc.edu.

§Department of Economics, University of Rochester. andeshen.econ@gmail.com.

1 Introduction

In many professions, early-career achievements are key to later career advancement. For example, a clerkship with a top judge can pave the way for a successful law career, a premier residency can set the course of a medical career, and a breakout role can transform an artist's career. In academia, securing large grants or publishing significant research early in one's career can provide a strong boost (Hechtman et al., 2018). This paper explores whether women receive the same career benefits from significant early-career accomplishments, allowing them to ascend the career ladder and reduce gender gaps. We focus on marquee achievements in academia, where important early publications can jump-start a career.

We consider scholars' first publication in one of the top five (T5) economics journals, covering the American Economic Review, Econometrica, Journal of Political Economy, Quarterly Journal of Economics, and Review of Economic Studies, as a major early-career achievement in academic economics.[1] Publishing in a T5 journal is widely regarded as a signal of research excellence and is strongly associated with academic prestige, career advancement, and compensation (Heckman and Moktan, 2020). This paper examines whether men and women receive similar career returns from a major early-career academic achievement. Using scholars' first T5 publication as a common milestone, we study whether subsequent trajectories in publications, collaboration networks, and academic promotions differ systematically by gender.

We assemble a comprehensive scholar-level panel dataset that traces economists' careers from doctoral training to their most recent academic affiliations. Using an article-level database covering all research publications in 155 leading economics journals between 1990 and 2022, we construct each scholar's publication history, institutional trajectory, and collaboration network. We complement these data with manually collected scholar-level information on gender, PhD programs, graduation years, academic positions, and institutional affiliations obtained from curricula vitae (CVs) and personal or institutional websites. Following conventional classification practices, we classify journals into Top 5 (T5), Top 30 (T30), and

[1] We drop all short and non-peer-reviewed publications, such as *Note*, *Comment*, *Reply*, and *Papers and Proceedings*.

Top 120 (T120) categories.[2] Our analysis focuses on a sample of research-active economists who have published either at least two T30 articles or one T5 article.

We begin by documenting distinctive data patterns in the publication trajectories of male and female scholars around the time of their first T5 publication. Prior to this milestone, male and female scholars exhibit similar numbers of T30 publications. However, immediately after the first T5 publication, a clear gender gap emerges in both subsequent T5 and T30 publications, with male scholars consistently outperforming their female counterparts. These patterns suggest that the professional returns to marquee early-career milestones, as measured by subsequent research productivity, are not equally distributed across genders. Specifically, female scholars appear to derive lower productivity gains from achieving top-tier publication early in their careers, suggesting potential gender differences in the returns to scholarly recognition.

To provide causal evidence supporting these descriptive gender gaps, we adopt a staggered triple-difference (DDD) empirical framework. A conventional difference-in-differences (DID) comparison, contrasting T5 scholars with non-T5 scholars, before and after the first T5 publication, faces a key identification challenge: economists who reach the T5 threshold may differ from those who do not in ways that were already changing before the T5 publication. As a result, the DID estimate could capture these pre-existing differences rather than the causal impact of achieving a T5 publication. We address this limitation in two steps. First, we refine the comparison group by focusing only on research-active economists: we compare economists who publish a T5 article to economists who publish at least two T30 articles yet never a T5 article. This creates a more comparable control group of active researchers who demonstrate sustained publication activity but do not cross the T5 threshold. Second, in our DDD, we further examine how this difference varies by gender. Any selection bias in the first T5 publication that is time-invariant and common across genders is eliminated by the triple-interaction coefficient, which isolates the gender-specific component of the T5 return. We further control for time-invariant scholar unobservables absorbed by scholar

[2] In the data section 2, we explain how 155 journals are classified into different quality categories. In general, T5 includes the five top economics journals; T30 includes T5, the top general-interest, and the top field journals; and T120 includes all 120 economics journals.

fixed effects, as well as for time-varying unobservables captured by cohort-by-experience and PhD-program-by-experience fixed effects. The latter two control for variation in career stage, training environment, and broader temporal shifts in the academic landscape. We present both DDD estimates and event studies, with the latter offering evidence on the validity of the parallel-trend assumption, when disparities emerge, and how they evolve over the post-publication period.

Our main results confirm the descriptive findings of a persistent gender gap in the returns associated with a first T5 publication. While a first T5 publication is generally followed by increases in publication output and expansions in collaboration networks, these gains are systematically larger for men than for women. The gender gap is evident across journal tiers from T5 to T120 and widens over time. Quantitatively, the publication gains associated with a first T5 publication are 2.2% larger for men in T5 journals per year after the first T5 publication, 6.1% larger in T30 journals, and 4.7% larger in T120 journals.

The distinctive publication disparities are closely linked to differences in collaboration patterns. Female T5 scholars face greater challenges in sustaining long-term collaborations and expanding their networks with esteemed scholars. In particular, the increase in new collaborations with scholars who have recently published in T5 and T30 journals is 5.8% and 7.9% smaller for women, respectively. The gender decomposition further shows that these disparities are driven primarily by collaborations involving male scholars with T5 publications. Such gender differences are particularly pronounced in Macroeconomics.

To better understand the pattern of gender disparity, we examine heterogeneity by the number and gender composition of coauthors on the first T5 publication. Female scholars who publish their first T5 as solo authors exhibit no significant post-T5 gap, suggesting that independently produced work effectively signals research ability. In contrast, female scholars whose first T5 publication is coauthored experience smaller post-T5 gains in both publication output and collaboration networks, with the majority of the missing collaborations involving male scholars. A similar pattern emerges when we examine team gender composition. Female scholars whose first T5 publication is produced by a mixed-gender team acquire fewer new collaborators following the milestone, with the deficit again con-

centrated among new male ties. Taken together, these findings suggest that female scholars face particular disadvantages in the allocation of credit and visibility within collaborative research teams. The post-T5 gender gap appears to be driven less by differences in overall collaboration activity than by unequal access to new, often male, high-status collaborators.

Finally, we explore whether these early differences translate into longer-run promotion outcomes. We find a persistent gender gap in academic promotions. On average, female scholars take approximately six months longer to be promoted to associate professor and nearly two years longer to attain full professorship. These disparities persist even after controlling for publication output and collaboration networks. While early-career success in top journals and collaborations with highly accomplished coauthors are associated with faster promotions, substantial gender disparities in academic advancement remain.

This paper contributes to a growing literature documenting gender disparities in academia. Existing work highlights gender differences in recognition for collaborative work (Sarsons et al., 2021; Ductor, Goyal, and Prummer, 2023), gender bias in publishing and evaluation processes (Card et al., 2020; Deryugina, Shurchkov, and Stearns, 2021), representation in academic leadership and decision-making (Bagues, Sylos-Labini, and Zinovyeva, 2017), and promotion outcomes within academia (Bello, Casarico, and Nozza, 2025). Collectively, these studies show that gender disparities exist throughout academic careers and can arise through multiple channels, including evaluation, collaboration, and professional advancement.

Our study is most closely related to Sarsons et al. (2021), who show that women receive less credit for collaborative work in tenure evaluations, particularly when collaborating with male coauthors. We complement this literature by examining how collaboration opportunities evolve after scholars achieve the same highly visible early-career milestone – a first T5 publication. While Sarsons et al. (2021) focus on differences in how existing collaborations are rewarded, we study differences in how future collaborations are formed. We show that even after reaching the same prestigious milestone, female scholars experience smaller gains in publications and collaborations, particularly in forming new ties with highly accomplished scholars. These findings suggest that gender disparities arise not only through

differential recognition of accomplishments ex post but also through differential access to future opportunities.

This paper also contributes to a broader literature on the economics profession, including studies of its structure and evolution (Ellison, 2002; Card and DellaVigna, 2013; Hamermesh, 2013; Fourcade, Ollion, and Algan, 2015; Akerlof, 2020), rankings of academic programs (Kalaitzidakis, Mamuneas, and Stengos, 2003; Orazbayev, 2017a; Ham, Wright, and Ye, 2021), collaboration networks and scholarly communities (Goyal, van der Leij, and Moraga-González, 2006; Brogaard, Engelberg, and Parsons, 2014; Ductor et al., 2014; Ductor, 2015; Colussi, 2018; Carrell, Figlio, and Lusher, 2024), and diversity in economic publishing (Orazbayev, 2017b; Ong et al., 2018; Fontana, Montobbio, and Racca, 2019; Angus et al., 2021; Nielsen and Andersen, 2021). Our study aligns most closely with research on the role of top journals in shaping academic careers (Ductor et al., 2020; Heckman and Moktan, 2020). This line of literature establishes the centrality of T5 publications for career advancement in economics; however, the existing evidence is largely correlational. In this paper, we contribute to the literature by providing causal estimates of the career returns to a first T5 publication. We further show that these returns exhibit systematic gender heterogeneity. Our findings identify the formation of collaborations as a key mechanism by which early publication success shapes long-run academic career trajectories and the gender gap in such collaboration formation.

The remainder of this paper is organized as follows. Section 2 provides an overview of the data and variable construction. Section 3 outlines our research design and presents the econometric model. Section 4 presents the empirical results. Finally, Section 5 concludes.

2 Data

2.1 Data Sources

We construct a unique dataset that traces scholars from their PhD training through subsequent academic career stages. Our sample includes scholars who have published at least one article in one of the 155 leading economics journals, subject to additional selection filters

described below. The dataset integrates multiple complementary sources and contains detailed information on scholars' educational backgrounds, demographic characteristics, professional positions, and academic outputs. Publication records and co-authorship networks are obtained from IDEAS/RePEc and Scopus.[3] We also manually collect CVs to extract information on PhD-granting institutions, years of graduation, academic positions, affiliations, and demographic attributes such as gender. This integrated dataset allows us to systematically link scholars' publication outcomes, collaborative behavior, and career advancement.

The data compilation process involves several stages elaborated as follows. We begin by compiling a list of 155 leading economics journals from IDEAS/RePEc, the largest bibliographic database dedicated to economics.[4] These 155 journals are classified into mutually exclusive tiers: T5, top general interest, top field, leading field, and other economics journals. Non-T5 journals are further grouped into the following quality categories: (i) T30, which includes T5, top general interest, and top field journals; (ii) T50, comprising T30 and leading field journals; (iii) T120, consisting of T50 and other economics journals; and (iv) T150, which includes T120 along with finance and management journals.[5] For conciseness, the main analysis focuses on outcomes associated with the T5, T30, and T120 categories, while results for other groupings (i.e., T50 and T150) are included in the robustness checks.

Second, Scopus offers comprehensive historical publication records for all articles published in the 155 selected journals between 1990 and 2022. For each article, we extract metadata including publication year, journal name, author names, unique Scopus author identifiers, institutional affiliations, and article-level descriptions (titles and abstracts). The unique author identifiers allow us to construct comprehensive publication histories and co-authorship networks for individual scholars.

[3] IDEAS/RePEc provides bibliographic information on economics research, including journal articles, working papers, and author identifiers, which can be accessed at https://ideas.repec.org. Scopus provides comprehensive publication and citation data for articles from peer-reviewed journals, available at https://www.scopus.com.

[4] Our initial sample consists of 163 journals classified by IDEAS/RePEc as highly relevant to economics. We exclude eight journals that fall outside the scope of our research objectives: *American Political Science Review*, *Applied Energy*, *Renewable Energy*, *Renewable and Sustainable Energy Reviews*, *Stata Journal*, *Sustainability*, *Theory and Decision*, and *World Bank Research Observer*.

[5] The composition of the 155 journals is as follows: 24 top general interest and field journals, 22 leading field journals, 70 other economics journals, 17 finance journals, and 17 management journals. Based on these groupings, T30 contains 29 journals, T51 in T50, T121 in T120, and all 155 journals in T150. A detailed breakdown is provided in Table A1.

To augment the affiliation data, we incorporate institutional quality metrics from the 2022 QS World University Rankings in Economics. Institutions ranked within the top 200 are assigned their precise rank. In the QS ranking system, institutions ranked above 200 are placed in broader intervals (e.g., 201–250, 251–300, up to 551–700). In these instances, each institution within such an interval is assigned a rank value equivalent to the lower bound of its respective group (namely, 200, 250, 300, and so forth).

Our initial sample includes all scholars who published at least one article in any of the 155 economics journals between 1990 and 2022. This results in a sample of 270,036 unique scholars, collectively responsible for 4,494,804 publications across all Scopus-indexed journals. To create a more comparable sample of scholars with and without T5 publications while retaining all scholars with T5 publications, we further narrow the sample to scholars who meet one of the following criteria: (i) they have published two or more articles in top field (i.e., T30) journals in economics, or (ii) they have at least one T5 publication. After applying these filters, we obtain a refined sample of 16,945 unique scholars with 555,260 publications across all Scopus-indexed journals. We further collect supplementary data on the scholars' educational backgrounds and demographic characteristics, including their PhD-granting institution, year of graduation, and gender. Scholars with incomplete data in any of these categories are excluded from the analysis. The final sample comprises 9,796 scholars with complete PhD background information and 320,623 publications across all Scopus-indexed journals.

2.2 Variables Construction

Our primary outcome variables are scholarly publications and collaboration, both measured at the scholar level and varied across journal quality tiers.

Scholarly Publication. Research output is measured by the number of articles each scholar publishes per year and grouped by journal tiers (e.g., T5, T30, T120). This allows us to track both publication volume and journal selectivity.

Coauthor Counts by Quality Groups. We measure collaboration using two variables. *Coauthors* counts the number of unique coauthors a scholar works with in each year, and

NewCoauthors counts the number of first-time coauthors in that year, capturing the formation of new research ties. These two measures are classified by research quality based on their publication records in the five years prior to collaboration. A coauthor is labeled T5 (T30) if they published at least once in the T5 (T30) journals during this period. By construction, T5 coauthor counts are included among T30 coauthor counts. As a robustness check, we also use an exclusive definition in which T30 coauthors have T30 but no T5 publications.

Treatment Status and Timing. The dummy variable *T5* indicates whether a scholar has at least one T5 publication. To separate the short- and long-term effects, we employ two additional indicators: the year of the first T5 publication, *PubYear*, and all subsequent years, *Post*. The first one captures the impact of T5 publications in the year of publication, and the second one examines the subsequent effects of the first T5 publication.

Gender Identification To measure gender, and we employ an open-source `Python` package *gender-guesser* to infer gender from first names. Scholars are categorized as *Male*, *Female*, or *Not Identified*. These classifications are cross-validated with gender information collected via scholars' CVs posted on personal/institutional websites. After verification, the sample includes 2,458 female scholars and 12,021 male scholars, with the remainder unidentified.[6]

Research Field Classification. To examine the heterogeneity across research fields, we classify 155 journals into four fields: *Applied Economics*, *Macroeconomics Theory*, *Econometrics*, and *Microeconomics Theory*.[7] Scholars' fields are inferred from their full publication histories by counting publications in journals associated with each field. Scholars may belong to multiple fields, and a primary field is defined as the one with the most publications, with ties broken at random.

[6] Initially, the Python package classified 2,270 scholars as female, 9,896 as male, and the remainder as unidentified. Following manual review, the final counts are 2,458 female scholars and 12,021 male scholars, with the remainder unidentified.

