

The Effect of Patent Litigation Insurance: Theory and Evidence from NPEs

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- Dramatic increase in patent assertion by so-called patent “trolls” (NPE = non-practicing entity ~ PAE = patent-asserting entity), specializing in enforcement of patent rights over last decade
- Recent academic interest:
 - ▶ Large negative effects on companies targeted by NPEs (Tucker, 2014; Cohen et al., 2017)
 - ▶ NPEs likely have a detrimental effect on innovation more broadly (Bessen and Meurer, 2014; Lemley and Feldman, 2016; Cohen et al., 2016)
- Caution:
 - ▶ Litigation not per se “bad” (validity challenges!)
 - ▶ Enforcement specialization (NPEs/PAEs) not per se “bad”

Policy Interest

- **U.S.:** Patent reform (Leahy-Smith America Invents Act 2011); additional bills introduced in Congress
- **EU:** Increase in NPE litigation expected? Impact of UPC on NPE litigation?

Research Question

- What is the potential for an alternative, market-based mechanism to reduce NPE activity?
 - More specifically, what is the effect of patent litigation insurance on NPE activity?
-
- Analyze effect of insurance product offered by Intellectual Property Insurance Services Corporation (IPISC)
 - Insures against assertion of specific patents included in two publicly-accessible lists; marketed as “Troll Defense” insurance (or NPE insurance)

Growing Market for Risk Mitigation Solutions

- Defensive aggregators:
 - ▶ RPX, Open Innovation Network, Allied Security Trust
 - ▶ Unified Patents
- Patent pledges: LOT Network

- Insurance
 - ▶ IPISC, RPX, AIG, Chubb, Lexington, Unified Patents, Association of National Advertisers
 - ▶ Lloyd's of London, Allianz

Anecdotal evidence

- U.S. Supreme Court case *Octane Fitness v. ION Health & Fitness*
- Octane Fitness sued by competitor for patent infringement
- Octane Fitness had defensive patent litigation insurance

Structure

- ① NPE Litigation Insurance (IPISC's Policy)
- ② Theoretical Framework
- ③ Data
- ④ Findings

Patent Defense Insurance – IPISC’s “Troll Defense” Insurance

Patent Litigation Insurance

- Commercial general liability insurance: little coverage for harms related to IP rights (e.g., patents)
- Patent litigation insurance:
 - ▶ Offensive (or abatement) insurance: policyholder is plaintiff, enforces patent rights against infringement
 - ▶ Defensive (or liability) insurance: policyholder is defendant sued for patent infringement
- Defensive/liability insurance reimburses policyholder for cost of defending against allegations that it infringed another's patent rights
 - ▶ defense-cost only (e.g., IPISC)
 - ▶ litigation expense and settlement reimbursement (RPX Insurance)



Troll Defense



Overview

Patent Assertion Entities (also known as trolls) are companies that buy (usually inexpensive poor-quality) – patents, and use them as a basis for demanding royalty payments from other companies while threatening to sue non-compliant companies. Frequently trolls do not disclose what patents they own, or what specific functionality of a technology is infringing. Instead the troll challenges the entrepreneur to hire expensive lawyers and fight, while simultaneously offering to settle the claim less expensively than the lawyers will cost.

Settling with trolls often requires an up-front payment, continuing revenue share payments, agreeing to issue a press release that praises the troll's technology and "fair licensing terms," and signing a non-disclosure and non-disparagement agreement that stops the "victim" from speaking freely about this extortion.

Let IPISC's troll policy protect you from these troll threats and costs.

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FORMS

[Premium Estimate Request Form](#)

[Troll Defense Policy Application](#)

[Troll Defense Menu 1](#)

[Troll Defense Menu 2](#)

[Troll Defense Program Overview](#)

[Troll Defense Reasons](#)

IPISC NPE Litigation Insurance

“Troll Defense” Policy Offered by IPISC

- Introduced May 2014
- Coverage to defend against assertion of patents listed on 2 “menus” (307 patents in total)
- Reimburses costs incurred in court and before USPTO’s PTAB (invalidation)
- Judgments or settlements are not eligible
- Policy limits: \$250,000 to \$1 million
- Deductible:
 - ▶ 2%, 10% co-insurance thereafter (Menu 1)
 - ▶ 20%, 20% co-insurance (Menu 2)
- Premiums:
 - ▶ \$2,200 – \$19,500 (Menu 1) // \$3,000 – \$24,500 (Menu 2)

