Are patent pools a way to help patent owners enforcing their rights ?

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Situation

- Strong increase in patenting around ICT standards
  - Patent « thicket » problem (Shapiro, 2001)
- Patent pools address this problem
  - Transaction costs (Shapiro, 2001)
  - Avoiding multiple marginalization (Shapiro, 2001; Lerner & Tirole, 2004)
  - What else?

This paper

- Patent Pools may also help enforcing patents
  - Better monitoring of potential infringers
  - Stronger presumption of essentiality
- I explore this question empirically
  - Are pool patents more litigated than non pool patents?
  - If yes, what are the reasons?
    - Access to information
    - Change in the outcome of the case

Motivation

- Highlight another possible benefit of patent pools
  - Help patent holders enforcing their rights
  - Not suggested yet in the literature
- And hence additional incentives for patent owners to join
  - Economic theory predicts the instability of pools (Aoki & Nagaoka, 2004; Brenner, 2009; Lévèque & Ménière, 2010)

Litterature review

- Pools' efficiency and competitive effects
  - Complementary patents and CIL (Lerner & Tirole, 2004; Lerner, Strojwas & Tirole, 2007)
  - CIL prevents anticompetitive behaviors only under certain assumptions (Brenner, 2009)
  - Pools of not essential complementary patents can increase overall licensing costs (Quint, 2009)
- Little empirical research about contemporary pools
  - VI firms are more likely to join a pool and members with symmetric patent contributions are more likely to accept numeric sharing rules(Layne-Farrar & Lerner 2010)
  - Pools' impact on filing strategies (Baron & Delcamp, 2010; Baron & Pohlmann, 2010; Delcamp, 2010)

Summary

1. Data presentation
   1. Pool patents
   2. Litigations

2. Results
   1. Are pool patents more litigated than non pool patents?
   2. Induced effect of the patents' introduction in the pool on litigations
   3. Effect of the patents' introduction in the pool on the outcomes

I.1. Data (1/2): pool patents

- Around 5000 patents in 9 pools with the name of the patent holder (www.mpegla.com, www.sisvel.com, www.dvd6cla.com)
  - Using www.archive.org, we find the date of introduction

- Merge between these patents and the NBER U.S. patent database (1337 patents)
  - Further information from espacenet

- Two approaches
  - Cross section: Control database with patents having the same application year, technological class and assignee
  - Panel: On the likelihood to be litigated and settled for pool patents

Alcatel Lucent

US 4,970,590[1]
DE 68924764[*]
FR 0374548[*]
GB 0374548[*]
IT 1228109[2]
JP 3,011,338[3]
SE 0374548[*]

US 4,833,543[4]
DE 3785589.1[†]
FR 0230338[†]
GB 0230338[†]
IT 22728 BE/93[†]