[7] Appendix Table A1 reports journal quality and field assignments. It is worth noting that general-interest journals may span multiple fields; for instance, the AER could be classified under any of the four categories.

2.3 Descriptive Statistics

Table 1 presents summary statistics for the key variables employed in the analysis. Panel A reports descriptive statistics for scholars with at least two T30 publications or one T5 publication. As shown, 46% of scholars have at least one T5 publication. On average, scholars spend approximately 8.7 years in academia from PhD graduation to their first T5 publication. The sample is predominantly male, with only 18% being female scholars and 7% being female scholars with T5 publications. With respect to research fields, scholars are distributed relatively evenly, a result attributable in part to our tie-breaking procedure, which assigned a random field when multiple fields tied for the highest publication count.[8]

[Insert Table 1 about here]

Panel B presents the annual publication counts for scholars who have published at least 2 T30 articles or 1 T5 article. The data are disaggregated by journal quality tier, ranging from T5 to T150. On average, these scholars publish approximately 0.43 articles per year in T30 journals and 0.94 in T120 journals, suggesting that they publish about 1 article per year in mainstream economics journals.

Panel C illustrates the annual number of coauthors, categorized by the highest journal quality tier (T5 to T150) in which each coauthor has published. The mean number of coauthors per year is 2.24. Among these, an average of 0.51 coauthors have at least one T5 publication, and 1.41 coauthors have at least one T30 publication. Panel D reports the number of new coauthors added each year. Scholars add on average 1.21 new collaborators per year, of whom 0.26 have a T5 publication, and 0.71 have a T30 publication. Taken together, these results show that the average number of coauthors is about twice the number of new coauthors. In other words, for every two collaborators a scholar has in a given year, one is typically an existing coauthor, and the other is a new coauthor. This pattern suggests that scholars maintain a balance between sustaining existing research relationships and forming new ones over time.

[8] We examine the distribution of each scholar's publications across fields. The results indicate that over 90% of scholars have at least two publications in the Applied field, while roughly half have publications in at least one of the other three fields.

The summary statistics depict scholars' publication and collaboration profiles, marked by a substantial publication record in leading economics journals. The findings indicate that their collaborative networks consist of both existing and new coauthors, reflecting both stability and dynamism in research partnerships that contribute to the diffusion of economic knowledge. In the Appendix, Table A2 presents descriptive statistics for an extended sample that includes scholars without detailed CV information. The extended sample is used for an alternative check in the robustness discussion.

3 Empirical Strategy

We begin by presenting descriptive evidence on the evolution of publication records, separately for male and female scholars, over the period leading up to their first T5 publication. This preliminary analysis documents the patterns of gender differences in research output before and after the T5 milestone. Building on this foundation, we then formally employ a DDD research design to identify the gender gap in the causal effects of a T5 publication on subsequent academic performance and network formation.

3.1 Descriptive Pattern in Gender Gap

Figure 1 illustrates the publication trajectories of male and female scholars with at least one T5 publication. It presents their publications in T5 and T30 journals over time, aligned relative to the year of their first T5 publication. In the years prior to the first T5 publication, neither gender group records any T5 publications, consistent with the sample construction. In the year of first T5 publication, both groups exhibit a sharp and discrete increase in publication counts, mechanically reflecting the first T5 publication itself. Beyond this milestone, however, the trajectories diverge markedly by gender. This divergence extends across broader journal tiers: in the post-first-T5 period, male scholars consistently out-publish their female counterparts in T30 journals alike. The magnitude of the gap, however, varies with the outcome measure. In T5 journals, the gender difference is modest in size but persists over time. In contrast, the gap widens substantially when expanding the publication set to

T30 outlets and further to T120 journals (Figure A1 in the Appendix). These distinctive raw data patterns together suggest that the overall divergence in research output is predominantly driven by publications beyond the T5 tier.

[Insert Figure 1 about here]

While these descriptive patterns are clear and robust, they do not identify the causal effect and the underlying mechanism. Two competing explanations merit consideration. First, a first T5 publication may yield gender-differential career returns, such that men and women experience divergent research productivity trajectories despite having achieved the same early-career milestone. Alternatively, the observed divergence may simply reflect pre-existing differences in productivity or career paths that predate the first T5 publication, in which case the post-milestone gap would have materialized even in the absence of a T5 publication. Disentangling these hypotheses requires comparing the post-first-T5 trajectories of treated scholars against an appropriate counterfactual, which we will discuss shortly.

3.2 Gender Disparity Model

To provide causal evidence on the gender gap illustrated above, we employ a staggered DDD design. This approach compares changes in research outcomes around the first T5 publication across genders. A potential concern is that scholars with and without a T5 publication may follow systematically different academic trajectories, and that these differences may vary by gender. To ensure comparability in research competence and to mitigate concerns about unobservable factors, we first restrict the sample to scholars who have demonstrated the capacity to publish in high-quality outlets, specifically, those with at least two T30 publications or one T5 publication. This sample restriction helps align the treatment and comparison groups with respect to *ex ante* research productivity and scholarly capability. Moreover, it enables us to isolate the differential returns to a first T5 publication from pre-existing gender-specific trends, thereby providing a causal estimate of whether the T5 milestone itself contributes to the widening gender gap in subsequent research output.

Building on this restricted sample, we then employ a DDD strategy to identify the

causal effect of receiving a first T5 publication on subsequent academic outcomes. Our empirical design compares the scholarly outcome trajectories of the first T5 effect on female scholars with those of their male counterparts, exploiting variation in the timing of their first T5 publication. This approach allows us to isolate the gender impact of a T5 breakthrough while controlling for time-invariant unobservables at the individual level and for common time trends that vary across cohorts and PhD programs.

For a scholar i who graduated from a PhD program p in year τ, we define her academic experience, denoted by e, as the difference between the current year t and the year of graduation τ. We further interact the female scholar indicator ($Female_i$) with the first T5 publication variable. The baseline model specification is as follows,

$$\begin{aligned} y_{it} = {} & \beta_1 T5_i \times PubYear_{it} + \beta_2 T5_i \times Post_{it} + \beta_3 Female_i \times T5_i \times PubYear_{it} \\ & + \beta_4 Female_i \times T5_i \times Post_{it} + X_{it} + \eta_i + \eta_{pe} + \eta_{te} + \varepsilon_{it}, \end{aligned} \tag{1}$$

In this form, the outcome variable y_{it}, represents the number of publications, coauthors, or new coauthors of scholar i in year t. The binary variable $T5_i$ equals one if the scholar has at least one publication in the T5 journal during the sample period and zero otherwise. For scholars with T5 publications, the variable $PubYear_{it}$ is a binary indicator equal to one for the year of the first T5 publication and zero otherwise. $Post_{it}$ is a binary indicator that takes a value of one for all years following the first T5 publication and zero otherwise. $Female_i$ is a binary indicator of female status, equal to 1 if scholar i is female and 0 otherwise. Lastly, X_{it} absorbs the post-treatment period dummies, such as $PubYear_{it}$ and $Post_{it}$.

Scholars may differ along unobservable dimensions, including time-invariant individual attributes (e.g., innate research ability), time-varying individual characteristics, and heterogeneity in doctoral training and program prestige across cohorts. To account for such unobservables, we incorporate scholar fixed effects η_i, which absorb time-invariant individual-level confounders. We define academic experience, denoted by e, as the number of years since the PhD was awarded, and then introduce a year-experience fixed effect, η_{te}, as the interaction between calendar year and academic experience. This term absorbs cohort-specific dynamics and reputation accumulation that may differentially affect scholarly outcomes

over the career cycle. Finally, we include a PhD program–experience fixed effect, η_{pe}, which interacts PhD program fixed effects p with academic experience e. This specification captures time-varying differences in career trajectories across doctoral programs and addresses potential sources of selection and differential mentoring effects over time.

The coefficients of interest, β_3 and β_4, capture immediate and long-term gender disparities, respectively. A statistically significant negative estimate of β_4 indicates that, following the first T5 publication, female scholars exhibit slower growth in research output and fewer collaborative opportunities than their male counterparts, implying that the first T5 publication widens the gender gap in long-run publication and network formation. The coefficients denoted by β_1 and β_2 identify the contemporary and long-term impacts of the first T5 publication for male scholars, respectively. A positive and statistically significant β_2 indicates that the first T5 publication leads to sustained increases in research output and collaboration activity.

4 Empirical Results

4.1 Baseline Effects

We begin by examining how the first T5 publication widens gender disparity in scholarly output across journal quality levels, from T5 to T120. Table 2 reports the results based upon the baseline equation (1). The dependent variables in each column represent the logarithm of the number of publications in quality-specific journal groups.

[Insert Table 2 about here]

Long-term Effects of the First Top 5. We distinguish the contemporaneous effect from the long-term effect of a scholar's first T5 publication. The former, captured by the interaction term between T5 and publication year, is consistently positive and statistically significant at the 1% level, indicating a contemporaneous positive effect on scientific output across journals of varying quality ranks. The latter, denoted by the interaction term between T5 and the post-T5 period, shows positive, statistically significant estimates of smaller magnitude

than the former. The coefficient in column (1) is 0.134, indicating that T5 scholars maintain, on average, 13% more T5 articles than their non-T5 counterparts over time. This positive and significant effect persists for T30 journals, with an even larger magnitude. However, the effect declines as the journal group broadens to T120 in column (3). Overall, these findings suggest that a first T5 publication reorients scholars toward publishing in more prestigious, quality-oriented journals.

Gender Disparity. We next examine whether the impact of a scholar's first T5 publication varies by gender, focusing on whether this early-career milestone yields comparable benefits for female and male scholars in subsequent research output and journal quality. We assess whether gender differences emerge contemporaneously with the first T5 publication. The estimated coefficients for the triple interaction term (i.e., T5 $\times$ PubYear $\times$ Female) are statistically insignificant across all journal groups, indicating that female and male scholars initially experience similar short-term benefits from this achievement. In sharp contrast, when examining the longer-term effect, captured by the interaction (i.e., T5 $\times$ Post $\times$ Female), we observe consistently negative and statistically significant estimates at the 1% level throughout all journal quality ranks, from T5 through T120. This pattern reveals that the benefits of a first T5 publication are smaller and less persistent for female scholars. Quantitatively, following a T5 publication, female scholars publish, on average, 2.2% fewer T5 articles, 6.1% fewer T30 articles, and 4.7% fewer T120 articles than their male counterparts. These results indicate that while the initial achievement provides an equivalent boost across genders, its longer-term effects are unequally realized. Overall, the evidence suggests that early-career marquee publications do not uniformly translate into sustained research advantages and, in fact, contribute to a widening gender gap in academic publishing outcomes.

4.2 Dynamic Effects for Gender Disparity

Concerns may persist regarding time-invariant or time-varying unobservable factors that could compromise the comparability between treatment and control groups. Our DDD framework directly addresses this identification challenge. In particular, to the extent that such unobservables are stable over time and do not vary by gender, a secondary DID across

genders, nested within our main specification, effectively differences out this layer of time-invariant confounding. This strategy therefore strengthens the causal interpretation of our estimated gender-specific effects by isolating variation attributable to the T5 from that driven by persistent unobserved heterogeneity.

To mitigate the potential influence of time-varying unobservables, we examine the dynamic treatment effects of the first T5 publication separately by gender, as illustrated in Figure A2 in the Appendix. The pre-treatment trajectories for men and women exhibit close parallelism in T5 and T30 publications, with no discernible divergence prior to the event. In contrast, a clear and widening gap emerges only following the first T5 publication. This pattern not only supports the parallel trends assumption underlying our DDD design but also reinforces the inference that the observed changes in gender disparity are plausibly causal rather than spurious.

To formally trace and quantify the evolution of the gender gap, we further estimate an event-study model based on the gender-interacted specification in equation (1). In this framework, the coefficients capture the differential impact of the first T5 publication on the publication outcomes of male and female scholars over time. Figure 2 displays the dynamic effects for publications in T5 journals (blue squares) and T30 journals (red diamonds). The pre-treatment estimates show no statistically significant gender differences, supporting the validity of the parallel trends assumption. Following the first T5 publication, however, female scholars exhibit a relative decline in publication rates compared to their male counterparts, with the divergence particularly pronounced in T30 journals.

[Insert Figure 2 about here]

Overall, these findings indicate that the first T5 publication, while initially conferring similar advantages to both genders, gradually amplifies gender disparities in research output. The results suggest that early-career marquee achievements do not translate into sustained publication gains for female scholars to the same extent as for their male counterparts. In the following section, we investigate whether these differences arise from unequal access to follow-up opportunities and the formation of high-status collaborative networks.

4.3 Robustness Checks

To test the stability of our baseline findings on gender disparity, we conduct a comprehensive set of robustness checks, including alternative definitions of journal groups, alternative journal quality rankings, alternative model specifications, and an extended sample dataset. Figure 3 reports the results

[Insert Figure 3 about here]

Alternative fixed effects. Our baseline specification employs fixed effects based on scholars' academic age, defined as the number of years since the award of their Ph.D. As a robustness check, we replace academic age with academic year fixed effects. Specifically, we incorporate (i) graduation year-by-year fixed effects, which capture time-varying factors common to each graduation cohort, and (ii) Ph.D. program rank-by-year fixed effects, which account for time-varying confounders that differ across Ph.D. program tiers. Additionally, we include graduation year-by-Ph.D. program rank-by-year fixed effects, which further control for time-varying factors that vary across cohorts defined by both graduation year and Ph.D. program rank. The results are presented in Panel A of Figure 3. In the publication year, the estimated gender disparities are not statistically significant. In the post-publication period, however, the estimates are consistently negative and statistically significant across most specifications for all journal groups from T5 to T120.

Exclusive Journal Group. The baseline definition adopts an inclusive set of journals; for example, the T30 group comprises the T5 journals along with leading general-interest and field-specific publications. We subsequently refine this journal grouping to more accurately assess long-term impacts on publications and collaborations. Specifically, the T30 set excludes the T5 journals, and the T120 set excludes the T30 journals. The results are presented in Panel B of Figure 3. As shown in Column (2), the estimate for the post-publication period is negative and statistically significant for the T30 set without the T5 journals. It is worth noting that the magnitude of this estimate is substantially smaller than that reported for the T30 set in Column (5) of the baseline table. These findings clearly indicate that the attention of T5 scholars is significantly concentrated on these prestigious journals.

Alternative Journal Quality Groups. The economics academic community has yet to establish a consensus on the definition of top-tier journals, particularly in small or emerging subfields. In light of this, we expand the scope of the T30 journal classification to include broader categorizations. Specifically, we employ the T50 and T150 journal groups as alternatives to the baseline T30 and T120 classifications. The corresponding results on scientific publications and collaborations are presented in Panel B of Figure 3. Overall, the findings remain consistent with the baseline conclusions.

Count Data Model Specification. The baseline model employs a logarithmic transformation of the outcome variables. Given that these variables are count-based and exhibit a concentration of zero values, we adopt the Poisson Pseudo Maximum Likelihood (PPML) estimator, which is better suited to such data characteristics. The corresponding results are presented in Panel C of Figure 3.[9] All coefficient estimates are negative and statistically significant, thereby corroborating the baseline findings.

