



# Spanish Journal of Agricultural Research Editorial Policy Update: Pre-registration of submissions based on primary data

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## Abstract

As of January 2022, the Agricultural Economics Section of the Spanish Journal of Agricultural Research encourages authors using primary data on their submissions to pre-register their analysis. This article explains the reasons that have led the Editorial Board to include this requirement.

**Additional key words:** open science; pre-registration

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Following the experience of other fields of science economics has been subject to a heated debate on the issue of replicability, selective reporting and publication bias (Camerer *et al.*, 2016; Nosek *et al.*, 2018; Kvarven *et al.*, 2020). One of the recommendations put forward to improve research efficiency and robustness of scientific findings by directly targeting specific threats to reproducible science is that of pre-registration (Munafò *et al.*, 2017). Pre-registration of study protocols in its simplest form may simply comprise the registration of the basic study design, but it can also include a detailed pre-specification of the study procedures, outcomes and statistical analysis plan.

While pre-registration can take multiple forms depending on the degree of details providing when pre-registering (Bakker *et al.*, 2020), I believe that at least the most basic characteristics of a study should be pre-registered to ensure research transparency. As Olken (2015) states, virtually all pre-analysis plans typically share a few common features including the primary outcome variable, eventual secondary outcome variables, variable definitions, inclusion and exclusion rules, statistical model specification, covariates, sub-group analysis and other relevant aspects of the design and analysis.

There is a growing number of platforms where researchers can pre-register their work at no cost such as AsPredicted<sup>2</sup> (funded by the Wharton School of the University of Pennsylvania) or the Center for Open Science<sup>3</sup>. Pre-registration does not mean that the journal will only publish results that are pre-registered. As stated in the AsPredicted platform, there are ways to communicate deviations from this. Bakker *et al.* (2020) state pre-registration does not imply that confirmatory analyses are good, and exploratory analyses are bad. The goal of preregistration is to be transparent and make clear which is which. Of particular interest, here is work such as that from Lin & Green (2016) providing guidance on how to deal with the impacts of pre-registration on unexpected results or how to handle the many things that can go wrong leading to model changes in the analysis phase.

While pre-registration has become widely accepted for analysis based on experimental methods where a deductive scientific approach based on hypothesis testing is used, it can help researchers doing any analysis using primary data as it makes them conscious of the data they need for the analysis they plan. Even for pure deductive and exploratory analysis, some steps of the research process could be pre-specified.

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<sup>2</sup> [Aspredicted.org](https://aspredicted.org)

<sup>3</sup> [www.cos.io/initiatives/prereg](https://www.cos.io/initiatives/prereg)

As argued by Miguel (2021), this move entails additional costs for researchers in terms of time costs and constrains in creativity and relevance (the latter being less relevant as nothing prevents from reporting un-registered results as long as they clearly labelled as so), but benefits for the advance of science have the capacity to outweigh these. Czibor *et al.* (2019) also are confident that the experience in limiting specification searching and bounding Type I errors from other fields can also be achieved in economics by embracing pre-registration. Last Logg & Dorison (2021) based on an survey of 248 active researchers in behavioural science conclude that, despite generally positive views of pre-registration, researchers are uncertain about potential costs and benefits to their own research process.

As an author, I have walked the talk (Dessart *et al.*, 2021; Lefebvre *et al.*, 2021) and my experience confirms that benefits clearly outweigh costs. Therefore, I believe that the time is ripe to take action updating the editorial policy of the Spanish Journal of Agricultural Research concerning pre-registration. As Logg & Dorison (2021) highlight, the adoption of open science can be seen as “*a social dilemma; that is, weighing the benefits to the individual and to the field. If a handful of researchers pre-register and their colleagues refuse to do so, neither the field nor the individuals benefit. Widespread adoption is necessary to improve science*” (page 26).

Thus, and in line with similar discussions happening in different European countries (e.g. Rommel & Weltin, 2020) and as part of its commitment to promote open and transparent science, the section of Agricultural Economics of SJAR updates its instructions to authors including the following new item:

**As of January 2022 the Agricultural Economics section of SJAR strongly encourages authors to pre-register in any of the available platforms (AsPredicted, Centre for Open Science) any analysis involving primary data collection. Pre-registration should happen before the data collection exercise starts. The pre-registration form should be submitted as supplementary material when preparing the submission. Submissions failing to meet this requirement will be considered but will need to make this explicit in their abstract and label their analysis as exploratory.**

With this decision SJAR incorporates the concern with the issue of replicability, selective reporting and publication bias and believes, as Miguel (2021) states, that “*even a relatively sparse pre-analysis plan.....remains useful in addressing the most extreme forms of*

*selective reporting and data mining as well as publication bias*” (page 206).

In principle, SJAR aims to make this requirement compulsory in the near future, meaning that failing to meet this requirement will lead to desk-rejection by the editorial board. However, before this decision is taken, the editorial committee analyse the impact of this measure based on the experience gained during the first year(s) since the introduction of this requirement.

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