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CEBI WORKING PAPER SERIES

Working Paper 22/20

GENDER DIFFERENCES IN SUBMISSION STRATEGIES? A SURVEY OF EARLY-CAREER ECONOMIST

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ISSN 2596-44TX

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Gender differences in submission strategies? A survey of early-career economists*

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July 14, 2020

Abstract

We investigate whether the gender gap in economic publications can be explained by different submission strategies of male and female economists. We conduct an online survey among early-career economics faculty of top 50 institutions focusing on the submission trajectories of job market papers as well as personal and institutional characteristics. Our results suggest that there are no significant differences in submission strategies for this early-career sample.

JEL Codes: JEL codes: D04, D83, D91, J16

Keywords:: gender bias, economists, publications, survey

*Thanks to Erin Hengel, Miriam Wüst and Teodora Boneva for comments. Declarations of interest: none.

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1 Introduction

Looking at the number of female-authored papers in leading economics journals, we see a massive gap to their male peers. Between 2003 and 2013, only 7% of non-desk rejected articles submitted to four leading journals were authored by women only (Card et al., 2020). This gap is far larger than what can be explained by the gender distribution in economics.

Most research investigating the gender gap in publications has looked at the demand side of the publishing process, i.e,. the potential bias of reviewers or editors. Conditional on being published in a Top5, all-female authored papers are cited 25% more (Hengel and Moon, 2020) and are better-written (Hengel, 2020) than comparable male-authored papers. This finding implies that articles by women are held to a higher standard during the review process, and female-authored high-quality research is published less. Krawczyk and Smyk (2016) show that economics students judge papers written by women as less likely to be published than papers written by men, hinting at further bias. Card et al. (2020) also find evidence that articles written by women are held to a higher standard by referees and editors and suggest that women might have different submission strategies than men.

Our paper contributes to the analysis of the supply side of the publishing process by investigating whether different submission strategies can explain part of the gender gap. Given that a Top5 publication can make someone's career (Heckman and Moktan, 2020), different levels of ambition, beliefs or persistence when submitting a research paper, especially at the Top5 level, could contribute to a gender gap in publications and ultimately to career progression. Further, if there are gender differences in response to negative feedback (as shown in student samples by Buser and Yuan, 2019), then a rejection might lead women to move down the journal list quicker, reducing their chances of a top publication.

We investigate milestone in the career of an academic. The submission process and publication of the job market paper (JMP). We sent out a survey to a sample of 562 early-career economists who have completed their Ph.D. and entered the academic university career.[1] All participants thus face very similar incentives to publish their

[1] The share of women who receive a Ph.D. in economics was 32.9% in 2017. The share of women

JMPs and are all highly able and motivated. We elicit the order of submissions of the JMPs as well as some personal and institutional characteristics.

We do not find meaningful differences in the submission strategies of JMPs in our sample. At this point in their career, men and women show similar levels of competitiveness, risk-aversion, patience and confidence, and grit. Given the similarities of men and women, conditional on staying in academia, it is surprising that we find that women in our sample are significantly less likely to have tenure, despite having the same average graduation year (2014). In combination with the results of Hengel (2020) and Card et al. (2020) it seems plausible that publication strategies of male and female economists start out the same and diverge over time given the experience with the (biased) publication process.

2 Survey and Data

We sent the survey to 562 early-career economists via email on December 27th 2019. Email addresses were gathered manually from the department websites. All receivers had finished their PhD between 2009 and 2019. They are employed at one of the top 50 universities according to RePec. We chose a cut-off of 10 years to make sure that individuals would remember their JMP and its submission trajectory and to have had roughly similar publication conditions. The survey focused on facts regarding the JMP or an equivalent paper as well as several control variables, e.g., tenure-status, department-specific tenure requirements, and characteristics such as risk preferences, competitiveness, patience, grit. The survey was accessed through an anonymized link. No questions about institution were asked to prevent any concern about being identified.[2]

In the survey, respondents were asked to state the order of submissions of their JMP (or equivalent). For each attempt, they selected a journal from a list of 80 journals for a maximum of 10 attempts. We ranked the journals in categories defined by Coupé (2003). The groups are T5, Non-T5, Tier A, Tier B, and others.

among assistant professors is 28.8% (Lundberg, 2018). The share of women we contacted is 27.0%.