Filling Zeros. The baseline dataset records only those years in which a scholar has at least one publication, treating all remaining years without publications as missing. To assess the robustness of our findings, we impute these missing years with zeros, effectively treating publication gaps as years with zero output. This adjustment ensures that our results are not driven exclusively by periods of active publication, thereby systematically accounting for productivity gaps. The estimates based on this approach are presented in Panel C of Figure 3. The results remain statistically significant across all journal groups, reinforcing the persistence of the gender disparity.

Treatment Sample with Only T5 Scholars. The baseline sample consists of three categories of scholars: those treated early (i.e., those who published in a T5 journal during an earlier period), those treated late, and those never treated. Given that the never-treated group (scholars without any T5 publications) may systematically differ from the treated group (those with at least one T5 publication), we further exclude the former from the analysis. Instead, we compare outcomes between scholars who were early-treated and those who were late-treated. In this framework, for each treated cohort, cohorts that have not yet

[9] In column (1) for the T5 journals, the PPML estimator fails to produce estimates due to the high frequency of zeros.

been published in a T5 journal but will eventually be so serve as the control group. This approach helps account for contemporaneous shocks unrelated to T5 publication. The results are presented in Panel D of Figure 3. All estimates are negative and statistically significant at the 1% level, reinforcing the baseline conclusion.

Extended Sample without Scholar's CV Info. The baseline dataset comprises a manually collected sample of 9,796 scholars, with detailed CV information obtained from their personal websites. We also constructed an extended dataset following the same filtering criteria as the baseline sample: namely, scholars who have published either (i) in two or more of the top 30 journals or (ii) in at least one of the top 5 journals. This extended dataset, however, does not include CV information and consists of 16,945 scholars in total. In the Appendix, Table A2 shows descriptive statistics. Due to the nature of the extended dataset, it is not feasible to control for time-varying factors such as a scholar's PhD program or cohort trends. Nevertheless, it remains pertinent to examine whether gender disparities persist in this broader sample, thereby further illustrating the pervasiveness of the issue. Panel D of Figure 3 reports estimates from a modified version of the baseline TWFE model for gender disparity. This specification omits the two linear trends while retaining scholar and year fixed effects. The results consistently show statistically significant negative long-term gender effects, significant at the 1% level across all journal groups. These findings reinforce the persistent nature of gender disparities in academic publishing.

4.4 Heterogeneity by Field

We also examine the heterogeneous effects of T5 publications on gender disparities among scholars across the major subfields of Macro Theory, Micro Theory, Econometrics, and Applied Economics. Our heterogeneity analysis is performed on the subsample corresponding to each author's designated field.

[Insert Table 3 about here]

Table 3 shows the results for publications across various journal tiers (T5-T120) for each field. In terms of contemporary effects, the estimated coefficients for publications are statistically insignificant across all four fields. These non-significant results indicate limited

evidence of gender inequality in the publication of a first T5 article within these disciplines. However, a different pattern emerges for long-term effects, raising concerns about gender inequality across a broader spectrum of economics journals. Gender disparities in publication outcomes are evident in all fields, with particularly pronounced gaps in Macro Theory and Micro Theory, especially within T30 publications. Quantitatively, the largest disparities among the four fields are observed in Macro Theory, where female scholars face considerable challenges in publishing in high-tier journals.

In the Appendix, Figure A3 complements these results by presenting corresponding estimates for collaboration outcomes, along with 95% confidence intervals. The left column presents the contemporaneous gender gap (i.e., T5 $\times$ PubYear $\times$ Female), while the right column shows the long-term gender gap (i.e., T5 $\times$ Post $\times$ Female). The vertical axis is arranged by the outcome variables across different fields, listed from top to bottom. Estimates are also distinguished by journal rank: a circle represents T5, a square T30, and a diamond T120. Panel A replicates the publication effects reported in Table 3. Panel B displays results for the total number of coauthors, while Panel C focuses on new coauthors. In the contemporaneous period, gender differences in collaboration are small and generally insignificant. In the long run, however, consistent negative estimates are observed for Macro Theory and Econometrics, indicating that female scholars in these subfields experience pronounced difficulties sustaining and expanding their collaborative networks. The long-term gender gap is most evident among macroeconomists, for whom the number of both total and new collaborators declines significantly across all journal tiers.

4.5 Collaboration: Coauthors vs. New Coauthors

We now turn to the gender gap in collaboration networks, examining whether it persists when scholars maintain existing co-authors or seek new collaborators. Columns (1)–(3) of Table 4 report results on the number of active co-authors across different journal groups. Across all columns, the estimates are consistently negative, indicating significant gender differences in maintaining collaborative ties. These estimates are statistically significant at conventional levels for the T5 and T30 journal groups, underscoring a notable gender gap:

female scholars face greater challenges than their male counterparts in sustaining collaborations with active researchers.

[Insert Table 4 about here]

This gender gap becomes more pronounced when examining the expansion of collaboration networks, as measured by the inclusion of new coauthors. Columns (4)–(6) report negative and statistically significant estimates for collaborations with new scholars across journal tiers, ranging from the T5 to the T120 journal groups. In the period following their first publication in a T5 journal, female scholars, on average, acquire fewer new collaborators, with reductions ranging from 5.8% in T5 journals to 7.9% in T30 journals.

We further investigate the gender composition of coauthors to assess whether interactions with male or female coauthors drive gender inequality in collaboration. Table 5 reports the results. When examining the long-term effects on coauthors, captured by the interaction of the T5, Post, and Female indicators, the estimates for female coauthors, shown in Columns (1)–(3), are negative but statistically insignificant in all specifications. In contrast, the estimates for male coauthors in Columns (4)–(6) are consistently negative and statistically significant at the 1% level. These results indicate that gender inequality in maintaining existing collaboration networks stems primarily from a significant reduction in collaborations with male coauthors, particularly with highly reputed male economists who publish T5 papers, rather than from a decline in collaborations with female coauthors.

[Insert Table 5 about here]

We also find corroborating evidence regarding new coauthors. In Columns (7)–(9) of Table 5, the estimated coefficients for new female coauthors are negative but not statistically significant. By contrast, the estimates for new male coauthors, shown in the remaining columns, are negative and statistically significant at the 1% level for those with T5 and T30 publications, and at the 10% level for those with T120 publications.

4.6 Team Composition

Having established that gender differences in enhancing existing collaboration networks and forming new ones partly account for the divergent effects of the first T5 publication, we next explore whether these disparities originate from the collaborative context of the T5 itself. Collaboration has become a hallmark of modern academic research. However, prior evidence suggests that its benefits are not distributed equally across genders. In economics, for instance, Boschini and Sjögren (2007) document that coauthorship patterns in academic publishing are not gender-neutral, and Sarsons et al. (2021) show that men get tenure at about the same rate no matter how much they coauthor. Women are less likely to get tenure when they coauthor more, except when their coauthors are women. Inspired by Sarsons et al. (2021)'s paper, we investigate whether the collaborative team composition of a scholar's first T5 publication, specifically team size and team gender composition, shapes its subsequent impact on academic outcomes.

Empirically, we classify T5 scholars based on whether their first T5 article was solo-authored or coauthored, and whether their teams were single-gender or mixed-gender, then compare them with non-T5 scholars. This approach allows us to assess whether variations in collaboration mode contribute to the gender gap in post-T5 publication and network development. By linking team structure at an early-career milestone to later research performance and network formation, we identify a collaboration-based mechanism that helps explain why comparable early-career achievements yield unequal long-term opportunities across genders.

4.6.1 Solo vs. Collaboration

We categorize the sample by the team composition at the time of each author's first T5 publication, distinguishing solo-authored and coauthored works. For each subgroup, we compare it with comparable peers who have no T5 publications but at least 2 T30 publications. Table 6 shows the results. Among authors whose first T5 publication was solo-authored, women report a comparable total number of coauthors (Panel A), and add a similar number of new coauthors over time (Panel B).

[Insert Table 6 about here]

In contrast, a different pattern emerges among those whose first T5 publication was coauthored. Women in this group exhibit less strong post-T5 trajectories. Women scholars add fewer new coauthors after their first T5 publication; the estimated reductions are 6.7% for T5-tier collaborators and 8.0% for T30-tier collaborators. Notably, the total number of coauthors (Panel A) does not exhibit a comparable decline, suggesting that the observed disparity primarily stems from differences in forming new collaborations rather than maintaining existing ones.

[Insert Table 7 about here]

Table 7 identifies the composition of missing new collaborators by disaggregating the gender of new coauthors. Among authors with coauthored debuts, the deficit for women stems primarily from a shortage of new male collaborators, approximately 10.5% among T5 male collaborators, 11.8% among the T30 male ones, and 6.4% among T120 male ones. In contrast, women in coauthored debut articles show no significant shortfall in the number of new female collaborators. For solo debuts, we observe no systematic deficit in male coauthors.

Collectively, these findings suggest that women who achieve their first T5 publication through coauthorship face a substantial disadvantage in attracting new collaborators, particularly male collaborators with publications in top journals. Such partnerships are often critical for gaining access to high-visibility research teams and opportunities.

4.6.2 Single vs. Mixed-Gender Collaboration

We further categorize scholars by the gender composition of their first T5 team: single-gender (all-male or all-female) versus mixed-gender. Each subgroup is compared with a control group of comparable scholars who have no T5 publications but at least 2 T30 publications.

[Insert Table 8 about here]

As shown in Table 8, among single-gender teams, post-T5 gender gaps are small and generally statistically indistinguishable from zero. Specifically, women report a similar total number of coauthors, and, importantly, add a similar number of new coauthors. In contrast, the pattern shifts for mixed-gender teams. Women in this category exhibit weaker career trajectories across several dimensions: the total number of coauthors also declines at broader tiers. The most pronounced disparities emerge when new coauthors are added. Women add 9.1% fewer new collaborators in T5 outlets, 13.7% fewer in T30 outlets, and 14.2% fewer in T120 outlets, all statistically significant at the 1% level. In other words, when scholars make their debut in mixed-gender teams, female members tend to expand their coauthor networks less than their male counterparts in subsequent phases.

[Insert Table 9 about here]

To identify the source of this gap, Table 9 indicates that the shortfall is concentrated among new male coauthors. For women who first achieved a T5 publication as part of a mixed-gender team, the post-milestone decline in new male collaborations is approximately 11% for T5 scholars, 17% for T30, and 9% for T120 ones, all of which are statistically significant. By contrast, there is no comparable deficit for new female collaborators. In all-female teams, gaps in male coauthorship are smaller and largely insignificant.

Taken together, these findings suggest that an initial T5 publication does not confer the same collaborative capital across genders. Women who reach this milestone within mixed-gender teams experience a pronounced disadvantage in attracting new collaborators, particularly male co-authors, who are often critical for gaining access to higher-tier research projects.

4.7 Gender Disparity in Promotion

The preceding analyses demonstrate that a first T5 publication substantially influences scholars' subsequent research productivity and collaboration patterns. These effects differ systematically by gender. However, academic success is ultimately measured not only by publication outcomes but also by career advancement. To connect research performance with

professional progression, this section investigates whether similar gender disparities extend to promotion outcomes. Rather than focusing on the effect of the first T5 publication, we assess whether female scholars take longer to be promoted to associate or full professorship than their male colleagues and whether publications in top journals and collaborations with esteemed scholars are associated with a shorter time to promotion.

To conduct this analysis, we convert the panel scholar data into a cross-sectional dataset. For each scholar, we collect the years of career milestones from their CV, including the starting years as an assistant professor, an associate professor, and/or a full professor. If a scholar does not have a starting year for the assistant professor position, we use the year they graduated from their PhD program as a proxy. We then tally the total number of publications in the T5 and T30 journals to measure scholarly output. To evaluate an individual's reputation in the field, we count the number of esteemed co-authors, defined as those who have published in T5 journals. All these variables are calculated based on the time span between the last academic position (e.g., assistant professor) and the next one (e.g., associate professor).

Our cross-sectional sample comprises 5,141 scholars. In the Appendix, Table A4 presents the distribution of faculty ranks in our dataset. It indicates that most individuals hold a formal professorship, with the largest groups being those who have only a full professorship (1,245) or only an associate professorship (907). Additionally, a notable number of individuals hold multiple rank records, such as both associate and full ranks (973) or all three ranks (541), while 230 individuals have no professorial records. Table A4 further breaks down these patterns by gender. Throughout all rank configurations, men make up the majority: for instance, among those holding both associate and full ranks, there are 973 men and 140 women; and among individuals with all three ranks, there are 541 men and 86 women. The total sample comprises 4,119 men and 1,022 women, indicating a substantial underrepresentation of women.

Using cross-sectional scholar-level data reporting professional advancement, we estimate a TWFE model at the scholar level. For scholar i, who earned a PhD in year τ and was

affiliated with institution j, the model is proposed as follows,

$$\begin{aligned} y_{ij\tau} =& \beta_1 Female_i + \beta_2 Pubs_Stock_i \times Female_i + \beta_3 T5Authors_Stock_i \times Female_i \\ &+ \beta_4 Pubs_Stock_i + \beta_5 T5Authors_Stock_i + \eta_j + \eta_\tau + \varepsilon_{ij\tau}. \end{aligned} \tag{2}$$

In this form, $y_{ij\tau}$ denotes the likelihood of promotion, and the number of years taken for promotion to associate or full professors. When examining the likelihood, we run the logit model. $Female_i$ is a dummy variable for female scholars. We consider two important factors for tenure promotion: publications and collaboration. $Pubs_Stock_i$ includes the number of publications appearing at T5 and T30 journals prior to promotion, denoted by $T5_Stock$ and $T30_Stock$, respectively. $T5Authors_Stock$ measures the number of high-profile coauthors who have published in T5 journals. The specification includes affiliation ranking fixed effects (η_j) to control for differences in tenure standards across departments and graduation-year fixed effects (η_τ) to control for cohort-specific factors, such as shifts in the broader economic job market over time.

We begin by investigating the relationship among gender, publication output, collaboration, and promotion. The results are presented in Table 10. In Columns (1)-(4), we run the likelihood of promotion using the logit model. In the remaining columns, we regress the number of years to promotion using Ordinary Least Squares (OLS). All columns account for fixed effects related to the institution's ranking and the scholar's year of graduation. One may notice the difference in sample size between the logit and OLS regressions. The OLS uses all observations corresponding to the relevant rank record, while the logit model conditions on the next lower rank record, leading to smaller sample sizes in the logit regressions.[10]

[Insert Table 10 about here]

First, we examine the likelihood of promotion. Our findings consistently reveal nega-

[10]In the Appendix Table A4 reports sample size across various faculty ranks and gender. For the associate professor rank, OLS includes all individuals with an associate record, totaling 3,425 (1,136 + 1,113 + 549 + 627; some individuals are omitted due to collinearity). In contrast, the logit model only includes those with an assistant-level record, resulting in a smaller sample of 2,168 (674 + 318 + 549 + 627; again, some are omitted due to collinearity). For full professor rank, OLS incorporates all individuals with a full record, amounting to 3,479 (1,421 + 1,113 + 318 + 627; with some omitted due to collinearity), while the logit model only considers those with an associate-level record, yielding a sample size of 3,425 (1,136 + 1,113 + 549 + 627; with omissions for collinearity).

tive and statistically significant estimates for the gender indicator across both associate and full professor ranks. Conditional on comparable publications and collaborations, female economists are 37.0% less likely to receive promotion to associate professor and 35% less likely to advance to full professor. Publications in T5 journals have a limited impact on promotion to associate professor and an even less pronounced effect on promotion to full professor. Additionally, publications in T30 journals, unlike those in T5 journals, do not seem to enhance promotion prospects; this is evidenced by negative, statistically significant estimates for associate professor positions and negative, though statistically insignificant, estimates for full professor positions. Furthermore, neither T5 publications nor collaborations with high-profile scholars who have recently published in T5 journals increase the likelihood of promotion for female economists, as indicated by the insignificant interaction terms between gender and cumulative publication records.