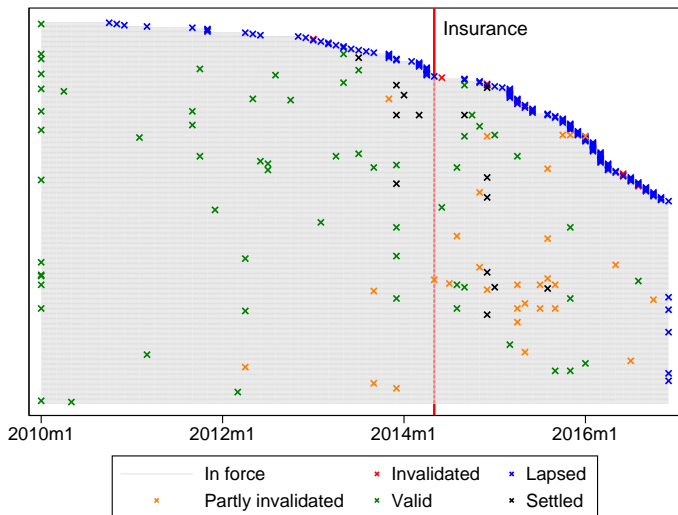
IPISC Troll Defense Insurance - Menu 1

Patent Owner	Patent Number	Title	Technology Field
Actus LLC / PaybyClick	7,177,838	Method and apparatus for conducting electronic commerce transactions using electronic tokens	Online Banking
Affinity Labs of Texas, LLC	7,634,228	Content delivery system and method	Web Tech
Affinity Labs of Texas, LLC	7,778,595	Method for managing media,	Web Tech
Agincourt Gaming LLC	6,306,035	Graphical user interface for providing gaming and prize redemption capabilities	Web Tech
Agincourt Gaming LLC	6,758,755	Prize redemption system for games executed over a wide area network	Web Tech
Aloft Media LLC	7,712,107	Message integration framework for multi-application systems	Web Tech
Antor Media Corporation	5,734,961	Method and apparatus for transmitting information recorded on information storage means from a central server to subscribers via a high data rate digital telecommunications network	Web Tech
API Technologies LLC	6,859,699	Network-based method and system for distributing data	Web Tech
Auto-Completion Solutions LLC	6,879,691	Information autocompletion system	Web Tech

Insured Patents – Characteristics

Variable	Menu 1			Menu 2			Diff in means
	Mean	Median	SD	Mean	Median	SD	
Age	16.13	17	5.35	17.61	19	4.26	1.486**
Remaining patent term	3.35	3.5	5.01	2.93	2	3.39	0.420
Family size	8.56	6	9.18	5.75	4	5.26	2.802***
Forward citations	68.92	30	104.97	71.99	38	103.23	-3.070
Backward citations	48.98	28.5	42.91	42.08	23	39.75	6.895
NPL citations	29.23	4	39.50	19.23	3	30.93	10.001**
SEP	0.07	0	0.26	0.02	0	0.14	0.056**
Acquired	0.86	1	0.35	0.76	1	0.43	0.102**
Asserted in court	0.79	1	0.41	0.91	1	0.28	-0.125***
Challenged at PTAB	0.14	0	0.35	0.12	0	0.33	0.018

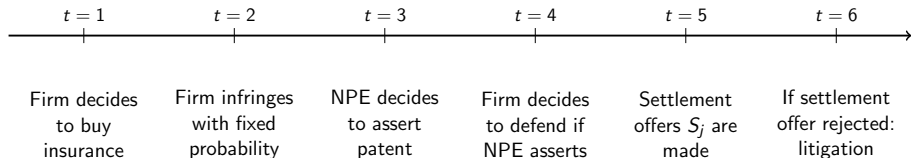
Legal Status of Insured Patents



Theoretical Framework

Model Structure

- Insurance-litigation model, combining two strands in literature:
 - ▶ legal-expense insurance (Kirstein, 2000; Baik and Kim, 2007) lowers firm's costs of defending
 - ▶ externalities in litigation (Choi, 1998; Farrell and Merges, 2004) as consequence of NPE's loss of future revenue when patent is invalidated in litigation
- Firm's insurance decision (endogenous!) is private information



Intuition and Result

- Insurance lowers the firm's willingness to accept unfavorable settlement offers by NPE.
- NPE, not observing the insurance decision, sometimes makes "excessive" settlement offer.
- In equilibrium, not all cases are settled, but firms with insurance take cases to trial.