[2] This also means that we cannot verify the quality of the JMP.

96 people completed the full survey but skipped individual questions. 83 reported their gender. However, the share of women in our sample, 27.7% is identical to the share of women we contacted 27.04%. Thus, neither men nor women disproportionally decided to opt-in to the survey or to skip the gender question.

3 Sample characteristics

Research with student or general population samples often show gender differences in competitiveness or risk preferences (e.g.Niederle and Vesterlund (2007), Dohmen et al. (2011)). We find no significant gender difference in risk preferences or patience (using the Dohmen et al. (2011) survey questions) and only weak, marginally significant differences in competitiveness (see Table 1). We find no significant difference in grit, using the 4-item grit scale from (Duckworth and Quinn, 2009)[3]. Given that overconfidence cannot be measured without an objective benchmark, the difference in self-reported Ph.D. rank can only be taken as an indication of men in our sample being more confident about their relative ability than women. In our sample, significantly more men, 19%, than women, 4% (p=0.04), had received tenure by the time they replied to the survey despite men and women on average having received their Ph.D. in 2014. We find no difference in stated tenure requirement (number of Top5 necessary for tenure) between the genders. The full survey is available in the Supplementary Materials.

4 Results

61.1% had already published their JMP (see Table 2). On average, the papers were published at a Tier A journal (top field journal). More than a fourth published in a Top5. It took respondents 3.10 attempts to get published. For men in our sample, it took 2.9 attempts and for women 3.4. This difference is not statistically significant. By our measures, the rank of publication (with Top5 being the lowest rank) was not

[3] Because of an accidental missing "don't" in one of the grit scale items, we flipped the scale for that item.

Table 1: Descriptive statistics on personal characteristics

	Total		Men		Women		
	Obs	Mean	Obs	Mean	Obs	Mean	Difference in means
Risk preferences	88	6.47	60	6.38	23	6.30	0.08
		(2.30)		(2.29)		(2.36)	(0.89)
Competitiveness	88	6.86	60	7.03	23	6.30	0.72
		(2.03)		(2.07)		(1.89)	(0.13)”
Patience	88	6.23	60	6.15	23	6.04	0.11
		(2.39)		(2.46)		(2.29)	(0.85)
Grit	87	3.62	60	3.58	23	3.76	-0.19
		(0.77)		(0.79)		(0.69)	(0.3)
Self-reported PhD rank	90	1.79	60	1.65	23	2.13	-0.48
		(0.88)		(0.73)		(1.09)	(0.06)*
Tenure	88	0.17	59	0.19	23	0.04	0.14
		(0.38)		(0.39)		(0.21)	(0.04)**
Year of receiving PhD	90	2014	60	2014.2	23	2014.3	-0.14
		(2.72)		(2.69)		(2.84)	(0.84)

Note: SDs in parentheses. P-values from two-sided t-tests. Gender missing for 13 observations. Self-reported PhD rank: 1 among the top 10%, 2 among the top 25%, 3 among the top 50% and 4 among the bottom 50% in their PhD cohort. Significance level $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

significantly different by gender (Men: 2.56 vs. Women: 2.87).[4] Surprisingly, for published papers, women report a significantly faster process from first submission to first journal to final acceptance (2.17 years for women vs. 2.68 years for men). We find no significant gender differences in whether the paper was published at the time of survey (Men: 60% vs. Women: 65%) or the overall number of attempts at this time (Men: 3.21 vs. Women: 3.26).

[4] Journal publication is valued from 1 to 5, 1 being publication in a T5, 2 in a non-T5, 3 in a Tier A, 4 in a Tier B and 5 in others.

