The Use and Abuse of Patents in the Semiconductor Industry

Presentation to Hot Chips Symposium
August 27, 2013

Michael Brody, Vice Chair, Intellectual Property Group
Winston & Strawn, LLP

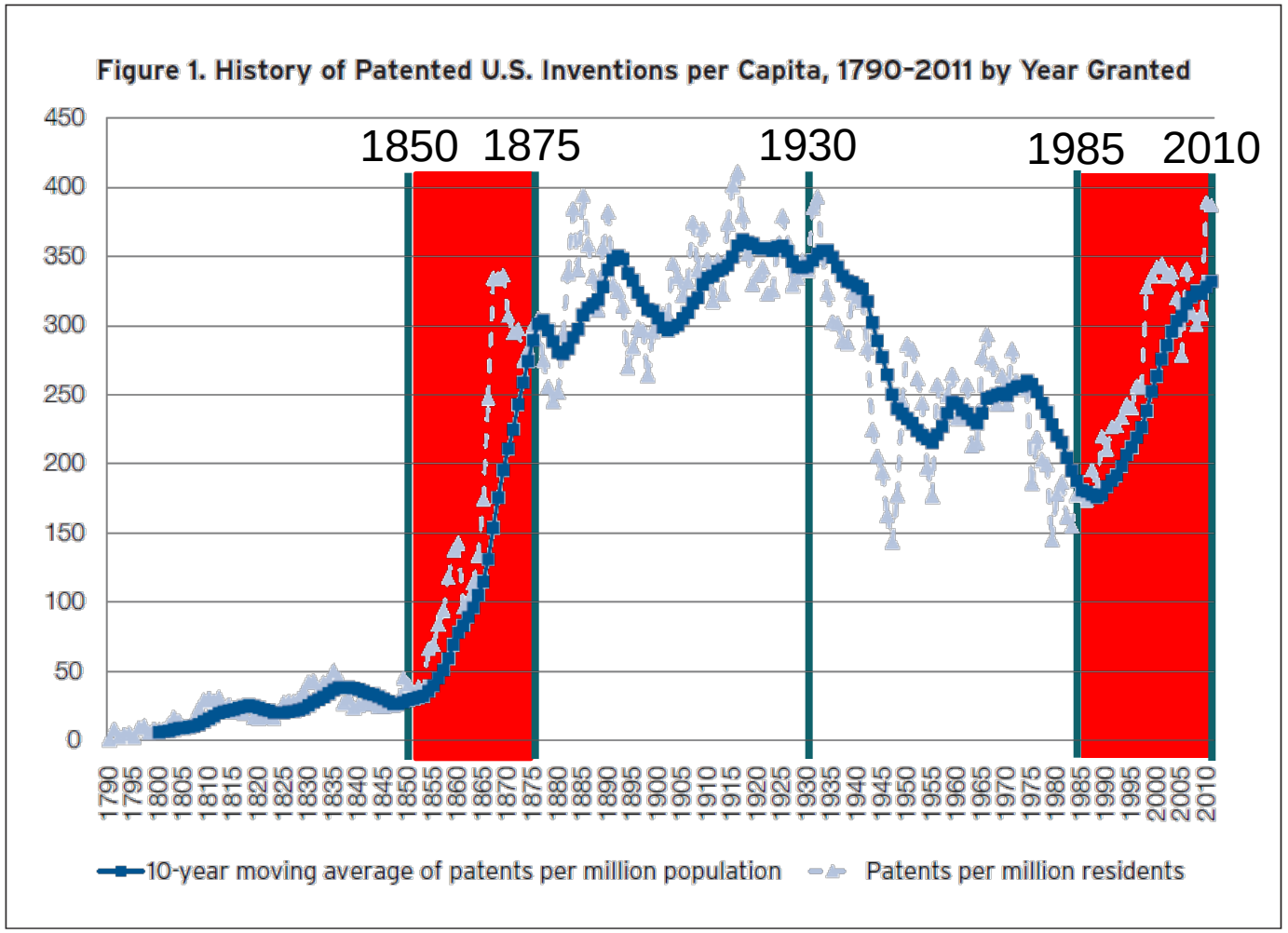
Patenting in the Semiconductor Industry

WINSTON
&STRAWN
LLP

What Is a Patent?

- The patent system is mandated by the constitution
- Patents are a way of creating "ownership" rights in "inventions"
    - "Inventions" are new, useful, and nonobvious ideas that relate to tangible things or ways of doing things
- The basic ownership right is the right to exclude others from practicing a patented invention or to charge them for doing so
    - The right is analogous to the ownership interest in a piece of land: You have the right to order trespassers off your property or to charge them rent for its use

For the past quarter century, per capita patenting in the U.S. has grown at a rate not seen since the industrial revolution

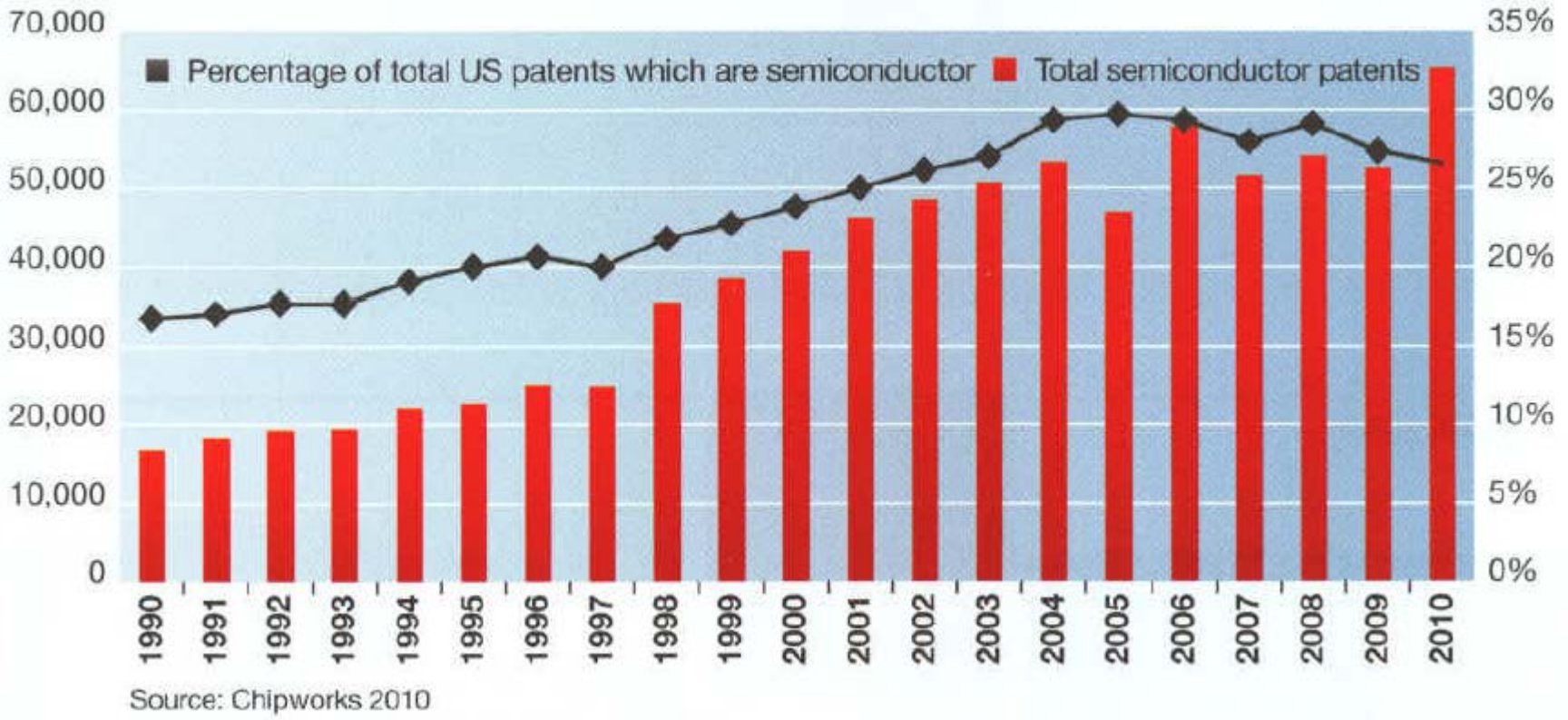


Brookings Institution, *Patenting Prosperity: Invention and Economic Performance in the United States and its Metropolitan Areas*, (February 2013)

WINSTON & STRAWN LLP

The semiconductor industry has probably been a driver of in this growth

Figure 5. **Semiconductor v total US patents (1990-2010)**

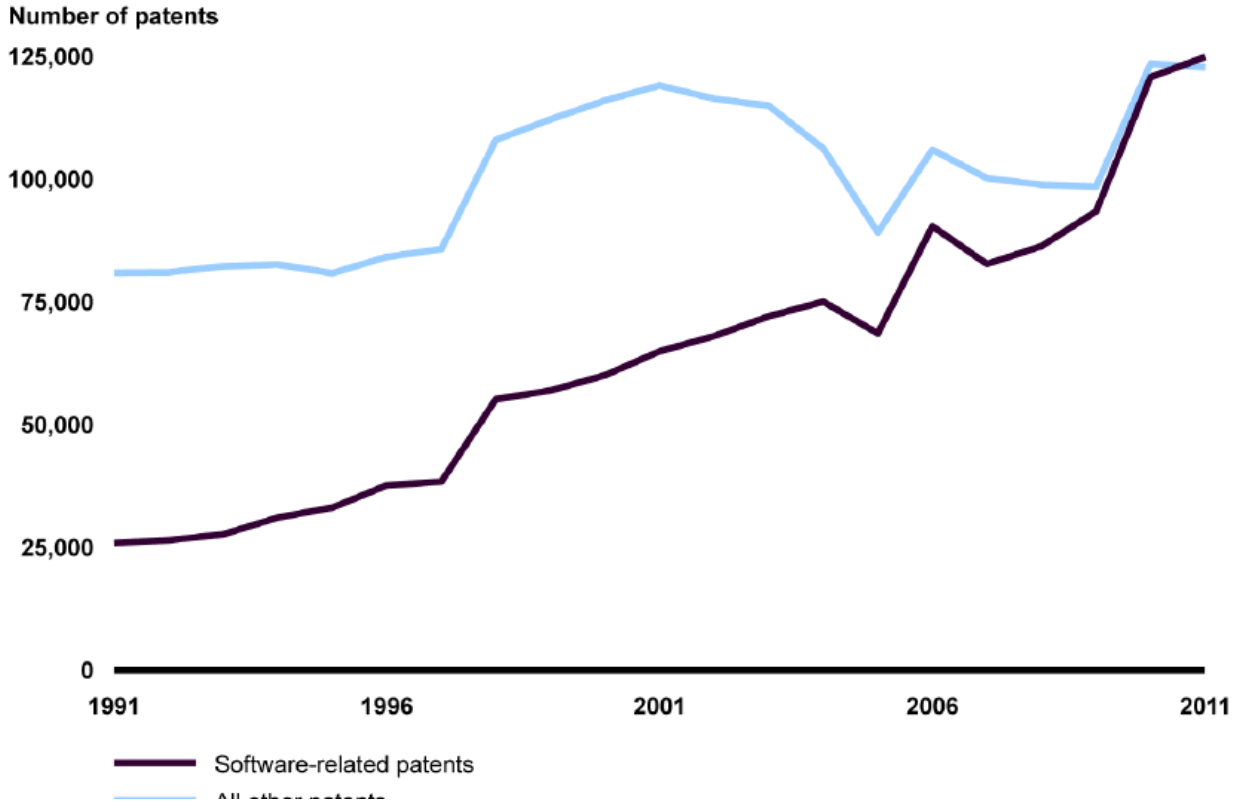


Source: Ludlow, *Trends in US Patent Litigation*, Intellectual Asset Management Magazine (Sept/Oct 2011)

WINSTON & STRAWN LLP

The software industry has also been a significant factor in this growth

Figure 1: Number of Software-Related Patents Granted per Year by PTO, 1991 to 2011



Source: General Accounting Office, *Intellectual Property : Assessing Factors That Affect Patent Infringement Litigation* (August 2013)

WINSTON & STRAWN LLP

Not surprisingly, intellectual property rights have become a big business

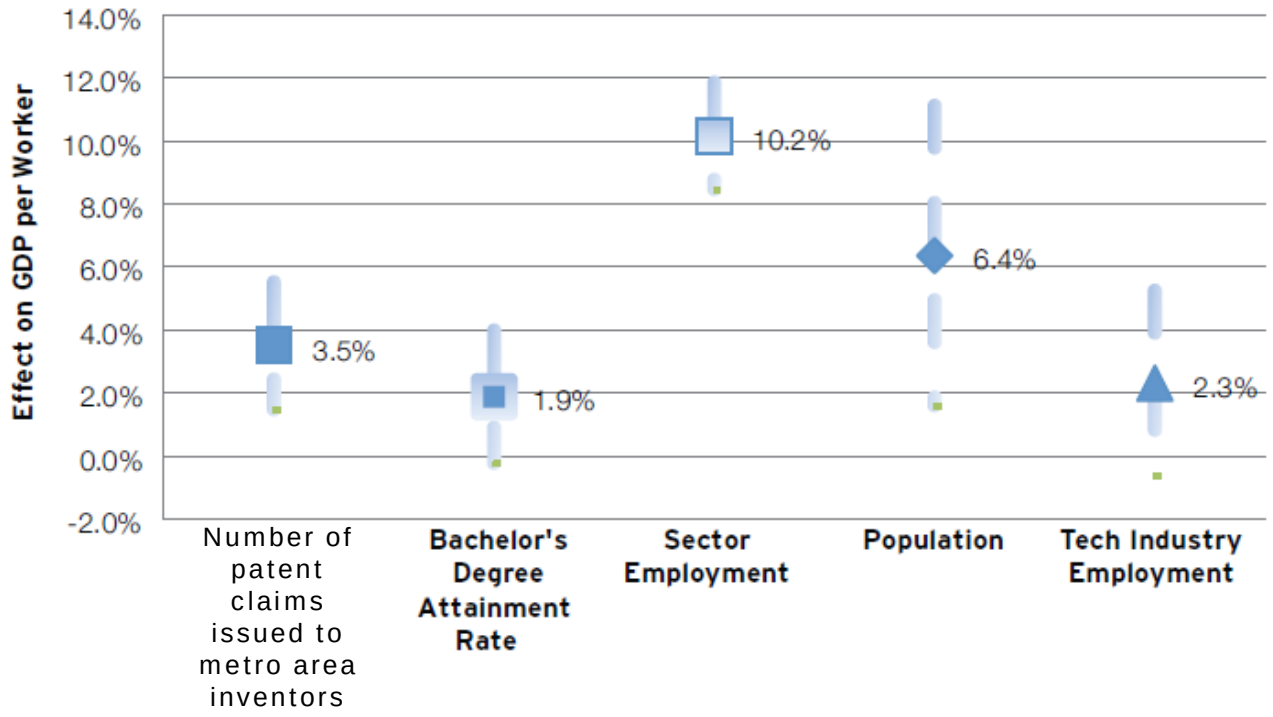
- In 2009, the United States "exported" $89.79 Billion in IP licensing rights
  - This represented a little over 5% of all US exports during the period
  - This is roughly 4.5 times the next largest IP "exporter" (Japan)

Intellectual Asset Management Blog, www.iam-magazine.com/blog (March 18, 2011) (Based on WIPO Statistics)

WINSTON & STRAWN LLP

Patenting is well correlated with significant positive effects on productivity

Figure 6. Average contribution of noted variables to 10-year metro area productivity growth (95% confidence intervals, 1980-2010)



Brookings Institution, *Patenting Prosperity: Invention and Economic Performance in the United States and its Metropolitan Areas* (February 2013)

WINSTON & STRAWN LLP

Patenting is well correlated with significant positive effects on economic growth

If the metro areas in the lowest quartile patented as much as those in the top quartile, they would boost their economic growth by 6.5 percent over a ten year period. By comparison, the average metro area in this bottom quartile grew by 13 percent each decade over this period, so an extra 6.5 percent would be a large boost, representing an extra $4,300 per worker (adjusted for inflation). That would require, roughly, an extra 960 patents per year. Though not without difficulty, such figures could be generated by a few large corporate R&D offices or universities.

