Pathways from Registration to Publication: Evidence from the AEA RCT Registry*

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Abstract

Pre-registration in economics has grown rapidly, yet there is limited systematic analysis of the knowledge produced by registered trials. We examine 898 field trials registered in the AEA RCT Registry between 2013 and 2016. Over 80% produced public outputs, but only 60% resulted in peer-reviewed publications by 2023. On average, trials registered six primary outcomes, though only half were reported in paper abstracts. While we find no evidence of publication bias against null results, studies reporting null findings are less likely to be published in top-five economics journals.

JEL Classification codes: B41, C90, C93
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1 Introduction

In recent years, the practice of pre-registering randomized controlled trials in economics and other fields in social science has grown rapidly, with publication requirements increasingly encouraging or mandating that all published trials must be pre-registered (Miguel, 2021; Nosek et al., 2022). Pre-registration aims to address questionable research practices such as selective reporting and post hoc hypothesizing that pose significant threats to the transparency and reproducibility of scientific findings (John, Loewenstein and Prelec, 2012). By requiring researchers to specify in advance the hypotheses they will investigate, as well as the methods for data collection and analysis, pre-registration promotes greater integrity in the research process.

However, pre-registration cannot fully mitigate challenges of publication bias: some trials are pre-registered but never produce publicly available outputs. While some of these trials may not have been conducted or were only partially conducted before being terminated, others may have been fully executed yet still fail to result in either a peer-reviewed publication or any public-facing output. While publication bias has been frequently documented and addressed in meta-analyses through various techniques (Stanley and Doucouliagos, 2012; Andrews and Kasy, 2019; Irsova et al., 2024*a*,*b*), these corrections often impose a range of assumptions about missing evidence. Given the growing evidence of publication bias within economics (Brodeur et al., 2016, 2023, 2024), trial registry data presents a potentially valuable source of evidence that could assist us in further understanding the scope and nature of the "file-drawer" problem, allowing us to identify whether trials with certain characteristics, such as those yielding null effects, are particularly unlikely to result in any published paper or public output.

This paper aims to analyze the universe of trials registered during the first four years of the American Economic Association RCT Registry (hereafter AEA Registry), quantifying how many are ultimately published and in what form, and what characteristics of the trials (and, if available, their primary findings) predict publication.[1] Our primary analysis links data from all field randomized controlled trials registered in the AEA Registry between 2013 and 2016 with novel data we compiled to identify research outputs associated with these trials. These outputs include peer-reviewed articles, if available, as well as working papers or other forms of publication. We carefully code the registry data to capture trial characteristics such as sample size, use of a clustered design, and the number of primary outcomes. For trials with associated working papers or publications, we additionally code the outcomes reported in the abstract, assessing whether they align with the registered primary outcomes and whether they are presented as null findings.

Our first set of findings presents summary statistics on the characteristics of registered

[1] As clarified below, we use the term "publication" broadly to include a wide range of publicly available outputs.

trials, their outputs, and the alignment between their outputs vis-à-vis their registrations. Among the 1,011 trials in our sample, we identify 898 that correspond to field randomized controlled trials, with 74% registered by authors based in the U.S.[2] Approximately half use a clustered or multilevel design, and the median sample size is 2,000 observations. On average, trials pre-register six primary outcomes, though there is a substantial right tail, with some trials pre-registering significantly more. The majority of trials registered during this period (85%) produced at least one public-facing output by 2023, when the data for this analysis was compiled. However, only 59% resulted in a peer-reviewed journal article, while 18% yielded an academic working paper. Among the subset of trials that generated a working paper or peer-reviewed publication, the corresponding papers report, on average, about half (two) of the pre-registered primary outcomes in their abstracts, along with an additional 0.5 outcomes that were not pre-registered as primary. Outcomes highlighted in this section rarely include null effects: 71% of papers do not report any null findings for a pre-registered primary outcome in their abstracts.

Our second set of results examines the characteristics of trials, as reported in their original registration data, that predict the probability of generating various types of outputs. Among trials that produce an academic output, we further analyze which characteristics of the findings reported in the abstract are associated with publication in a peer-reviewed journal or a top-five journal in economics. Overall, we find that few initial trial characteristics significantly predict the probability of generating any output or published output. Larger trials are slightly more likely to result in any form of output, while trials registered by university-affiliated authors are substantially more likely to produce both any output and any published output.

Within the sample of trials that generate academic outputs, we analyze the impact of two additional variables on the likelihood of publication and top-five journal publication: the percentage of pre-registered primary outcomes reported in the abstract and the percentage of those outcomes reported as null in the abstract. Our findings indicate that reporting a higher percentage of pre-registered primary outcomes leads to a significantly higher probability of publication, although it only weakly increases the likelihood of top-five journal publications. This suggests that the publication process generally rewards greater fidelity to pre-registration. However, reporting a higher percentage of pre-registered primary outcomes as null effects has a weak positive effect on the probability of any publication, but a large negative effect on the probability of publication in a top-five journal. Specifically, a one standard deviation increase in the share of primary outcomes reported as null reduces the probability of top-five publication by five percentage points, an effect equivalent to one-third of the underlying probability of such a publication in the sample.

Our paper contributes to two closely related literatures. The first documents the "file-drawer problem" and the relationship between registry information and the publication pro-

[2]The remainder are laboratory experiments or descriptive studies.

cess, primarily drawing on data from research registries in disciplines outside economics, where such registries have a much longer history. The second explores challenges related to research transparency and selective reporting within the field of economics.

The first evidence of the "file-drawer problem" (Rosenthal, 1979) in the broader social sciences is presented by Franco, Malhotra and Simonovits (2014), who demonstrate that many empirical studies in the social sciences are never published in peer-reviewed journals or even produce public findings, particularly when they yield null results. Tracking 211 studies conducted through the Time-sharing Experiments in the Social Sciences (TESS), the authors find that studies with null results are 40 percentage points less likely to be published and 60 percentage points less likely to generate any written output. Broadly similar findings are reported in Ensinck and Lakens (2025), who examine pre-registered projects on the Open Science Framework (OSF) platform. Among a sample of 169 registrations, the authors find that only 61% were published within four years, though they do not analyze heterogeneity with respect to the findings.[3]

Conditional on entering the publication process, evidence— primarily from medical publishing— suggests that trial registries do not effectively constrain authors to report only, or primarily, pre-registered outcomes or specifications. Mathieu et al. (2009) examines papers across three medical subfields and finds widespread deviations from registered outcomes, indicative of selective reporting. Subsequent research sheds light on why this pattern persists. Only one-third of referees for medical clinical trials consult trial registries and report discrepancies to editors (Mathieu, Chan and Ravaud, 2013). Referees who do not engage in such checks frequently cite a lack of time and the absence of an accessible registry number as barriers. Moreover, a separate study highlights that medical referees generally do not prioritize reviewing registry data or comparing it to publications, a task rarely emphasized by editors (Chauvin et al., 2015).

