

# 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.
- Secondly: 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)

# Comments 1

- Reject 2/3 pieces of evidence on  $H_0$ .
- Strongest piece of evidence is the amount of litigation.
- Concerns with the 'identification' strategy.

$$P(\text{litigation}) = f(v, \sigma, q, \theta)$$

$+, +, ?, 0$

$v$  = value (function of no. cites, claims etc)

$\sigma$  = uncertainty (over  $q$  or  $v$ )

$q$  = quality (e.g. prob a given patent is valid)

$\theta$  = vector of owner characteristics

## Comments 2

- 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.

## Comments 3

- Need an explicit assumption: (a) sign of  $q$  positive (Cooter and Rubinfeld 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).

# Conclusion

- 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.
  - Impact of bad patents on innovation (innovation structure dependent?).
  - Conversely, how do bad patents relate to the characteristics of this industry (more bad patents when cheap to enter?)
  - Welfare
  - Policy: b/m patentable or not (discreteness of the policy space).