Brookings Institution, *Patenting Prosperity: Invention and Economic Performance in the United States and its Metropolitan Areas*, at 15 (February 2013)

Patenting serves important competitive purposes at large firms . . .

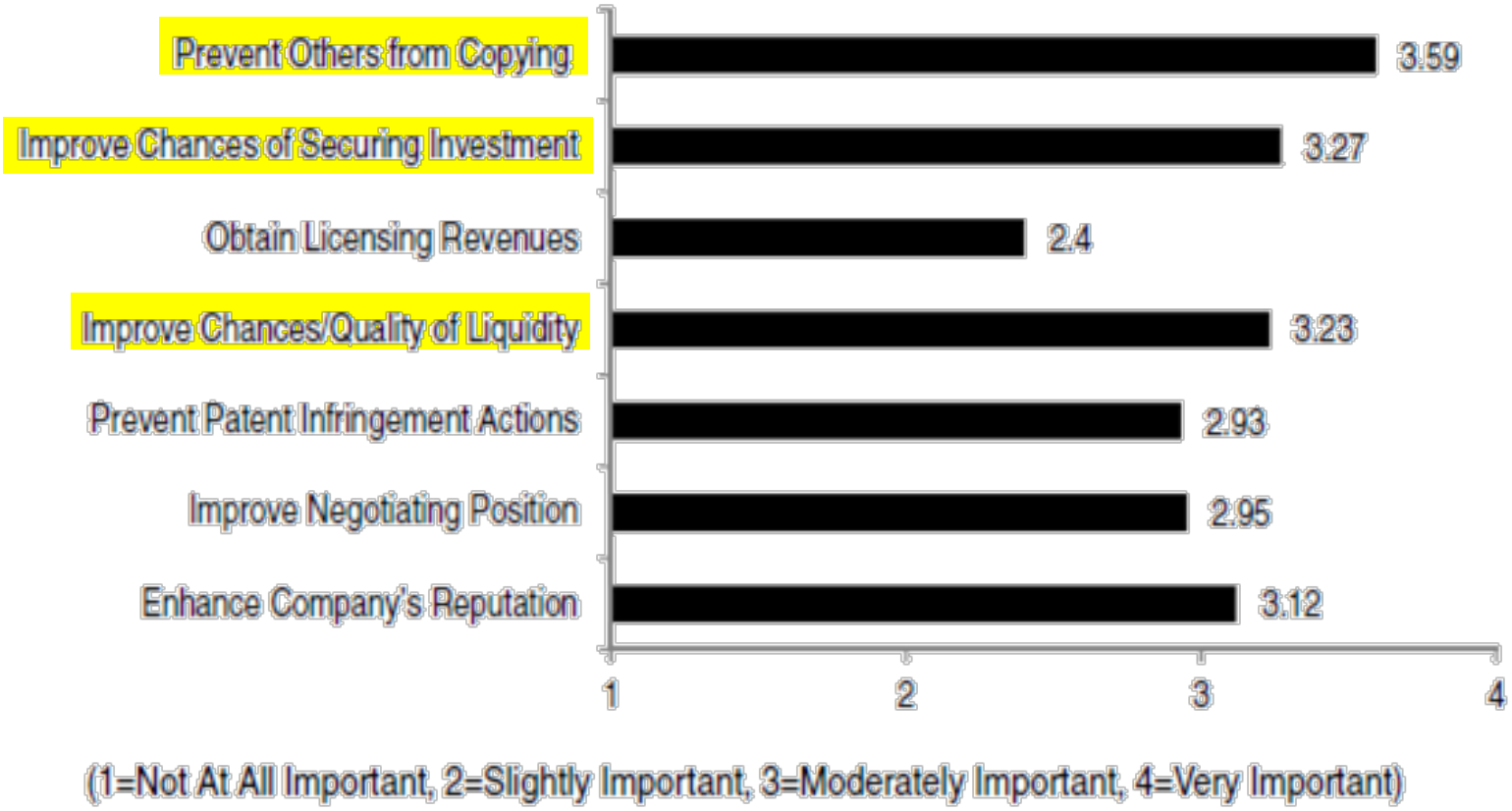
	OECD Study of Very Large Cos. (2003)[201]	Study of Mainly Large German Cos. (2002)[202]	Study of German Cos. (1997)[203]	Study of UK and Japanese Cos. (1994)[204]	Carnegie Mellon Study of U.S. Cos. (1994)[205]	Study of French Cos. (1993)[206]	Study of Large European Cos. (1993)[207]	Study of Swiss Cos. (Products) (1988)[208]
Prevent Copying	N/A	1	1	1	1	1	1	1
Preemptive Patenting[209]	3	2, 4	2, 3	2	2, 3	2	3	5
Negotiating/Cross-Licensing/Firm Reputation/Litigation Defense	1, 2	7, 9	4	3	4	2	2	3
Signaling: Technical & Product Image	N/A	3	6	N/A	5	N/A	N/A	N/A
Signaling: Employee Performance	4	8	5	N/A	7	6	6	6
Signaling: Financing/Capital	6	6, 10	N/A	N/A	N/A	N/A	N/A	N/A
Secure License Fees	5	11	7	4	6	4	4	1
Entry into Foreign Markets	N/A	5	N/A	N/A	N/A	5	5	4

1 = Most important; 12 = Least important

Sichelman, et al., "Patenting by Entrepreneurs: An Empirical Study," 17 Mich. Telecomm. Tech. L. Rev. 111 Table 1 (2010)

WINSTON & STRAWN LLP

. . . And at small firms



Sichelman, et al., "Patenting by Entrepreneurs: An Empirical Study," 17 Mich. Telecomm. Tech. L. Rev. 111(2010)

WINSTON & STRAWN LLP

The benefit that arises from patenting an innovation is not driven by the cost or the difficulty of conceiving it

In a modern economy, development accounts for more than three-fourths of industrial R&D expenditures.[49] One panelist explained, "[t]he creation of an idea is frequently the least costly and least time consuming aspect of product success. Development budgets vastly exceed research budgets in R&D intensive companies. Much more time and substantially more investment is required to commercialize a product or service embodying an invention than to create the invention in the first place."[50]

Federal Trade Commission, "The Evolving IP Marketplace," at 41 (March 2011)

WINSTON & STRAWN LLP

Patents create outsized value at the innovation phase of the product cycle because of the legal rights that they attach to innovations

- The right to create a legal monopoly by excluding competitors
- The right to dictate the terms of competition
  - By preserving points of product differentiation
  - By taxing competitors

Patents create outsized value at the innovation phase of the product cycle because of the legal rights that they attach to innovations

Ultimately, a patent is nothing more (or less) than a license to file a lawsuit.

As a result, the value of a patent is the value of the lawsuit(s) that it permits its owner to file

Patent Enforcement in the Semiconductor Industry – Historical Trends

WINSTON & STRAWN LLP

Over time, the semiconductor industry has experienced substantial growth in patent litigation

Table 1
Patent case filings for 136 semiconductor firms

Period	Total disputes	Total number in which appear	As patent plaintiff	As target	As target of rival	As target of non-rival
1973-1982	17	19	9	10	7	3
1983-1992	140	192	105	87	70	17
1993-2001	278	336	150	186	111	71
All years	435	547	264	283	188	91

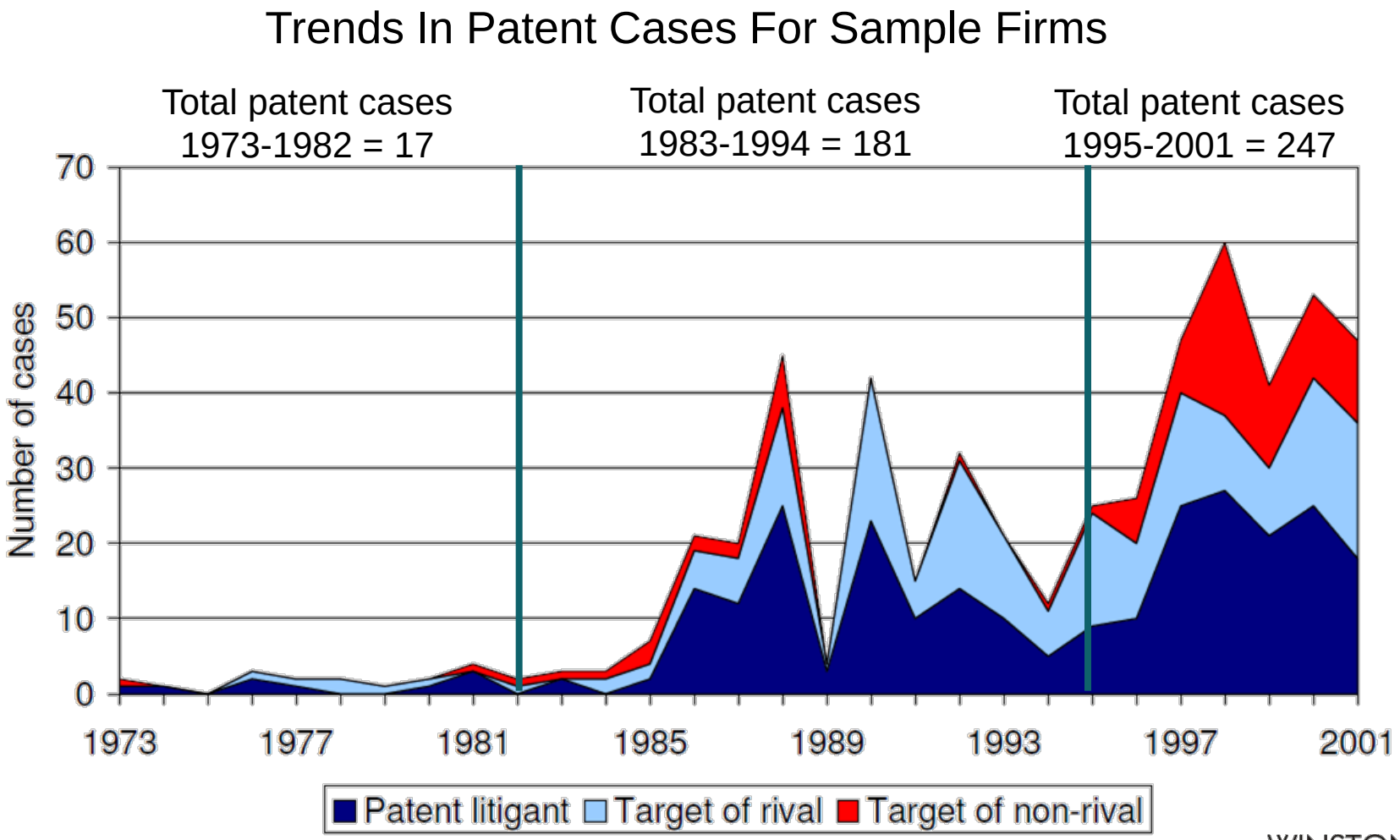
Data for a population of 136 U.S. specialized semiconductor firms

All cases involve one or more patents. If patents are held by a sample firm, case is classified as patent litigant. If held by the opponent, they are classified as target cases. Note that some cases appear twice if they are between two firms in our sample; this is indicated by the difference between column 1 and 2.