Similarly, van Lent, IntHout and Out (2015) analyze a sample of medical publications and find that discrepancies between publications and the registry data— potentially indicative of serious reporting flaws— are not associated with any reduction in the likelihood of publication. A subsequent systematic review confirms that such discrepancies are common in randomized trials in medicine (Jones et al., 2015).[4] These discrepancies could potentially be addressed by making trial protocols directly available with articles for review, as evidence suggests that this method reduces the prevalence of selective outcome reporting (Calméjane et al., 2018). More recently, the adoption of Registered Reports (RRs) has been proposed as a more effective tool

[3]The "four years" cutoff is based on OSF's embargo policy, which automatically makes metadata of pre-registrations publicly available four years after registration. The authors also find that publication probability is lower (35%) among the registrations that were automatically made public due to the expiration of the four-year deadline, compared to an 86% publication probability for those manually made public earlier by researchers. In a survey, authors of unfinished projects cited limited time or changes in employment as the primary reasons for non-completion.

[4]In fact, trial registries like ClinicalTrials.gov often contain more complete and accurate data on the outcomes of biomedical trials than the corresponding publications (Riveros et al., 2013).

to mitigate selective reporting (Chambers, 2019*a*,*b*; Chambers and Tzavella, 2022). Evidence from psychology shows that while 96% of results in standard publications are positive, this proportion drops to 44% in RRs (Scheel, Schijen and Lakens, 2021). RRs are also associated with higher methodological and analytical rigor as well as overall article quality compared to non-RR "comparison" papers (Soderberg et al., 2021).[5]

In economics, a growing body of literature has documented widespread evidence of p-hacking in empirical work, where outcomes or specifications are selected to reject the null hypothesis. However, there is some indication that this phenomenon is less prevalent in randomized controlled trials (Brodeur et al., 2016, 2023).[6] Focusing specifically on RCTs, Brodeur et al. (2024) examine 314 trials published between 2018 and 2021, including 83 pre-registered trials and 43 with detailed pre-analysis plans (PAPs). Their findings suggest that pre-registered studies with a PAP exhibit less evidence of p-hacking. However, this reduction is not observed for simple pre-registrations without a PAP. This contrasts with earlier recommendations by editors of major journals, who suggested that the benefits of pre-registration could generally be achieved by completing the mandatory registration fields on the AEA Registry (Banerjee et al., 2020).

The rapid growth in the use of registries and related tools to enhance research transparency in economics has been well-documented, as highlighted by Miguel (2021). Evidence suggests that pre-analysis plans can help mitigate p-hacking points to a promising direction for future trends. However, it remains unclear whether current standards for PAPs are sufficient. Ofosu and Posner (2023) systematically collect and code a random sample of 195 PAPs registered on the Evidence in Governance and Politics (EGAP) platform and the AEA Registry between 2011 and 2016. Their findings suggest that PAPs are not sufficiently comprehensive to fully achieve their intended objectives. Drawing on observational data and survey responses from 519 experimental economists, Imai et al. (2025) document that pre-registration has become a mainstream practice in experimental economics, marked by rapid growth in adoption and broad support among researchers. Nonetheless, ongoing debates about its appropriate scope highlight the need for clearer guidelines and stronger professional standards.

Our work is most closely related to Abrams, Libgober and List (2023), which examines whether the AEA Registry is effectively capturing the full universe of economics RCTs. Using a random sample of 900 trials registered in the AEA Registry and a separate analysis of trials published in top economics journals between 2017 and 2021, the authors find that only 45% of the field experiments published in these journals are registered, and many are registered late. The study also provides evidence consistent with Ofosu and Posner (2023), showing that pre-registrations often lack sufficient detail and are highly unspecific. These challenges—

[5]Registered Reports have recently been introduced in some journals in economics (e.g., in *Journal of Development Economics* and *Journal of Political Economy Microeconomics*), but their implementation is too recent to evaluate their effects on p-hacking or publication bias.

[6]Interestingly, there is no evidence that p-hacking is mitigated through the revision process prior to journal publication or that it is less common in top-ranked journals.

late registration, vague or incomplete registrations, and pre-analysis plans (PAPs) that permit considerable flexibility for outcome selection— lead the authors to find evidence of p-hacking in both the pre-registered and non-pre-registered RCT samples.

Our analysis contributes to this literature in three ways. First, we examine the publication and completion status of the universe of early registered trials, rather than a random sample, from the AEA Registry to provide a more comprehensive view of the final disposition of a set of registered trials. Second, we explore the extent to which trial characteristics predict the likelihood of producing any output, as well as which features of the original trial design and key findings are associated with publication and different types of publication. Third, we build on the evidence presented in Abrams, Libgober and List (2023) to highlight challenges associated with pre-registrations, including their lack of specificity and the prevalence of selective or differential reporting compared to the registrations.

2 Data

Our analysis uses two linked datasets. The first is the data of all trials registered on the registry managed by the American Economic Association (AEA RCT Registry) from the registry's inception in 2013 to December 31, 2016.[7] We chose this conclusion date to ensure sufficient time for trials to be completed and for outputs to be generated. We then linked it to a second dataset we created, which tracks the published or publicly available outputs of all trials. The protocol for compiling this dataset was developed by the research team and entailed engaging research assistants to search scholarly databases, author websites, and other relevant sources. The objective was to identify any public-facing output from each trial and record whether and how the output was published, the type of output, the relevant citation information, and a summary of the results from the abstract for journal articles and working papers. See Supplementary Information A for more details.

In principle, linking a specific paper to a trial registry should be straightforward by cross-checking the registry ID provided in the paper's text, footnotes, or other sections. In practice, however, this information was often omitted. As a result, outputs were frequently linked to trial registries by assessing the alignment of the trial's authors, registration/output titles, research question, intervention, site, and primary outcomes. We defined a trial output as any document reporting specific, quantitative findings; public summaries of study designs or objectives without findings did not qualify. For trials with multiple outputs, we aimed to identify the paper that reported the primary findings while acknowledging that judgments about what constitutes "primary findings" can be somewhat subjective. Peer-reviewed journal articles were prioritized over working papers, and working papers over other types of outputs.[8]

[7] The first trial was registered on May 15, 2013.

[8] In other words, if a peer-reviewed paper were identified, we would not record a working paper or any

The protocol included several strategies to ensure data quality. First, research assistants could signal uncertainty about the outcome of a search for a particular trial and flag it for review by a second research assistant or a principal investigator. Any discrepancies between research assistants were reviewed and resolved by a principal investigator. Second, a principal investigator also re-reviewed a randomly selected 20% of all records to ensure accuracy. Any non-concordant decisions within the principal investigator team were resolved through discussion. Third, upon completing the data collection process, the research team contacted all authors of registered trials to verify whether the identified output or the absence of an output was correct. We received 33 corrections, which were incorporated into our dataset. Several of these corrections were necessary because papers had recently been accepted or published, while others resulted from authors identifying a different paper as the primary output linked to registration than the one identified by research assistants.[9] Fourth, one principal investigator conducted a final, rapid review of all research outputs identified as part of the process of reviewing and coding study abstracts. The primary search and author verification process was completed by 2023, and the final verification of research outputs was completed by March 1, 2024. Therefore, any outputs published after this date are not reflected in the data.