Next, we investigate the number of years for promotion. We consistently observe positive, statistically significant estimates for the gender indicator for associate professors at the 1% level. Specifically, the coefficient in Column (5) is 0.583, which indicates that female scholars, on average, take about six months longer than their male counterparts to achieve promotion to associate professor. This finding is not surprising, as most economics programs typically impose a limited tenure clock of 6 to 8 years. One would not expect dramatic differences in tenure clock by gender. On the contrary, for promotion to full professor, the estimates for the gender indicator remain consistently positive and statistically significant at the 1% level. As shown in Column (7), the positive coefficient of 1.835 indicates a widening gap in the time to promotion. In particular, female scholars wait approximately two additional years before being promoted to full professor compared to their male colleagues.

We also investigate the relationship between publication output, collaboration, and the time taken to achieve promotion. The estimates for T5 publications are consistently negative but not statistically significant at conventional levels. In contrast, the estimate for T30 publications is positive and statistically significant at the 1% level. Surprisingly, these findings indicate that T5 publications do not significantly affect the time to promotion to full professor, whereas T30 publications are associated with a longer time to promotion. One possible

explanation is a trending effect, as scholars accumulate more publications over time. Furthermore, we examine the role of collaboration with high-profile scholars in the tenure promotion process. The positive estimates for T5 Co-authors_Stock suggest that collaborating with these elite scholars does not speed up promotion time.

One of our central interests is whether T5 publications and collaborators would help shorten promotion timelines for female scholars. In Columns (6) and (8), the interaction term between female and T5_Stock is negative but not statistically significant, indicating little impact of T5 publications for female scholars. On the contrary, the interaction terms between female and T5 Coauthors_Stock have mixed signs: positive (insignificant) for associate professors but negative (significant at the 5% level) for full professors.

Lastly, we examine gender disparities in tenure promotion across different tiers of economics programs. Programs are categorized by the QS World University Rankings. Table 11 reports the results. We document persistent gender gaps in promotions to both associate professor (Columns 1–4) and full professor (Columns 5–8) across all program tiers. In terms of magnitude, the estimated gap for promotion to associate professor ranges from 0.372 in top-20 economics programs to 1.136 in programs ranked between 20 and 50. For promotion to full professor, the estimate varies from 1.610 in top-20 programs to 2.463 in those ranked between 100 and 500. These results indicate that significant gender disparities in promotion are pervasive across economics programs of all ranking tiers.

[Insert Table 11 about here]

5 Conclusion

Drawing on a unique scholar-level panel dataset that tracks research outputs, collaboration patterns, and academic career trajectories from 1990 to 2022, this study investigates whether men and women experience comparable professional returns to an early-career achievement of significant prestige: publishing a first paper in a T5 economics journal. Employing a staggered triple-difference estimation strategy, we compare the post-publication outcomes of T5 authors with those of a counterfactual group of research-active economists across gen-

ders. Our results indicate that the professional benefits associated with this milestone are distributed unevenly.

Our empirical evidence unambiguously suggests that a first T5 publication does not serve as a career-equalizing event. Although both male and female scholars attain a similarly visible credential of research excellence, women experience significantly smaller gains in subsequent publication output and a more limited expansion of collaborative ties with highly productive economists. These gender gaps are particularly pronounced in Macroeconomics and among scholars whose first T5 publication comes from mixed-gender research teams, suggesting that women may encounter greater difficulty in translating early success into durable collaborative advantages.

The ramifications of these unequal returns extend beyond research productivity. Female scholars advance more slowly through the academic hierarchy, requiring more time than their male counterparts to attain both associate and full professorships. These findings underscore that the disparities emerging after a shared early-career milestone manifest not only in scholarly activity but also in long-term professional mobility.

Taken together, our results suggest that achieving a high-profile early-career accomplishment does not guarantee equitable career progression. Policy interventions designed to improve gender representation in academia have largely prioritized expanding access to opportunities and mitigating barriers to entry. Our findings suggest, however, that equalizing access to prestigious achievements is only part of the solution. Women must also receive comparable returns once they reach those milestones. Hence, policies that facilitate access to influential academic networks, strengthen mentorship structures, enhance transparency in team-based credit allocation, and foster inclusive collaboration practices may play a critical role in reducing persistent gender inequalities in academia.

Although the analysis is situated within the discipline of economics, the mechanisms identified here are likely generalizable to other knowledge-intensive professions wherein career dynamics are heavily shaped by cumulative advantage, professional networks, and team-oriented production. More broadly, this study suggests that gender inequality is shaped not only by who reaches major career milestones, but also by the unequal returns to those

milestones. Understanding these heterogeneous returns is essential for explaining the persistence of gender disparities, even in environments committed to meritocratic principles and academic excellence.

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Figures and Tables

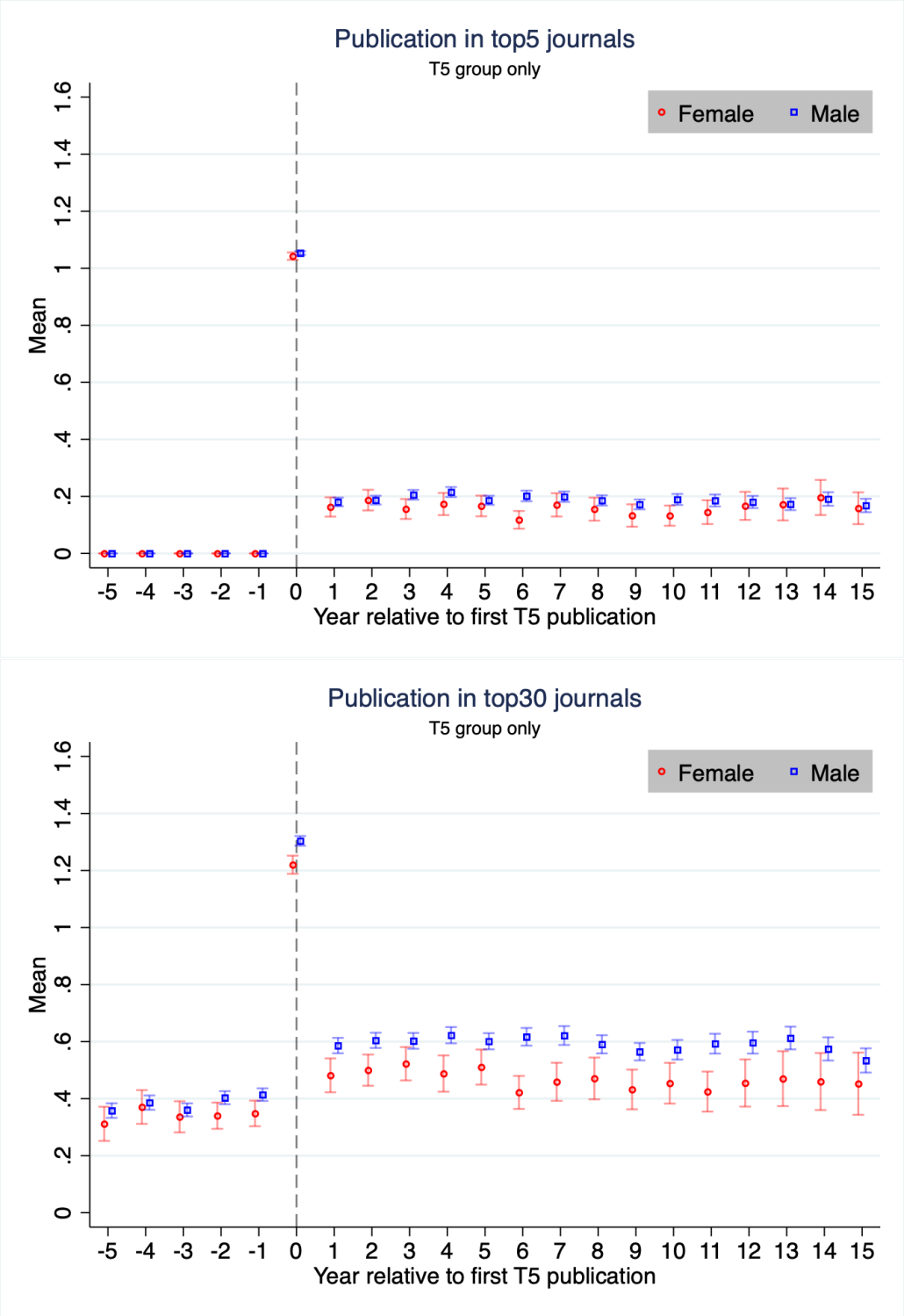


Figure 1: Publications Around the First Top 5 Publication

Notes: Figure displays the mean annual Top 5 (Top 30) publications for male and female scholars in the treatment group (those with T5 publications), relative to the year of their first Top 5 publication. Vertical bars denote 95% confidence intervals based on standard errors of the mean. The number of publications is reported after a logarithmic transformation.

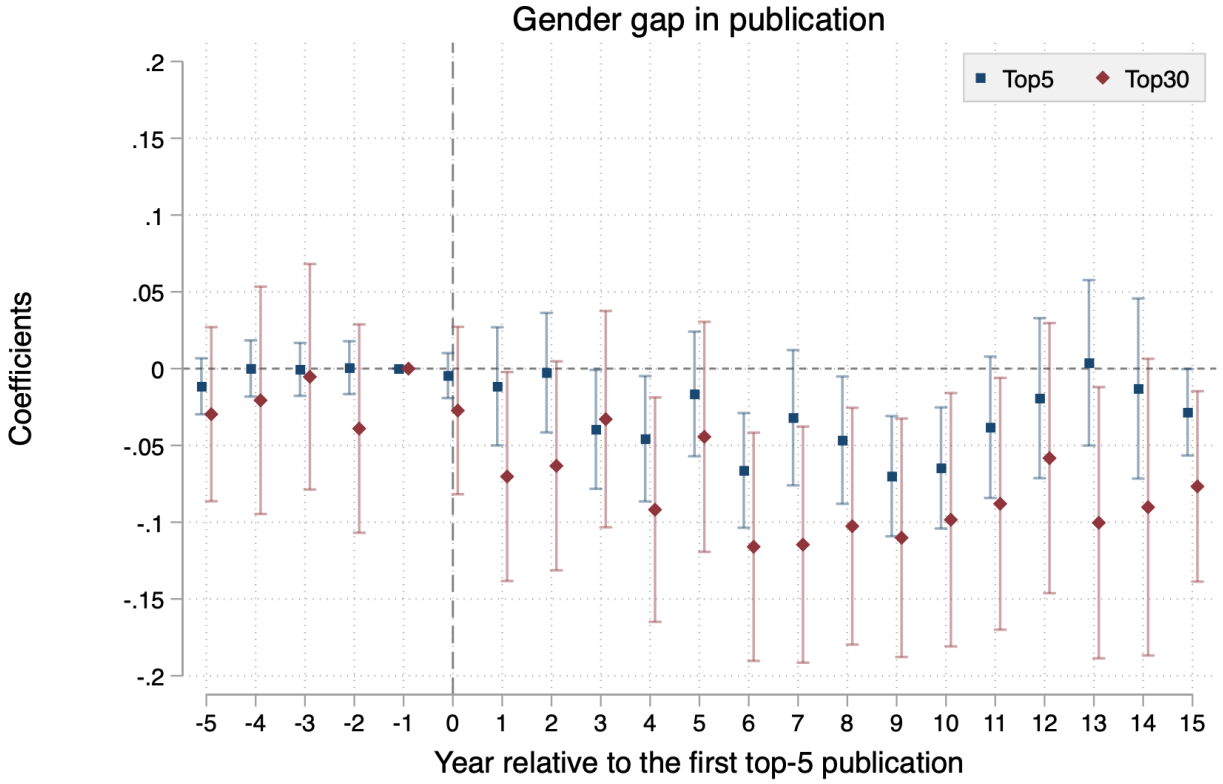


Figure 2: The Dynamic Effect of Gender Gap

Notes: Figure displays coefficients and their 95% confidence intervals from an event-study model estimating the dynamic effect of gender gap on scientific publications in the Top 5 (blue square marker) and in the Top 30 journals (red diamond marker) using the gender-gap TWFE model (1).