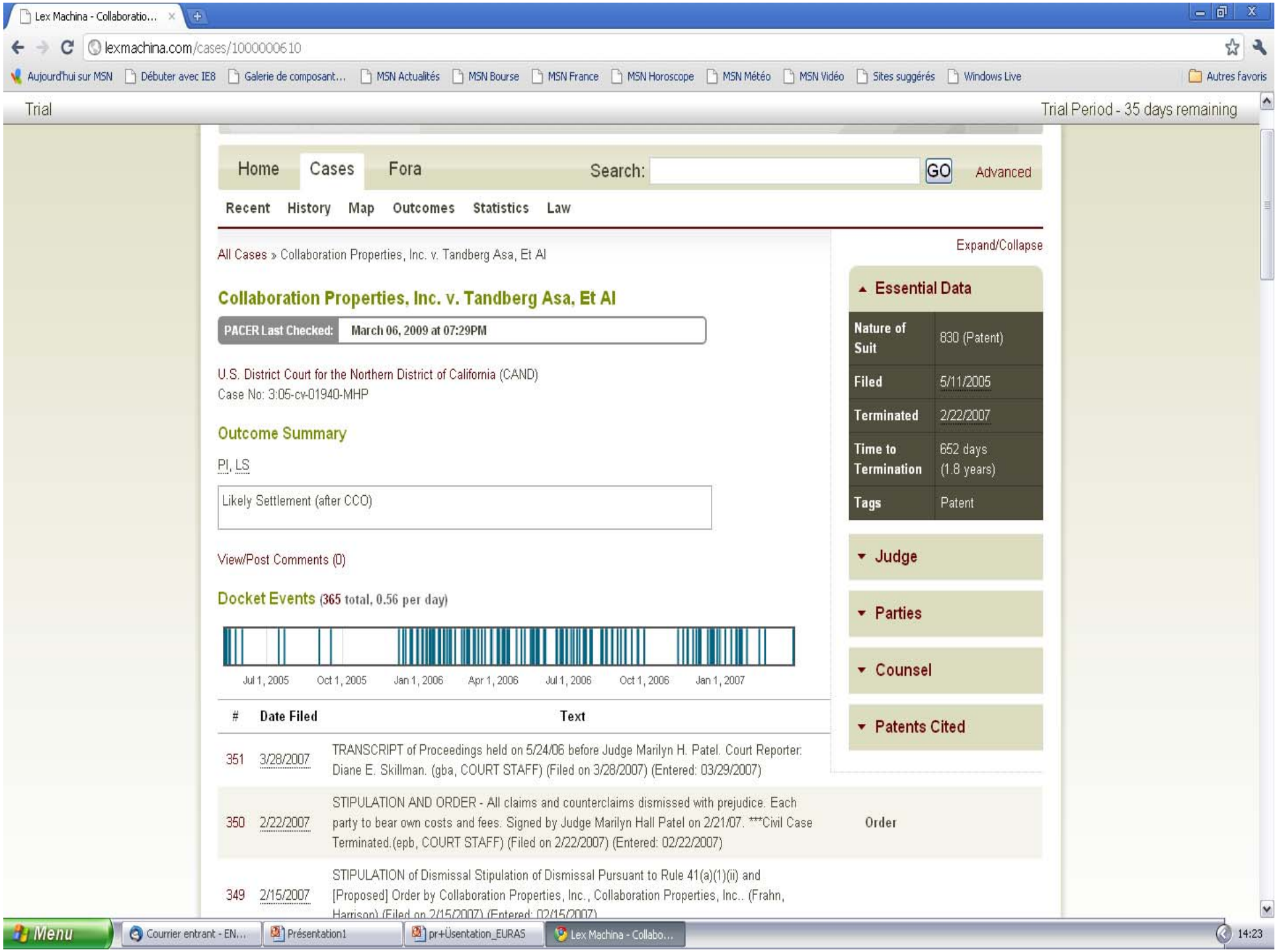
US 5,453,790

DE 69011422[‡]

I.2. Data (2/2): litigations

- Created by the Stanford Program in Law, Science and Technology
  - More than 25,000 patent infringement outcomes since 1999
  - 100 000 Intellectual Property cases

- Very detailed information on each case
  - Case:
    - Court, outcome, date of filing, date of termination, access to documents
  - Parties:
    - Plaintiff, defendant, lawyers, judges