Hall and Zedonis, "An Empirical Analysis of Patent Litigation in the Semiconductor Industry," (January 2007)

WINSTON & STRAWN LLP

Since the early 1990's, this growth has been driven by two trends

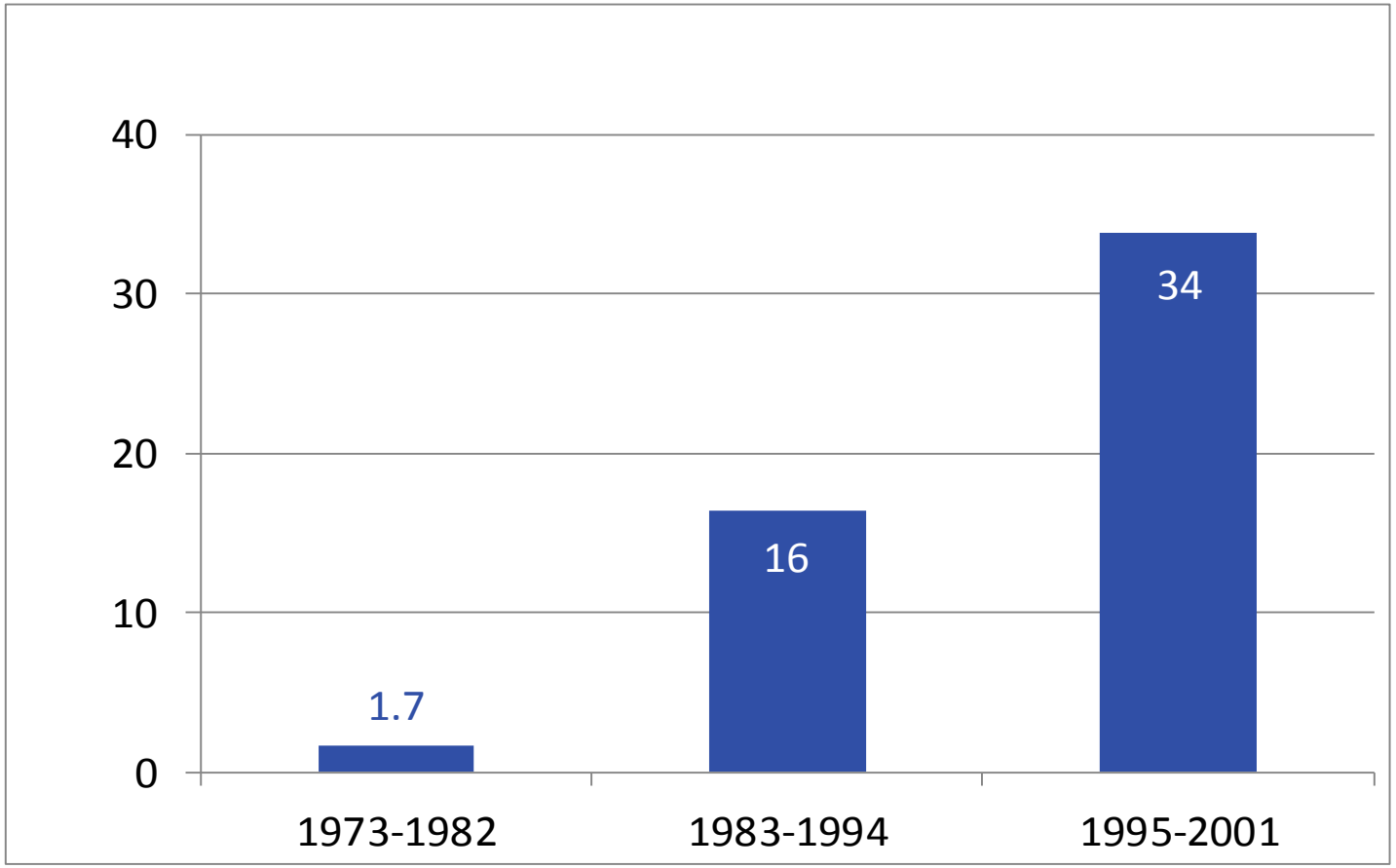


Hall and Zedonis, "An Empirical Analysis of Patent Litigation in the Semiconductor Industry," (January 2007), Fig. 3

WINSTON & STRAWN LLP

The first trend is that the sheer number of patent cases has increased dramatically

Average Number of Semiconductor Patent Cases Per Year



Hall and Zedonis, "An Empirical Analysis of Patent Litigation in the Semiconductor Industry," (January 2007) (Calculation based on Table 1 and Figure 3)

WINSTON & STRAWN LLP

The first trend is that the sheer number of patent cases has increased dramatically

Semiconductor patent litigation trends, 1997-2007:

- Almost 900 patent lawsuits involving the semiconductor industry were filed in federal district during the period, an average of 90 each year
- The number of filings increased each year
- During the decade, the number of semiconductor patent suits essentially doubled

Source: Tod R. Miller, Jones Day LLP, *Patent Litigation and Prosecution Trends in the Semiconductor Industry* (2007)

The first trend is that the sheer number of patent cases has increased dramatically

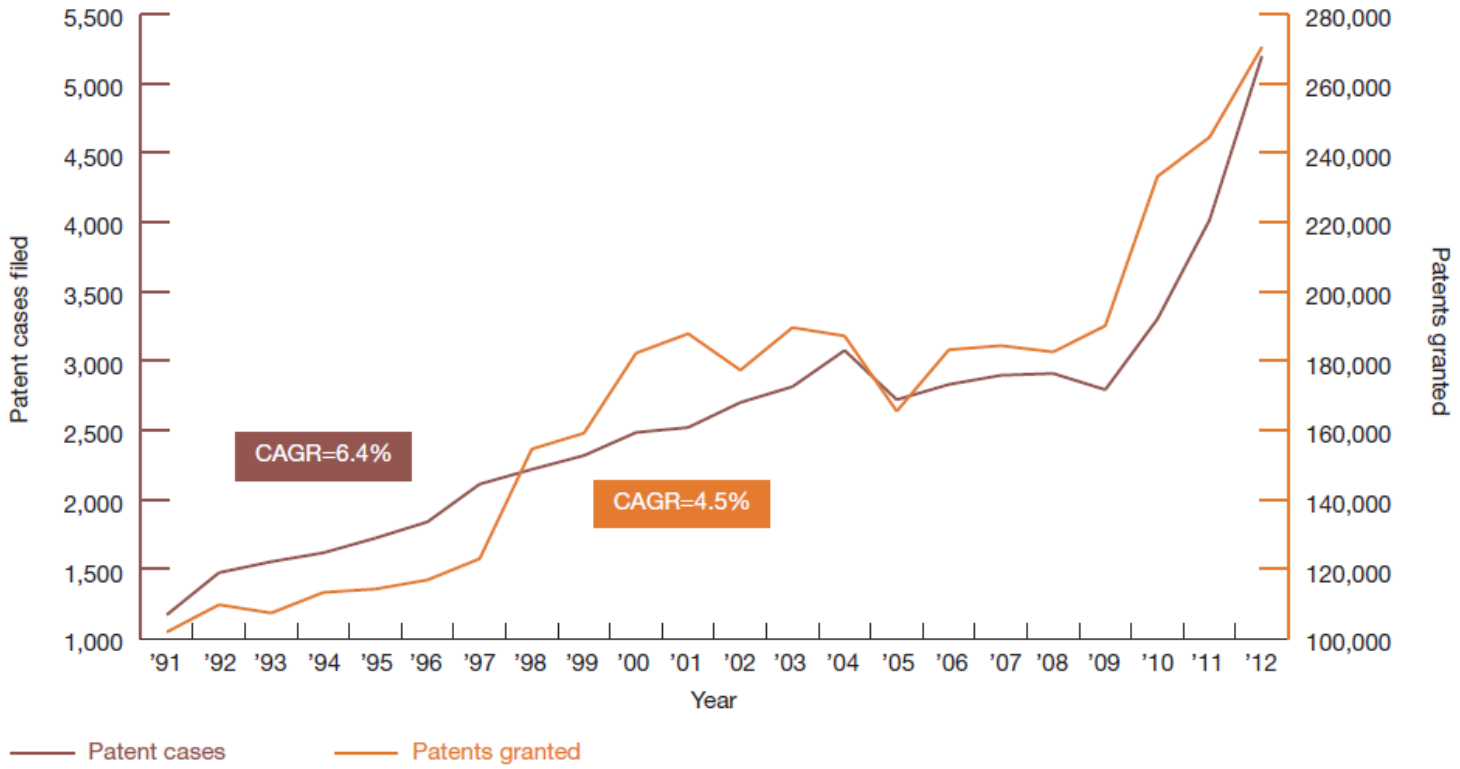
Overall rank	Industry	1995–2000		2001–2006		2007–2012		Total cases
		Cases	Rank	Cases	Rank	Cases	Rank	
1	Consumer products	81	1	98	1	148	1	327
2	Biotechnology/Pharma	39	4	80	2	127	2	246
3	Industrial/Construction	64	2	70	3	76	4	210
4	Computer hardware/Electronics	24	6	48	5	101	3	173
5	Medical devices	41	3	54	4	72	5	167
6	Business/Consumer services	17	8	47	6	48	8	112
7	Software	14	9	28	8	70	6	112
8	Automotive/Transportation	24	7	30	7	37	9	91
9	Telecommunications	13	11	27	9	50	7	90
10	Chemicals/Synthetic materials	31	5	22	10	32	10	85

PWC, *2103 Patent Litigation Study* (June 2013) (Number of decisions)

WINSTON & STRAWN LLP

This growth in semiconductor patent litigation is part of a larger trend characteristic of all U.S. patent litigation

Chart 1. Patent case filings and grants

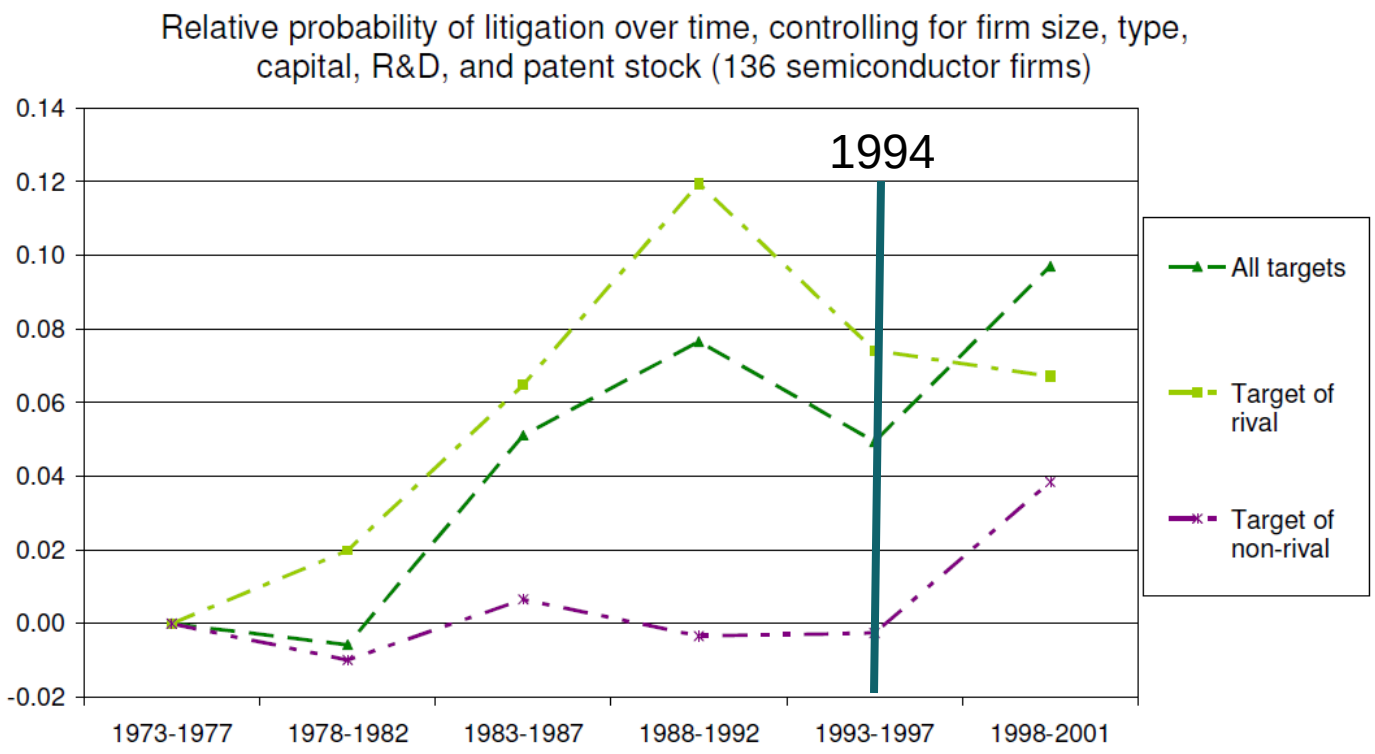


Years are based on September year-end.
Sources: *US Patent and Trademark Office: Performance & Accountability Report and US Courts: Judicial Facts & Figures*

Source: PWC, *2013 Patent Litigation Study*

WINSTON & STRAWN LLP

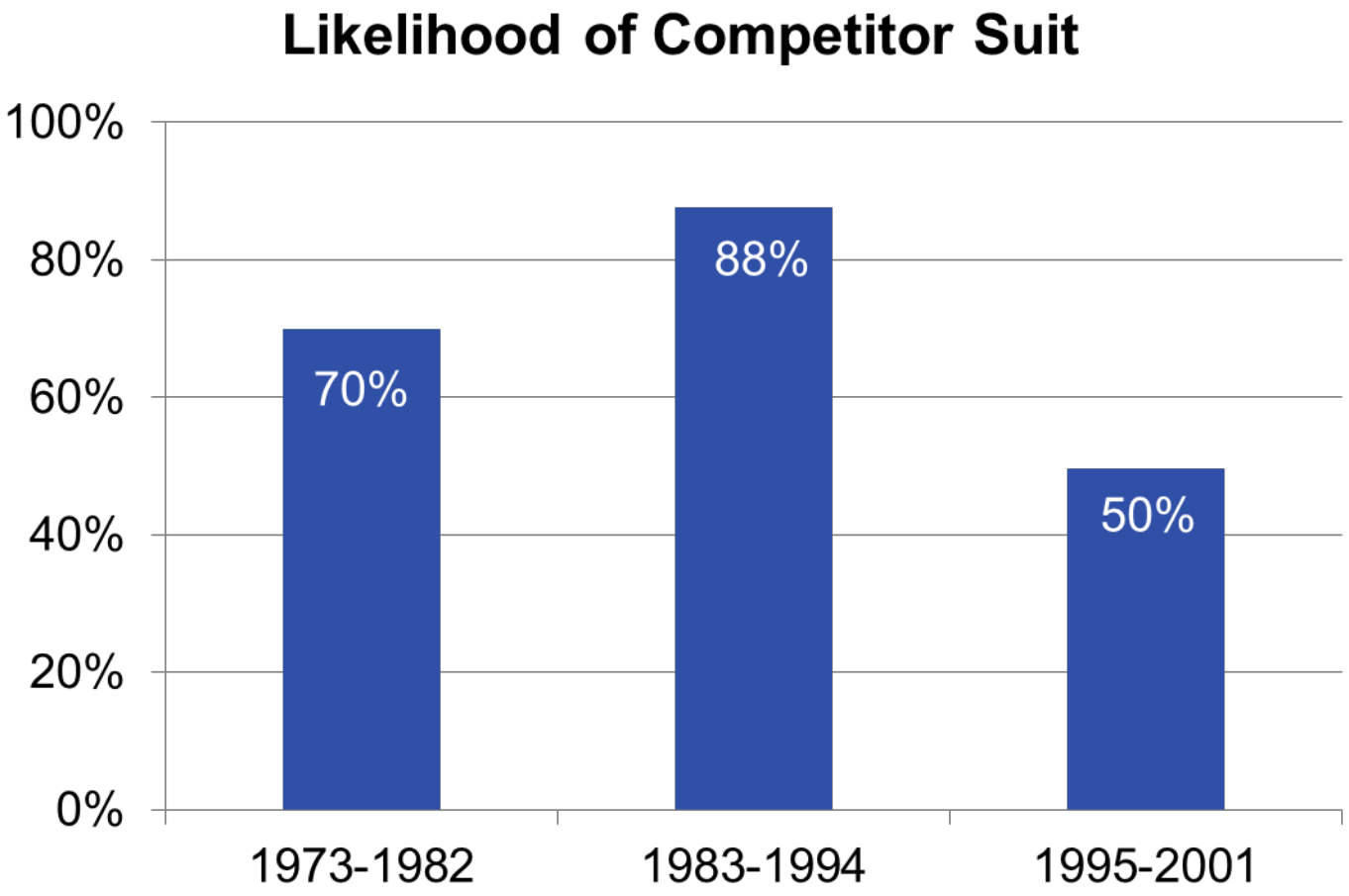
The second trend is that semiconductor patent litigation is no longer primarily about competitors fighting over how they will come to market



Hall and Zedonis, "An Empirical Analysis of Patent Litigation in the Semiconductor Industry," (January 2007), Fig. 6

WINSTON & STRAWN LLP

The second trend is that semiconductor patent litigation is no longer primarily about competitors fighting over how they will come to market



Hall and Zedonis, "An Empirical Analysis of Patent Litigation in the Semiconductor Industry," (January 2007) (Calculation based on Table 1 and Figure 3)

WINSTON & STRAWN LLP

The second trend is that semiconductor patent litigation is no longer primarily about competitors fighting over how they will come to market

Several stakeholders, including PMEs and legal commentators, we interviewed said that the recognition that patents are a more valuable asset than once assumed may have contributed to recent patent issuance trends and patent infringement lawsuits. Within the last 10 years, technology companies in particular have increasingly realized that patents are valuable and can be important to their corporate strategy, according to some of these stakeholders. This trend may have started, according to literature we reviewed, when Texas Instruments Inc. was looking for additional sources of revenue in the 1980s and started to more aggressively assert its patents to increase revenue.[63] Prior to this, entities used patents to protect inventions rather than to generate revenue, according to some stakeholders, including legal commentators and a PME, we spoke with.

