Hearing #4 on Competition and Consumer Protection in the 21st Century

Federal Trade Commission

Constitution Center

October 24, 2018

Welcome

We Will Be Starting Shortly

Welcome

Suzanne Munck

Federal Trade Commission

Opening Remarks

Drew Hirshfeld

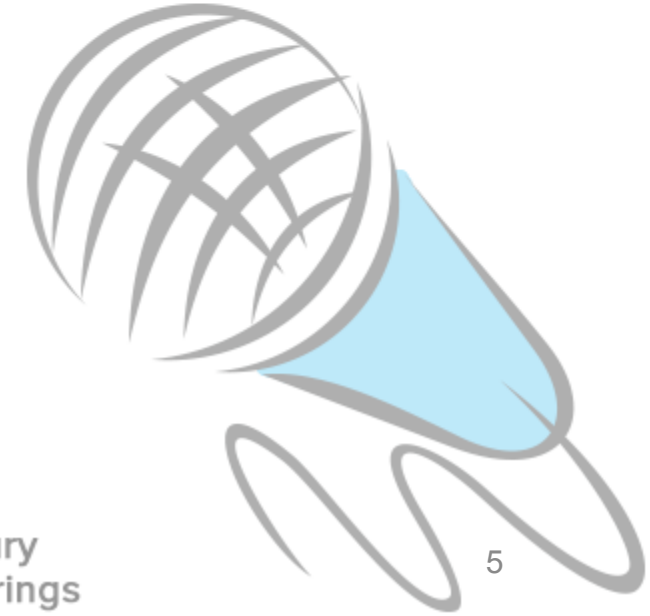
Commissioner for Patents

U.S. Patent and Trademark Office

Emerging Trends in Patent Quality

Session moderated by:

Elizabeth Gillen & John Dubiansky
Federal Trade Commission
Office of Policy Planning



Emerging Trends in Patent Quality

Understanding Patent Quality

Alan Marco

Georgia Institute of Technology

School of Public Policy

What gives patents value?

1. Length
2. Breadth
3. Enforceability
4. Certainty regarding #1, #2, and #3

Patent quality

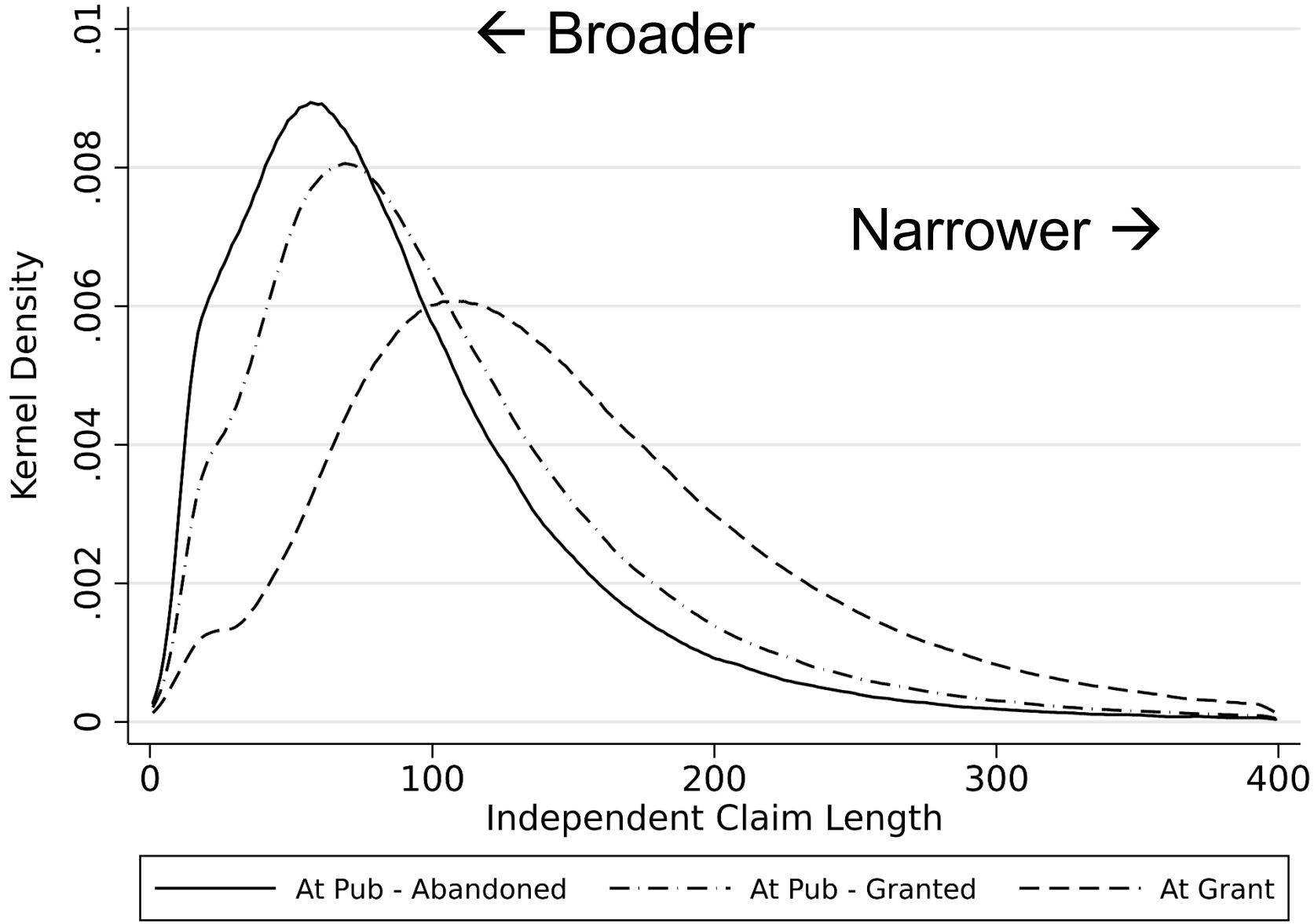
A patent is high quality if it

1. Adheres to the legal standards of patentability
2. Claims a scope that matches the inventive step
3. Clearly articulates #1 and #2

Policy levers for patent quality

- Institutional resources
- Examiner and applicant incentives
- Error correction (pre- and post-grant)
- Technology
- Statutory/institutional reforms

What about the courts?


← Broader
Narrower →
Kernel Density
0
.002
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.008
.01
0
100
200
300
400
Independent Claim Length
At Pub - Abandoned
At Pub - Granted
At Grant

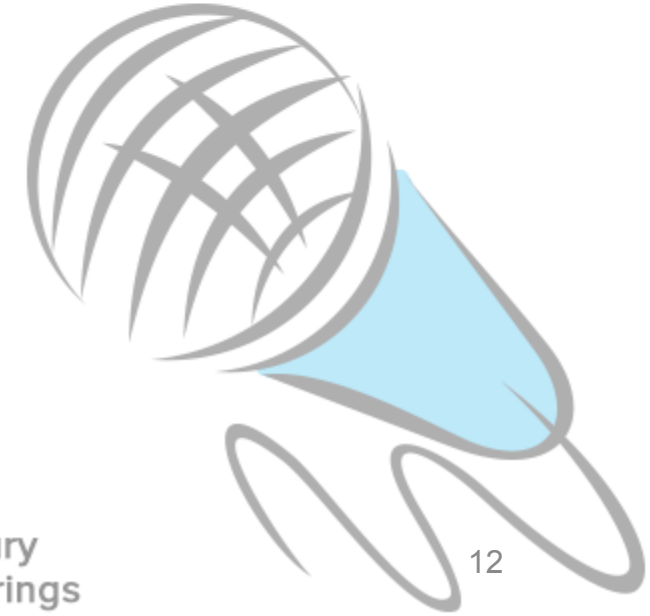
Some empirical results

- Applicants respond to higher RCE fees by narrowing claims
- Examiners do higher quality examination when being considered for promotion to primary examiner
- Continuations tend to be broader than new applications, and are more frequently the subject of litigation

Emerging Trends in Patent Quality

Hon. Scott Boalick

Patent Trial and Appeal Board

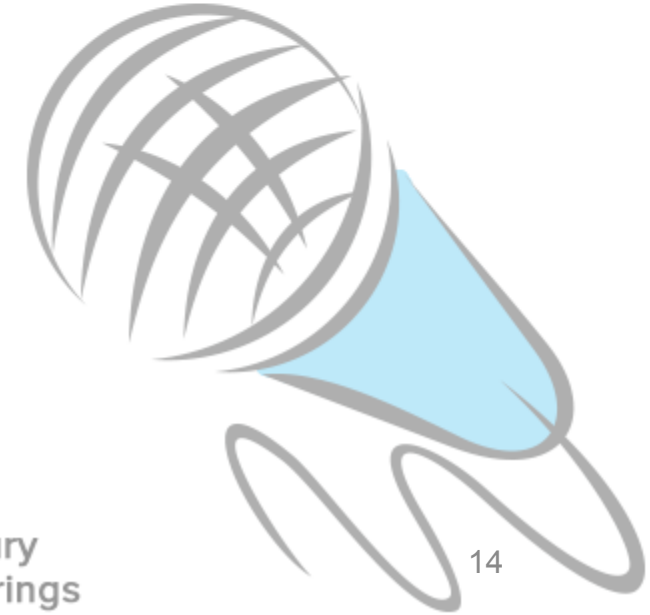


Emerging Trends in Patent Quality

Greg Reilly
Illinois Institute of Technology
Chicago-Kent College of Law

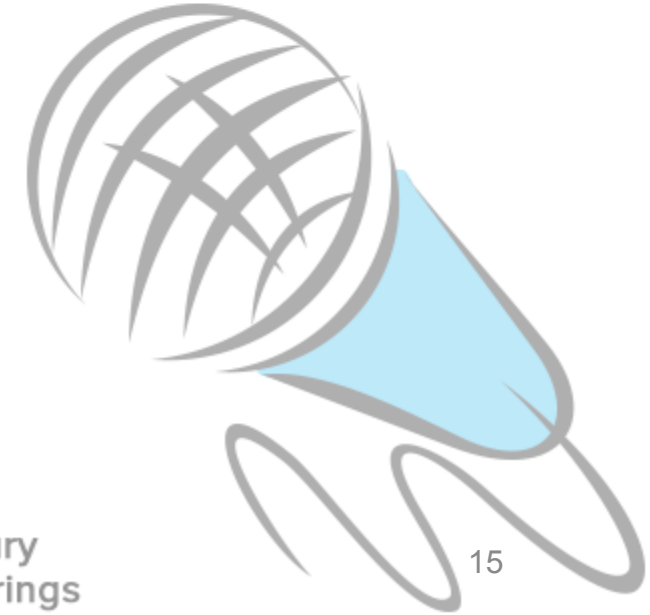
Emerging Trends in Patent Quality

Saurabh Vishnubhakat
Texas A&M University
School of Law



Emerging Trends in Patent Quality

Melissa Wasserman
University of Texas at Austin
School of Law



Emerging Trends in Patent Quality

Panel Discussion:

Hon. Scott Boalick, Drew Hirshfeld, Alan Marco,
Greg Reilly, Saurabh Vishnubhakat,
Melissa Wasserman

Moderators: John Dubiansky & Elizabeth Gillen

Break

10:45-11:00 am

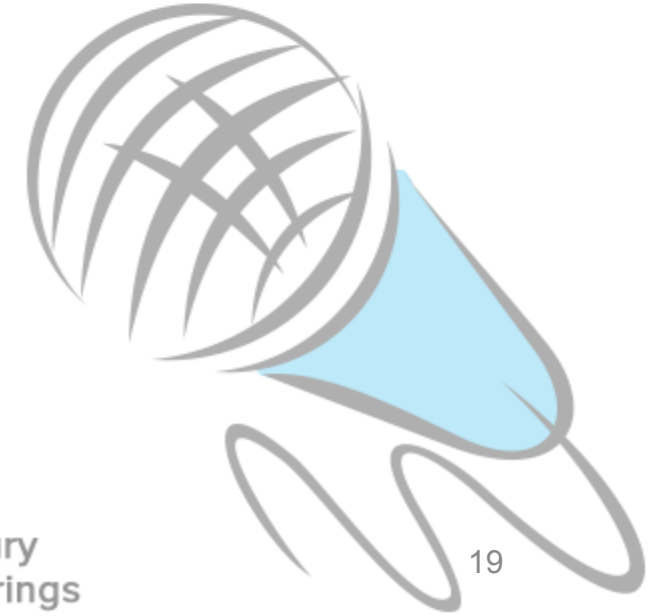
Emerging Trends in Patent Litigation

Session moderated by:

John Dubiansky & Elizabeth Gillen
Federal Trade Commission
Office of Policy Planning

Emerging Trends in Patent Litigation

Shawn Miller, Joshua Rosefelt, & Rebecca Weires
Stanford University Law School



Topics

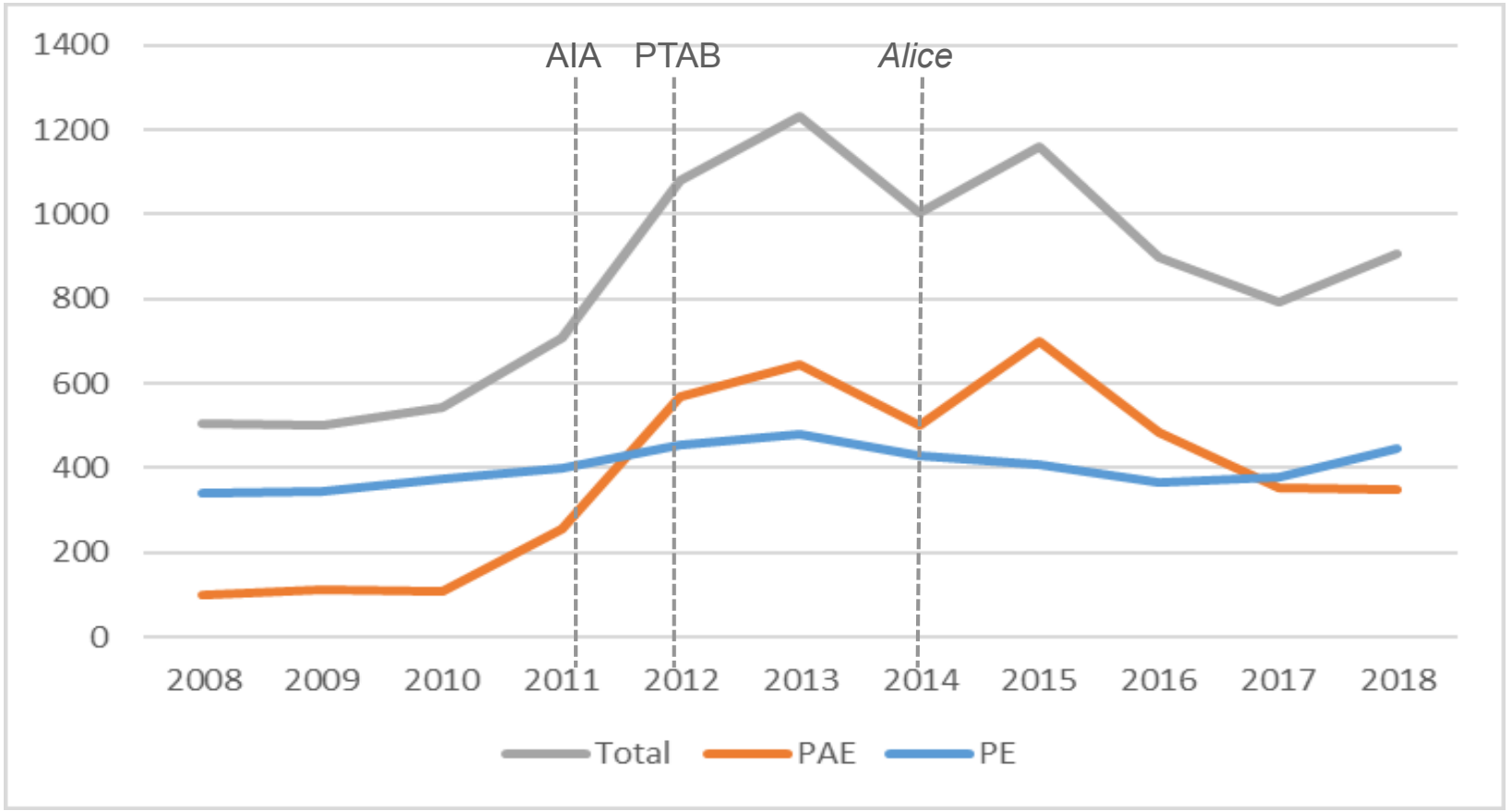
- Review the impact of
  - AIA joinder (and *Alice* and PTAB) on filings
  - PTAB on district court patent litigation
  - *TC Heartland* on venue and litigation filings

Impact of AIA Joinder (and *Alice* and PTAB) on Patent Litigation

- Did these reforms
  - Change the total number of lawsuits?
  - Disproportionately impact PAEs?

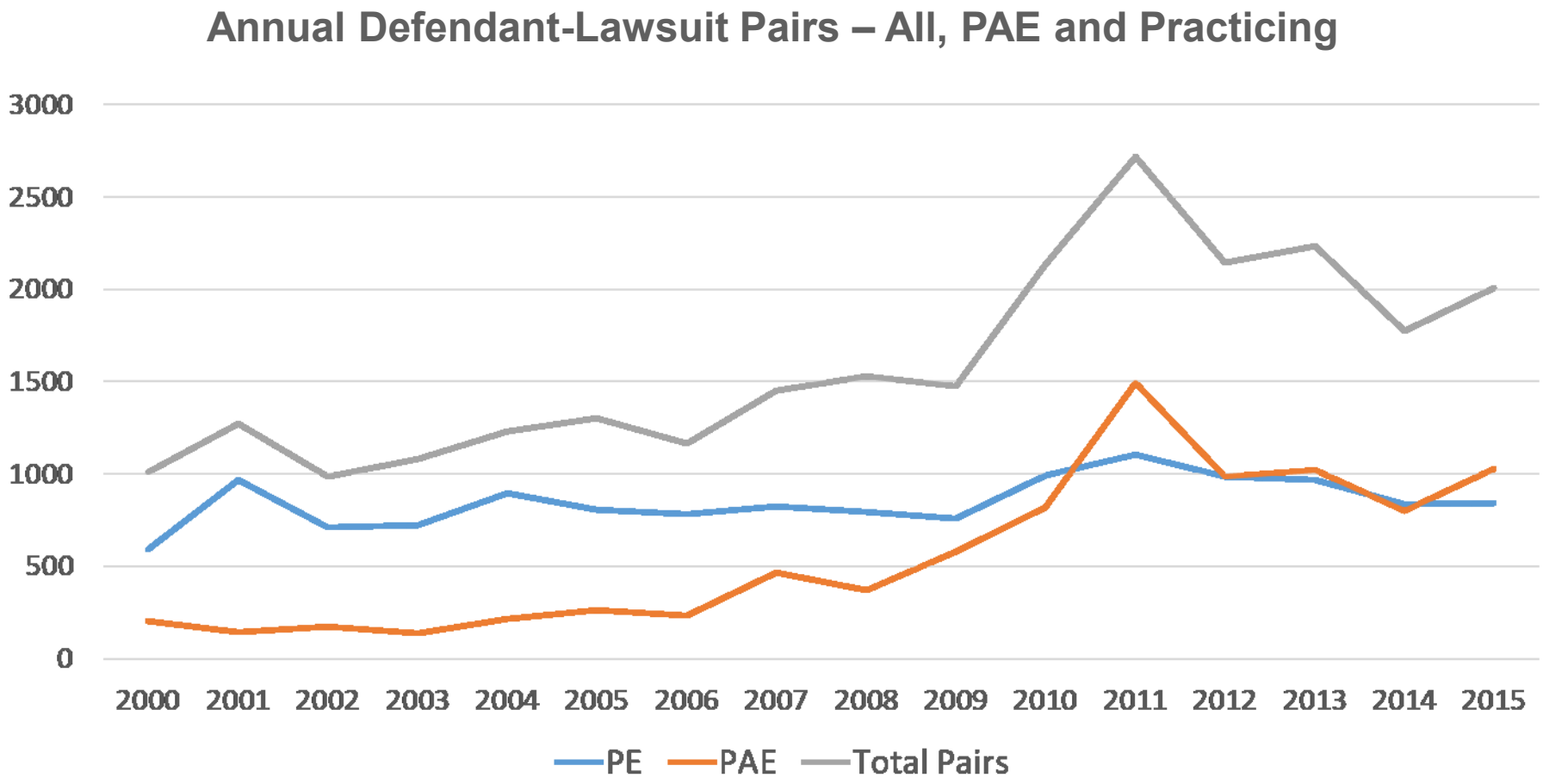
Did the amount of patent litigation change in the wake of recent reforms?

Annual Cases Filed – All, PAE and Practicing



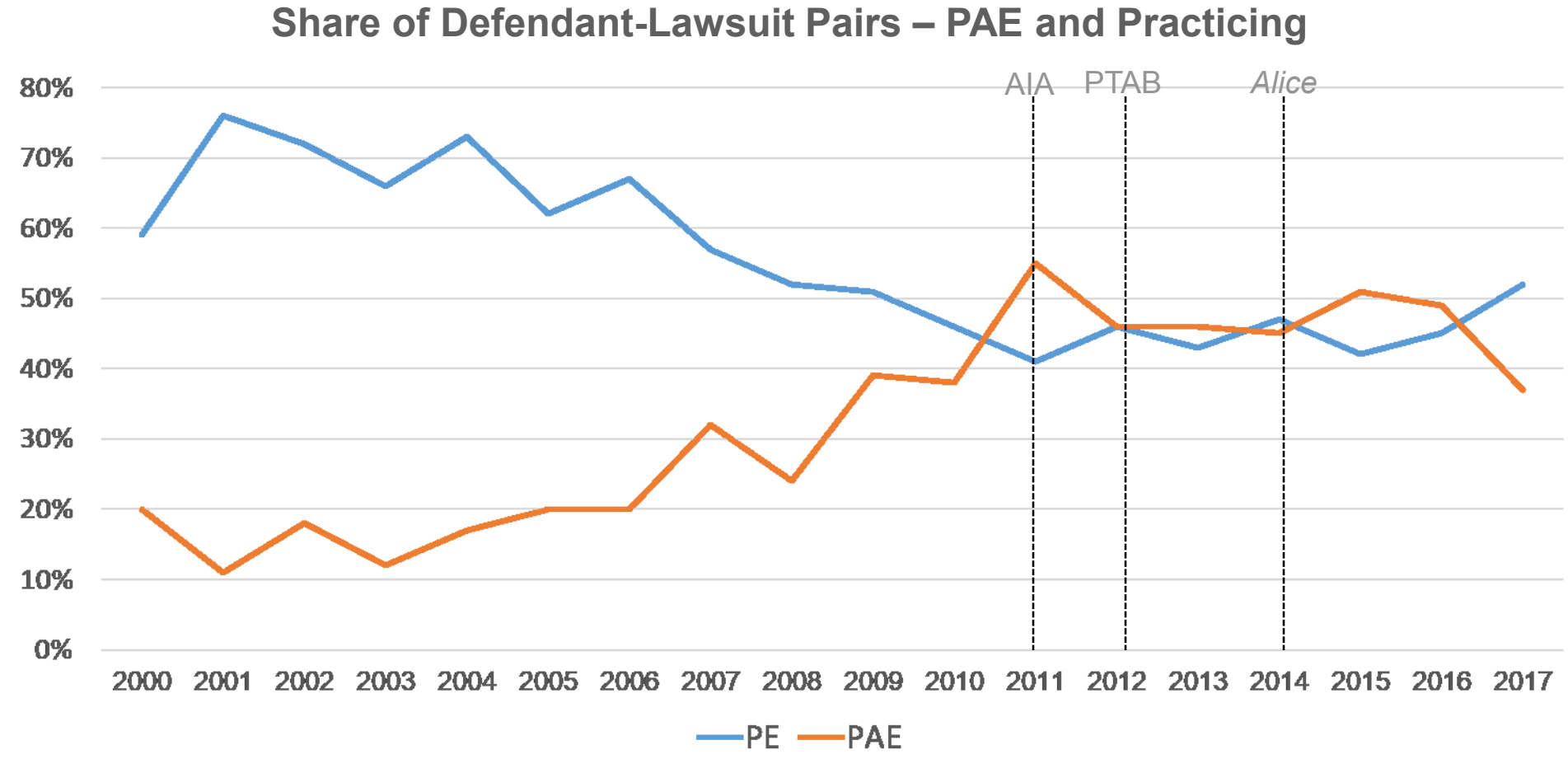
20% random sample of cases with plaintiffs categorized in Stanford NPE Litigation Dataset

Did the amount of patent litigation change in the wake of recent reforms?



20% random sample of defendant-lawsuit pairs with plaintiffs categorized in Stanford NPE Litigation Dataset

Has the mix of patent disputes changed in the wake of recent patent reforms?



Based on 20% random sample of cases with plaintiffs categorized in Stanford NPE Litigation Dataset

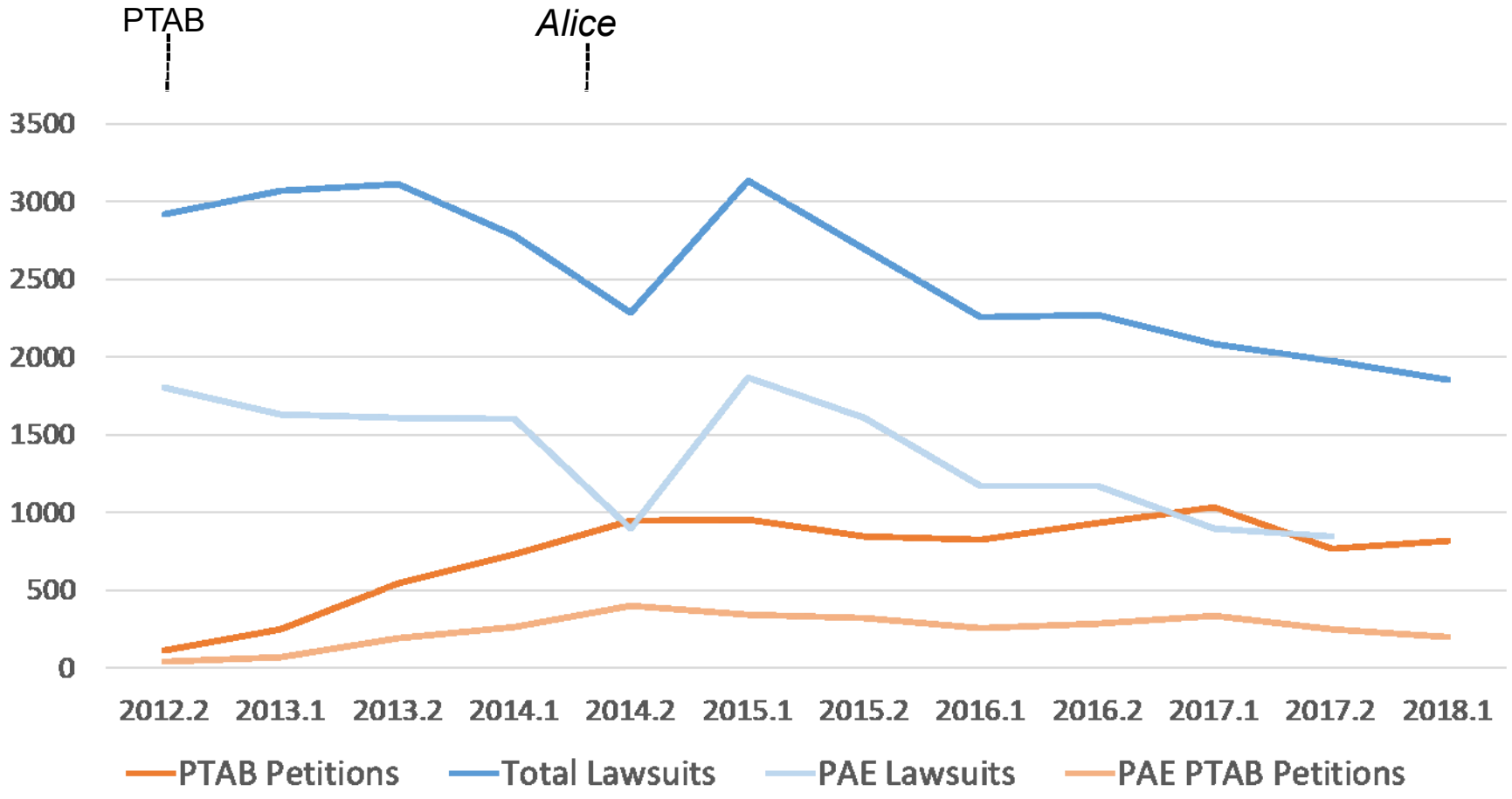
Impact of Joinder (and *Alice* and PTAB) on Patent Litigation

- PAE filings dramatically increased after the joinder rule change but the number of PAE disputes had been increasing since mid-2000s
- Practicing entity litigation fairly stable throughout period of reform
- PAE litigation in decline since AIA, likely due to PTAB and *Alice*
- More practicing entity disputes than PAE disputes in 2017
  - First time since 2009!