From the inception of the registry until 2016, 1,011 trials were registered. Within this sample, we excluded the following: 19 registrations (2%) that are literal duplicates of another registration (the same trial registered under multiple identification numbers, presumably in error); 19 registrations (2%) where the authors did not provide sufficient information to determine the trial objectives and/or the entry appeared to refer to an observational study; 26 registrations (2.5%) corresponding to clinical trials; and 49 registrations (4.9%) corresponding to laboratory experiments.[10] The final sample consists of 898 trials.

3 Empirical Analysis

3.1 Hypotheses

In the first step, we aim to document empirical patterns observed in the registry data and examine the types of output generated by each trial. In the second step, we analyze the predictors of publication, building on the following pre-registered hypotheses.

other form of output. We pre-registered our data collection procedure and analysis plans on the Open Science Framework before the creation of data: https://osf.io/wsxd9.

[9] A small number of authors directly provided us with research products. In that case, we cross-checked whether the output was publicly available; only publicly available output met our criteria.

[10] While the definition of a laboratory experiment is somewhat subjective and the distinction between laboratory and field experiments can be fluid, we generally define laboratory experiments as projects in which both the treatment manipulation and outcome are conducted and measured within a laboratory setting. Clinical trials were defined as those with interventions and outcomes narrowly focused on clinically measured medical outcomes, conducted by research personnel primarily or exclusively engaged in medical trials.

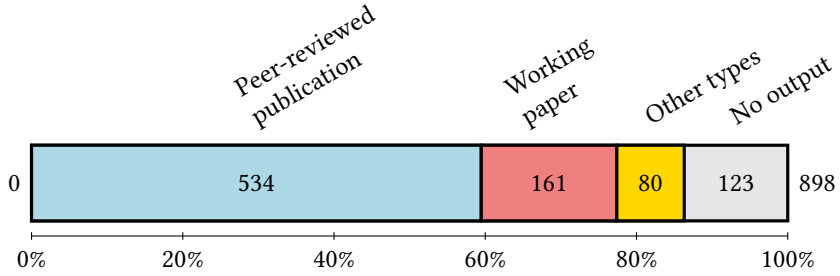

Figure 1: Distribution of output types.

Hypothesis 1. A larger sample size or a higher number of clusters is associated with a higher probability of a peer-reviewed publication.

Hypothesis 2. Null effects are associated with a lower probability of a peer-reviewed publication.

Hypothesis 3. A registering author based at a high-ranking department or university (e.g., an Ivy League institution) is associated with a higher probability of publication, while authors based at non-academic institutions (including policy or other research institutions) are associated with a lower probability of publication, reflecting differing incentives.

Additionally, we analyze these same variables as predictors of any trial output (including working papers, etc.) or the probability of publication in a top-five journal.[11]

3.2 Descriptive Statistics

Within the sample of eligible field trials registered from the inception of the registry through the end of 2016, we find that 60% were published as peer-reviewed journal articles, 18% resulted in working papers, and 9% produced other types of outputs such as dissertation chapters, policy briefs or short presentations (Figure 1). Conversely, 14% of the trials yielded no public-facing output. It is likely that some of these trials were not fully conducted, although this information is often not publicly available. While the registry includes optional fields for authors to indicate if a trial was suspended or terminated, in practice, this information is rarely provided.

Within the sample of trials analyzed, the time from registration to publication varies substantially, as summarized in Figure S1 in the Supplementary Information. The modal gap is four years, followed by six, three, and five years. Additionally, approximately 22% of the published papers were registered only after their publication, presumably reflecting trials that

[11]We also pre-registered the hypothesis that a "lower minimum detectable effect size— indicating greater statistical power to detect smaller effects— is associated with a higher probability of a peer-reviewed publication." Unfortunately, the field for minimum detectable effect size is not mandatory in the trial registry, and we found that the majority of registrations (67%) did not populate this field. For those that did, coding the information uniformly proved very challenging due to its heterogeneity in how the effect sizes were entered.

were launched before the registry's inception and subsequently registered to align with evolving professional norms. The sample also includes 504 authors, who, on average, register 1.8 trials each. The median number of trials registered per author is one, while the 99th percentile corresponds to nine registrations per author (Figure S2 in the Supplementary Information).

Table 1 presents key summary statistics, beginning with the characteristics of trial authors and the registration dates in Panel A. The average number of authors per registered trial is three. We also record the characteristics of the registering author or researcher, whom we consider an approximate proxy for the principal investigator.[12] Among the registering authors, 85% are based at universities (6% at Ivy League universities), while 15% are affiliated with non-academic or policy institutions. The geographic distribution reveals a strong dominance of North America (74%), with only 6% of authors originating from regions outside the U.S. and Europe. Our data also highlight the accelerating pace of trial registrations over time, with nearly half of the trials in the sample registered in the final year of the sample period, 2016.

Panel B summarizes data from the registry fields, including the number of observations, study design, and outcomes. During the compilation and cleaning of this information, the research team observed significant heterogeneity in the quality and clarity of the data provided in the registry. Although populating certain fields with information is mandatory, it is common for the information to be partial, incomplete, or unclear: e.g., sample sizes are often reported as ranges, or it may be ambiguous whether the reported sample size refers to a cluster or an individual observation. Similarly, primary outcomes are frequently described in general terms, such as "economic outcomes," without further specificity. Some trials also populate numerous fields with references to their pre-analysis plans (PAPs), although the plans themselves are either not uploaded or are not publicly available. When a PAP document is accessible on the registry site, we review it and populate the relevant data fields accordingly. However, we did not seek access to private pre-analysis plans or contact authors to request PAPs, as our objective is to focus solely on publicly available information.

With these caveats, around 43% of trials in this sample are identified as using a clustered design, with 5% employing a multi-level design that includes randomization at more than one level, for example, household and village level.[13] The median sample size is 2,000 observations, although the mean is skewed to the right due to the presence of high outliers. On average, each trial reports six primary outcomes. Primary outcomes are generally counted as distinct individual outcomes rather than as a grouped "family" of outcomes. For instance, a trial that

[12] Manual review indicates that this is not always the case, as a few trials are registered by individuals who appear more likely to be research assistants. Furthermore, in some instances, the registering author is not the author of the final trial output.

[13] Identifying a clustered trial can be challenging in some cases. For example, if a trial uses randomization at the school or village level and all outcomes are measured at that same level (without any individual-level data), the main specification might not include any clustered standard errors. Nevertheless, we examine each trial's level of randomization and the level at which outcomes are measured to determine whether a trial should be coded as clustered or not.

Table 1: Summary statistics.

