The Rise of Process Claims: Evidence from a Century of U.S. Patents

Ten Lessons*

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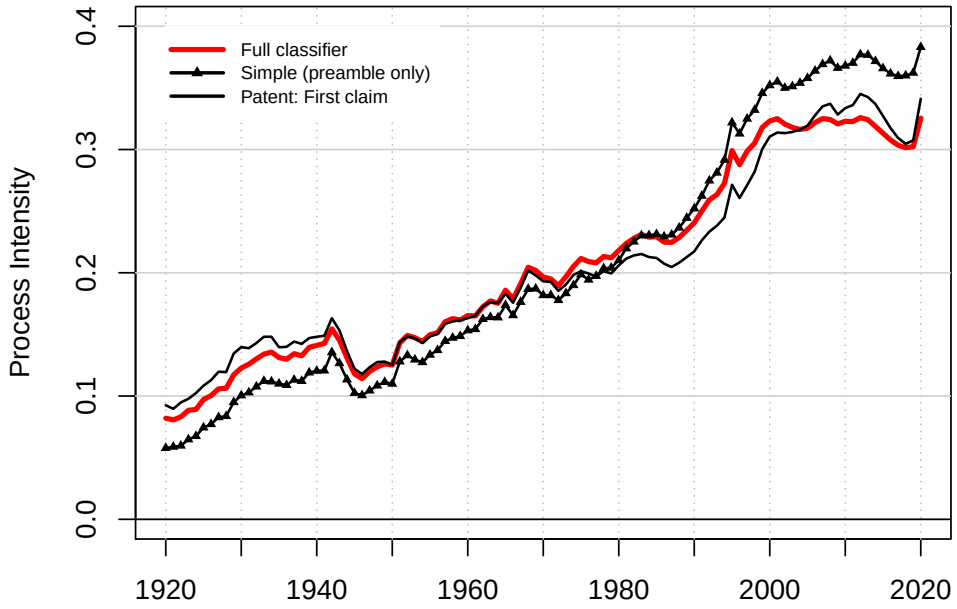
The Rise of Process Claims



Red line: Average process intensity of granted U.S. utility patents (by their application year) based on the full patccat classifier. **Black line**: share of patents with a process claim as their first claim. **Black-dotted line**: average process intensity based on a simple approach (claim is a process claim if the preamble uses the term "method" or "process."

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Ten Lessons

Lesson 1 *The process-intensity of U.S. patents has increased by 25 percentage points, from an average of just below 10% in 1920 to more than 30% in 2020.*

Lesson 2 *Process intensity is highest in chemical and drugs & medical patents and lowest in mechanical and other patents. In chemical patents, it has been fairly constant since the 1940s, whereas in computers & communications, electrical & electronics, and mechanical patents it was constant until the mid 1960s and has since then seen a steady increase.*

Lesson 3 *In the 1930s, 1940s, and 1950s, changes of process shares across the broad spectrum of technologies were more important a driver of the rise of process intensity than changes in the composition of technologies with a shift of patenting toward more process-intense patent classes. In the 1970s, 1980s, and 1990s, these technological changes were the main driver. Over the last century, the two effects played on average equally important roles.*

Lesson 4 *Patents granted to companies and government entities are more process-intense than those granted to individuals.*

Lesson 5 *Patents granted to U.S. applicants are more process-intense than those granted to foreign applicants.*

Lesson 6 *Process-intense patents are of higher value than their product-intense counterparts.*

Lesson 7 *Process-intense patents are renewed and their fourth-year maintenance fees paid at higher rates, but have fallen behind in the last decade.*

Lesson 8 *Process-intense patents are cited more often by other patents. Patents with a mix of process and product claims have been the least cited over the last two decades. Similarly, process patents (with process claim as their first claim) are less cited than product patents in the 1970s and 1980s and again since the mid 2000s.*

Lesson 9 *The number of dependent claims following an independent claim was consistently higher for process claims until 1990.*

Lesson 10 *Process claims are shorter than product claims. Both types become longer over time.*