Impact of PTAB on Patent Litigation

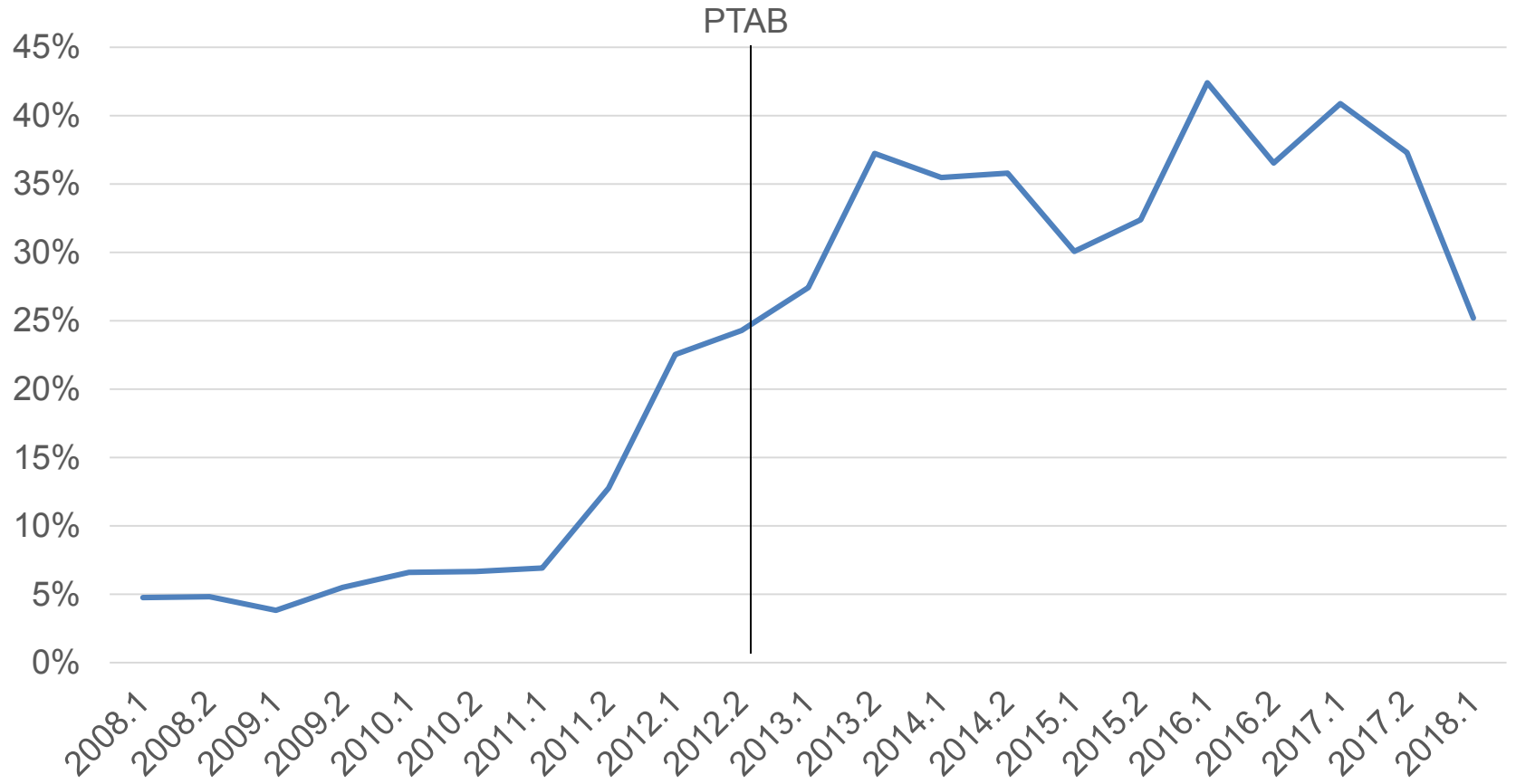
- Did the availability of PTAB proceedings
  - Change the number of patent lawsuits?
  - Disproportionately impact PAEs?
  - Disproportionately impact ANDA disputes?

PTAB Petitions and Lawsuits Filed



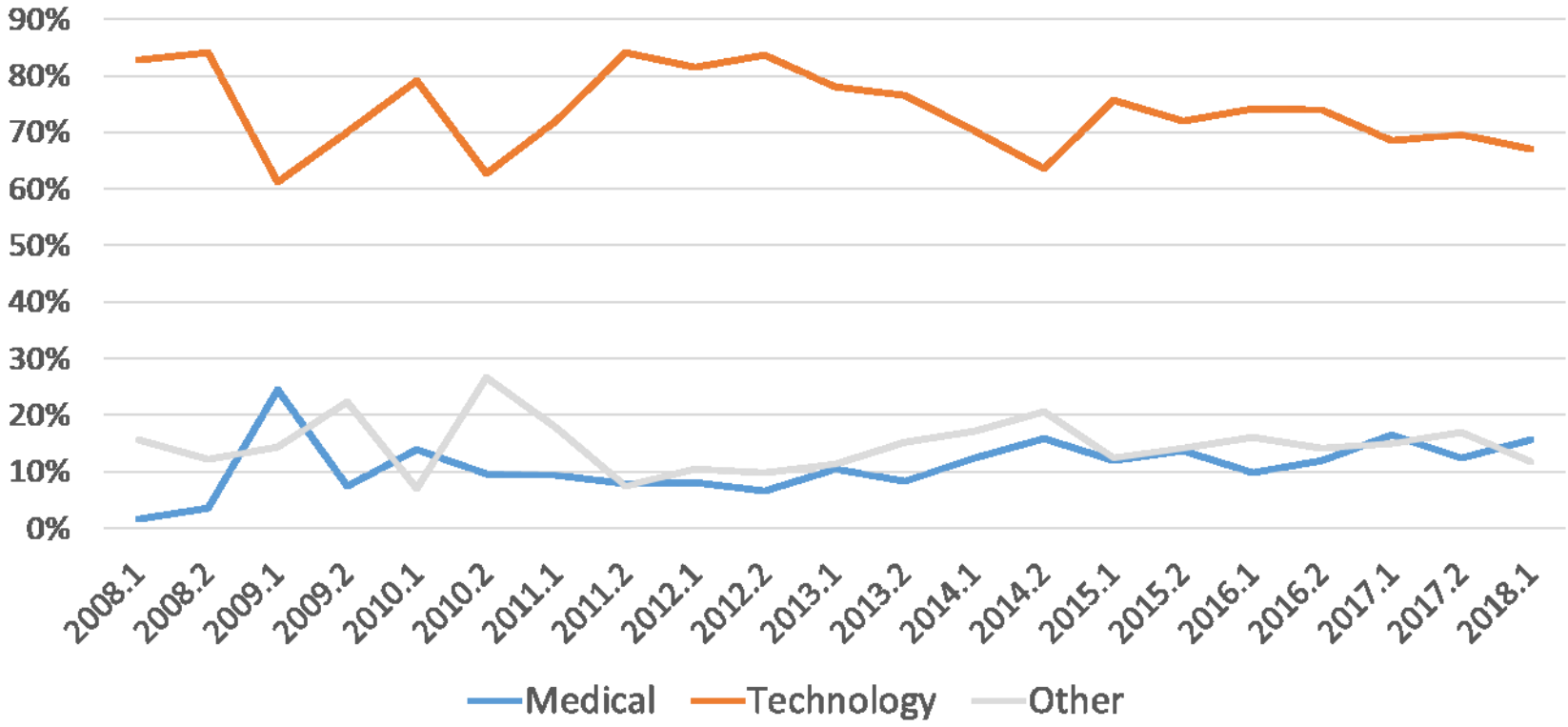
PTAB data from Unified Patents and litigation data from Lex Machina

Percent of Lawsuits Filed with PTAB-Challenged Patent



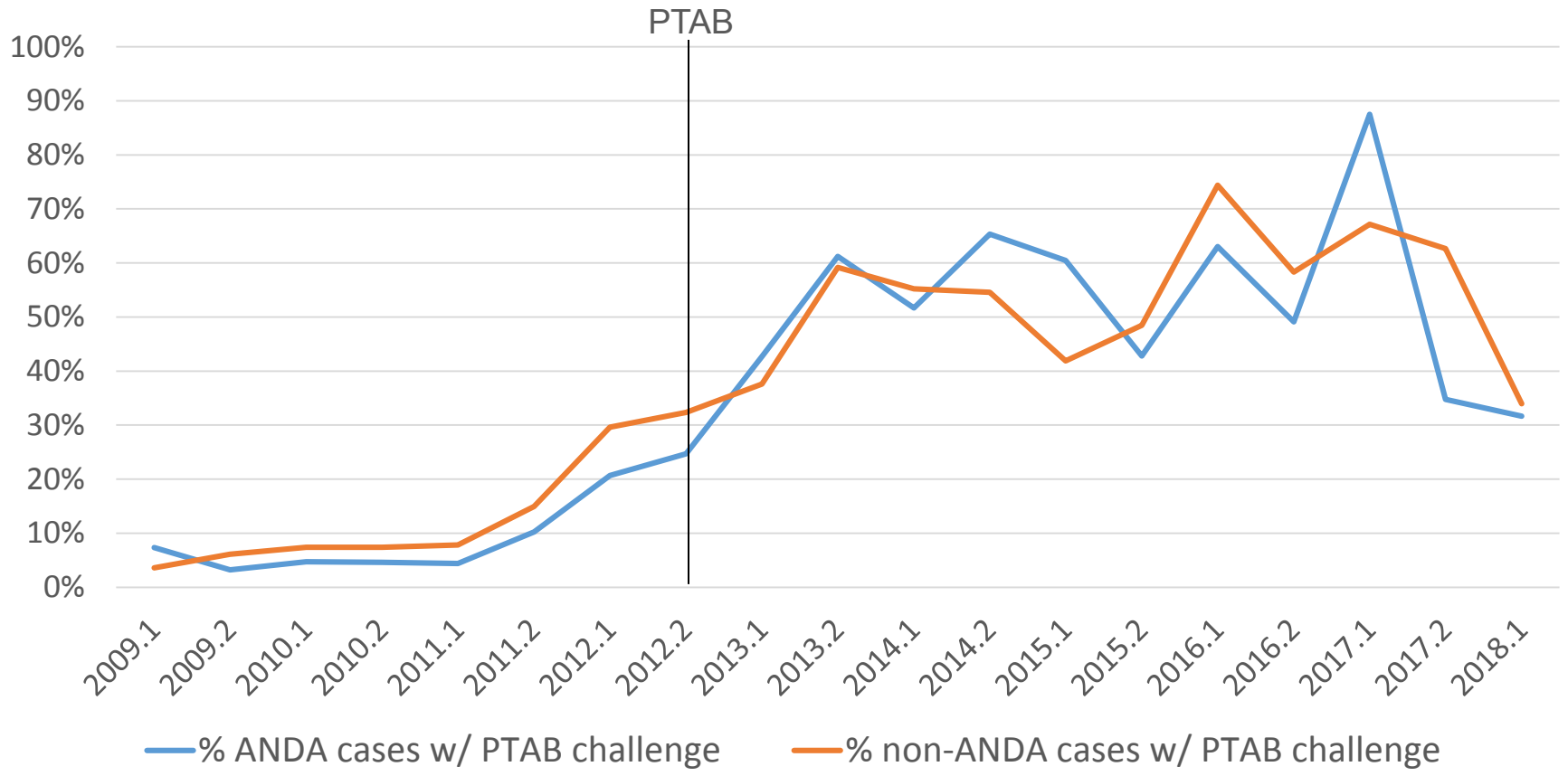
PTAB data from Unified Patents and litigation data from Lex Machina

Industry Breakdown of Lawsuits with PTAB-Challenged Patents



PTAB data from Unified Patents and litigation data from Lex Machina

Percent of Suits Filed with PTAB-Challenged Patent – ANDA vs. non-ANDA



PTAB data from Unified Patents and litigation data from Lex Machina

Litigation Outcomes and PTAB

	ANDA			Non-ANDA		
	Filed 2009-2010	2013-16 non-PTAB	2013-16 PTAB	Filed 2009-2010	2013-16 non-PTAB	2013-16 PTAB
Average duration (days)	576	433	531	482	246	375
Settlement rate	52%	58%	42%	71%	80%	70%
% decided on SJ	1.8%	1.3%	0.9%	3.7%	1.3%	1.2%
SJ win rate	40%	23%	40%	13%	18%	14%
% decided at trial	6.5%	4.0%	7.0%	2.2%	0.4%	0.8%
Trial win rate	72%	74%	70%	67%	72%	67%

PTAB data from Unified Patents and litigation data from Lex Machina

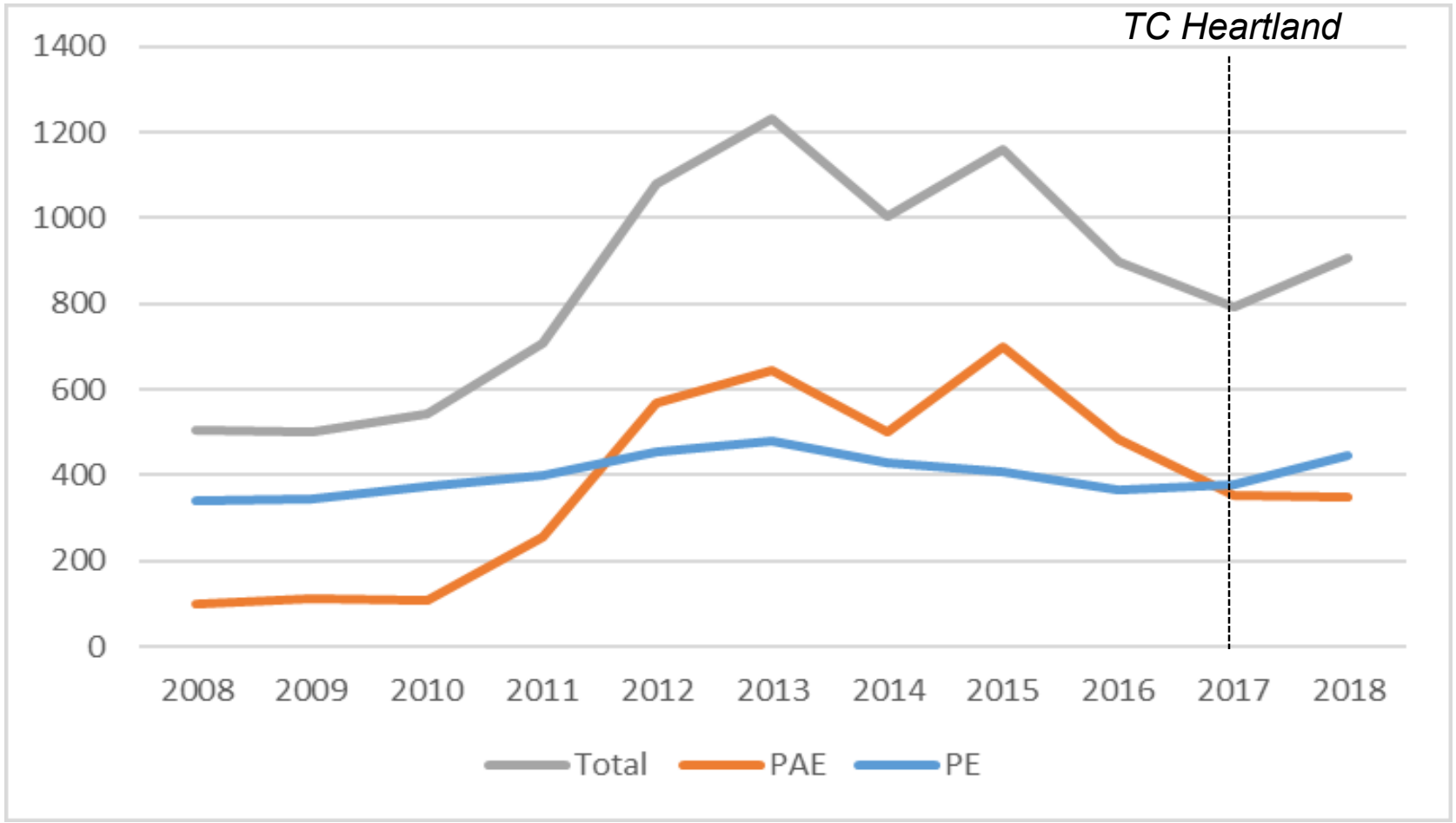
Impact of PTAB on Patent Litigation

- PTAB post-grant review proceedings:
  - May have dampened the number of PAE suits
  - Have been used against ANDA patents as frequently as against other patents
  - Appear to increase the duration of both ANDA and other cases
  - Do not appear to have radically altered case outcomes

Impact of Venue on Patent Litigation

- Did the *TC Heartland* decision
  - Radically change where lawsuits are filed?
  - Reduce the number of lawsuits?
  - Disproportionately impact PAEs?

Annual Cases Filed – All, PAE, and Practicing

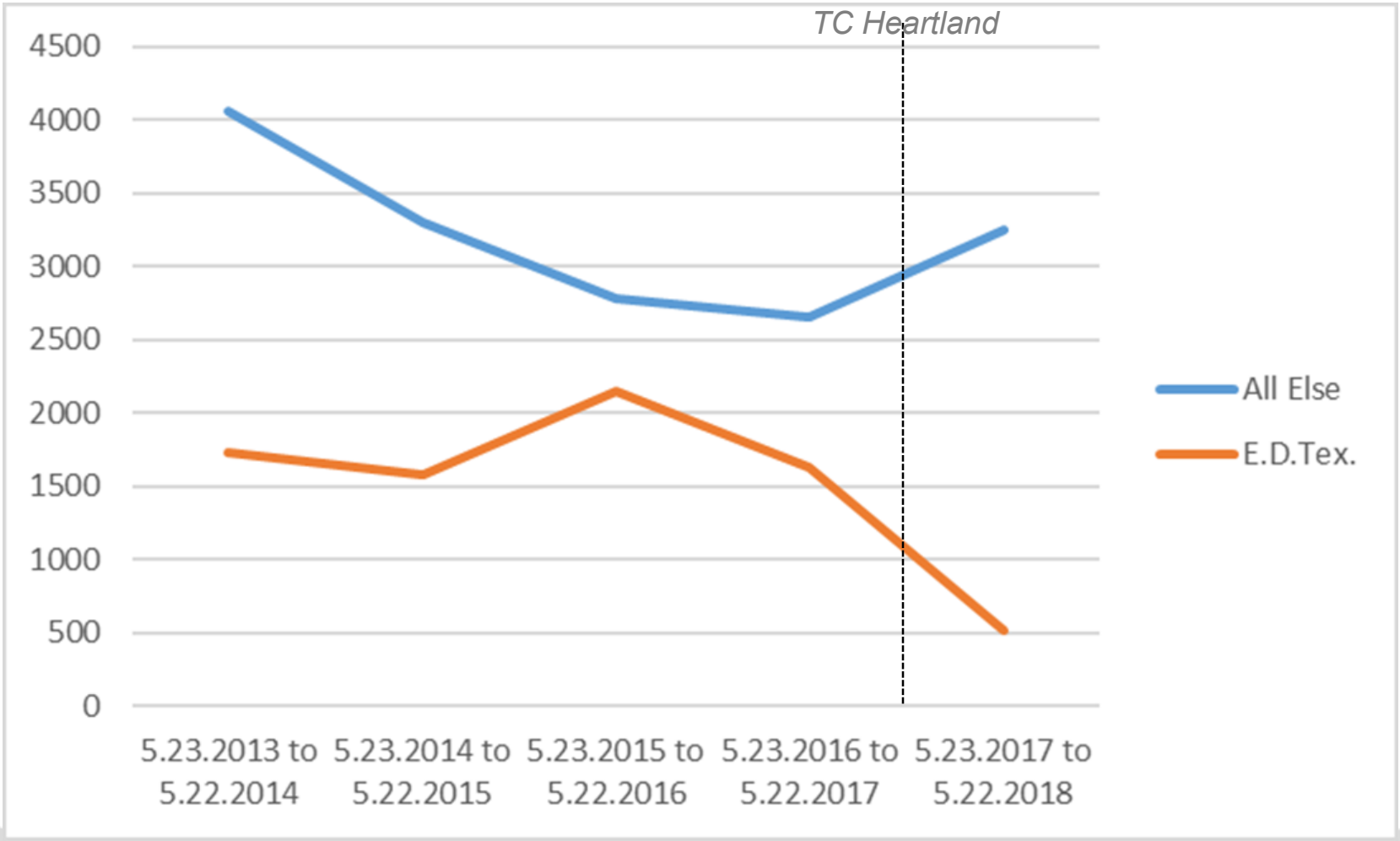


20% random sample of cases with plaintiffs categorized in Stanford NPE Litigation Dataset

Impact of *TC Heartland*

Court	Year Before	Year After	Δ # Cases	% Increase
E.D.Tex.	1626 (38%)	521 (13.8%)	-1105	-68%
D.Del.	521 (12%)	898 (24%)	377	72%
C.D.Cal.	265 (6.2%)	344 (9.1%)	79	30%
N.D.Cal.	128 (3.0%)	272 (7.2%)	144	113%
D.N.J.	153 (3.6%)	197 (5.2%)	44	30%
N.D.Ill.	206 (4.8%)	195 (5.2%)	-11	-5%
S.D.N.Y.	89 (2.1%)	113 (3.0%)	24	26%
S.D.Fla.	104 (2.4%)	71 (1.9%)	-33	-32%
D.Mass.	96 (2.2%)	72 (1.9%)	-24	-25%
W.D.Tex.	52 (1.2%)	81 (2.1%)	29	56%
S.D.Cal.	69 (1.6%)	62 (1.6%)	-7	-10%
M.D.Fla.	71 (1.7%)	59 (1.6%)	-12	-17%
N.D.Tex.	36 (0.8%)	80 (2.1%)	44	122%
N.D.Ga.	40 (0.9%)	40 (1.1%)	0	0%
Total	4283	3768	-515	-12%

Annual Lawsuits Filed – E.D. Tex. v. All Others

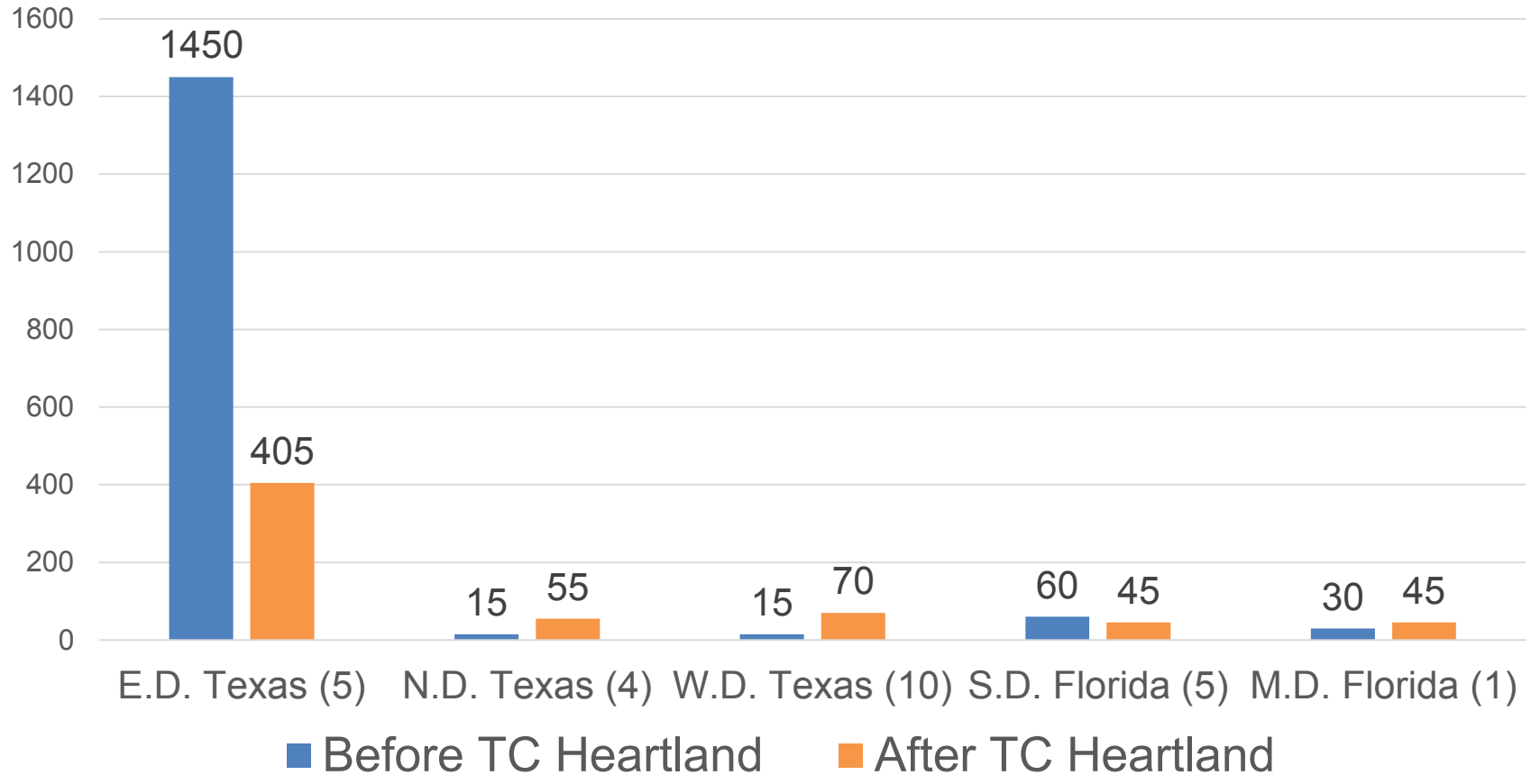


Impact of *TC Heartland* – PAE vs. Practicing

Court	Group	Before	After
All	Practicing	42.0% (353)	50.0% (368)
	PAE	52.7% (443)	44.7% (329)
E.D. Tex.	Practicing	5.7% (18)	16.0% (17)
	PAE	91.8% (290)	76.4% (81)
D.Del.	Practicing	60.0% (45)	46.7% (79)
	PAE	38.7% (29)	50.3% (85)
N.D. Cal.	Practicing	43.5% (10)	51.3% (20)
	PAE	21.7% (5)	46.2% (18)
C.D. Cal.	Practicing	52.8% (28)	73.6% (53)
	PAE	32.1% (17)	22.2% (16)
N.D. Ill.	Practicing	26.2% (11)	36.7% (11)
	PAE	66.7% (28)	53.3% (16)

20% random sample of cases with plaintiffs categorized in Stanford NPE Litigation Dataset

PAE Shift to Neighboring Districts?