	N	Mean	Median	SD	Min	Max
Panel A: Characteristics of author team and date registered						
Num. authors	898	2.91	3.00	1.43	1	12
Registering author: University	898	0.85	1.00	0.36	0	1
Registering author: Ivy league	898	0.06	0.00	0.24	0	1
Registered by top-10 author	898	0.15	0.00	0.36	0	1
Registering author: Based in North America	898	0.74	1.00	0.44	0	1
Registering author: Based in Europe	898	0.20	0.00	0.40	0	1
Registering author: Based in other region	898	0.06	0.00	0.24	0	1
Registered in 2016	898	0.47	0.00	0.50	0	1
Registered in 2015	898	0.23	0.00	0.42	0	1
Registered in 2014	898	0.23	0.00	0.42	0	1
Registered in 2013	898	0.07	0.00	0.25	0	1
Panel B: Characteristics of trial reported at registration						
Clustered design	896	0.43	0.00	0.50	0	1
Multi-level clustered design	896	0.05	0.00	0.21	0	1
Sample size (in thousands)	883	163.89	2.10	3065.43	0	76000
Num. primary outcomes	884	5.94	4.00	6.84	1	121
Public pre-analysis plan	898	0.14	0.00	0.34	0	1
Pre-analysis plan	898	0.28	0.00	0.45	0	1
Panel C: Characteristics of abstract for academic outputs						
Num. primary outcomes	678	1.88	1.00	1.44	0	16
Perc. of registered primary outcomes	675	0.49	0.40	0.34	0	1
Num. other outcomes	686	0.55	0.00	2.61	0	64
Num. primary outcomes as null	677	0.49	0.00	1.14	0	14
Perc. of registered primary outcomes as null	672	0.12	0.00	0.26	0	1
No null primary results	672	0.71	1.00	0.45	0	1

Notes: A sample size (N) of less than 898 indicates that either authors did not provide the required information in their registration or the variable could not be coded from the research output due to insufficient information. The variables on the outcomes in the research output could only be coded for trials that resulted in a working paper or a journal article ($N = 695$).

specified "labor market outcomes (employment and earnings)" as the primary outcome would be registered as reporting two separate primary outcomes rather than one. We argue that this strategy aligns more closely with the general analytical methods employed in most trials in economics, as the majority of papers typically report impacts separately for each individual outcome variable rather than, or at least in addition to, a composite family of outcomes.[14] Some trials are missing data in these fields, often because they referenced a pre-analysis plan that could not be reviewed or because their notation could not be clearly interpreted. Overall, 14% of the trials have a publicly available pre-analysis plan listed in the AEA RCT Registry,

[14] As an example, the maximum value of 121 pre-registered outcomes corresponds to a trial that pre-registered a large number of primary outcome families, each associated with multiple separate variables that were individually counted.

while 28% have a pre-analysis plan recorded in the registry. This implies that, as of April 2022, when we downloaded the data from the AEA RCT Registry (AEA RCT Registry, 2022), 14% of trials had a "private" pre-analysis plan, i.e., one that was uploaded but not publicly accessible.

Finally, Panel C presents summary statistics for the subset of trials that produced academic outputs (published papers or working papers) with available abstracts.[15] On average, each academic output reports slightly fewer than two outcomes in its abstract, representing approximately half of the registered primary outcomes, along with on average 0.5 additional outcomes not listed as primary. Among the primary outcomes reported in the abstract, only 0.5 on average are null results. The majority of papers (71%) do not report any null results for primary outcomes in their abstracts.

3.3 Analyzing Predictors of Trial Outputs

We begin by examining what trial characteristics, as recorded in the registry, predict the likelihood of generating any trial output, any peer-reviewed publication, and any publication in a top-tier economics journal (top-five).[16] Next, we focus on the subset of trials that produced academic outputs, analyzing the predictors of journal publication and top-tier publication within this group. For these trials, we were also able to code variables related to the outcomes reported in their abstracts. In each analysis, we regress a binary variable representing the trial output of interest on a set of trial covariates. To account for sample size, we use the number of randomization units, replacing the total sample size with the number of clusters for trials employing clustered designs, and apply a logarithmic transformation. The set of trial characteristics used in these regressions is drawn from those presented in Table 1.

Table 2 presents the first set of results. Only a limited subset of trial characteristics recorded at registration are found to predict the likelihood of producing any trial output and the type of output generated. A larger number of randomization units is associated with a marginally higher probability of generating any output and a top-five journal publication. Trials registered by authors affiliated with universities strongly predict the likelihood of all three outcomes, with a particularly large coefficient for peer-reviewed journal outputs. In contrast, trials registered later in the sample period are slightly less likely to have resulted in a journal publication, although this relationship is not always precisely estimated. Additionally, trials registered by authors based outside the U.S. are significantly less likely to have produced any form of output.

Table 3 presents the second set of results, focusing on the subset of trials that yielded an academic output with an available abstract. We focus on two variables related to the presentation of results in abstracts: the percentage of pre-registered primary outcomes reported in the abstract and the percentage of these outcomes reported as null in the abstract. The dependent

[15] There are 693 trials that yielded this type of output, and all have corresponding abstracts.

[16] The top-five journals are the *American Economic Review*, *Econometrica*, the *Journal of Political Economy*, the *Quarterly Journal of Economics*, and the *Review of Economic Studies*.

Table 2: Predictors of public research output of different types (registry data).

	(1) Any	(2) Journal	(3) Top-5
Randomization units (log)	0.019**	0.003	0.013*
	(0.009)	(0.011)	(0.007)
Clustered trial	0.063**	−0.028	−0.002
	(0.032)	(0.043)	(0.029)
Num. primary outcomes in registration	0.001	−0.002	−0.001
	(0.002)	(0.003)	(0.001)
Public pre-analysis plan	−0.017	−0.010	0.003
	(0.035)	(0.049)	(0.035)
Reg. author affiliation: University	0.088**	0.222***	0.106***
	(0.036)	(0.046)	(0.021)
Reg. author affiliation: Ivy League	−0.130**	−0.090	0.024
	(0.060)	(0.074)	(0.060)
Registered in 2014	0.019	−0.073	−0.066
	(0.046)	(0.069)	(0.056)
Registered in 2015	−0.043	−0.167**	−0.084
	(0.048)	(0.070)	(0.056)
Registered in 2016	−0.025	−0.109*	−0.027
	(0.044)	(0.064)	(0.055)
Region: Europe	−0.115***	−0.105**	−0.075***
	(0.034)	(0.043)	(0.026)
Region: Other	−0.151**	−0.246***	−0.118***
	(0.059)	(0.066)	(0.024)
Constant	0.692***	0.560***	0.027
	(0.085)	(0.114)	(0.079)
Observations	879	879	879
R^2	0.047	0.054	0.044
Mean of dep. var.	0.861	0.595	0.126

Notes: The registry data includes complete information for 879 registrations. However, 19 registrations have missing values in at least one of the following variables: the number of randomization units (six missing values), whether the trial uses clustering (two missing values), and the number of primary outcomes listed in the registration (14 missing values). Robust standard errors are reported in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$.

variables are journal publication and top-five journal publication, with specifications estimated both with and without the inclusion of additional registry characteristics. The results reveal a clear pattern: reporting a higher percentage of pre-registered primary outcomes in the abstract has a large positive effect on the likelihood of any journal publication, although the effect on top-five publications is only weakly positive. Conversely, reporting a higher percentage of pre-registered primary outcomes as null has a weakly positive effect on the probability of any publication but strongly reduces the likelihood of publication in a top-five journal.

Table 3: Predictors of the journal and top-five publications (output data).