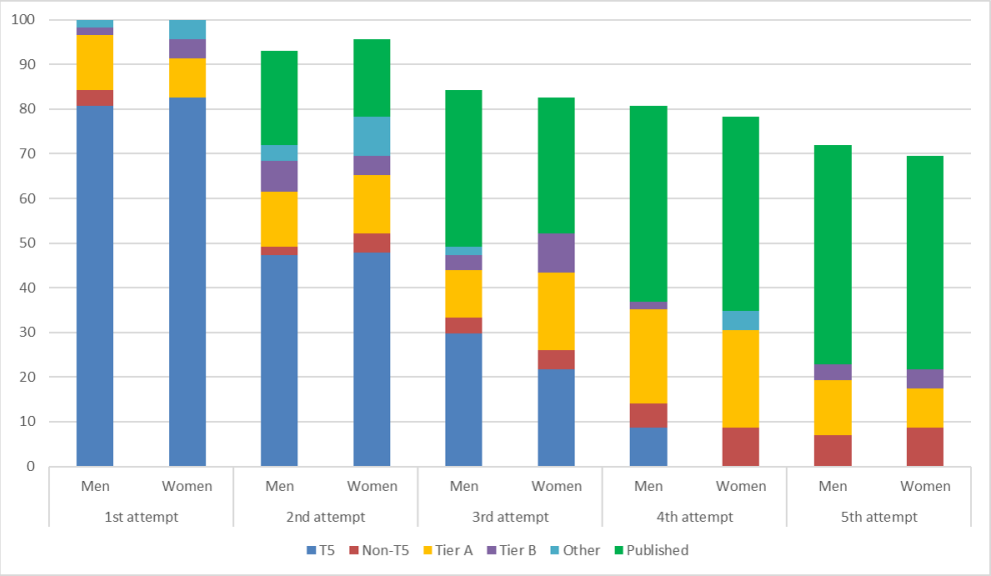
Table 2: Descriptive statistics of the job market paper

	Total		Men		Women		
	Obs	Mean	Obs	Mean	Obs	Mean	Difference in means
Published	108	0.61	60	0.60	23	0.65	-0.05
		(0.49)		(0.49)		(0.49)	(0.67)
No. of attempts	98	3.15	57	3.21	23	3.26	-0.05
		(2.15)		(2.27)		(2.28)	(0.93)
No. of attempts (Published)	63	3.1	36	2.94	15	3.4	-0.46
		(2.18)		(2.23)		(2.61)	(0.56)
Journal rank (published)	65	2.63	36	2.56	15	2.87	-0.31
		(1.21)		(1.23)		(1.30)	(0.44)
Time to publication	65	2.73	36	2.68	15	2.17	0.51
		(1.2)		(0.2)		(0.13)	(0.04)**
Co-authored	107	0.31	60	0.30	23	0.26	0.04
		(0.46)		(0.46)		(0.45)	(0.73)

Note: SDs in parentheses. P-values from two-sided t-tests. Gender missing for 13 observations. Significance level $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

Figure 1 reports the share of men and women submitting their JMP to each journal category in the first five attempts. The green bars indicate cumulative publications. The "missing" share (2nd-5th attempt) represents papers still under review. There are no obvious visual differences between genders. No participant submitted to all Top5 journals.

Figure 1: Percentage of submissions to different journal categories and percentage of published papers, by gender and submission attempt



Note: No. of obs. is 57 male and 23 female. Published is cumulative and indicates that the paper was published in one of the previous submissions and thus not submitted again. The missing shares are the papers currently under review.