Based on 20% random sample of cases with plaintiffs categorized in Stanford NPE Litigation Dataset

Impact of Venue on Patent Litigation

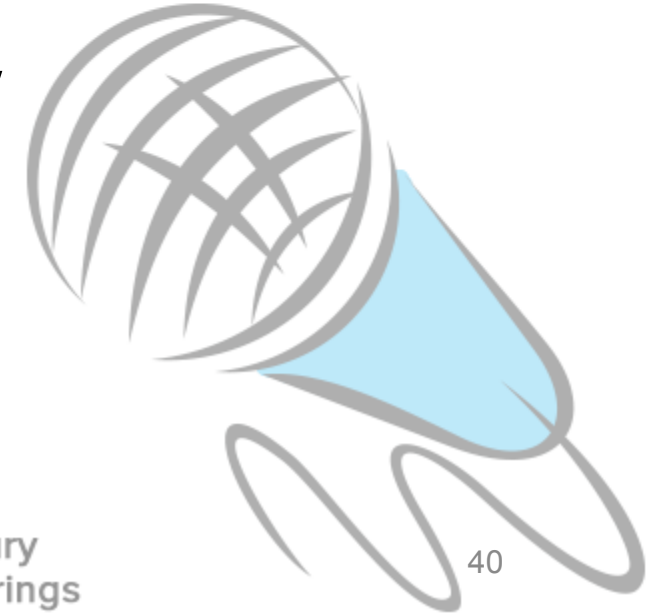
- *TC Heartland*:
  - Dramatically decreased filings in the Eastern District of Texas
  - Shifted PAE cases, with largest gain in Delaware
  - May not have impacted the number of lawsuits filed

Emerging Trends in Patent Litigation

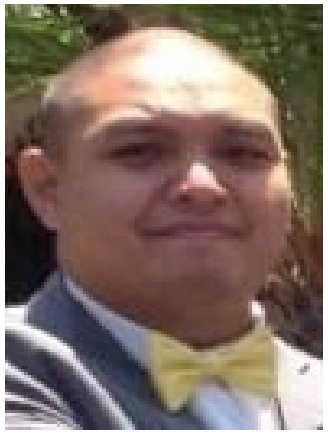
Flight from Quantity... Flight to Quality?: An Analysis of Patent Applications and Complaints Following Patent Reform

Colleen Chien

Santa Clara University School of Law



The Team



With Major Thanks to

Lex Machina

TurboPatent

AskAlice!

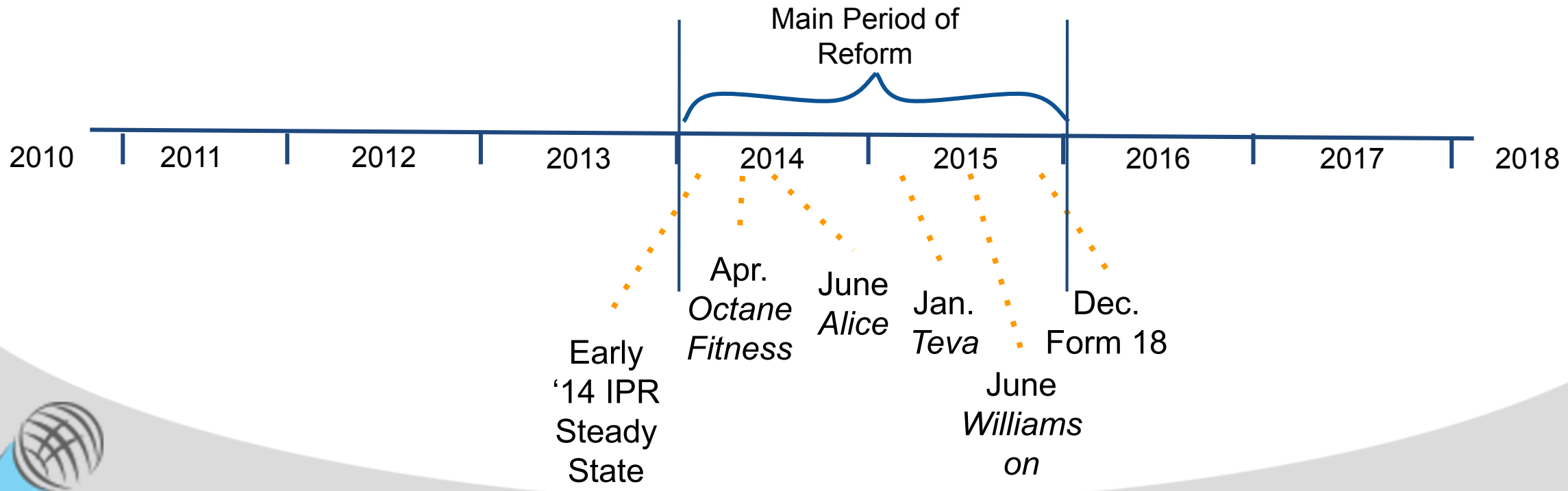
Harrity & Harrity LLP
Intellectual Property Attorneys

Innography
IP Answers. Business Results.

Bill Sundstrom, Ben Dugan, Rocky Berndsen, Peter Glaser, Willian Gvoth, the Lex Machina Helpdesk

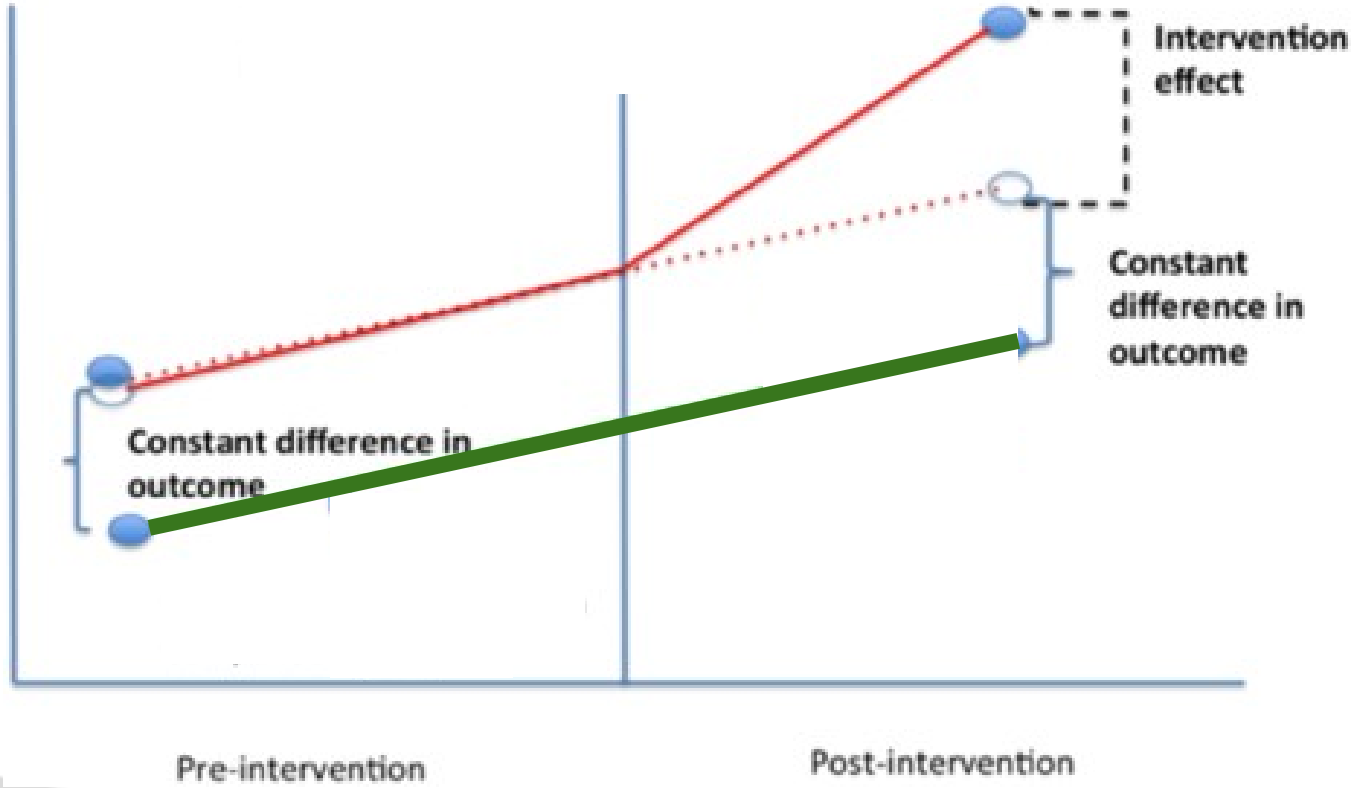
Study Motivation

Policymakers have enacted changes to the patent system that were intended to decrease abusive litigation and increase the quality of patents and assertions. Have they worked, based on looking at complaints and applications pre-and post-change?

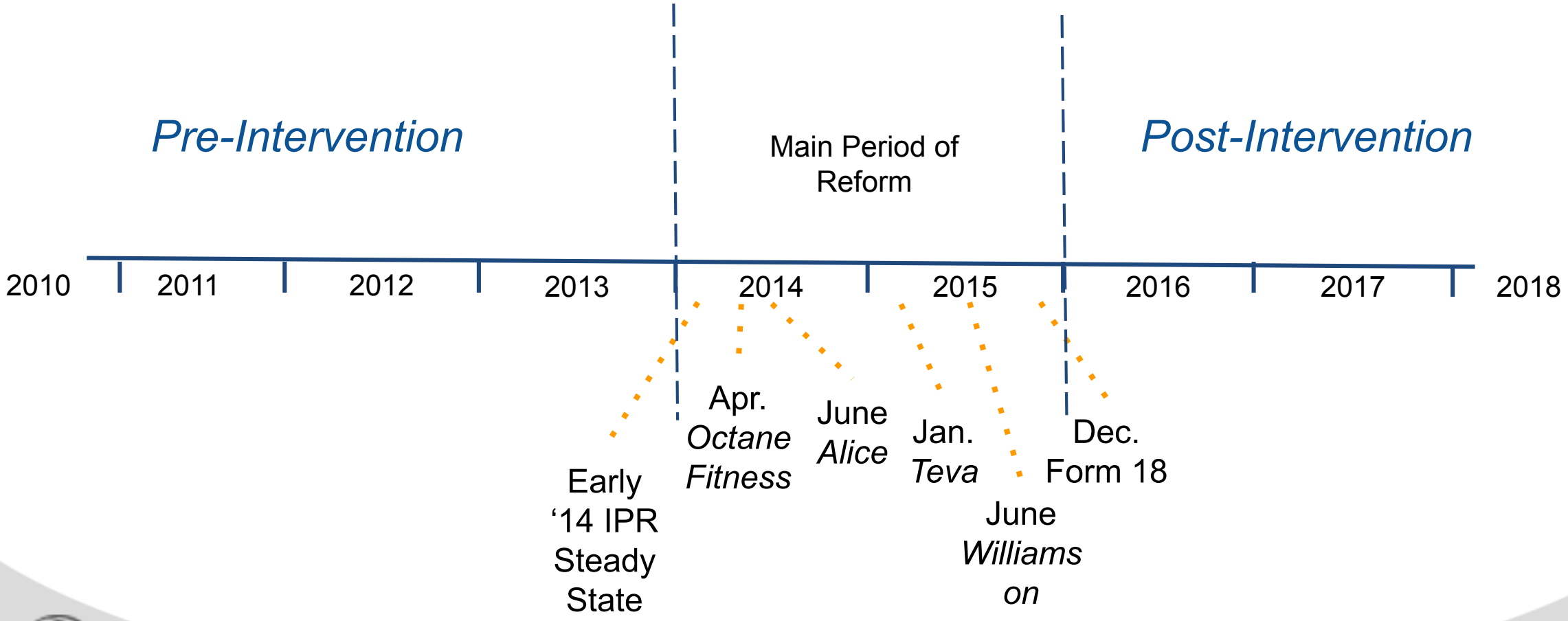


Methodology – Overview

Look for differences pre and post-reform among groups targeted and not targeted by reform using “Diff in Diff” approach



Methodology - Pre and Post Periods



Methodology - Control

The reforms targeted abusive litigation by NPEs based on software patents so we compared “treated” and “untreated” as follows:

- Tech control: Pure Software v. Non Pure SW or Chemistry
- Plaintiff control: “High Impact Patent Asserter” (HIPA = 10+ assertions of the patent) v. Non-HIPA; PAE v. Non-PAE NPE v. OpCo

Methodology - Traits

Complaints

- Presence of claim charts
- Presence of specific product details like screenshots, accused product descriptions

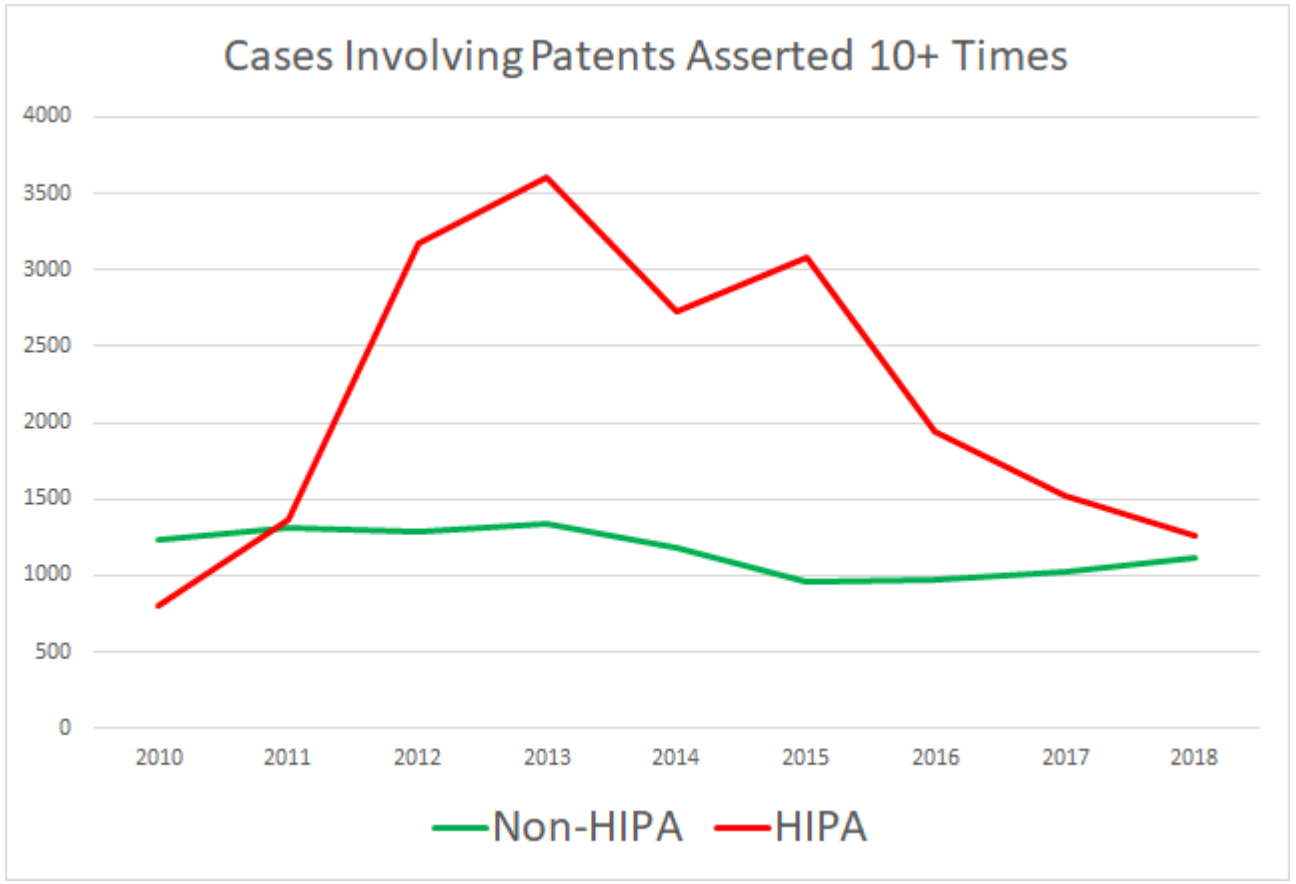
Patent Applications

- Total words
- Unique words in claim 1

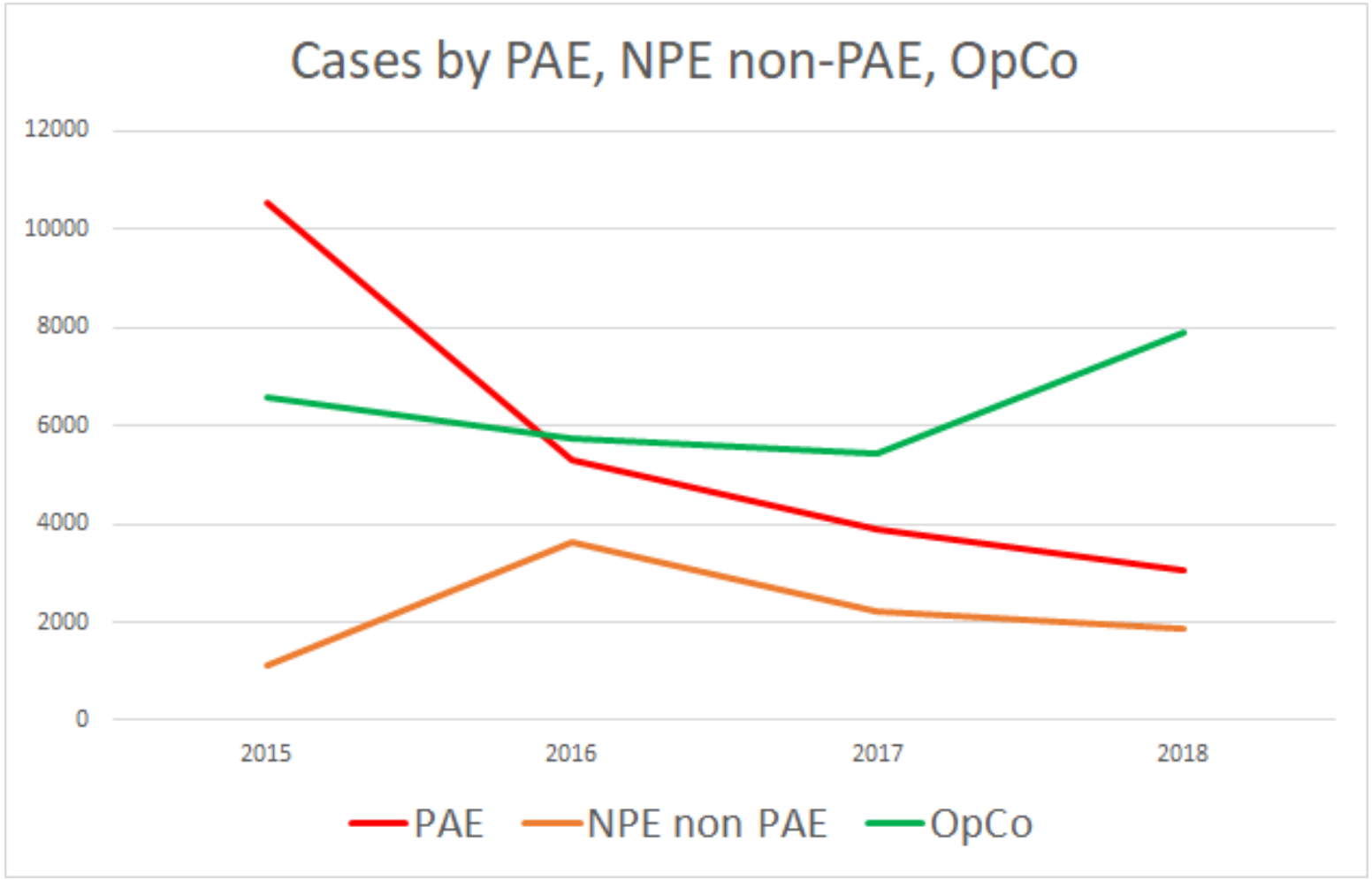
machine coded except for hand-coding of product details within complaints

Has there been a flight from quantity?

R1: Cases Involving High Impact Patents (Asserted 10+ Times) are Down



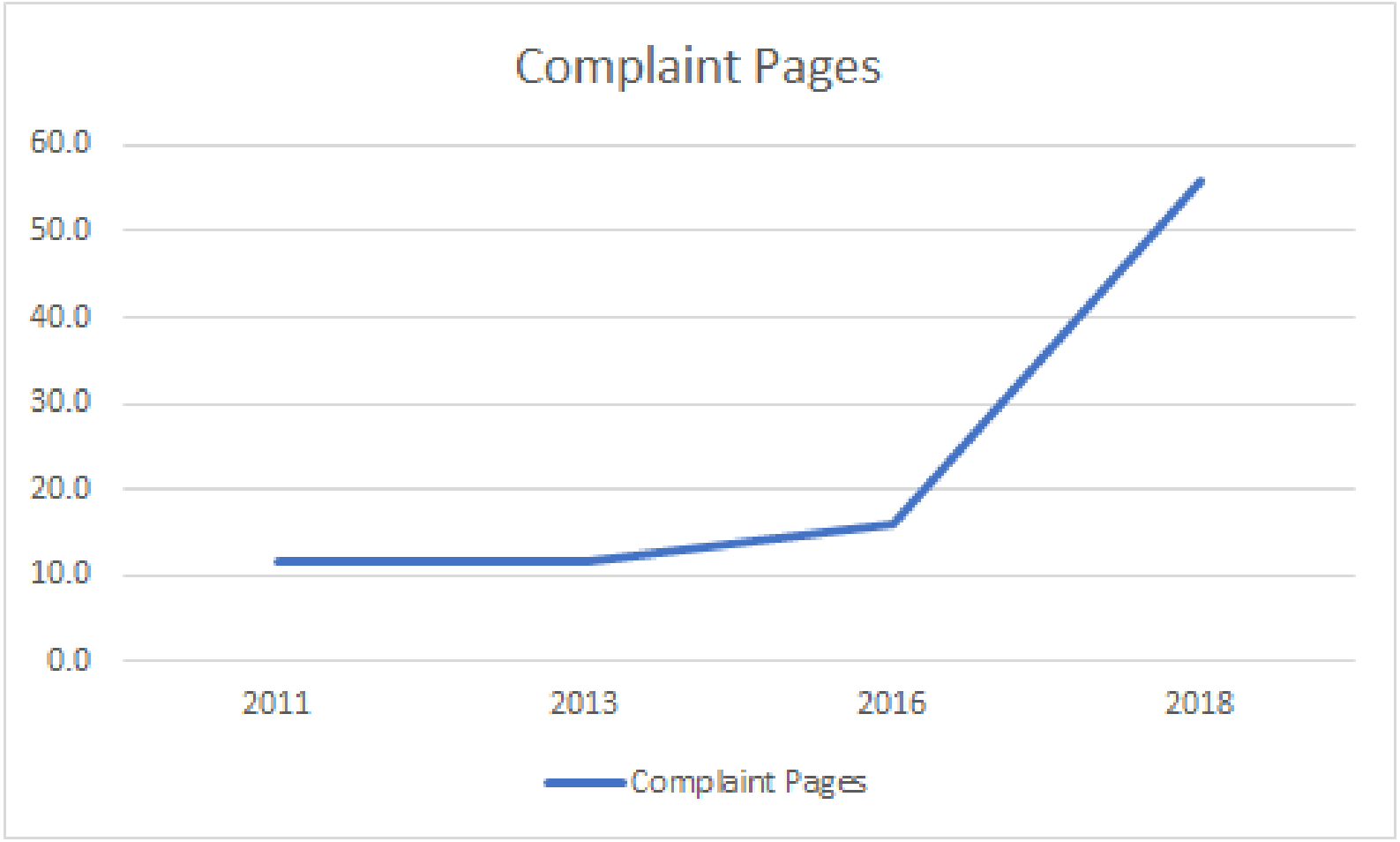
R2: Cases by NPEs of all kind are down



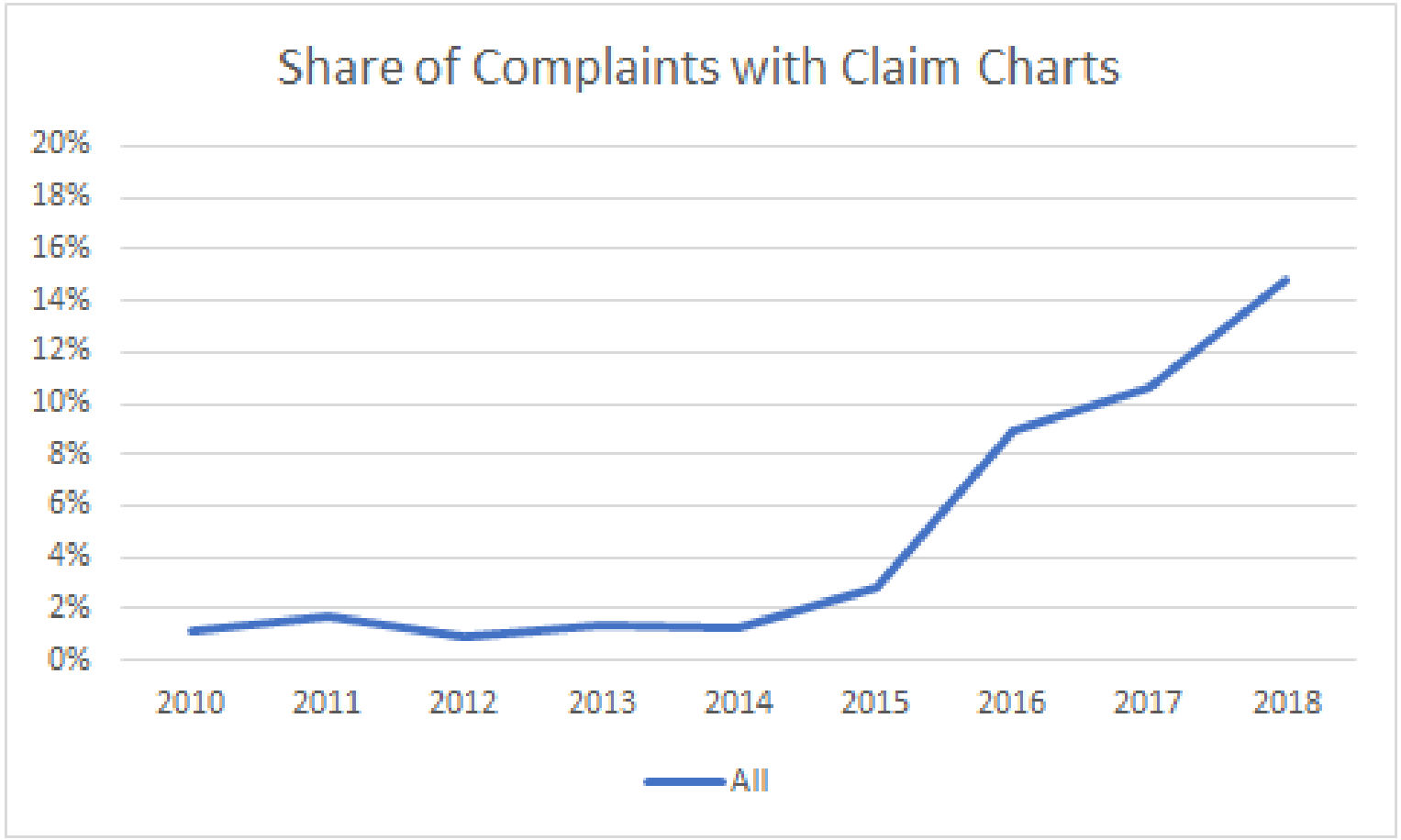
Has there been a flight to quality?