Lex Machina - Collaboratio...
lexmachina.com/cases/1000000610
Aujourd'hui sur MSN
Débuter avec IE8
Galerie de composant...
MSN Actualités
MSN Bourse
MSN France
MSN Horoscope
MSN Météo
MSN Vidéo
Sites suggérés
Windows Live
Autres favoris
Trial
Trial Period - 35 days remaining
Home
Cases
Fora
Search:
GO
Advanced
Recent
History
Map
Outcomes
Statistics
Law
All Cases » Collaboration Properties, Inc. v. Tandberg Asa, Et Al
Expand/Collapse
Collaboration Properties, Inc. v. Tandberg Asa, Et Al
PACER Last Checked: March 06, 2009 at 07:29PM
U.S. District Court for the Northern District of California (CAND)
Case No: 3:05-cv-01940-MHP
Outcome Summary
PI, LS
Likely Settlement (after CCO)
View/Post Comments (0)
Docket Events (365 total, 0.56 per day)
Jul 1, 2005
Oct 1, 2005
Jan 1, 2006
Apr 1, 2006
Jul 1, 2006
Oct 1, 2006
Jan 1, 2007
Date Filed Text
351 3/28/2007 TRANSCRIPT of Proceedings held on 5/24/06 before Judge Marilyn H. Patel. Court Reporter: Diane E. Skillman. (gba, COURT STAFF) (Filed on 3/28/2007) (Entered: 03/29/2007)
350 2/22/2007 STIPULATION AND ORDER - All claims and counterclaims dismissed with prejudice. Each party to bear own costs and fees. Signed by Judge Marilyn Hall Patel on 2/21/07. ***Civil Case Terminated.(epb, COURT STAFF) (Filed on 2/22/2007) (Entered: 02/22/2007) Order
349 2/15/2007 STIPULATION of Dismissal Stipulation of Dismissal Pursuant to Rule 41(a)(1)(ii) and [Proposed] Order by Collaboration Properties, Inc., Collaboration Properties, Inc.. (Frahn, Harrison) (Filed on 2/15/2007) (Entered: 02/15/2007)
Essential Data
Nature of Suit 830 (Patent)
Filed 5/11/2005
Terminated 2/22/2007
Time to Termination 652 days (1.8 years)
Tags Patent
Judge
Parties
Counsel
Patents Cited
Menu
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Econometric results

- **Are pool patents more litigated than non pool patents (intrinsic or induced effect)**
  - A cross section approach
  - Control database of patents having the same assignee, application year and technological class
- If yes, what are the reasons of this difference:
  - Access to information?
  - Change in the outcome of the case?

II.1. Pool versus non-pool patents: a cross-section approach

	Patent pool sample	Non Patent Pool sample
Likelihood litigated	0.08	0.01
Mean number litigations	0.49	0.04
Mean number litigations / year	0.04	0.00
Mean cites	23.10	14.58
Mean forward cites	18.58	13.20
Number of claims	14.67	13.63
Mean family size	30.34	22.61
Generality index	0.33	0.31
Application Year	1997.82	1997.80
Age since grant	9.94	9.96

