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Do researchers pay attention to publication subsidies?



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ABSTRACT

The Scientific and Technological Research Council of Turkey (Tubitak) gives individual researchers subsidies for their publications. Researchers freely use these publication subsidies as pocket money. The publication subsidy given to a researcher for an article is inversely proportional to the number of authors of the article. That is, a researcher who publishes an article receives X/N Turkish Lira (TL), where X is the subsidy amount assigned to the journal in which the article is published and N is the number of authors. In this paper, we use the 250 TL rule to see whether publication subsidies affect the behavior of researchers. The rule states that no subsidy is given to any of the authors of an article if X/N is smaller than 250 TL. We use this discontinuity to provide evidence that Turkish researchers limit their number of co-authors in order to receive publication subsidies.

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1. Introduction

The Scientific and Technological Research Council of Turkey (Tubitak) is a public institution established in 1963 to promote academic and industrial research in Turkey.¹ Tubitak started to distribute publication subsidies to individual researchers in 1993.² A subsidy is given to all Turkish-addressed publications regardless of the type of institution to which a researcher is affiliated. The subsidy is awarded only to publications that are indexed in the Web of Science Core Collection and that are of the document type “article”.³

Tubitak assigns each journal a subsidy amount by using the Article Influence Score rankings within the subject categories that are created by Tubitak.⁴ Then, the subsidy amount is divided by the number of authors in the article so each author gets a fraction of the subsidy amount. For example, if 1500 Turkish Lira (TL) is assigned to a journal, then each author gets 500 TL in the case of a three-author article in this journal.

The subsidy amount is relatively high for publications in journals with the highest Article Influence Score rankings within Tubitak’s subject categories. However, the average researcher receives only a modest amount. According to the Tubitak

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¹ <http://www.tubitak.gov.tr/tr/kurumsal/hakkimizda/icerik-biz-kimiz> (in Turkish)

² <http://cabim.ulakbim.gov.tr/ubyt/ubyt-hakkinda/> (in Turkish)

³ <http://www.tubitak.gov.tr/sites/default/files/237bk-ek1.0.pdf> (in Turkish). Review articles are also awarded but the rules are different. Since there are very few review articles, we exclude them from our study. Proceedings articles, letters, editorials and other document types are not awarded any subsidy.

⁴ The publication subsidy formula is given in <http://www.tubitak.gov.tr/sites/default/files/237bk-ek1.0.pdf> (in Turkish) and will be explained in Section 4 of this article. The publication subsidy amounts are given in http://ulakbim.tubitak.gov.tr/sites/images/Ulakbim/ubyt.2015_dergi_listesi.xlsx. Unfortunately, one cannot compute the publication subsidy amounts by using the publication formula and bibliometric indicators because Tubitak does not disclose its subject categories. Tubitak simply states that it aggregates Web of Science categories to have a statistically meaningful number of journals within each category.

Report, 12,500 researchers were awarded a total of 11.5 million TL publication subsidies in 2014.⁵ Therefore, an average researcher gets 920 TL, which is only a quarter of the monthly wage of an associate professor in a public university. A researcher who publishes a solo-authored Nature article is awarded 5000 TL in the same year.

Although the subsidies are direct rewards for publications, it is not obvious that they are effective in changing the behavior of researchers. First, the publication subsidies are relatively small on average so they may not be enough to motivate researchers to be more productive. Researchers may prefer to teach overtime or provide consulting services to private companies to get higher monetary rewards. Second, the publication subsidies are pocket money rewards. Consequently, they are different than research project rewards which enable researchers to get laboratory equipment or hire assistants that have direct effects on productivity.

In this paper, we test whether researchers pay attention to one peculiar publication subsidy rule. The 250 TL rule states that no subsidy is given to an article if the per author reward falls below 250 TL. For example, if a journal is assigned a subsidy amount 1000 TL, then each author gets 250 TL in the case of a four-author article but they do not get any subsidies in the case of a five-author article in that journal.

Tubitak does not specify the reason for the 250 TL rule. We are sure that the aim is not to limit the extent of collaboration among researchers. However, researchers will limit the number of authors in a paper if they care about the 250 TL rule. Therefore, the 250 TL rule may have an unintended effect of decreasing collaboration among researchers.

A possible reason for the 250 TL rule may be to achieve interfield equality. Hicks, Wouters, Waltman, de Rijcke, and Rafols (2015) note that interfield equality is a major concern for research evaluation. In a preceding paper (Yuret, 2016), we show that chemists get 4.30 times more subsidy than economists whereas chemists would get 4.62 more subsidy than economists in the absence of the 250 TL rule.

We do not directly test whether the publication subsidies improve productivity but we test whether researchers change their co-authorship patterns to get publication subsidies. If the authors take publication subsidies into account by changing the number of authors in the paper, they would also pay attention to publication subsidies when they decide whether to produce more papers.

There are many other factors than publication subsidies that affect the productivity of researchers, such as the academic promotion rules and the ever-changing human capital base. Therefore, the effect of the relatively small publication subsidies on productivity is likely to be overshadowed by these factors. However, the effect of the 250 TL rule on co-authorship patterns is not likely to be overshadowed. Neither the academic promotion rules nor the changing human capital base are likely to decrease the average number of authors in papers.

2. Related research

Performance-based university research funding systems have been implemented in many countries. Hicks (2012) lays out the properties of the research funding systems in Australia, Hong Kong and 12 European countries. She concludes that these funding systems aim for excellence in research. In other words, the objective is to increase the scientific output both in quantity and quality. Franzoni, Scellator, and Stephan (2011) state that eleven countries out of the thirty in their sample have started a new incentives program for publication performance between 2000 and 2009. They note that China and Korea introduced a program like Turkey which includes cash bonuses to individual researchers.

There are articles closely related to this study which also analyze the unintended effects of publication subsidies. Butler (2003) shows that the quantity of publications has increased but the quality of the publications has decreased in Australia. She attributes this outcome to the fact that the Australian research subsidies give more weight to the total publication count. Hicks (2012) notes that Australia has updated its system to increase high-quality publications. Australia stratified the journals into quality tiers and gave more weight to higher-quality journals. Moed (2008) shows that productivity in terms of the quality of publications has improved in the United Kingdom after research policy had switched to reward high-quality publications.

Aagaard, Bloch, and Schneider (2015) analyze the Norwegian publication incentives, which also groups journals into tiers. They find that the quality of publications has not decreased after the publication incentives had been implemented. Bloch and Schneider (2016) also analyze the Norwegian system. They follow the same researchers before and after implementation of the publication incentives, and they show that the quality of publications has improved for professors, associate professors and PhDs.

Heywood, Wei, and Ye (2011) analyze the effect of cash bonus incentives on publication productivity. They study the dramatic five-fold increase in the per paper publication subsidy in Southwest University of Finance and Economics, which is a major university in China. They note that a single publication can double the annual earnings of professors under the new publication subsidy rates. They show that publication performance has increased around fifty percent because of the increase in the subsidies.

There are studies which analyze the relationship between research policies and publication performance in different countries. Auranen and Nieminen (2010) analyze the research subsidy systems of eight advanced countries. They classify

⁵ Available from www.tubitak.gov.tr/sites/default/files/tubitak_2014_faaliyet_raporu.pdf (in Turkish).

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