Has there been a flight to quality?
- Complaints

R3: Complaints are Longer



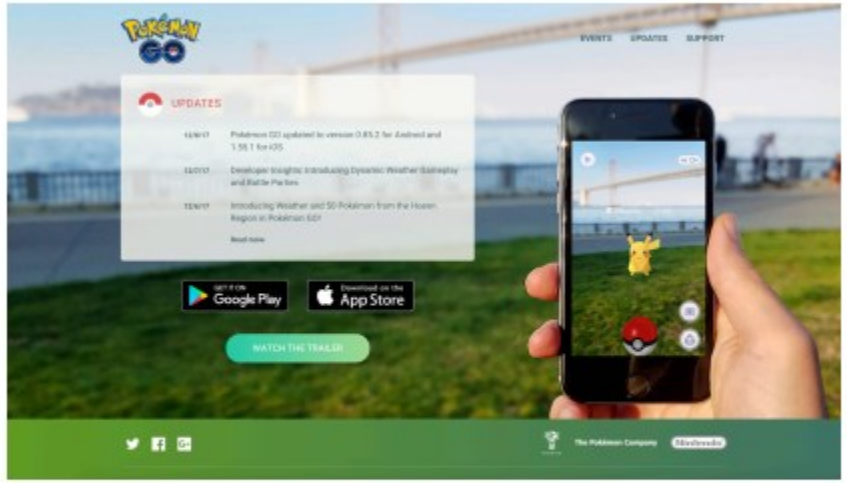
R4: Claim Charts are 14x More Common Than Before



R5: Product Details Are More Common

EXHIBIT B
U.S. Patent No. 6,330,549 Claim Chart

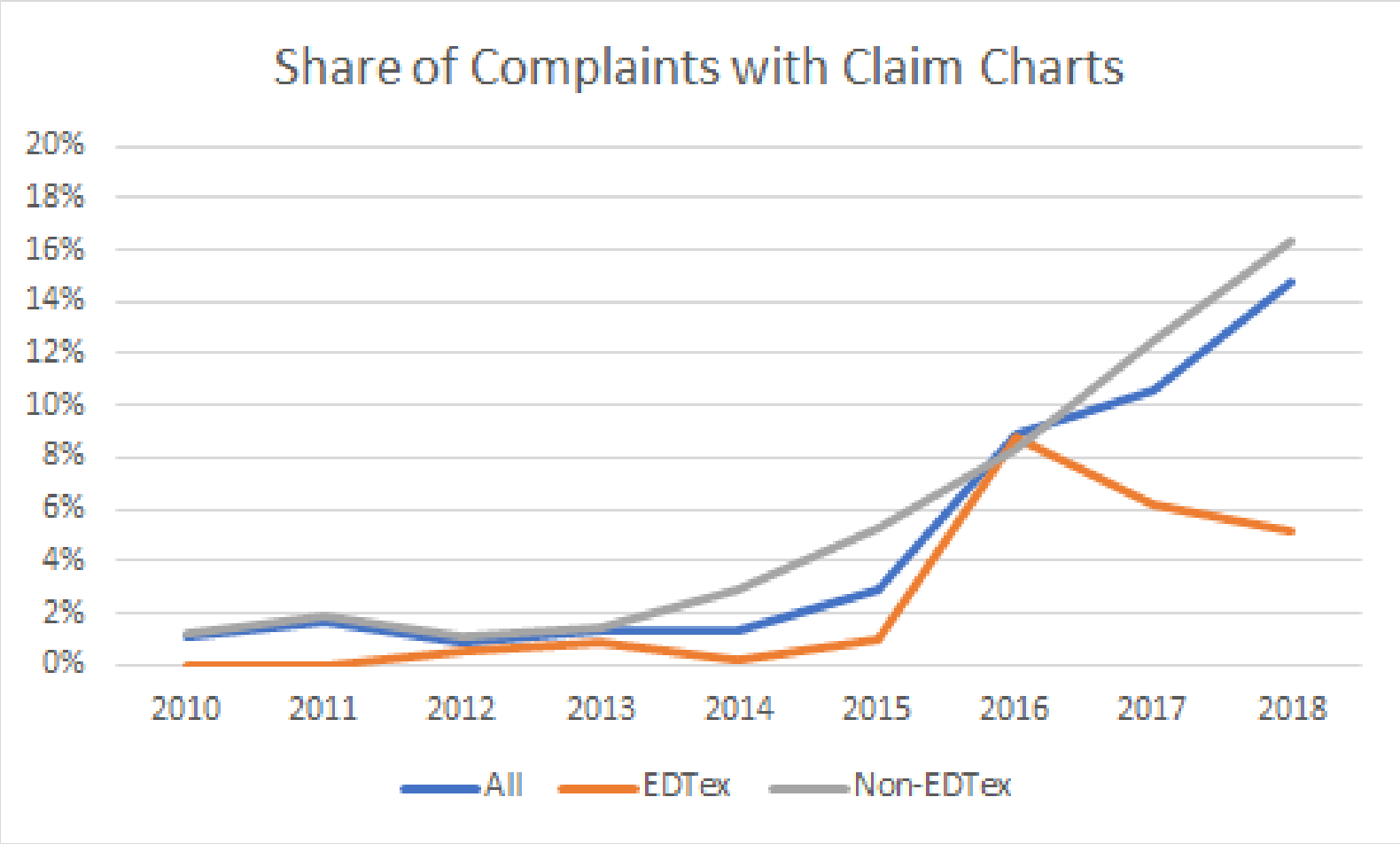
Claim: 1	PRUDENTIAL FINANCIAL WEBSITE
A method for protecting a computer program from unauthorized use independently of any methodology for distributing the computer program to prospective users, the computer program including an embedded protective code, the method comprising the steps of:	*The Defendant utilizes a method to protect a computer program (e.g. Prudential Financial's web-based application) from unauthorized use independently of any methodology for distributing the computer program to prospective users, the computer program including an embedded protective code (e.g. the Prudential Financial Web Application is secured by embedded code requiring a HTTPS connection using TLS 1.2).* *The RSA, Diffie-Hellman, and Hashed-based message authentication code mentioned below are cryptographic functions required by TLS 1.2.*



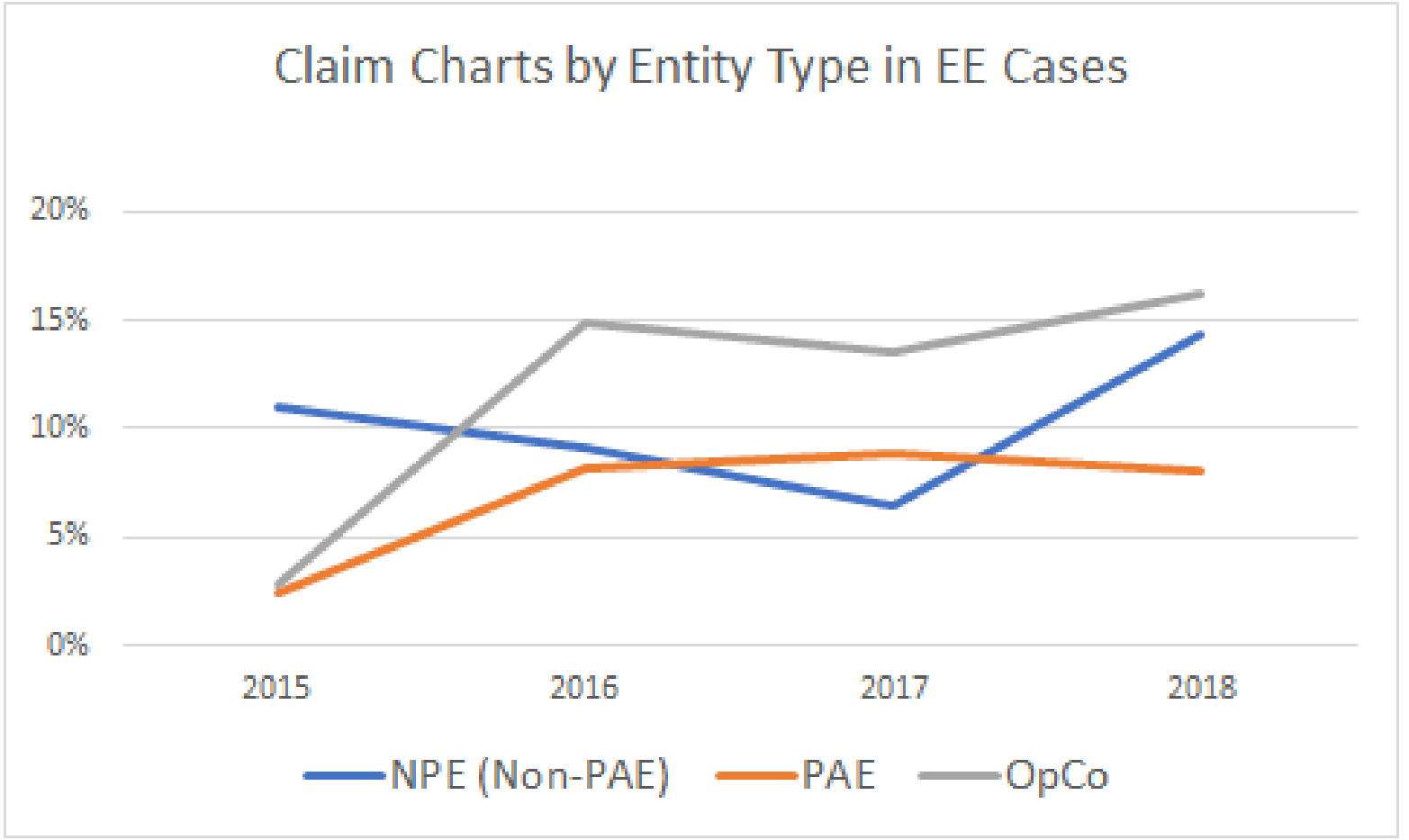
(Source: https://pokemongo.nianticlabs.com/en (last visited Dec. 12, 2017)).

19. Regarding claim element [1d]: As mentioned above, users of Pokémon Go navigate geographic areas during gameplay. As they do, the Pokémon Go video game application continues to receive position indicators indicating the user's current physical location.

R6: Claim Charts are Much More Common but Not as Much in ED Tex

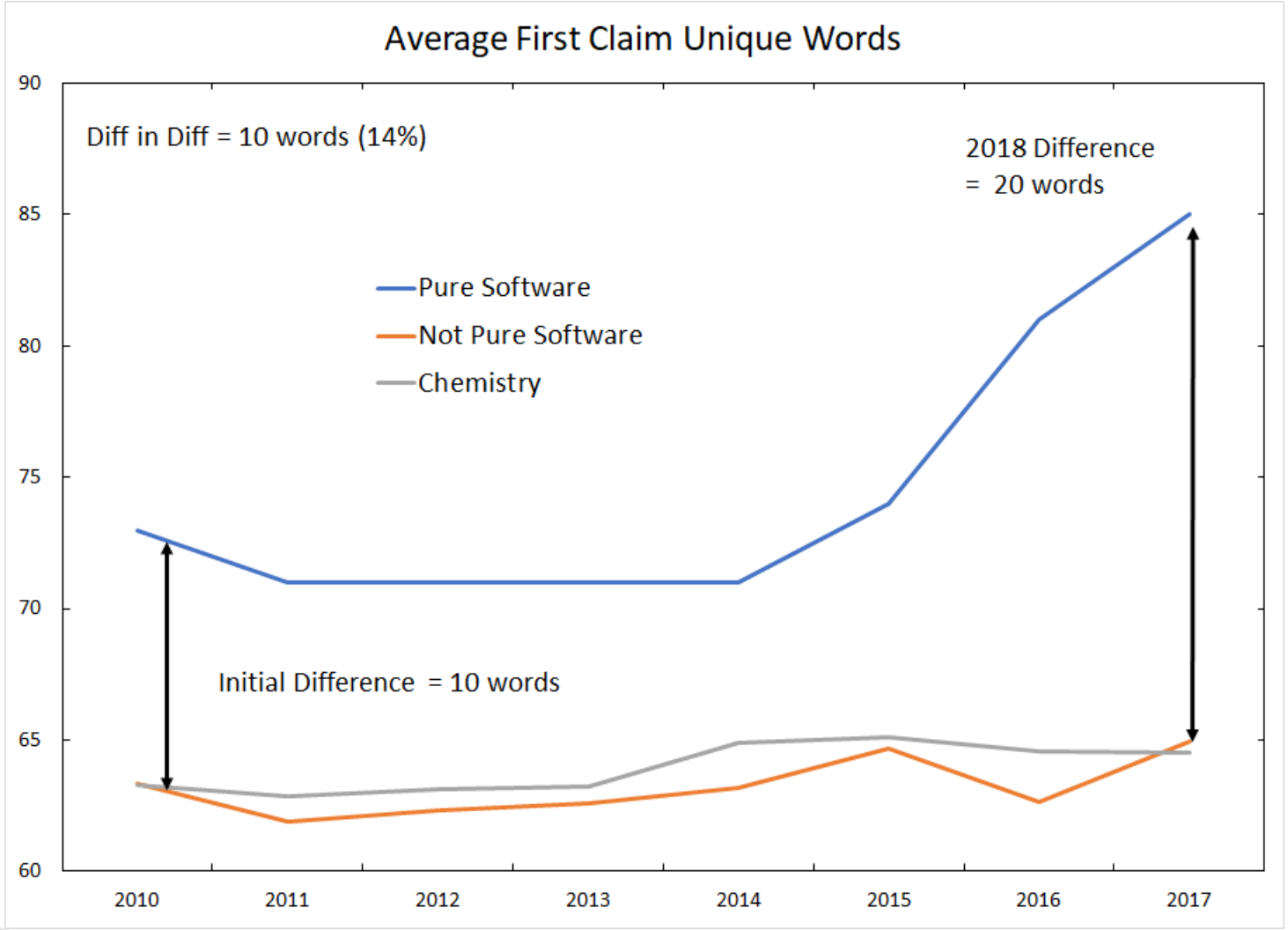


R7: Claim Charts are Much More Common but Not as Much by PAEs

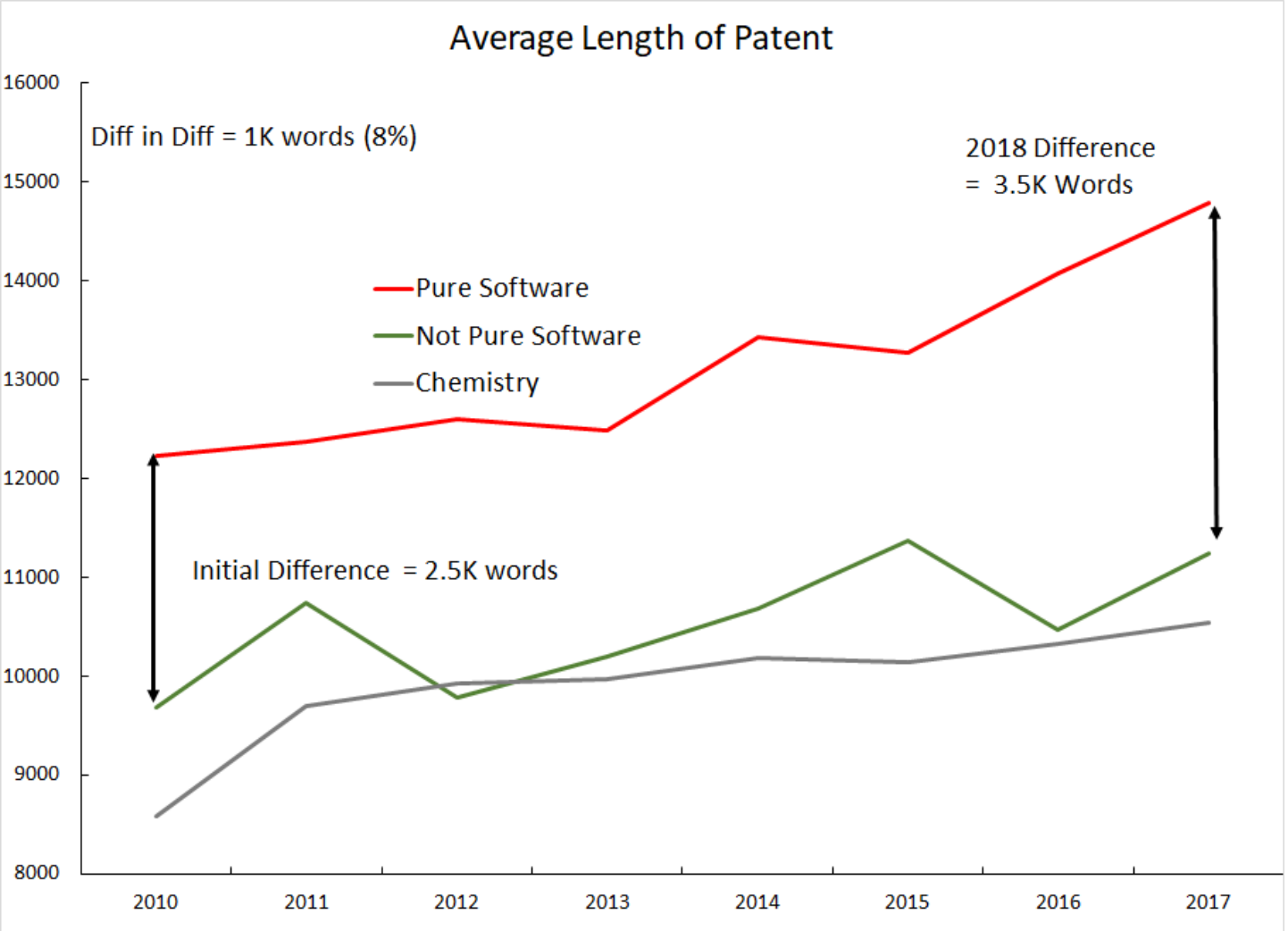


Has there been a flight to quality?
- Patent Applications

R3: S/W Claims Are Becoming Narrower



R4:S/W Specifications Are Longer



In Sum

Fewer Scale (10+), PAE, Non-PAE NPE Assertions
More Detail in Complaints
More Unique Words in Patent Claims and More Detail in Specs

Backup

Methodology - sample sizes and sources

We used full populations or (randomized) sample sizes that would estimate the expected proportion of the trait with 5% absolute precision and 95% confidence (N>385) unless otherwise noted.

Population	Metric	N and Technique/Technology used
Complaints	Claim Charts	All complaints over time (PACER) obtained from Lex Machina
Complaints	Accused Product Descriptions, Length	~523 (Handcoding for screen-shot and non-screen-shot product names, recitation of elements, links, screenshots), complaints obtained from Lex Machina
Patents	Unique Words, Word Counts	Analysis by Peter Glaser, Will Gvoth, Rocky Berndsen and team based on technology first described in Dec 2017 IP Watchdog Article

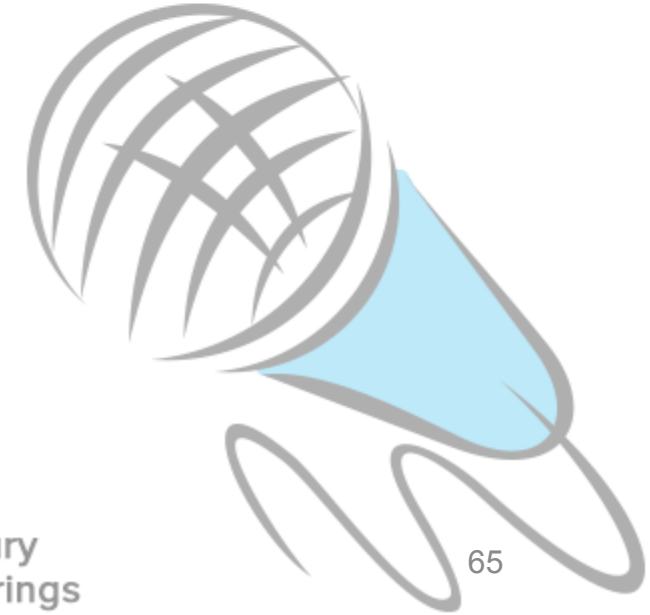
Methodology - sample identification

We identified tech groupings via validated AU mapping (see *Chien and Wu*, 2018, WIPO Shmoch), used plaintiff codings of Unified Patents (supplemented by "high-impact patent" HIP = more than 10 assertions from 2010-present analysis for missing data)

Population	AU Definition (use for complaints and WC analyses)	CPC Definition (used in 101 analysis)
"Pure Software" Patents and Apps/Complaints	362X, 368X, 369X, 3661, 3664	H04L, H04J, G06T, excluding H04W
Chemistry Patents and Apps/Complaints	TC17XX	B01B, B01D, B01F, B01J, B01L
Non-Pure S/W Patents/Complaints	Random Sample minus Software	

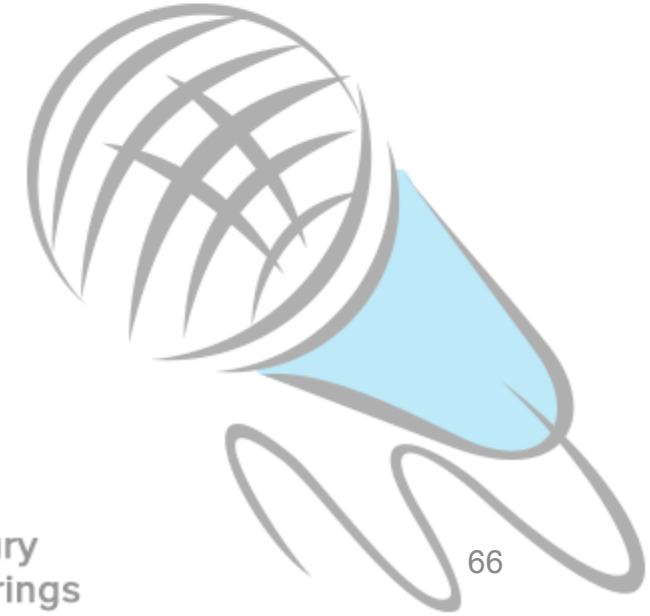
Emerging Trends in Patent Litigation

John Golden
University of Texas at Austin
School of Law



Emerging Trends in Patent Litigation

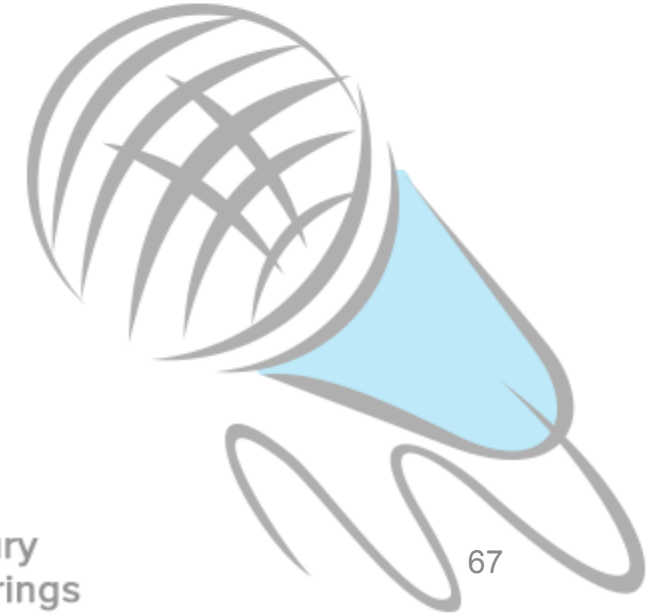
David Schwartz
Northwestern University
Pritzker School of Law



Emerging Trends in Patent Litigation

Neel Sukhatme

Georgetown University Law Center

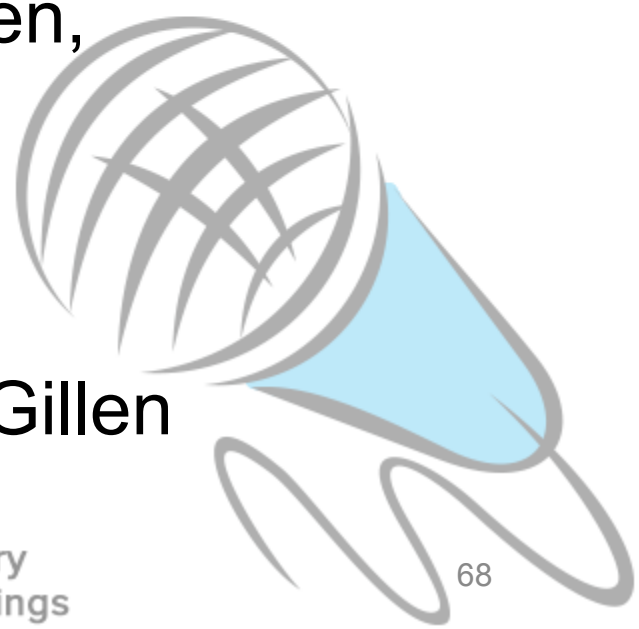


Emerging Trends in Patent Litigation

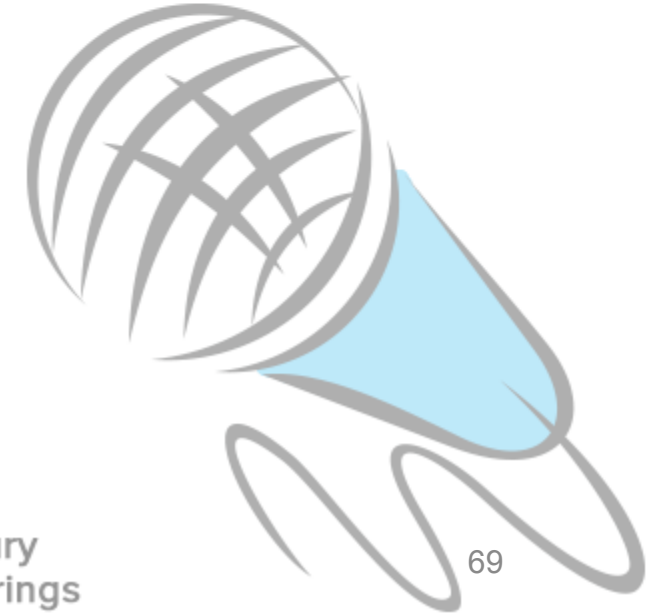
Panel Discussion:

Shawn Miller, Colleen Chien, John Golden,
David Schwartz, Neel Sukhatme

Moderators: John Dubiansky & Elizabeth Gillen



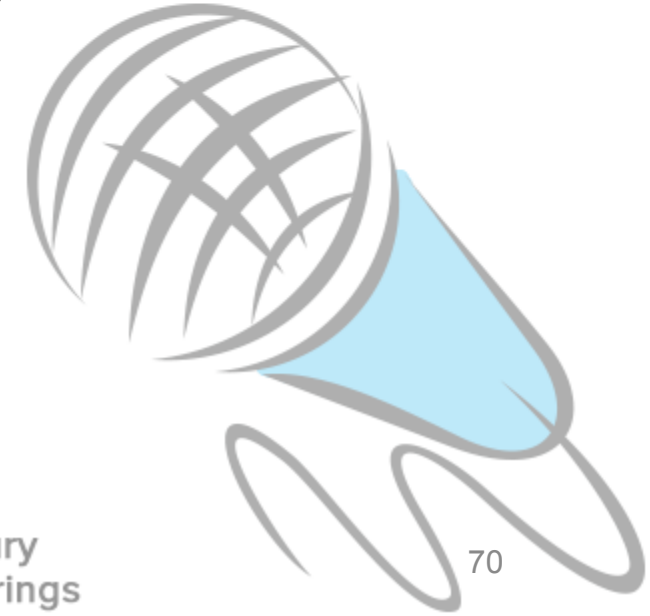
Lunch Break
12:30-1:30 pm



Industry Perspectives on Innovation and IP Policy

Session moderated by:

Suzanne Munck & John Dubiansky
Federal Trade Commission
Office of Policy Planning