	(1) Journal	(2) Journal	(3) Top-5	(4) Top-5
Share of registered outcomes in abstract	0.147***	0.168***	0.092*	0.074
	(0.049)	(0.054)	(0.051)	(0.057)
Share of null results in abstract	0.106*	0.105*	−0.213***	−0.197***
	(0.054)	(0.056)	(0.052)	(0.053)
Randomization units (log)		−0.022**		0.012
		(0.010)		(0.009)
Clustered trial		−0.097**		−0.005
		(0.041)		(0.037)
Num. primary outcomes in registration		0.002		−0.0004
		(0.002)		(0.002)
Public pre-analysis plan		0.008		0.022
		(0.047)		(0.045)
Reg. author affiliation: University		0.006		0.110***
		(0.053)		(0.033)
Reg. author affiliation: Ivy League		0.008		0.060
		(0.069)		(0.080)
Registered in 2014		−0.147***		−0.092
		(0.053)		(0.070)
Registered in 2015		−0.238***		−0.117*
		(0.056)		(0.070)
Registered in 2016		−0.163***		−0.052
		(0.047)		(0.068)
Region: Europe		0.005		−0.070**
		(0.043)		(0.035)
Region: Other		−0.190**		−0.152***
		(0.084)		(0.034)
Constant	0.691***	1.021***	0.145***	0.070
	(0.030)	(0.103)	(0.025)	(0.110)
Observations	672	667	672	667
R^2	0.024	0.061	0.020	0.057
Mean of dep. var.	0.777	0.775	0.165	0.165

Notes: Of the trials, 695 were published as either working papers or journal articles. Complete data for the included variables are available for 667 trials, with missing values as follows: 22 for the share of registered outcomes reported in the abstract, 25 for the share of null results among registered outcomes in the abstract, six for the number of randomization units, two for the use of clustering, and 13 for the number of primary outcomes listed in the registration. Robust standard errors are reported in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$.

To interpret the magnitude, we note that a one standard deviation increase in the percentage of pre-registered outcomes reported (0.34) increases the probability of journal publication by about six percentage points, relative to a base probability of 78%.[17]

In contrast, a one standard deviation increase in the percentage of pre-registered outcomes reported as null (0.26) is associated with a three percentage point increase in the probability of any journal publication but a striking five percentage point decline in the likelihood of publication in a top-five journal. This negative effect is large, nearly matching one-third of

[17]Using the coefficient in Column (2), $0.34 \times 0.168 = 0.057$ or 5.7 percentage points.

the baseline probability of a top-five publication. Supplementary Tables S1 and S2 provide parallel findings using sample size instead of the number of randomization units. The patterns remain entirely consistent.

4 Discussion

In this paper, we introduced and analyzed a novel meta-science dataset that tracks the publication status of all randomized controlled trials registered during the first four years of the operation of the AEA Registry. Our findings have three key implications.

First, we highlight the substantial heterogeneity in the clarity and interpretability of information entered into the AEA Registry. While the registry's flexibility has likely facilitated its widespread adoption, as noted by Miguel (2021), it has also resulted in significant variability in the quality of registrations. For instance, descriptions of randomization or study designs often require manual coding as opposed to categories such as individual, school, and cluster; intervention descriptions are sometimes so brief that they fail to convey the program's nature; key sample sizes are expressed in overly broad ranges (e.g., 1,000–2,000), offering limited insight; and primary outcomes are frequently identified in terms so general (e.g., "academic outcomes") that their intent is unclear. Examples illustrating these challenges are provided in Supplementary Information A.4.

These findings align with Abrams, Libgober and List (2023), who similarly observed that registries and even pre-analysis plans often lack the clarity or detail needed to constrain researchers' analytic flexibility. Relatedly, Brodeur et al. (2024) find no evidence of reduced p-hacking in trials with only a registry entry; however, trials that include a detailed pre-analysis plan (PAP) do exhibit reduced p-hacking. This suggests that the quality of the information provided ex-ante may significantly influence research practices, either because drafting a full PAP reflects a selective commitment to transparency or because greater detail genuinely limits post-hoc flexibility.

Second, despite the availability of comprehensive data on trial characteristics and corresponding research outputs, we find little evidence that trial characteristics significantly predict the likelihood of generating research outputs or peer-reviewed journal articles. That being said, the proportion of trials yielding journal articles (59%) is substantially smaller than those producing any form of output (86%)— a useful reminder that any comprehensive review of evidence, even evidence from randomized trials, should be inclusive of non-published evidence. We observe a much lower probability of public output for trials registered by non-university authors, indicating that evidence generated by policy-based researchers may be disproportionately underrepresented in the accessible literature. It is important to note that our analysis focuses on early registered trials, and there may have been positive selection into early registration by authors conducting higher-quality or better-funded projects, or by those particularly committed to publication. Perhaps most importantly, we find that adherence to

pre-registered outcomes (as measured by the percentage of pre-registered outcomes reported in the abstract) is positively correlated with the likelihood of publication.

Third, we find evidence of meaningful penalization of null results at the very highest level of publication— specifically, in top-five journals. Papers reporting a higher share of null findings are significantly less likely to be published in these journals, conditional on the sample size. It is important to note that this is only associational evidence, and we cannot rule out the possibility that these trials reporting null results exhibit other characteristics that influence their publication outcomes. For instance, it is plausible that trials reporting null results are disproportionately underpowered, even conditional on sample size and clustering design (i.e., reporting outcomes with higher variance or higher intra-cluster correlation). However, systematic testing of this hypothesis is not feasible at present.[18] That being said, this pattern adds to the growing evidence of substantial bias against null results within the publication process in economics (Chopra et al., 2024). This bias is particularly meaningful given the evidence that the top-five journals are extremely influential in hiring and promotion decisions (Heckman and Moktan, 2020). Furthermore, this observed bias aligns with the pattern of p-hacking (Brodeur et al., 2023), as researchers may be motivated to avoid reporting null findings to maintain a competitive edge in publication.

Looking ahead, these findings contribute to a growing debate within economics around how to effectively harness the tools of research transparency to improve research practices, enhance the quality of findings, and increase their replicability.

References

Abrams, Eliot, Jonathan Libgober, and John A. List. 2023. "Research Registries and the Credibility Crisis: An Empirical and Theoretical Investigation." Working paper.

AEA RCT Registry. 2022. "Registrations in the AEA RCT Registry (2013-05-15 through 2022-04-01)." Harvard Dataverse. https://doi.org/10.7910/DVN/DXQ7HR.

Andrews, Isaiah, and Maximilian Kasy. 2019. "Identification of and Correction for Publication Bias." *American Economic Review*, 109(8): 2766–2794.

Banerjee, Abhijit, Esther Duflo, Amy Finkelstein, Lawrence F. Katz, Benjamin A. Olken, and Anja Sautmann. 2020. "In Praise of Moderation: Suggestions for the Scope and Use of Pre-Analysis Plans for RCTs in Economics." NBER Working Paper No. 26993.

Brodeur, Abel, Mathias Lé, Marc Sangnier, and Yanos Zylberberg. 2016. "Star Wars: The Empirics Strike Back." *American Economic Journal: Applied Economics*, 8(1): 1–32.

Brodeur, Abel, Nikolai Cook, Jonathan Hartley, and Anthony Heyes. 2024. "Do Preregistration and Pre-analysis Plans Reduce p-Hacking and Publication Bias? Evidence from 15,922 Tests Statistics and Suggestions for Improvement." *Journal of Political Economy Microeconomics*, 2(3): 527–561.