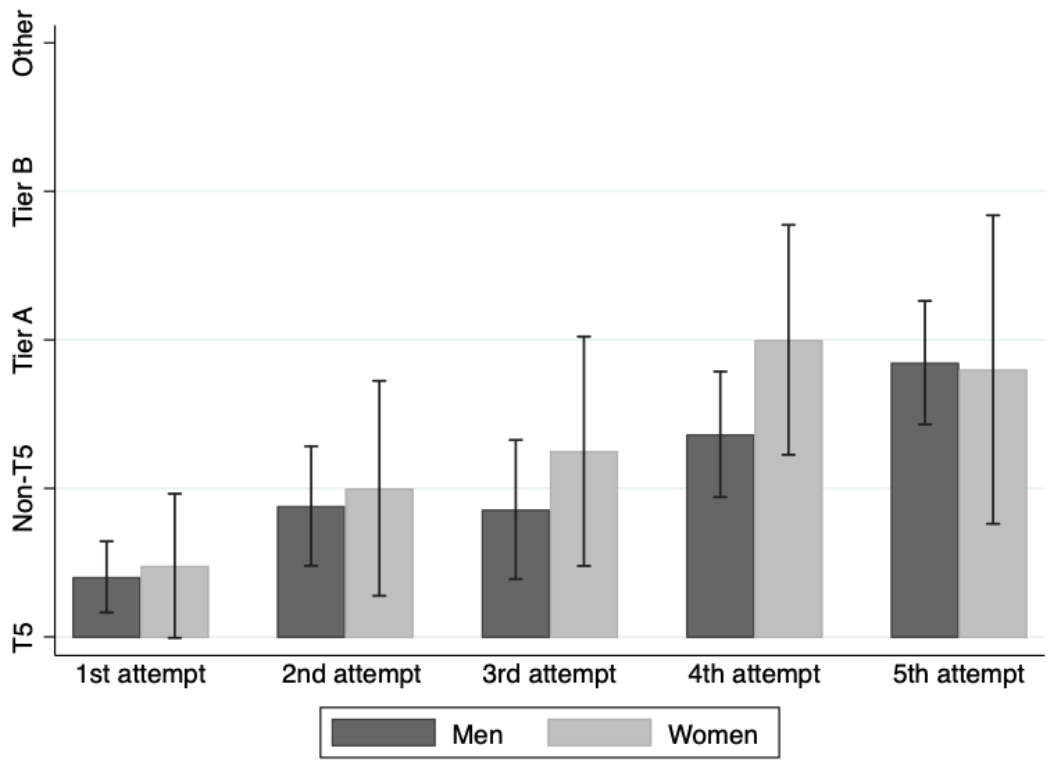
Figure 2 supports this result showing the average rank of the journal in the first five attempts by gender. We only find a marginally significant difference in the average journal rank at the fourth attempt. This is mainly driven by the fact that no women in our sample submit their JMP to a forth Top5. Overall, the difference in submission trajectory is negligible.

5 Discussion

We find that female economists, who have passed the threshold of getting an academic job, are similar to their male peers in all measured dimensions at this stage in their career. Therefore, it might come as no surprise that we find no meaningful differences in submission strategies of JMPs. The large gap in tenure is surprising, though.

We should mention a couple of caveats. As with any survey, the outcomes are self-reported, so there could be differences in recall of the submission trajectory. However, given the restricted sample of early-career economists and the importance of the JMP,

Figure 2: Average journal rank submitted to, by gender and no. of attempts



No. of obs. is 57 male and 23 female in the first attempt.

this is unlikely. Since we are only interested in the rank, ordering mistakes within a category do not matter. The sample size is limited, so we are not powered to detect small differences in submission strategies. We can, however, reject medium to large differences in submissions to Top5s.

Next, given the necessary anonymity of the survey, we cannot control for quality of the JMP. Since we only sampled assistant and associate professors at Top-50 schools and ca. 80% of respondents had their first attempt at publication at a Top5 the average quality is expected to be high. 30.5% of our sample have a co-authored JMP. Having a co-author will influence the decision-making process, but we find no significant gender difference in co-authoring (30% of men vs. 26% of women). Those with single-authored papers will have most likely also been influenced by their supervisors or senior colleagues in their submission strategies. In light of our results, that would mean that men and women receive similar feedback and encouragement to submit to top journals early in their career and therefore follow identical strategies. Over time, they might learn from experiences with journals and adapt their strategy.

This conclusion is in line with (Hengel, 2020) who shows that for inexperienced authors, the gender gap in readability of the initial draft is low, but high for the final publication. More experienced female authors adapt their strategy by submitting higher readability drafts, while male authors stay at the same level.

Women in our sample reported a significantly faster time from first submission to publication of their JMP. Given that Hengel (2020) finds that papers by women spend longer in review, conditional on being accepted at that journal, women might be making up for the lost time, by resubmitting quicker after a rejection.

Concluding, our results suggest that at the start of the academic career, female economists are very similar to their male peers on all observable measures and follow the same strategy when submitting their JMP, at least for the first few rounds. Strategies seem to diverge after exposure to the publishing process.

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