Industry Perspectives on Innovation and IP Policy

The Overpatenting Problem in the Pharmaceutical Sector

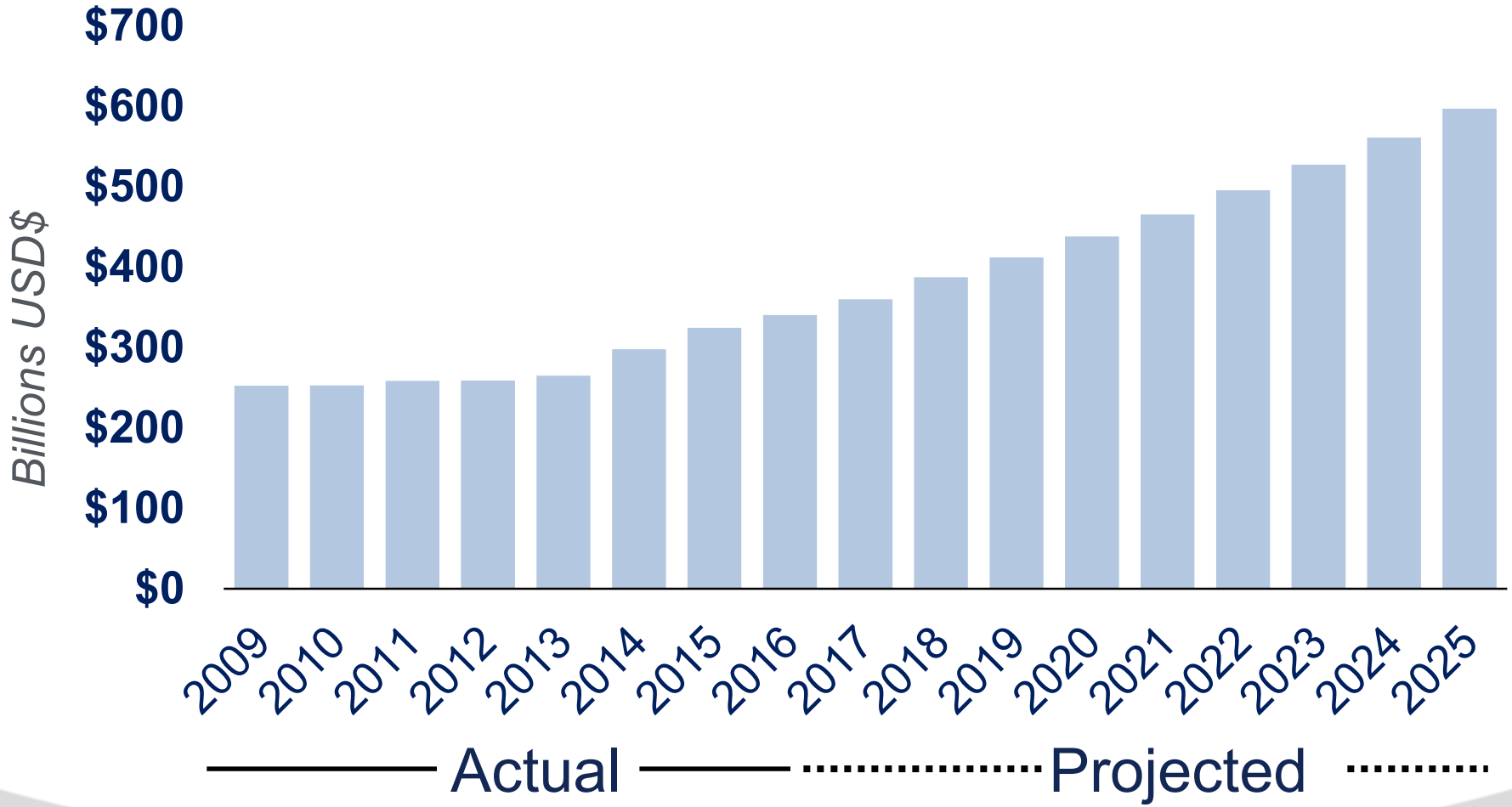
Tahir Amin

Initiative for Medicines,

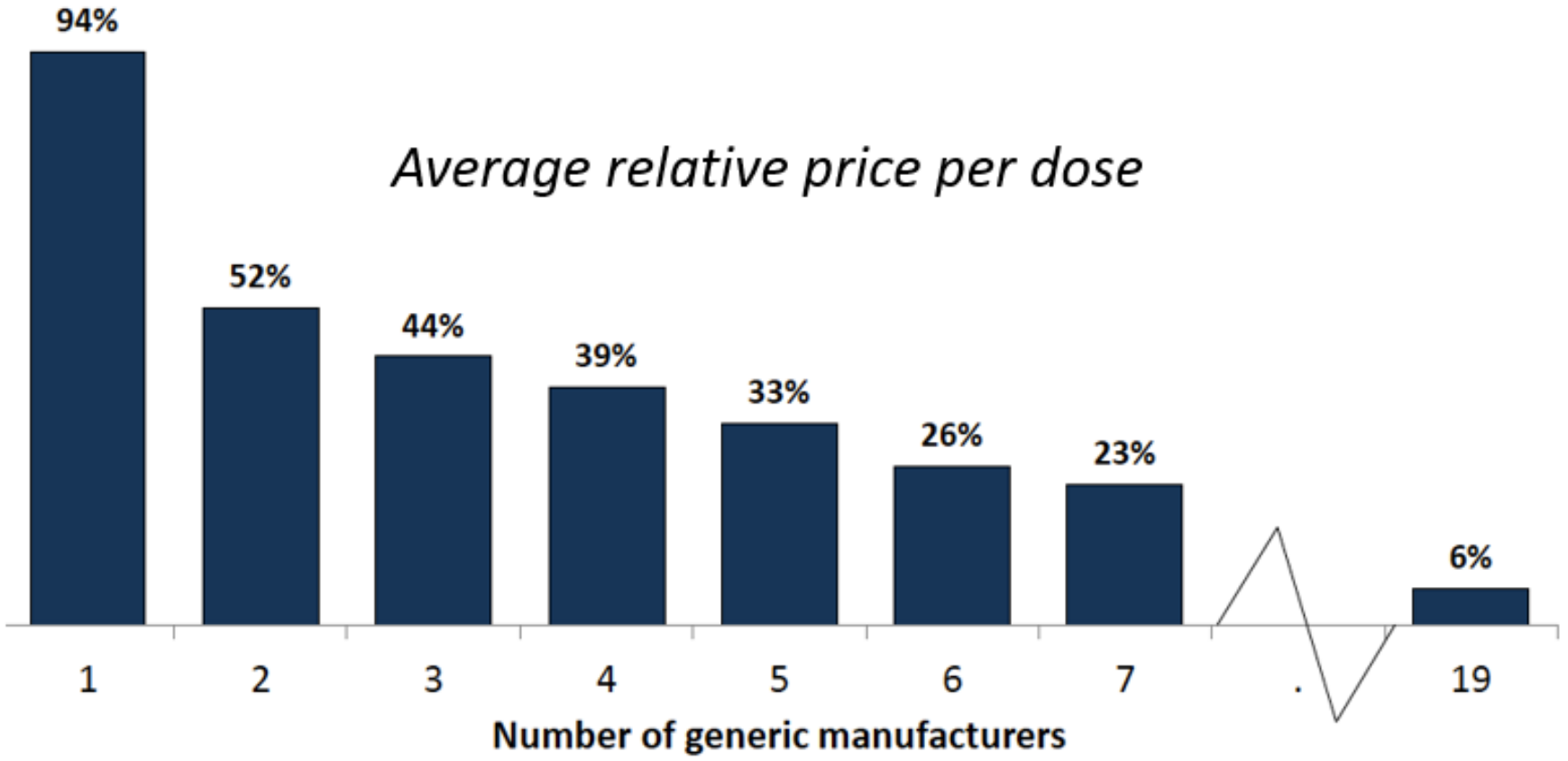
Access & Knowledge (I-MAK)

The Problem

Total prescription drug spending in the U.S. is set to double from 2015-2025



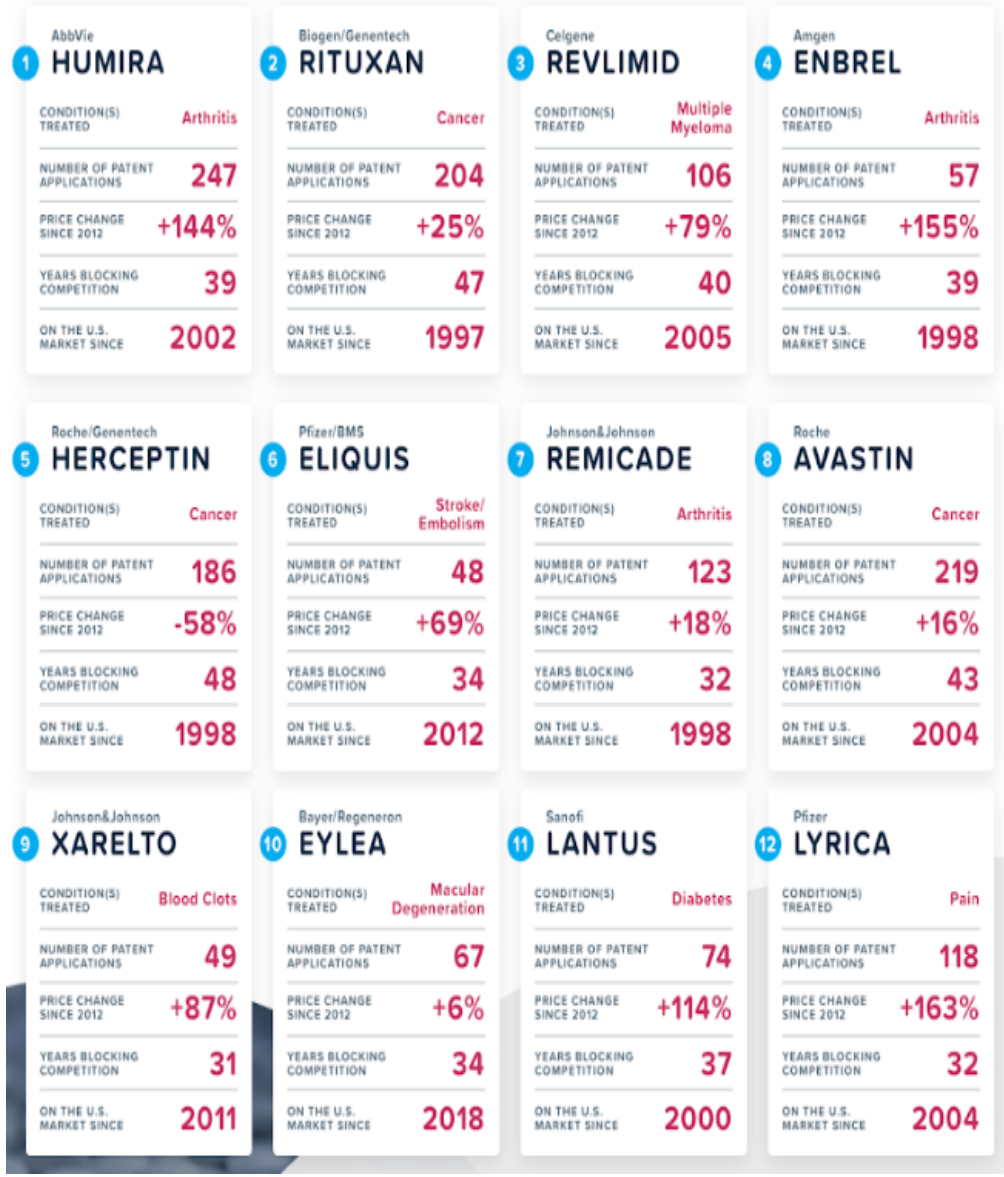
Real price reductions occur when the market has multiple competitors

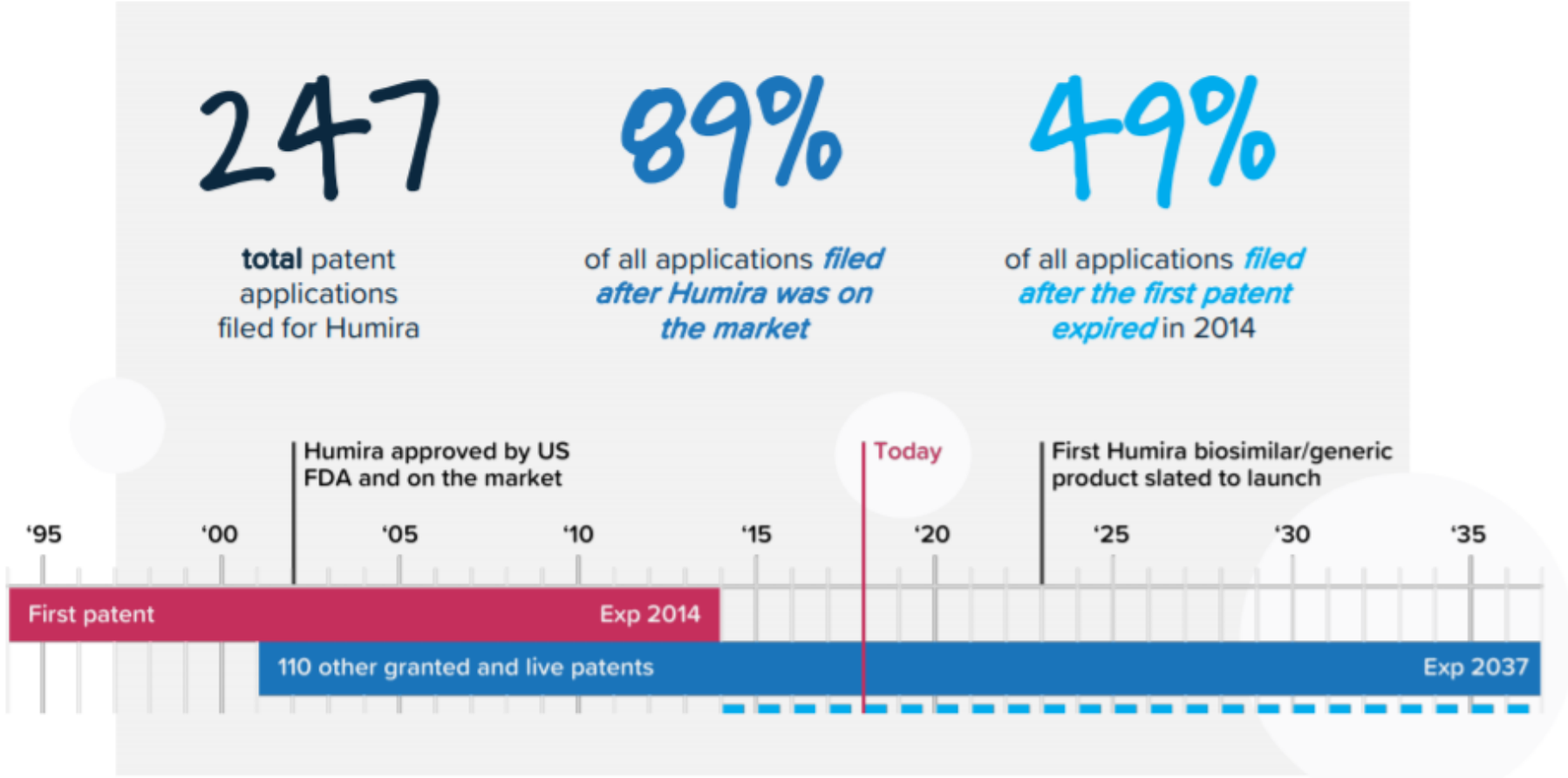


Source: MedPAC, based on FDA analysis of retail sales data from IMS Health, IMS National Sales Perspective, 1999-2004, extracted

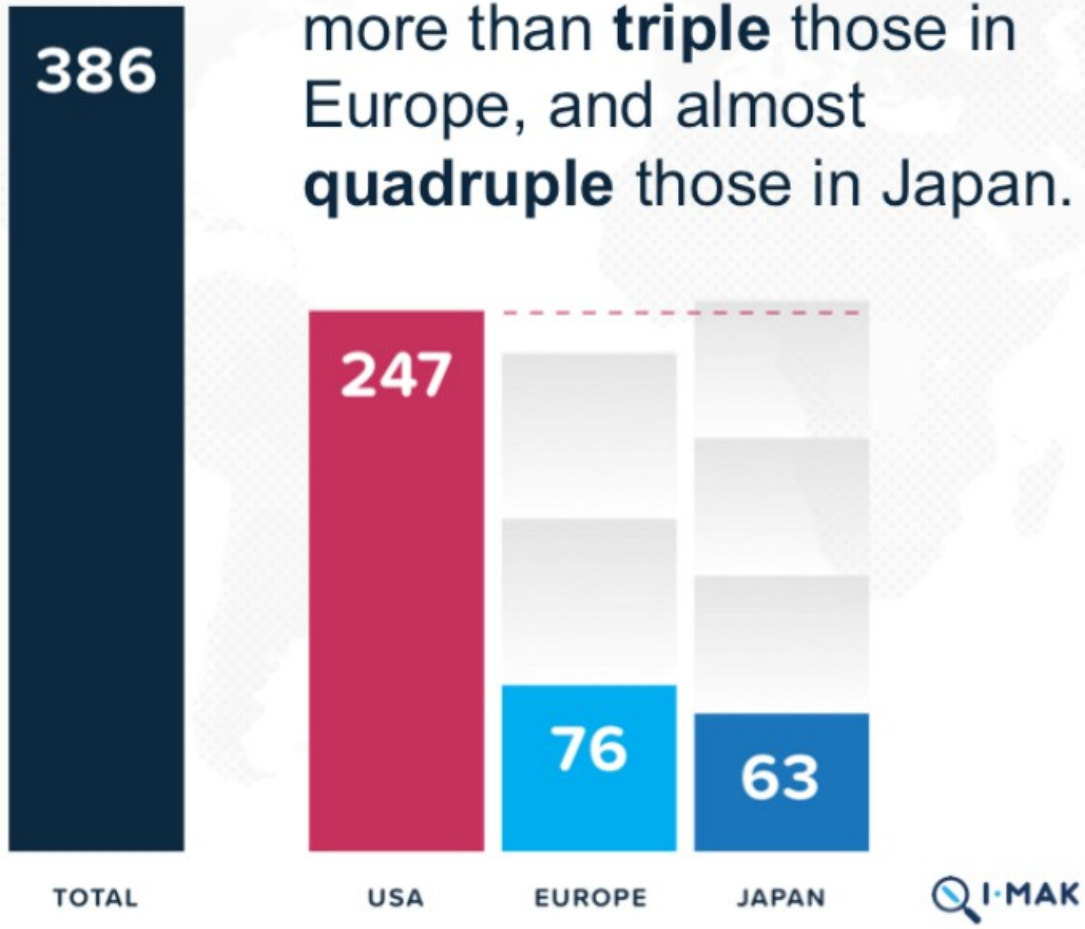
The Averages:

- There are **125** patent applications filed and **71** granted patents per drug
- Prices have increased by **68%** since **2012** (except one drug which decreased in price)
- **38 years** of attempted patent protection blocking competition
- These top grossing drugs have already been on the market for **15 years**
- Over **50%** of the top twelve drugs in the U.S have more than **100** attempted patents per drug




247
total patent applications filed for Humira
89%
of all applications filed after Humira was on the market
49%
of all applications filed after the first patent expired in 2014
Humira approved by US FDA and on the market
Today
First Humira biosimilar/generic product slated to launch
'95
'00
'05
'10
'15
'20
'25
'30
'35
First patent
Exp 2014
110 other granted and live patents
Exp 2037

Humira's 247 patent applications in the U.S. more than **triple** those in Europe, and almost **quadruple** those in Japan.



AIA and the Impact of the PTAB

Impact of the PTAB

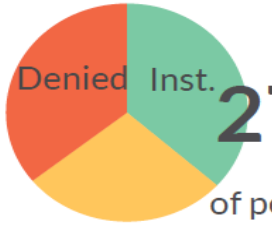
333

petition institution analyzed for Inter Partes Reviews, Only Orange Book Patents and Cases from Feb 1, 2012 to Aug 14, 2018

For All Time

64%

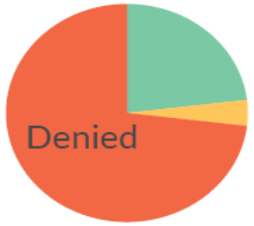
of petitions are instituted in full or in part



Last Three Months

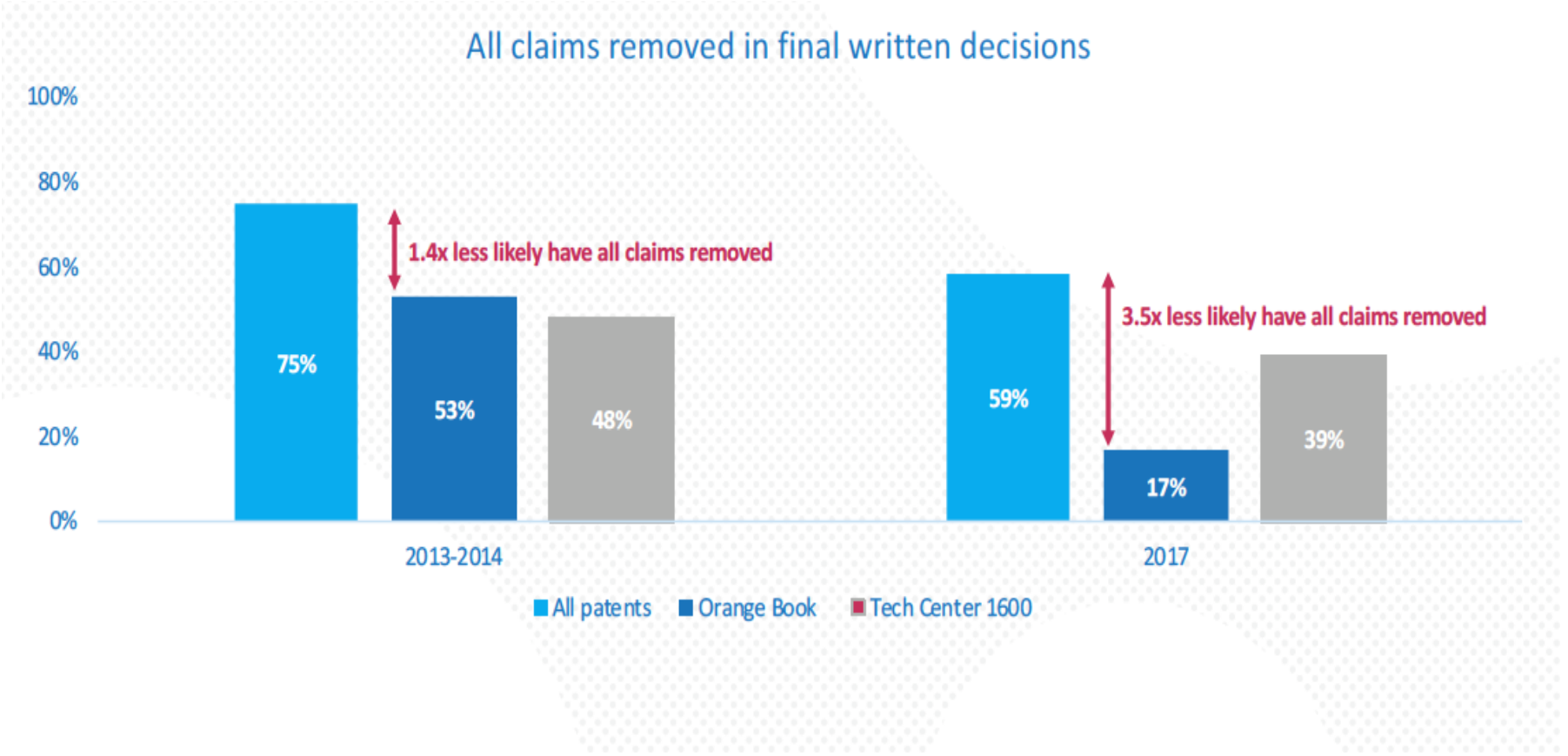
27%

of petitions are instituted in full or in part



Source: Docket Alarm, Inc

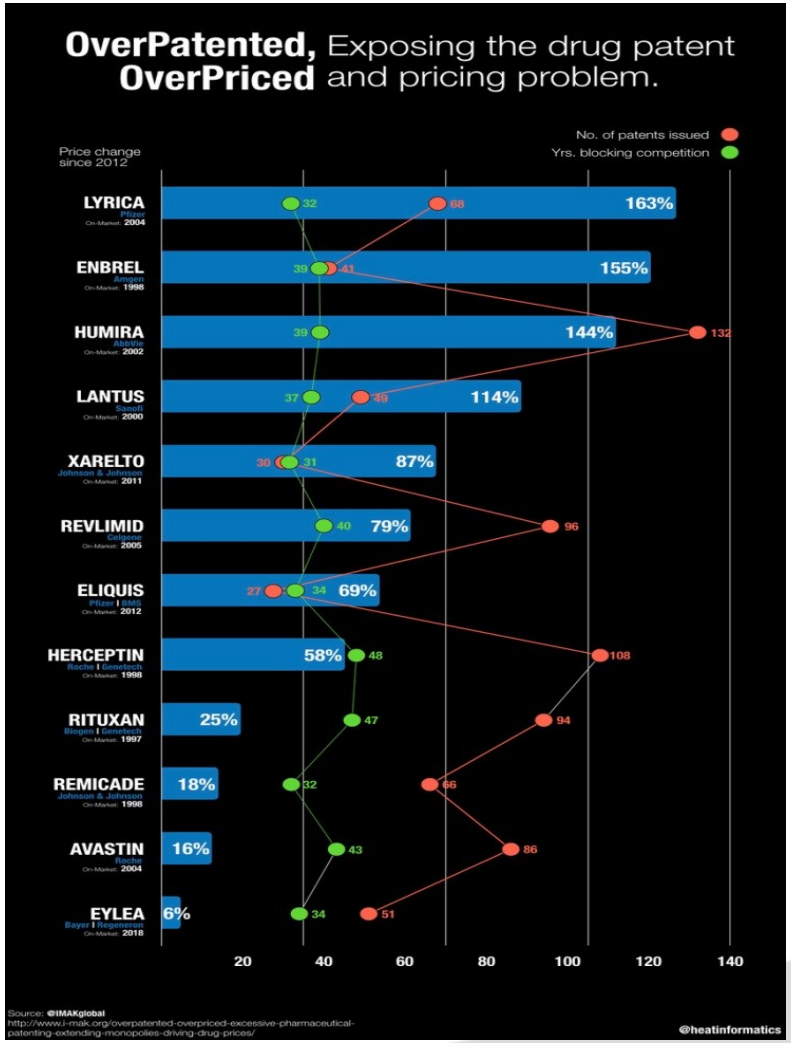
Orange book patents increasingly less likely to have all claims removed in written decisions



The Need for Reform

The epidemic of overpatenting

- Raise the bar for the “inventiveness” standard for patents
- Eliminate continuation applications at the USPTO



Public participation in the patent system

- Maintain and improve the existing IPR system
- Create a pre-grant opposition system similar to the one used for trademarks

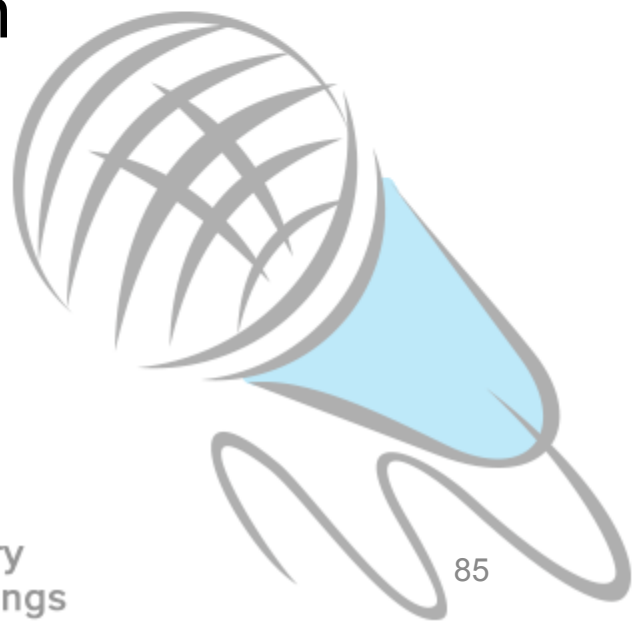
Unmerited patents listed in the Orange Book and patent transparency for biologics