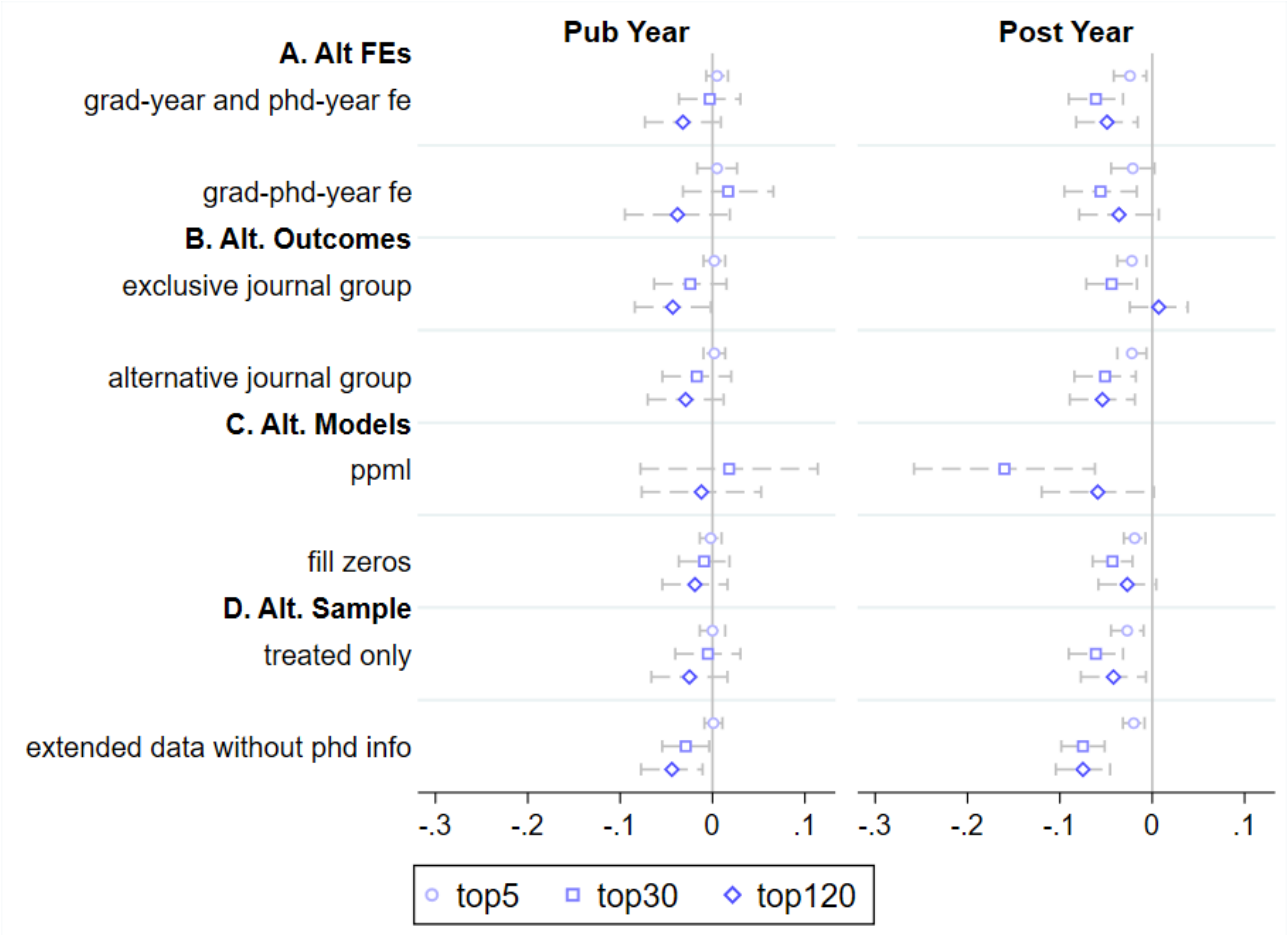


Figure 3: Robustness Checks for Gender Gap

Notes: Figure displays coefficients and their 95% confidence intervals from the gender gap model on scientific publications in the Top 5 (circle marker), Top 30 (square marker), and Top 120 journals (diamond marker) based upon the model equation (1). Panel A considers alternative fixed effects including graduation year-by-year and PhD program-by-year FEs, graduation year-by-PhD program-by-year FEs; Panel B assumes alternative outcomes including journal groups exclusive across tiers, and alternative journal groups (top 50 and top 150); Panel C accounts for alternative model specification covering PPML and fills all zeros publications; and Panel D considers alternative samples such as treated samples only and extended data without scholars' PhD background information.

Table 1: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min.	Max.
Panel A: Basic statistics of scholars					
Has T5 publication	9,796	0.46	0.50	0	1
Experience	9,796	22.10	12.66	0	68
Female	9,543	0.18	0.38	0	1
Female with T5	9,543	0.07	0.26	0	1
Research field					
Applied	9,796	0.25	0.43	0	1
Macro	9,796	0.25	0.43	0	1
Metrics	9,796	0.24	0.43	0	1
Micro	9,796	0.26	0.44	0	1
Panel B: Annual number of publications					
top5	143,345	0.09	0.34	0	8
top30	143,345	0.43	0.69	0	10
top50	143,345	0.60	0.82	0	11
top120	143,345	0.94	1.02	0	13
top150	143,345	1.04	1.06	0	13
Panel C: Annual number of coauthors					
top5	123,429	0.51	1.02	0	19
top30	123,429	1.41	1.62	0	28
top50	123,429	1.65	1.76	0	28
top120	123,429	2.10	2.14	0	44
top150	123,429	2.24	2.23	0	44
Panel D: Annual number of new coauthors					
top5	123,429	0.26	0.67	0	14
top30	123,429	0.71	1.10	0	15
top50	123,429	0.85	1.20	0	15
top120	123,429	1.12	1.45	0	39
top150	123,429	1.21	1.52	0	39

Notes: Panel A presents descriptive statistics at the scholar level. "Has top5 publication" is an indicator for a scholar with T5 publications. "Experience" is the maximal number of years since PhD graduation in the data. "Female" is an indicator for a female scholar. A scholar's research field is defined when the scholar has at least two publications in journals in that field. The quality group of co-authors is defined as the scholar having at least one publication in that quality group. Panel B shows the annual number of publications across journal tiers from T5 to T150. Panels C and D report the annual numbers of coauthors and new coauthors with recent publications across various journal tiers, ranging from T5 to T150, respectively.

Table 2: Baseline Gender Effects of the First T5 Publications

Dept Var.	Scientific Publications		
	top5	top30	top120
	(1)	(2)	(3)
T5 × PubYear	0.884***	0.703***	0.492***
	(0.003)	(0.007)	(0.009)
T5 × Post	0.134***	0.161***	0.118***
	(0.004)	(0.007)	(0.008)
T5 × PubYear × Female	0.002	-0.010	-0.036*
	(0.006)	(0.017)	(0.020)
T5 × Post × Female	-0.022***	-0.061***	-0.047***
	(0.008)	(0.015)	(0.018)
Observation	139,025	139,025	139,025
Adjusted R-squared	0.492	0.273	0.318
Outcome Mean	0.077	0.392	0.894
Scholar FE	Y	Y	Y
PhD Program-Experience FE	Y	Y	Y
Year-Experience FE	Y	Y	Y

Notes: The dependent variables are the log number of scientific publications in quality-specific journals, ranging from T5 to T120 journals. All dependent variables use the asinh() transformation. T5 is an indicator for T5 economic journals. PubYear is an indicator for the year of the first T5 publication, while Post is an indicator for the post-period of the first T5 publication. Female is an indicator for female economists. All columns include fixed effects for the scholar, their Ph.D. program-by-experience, and year-by-experience levels. Experience is defined as the number of years since PhD graduation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Gender Gap by Fields

Dept Var.	Macro Theory			Micro Theory			Econometrics			Applied Econ		
	top5	top30	top120	top5	top30	top120	top5	top30	top120	top5	top30	top120
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
T5 × PubYear	0.888***	0.704***	0.479***	0.877***	0.692***	0.469***	0.876***	0.698***	0.485***	0.890***	0.695***	0.506***
	(0.006)	(0.016)	(0.020)	(0.007)	(0.016)	(0.019)	(0.007)	(0.016)	(0.019)	(0.006)	(0.016)	(0.018)
T5 × Post	0.144***	0.147***	0.090***	0.131***	0.163***	0.121***	0.141***	0.183***	0.138***	0.135***	0.158***	0.136***
	(0.007)	(0.014)	(0.016)	(0.007)	(0.015)	(0.017)	(0.008)	(0.015)	(0.017)	(0.007)	(0.014)	(0.016)
T5 × PubYear × Female	0.002	-0.068*	-0.085*	-0.009	-0.043	-0.033	0.029*	-0.002	-0.052	-0.006	0.076**	0.050
	(0.014)	(0.039)	(0.045)	(0.011)	(0.034)	(0.041)	(0.017)	(0.043)	(0.050)	(0.014)	(0.035)	(0.043)
T5 × Post × Female	-0.044**	-0.111***	-0.097***	-0.027*	-0.081**	-0.055	-0.019	-0.060*	-0.032	0.000	0.003	0.005
	(0.018)	(0.030)	(0.033)	(0.016)	(0.032)	(0.036)	(0.022)	(0.036)	(0.044)	(0.016)	(0.030)	(0.035)
Observations	33,778	33,778	33,778	33,767	33,767	33,767	32,726	32,726	32,726	34,700	34,700	34,700
Adjusted R-squared	0.473	0.266	0.307	0.498	0.271	0.321	0.484	0.254	0.308	0.481	0.272	0.335
Outcome Mean	0.079	0.399	0.905	0.077	0.398	0.897	0.076	0.389	0.893	0.074	0.382	0.879
Scholar FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PhD Program-Experience FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year-Experience FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: The dependent variables are the log number of scientific publications in quality-specific journals, ranging from T5 to T120 journals. All dependent variables use the asinh() transformation. T5 is an indicator for T5 economic journals. PubYear is an indicator for the year of the first T5 publication, while Post is an indicator for the post-period of the first T5 publication. Female is an indicator for female economists. All columns include fixed effects for the scholar, their Ph.D. program-by-experience, and year-by-experience levels. Experience is defined as the number of years since PhD graduation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4: Gender Gap on Collaborations

Dept Var.	Coauthors			New Coauthors		
	top5	top30	top120	top5	top30	top120
	(1)	(2)	(3)	(4)	(5)	(6)
T5 × PubYear	0.923***	0.580***	0.376***	0.633***	0.439***	0.300***
	(0.011)	(0.013)	(0.013)	(0.013)	(0.014)	(0.015)
T5 × Post	0.372***	0.227***	0.112***	0.078***	0.053***	0.000
	(0.010)	(0.012)	(0.012)	(0.006)	(0.009)	(0.011)
T5 × PubYear × Female	0.010	-0.009	-0.026	0.004	-0.019	-0.033
	(0.031)	(0.032)	(0.031)	(0.033)	(0.036)	(0.038)
T5 × Post × Female	-0.054**	-0.049*	-0.045	-0.058***	-0.079***	-0.065**
	(0.025)	(0.028)	(0.027)	(0.017)	(0.023)	(0.026)
Observation	119,520	119,520	119,520	119,520	119,520	119,520
Adjusted R-squared	0.415	0.318	0.342	0.227	0.158	0.158
Outcome Mean	0.441	1.336	2.066	0.219	0.663	1.076
Scholar FE	Y	Y	Y	Y	Y	Y
PhD Program-Experience FE	Y	Y	Y	Y	Y	Y
Year-Experience FE	Y	Y	Y	Y	Y	Y

Notes: The dependent variables are the log number of coauthors and new coauthors in quality-specific journals, ranging from T5 to T120 journals. All dependent variables use the asinh() transformation. T5 is an indicator for T5 economic journals. PubYear is an indicator for the year of the first T5 publication, while Post is an indicator for the post-period of the first T5 publication. Female is an indicator for female economists. All columns include fixed effects for the scholar, their Ph.D. program-by-experience, and year-by-experience levels. Experience is defined as the number of years since PhD graduation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5: Gender Gap on Female or Male Collaborators

Dept Var.	Coauthors						New Coauthors					
	female			male			female			male		
	top5	top30	top120	top5	top30	top120	top5	top30	top120	top5	top30	top120
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
T5 × PubYear	0.300***	-0.017	0.001	0.648***	0.162***	0.095***	0.116***	-0.080**	-0.104***	0.383***	0.095***	0.044***
	(0.029)	(0.033)	(0.035)	(0.013)	(0.014)	(0.014)	(0.024)	(0.033)	(0.031)	(0.013)	(0.014)	(0.014)
T5 × Post	0.190***	-0.014	-0.060**	0.338***	0.109***	0.051***	-0.005	-0.076***	-0.098***	0.041***	-0.011	-0.033***
	(0.023)	(0.030)	(0.030)	(0.012)	(0.013)	(0.012)	(0.016)	(0.026)	(0.024)	(0.008)	(0.011)	(0.010)
T5 × PubYear × Female	0.023	-0.026	-0.194***	-0.196***	-0.158***	-0.126***	-0.036	-0.023	-0.068	-0.143***	-0.122***	-0.090***
	(0.055)	(0.055)	(0.059)	(0.037)	(0.034)	(0.034)	(0.044)	(0.052)	(0.053)	(0.033)	(0.036)	(0.035)
T5 × Post × Female	-0.001	-0.032	-0.033	-0.133***	-0.127***	-0.097***	-0.020	-0.030	-0.004	-0.080***	-0.092***	-0.053**
	(0.043)	(0.048)	(0.052)	(0.029)	(0.027)	(0.028)	(0.029)	(0.041)	(0.040)	(0.019)	(0.024)	(0.024)
Observation	15,235	15,235	15,235	73,449	73,449	73,449	15,235	15,235	15,235	73,449	73,449	73,449
Adjusted R-squared	0.369	0.198	0.230	0.384	0.220	0.241	0.135	0.139	0.119	0.159	0.097	0.088
Outcome Mean	0.153	0.586	0.577	0.268	0.846	0.875	0.083	0.325	0.310	0.140	0.445	0.449
Scholar FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PhD Program-Experience FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year-Experience FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: The dependent variables are the log number of coauthors and new coauthors in quality-specific journals, ranging from T5 to T120 journals. All dependent variables use the asinh() transformation. In Columns (1)-(3) and Columns (7)-(8), the outcome variables focus on female coauthors and new female coauthors. In the remaining columns, the outcome variables pertain to male coauthors. T5 is an indicator for T5 economic journals. PubYear is an indicator for the year of the first T5 publication, while Post is an indicator for the post-period of the first T5 publication. Female is an indicator for female economists. All columns include fixed effects for the scholar, their Ph.D. program-by-experience, and year-by-experience levels. Experience is defined as the number of years since PhD graduation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6: Gender Gap: Solo vs Collaboration

Dept Var.	Solo			Collaboration		
	top5	top30	top120	top5	top30	top120
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Coauthors						
T5 × PubYear × Female	-0.172	-0.072	-0.046	-0.000	-0.046	-0.049
	(0.170)	(0.159)	(0.163)	(0.036)	(0.039)	(0.038)
T5 × Post × Female	0.025	0.076	0.029	-0.047	-0.047	-0.050
	(0.098)	(0.077)	(0.084)	(0.035)	(0.038)	(0.035)
Observation	67,489	67,489	67,489	97,099	97,099	97,099
Adjusted R-squared	0.292	0.256	0.313	0.425	0.307	0.335
Outcome Mean	0.613	1.274	1.807	0.837	1.645	2.215
Panel B: New Coauthors						
T5 × PubYear × Female	-0.071	-0.079	-0.067	-0.032	-0.063	-0.061
	(0.143)	(0.177)	(0.178)	(0.040)	(0.043)	(0.046)
T5 × Post × Female	0.064	0.066	0.038	-0.067***	-0.080**	-0.056*
	(0.079)	(0.080)	(0.086)	(0.024)	(0.031)	(0.034)
Observation	67,489	67,489	67,489	97,099	97,099	97,099
Adjusted R-squared	0.151	0.124	0.144	0.229	0.150	0.153
Outcome Mean	0.320	0.689	1.011	0.385	0.808	1.154
Scholar FE	Y	Y	Y	Y	Y	Y
PhD Program-Experience FE	Y	Y	Y	Y	Y	Y
Year-Experience FE	Y	Y	Y	Y	Y	Y

Notes: The dependent variables are the log number of coauthors (Panel A) and new coauthors (Panel B) in quality-specific journals, ranging from T5 to T120 journals. All dependent variables use the asinh() transformation. The sample is divided into solo and collaborative efforts for the first T5 publication. T5 is an indicator for the T5 economic journals. PubYear is an indicator for the year of the first T5 publication, while Post is an indicator for the post-period of the first T5 publication. Female is an indicator for female economists. All columns include fixed effects for the scholar, their Ph.D. program-by-experience, and year-by-experience levels. Experience is defined as the number of years since PhD graduation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 7: Gender Gap on Male or Female New Coauthors: Solo vs Collaboration