Source: General Accounting Office, *Intellectual Property : Assessing Factors That Affect Patent Infringement Litigation* (August 2013), p. 34

Today, the innovation premium created by patenting is mostly being captured by "patent trolls," more politely known as "non-practicing entities" (NPE's)

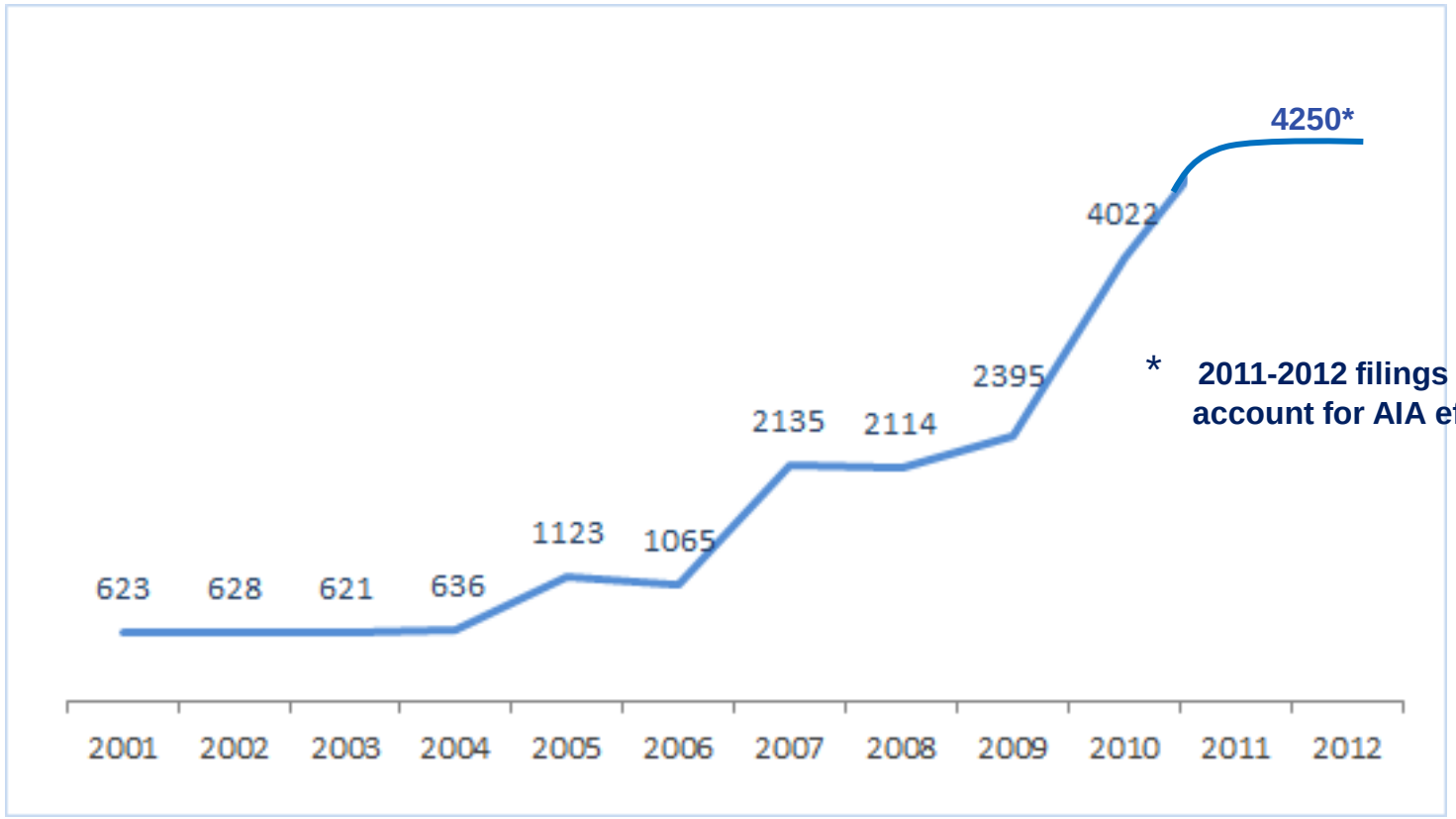
WINSTON & STRAWN LLP

NPE Patent Litigation

WINSTON & STRAWN LLP

The shift away from competitor patent litigation in the semiconductor industry is part of a larger trend

Number of Defendants Named in NPE Patent Cases 2001-2013



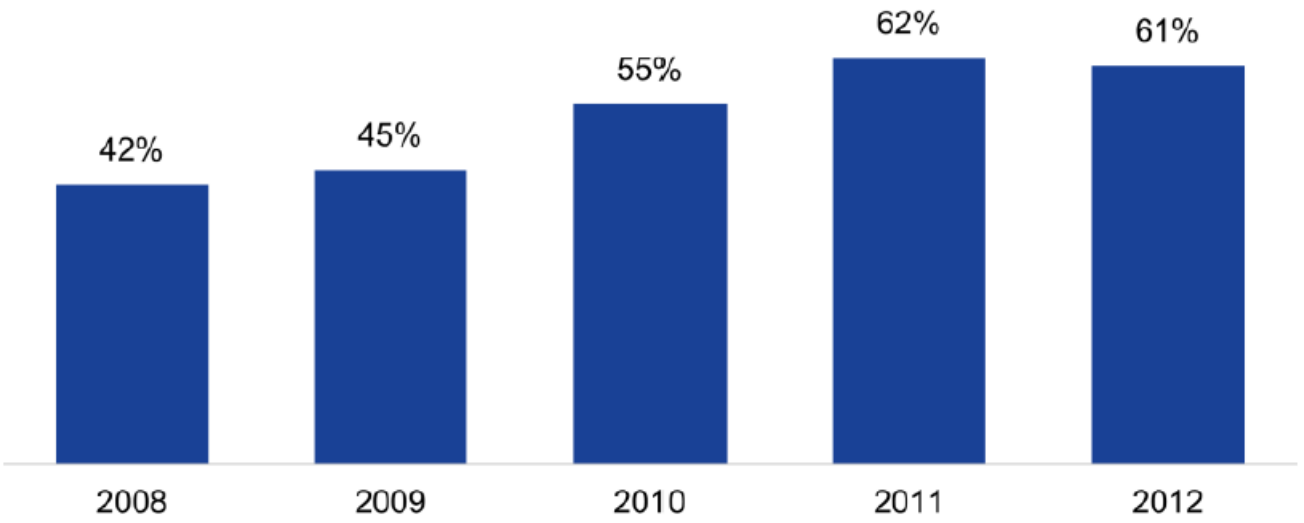
* 2011-2012 filings normalized to account for AIA effect

Source: www.patentfreedom.com, PatentFreedom © 2013. Data captured as of January 18, 2013.

WINSTON & STRAWN LLP

The shift away from competitor patent litigation in the semiconductor industry is part of a larger trend

Chart 8: Number of defendants sued by NPE's as a percentage of all patent infringement defendants



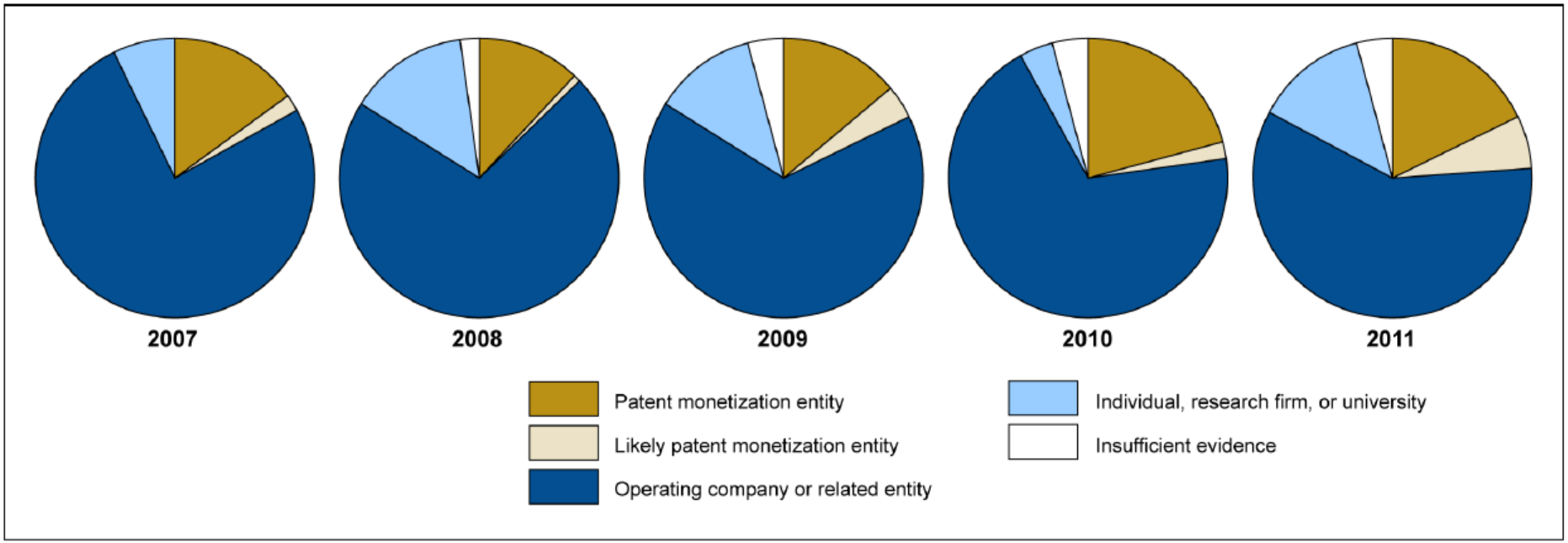
Source: RPX, *2012 NPE Activity Report*

WINSTON & STRAWN LLP

The shift away from competitor patent litigation in the semiconductor industry is part of a larger trend

The General Accounting Office recently found that competitor suits dropped from 76% to 59% of all patent infringement cases between 2007 and 2011

Figure 4: Estimated Patent Infringement Lawsuits by Type of Plaintiff, 2007 to 2011



Source: GAO analysis of Lex Machina data.

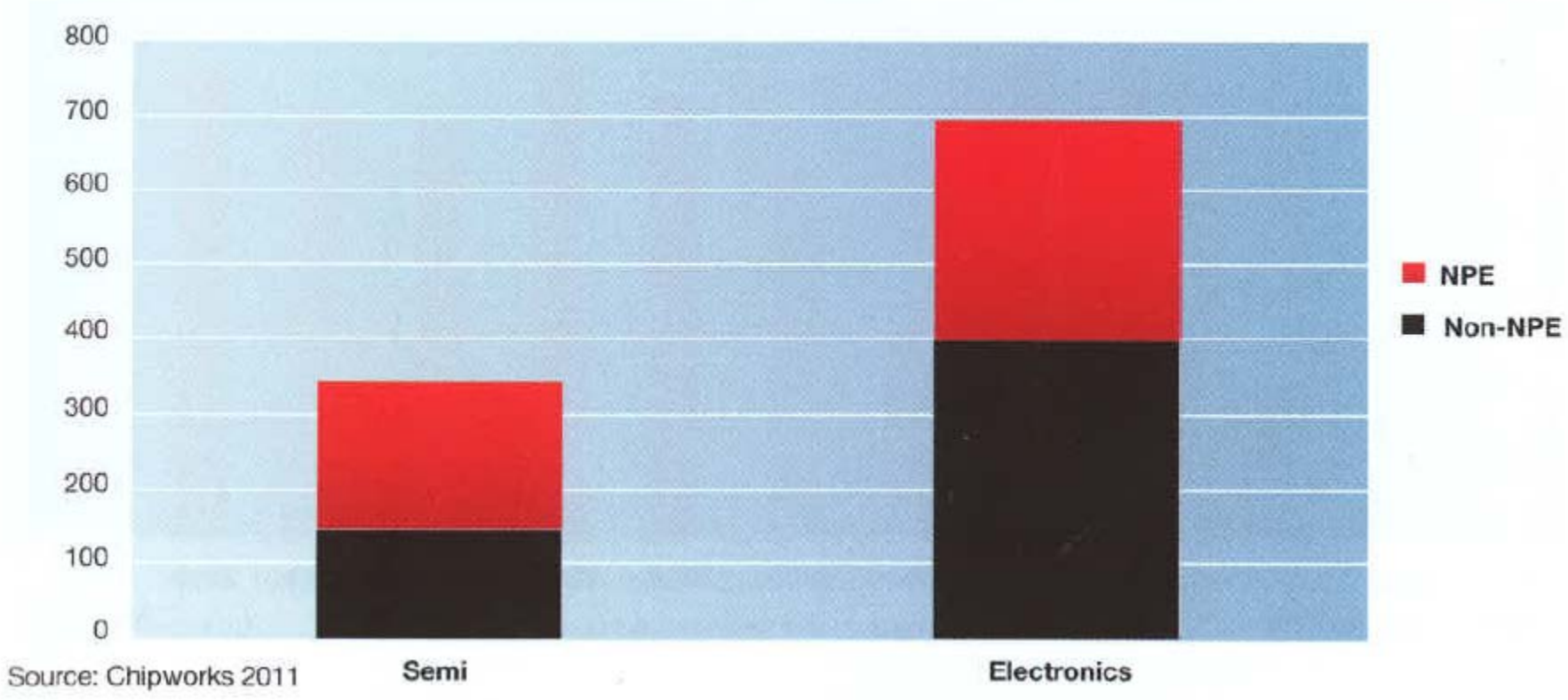
Note: Lawsuit estimates are subject to a margin of error of up to plus or minus 10 percentage points.

