Trolls on State Street: Comment

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The Paper

Ongoing intense policy debate about patent quality and patentability.

Paper tries to get at this problem indirectly via patent litigation using an approach heavily based on Lanjouw and Schankerman (could be entitled: Litigation as a window on quality).

Very little existing *empirical* literature on these questions so this work especially welcome.

Secondarily: general factors affecting litigation of business method patents.
Testing Strategy

Hypotheses:
1. $H_0$ Business method patents are ‘good’ patents.
2. $H_1$ Business method patents are ‘bad’ patents (of ‘dubious validity’)

Lanjouw and Schankerman (2001) deal with ‘good’ patents so by comparison with their results and the standard law and economics literature would expect under $H_0$ ($H_1$):
1. More ‘important’ patents will be litigated (patent value matters less).
2. Larger entities litigate more as litigation relatively less costly (small firms and individuals do it more).
3. Litigation rates should be approximately equal to ‘normal’ (L&J) rates (litigation rates should be higher).
How did business method patents measure up?

1. More ‘valuable’ patents litigated?
   - YES (mostly). More ‘important’ (no of claims, forward citations) patents are litigated more.
   - Backward citation effect is +ve rather than -ve though.

2. Large firms litigate more.
   - NO. Individuals and small corporations are much more likely to litigate compared to L&S.
   - However, evidence in Lerner (2006) in Journal of Finance Economics is that small firms (though not individuals) innovate more in finance.

3. Litigation rates should be approximately equal to ‘normal’ (L&J) rates
   - NO. Litigation rates are 27 times those for ‘normal’ patents (mean is 5x: 3.84% vs. 0.7%, so substantial skewness)
   - Compared to L&J drugs and health category rates are 13x (2x at mean)
Reject 2/3 pieces of evidence on $H_0$.
Strongest piece of evidence is the amount of litigation.
Concerns with the ‘identification’ strategy.

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P(\text{litigation}) = f(\nu, \sigma, q, \theta) +, +, ?, o
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- $\nu =$ value (function of no. cites, claims etc.
- $\sigma =$ uncertainty (over $q$ or $\nu$)
- $q =$ quality (e.g. prob a given patent is valid)
- $\theta =$ vector of owner characteristics
Crucial question: How does $q$ enter the equation?
Consider: $q$ high but value or $\sigma$ also high $\Rightarrow$ litigation high (early in the industry with lots of foundational patents and doubts over scope)
Conversely, $q$ low and $\sigma$ low $\Rightarrow$ litigation low.
$\Rightarrow$ Low quality patents (if everyone knows their low quality) not necessarily enough to generate high litigation.
Need an explicit assumption: (a) sign of $q$ positive (Cooter and Rubinfield p. 1082 citing Danzon and Willard) or (b) no direct effect of $q$ but $\sigma$ and $q$ negatively correlated.

Explicitly: $q = g(\text{litigation, } \nu, \sigma, \theta)$

$\theta$: similar story. Example: field with low entry costs for ideas (so more small firms patenting) but product providers are large. Large firms innovate and use in-house but small firms want to innovate and license (and litigate).
Interesting paper with a novel empirical approach to address an important topic.

Clarify ‘identification strategy’ used to determine when a patent is good or bad.

Relate bad patents to general debate about patentability.
  1. Impact of bad patents on innovation (innovation structure dependent?).
  2. Conversely, how do bad patents relate to the characteristics of this industry (more bad patents when cheap to enter?)
  3. Welfare
  4. Policy: b/m patentable or not (discreteness of the policy space).