

A New Look at Patent Quality: Relating Patent Prosecution to Validity*

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Abstract

The paper uses two hand-collected datasets to implement a novel research design for analyzing the precursors to patent quality. Operationalizing patent “quality” as legal validity, the paper analyzes the relation between Federal Circuit decisions on patent validity and three sets of data about the patents: quantitative features of the patents themselves, textual analysis of the patent documents, and data collected from the prosecution histories of the patents. The paper finds large and statistically significant relations between ex post validity and both textual features of the patents and ex ante aspects of the prosecution history (especially prior art submissions and the existence of internal patent office appeals before issuance). The results demonstrate the importance of refocusing analysis of patent quality on replicable indicators like validity, and the value that more comprehensive collection of prosecution history data can have for improving the output of the patent prosecution process.

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