Source: General Accounting Office, *Intellectual Property : Assessing Factors That Affect Patent Infringement Litigation* (August 2013)

WINSTON & STRAWN LLP

This trend is particularly characteristic of the semiconductor industry and related electronics industries

Figure 13. **NPE v non-NPE cases, semi/electronics (2010)**

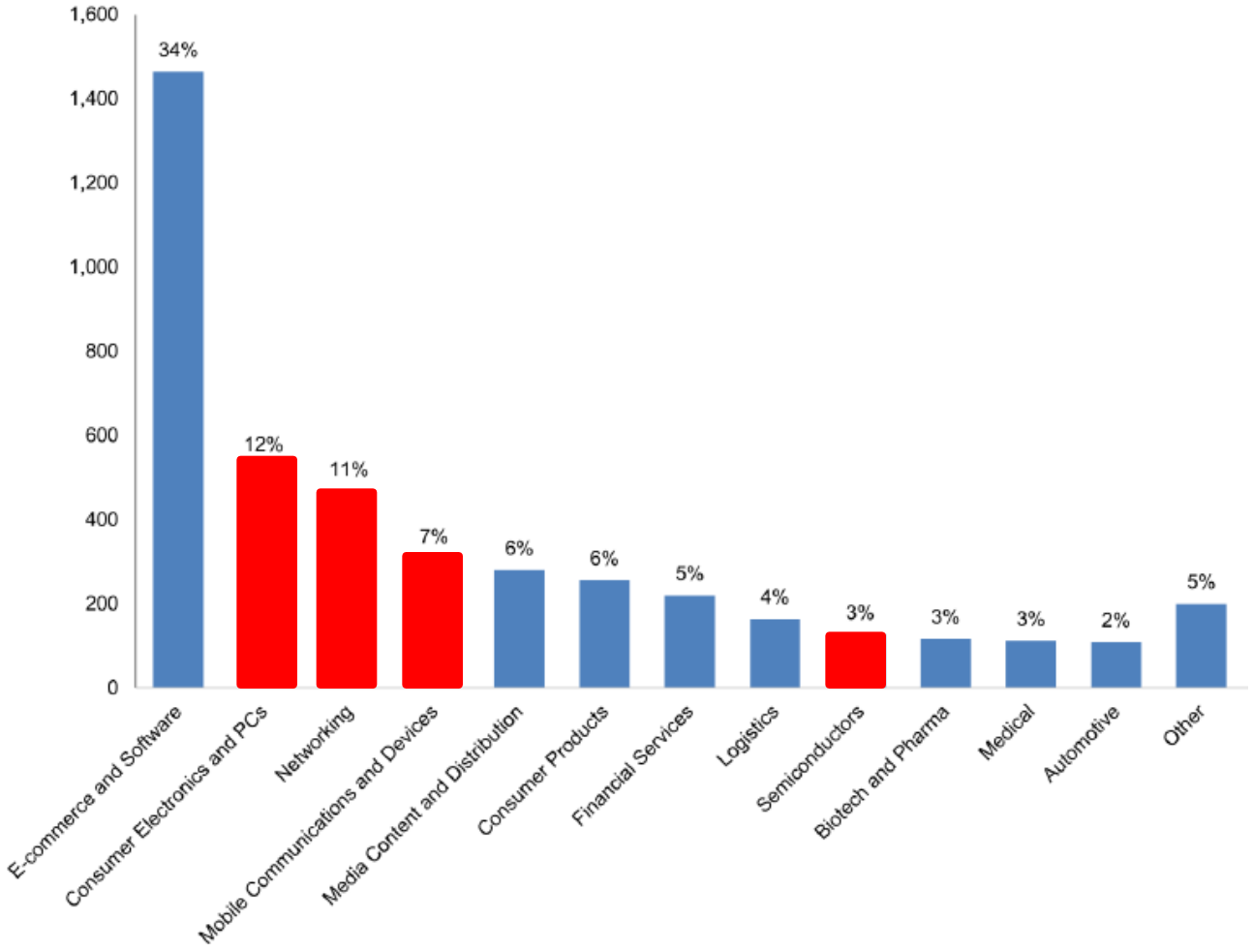


Source: Ludlow, *Trends in US Patent Litigation*, Intellectual Asset Management Magazine (Sept/Oct 2011)

WINSTON & STRAWN LLP

This trend is particularly characteristic of the semiconductor industry and related electronics industries

Chart 23: Defendants sued by NPE's, by sector



Source: RPX, *2012 NPE Activity Report*

The Impact of NPE Litigation

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Legal Fees

Table 2. Mean Litigation Costs per defense in million dollars

AIPLA survey (2011)	
Cost through discovery	0.49 – 3.60
Cost through trial	0.92 – 6.00

Patent litigation costs disclosed in court opinions awarding fees (Bessen and Meurer 2012)

Summary judgments	0.84
Trial	3.64

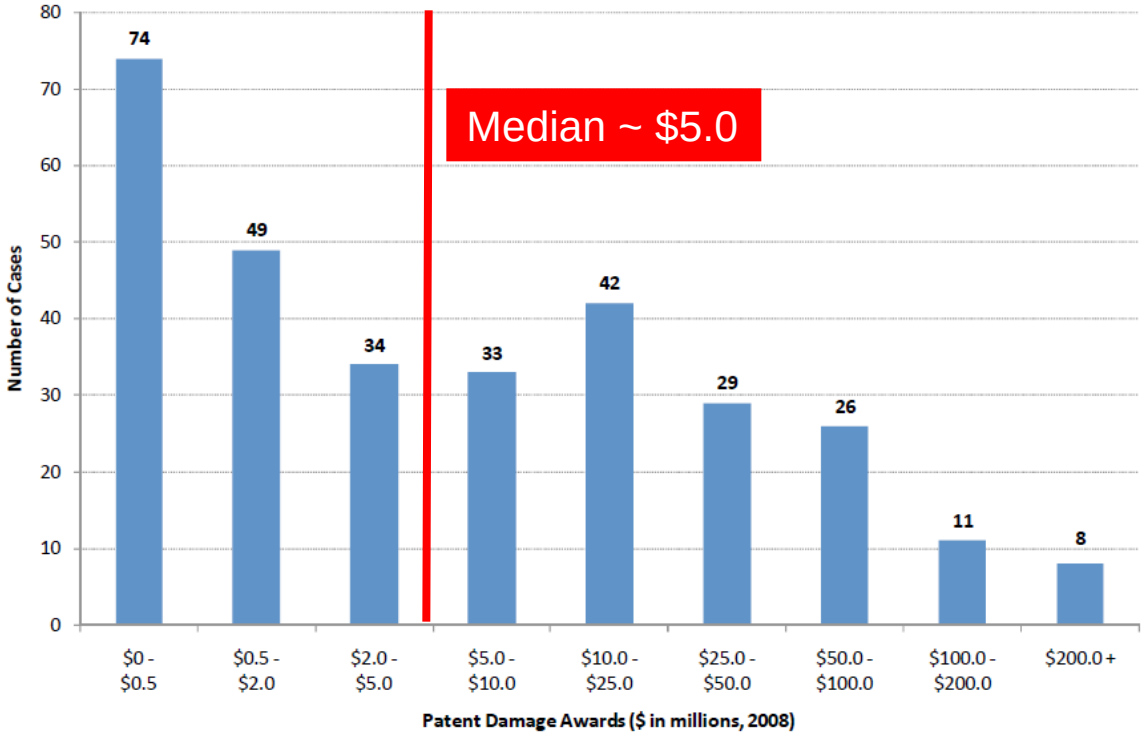
Source: Bessen & Meurer, *The Direct Costs from NPE Disputes,* B.U. School off Law Working Paper, No. 12-34 (June 28, 2012)

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Damage Awards

FIGURE 4

Aggregate Distribution of Patent Damage Awards from 1995 - 2008
(N = 306)

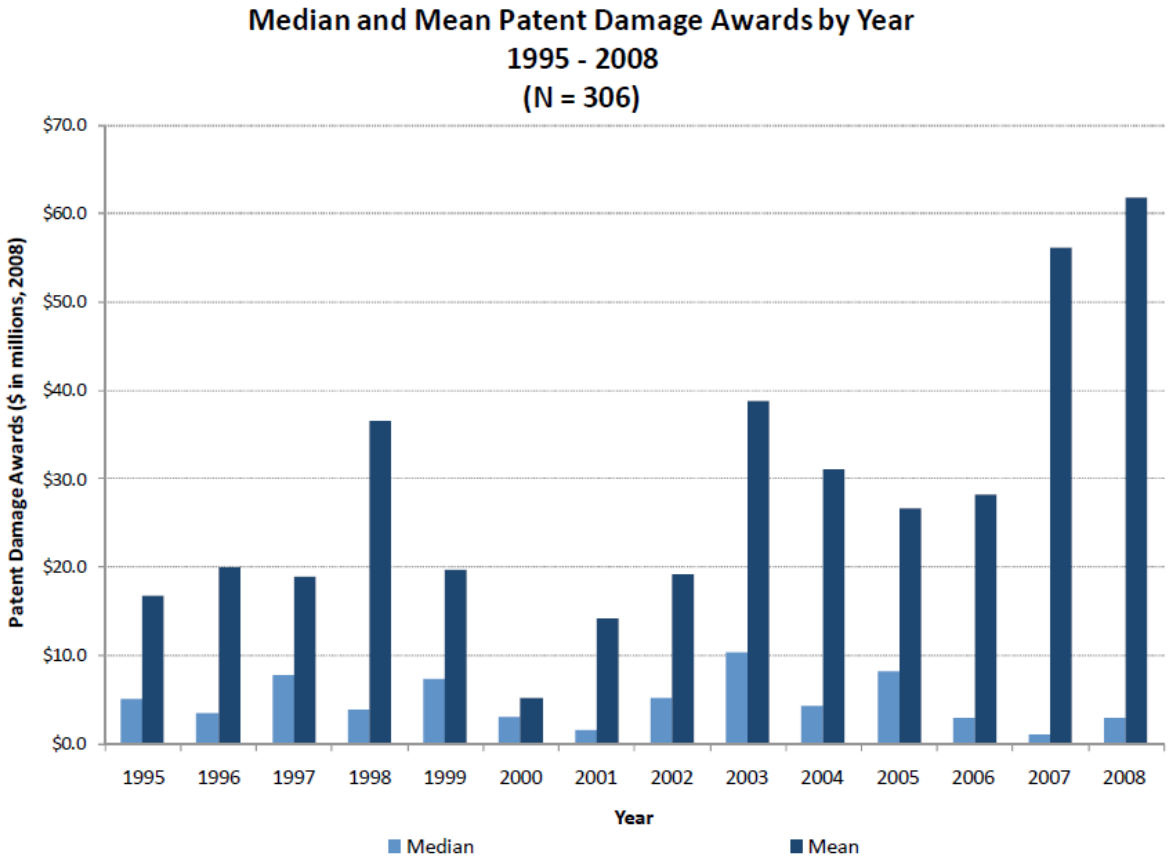


Source: Mazzeo, et al., *Are Patent Infringement Awards Excessive*, http://ssrn.com/abstract=1765891 (February 2010)

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Damage Awards

FIGURE 3

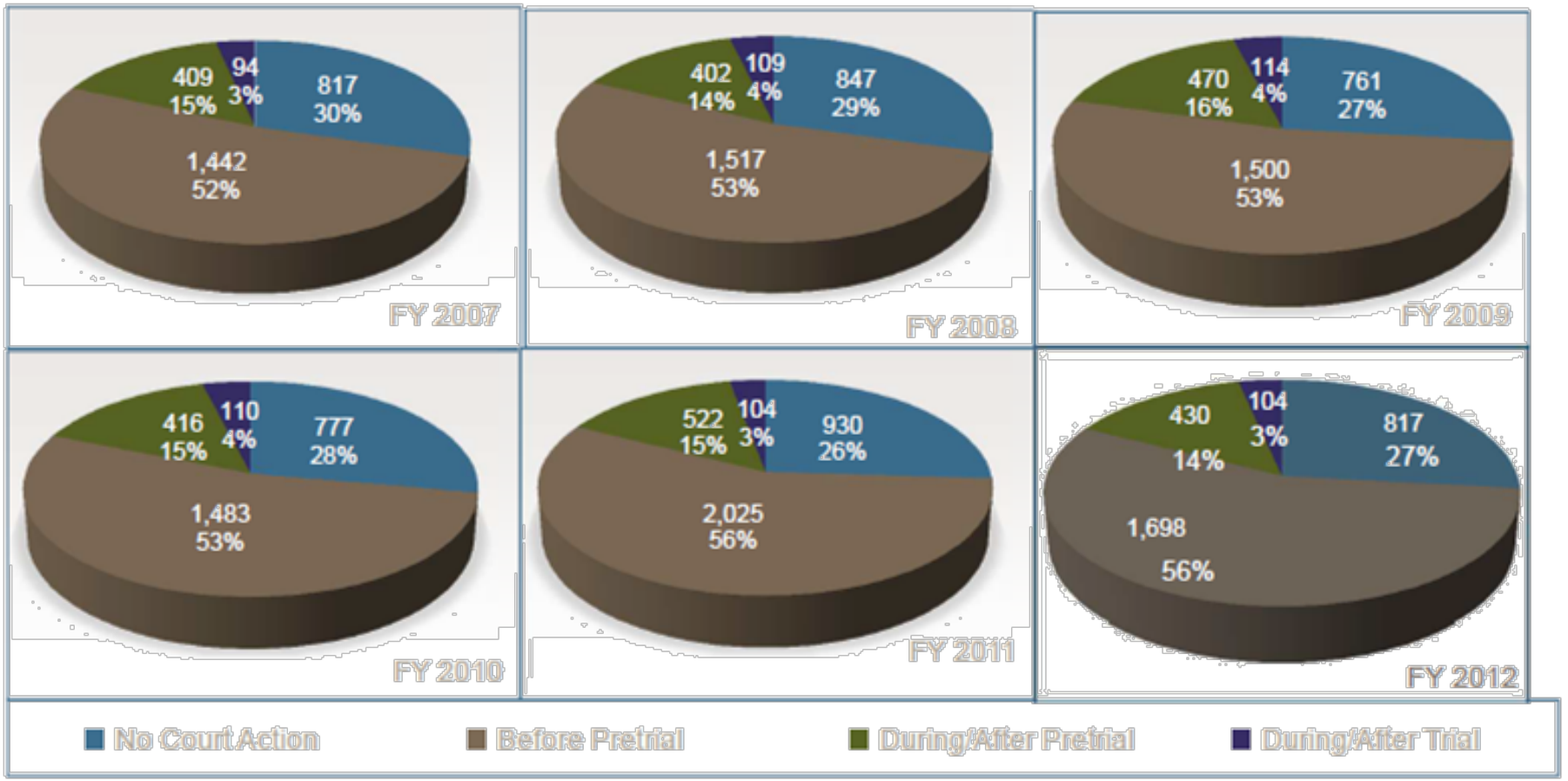


Source: Mazzeo, et al., *Are Patent Infringement Awards Excessive*, http://ssrn.com/abstract=1765891 (February 2010)