- Update existing legislation which allows the removal of a patent from the Orange Book if it is invalidated using the Post Grant Review (PGR) or IPR processes
- Improve the quality and transparency of the Orange Book
- Reform the “patent dance” for biologics by requiring patent transparency

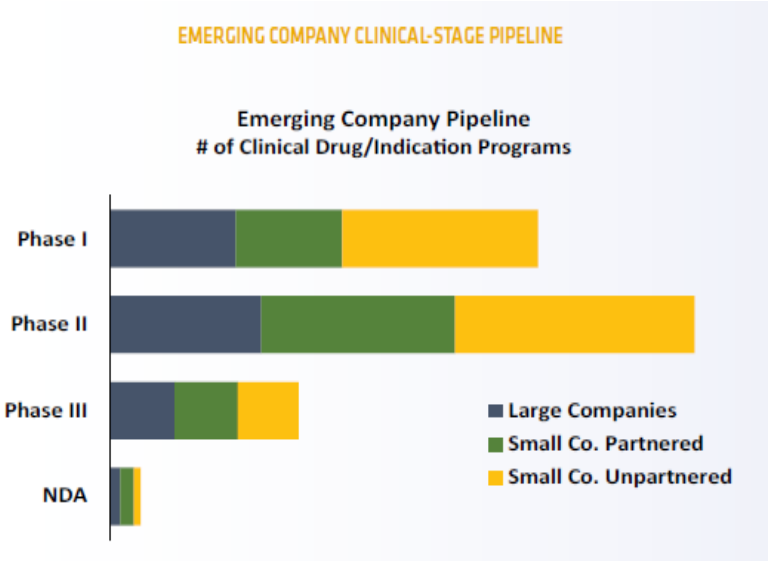
Industry Perspectives on Innovation and IP Policy

Hans Sauer

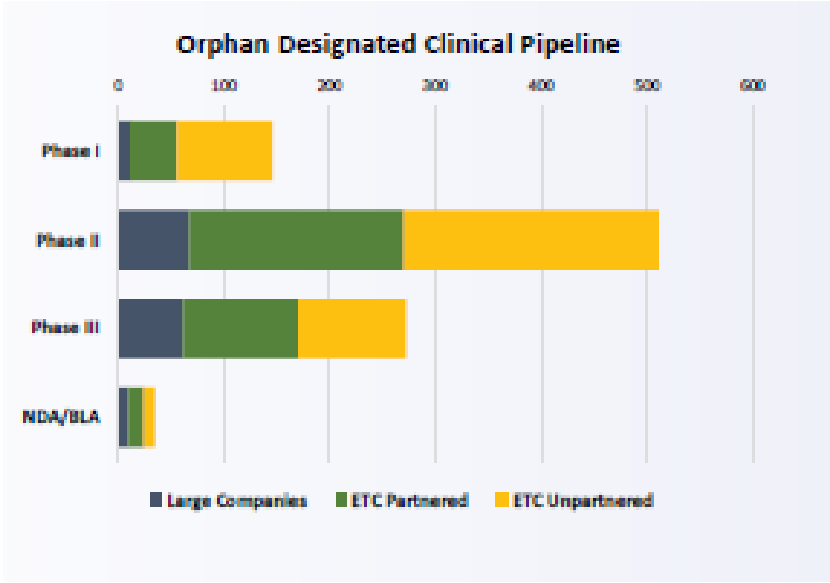
Biotechnology Innovation Organization



Innovation in the biomedical industry

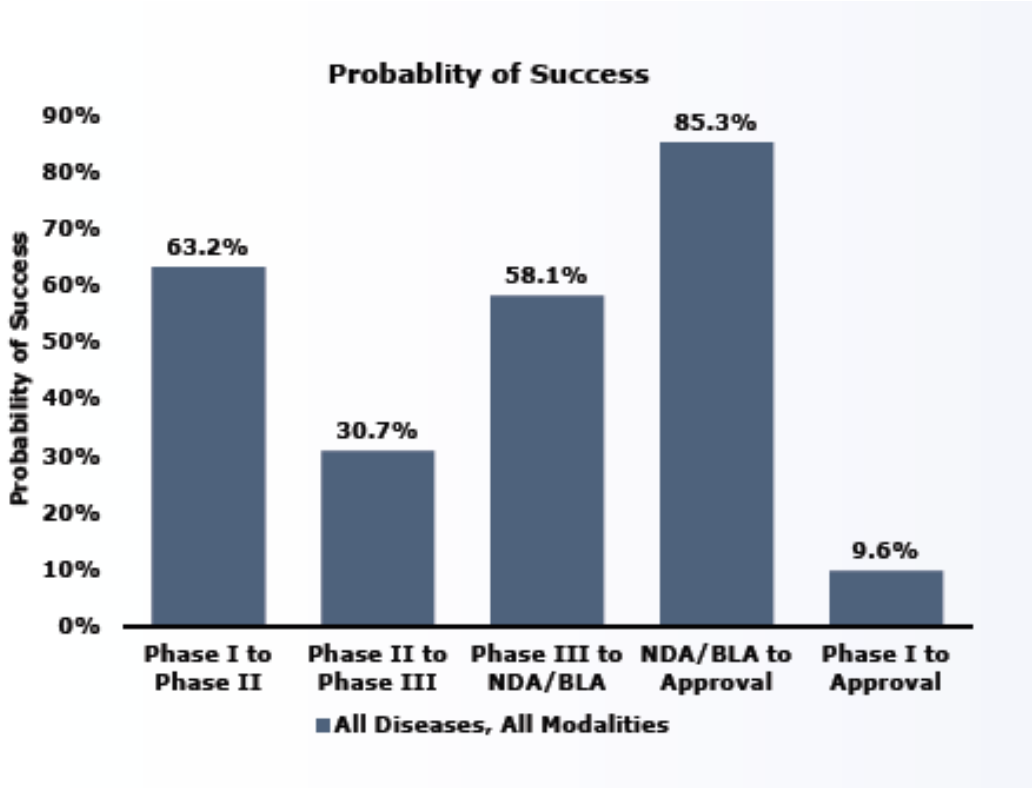


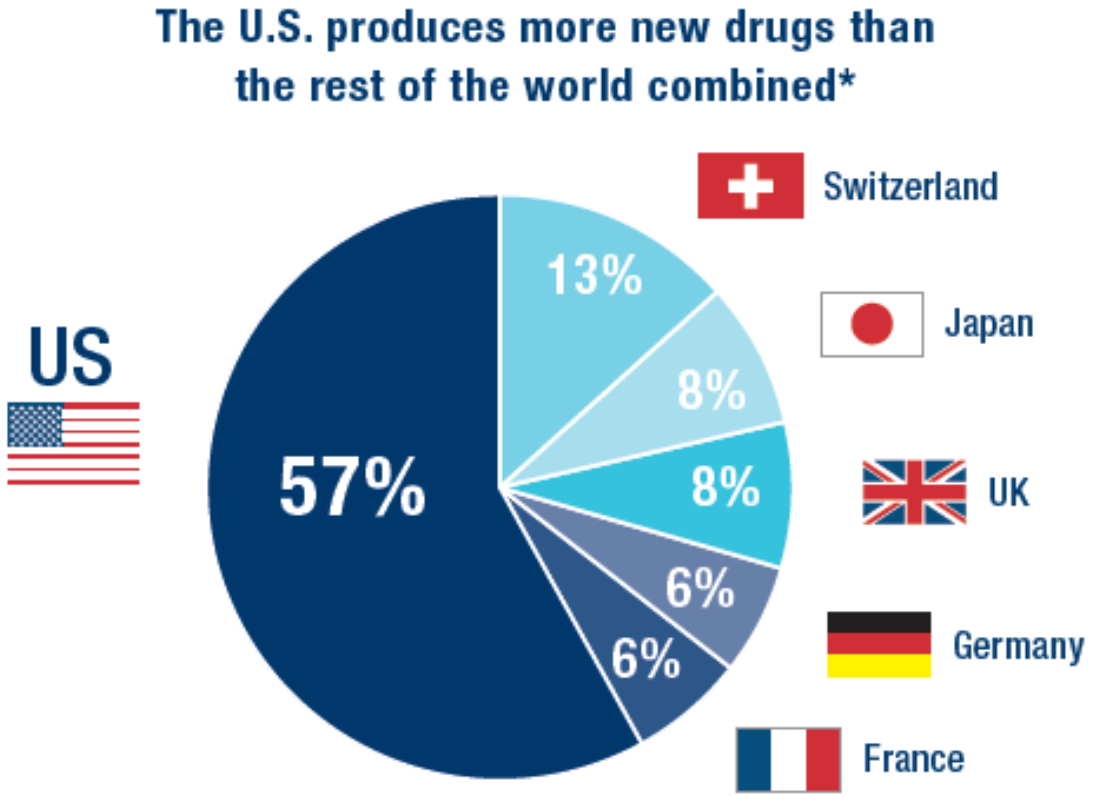
- Emerging biotech companies hold 71% of the global clinical development pipeline
- Most programs are early-stage (phase I + II)
- 43% of clinical programs are partnered with large companies



- The contribution of emerging biotech companies to the rare disease clinical pipeline is even greater

Innovation in the biomedical industry 2

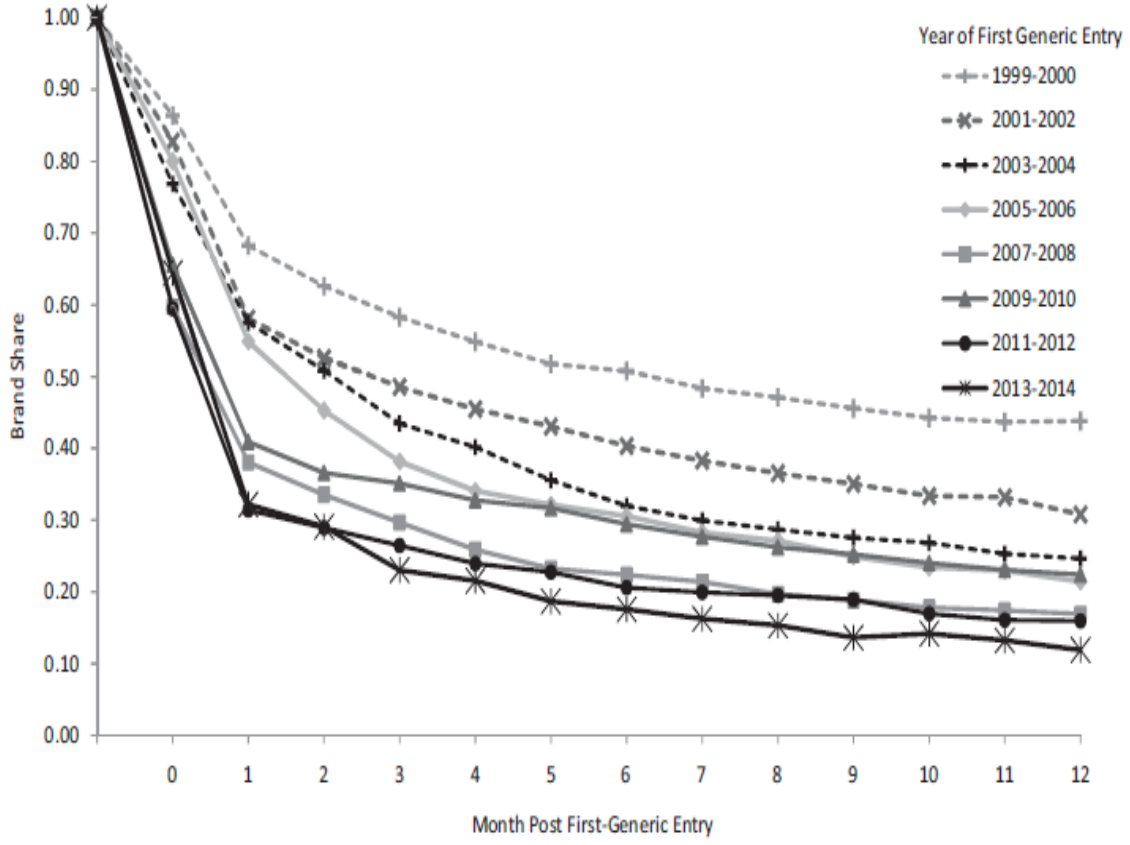


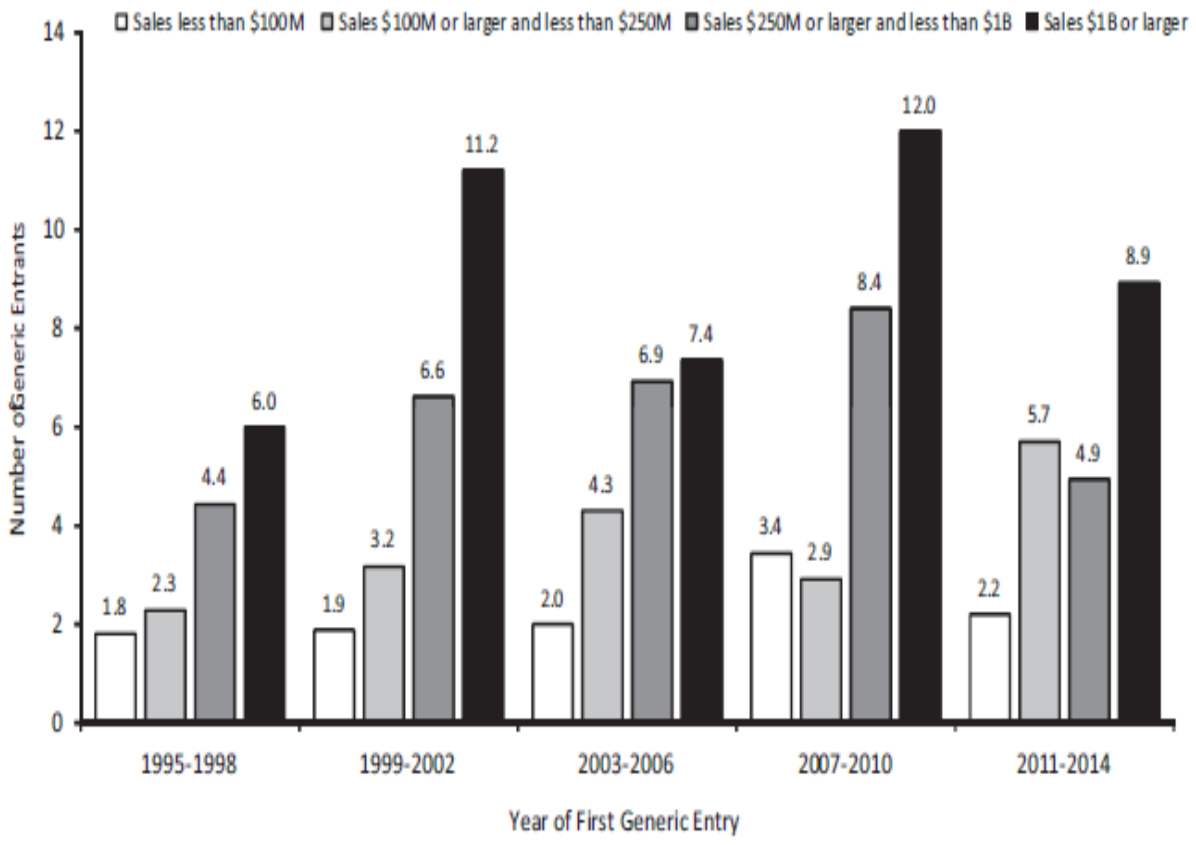


Innovation in the biomedical industry 3

- Small company participation
- Robust industrial infrastructure of large, established companies
- Availability of private capital
- Robust legal framework for licensing and tech transfer
- Generous public funding for basic biomedical research
- Drug development infrastructure (clinical centers etc.)
- Highly IP-dependent

Robust generic entry, faster market share gains

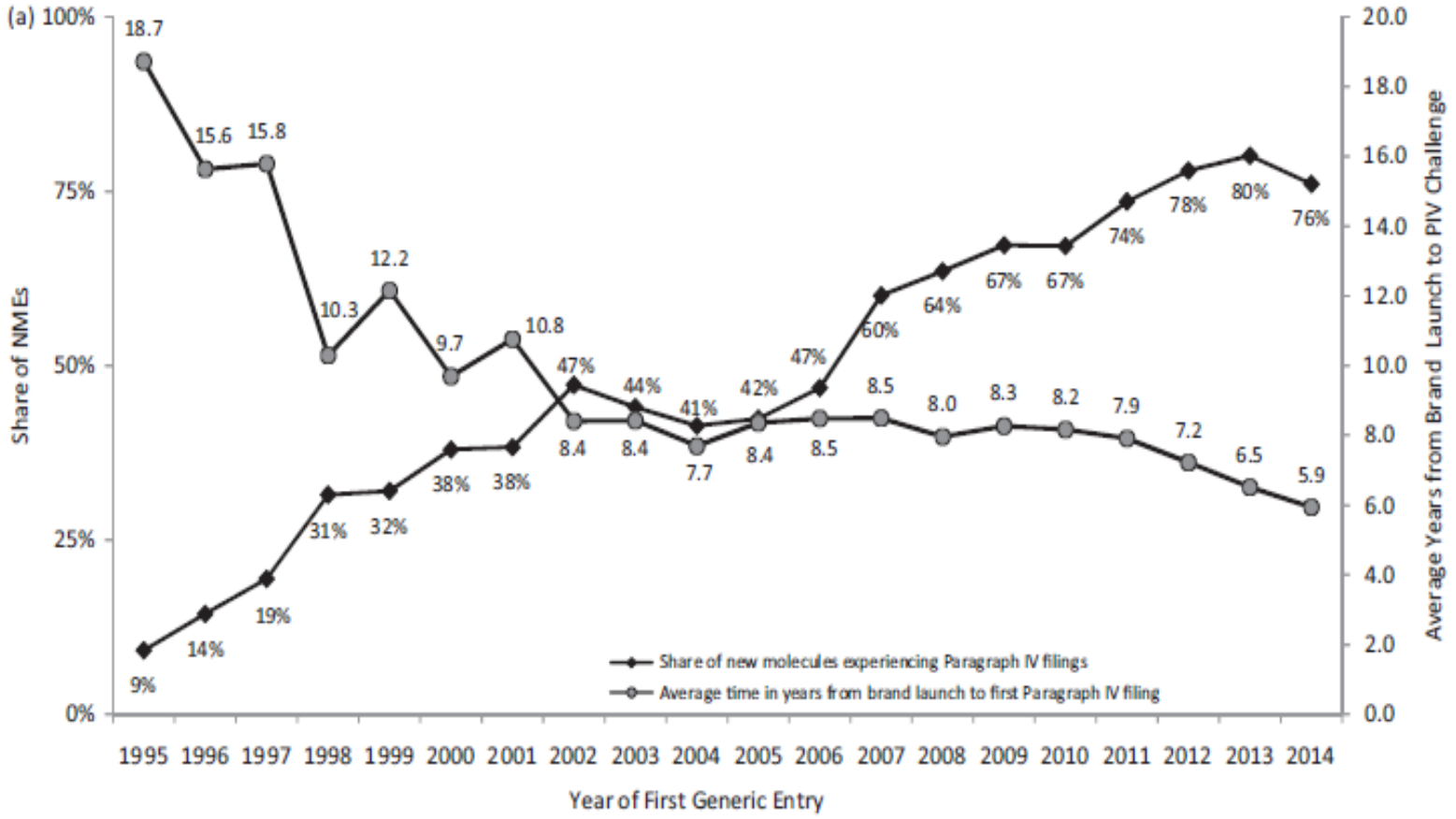




Earlier and more frequent generic challenges

- Generic companies challenge patents more often, and earlier

Data from Grabowski et al. J. Med. Econ. (2016)



Effective Market Exclusivity

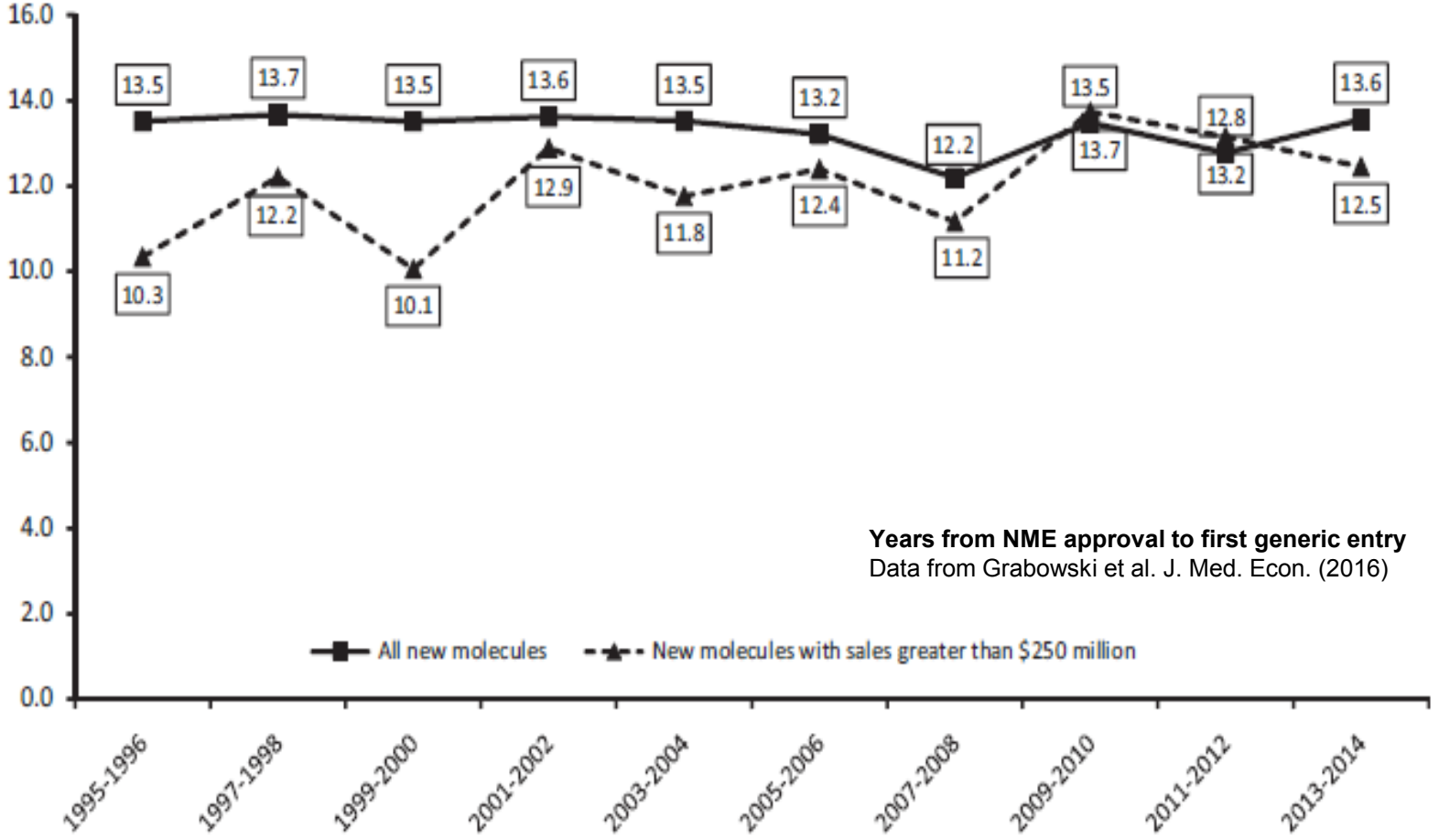
- Effective market exclusivity of top-selling drugs that experienced first generic competition 2000-2012:
  - All agents: 12.5 years
  - NMEs: 13.8 years
    - First in class: 14.5 years
    - Addition to class 12.9 years
  - Non-NMEs (new formulations): 10 years
  - Priority review: 14.5 years
  - Standard review: 12 years
  - Special designation (orphan, fast track, accel. appr.): 14.8 years

Data from Wang et al., JAMA Internal Med 175 (2015) 635

Time to generic entry

- Overall NME time to generic entry has been relatively stable for two decades
- A different study found that new NMEs approved 1999-2006 had a shorter effective market life than NMEs approved 1994-1998
  - (12.7 vs 14.1 years)

Grabowksi et al. J. Health Econ. 3 (2017) 33-59



Years from NME approval to first generic entry
Data from Grabowski et al. J. Med. Econ. (2016)

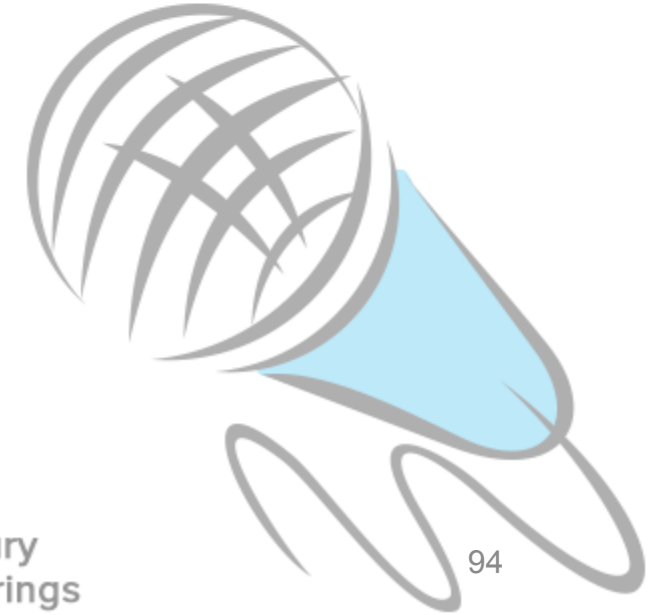
Some relevant IP developments

- Patent-eligible subject matter; double patenting
  - ("after the fact" changes in substantive law)
- Indirect and divided infringement
- Second medical uses
- PTAB
  - Parallel or re-adjudication of patents under different standards; joinder; time-barred petitioners; unclear estoppel
- Patent exhaustion

Industry Perspectives on Innovation and IP Policy

Matthew Schruers

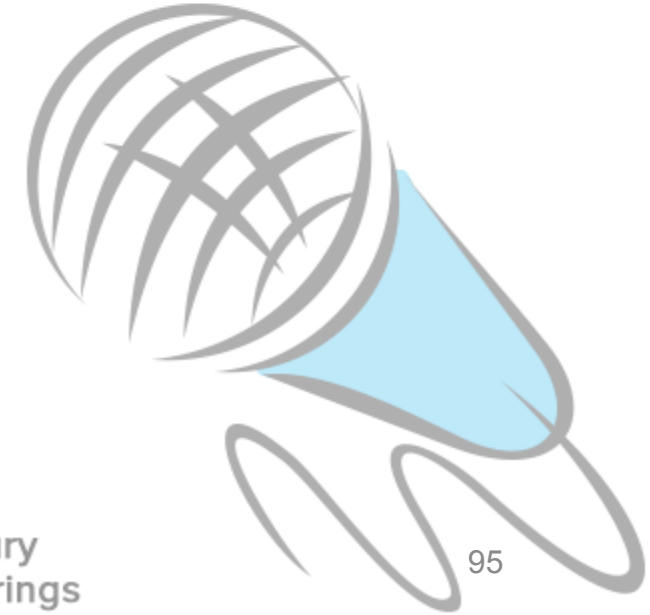
Computer and Communications Industry Association