[18] While many trials do report power calculations in the AEA Registry, this is not a mandatory field, and the type and quality of information provided in this field vary considerably.

Brodeur, Abel, Scott Carrell, David Figlio, and Lester Lusher. 2023. "Unpacking p-hacking and Publication Bias." *American Economic Review*, 113(11): 2974–3002.

Calméjane, Louis, Agnès Dechartres, Viet Thi Tran, and Philippe Ravaud. 2018. "Making Protocols Available with the Article Improved Evaluation of Selective Outcome Reporting." *Journal of Clinical Epidemiology*, 104: 95–102.

Chambers, Chris. 2019*a*. "The Registered Reports Revolution: Lessons in Cultural Reform." *Significance*, 16(4): 23–27.

Chambers, Chris. 2019*b*. "What's Next for Registered Reports?" *Nature*, 573(7773): 187–189.

Chambers, Christopher D., and Loukia Tzavella. 2022. "The Past, Present and Future of Registered Reports." *Nature Human Behaviour*, 6(1): 29–42.

Chauvin, Anthony, Philippe Ravaud, Gabriel Baron, Caroline Barnes, and Isabelle Boutron. 2015. "The Most Important Tasks for Peer Reviewers Evaluating a Randomized Controlled Trial Are Not Congruent with the Tasks Most Often Requested by Journal Editors." *BMC Medicine*, 13: 1–10.

Chopra, Felix, Ingar Haaland, Christopher Roth, and Andreas Stegmann. 2024. "The Null Result Penalty." *Economic Journal*, 134(657): 193–219.

Ensinck, Eline, and Daniël Lakens. 2025. "An Inception Cohort Study Quantifying How Many Registered Studies are Published." *Advances in Methods and Practices in Psychological Science*, 8(1): 25152459241296031.

Franco, Annie, Neil Malhotra, and Gabor Simonovits. 2014. "Publication Bias in the Social Sciences: Unlocking the File Drawer." *Science*, 345(6203): 1502–1505.

Heckman, James J, and Sidharth Moktan. 2020. "Publishing and promotion in economics: The tyranny of the top five." *Journal of Economic Literature*, 58(2): 419–470.

Imai, Taisuke, Séverine Toussaert, Aurélien Baillon, Anna Dreber, Seda Ertaç, Magnus Johannesson, Levent Neyse, and Marie Claire Villeval. 2025. "Pre-Registration and Pre-Analysis Plans in Experimental Economics." MetaArXiv. https://doi.org/10.31222/osf.io/cj36w_v1.

Irsova, Zuzana, Hristos Doucouliagos, Tomáš Havránek, and TD Stanley. 2024*a*. "Meta-Analysis of Social Science Research: A Practitioner's Guide." *Journal of Economic Surveys*, 38(5): 1547–1566.

Irsova, Zuzana, Pedro R. D. Bom, Tomas Havranek, and Heiko Rachinger. 2024*b*. "Spurious Precision in Meta-Analysis." Working paper.

John, Leslie K., George Loewenstein, and Drazen Prelec. 2012. "Measuring the Prevalence of Questionable Research Practices with Incentives for Truth Telling." *Psychological Science*, 23(5): 524–532.

Jones, Christopher W., Lukas G. Keil, Wesley C. Holland, Melissa C. Caughey, and Timothy F. Platts-Mills. 2015. "Comparison of Registered and Published Outcomes in Randomized Controlled Trials: A Systematic Review." *BMC Medicine*, 13: 1–12.

Mathieu, Sylvain, An-Wen Chan, and Philippe Ravaud. 2013. "Use of Trial Register Information during the Peer Review Process." *PLOS ONE*, 8(4): e59910.

Mathieu, Sylvain, Isabelle Boutron, David Moher, Douglas G. Altman, and Philippe Ravaud. 2009. "Comparison of Registered and Published Primary Outcomes in Randomized Controlled Trials." *JAMA*, 302(9): 977–984.

Miguel, Edward. 2021. "Evidence on Research Transparency in Economics." *Journal of Economic Perspectives*, 35(3): 193–214.

Nosek, Brian A., Tom E. Hardwicke, Hannah Moshontz, Aurélien Allard, Katherine S. Corker, Anna Dreber, Fiona Fidler, Joe Hilgard, Melissa Kline Struhl, Michèle B. Nuijten, et al. 2022. "Replicability, Robustness, and Reproducibility in Psychological Science." *Annual Review of Psychology*, 73(1): 719–748.

Ofosu, George K., and Daniel N. Posner. 2023. "Pre-Analysis Plans: An Early Stocktaking." *Perspectives on Politics*, 21(1): 174–190.

Riveros, Carolina, Agnes Dechartres, Elodie Perrodeau, Romana Haneef, Isabelle Boutron, and Philippe Ravaud. 2013. "Timing and Completeness of Trial Results Posted at ClinicalTrials. Gov and Published in Journals." *PLOS Medicine*, 10(12): e1001566.

Rosenthal, Robert. 1979. "The File Drawer Problem and Tolerance for Null Results." *Psychological Bulletin*, 86(3): 638–641.

Scheel, Anne M., Mitchell R. M. J. Schijen, and Daniël Lakens. 2021. "An Excess of Positive Results: Comparing the Standard Psychology Literature with Registered Reports." *Advances in Methods and Practices in Psychological Science*, 4(2): 25152459211007467.

Soderberg, Courtney K., Timothy M. Errington, Sarah R. Schiavone, Julia Bottesini, Felix Singleton Thorn, Simine Vazire, Kevin M. Esterling, and Brian A. Nosek. 2021. "Initial Evidence of Research Quality of Registered Reports Compared with the Standard Publishing Model." *Nature Human Behaviour*, 5(8): 990–997.

Stanley, Tom D., and Hristos Doucouliagos. 2012. *Meta-Regression Analysis in Economics and Business.* London:Routledge.

van Lent, Marlies, Joanna IntHout, and Henk Jan Out. 2015. "Differences between Information in Registries and Articles Did Not Influence Publication Acceptance." *Journal of Clinical Epidemiology*, 68(9): 1059–1067.

Supplementary Information

Pathways from Registration to Publication: Evidence from the AEA RCT Registry

Jessica Leight Viola Asri Taisuke Imai

Contents

A Supplementary Methods

A.1 Research Output Recording Form

1. Registry info

[Q1.1] What is your first name? [Text box]

[Q1.2] What is the AEA registry ID you are examining? Please copy-paste the complete ID from the provided excel file (in column `RCT_ID`). [Text box]

[Q1.3] Please re-enter the AEA registry ID. This ID and the previous one have to match, otherwise you will be asked to redo the entry. [Text box]

[Q1.4] What is the last name of the first author listed in the registry? [Text box]

[Q1.5] What was the affiliation of the first author at the time of registration? [Text box]

[Q1.6] How was this project published? Answers are listed according to our prioritization described in the instructions.