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Total Resolution Cost

Number of Completed Patent Cases in U.S. District Courts FY2007-FY2012, by Stage of Case at which Terminated



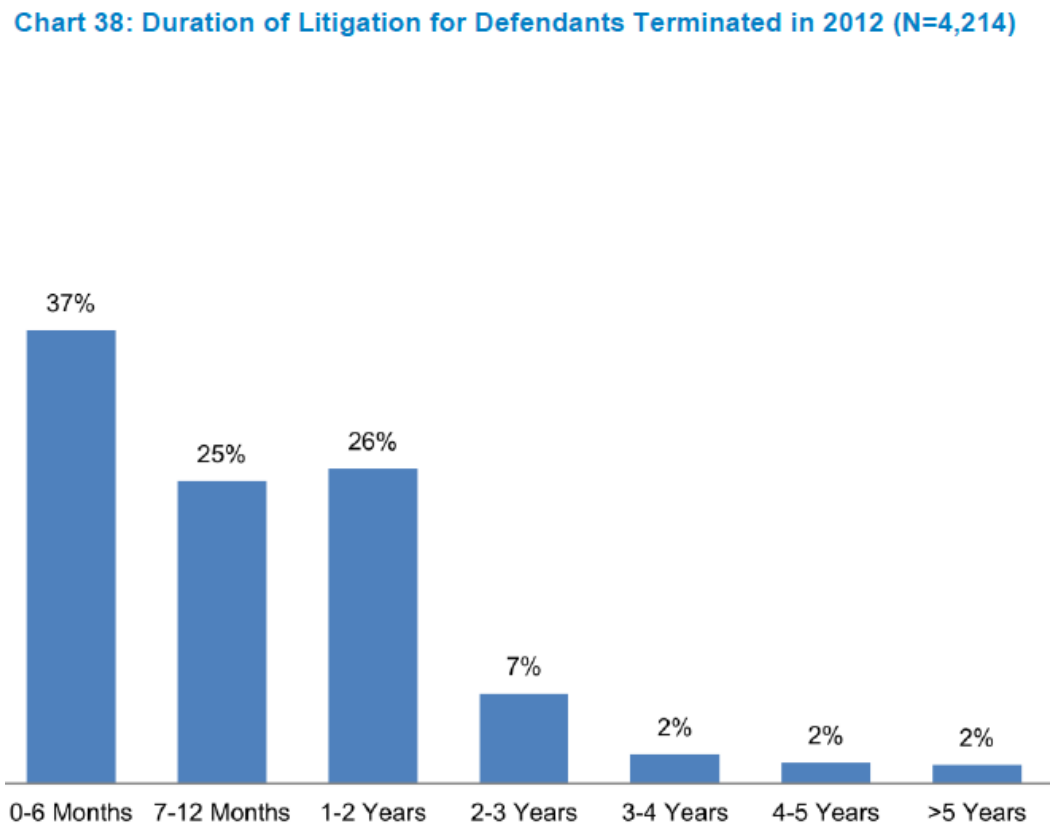
Source: Administrative Office of the U.S. Courts

Fiscal Year Ends September 30

Source: FTI, Inc., *2012 Intellectual Property Statistics,* at 13(April 2013)

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Total Resolution Cost



Source: RPX, *2012 NPE Activity Report*

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Legal Fees

Table 2. Average litigation costs per defense in millions of dollars (std. deviation in parentheses)

Direct legal costs		
Mean		Median
1.38	(0.26)	0.20

Source: Bessen & Meurer, *The Direct Costs from NPE Disputes,* B.U. School off Law Working Paper, No. 12-34 (June 28, 2012)

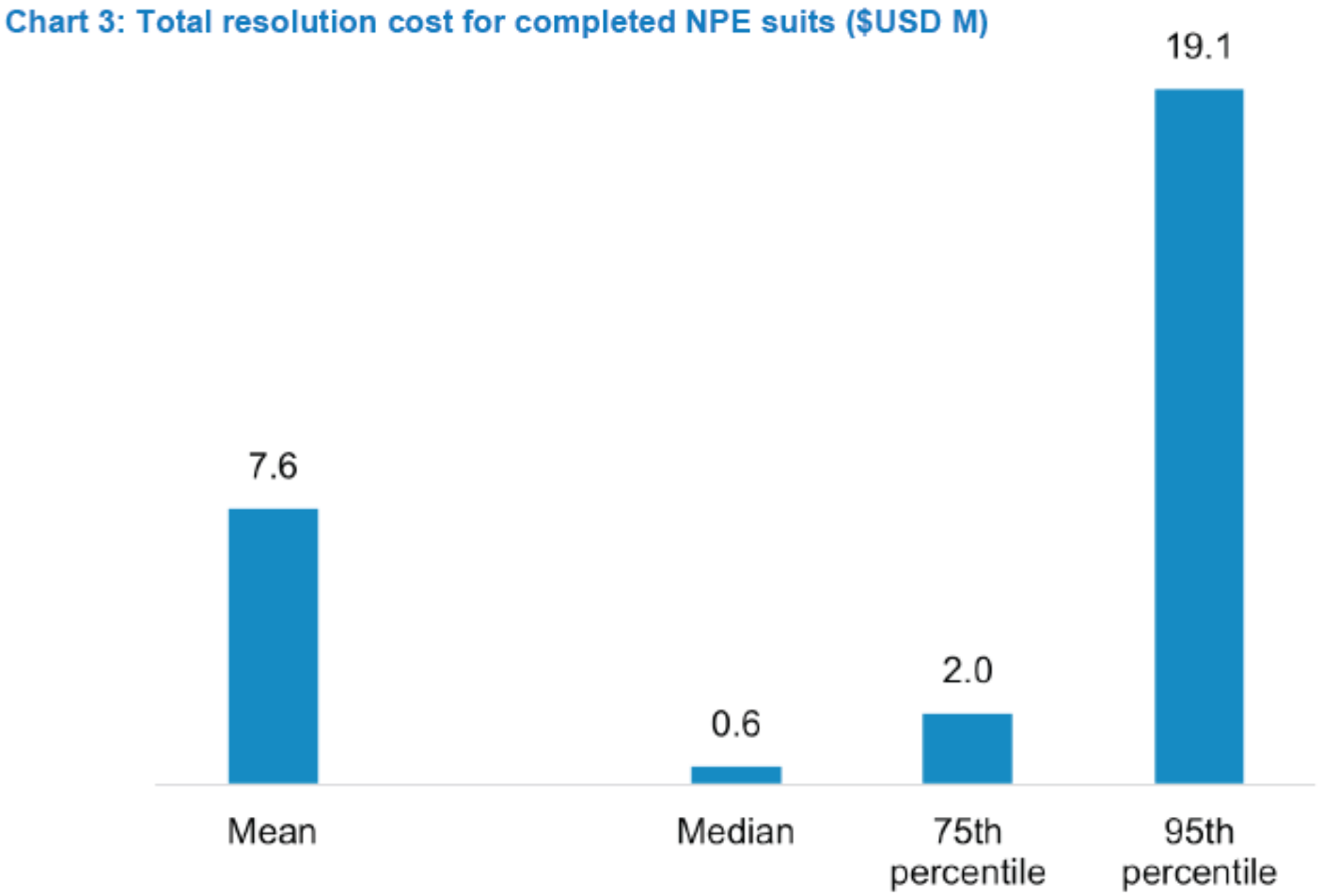
The direct cost of NPE litigation – Licensing Cost

	Mean Licensing Cost	Median Licensing Cost
Cases litigated	$ 6.53 Million Std. Error +/- $1.76 Million	$0.22 Million
Cases settled without litigation	$29.75 Million Std. Error +/- $13.89 Million	N/A

Source: From Bessen & Meurer, *The Direct Costs from NPE Disputes,* B.U. School off Law Working Paper, No. 12-34, Tables 2 and 3 (June 28, 2012)

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Total Resolution Cost

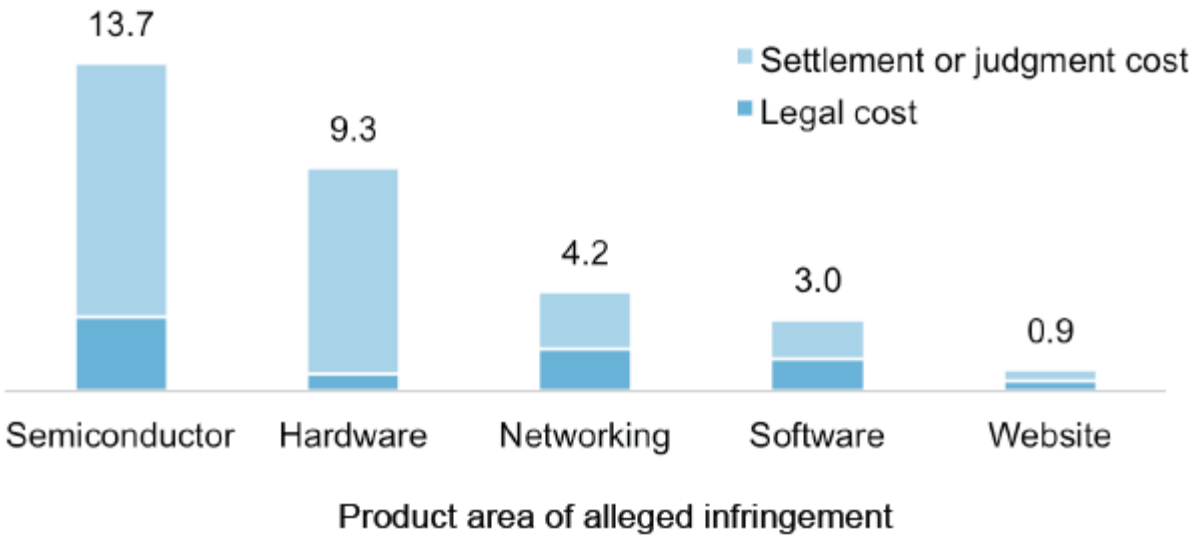


Source: RPX, *2012 NPE Cost Study,* at p. 10

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Total Resolution Cost

Chart 4a: Mean resolution cost for reported NPE suites ($USD M)

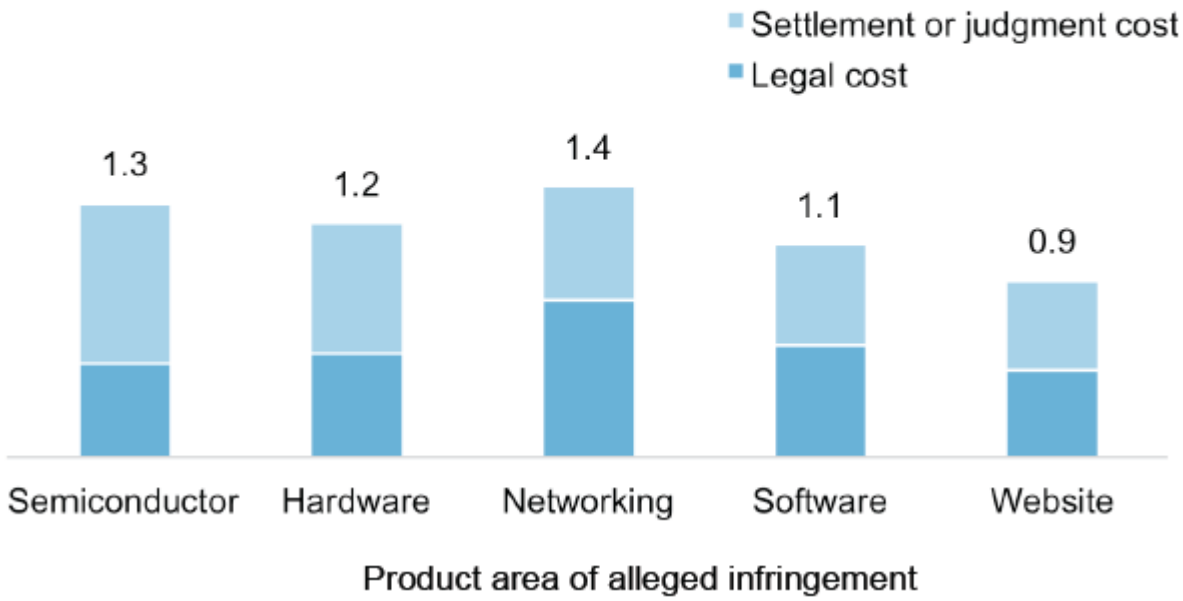


Source: RPX, *2012 NPE Cost Study,* at p. 11 (All suits)

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Total Resolution Cost

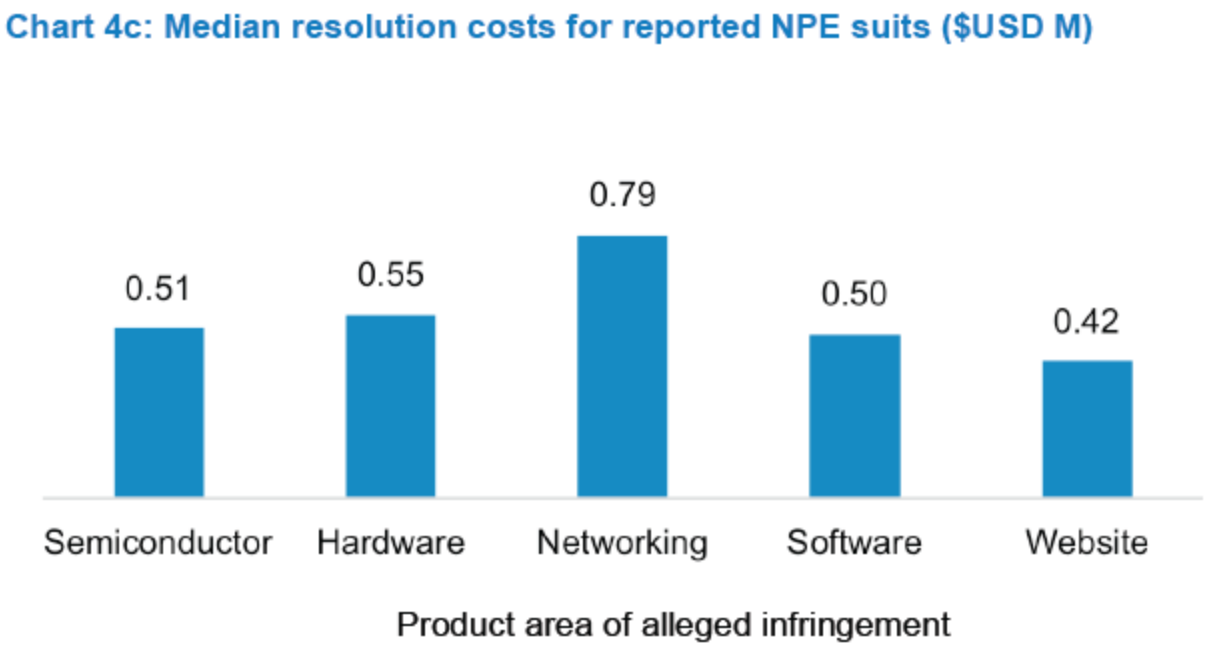
Chart 4b: Mean resolution cost for reported NPE suits, excluding cases > $10M ($USD M)