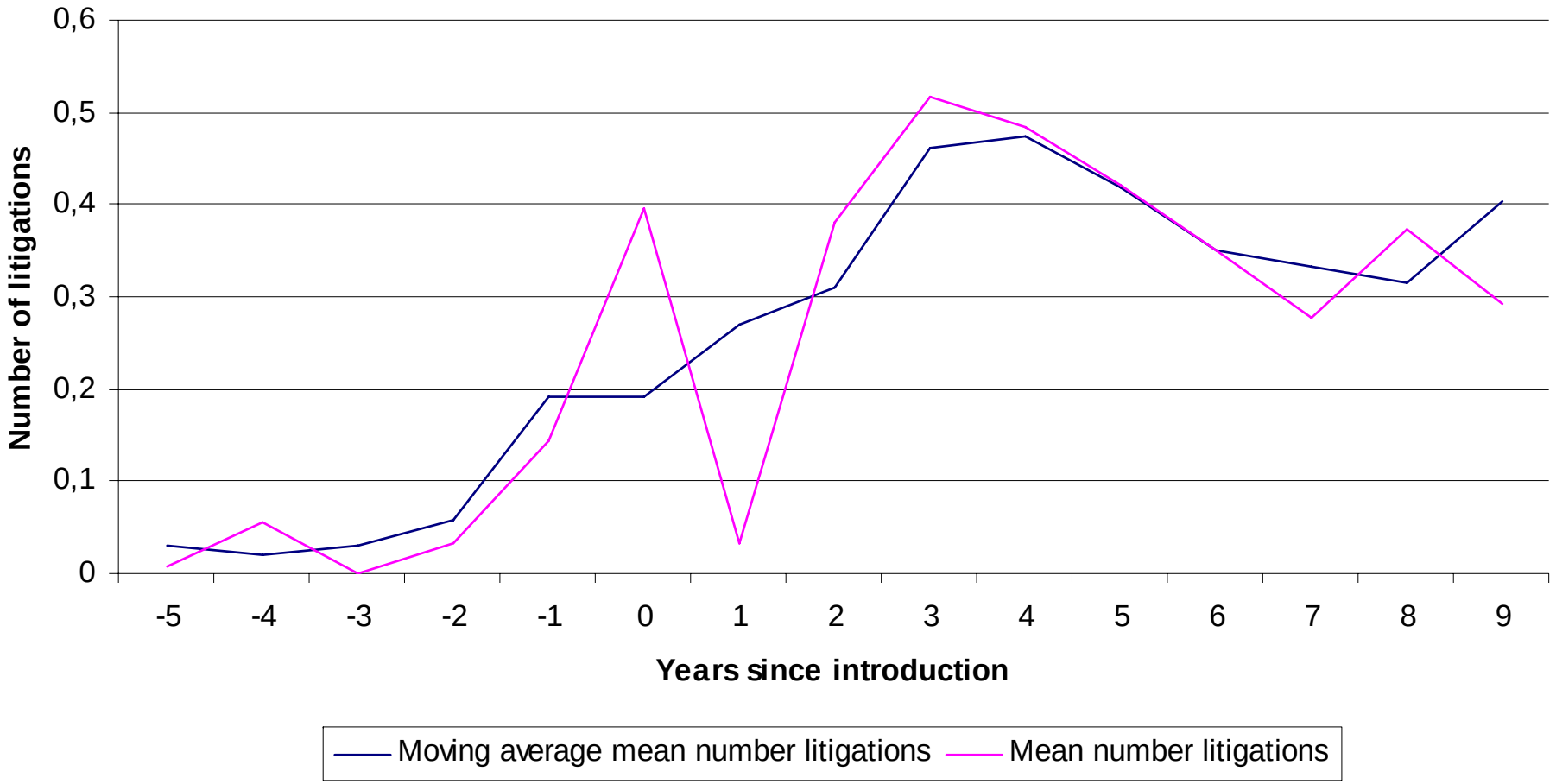
II.1. An induced effect

=> ***Are pool patents more litigated because they are of higher quality or is it due to a pool effect?***

	Probit litigated	Logit litigated	Rare event Logit litigated
Pool	1.59555*** (0.248)	3.51032*** (0.635)	3.33546*** (0.629)
Log(allnscites)	-0.05665 (0.071)	-0.13409 (0.125)	-0.13541 (0.124)
Log(claims)	0.16344* (0.091)	0.27786 (0.173)	0.27102 (0.171)
Generality index	-0.46128** (0.200)	-0.85349** (0.353)	-0.84491** (0.350)
Control Grant Year	Y	Y	Y
_cons	-10.07664 (39.608)	-32.25241 (71.626)	-28.59257 (71.064)
Number of obs	758	758	758

*Legend: * p<0.10; ** p<0.05; *** p<0.01. Robust standard errors in parentheses. Control database constituted with patents having the same application year and assignee type.*

II.1. Graphical findings



Econometric results

- Are pool patents more litigated than non pool patents (intrinsic or induced effect)

- **If yes, what are the reasons of this difference**:
  - **Access to information?**
    - A panel approach on the likelihood to be litigated for pool patents (with the patent holder as plaintiff)
  - Change in the outcome of the case?

II.2. What drives the pool induced effect?