- ☐ Peer-reviewed journal publication [Go to Q2]
- ☐ Working paper [Go to Q3]
- ☐ Other output / no output [Go to Q4]

2. Peer-reviewed output

[Q2.1] Please copy a link to the journal article here. [Text box]

[Q2.2] Journal title [Text box]

[Q2.3] Year of publication [Text box]

[Q2.4] Article title [Text box]

[Q2.5] All authors on the paper — Please enter as "Last name, First name; Last name, First name; ...". [Text box]

[Q2.6] Volume [Text box]

[Q2.7] Issue number (enter NA if not available) [Text box]

[Q2.8] Pages [Text box]

[Q2.9] What are the results reported in the abstract? Please copy-paste the sentences from the abstract that report the results. Write "NA" if no results are reported. [Text box]

Go to 6. Saving output

3. Working paper

[Q3.1] Please paste the link to the working paper here. [Text box]

[Q3.2] Working paper title [Text box]

[Q3.3] Working paper year [Text box]

[Q3.4] Working paper authors [Text box]

[Q3.5] Any other bibliographic information (if the working paper is part of an official series, note the type of series — NBER, IZA, CEPR, etc. — and any working paper number). [Text box]

[Q3.6] What are the results reported in the abstract? Please copy-paste the sentences from the abstract that report the results. Write "NA" if no results are reported. [Text box]

[Q3.7] Did you see any information in your search indicating that the article was under review or under revision for a journal? (Please only consider R&R and not "submitted").

- ☐ Yes
- ☐ No

[Q3.8] Please describe the information you saw, and where you found it (i.e., link to the webpage) — write NA if your previous answer was "No". [Text box]

Go to 6. Saving output

4. Other output

[Q4] Did this registry entry result in any other type of publicly available output? For example, a policy report, blog post, powerpoint presentation, etc. (For this section, please include all unique outputs.)

- ☐ Yes [Go to Q5]
- ☐ No [Go to Q8]

5. Other output: Details

[Q5.1] What is the first type of output?

- ☐ Policy report
- ☐ Blog post
- ☐ Powerpoint presentation

- ☐ Other [Text box]

[Q5.2] Please provide a link to this output. [Text box]

[Q5.3] Please provide any citation information available for this output (if not available, note NA) [Text box]

[Q5.4-5.6] [Same set of questions for the second type of output]

Go to 6. Saving output

6. Saving output

[Q6] Have you saved the research output? Please remember to save the output with the 7-digit number followed by the publication type e.g. `0004356_journal_article`. If you are unable to download the article from the journal website, please try to find the published version on authors' websites.

- ☐ Yes [Go to Q8]
- ☐ No [Go to Q7]

7. Unable to save output

[Q7] Why did you not save the output?

- ☐ File was removed from website
- ☐ Do not have access to the journal article
- ☐ I got a security warning when I tried opening the link
- ☐ Link did not work
- ☐ Other [Text box]

8. Rechecking

[Q8] Does this entry require any rechecking?

- ☐ No, I am certain about this entry.
- ☐ Yes, it would be good if another RA could recheck this project.
- ☐ Yes, it would be good if one of the PIs could recheck this project.

A.2 E-mail to the Principal Investigators

We used an online mail merge program to send personalized emails to each of the registering principal investigators between July 6 and July 20, 2023.

Dear [Registry PI],

We are reaching out to you to verify some information related to the randomized controlled trial(s) you previously registered on the American Economic Association.

We — Viola Asri at the Chr. Michelsen Institute, Jessica Leight at IFPRI, and Taisuke Imai at the Ludwig Maximilian University of Munich — are compiling data on all trials registered on the AEA registry between certain dates and tracking the scholarly output that results as part of a broader analysis of patterns of publication for RCTs. Our descriptive analysis is also pre-registered here: `https://osf.io/wsxd9`.

For your trial(s), we have found the following primary output:

1. Registration number `AEARCTR-xxxxxxx`, Titled [title], URL: [link]
   - Output title: [Output title]
   - Output type: [Peer-reviewed journal publication / Working paper / Other output or no output]
   - Output URL: [Output link]

2. [...]

Note that our search prioritized peer-reviewed publications as output over working papers and working papers over other types of output such as blog posts, presentations, or short articles online. If we could not find any research output online, it is categorized as no output.

If you or your collaborators have any corrections to make to this data, we would be very grateful. You can submit these corrections using the following (brief) Google form; simply enter the registry number corresponding to your trial and your name first, and you can provide us with a link to any missing output. If we correctly identified the primary output, you do not need to complete the form to provide us with links to working papers or other forms of output.

Google form: [Link to the Google form]

This inquiry has been sent to the researcher listed as primary in the original AEA registration, but feel free to share this message with any other collaborators, who may also use the same link to submit additions.

Please feel free to also respond directly to us with any comments or questions. We look forward to your feedback.

Best regards,

Jessica Leight, Taisuke Imai, and Viola Asri

A.3 RCT Output Correction Form

Thank you for reporting the correct output!

If we have identified a wrong output, we would very much appreciate it if in this short form, you could fill in the details of the correct output. This will greatly contribute to the quality of our data. This will take you less than 2 minutes and we thank you in advance.

If you have any questions, please contact us by sending an email to rctinfo2023@gmail.com.

Jessica Leight, IFPRI
Viola Asri, Chr. Michelsen Institute
Taisuke Imai, Ludwig Maximilian University of Munich

[1] Please enter your AEA RCT Registration ID [Text box]

[2] Please enter your name. (first name last name) [Text box]

[3] Please enter the **link to the correct output** for this RCT. [Text box]

[4] What type of output is it?

- ☐ Journal article
- ☐ Working paper
- ☐ Other types of output – blog post, policy paper, dissertation etc.
- ☐ No output

A.4 Variability of AEA Registry Entries

Examples of overall issues in the use of pre-registration

1. Some authors use one registration for multiple trials that are conducted within one project. Transparency would be improved if each trial had its own registration.
2. Some authors enter "to be decided" or "not planned" or "depends on".
3. Some authors just enter a few words in the abstract or intervention description, which makes it impossible to understand the design.

Examples of unclear specification of outcome variables.

1. Physical health.
2. Attendance, performance.
3. Self-reported Behavior, Life outcomes, Intermediate Outcomes.
4. Criminality and antisocial behavior; soft skills; mental health; education and labor market outcomes.

Examples of randomization descriptions requiring manual coding.

1. Individuals Beneficiaries (Household Financial Decisionmakers) for all four treatments. Randomization assignment of individuals occurred within each village.
2. Individual applicant level. Note that some individual applicants' applications were sent to multiple businesses (within the same chain and geographic center.
3. We can randomize on person level since we don't assume that there will be any spillover effects that we need to control for. No clustering is necessary in this case.

Examples of sample numbers or clusters that are unclear.

1. As many as possible.
2. 28.
3. 1000+ / Up to 40 schools / 1000-2000 / at least 2200 / we aim for approximately 1000 observations.
4. ~250,000.
5. Part I: N/A; Part II: 224 polling centers in 14 constituencies; Part III: 40 polling centers in 8 constituencies.
6. It will depend on enrollment in the course.