Source: RPX, *2012 NPE Cost Study,* at p. 11

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Total Resolution Cost

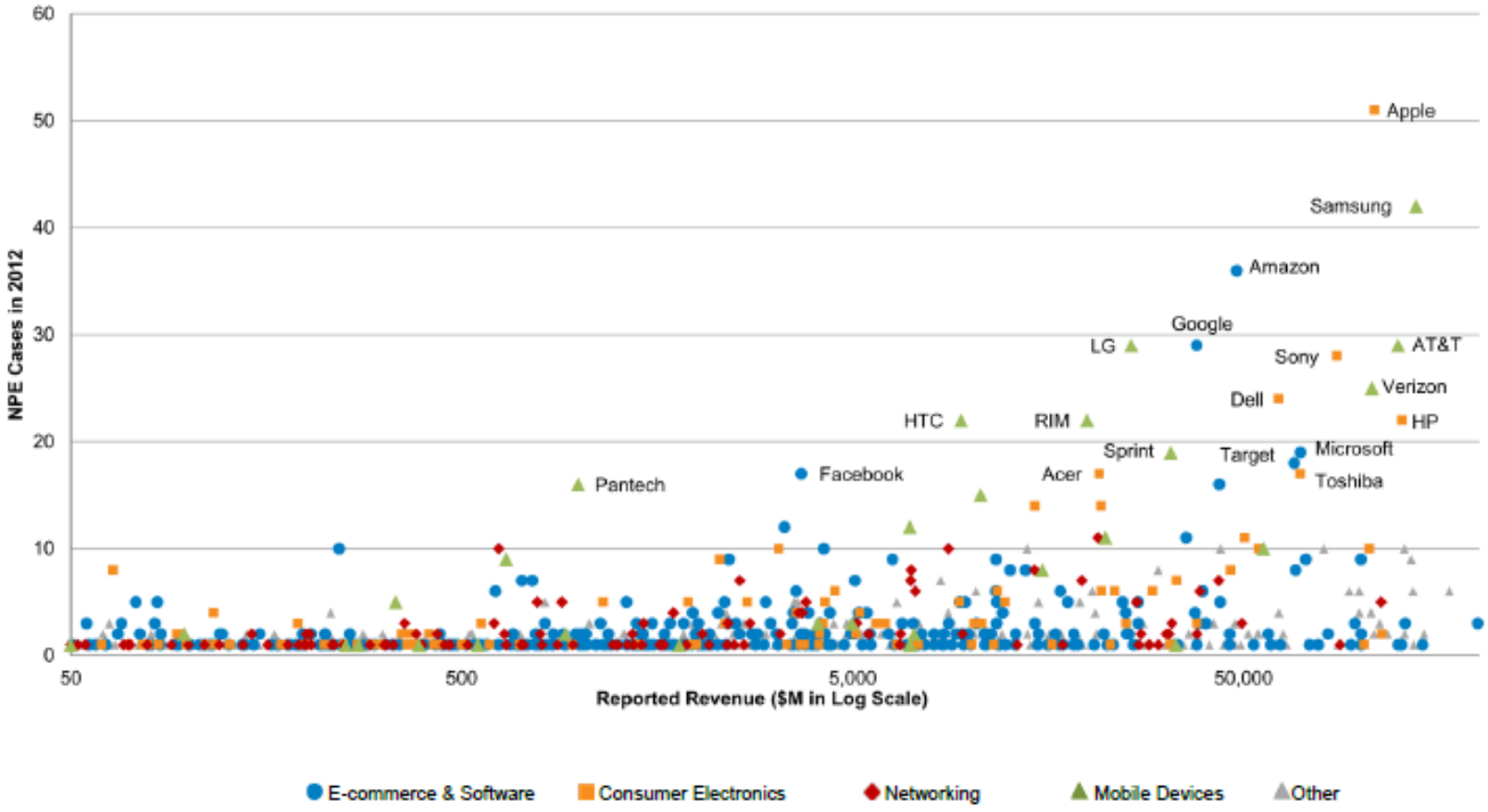


Source: RPX, *2012 NPE Cost Study,* at p. 11

WINSTON & STRAWN LLP

NPE litigation affects big and little companies differently

Chart 24: NPE Case Frequency per Company by Sector and Revenue



Source: RPX, *2012 NPE Activity Report*

WINSTON & STRAWN LLP

Big companies get sued more . . .

Companies Most Often Sued by NPE's 2008-2012

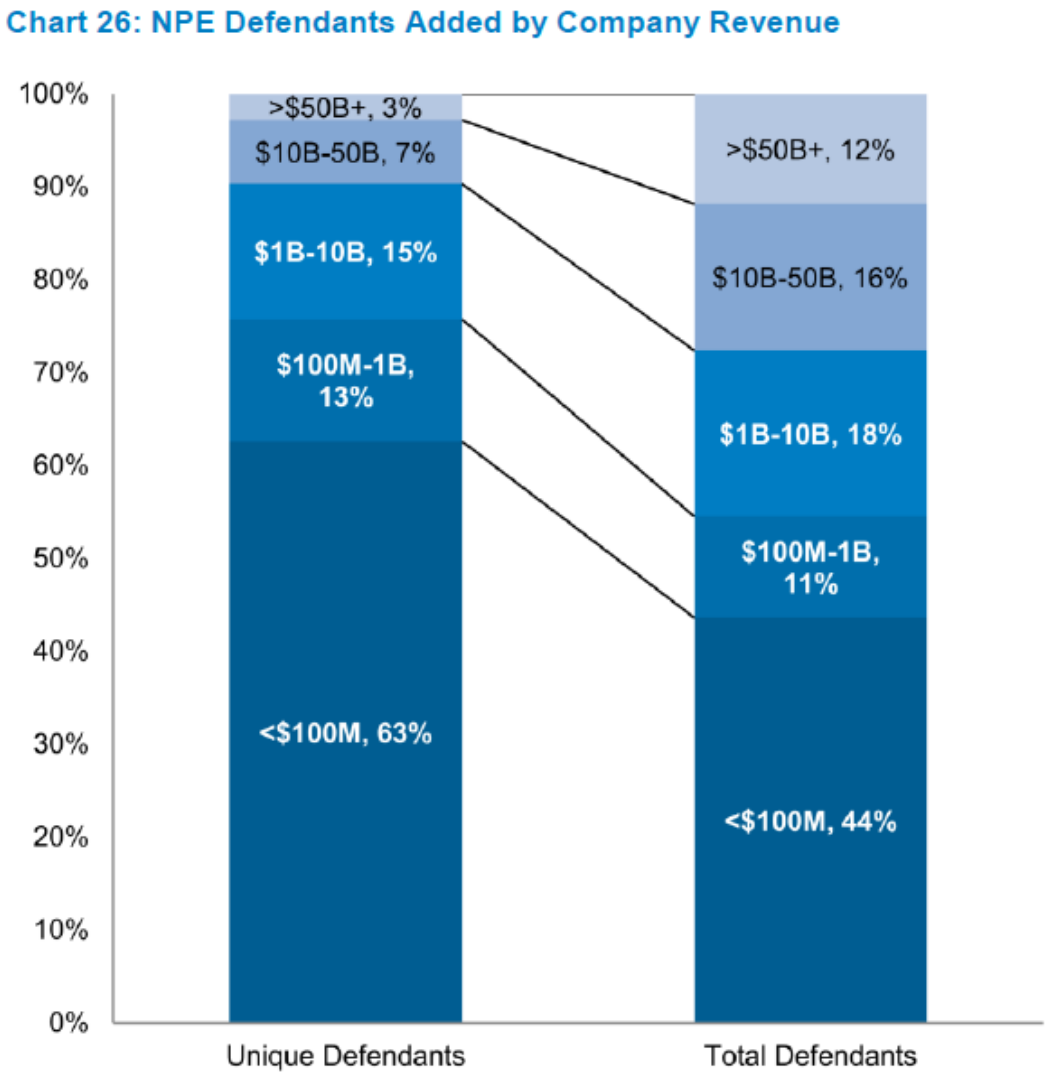
No.	Company Name	2008	2009	2010	2011	2012	Total
1	Apple	18	26	34	43	44	165
2	Hewlett Packard	27	27	36	34	19	143
3	Samsung	12	10	21	43	37	123
4	Dell	8	28	23	36	19	114
5	Sony	13	22	20	32	22	109
6	AT&T	17	16	22	31	22	108
7	HTC	15	11	23	31	23	103
8	LG	13	10	23	29	24	99
9	Microsoft	16	22	12	30	16	96
10	Amazon.com	5	13	20	35	20	93
11	Verizon	13	13	17	25	24	92
12	Google	10	16	10	30	22	88
13	BlackBerry	15	11	13	28	20	87
14	Nokia	13	14	14	24	10	75
15	Panasonic	12	20	12	19	10	73

No.	Company Name	2008	2009	2010	2011	2012	Total
16	Toshiba	8	15	12	21	15	71
17	Sprint Nextel	12	14	8	18	15	67
18	Motorola Solutions	17	12	17	10	9	65
19	Cisco	9	13	15	16	8	61
20	Motorola Mobility		2	8	31	18	59
21	Asus Computer International	11	9	5	19	11	55
22	Acer	11	10	7	11	15	54
23	Sony Ericsson	7	9	11	20	6	53
24	Best Buy	4	12	13	17	6	52
24	Intel	10	15	14	5	8	52
26	Deutsche Telekom	9	10	9	16	7	51
26	Wal-Mart	7	5	12	16	11	51
28	Kyocera	8	7	10	13	10	48
29	eBay	4	7	9	15	12	47
29	IBM	4	13	12	10	8	47

Source: www.patentfreedom.com, PatentFreedom © 2013. Data captured as of January 18, 2013.

WINSTON & STRAWN LLP

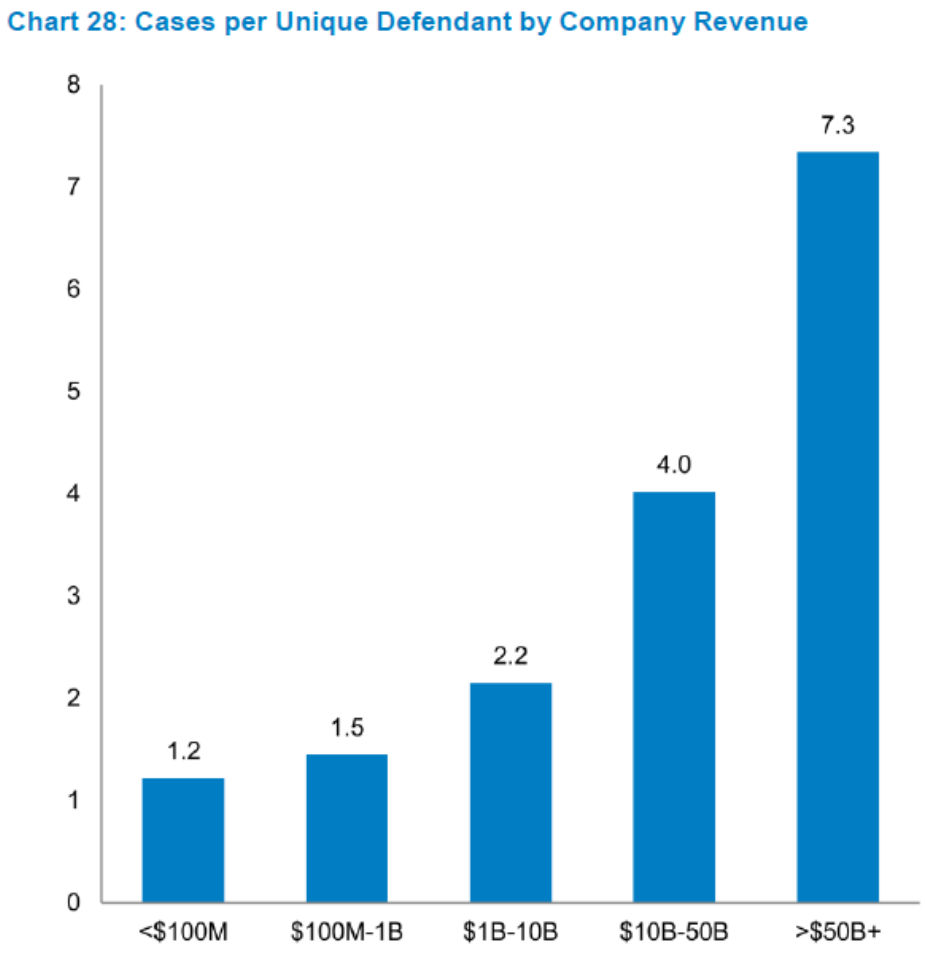
Big companies get sued more . . .



Source: RPX, *2012 NPE Activity Report*

WINSTON & STRAWN LLP

Big companies get sued more . . .