- Effect of introduction of insurance: we identify region in parameter space in which:
 - ▶ Fewer cases are filed
 - ▶ Conditional on case filed, fewer cases are settled

Data

Data

- 1 Database containing all patent infringement cases filed between January 1, 2010 to December 31, 2016 that assert ...
 - a patents included in Menu 1 or 2 of IPISC insurance policy
 - b additional uninsured patents owned by an entity covered by IPISC
 - c all other patents identified in Stanford NPE dataset enforced by an NPE
- 2 Database containing outcomes of PTAB invalidation actions for insured patents
- 3 Firm-level data for defendants from BvD Orbis

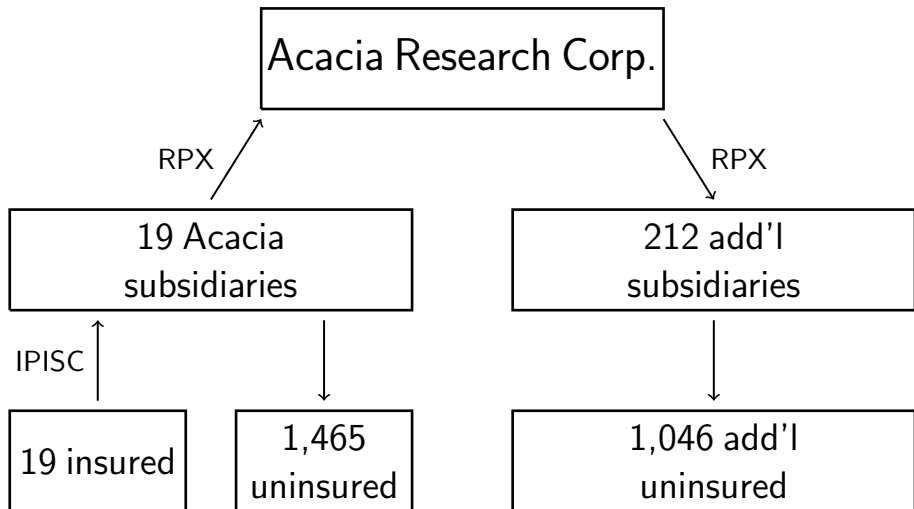
Data Construction

- ① Menus 1 and 2 from **IPISC** insurance policy (307 insured patents from 99 entities)
- ② **RPX** database:
 - ▶ 78 NPEs (28 independent, 50 parents) are true enforcers
 - ▶ 909 entities are affiliated with the 78 NPEs
- ③ **Patstat** database: all patents assigned to each parent or subsidiary (for Intellectual Ventures, rely on their own website) with basic bibliographic information
- ④ **USPTO Re-assignment** database
- ⑤ Litigation data:
 - ▶ **MaxVal & Docket Navigator**: lawsuits enforcing any of the 909 NPEs' patents, filed between 2010 and 2016.
 - ▶ Search for asserted patents (by 909 NPEs) not found in Patstat
 - ▶ **Unified Patents**: PTAB invalidation challenges
 - ▶ **Stanford NPE Litigation Dataset** and **LexMachina**: patents asserted by NPEs not covered in IPISC's insurance policy

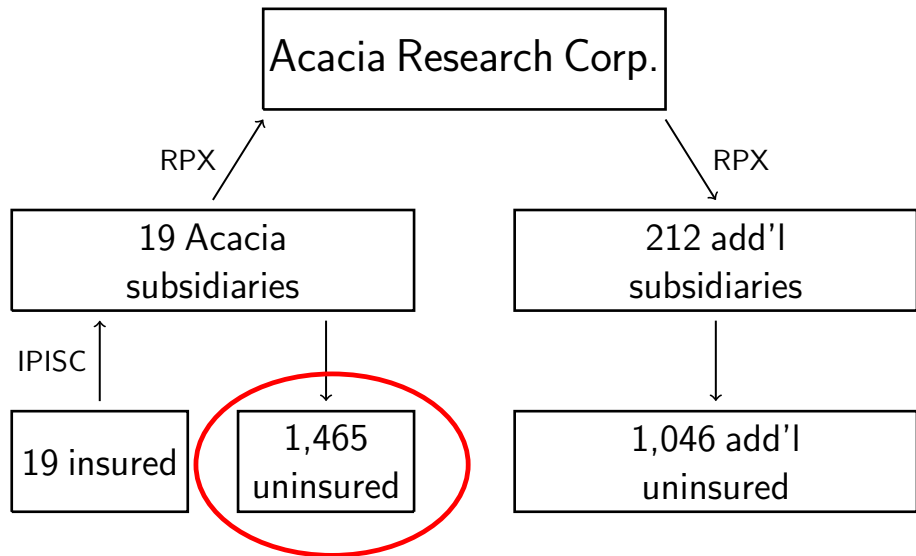
Three Control Groups

- Control 1a:** cases with uninsured patents asserted by any of the 78 specific entities enforcing insured patents
- Control 2a:** cases with uninsured patents asserted by any of the 909 entities affiliated with the 78 NPEs enforcing insured patents
- Control 3a:** cases brought by other NPEs that do not hold insured patents
- Matched Control b:** uninsured patents matched to insured patents [matching based on patent age, family size, forward citations, backward citations, NPL citations, SEP, re-assignment, 35 technology classes by IPC codes]