Dept Var.	Female New Coauthors						Male New Coauthors					
	solo			collaboration			solo			collaboration		
	top5 (1)	top30 (2)	top120 (3)	top5 (4)	top30 (5)	top120 (6)	top5 (7)	top30 (8)	top120 (9)	top5 (10)	top30 (11)	top120 (12)
T5 × PubYear × Female	-0.434*	0.021	0.116	-0.014	-0.101	-0.059	-0.105	-0.247	-0.078	-0.143***	-0.157***	-0.095**
	(0.260)	(0.468)	(0.384)	(0.062)	(0.072)	(0.072)	(0.193)	(0.197)	(0.230)	(0.040)	(0.043)	(0.042)
T5 × Post × Female	-0.077	0.094	0.391*	-0.013	-0.076	0.004	0.018	-0.083	-0.102	-0.105***	-0.118***	-0.064**
	(0.130)	(0.313)	(0.235)	(0.039)	(0.059)	(0.059)	(0.092)	(0.123)	(0.120)	(0.025)	(0.033)	(0.031)
Observation	6,940	6,940	6,940	11,533	11,533	11,533	38,934	38,934	38,934	60,470	60,470	60,470
Adjusted R-squared	0.122	0.111	0.126	0.148	0.134	0.128	0.136	0.096	0.088	0.173	0.092	0.090
Outcome Mean	0.158	0.367	0.295	0.178	0.388	0.299	0.290	0.604	0.507	0.315	0.594	0.505
Scholar FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PhD Program-Experience FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year-Experience FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: The dependent variables are the log number of female new coauthors in Columns (1)-(6), and male new coauthors in the remaining columns. New coauthors are categorized into quality-specific journals, ranging from T5 to T120. All dependent variables use the asinh() transformation. The sample is divided into solo and collaborative efforts for the first T5 publication. T5 is an indicator for the T5 economic journals. PubYear is an indicator for the year of the first T5 publication, while Post is an indicator for the post-period of the first T5 publication. Female is an indicator for female economists. All columns include fixed effects for the scholar, their Ph.D. program-by-experience, and year-by-experience levels. Experience is defined as the number of years since PhD graduation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 8: Gender Gap: Single vs Mixed Gender Group

Dept Var.	Single			Mix		
	top5	top30	top120	top5	top30	top120
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Coauthors						
T5 × PubYear × Female	-0.294***	-0.183***	-0.134**	-0.075	-0.109*	-0.125**
	(0.068)	(0.068)	(0.065)	(0.050)	(0.058)	(0.058)
T5 × Post × Female	-0.080	0.011	0.031	-0.030	-0.081	-0.115**
	(0.060)	(0.056)	(0.049)	(0.049)	(0.056)	(0.055)
Observation	100,539	100,539	100,539	64,110	64,110	64,110
Adjusted R-squared	0.404	0.303	0.332	0.337	0.262	0.319
Outcome Mean	0.787	1.569	2.131	0.921	1.713	2.289
Panel B: New Coauthors						
T5 × PubYear × Female	-0.168**	-0.117	-0.077	-0.089	-0.098	-0.112
	(0.065)	(0.073)	(0.075)	(0.065)	(0.072)	(0.075)
T5 × Post × Female	0.004	0.030	0.047	-0.091***	-0.137***	-0.142***
	(0.044)	(0.051)	(0.053)	(0.033)	(0.045)	(0.051)
Observation	100,539	100,539	100,539	64,110	64,110	64,110
Adjusted R-squared	0.209	0.146	0.152	0.183	0.127	0.147
Outcome Mean	0.367	0.780	1.120	0.440	0.872	1.231
Scholar FE	Y	Y	Y	Y	Y	Y
PhD Program-Experience FE	Y	Y	Y	Y	Y	Y
Year-Experience FE	Y	Y	Y	Y	Y	Y

Notes: The dependent variables are the log number of coauthors (Panel A), and new coauthors (Panel B) in quality-specific journals, ranging from T5 to T120. All dependent variables use the asinh() transformation. The sample is divided into single-gender and mixed-gender collaborations for the first T5 publication. T5 is an indicator for the T5 economic journals. PubYear is an indicator for the year of the first T5 publication, while Post is an indicator for the post-period of the first T5 publication. Female is an indicator for female economists. All columns include fixed effects for the scholar, their Ph.D. program-by-experience, and year-by-experience levels. Experience is defined as the number of years since PhD graduation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 9: Gender Gap on Male or Female New Coauthors: Single vs Mixed Gender Group

Dept Var.	Female New Coauthors						Male New Coauthors					
	single			mixed			single			mixed		
	top5 (1)	top30 (2)	top120 (3)	top5 (4)	top30 (5)	top120 (6)	top5 (7)	top30 (8)	top120 (9)	top5 (10)	top30 (11)	top120 (12)
T5 × PubYear × Female	0.094	-0.116	-0.048	-0.083	-0.068	-0.013	-0.644***	-0.420***	-0.164	-0.046	-0.076	-0.055
	(0.087)	(0.113)	(0.103)	(0.088)	(0.100)	(0.105)	(0.085)	(0.103)	(0.111)	(0.065)	(0.071)	(0.068)
T5 × Post × Female	-0.039	-0.016	0.031	0.069	-0.113	0.022	-0.051	-0.115*	-0.055	-0.113***	-0.168***	-0.092**
	(0.050)	(0.089)	(0.082)	(0.059)	(0.081)	(0.084)	(0.060)	(0.064)	(0.066)	(0.034)	(0.049)	(0.045)
Observation	10,901	10,901	10,901	7,660	7,660	7,660	61,892	61,892	61,892	37,523	37,523	37,523
Adjusted R-squared	0.126	0.134	0.116	0.176	0.126	0.141	0.163	0.092	0.086	0.151	0.093	0.094
Outcome Mean	0.160	0.404	0.313	0.216	0.332	0.261	0.309	0.594	0.504	0.344	0.617	0.520
Scholar FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PhD Program-Experience FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year-Experience FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: The dependent variables are the log number of female new coauthors in Columns (1)-(6), and male new coauthors in the remaining columns. New coauthors are categorized into quality-specific journals, ranging from T5 to T120. All dependent variables use the asinh() transformation. The sample is divided into single-gender and mixed-gender collaborations for the first T5 publication. T5 is an indicator for the T5 economic journals. PubYear is an indicator for the year of the first T5 publication, while Post is an indicator for the post-period of the first T5 publication. Female is an indicator for female economists. All columns include fixed effects for the scholar, their Ph.D. program-by-experience, and year-by-experience levels. Experience is defined as the number of years since PhD graduation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 10: Gender Disparity on Tenure Promotion

VARIABLES	Likelihood				# of Years			
	Associate		Full		Associate		Full	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.370**	-0.488***	-0.350**	-0.469***	0.583***	0.547**	1.835***	2.762***
	(0.166)	(0.183)	(0.138)	(0.140)	(0.184)	(0.228)	(0.341)	(0.447)
T5_Stock	0.210*	0.210	0.055	0.018	-0.064	-0.048	-0.112	-0.107
	(0.125)	(0.138)	(0.062)	(0.065)	(0.077)	(0.081)	(0.090)	(0.098)
T30_Stock	-0.208***	-0.209***	-0.001	-0.001	0.316***	0.316***	0.422***	0.413***
	(0.046)	(0.046)	(0.024)	(0.024)	(0.036)	(0.036)	(0.040)	(0.041)
T5 Authors_Stock	0.059*	0.044	0.008	0.009	0.175***	0.169***	0.229***	0.260***
	(0.035)	(0.034)	(0.018)	(0.020)	(0.030)	(0.034)	(0.027)	(0.033)
Female × T5_Stock		0.043		0.214		-0.089		-0.159
		(0.292)		(0.148)		(0.140)		(0.243)
Female × T5 Authors_Stock		0.086		-0.007		0.034		-0.159**
		(0.080)		(0.044)		(0.058)		(0.062)
Observations	1,518	1,518	2,590	2,590	2,602	2,602	2,613	2,613
Pseudo R-squared	0.247	0.247	0.196	0.197				
Adjusted R-squared					0.181	0.181	0.242	0.245
Affiliation Ranking FE	Y	Y	Y	Y	Y	Y	Y	Y
Graduation Cohort FE	Y	Y	Y	Y	Y	Y	Y	Y

Notes: The dependent variables are the likelihood for promotion from Columns (1)-(4) and the number of years for promotion from Columns (5)-(7). T5_Stock is the total T5 publications since PhD graduation to the year before promotion to associate professor. T30_Stock is the total T30 publications (excluding T5s) since PhD graduation to the year before promotion. T5 Authors_Stock is the number of collaborators with T5 publications in the recent five years. All columns include fixed effects for the scholar's last affiliation's ranking and PhD graduation year. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 11: Gender Disparity on Tenure Promotion across Affiliation Tiers

VARIABLES	# of Year for Associate Professor				# of Years for Full Professor			
QS Ranking Group	[1, 20]	[21, 50]	[51, 100]	[100, 500]	[1, 20]	[21, 50]	[51, 100]	[100, 500]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.372	1.136*	0.429	0.622**	1.610**	1.041	1.696**	2.463***
	(0.305)	(0.637)	(0.516)	(0.296)	(0.734)	(1.126)	(0.718)	(0.551)
T5_Stock	-0.227***	0.235	0.058	0.132	-0.173	0.140	-0.194	-0.399**
	(0.067)	(0.149)	(0.149)	(0.181)	(0.104)	(0.200)	(0.276)	(0.184)
T30_Stock	0.204***	0.444***	0.240**	0.395***	0.390***	0.398***	0.389***	0.463***
	(0.054)	(0.077)	(0.101)	(0.059)	(0.070)	(0.078)	(0.102)	(0.078)
T5 Authors_Stock	0.165***	0.092*	0.255***	0.213***	0.201***	0.165*	0.334***	0.254***
	(0.045)	(0.051)	(0.056)	(0.057)	(0.034)	(0.082)	(0.081)	(0.052)
Observations	647	358	476	1,101	624	333	483	1,150
Adjusted R-squared	0.192	0.198	0.262	0.153	0.224	0.352	0.337	0.211
Affiliation Ranking FE	Y	Y	Y	Y	Y	Y	Y	Y
Graduation Cohort FE	Y	Y	Y	Y	Y	Y	Y	Y

Notes: The dependent variables are the number of years for promotion to associate professor from Columns (1)-(4) and to full professor from Columns (5)-(8). T5_Stock is the total T5 publications since PhD graduation to the year before promotion to associate professor. T30_Stock is the total T30 publications (excluding T5s) since PhD graduation to the year before promotion. T5 Authors_Stock is the number of collaborators with T5 publications in the recent five years. All columns include fixed effects for the scholar's last affiliation's ranking and PhD graduation year. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

ONLINE APPENDIX

The Unequal Returns to Marquee Early Career Accomplishments

A Further Analysis SI-1

B Additional Figures and Tables SI-4

A Further Analysis

Effects of the First T5. We examine how a first T5 publication jump-starts a scholar's career path. This part is based on the DID setting that compares scholars' scholarship between those with a T5 and their comparable counterparts in the pre- and post-periods of the first T5 publication. The DID model is as follows,

$$y_{it} = \beta_1 T5_i \times PubYear_{it} + \beta_2 T5_i \times Post_{it} + X_{it} + \eta_i + \eta_{pe} + \eta_{te} + \varepsilon_{it}, \tag{A1}$$

In this form, the outcome variable of interest, y_{it}, represents the number of publications, coauthors, or new coauthors of scholar i in year t. The binary variable $T5_i$ equals one if the scholar has at least one publication in the T5 journal during the sample period and zero otherwise. For scholars with T5 publications, the variable $PubYear_{it}$ is a binary indicator equal to one for the year of the first T5 publication and zero otherwise. $Post_{it}$ is a binary indicator that takes a value of one for all years following the first T5 publication and zero otherwise. Lastly, X_{it} absorbs the post-treatment period dummies, such as $PubYear_{it}$ and $Post_{it}$.

Our model includes a rich set of fixed effects. The scholar fixed effect, denoted by η_i, controls for unobserved, time-invariant individual characteristics that may influence outcomes. To further account for systematic time-varying differences among scholars, we incorporate two major components. First, we include a PhD program-experience fixed effect, denoted by η_{pe}, which interacts PhD program affiliation fixed effects p with the scholar's academic experiences (i.e., the number of years since PhD graduation). This term captures differences in career trajectories that vary across PhD programs over time. Second, we introduce a year-experience fixed effect, η_{te}, defined as the interaction between the year and the scholar's academic experience. This term helps control for cohort-specific dynamics that may influence scholarly outcomes differently over time. Together, these two components allow us to flexibly adjust for both program- and cohort-level time-varying confounders. In the robustness check, we account for a more flexible form of fixed effects that interacts among the PhD program, graduation cohort year, and the current year. This alternative check is at the sacrifice of sample loss due to singletons. In all specifications, standard errors are clustered at the individual scholar level to account for arbitrary serial correlation in the error terms across years within each scholar.

The coefficients of interest are β_1 and β_2, identifying the contemporary and long-term impacts of the first T5 publication, respectively. A positive and statistically significant β_2 indicates that the first T5 publication leads to sustained increases in research output and collaboration activity.

Identification Challenge. The identification strategy compares changes in scholarly outcomes (i.e., publications and collaborations) for economists who publish their first T5 ar-

ticle with those for comparable scholars who have not, before and after the publication year. The key identifying assumption is that, in the absence of the T5 publication, the evolution of these outcomes would have been similar across the two groups. Although this assumption cannot be directly tested in the observational setting, we implement several methods to mitigate potential threats to its validity.

First, scholars with T5 publications may possess more advanced academic competencies or have already established robust collaborative networks prior to their first T5 publication. Consequently, their publication and collaboration patterns are likely to differ systematically from those of scholars without T5 publications. To improve comparability, we restrict the sample to scholars with demonstrated capacity to publish in high-quality journals, i.e., those with either at least two T30 publications or at least one T5 publication. Because the T30 journal group includes all T5 journals and other top field journals, this restriction ensures that both treated and control scholars operate at a similar level of research competence. The inclusion of scholars with publications in top field journals but no T5 publications allows us to identify the effect of obtaining a T5 publication, separate from differences in scholars' underlying research ability.

Second, persistent individual characteristics such as innate research ability, work style, or long-term collaboration preferences may correlate with both treatment and outcomes. To account for such unobservable factors, we incorporate scholar fixed effects, denoted by η_i, absorbing any time-invariant individual attributes that may be correlated with research productivity and collaboration patterns.

Third, differences in doctoral training and program prestige can bias estimates if they affect both the likelihood of T5 publication and later research output. Graduates from highly ranked programs can receive stronger training and enjoy broader academic networks, which can influence subsequent publication and collaboration outcomes. To address this concern, we collect detailed data on each scholar's Ph.D. program and graduation year for the restricted sample. We define academic experience (denoted by e) as the number of years since the Ph.D. was awarded. We include a PhD program-experience fixed effect, denoted by η_{pe}, which interacts PhD program affiliation fixed effects p with the scholar's academic experience. This term captures differences in career trajectories that vary across PhD programs over time. Moreover, we introduce a year-experience fixed effect, η_{te}, defined as the interaction between the year and the scholar's academic experience. This term helps control for cohort-specific dynamics that may influence scholarly outcomes differently over time. Together, these two components allow us to flexibly adjust for both program- and cohort-level time-varying confounders.