Industry Perspectives on Innovation and IP Policy

Barbara Fiacco

American Intellectual Property Law Association

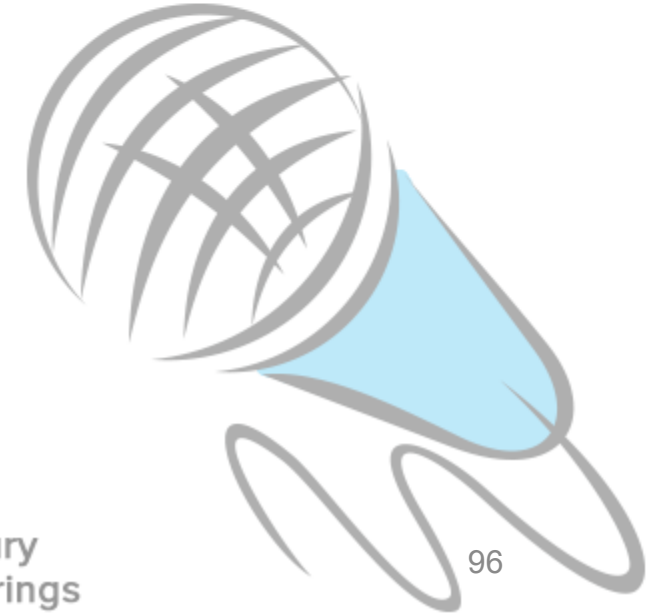


Industry Perspectives on Innovation and IP Policy

International IP Index

Patrick Kilbride

U.S. Chamber of Commerce



Purpose of an IP Index

- IP Strength: **If we can't measure it, we can't improve it.**
- **Fills significant gaps** in understanding of global IP policy
- Provides an **objective metric** covering all forms of intellectual property
- Establishes a basis for **like-to-like comparisons** among markets
- Enables a **bird's-eye view** of the global IP landscape

View the full report at www.uschamber.com/IPindex

Categories (8)

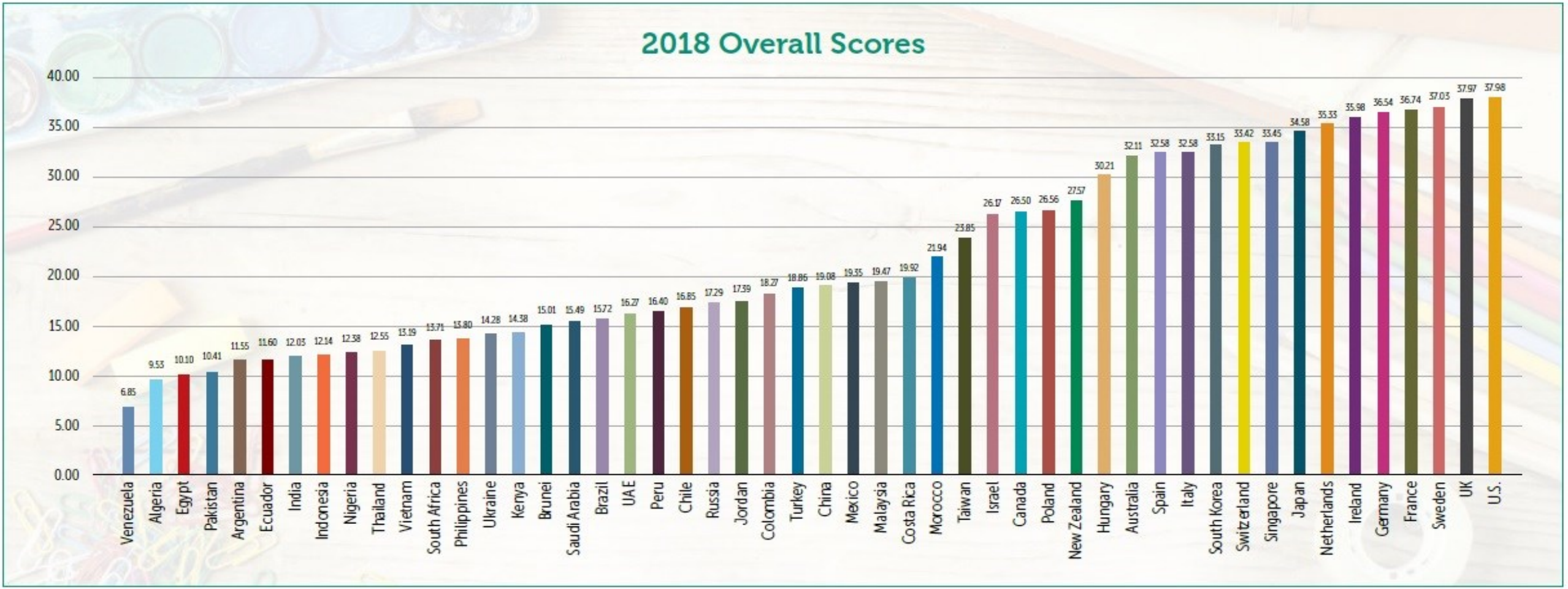
1. Patents, Related Rights, Limitations
2. Copyrights, Related Rights, Limitations
3. Trademarks, Related Rights, Limitations
4. Trade Secrets and Related Rights
5. *Commercialization of IP Assets*
6. Enforcement
7. *Systemic Efficiency*
8. Membership and Ratification of International Treaties

Indicators (40)

Components:

- Basic protection of the right
- Scope of eligibility
- Definition of the right
- Rule of law and enforcement

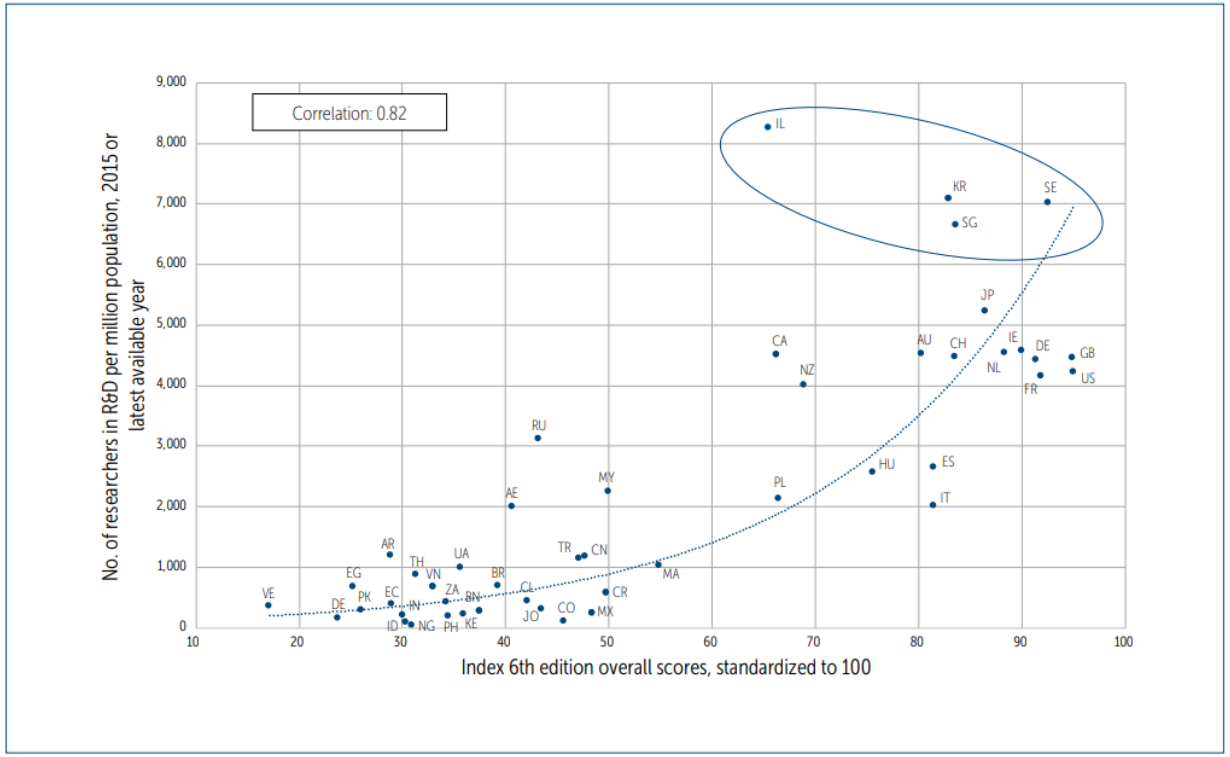
View the full report at www.uschamber.com/IPindex


2018 Overall Scores
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
Venezuela 6.85
Algeria 9.53
Egypt 10.10
Pakistan 10.41
Argentina 11.55
Ecuador 11.60
India 12.03
Indonesia 12.14
Nigeria 12.38
Thailand 12.55
Vietnam 13.19
South Africa 13.71
Philippines 13.80
Ukraine 14.28
Kenya 14.38
Brunei 15.01
Saudi Arabia 15.49
Brazil 15.72
UAE 16.27
Peru 16.40
Chile 16.85
Russia 17.29
Jordan 17.39
Colombia 18.27
Turkey 18.85
China 19.08
Mexico 19.35
Malaysia 19.47
Costa Rica 19.92
Morocco 21.94
Taiwan 23.85
Israel 26.17
Canada 26.50
Poland 26.56
New Zealand 27.57
Hungary 30.21
Australia 32.11
Spain 32.58
Italy 32.58
South Korea 33.15
Switzerland 33.42
Singapore 33.45
Japan 34.58
Netherlands 35.33
Ireland 35.98
Germany 36.54
France 36.74
Sweden 37.03
UK 37.97
U.S. 37.98

IP and Innovation

The Stronger the IP Environment, the Higher the Number of Researchers

Association between Index scores and the number of researchers in R&D

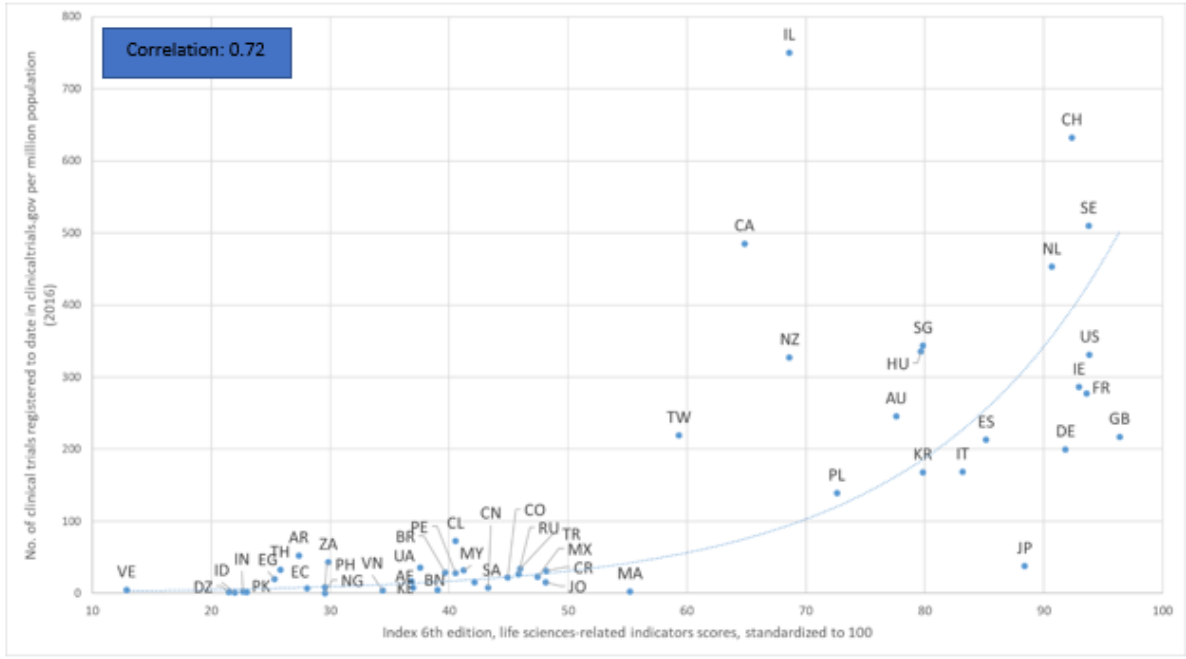


Sources: The World Bank; GIPC (2018)
Note: Data are not available for Peru, Saudi Arabia, and Taiwan.

IP and Access

Clinical Trial Activity Gravitates toward Robust IP Environments

Association between the Index, life sciences–related indicators scores, and number of clinical trials per million population[13]



Sources: clinicaltrials.gov; World Bank; GIPC (2018)

View the full report at www.uschamber.com/IPindex

Industry Perspectives on Innovation and IP Policy

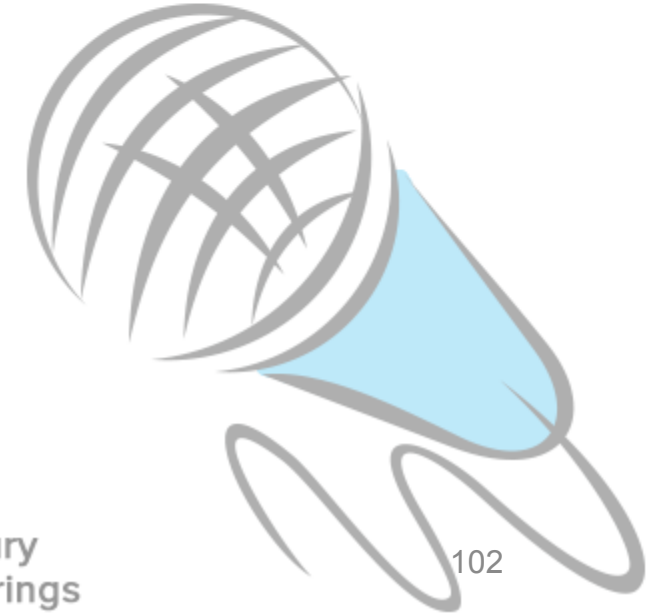
Panel Discussion:

Tahir Amin, Patrick Kilbride,
Barbara Fiacco, Hans Sauer,
Matthew Schruers

Moderators: Suzanne Munck & John Dubiansky

Break

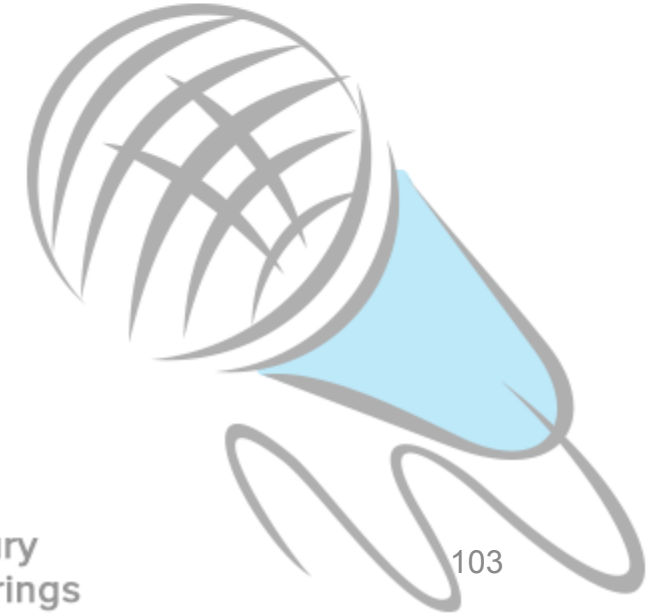
3:00-3:15 pm



Economic Perspectives on Innovation and IP Policy

Session moderated by:

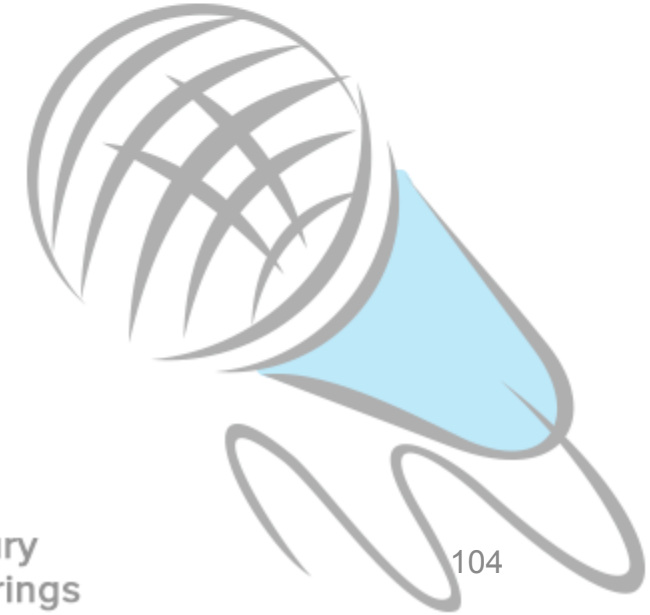
Jay Ezrielev & Julie Carlson
Federal Trade Commission
Office of Chairman Simons &
Bureau of Economics



Economic Perspectives on Innovation and IP Policy

Five Not So Easy Pieces to Make Antitrust Work for Innovation

Richard J. Gilbert
University of California, Berkeley
Department of Economics



Five Not So Easy Pieces to Make Antitrust Work for Innovation

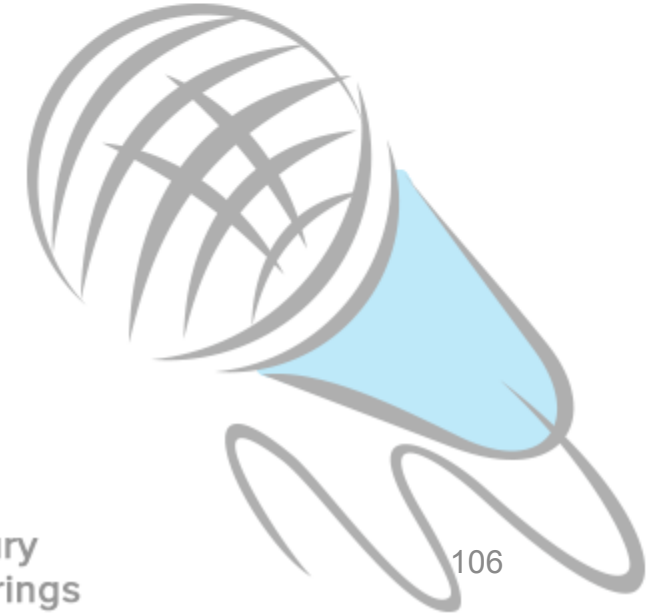
1. Economic Theory and Empirical Evidence
2. Overcoming Antitrust's Obsession with Market Definition
3. Standard of Proof
4. Treatment of Efficiencies and Appropriability
5. Finding Effective Remedies