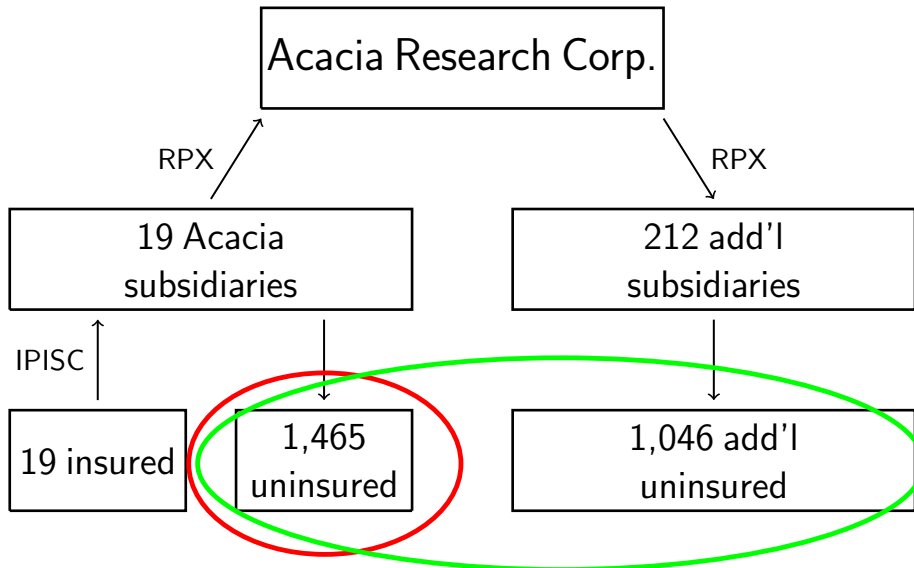
Data Construction: Example Acacia Research Corp.



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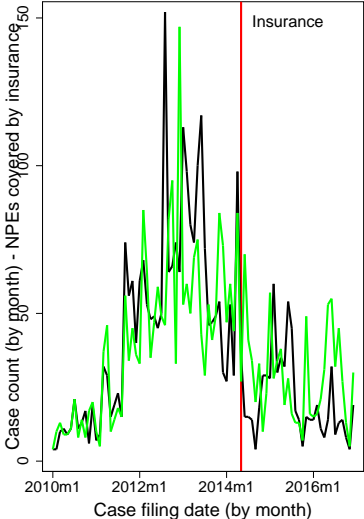


Data Construction: Example Acacia Research Corp.