Dynamic Effects. To further assess how the impact of a first T5 publication evolves over time and differs by gender, we estimate an event-study model separately for male and female scholars. This approach allows us to trace dynamic treatment effects before and after the first T5 publication while testing the validity of the parallel-trends assumption. Specif-

ically, we recast time relative to the publication year of the first T5 article, with negative (positive) values indicating years before (after) the event. We truncate the observation window to include up to five pre-treatment years and fifteen post-treatment years, grouping observations outside this range into indicator variables $I(t \leq -5)$ and $I(t \geq 15)$. The year immediately preceding the first T5 publication serves as the reference period. The corresponding model can be expressed as:

$$y_{it} = \sum_{m=0,m\neq 1}^{5} \beta_m T5_i \times Post_{i,t=\tau-m} + \sum_{n=1}^{15} \beta_n T5_i \times Post_{i,t=\tau+n} + X_{it} + \eta_i + \eta_{pe} + \eta_{te} + \varepsilon_{it}, \tag{A2}$$

In this form, $Post_{i,t=\tau-m}$ represents an indicator for the m^{th} year prior to scholar i's first T5 publication in year τ (a pre-T5 dummy), while $Post_{i,t=\tau+n}$ denotes the n^{th} year following the first T5 publication in year τ (a post-T5 dummy). We designate $t = \tau - 1$, the year immediately preceding the first T5 publication, as the reference period. The coefficients on the pre-T5 dummies, β_m, measure differences in outcomes between scholars who eventually publish in a T5 journal and those who do not prior to publication. Insignificant estimates of these coefficients support the parallel-trends assumption, suggesting that any divergence in outcomes post-publication is unlikely to be driven by pre-existing trends. The coefficients on the post-T5 dummies, β_n, capture the dynamic effects of publishing a T5 paper in the years that follow. Lastly, X_{it} absorbs the post-treatment period dummies, such as $PubYear_{it}$ and $Post_{it}$.

A growing body of recent literature on the DID model underscores the potential for estimation bias in contexts characterized by staggered treatment timing. In multi-period settings where units receive treatment at different times, such bias can emerge when earlier-treated units are used as controls for later-treated ones (Callaway and Sant'Anna, 2021; Goodman-Bacon, 2021). To mitigate this issue, we compare the event study results with those obtained using the approach introduced by Sun and Abraham (2021). Figure A2 reports the estimated dynamic effects and 95% confidence intervals for male (blue squares) and female (red circles) scholars, using the estimator of Sun and Abraham (2021).

Empirical Results. In the Appendix, Table A3 illustrates the results. Our findings indicate that the first T5 publication marks a turning point for scholars' research agendas with a greater focus on publishing in T5 and T30 journals. Moreover, it reshapes collaboration patterns, enabling scholars to engage with more high-profile co-authors, particularly those who have previously published in T5 or T30 journals.

B Additional Figures and Tables

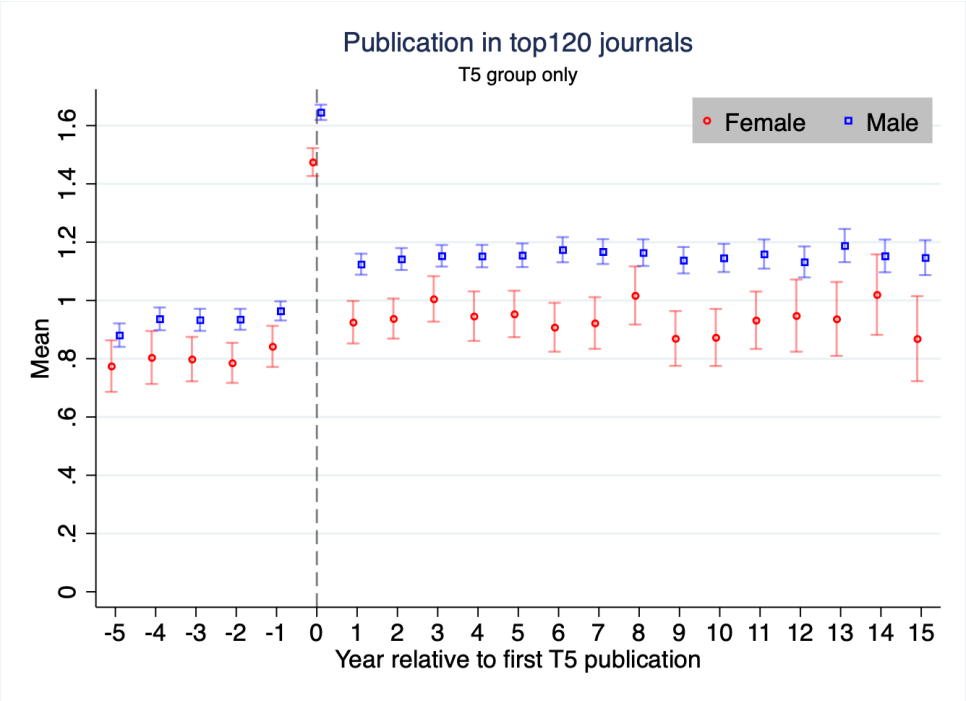


Figure A1: Top 120 Publications Around the First Top 5 Publication

Notes: Figure displays the mean annual Top 120 publications for male and female scholars in the treatment group (those with T5 publications), relative to the year of their first Top 5 publication. Vertical bars denote 95% confidence intervals based on standard errors of the mean.

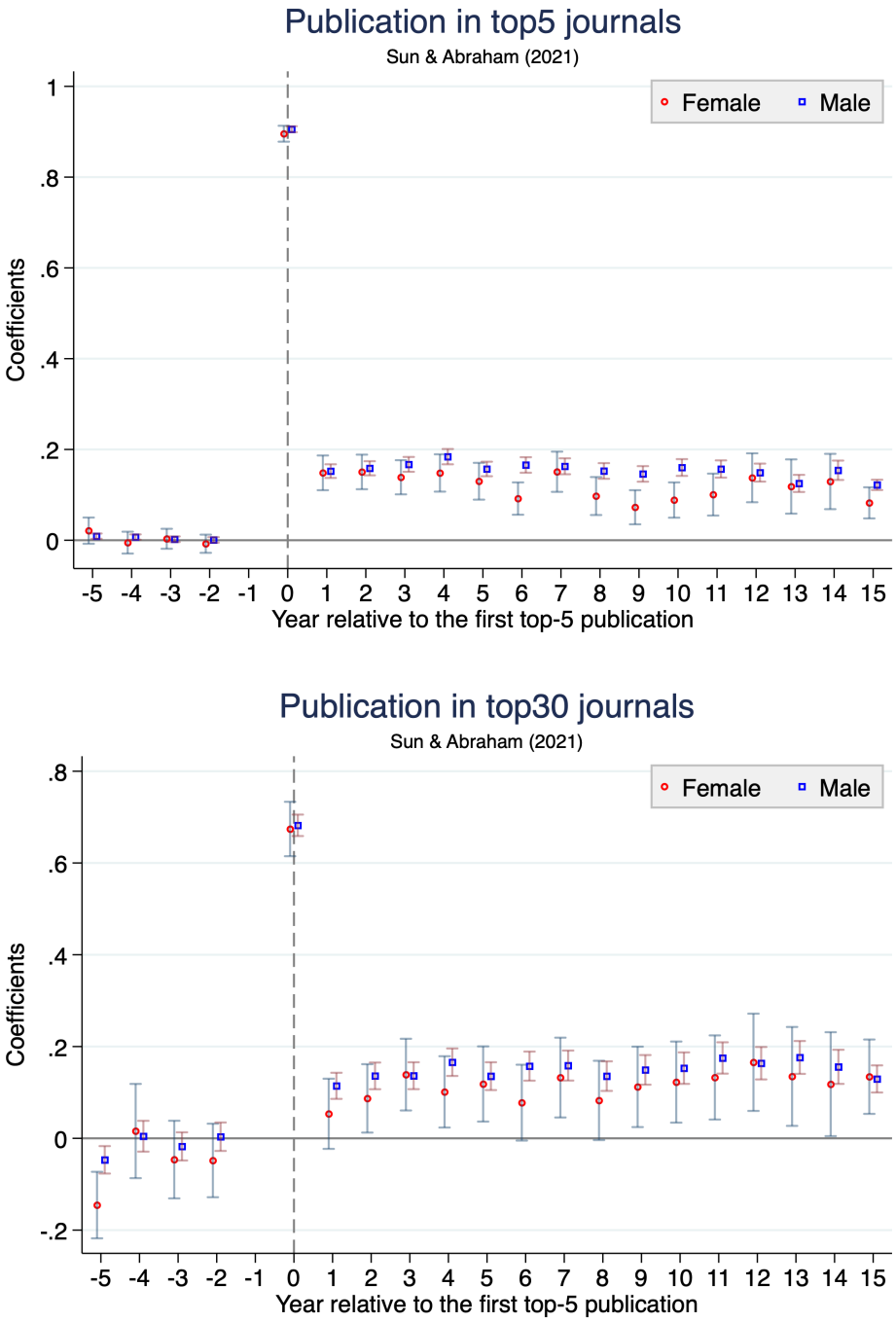


Figure A2: The Dynamic Effect of the First T5 on Publications by Gender

Notes: Figure displays coefficients and their 95% confidence intervals from an event-study model estimating the dynamic effect on scientific publications in the T5 and T30 journals by gender. The estimator is the staggered DID proposed by Sun and Abraham (2021).

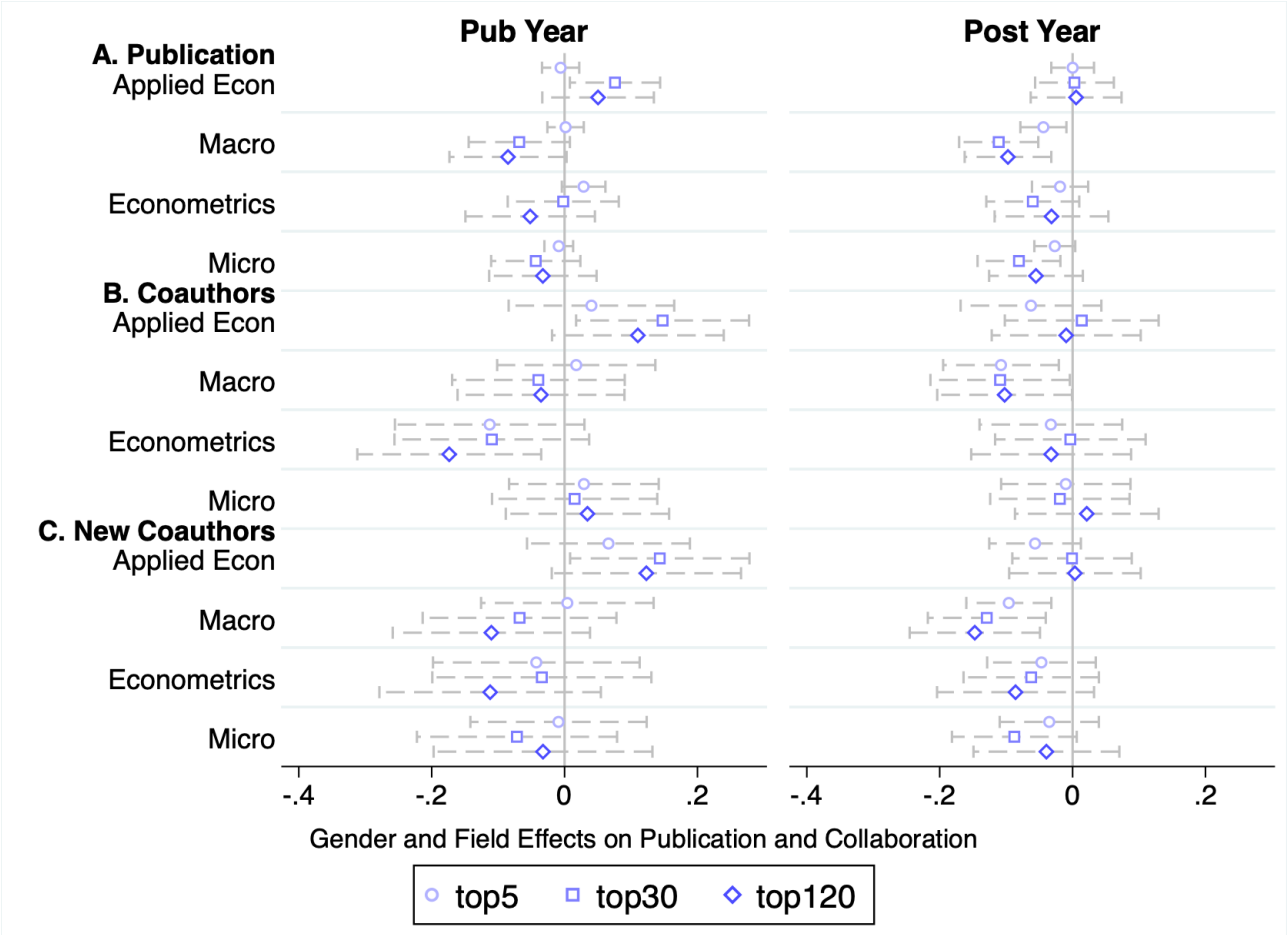


Figure A3: Gender Gap on Publications and Collaboration by Fields

Notes: Figure plots coefficients for the point estimates and their 95% confidence intervals from the baseline TWFE model equation (1), which estimates the gender gap of the first T5 on scientific publications, coauthors, and new coauthors across fields covering Applied Economics, Macroeconomics, Econometrics, and Microeconomics. Panel A shows the effects on publications in the top 5 (hollow circle), top 30 (hollow square), and top 120 (hollow diamond) journals. Panel B displays the effects on coauthors, and Panel C reports the effects on new coauthors.