B Supplementary Figures

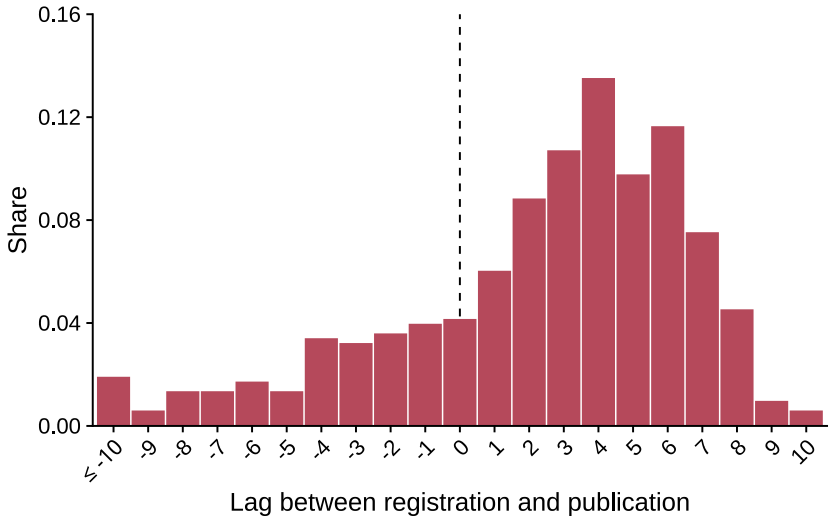

FIGURE S1: Time (in years) from registration to journal publication ($N = 534$). *Notes*: Positive numbers indicate that a study was first pre-registered and published as a journal article afterward. Negative numbers indicate that a study was first published as a journal article and registered afterward. Ten papers were registered over ten years after they were published.

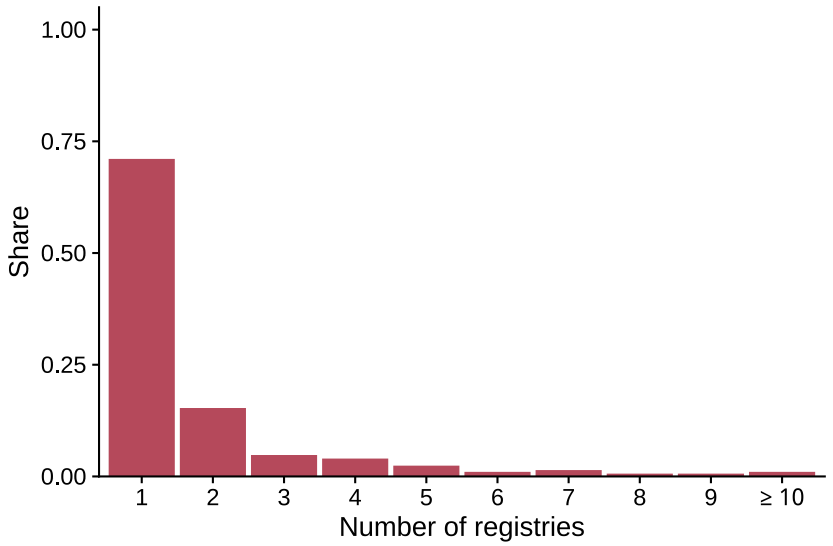

FIGURE S2: Number of registrations per primary registering author. *Notes*: There are 504 unique primary registering authors. Only four authors have more than 10 registrations: Dean Karlan (49), Esther Duflo (19), Pascaline Dupas (11), and Donald Green (10).

C Supplementary Tables

Table S1: Predictors of public research output of different types (registry data; Cf. Table 2).

	(1) Any	(2) Journal	(3) Top-5
Sample size (log)	0.016**	−0.0002	0.007
	(0.007)	(0.010)	(0.007)
Clustered trial	0.007	−0.043	−0.042*
	(0.023)	(0.034)	(0.023)
Num. primary outcomes in registration	0.001	−0.002	−0.001
	(0.002)	(0.003)	(0.001)
Public pre-analysis plan	−0.017	−0.005	0.006
	(0.036)	(0.050)	(0.035)
Reg. author affiliation: University	0.090**	0.225***	0.109***
	(0.036)	(0.046)	(0.021)
Reg. author affiliation: Ivy League	−0.140**	−0.105	0.010
	(0.063)	(0.075)	(0.060)
Registered in 2014	0.015	−0.074	−0.073
	(0.046)	(0.070)	(0.057)
Registered in 2015	−0.040	−0.161**	−0.082
	(0.048)	(0.070)	(0.057)
Registered in 2016	−0.027	−0.110*	−0.032
	(0.044)	(0.065)	(0.055)
Region: Europe	−0.112***	−0.107**	−0.077***
	(0.034)	(0.043)	(0.026)
Region: Other	−0.151**	−0.244***	−0.121***
	(0.059)	(0.066)	(0.024)
Constant	0.707***	0.586***	0.080
	(0.079)	(0.111)	(0.080)
Observations	869	869	869
R^2	0.046	0.055	0.042
Mean of dep. var.	0.860	0.591	0.127

Notes: The registry data includes complete information for 898 registrations. However, 29 registrations have missing values in at least one of the following variables: the sample size (15 missing values), whether the trial uses clustering (two missing values), and the number of primary outcomes listed in the registration (14 missing values). Robust standard errors are reported in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$.

Table S2: Predictors of the journal and top-five publications (output data; Cf. Table 3).

	(1) Journal	(2) Journal	(3) Top-5	(4) Top-5
Share of registered outcomes in abstract	0.147***	0.175***	0.092*	0.079
	(0.049)	(0.055)	(0.051)	(0.057)
Share of null results in abstract	0.106*	0.099*	−0.213***	−0.198***
	(0.054)	(0.056)	(0.052)	(0.054)
Sample size (log)		−0.020**		0.003
		(0.009)		(0.008)
Clustered trial		−0.040		−0.040
		(0.033)		(0.029)
Num. primary outcomes in registration		0.001		−0.001
		(0.002)		(0.002)
Public pre-analysis plan		0.014		0.020
		(0.047)		(0.045)
Reg. author affiliation: University		0.006		0.112***
		(0.053)		(0.033)
Reg. author affiliation: Ivy League		−0.006		0.047
		(0.072)		(0.080)
Registered in 2014		−0.149***		−0.107
		(0.054)		(0.071)
Registered in 2015		−0.238***		−0.117
		(0.057)		(0.072)
Registered in 2016		−0.166***		−0.061
		(0.048)		(0.070)
Region: Europe		0.002		−0.071**
		(0.044)		(0.035)
Region: Other		−0.190**		−0.153***
		(0.085)		(0.034)
Constant	0.691***	1.010***	0.145***	0.147
	(0.030)	(0.100)	(0.025)	(0.109)
Observations	672	660	672	660
R^2	0.024	0.062	0.020	0.056
Mean of dep. var.	0.777	0.773	0.165	0.165

Notes: Of the trials, 694 were published as either working papers or journal articles. Complete data for the included variables are available for 660 trials, with missing values as follows: 22 for the share of registered outcomes reported in the abstract, 25 for the share of null results among registered outcomes in the abstract, 15 missing values on the sample size, two missing values on the use of clustering and 13 missing values on the number of primary outcomes. Robust standard errors are reported in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$.