

# THE DISPUTED QUALITY OF SOFTWARE PATENTS

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## ABSTRACT

*We analyze the characteristics of the patents held by firms in the software industry. Unlike prior researchers, we rely on examination of the individual patents to determine which patents involve software inventions. This method of identifying the relevant patents is more laborious than the methods that previous scholars have used, but it produces a dataset from which we can learn more about the role of patents in the software industry. In general, we find that the patents computer technology firms obtain on software inventions have more prior art references, claims, and forward citations than the patents the same firms obtain on non-software inventions. We also find that the patents that software firms obtain on software inventions also have more prior art references, claims, and forward citations than the software patents obtained by the firms that derive revenues from other product lines. Finally, we conclude that the patents of the largest firms are no better (or worse) than the patents of the smallest firms, belying the idea that large firms are plagued by challenges based on the worthless patents of their smaller competitors.*

*The paper closes with a brief discussion of the implications of our empirical analysis. The findings undermine the strongest criticisms about the low quality of software patents. It is simply not accurate to say that software patents as a class have remarkably low numbers of prior art references and forward citations. Thus, they cut against technology-based patent reforms designed to make it more difficult to obtain software patents. On the other hand, the evidence that small firms are no less capable than large firms at producing quality patents vitiates concerns that higher hurdles at the early stage of the patenting process would disadvantage smaller inventors in particular*