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ORIGINAL ARTICLE

Big data analytics on patents for innovation public policies

Maria José Sousa, George Jamil, Cicero Eduardo Walter, Manuel Au-Yong-Oliveira, Fernando Moreira

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Abstract

This study seeks to answer the following research question: "What factors can explain the number of patent filing requests made by residents in Brazil at patent offices in Brazil, the United States, Europe, and triadic patent families?". The methods used in this research are quantitative, using big data from private and public investments in Science and Technology, and about patent deposit numbers in Brazil from 2000 to 2017. A model of linear regression was performed and explains how these investments in Science and Technology influence patent deposit numbers. The results of this research study point towards the importance of universities, up and beyond the traditional training and education aspect of university activity. The importance of public and private innovation investments is also shown to be important. This study shows that the patent registrations in the different regions under analysis are affected by different factors. There is thus no single formula towards the creation of innovation output and governments would do well to continue to invest in higher education while also investing in public research and development activities. Additionally, and not least important, private entities should be continually encouraged to make innovation investments and favourable government policies need to thus exist for this to happen. Finally, the low numbers regarding patent filings in Brazil may be linked to institutional deficiencies in the country. Patent breaches may be difficult to punish, and the judicial system may be slow and untrustworthy, compared to the United States and to Europe—leading to diminished patent registrations in Brazil. A set of implications and recommendations for policy derived from this study and will be strategic for policymakers.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

Open Research

DATA AVAILABILITY STATEMENT

Data available on request from the authors

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