

Gender divide in science: Effects of research grants on academic productivity by gender

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This paper evaluates the impact of scientific research subsidies on the gender scientific productivity of researchers in Argentina. Academic performance is measured both in terms of quantity (number of publications) and in relation to quality (captured through impact factors and citations). The performance of financially supported researchers is compared with that of a control group of researchers who submitted projects of relatively similar quality but that were not supported because of shortage of funds. Methodologically, we use non-experimental data and difference-in-differences approach, controlling for pre-application observable attributes and time-invariant unobservables. Impact heterogeneity is assessed in terms of gender.

This paper extends previous research on the effects that subsidies granted by the Fund for Scientific and technological Research of Argentina (*Fondo para la Investigación Científica y Tecnológica*, FONCYT) as those by Chudnovsky et al (2008) and Ubfal and Maffioli (2010) by focusing specifically on the gender dimension by means of separate difference-in-difference estimates by gender of the main applicant and extending the time coverage of the analysis. In addition, we also extend the analysis following Kelchtermans and Veugelers (2011) to analyze the impact of scientific research subsidies on productivity at separate quantiles of the productivity distribution.

The dataset comprises yearly data on academic output for the period 1994 to 2009 corresponding to a sample of 313 principal researchers, being this sample representative of the overall population of applicants by field of science and geographical location. All these applicants submitted their proposals to a grant from FONCYT in 1998 or 1999, although some of the researchers that did not receive funding in the 1998/99 cohort were indeed funded in later competitions. This will help with the identification by isolating the potential impacts of cohort effects. The database also includes the average peer-review score received by the proposal, the principal researcher's age, gender and whether it has a doctorate, the institution to which the applicant belongs, dummy variables for region and field of science.

This paper contributes to the understanding of the factors behind women under-representation in scientific careers and research in general, and specifically at the higher strata of the scientific ladder. In this respect, the literature emphasized that academic women face structural career obstacles that men manage to escape. Barriers to women's participation may vary somewhat from country to country, but share many common features: absence of role models - especially in the higher ranks of the hierarchy, isolation as minorities in traditionally male dominated disciplines, the undervaluing of the contributions of women in science, and traditional cultural perceptions about the role of women. As a whole, few public policies aim to affect women scientists and there are few scholarships, fellowships and targeted grants funding (Corley, Bozeman and Gaughan, 2003). With this in mind, this contribution will pioneer the

understanding of whether competitive funding for science contributes to close the gender gap in a developing country.

References

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