Table A1: Classification of Journals (Quality Group and Field)

Journal Name	Quality Group						Field			
	Top-5	Top Field	Leading	Other Econ	Finance	Management	Applied	Theory	Metrics	Macro
Accounting, Organizations and Society	0	0	0	0	1	0	0	0	0	0
American Economic Journal: Applied Economics	0	1	0	0	0	0	1	0	0	0
American Economic Journal: Economic Policy	0	1	0	0	0	0	1	0	0	0
American Economic Journal: Macroeconomics	0	1	0	0	0	0	1	0	0	1
American Economic Journal: Microeconomics	0	1	0	0	0	0	1	1	0	0
American Economic Review	1	0	0	0	0	0	1	1	1	1
American Journal of Agricultural Economics	0	1	0	0	0	0	1	0	0	0
American Journal of Health Economics	0	0	1	0	0	0	1	0	0	0
American Law and Economics Review	0	0	0	1	0	0	1	0	0	0
Annals of Economics and Finance	0	0	0	1	0	0	1	0	0	0
Annual Review of Economics	0	0	0	1	0	0	1	0	0	0
Annual Review of Financial Economics	0	0	0	1	0	0	1	0	0	0
Applied Economics	0	0	0	1	0	0	1	0	0	0
Canadian Journal of Economics	0	0	0	1	0	0	1	0	0	0
Critical Finance Review	0	0	0	0	1	0	0	0	0	0
Ecological Economics	0	0	0	1	0	0	1	0	0	0
Econometric Reviews	0	0	0	1	0	0	0	0	1	0
Econometric Theory	0	0	1	0	0	0	0	0	1	0
Econometrica	1	0	0	0	0	0	1	1	1	1
Econometrics Journal	0	0	0	1	0	0	0	0	1	0
Economia	0	0	0	1	0	0	1	0	0	0
Economic Development and Cultural Change	0	0	1	0	0	0	1	0	0	0
Economic History Review	0	0	0	1	0	0	1	0	0	0
Economic Inquiry	0	0	0	1	0	0	1	0	0	0
Economic Journal	0	1	0	0	0	0	1	1	1	1
Economic Modelling	0	0	0	1	0	0	1	0	0	0
Economic Policy	0	0	0	1	0	0	1	0	0	0
Economic Theory	0	0	0	1	0	0	0	1	0	0
Economica	0	0	0	1	0	0	1	0	0	0
Economics Bulletin	0	0	0	1	0	0	1	0	0	0
Economics Letters	0	0	0	1	0	0	1	1	0	1
Economics and Philosophy	0	0	0	1	0	0	1	0	0	0
Economics and Politics	0	0	0	1	0	0	1	0	0	0
Economics of Education Review	0	0	0	1	0	0	1	0	0	0
Education Finance and Policy	0	0	0	1	0	0	1	0	0	0
Energy Economics	0	0	0	1	0	0	1	0	0	0
Energy Policy	0	0	0	1	0	0	1	0	0	0
European Economic Review	0	0	1	0	0	0	1	0	0	0
European Journal of Operational Research	0	0	0	0	0	1	0	0	0	0
European Journal of Political Economy	0	0	0	1	0	0	1	0	0	0
European Review of Economic History	0	0	0	1	0	0	1	0	0	0
Experimental Economics	0	0	1	0	0	0	1	1	0	0
Explorations in Economic History	0	0	0	1	0	0	1	0	0	0
Financial Management	0	0	0	0	1	0	0	0	0	0
Fiscal Studies	0	0	0	1	0	0	1	0	0	0
Games and Economic Behavior	0	1	0	0	0	0	1	1	0	0
Health Economics	0	0	0	1	0	0	1	0	0	0
IMF Economic Review	0	0	0	1	0	0	1	0	0	1
Industrial and Corporate Change	0	0	0	0	0	1	0	0	0	0
International Economic Review	0	1	0	0	0	0	1	1	1	1

International Journal of Central Banking	0	0	0	1	0	0	1	0	0	0
International Journal of Forecasting	0	0	0	1	0	0	0	0	1	0
International Journal of Game Theory	0	0	0	1	0	0	1	1	0	0
International Journal of Industrial Organization	0	0	1	0	0	0	1	1	0	0
International Journal of Production Economics	0	0	0	0	0	1	0	0	0	0
International Tax and Public Finance	0	0	0	1	0	0	1	0	0	0
Journal of Accounting Research	0	0	0	0	1	0	0	0	0	0
Journal of Accounting and Economics	0	0	0	0	1	0	0	0	0	0
Journal of Applied Econometrics	0	0	0	1	0	0	0	0	1	0
Journal of Business Ethics	0	0	0	0	0	1	0	0	0	0
Journal of Business Research	0	0	0	0	0	1	0	0	0	0
Journal of Business Venturing	0	0	0	0	0	1	0	0	0	0
Journal of Business and Economic Statistics	0	0	1	0	0	0	0	0	1	0
Journal of Comparative Economics	0	0	0	1	0	0	1	0	0	0
Journal of Consumer Research	0	0	0	0	0	1	0	0	0	0
Journal of Corporate Finance	0	0	0	0	1	0	0	0	0	0
Journal of Demographic Economics	0	0	0	1	0	0	1	0	0	0
Journal of Development Economics	0	1	0	0	0	0	1	0	0	0
Journal of Development Studies	0	0	0	0	0	1	0	0	0	0
Journal of Econometrics	0	1	0	0	0	0	0	0	1	0
Journal of Economic Behavior and Organization	0	0	1	0	0	0	1	0	0	0
Journal of Economic Dynamics and Control	0	0	1	0	0	0	1	0	0	1
Journal of Economic Geography	0	0	1	0	0	0	1	0	0	0
Journal of Economic Growth	0	1	0	0	0	0	1	0	0	1
Journal of Economic History	0	1	0	0	0	0	1	0	0	0
Journal of Economic Inequality	0	0	0	1	0	0	1	0	0	0
Journal of Economic Literature	0	0	1	0	0	0	1	1	1	1
Journal of Economic Perspectives	0	0	1	0	0	0	1	1	1	1
Journal of Economic Psychology	0	0	0	1	0	0	1	0	0	0
Journal of Economic Surveys	0	0	0	1	0	0	1	0	0	0
Journal of Economic Theory	0	1	0	0	0	0	0	1	0	0
Journal of Economics and Management Strategy	0	0	1	0	0	0	1	0	0	0
Journal of Empirical Finance	0	0	0	0	1	0	0	0	0	0
Journal of Environmental Economics and Management	0	1	0	0	0	0	1	0	0	0
Journal of Finance	0	0	0	0	1	0	0	0	0	0
Journal of Financial Econometrics	0	0	0	1	0	0	0	0	1	0
Journal of Financial Economics	0	0	0	0	1	0	0	0	0	0
Journal of Financial Intermediation	0	0	0	0	1	0	0	0	0	0
Journal of Financial Markets	0	0	0	0	1	0	0	0	0	0
Journal of Financial Services Research	0	0	0	0	1	0	0	0	0	0
Journal of Financial Stability	0	0	0	0	1	0	0	0	0	0
Journal of Financial and Quantitative Analysis	0	0	0	0	1	0	0	0	0	0
Journal of Health Economics	0	1	0	0	0	0	1	0	0	0
Journal of Human Capital	0	0	0	1	0	0	1	0	0	0
Journal of Human Resources	0	0	1	0	0	0	1	0	0	0
Journal of Industrial Economics	0	0	0	1	0	0	1	1	0	0
Journal of International Business Studies	0	0	0	0	0	1	0	0	0	0
Journal of International Economics	0	1	0	0	0	0	1	0	0	1
Journal of International Money and Finance	0	0	0	1	0	0	1	0	0	1
Journal of Labor Economics	0	1	0	0	0	0	1	0	0	0
Journal of Law and Economics	0	0	1	0	0	0	1	0	0	0
Journal of Law, Economics, and Organization	0	0	0	1	0	0	1	0	0	0
Journal of Management Studies	0	0	0	0	0	1	0	0	0	0
Journal of Mathematical Economics	0	0	1	0	0	0	1	1	0	0
Journal of Monetary Economics	0	1	0	0	0	0	0	0	0	1
Journal of Money, Credit and Banking	0	0	1	0	0	0	0	0	0	1
Journal of Policy Analysis and Management	0	0	0	0	0	1	0	0	0	0

Journal of Political Economy	1	0	0	0	0	0	1	1	1	1
Journal of Population Economics	0	0	1	0	0	0	1	0	0	0
Journal of Public Economic Theory	0	0	0	1	0	0	1	1	0	0
Journal of Public Economics	0	1	0	0	0	0	1	0	0	0
Journal of Regional Science	0	0	0	1	0	0	1	0	0	0
Journal of Risk and Uncertainty	0	0	0	1	0	0	1	0	0	0
Journal of Urban Economics	0	1	0	0	0	0	1	0	0	0
Journal of World Business	0	0	0	0	0	1	0	0	0	0
Journal of the Assoc of Envr and Resource Economists	0	0	1	0	0	0	1	0	0	0
Journal of the European Economic Association	0	1	0	0	0	0	1	1	1	1
Labour Economics	0	0	0	1	0	0	1	0	0	0
Macroeconomic Dynamics	0	0	0	1	0	0	0	0	0	1
Management Science	0	0	0	0	0	1	0	0	0	0
Marketing Science	0	0	0	0	0	1	0	0	0	0
Mathematical Finance	0	0	0	0	1	0	0	0	0	0
Mathematical Social Sciences	0	0	0	1	0	0	0	1	0	0
National Tax Journal	0	0	0	1	0	0	1	0	0	0
Organization Science	0	0	0	0	0	1	0	0	0	0
Oxford Bulletin of Economics and Statistics	0	0	0	1	0	0	1	0	1	0
Oxford Economic Papers	0	0	0	1	0	0	1	0	0	0
Oxford Review of Economic Policy	0	0	0	1	0	0	1	0	0	0
Public Choice	0	0	0	1	0	0	1	0	0	0
Quantitative Economics	0	0	1	0	0	0	1	1	1	1
Quantitative Marketing and Economics	0	0	0	1	0	0	1	0	0	0
Quarterly Journal of Economics	1	0	0	0	0	0	1	1	1	1
RAND Journal of Economics	0	1	0	0	0	0	1	1	0	0
Regional Science and Urban Economics	0	0	1	0	0	0	1	0	0	0
Regional Studies	0	0	0	1	0	0	1	0	0	0
Research Policy	0	0	0	0	0	1	0	0	0	0
Resource and Energy Economics	0	0	0	1	0	0	1	0	0	0
Review of Economic Design	0	0	0	1	0	0	1	0	0	0
Review of Economic Dynamics	0	0	1	0	0	0	0	0	0	1
Review of Economic Studies	1	0	0	0	0	0	1	1	1	1
Review of Economics and Statistics	0	1	0	0	0	0	1	0	1	0
Review of Environmental Economics and Policy	0	0	0	1	0	0	1	0	0	0
Review of Finance	0	0	0	0	1	0	0	0	0	0
Review of Financial Studies	0	0	0	0	1	0	0	0	0	0
Review of Income and Wealth	0	0	0	1	0	0	1	0	0	0
Review of Network Economics	0	0	0	1	0	0	1	0	0	0
Review of World Economics	0	0	0	1	0	0	1	0	0	0
Scandinavian Journal of Economics	0	0	0	1	0	0	1	0	0	0
Small Business Economics	0	0	0	1	0	0	1	0	0	0
Social Choice and Welfare	0	0	0	1	0	0	1	1	0	0
Southern Economic Journal	0	0	0	1	0	0	1	0	0	0
Strategic Management Journal	0	0	0	0	0	1	0	0	0	0
Theoretical Economics	0	1	0	0	0	0	0	1	1	1
World Bank Economic Review	0	0	0	1	0	0	1	0	0	0
World Development	0	0	0	1	0	0	1	0	0	0

Table A2: Summary Statistics with All Sample

Variable	Obs	Mean	Std. Dev.	Min.	Max.
Panel A: Basic statistics of scholars					
Has T5 publication	16,945	0.41	0.49	0	1
Female	14,555	0.18	0.38	0	1
Research field					
Applied	16,945	0.93	0.26	0	1
Macro	16,945	0.52	0.50	0	1
Metrics	16,945	0.46	0.50	0	1
Micro	16,945	0.54	0.50	0	1
Panel B: Annual number of publications					
top5	246,135	0.08	0.30	0	8
top30	246,135	0.39	0.66	0	10
top50	246,135	0.55	0.79	0	13
top120	246,135	0.89	1.01	0	16
top150	246,135	0.98	1.05	0	16
Panel C: Annual number of coauthors					
top5	211,728	0.44	0.95	0	19
top30	211,728	1.34	1.59	0	28
top50	211,728	1.58	1.75	0	28
top120	211,728	2.07	2.19	0	53
top150	211,728	2.20	2.29	0	62
Panel D: Annual number of new coauthors					
top5	211,728	0.22	0.62	0	14
top30	211,728	0.66	1.07	0	20
top50	211,728	0.79	1.17	0	21
top120	211,728	1.08	1.45	0	39
top150	211,728	1.16	1.51	0	39

Notes: Panel A presents descriptive statistics at the scholar level. "Has top5 publication" is an indicator for a scholar with T5 publications. "Experience" is the number of years since PhD graduation. "Female" is an indicator for a female scholar. A scholar's research field is defined when the scholar has at least two publications in journals in that field. The quality group of co-authors is defined as the scholar having at least one publication in that quality group. Panel B shows the annual number of publications across journal tiers from T5 to T150. Panels C and D report the annual numbers of coauthors and new coauthors with recent publications across various journal tiers, ranging from T5 to T150, respectively.

Table A3: Long-term Effects of the First T5 on Publications and Collaborations

Dept Var.	Scientific Publications			Coauthors			New Coauthors		
	top5	top30	top120	top5	top30	top120	top5	top30	top120
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
T5 × PubYear	0.885***	0.704***	0.489***	0.926***	0.583***	0.377***	0.636***	0.440***	0.300***
	(0.003)	(0.006)	(0.008)	(0.010)	(0.012)	(0.012)	(0.011)	(0.013)	(0.014)
T5 × Post	0.130***	0.155***	0.114***	0.364***	0.224***	0.111***	0.070***	0.045***	-0.005
	(0.003)	(0.006)	(0.008)	(0.009)	(0.012)	(0.011)	(0.006)	(0.009)	(0.010)
Observation	142,443	142,443	142,443	122,398	122,398	122,398	122,398	122,398	122,398
Adjusted R-squared	0.493	0.273	0.317	0.415	0.318	0.342	0.227	0.159	0.158
Outcome Mean	0.077	0.392	0.894	0.441	1.336	2.066	0.219	0.663	1.076
Scholar FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
PhD Program-Experience FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year-Experience FE	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: The dependent variables are the log number of scientific publications in quality-specific journals, ranging from T5 to T120 journals in Columns (1)-(3), the number of coauthors in Columns (4)-(6), and new coauthors in the remaining Columns. All dependent variables use the asinh() transformation. Coauthors and new coauthors are categorized into the quality-specific journals, ranging from the top 5 to the top 120. T5 is an indicator for the top five economic journals. PubYear is an indicator for the year of the first top-five publication, while Post is an indicator for the post-period of the first top-five publication. All columns include fixed effects for the scholar, their Ph.D. program-by-experience, and year-by-experience levels. Experience is defined as the number of years since PhD graduation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A4: Faculty Rank Records by Gender

Description	Rank			Count		
	Asst (1)	Assoc (2)	Full (3)	Male (4)	Female (5)	Total (6)
No professor record	0	0	0	230	73	303
Full professor only	0	0	1	1,245	176	1,421
Associate professor only	0	1	0	907	229	1,136
Associate + Full	0	1	1	973	140	1,113
Assistant professor only	1	0	0	503	171	674
Assistant + Full	1	0	1	272	46	318
Assistant + Associate	1	1	0	448	101	549
Assistant + Associate + Full	1	1	1	541	86	627
Total				4,119	1,022	**5,141**

Notes: Columns (1) to (3) present sample compositions with various records regarding faculty ranks, while Columns (4) to (6) report the sample size.