

Is the Content of Academic Patents Also Published in Scientific Journal Articles? – Identifying, Matching, and Analyzing Patent-Paper-Twins

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Abstract

We introduce a currently developed large scale approach to identify patent – paper pairs. A growing amount of literature deals with the relationship between increasing patenting and publication activities by university scientists. Most studies indicate a reinforcement effect between patenting and publication, while some suspect a substitution effect and other find no observable effect between both activities. Thus, comprehensive evidence on these issues is missing and existing studies often rely on manually conducted, time-consuming and small sample approaches.

We will improve on this by applying an SQL-based algorithm that matches patent information from PATSTAT with publication information from Elsevier's SCOPUS on the level of inventors/authors (not NPL!). This working step provides us with lists of publications and patents for each inventor/author. In the next step, we use a JAVA-based text mining tool to calculate cosine measures of content-similarity between patent and publication documents (abstracts and titles) created by the same inventor/author. This links patents and publications with the same or similar content.

We aim answering the following questions: How many patented inventions also get published and how many publications emerge? Do academic inventors also publish and do authors also patent? Are publications with a patented invention cited more often than other publications by the same author? Are patents with adhering publications more often cited, granted or maintained? Are field-specific differences observable?