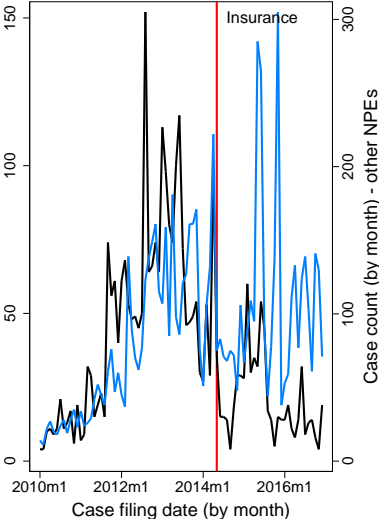


Results

Court Cases

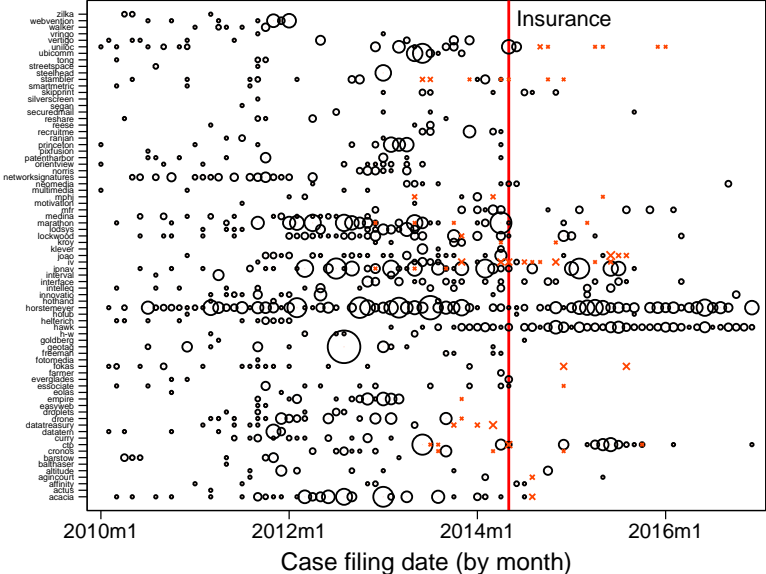


— Insured — Uninsured - same NPEs

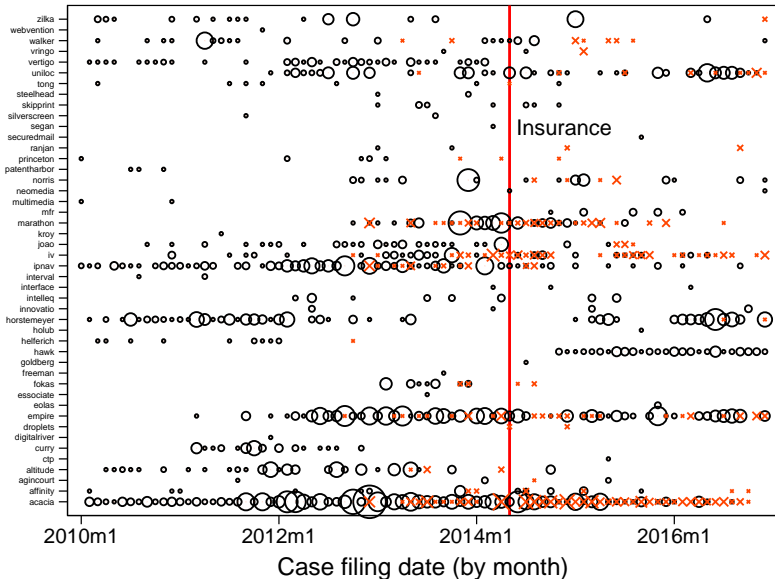


— Insured — Uninsured - other NPEs

Court Cases Involving Insured Patents



Court Cases Involving Uninsured Patents



Number of Court Cases (by month)

	Control 1		Control 2		Control 3	
	(a)	(b)	(a)	(b)	(a)	(b)
	All	Matched	All	Matched	All	Matched
	(1)	(2)	(3)	(4)	(5)	(6)
Insured patent	1.055*** (0.104)	1.192*** (0.105)	0.062 (0.064)	0.670*** (0.087)	-0.566*** (0.070)	0.481*** (0.075)
Post-launch	-0.411 (0.307)	-0.392 (0.332)	-1.116*** (0.104)	-0.623* (0.316)	-0.828*** (0.233)	-1.105** (0.551)
Insured patent×Post-launch	-0.776*** (0.167)	-0.767*** (0.181)	-0.375*** (0.138)	-0.562*** (0.168)	-1.072*** (0.157)	-0.774*** (0.188)
Month FE	YES	YES	YES	YES	YES	YES
Obs	168	168	168	168	168	168
R2	0.827	0.821	0.877	0.834	0.883	0.521

Share of Cases with SME defendant (by month)

	Control 1		Control 2		Control 3	
	(a)	(b)	(a)	(b)	(a)	(b)
	All	Matched	All	Matched	All	Matched
	(1)	(2)	(3)	(4)	(5)	(6)
Insured patent	0.036 (0.035)	0.039 (0.035)	0.050** (0.021)	0.045 (0.031)	0.062*** (0.018)	0.083*** (0.021)
Post-launch	0.601** (0.299)	0.598* (0.304)	0.309*** (0.026)	0.210*** (0.037)	0.164* (0.096)	0.152 (0.102)
Insured patent×Post-launch	0.131** (0.054)	0.138** (0.053)	0.133*** (0.037)	0.193*** (0.043)	0.160*** (0.039)	0.162*** (0.042)
Month FE	YES	YES	YES	YES	YES	YES
Obs	168	168	168	168	168	168
R2	0.658	0.663	0.750	0.679	0.692	0.688

Summary

- What is the effect of patent litigation/defense insurance on patent litigation?
- Use data on IPISC's NPE/"troll defense" insurance
- Result:
 - ▶ Availability of insurance has negative effect on the likelihood that a patent included in the policy is subsequently asserted
- Policy implications:
 - ▶ NPE patent assertion can be deterred by the prospect of insurance reimbursement to offset cost of litigation defense
 - ▶ Contributes to policy debate on the need to reform patent systems to deter patent "trolling"
 - ▶ Defense litigation insurance a viable market-based solution to complement, or supplant, other reforms?