Economic Perspectives on Innovation and IP Policy

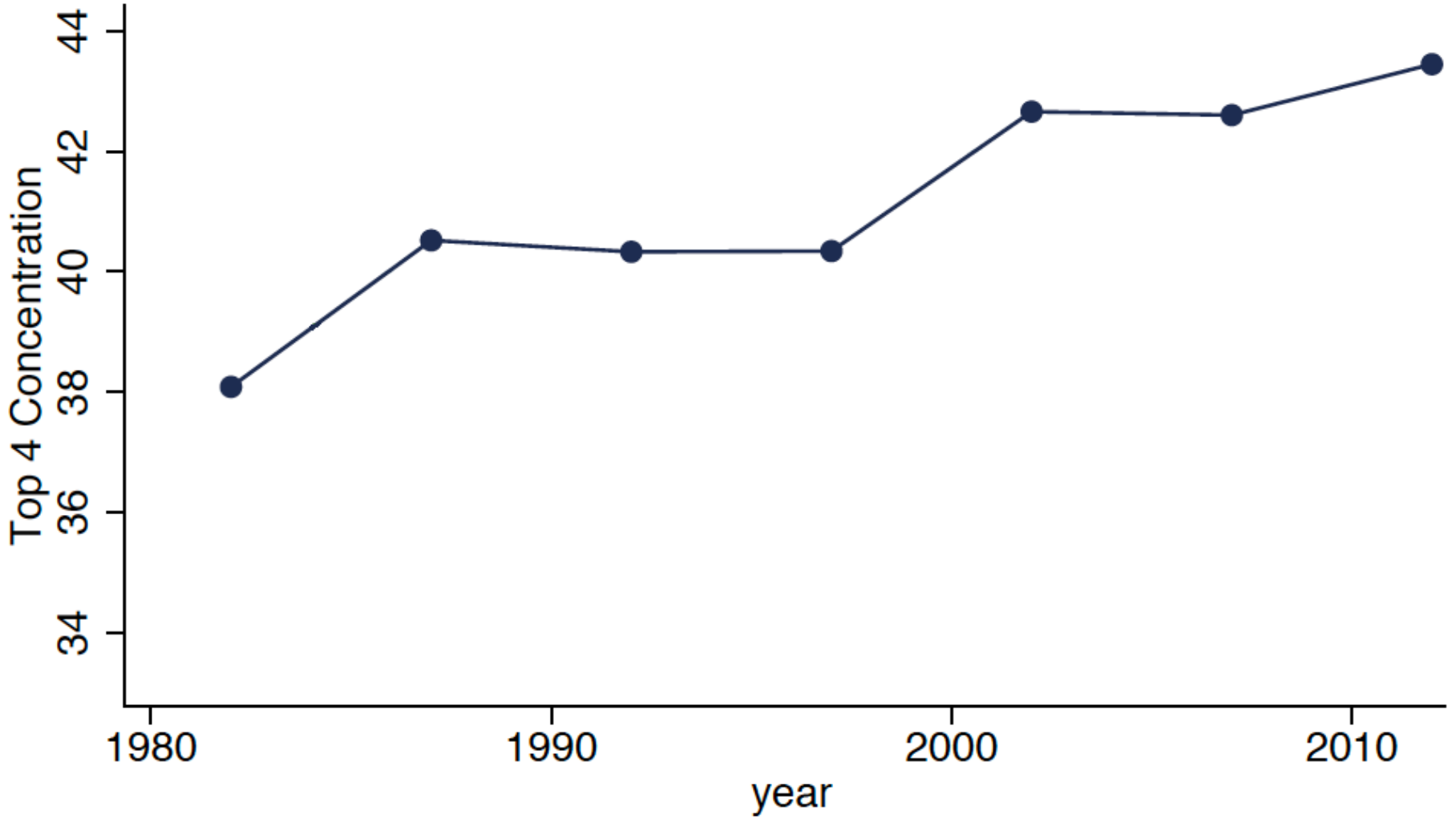
Invention & Diffusion

James Bessen

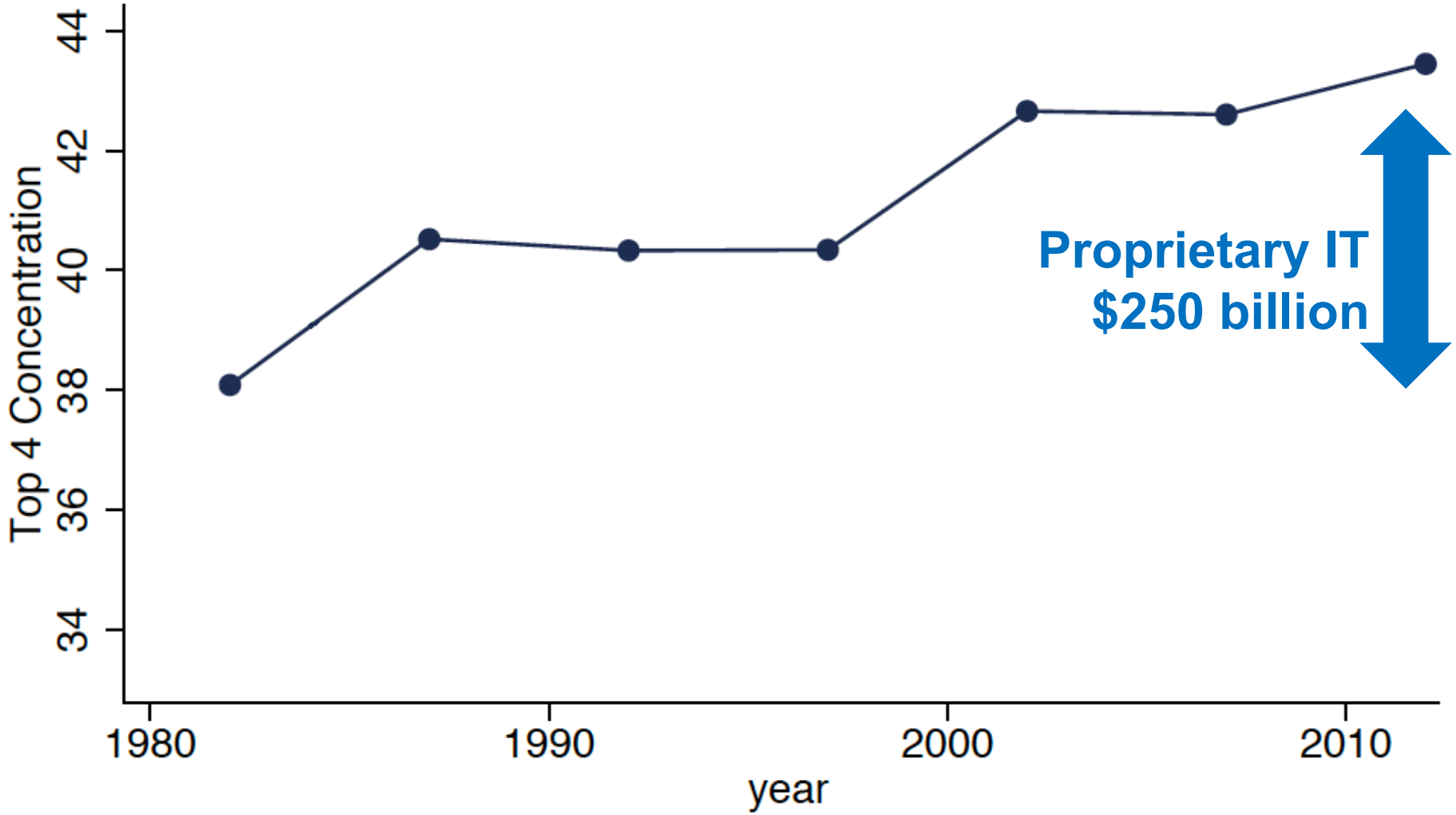
Boston University School of Law



Rising Industry Concentration



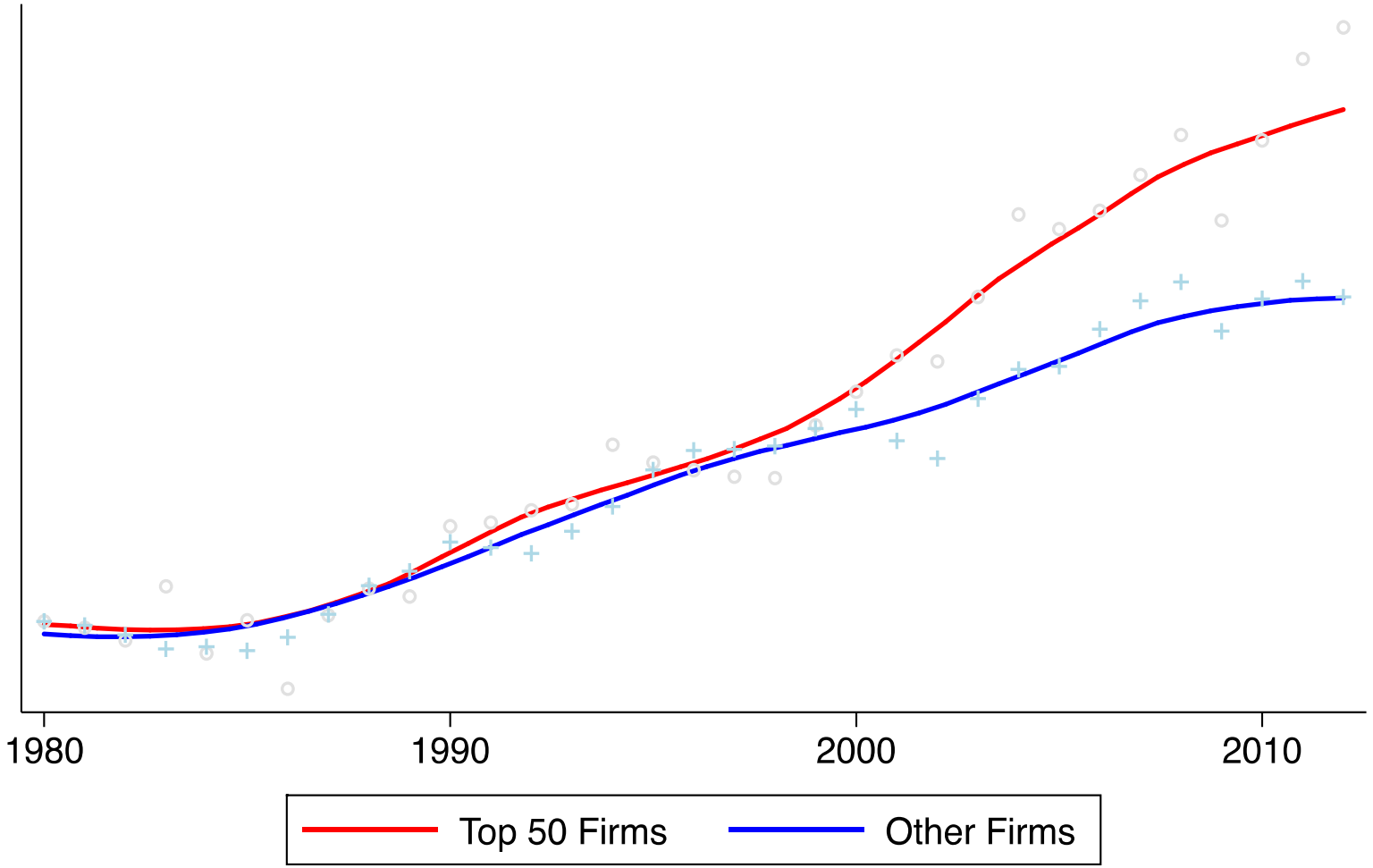
Rising Industry Concentration



US Productivity Gap

Relative Labor Productivity

US public nonfinancial firms, 1980 = same



US Productivity Gap

Relative Labor Productivity

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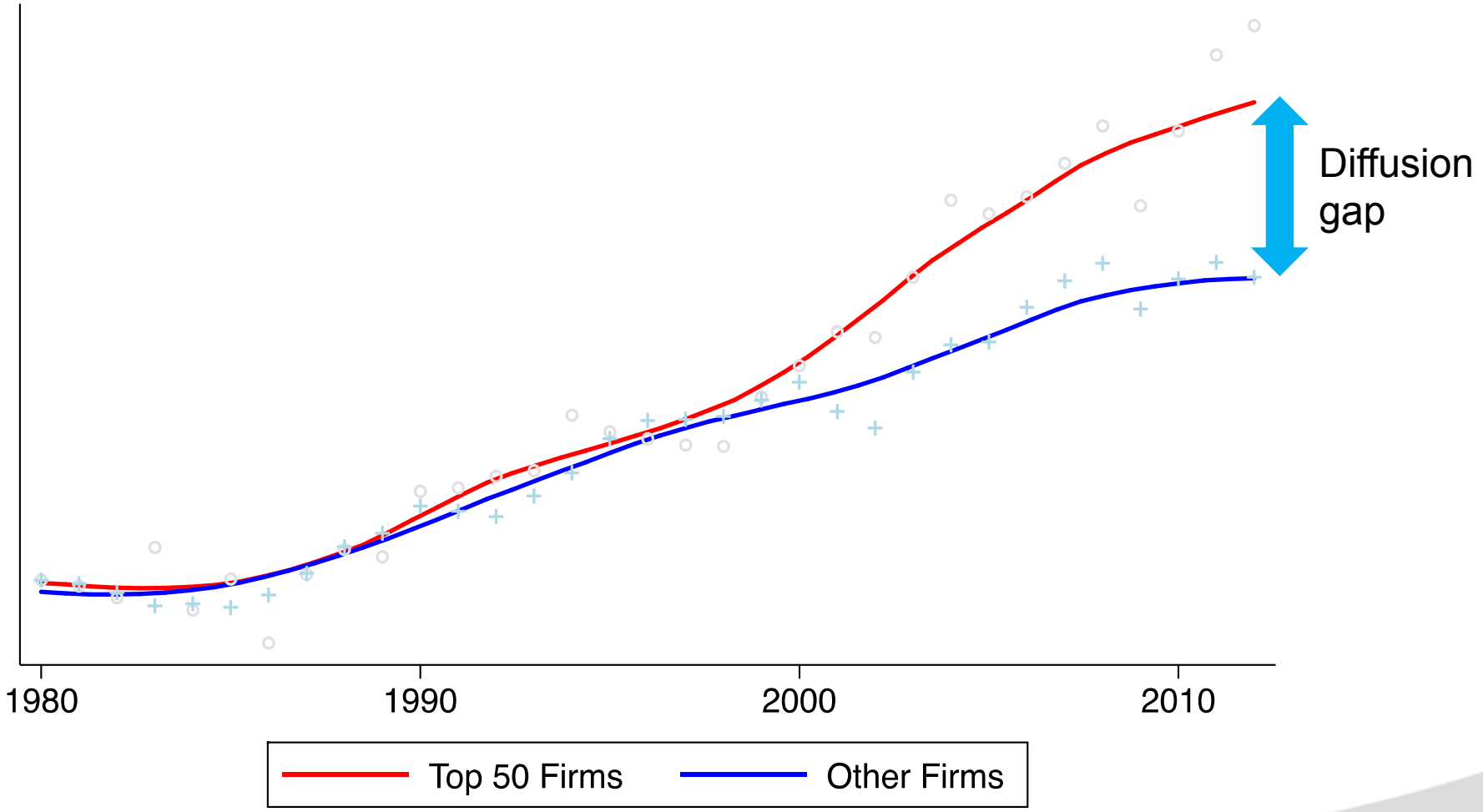
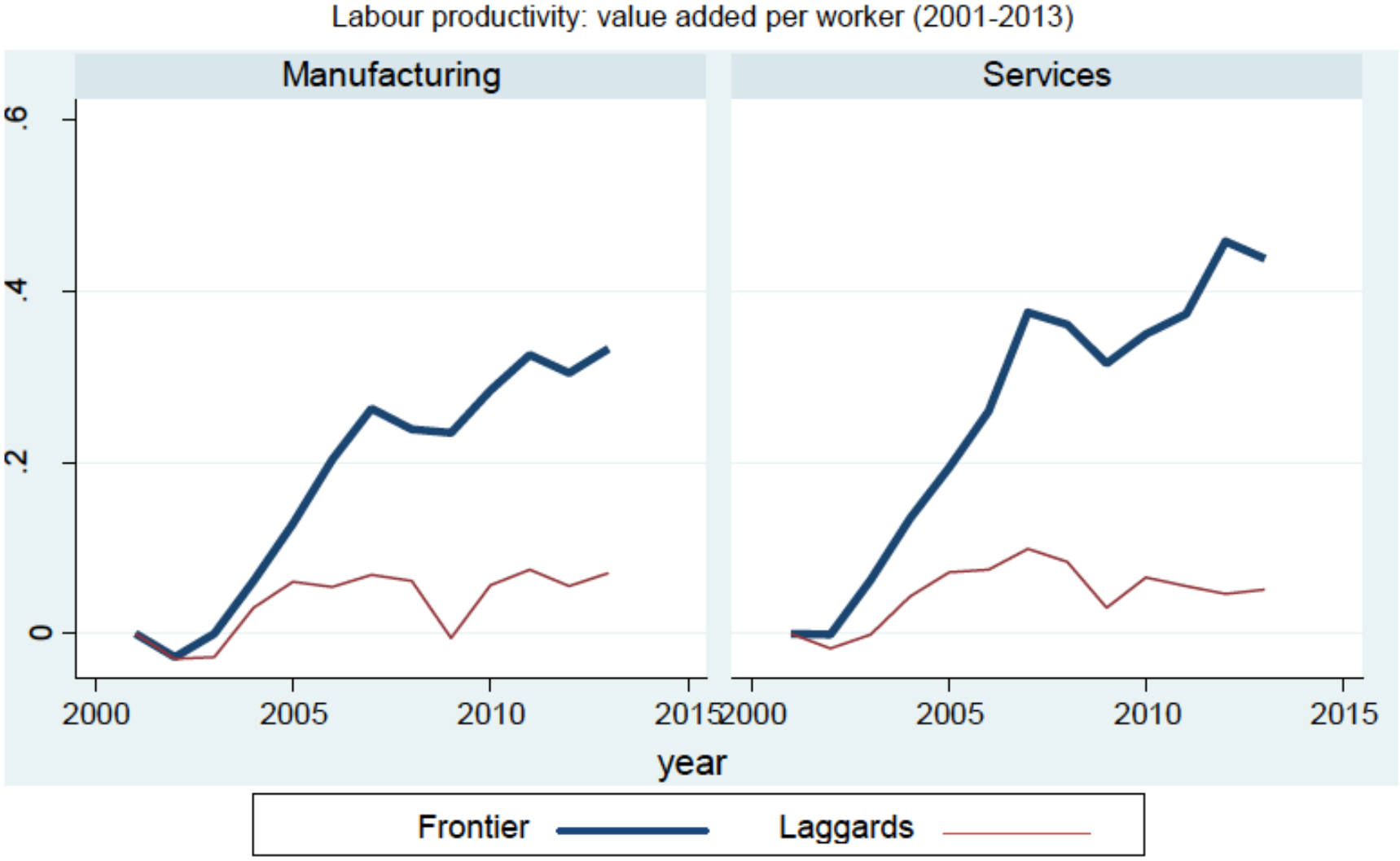
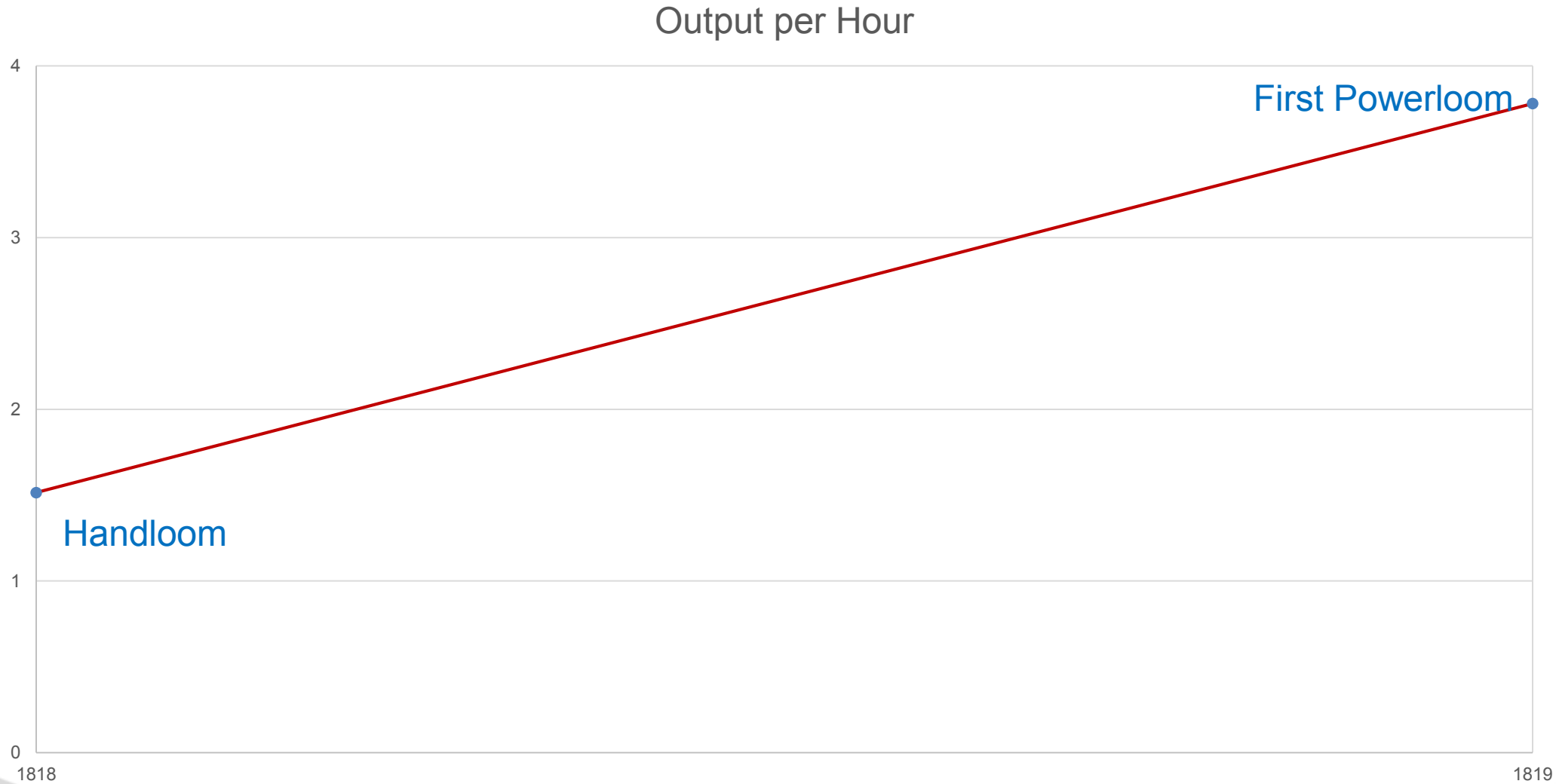


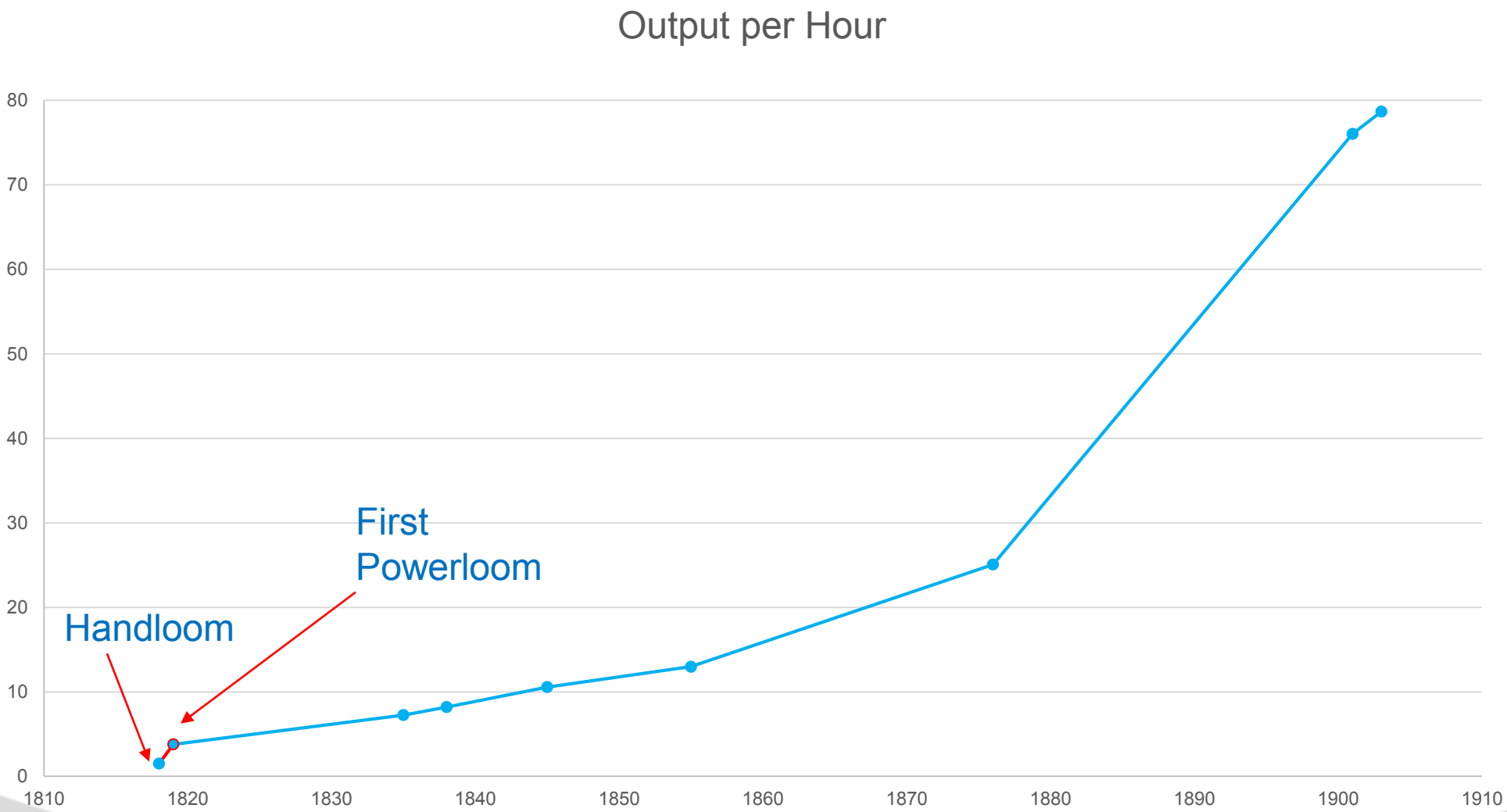
Global Productivity Gap



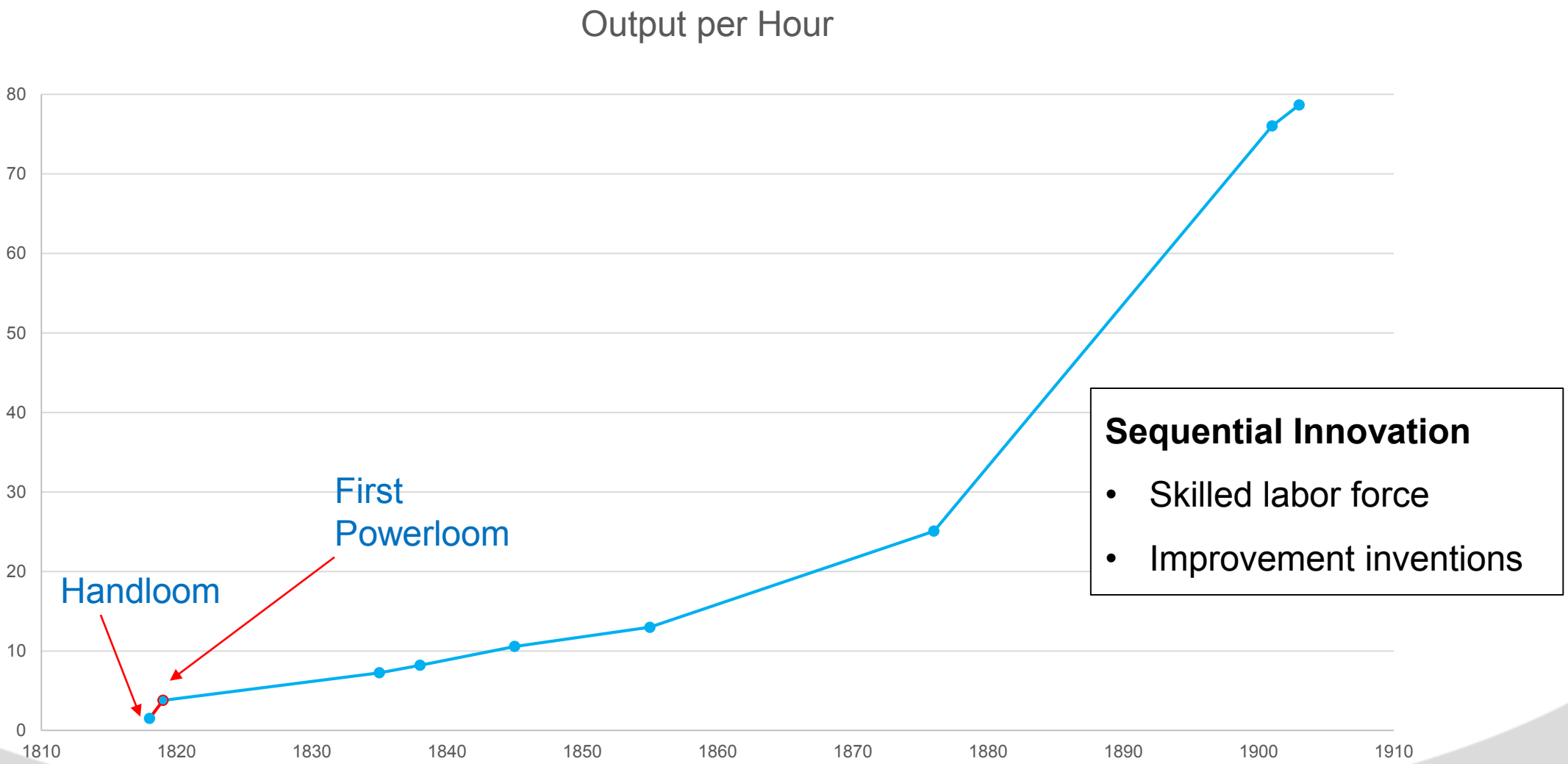
Initial innovation: powerloom



Sequential Innovation: Powerloom



Sequential Innovation: Powerloom



Policy

- IP balance
  - Innovation incentives
  - Diffusion

- Balance lost
  - Innovation incentives strong
  - But diffusion less
  - **LESS** optimal balance since 2000

Policy NOT the only factor, but…

- Patents, especially software
  - Reduce sequential innovation in SW
    - (Galasso & Schankerman 2014)
  - PAE litigation reduces R&D
    - (Tucker 2016, Mezzanotti 2017, Cohen et al. 2018)

Policy NOT the only factor, but…

- Employee non-compete agreements
  - Reduce labor mobility
    - (Balasubramanian 2018, Marx et al. 2009, Fallick et al. 2006, Garmaise 2009)
  - Reduce entrepreneurship
    - (Samila & Sorenson 2011)

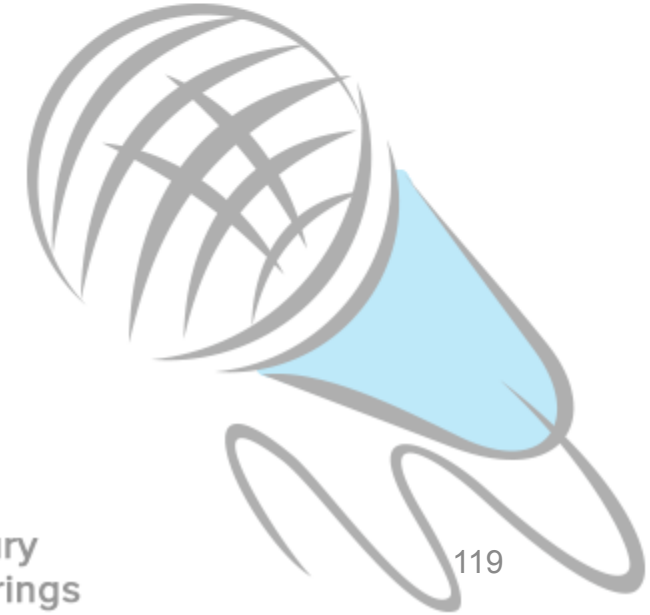
Policy NOT the only factor, but…

- Inevitable disclosure doctrine
  - Reduces labor mobility
    - (Png and Samila 2013)
  - Reduces innovation
    - (Contigiani et al. 2018)

Economic Perspectives on Innovation and IP Policy

Michael Frakes

Duke University School of Law

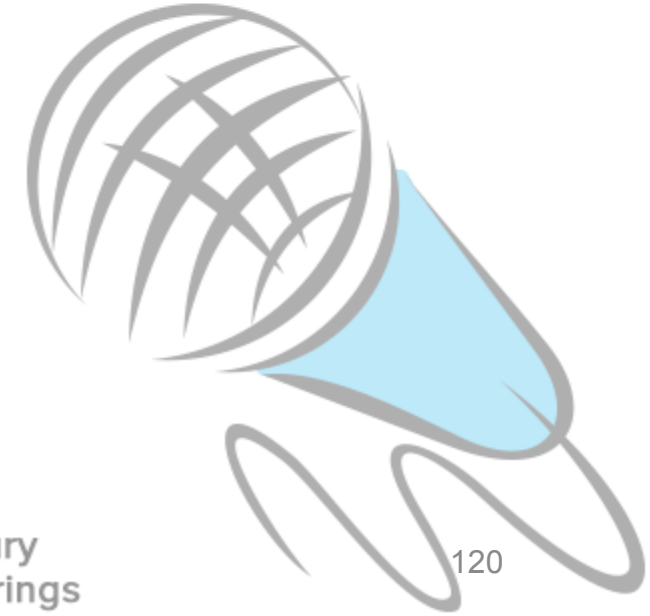


Economic Perspectives on Innovation and IP Policy

Innovation and Non-Practicing Entities

Anne Layne-Farrar

Charles River Associates



Patent “Privateers”

- Relatively new form of Patent Assertion Entity (PAE)
  - Less pejorative name is “hybrid PAE”
  - Retain “back end” financial sharing with patent assignor
- Not covered in the 2016 FTC Study

Claim: Hybrid PAEs Impose Innovation Tax

- Theory that privateers target practicing entities' rivals
  - Raising rivals costs
  - Acquire and assert low quality patents for nuisance value
- No empirical work testing this theory till now
  - Coauthored work, first round forthcoming in *Journal of Empirical Legal Studies*

Our Findings (Thus Far)

- Patent Quality:
  - Forward citations, # claims, “originality”, and “generality” all higher than avg. for privateer-held patents
  - Privateer higher than non-litigated patents and often higher than other PAEs
- Odds of patent being held by a privateer
  - Higher for patents with higher quality measures, broader scope
- Odds of patent being litigated
  - Higher for patents held by privateer, higher quality measures, broader scope
- Litigation timing
  - Privateer patents experience first litigation later than others
    - Investigating whether due to time till reassignment or delays in litigating

Economic Perspectives on Innovation and IP Policy

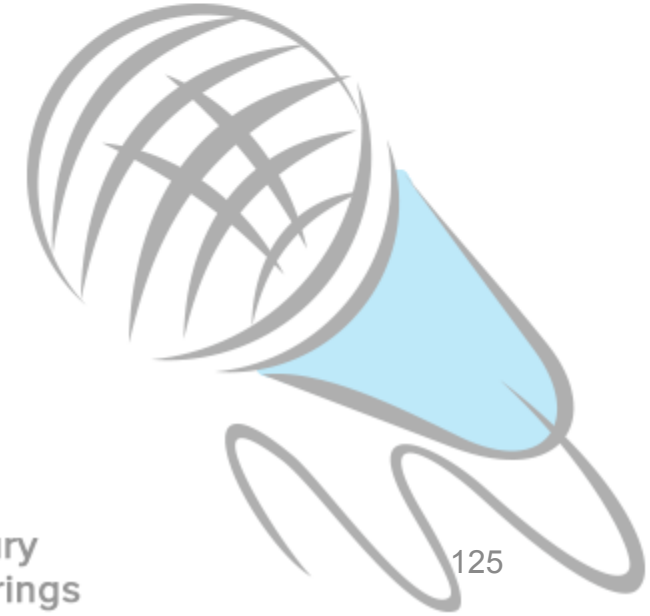
Panel Discussion:

James Bessen, Richard J. Gilbert,
Michael Frakes, Anne Layne-Farrar

Moderators: Jay Ezrielev & Julie Carlson

Closing Remarks

Rebecca Kelly Slaughter
Federal Trade Commission



Thank You

Hearing #5: November 1