- The increase in litigations after introduction can have two explanations
  - A value effect
    - Demand side (citations)
  - Level of information
    - Number of members
- Reputation externality effect (Simcoe, Graham and Feldman, 2009)
  - Number of firm's essential patents
- Lower litigation costs (Lerner, 1995)
  - Size of firms' portfolio
- Risk of counter infringement
  - Firm is vertically integrated (Licensor and licensee of the pool)

II.1 Patents' introduction in the pool and litigations: results

	Fixed effect logit litigated	Fixed effect logit litigated	Fixed effect logit litigated
Introduction effect	1.73792** (0.786)	14.43843** (5.771)	14.44490** (5.641)
Number_other_member Introduction	-0.00890 (0.041)	0.13237** (0.066)	0.16034** (0.069)
Number_othermembers_ numberpatents_Introduction		-0.00069*** (0.000)	-0.00071*** (0.000)
PPprior_introduction			-3.60461** (1.732)
Portfolio_size_introduction		0.00034 (0.000)	0.00033 (0.000)
Portfolio_size_Vertical Integration_introduction		-0.00012** (0.000)	-0.00012** (0.000)
Cumul Cites N-1	0.77702*** (0.241)	0.7759*** (0.233)	0.78508*** (0.229)
Calendar year effect	-0.09331*** (0.035)	-0.10120*** (0.037)	-0.09922*** (0.037)
Dummy already litigated	-0.00508 (0.297)	-0.08867 (0.295)	-0.15084 (0.298)
Number of obs	**1087**	**1087**	**1087**

*Legend: * p<0.10; ** p<0.05; *** p<0.01. Standard errors in parentheses. All cases with the patent holder as plaintiff*

Econometric results

- Are pool patents more litigated than non pool patents (intrinsic or induced effect)

- **If yes, what are the reasons of this difference**:
  - Access to information?
  - **Change in the outcome of the case?**
    - A cross-section and panel approach on the likelihood to be settled for pool patents

II.2 Patents' introduction in the pool and outcomes: Hypothesis

- In an infringement case, two questions:
  - Is the patent valid ?
  - Is the technology infringed ?
    - Answered (partly) by the essentiality evaluation at the time of introduction

- This strengthening should change the outcomes (Bessen and Meurer, 2006)
  - If validity and scope of patents are clear => no disputes
  - Within the dispute region, the likelihood that the case is ended by settlement is higher if expectations are closer
    - The likelihood that the case is ended by settlement is higher, for the same patent, after introduction in a pool

II.2 Patents' introduction in the pool and outcomes: Results

	Probit Settlement	Logit Settlement	Rare event Logit Settlement
Presence Pool	1.18009**	1.94542**	1.27912*
	(0.477)	(0.857)	(0.689)
Log_allnscites	-0.39839**	-0.68908*	-0.53349
	(0.197)	(0.369)	(0.333)
Generality	-0.59606	-0.97056	-0.36077
	(0.532)	(0.891)	(0.781)
Control Grant Year	Y	Y	Y
Dummy Court	Y	Y	Y
_cons	24.80475	58.58852	-3.54719
	(93.617)	(170.438)	(112.722)
Number of observations	144	136	105

*Legend: * p<0.10; ** p<0.05; *** p<0.01. Robust standard errors in parentheses. Control database constituted with patents having the same application year and assignee type.*

II.2 Patents' introduction in the pool and outcomes: Results

	Random effect logit settlement	Random effect logit settlement	Random effect logit settlement	Random effect poisson Settlements	Random effect poisson settlements	Random effect poisson settlements
Introduction effect	2.14909 (1.514)	1.85074 (1.365)	3.53464* (1.962)	2.16671** (0.995)	2.16705** (0.993)	2.04548** (0.998)
Log_Allnscites		-0.00411 (0.006)	-0.00020 (0.009)		-0.00306 (0.006)	-0.00341 (0.005)
Control Grant Year			Y			Y
Calendar year effect	-0.26980 (0.186)	-0.17185 (0.161)	-0.31725 (0.240)	-0.30775*** (0.097)	-0.29055*** (0.096)	-0.27926*** (0.097)
Number of obs	**113**	**108**	**108**	**113**	**108**	**108**

*Legend: * p<0.10; ** p<0.05; *** p<0.01. Standard errors in parentheses*

Summary

- Pool patents are more litigated than non pool patents
  - This result comes from an induced effect
    - That can be explained partly by a change in the patent holder level of information
  - Reasonable evidence that the introduction in a pool strengthen the patent
    - We observe a change in the outcomes of the cases
- New evidence on incentives to join pools…