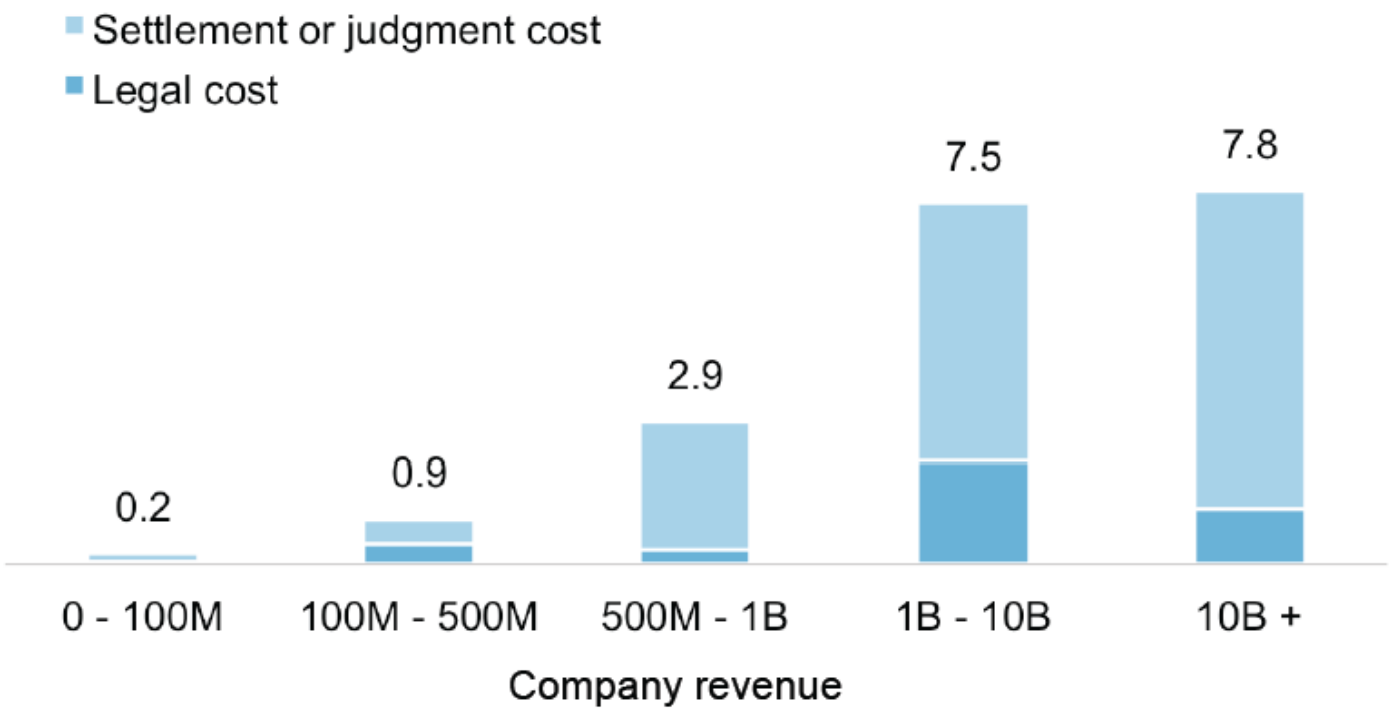


Source: RPX, *2012 NPE Activity Report*

WINSTON & STRAWN LLP

Big companies get sued more, and the cost of the suits is higher . . .

Chart 5a: Mean resolution cost for reported NPE suits ($USD M)

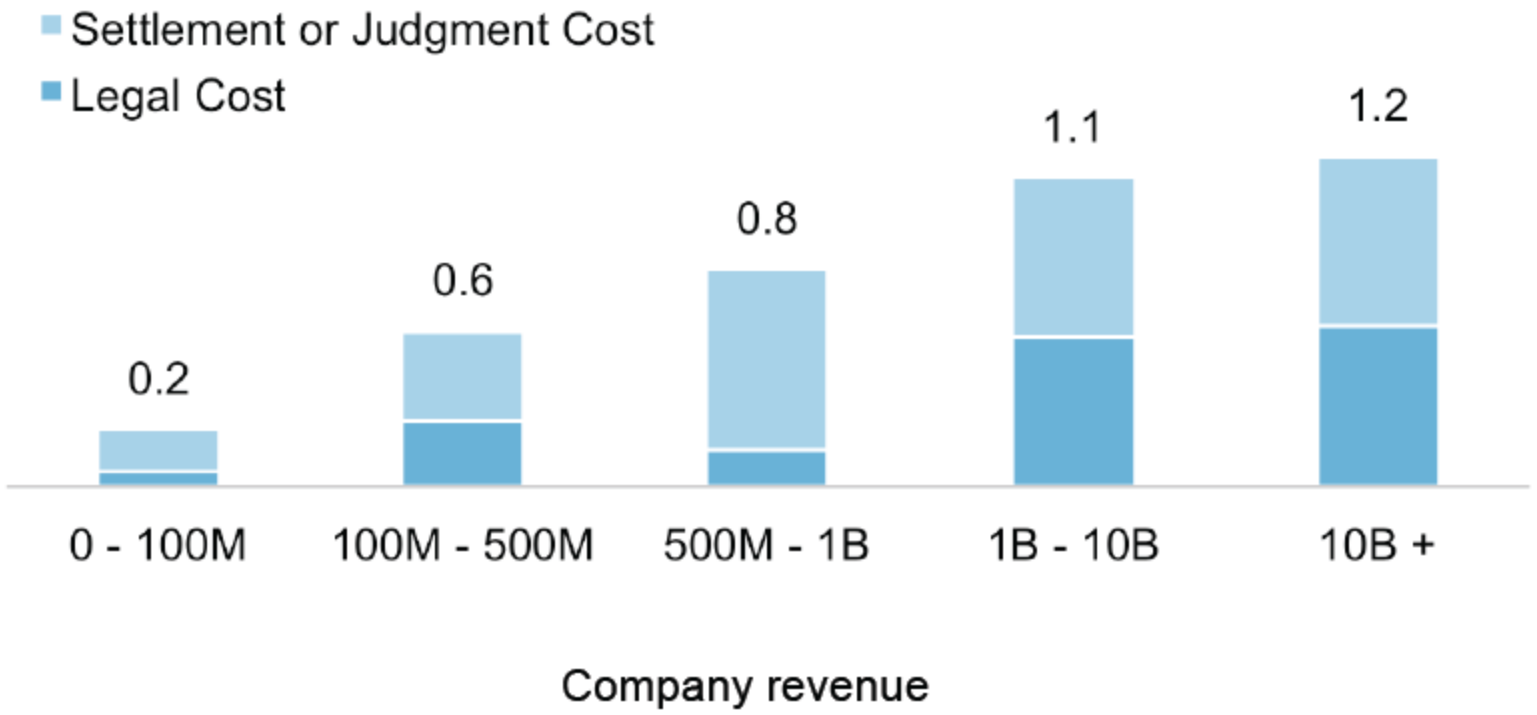


Source: RPX, *2012 NPE Cost Study,* at p. 12

WINSTON & STRAWN LLP

Big companies get sued more, and the cost of the suits is higher . . .

Chart 5b: Mean resolution cost, excluding cases > $10M ($USD M)

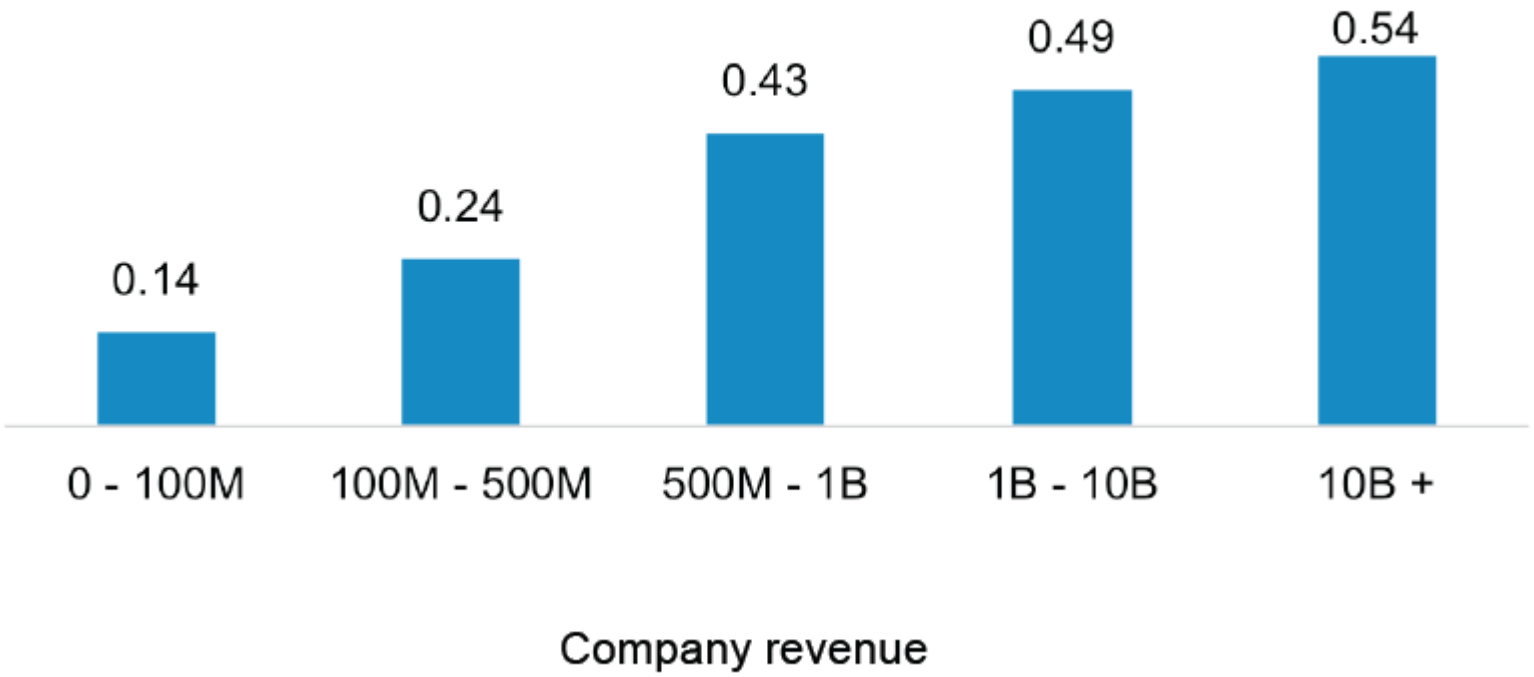


Source: RPX, *2012 NPE Cost Study,* at p. 12

WINSTON & STRAWN LLP

Big companies get sued more, and the cost of the suits is higher . . .

Chart 5c: Median resolution cost of reported NPE suits ($USD M)



Source: RPX, *2012 NPE Cost Study,* at p. 12

WINSTON & STRAWN LLP

Big companies get sued more, and the cost of the suits is higher, so the total "troll tax" is bigger.

Company Size	Average Number of Defenses	Mean Cost Per Defense	Total Annual Average NPE Cost
Less than $1 Billion	1.3	$0.8 Million	$1.04 Million
$1-$10 Billion	2.2	$2.9 Million	$6.38 Million
$10-$50 Billion	4.0	$7.5 Million	$30.00 Million
> $50 Billion	7.3	$7.9 Million	$57.67 Million

Source: Based on RPX, *NPE Cost Study* and Bessen & Maurer

WINSTON & STRAWN LLP

More small companies get sued than large ones, and most of those are "tech" companies

- Of the defendants sued by NPE's 55% have revenue of $10 million or less
- Of the defendants sued by operating companies 16% had revenue of $10 million or less
- 60% of NPE royalty demands involved software or "high-tech" patents

Chien, "Start-ups and Patent Trolls," ssrn.com/abstract=2146251 at 2 (September 2012) (Author calc usng RPX database)

NPE litigation risk is changing the way that small tech companies do business

Table 2: The Impact of PAE Demands on Small Companies

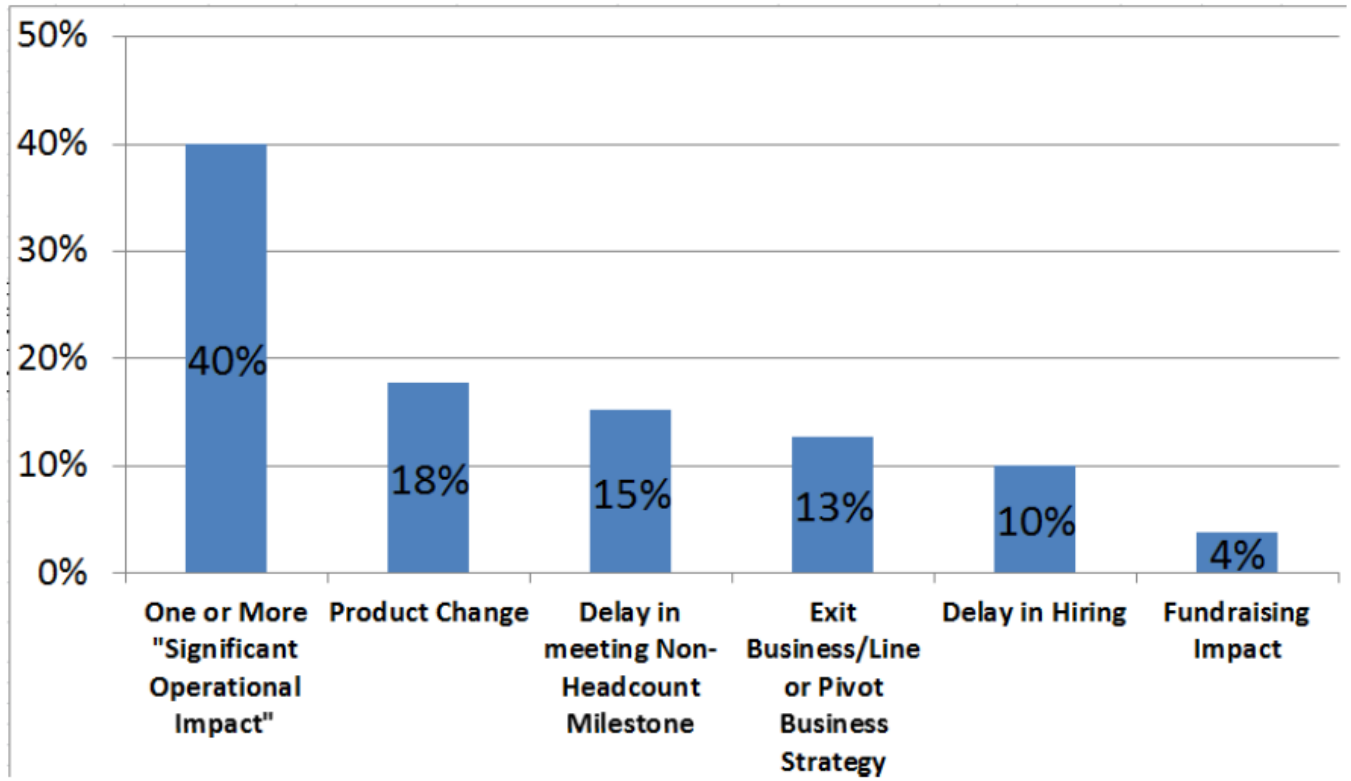
Revenue	N	Responded that Demand Had a Significant Operational Impact*
up to $100K	13	62%
$100K-$1M	20	55%
1-$10M	20	40%
10-$100M	12	42%
$100M-$1B	6	0%
$1B+	6	0%
Total	79	41%

Chien, "Start-ups and Patent Trolls," ssrn.com/abstract=2146251 (September 2012) (Author calc usng RPX database)

WINSTON & STRAWN LLP

NPE litigation risk is changing the way that small tech companies do business

FIG 1: Distribution of "Significant Impacts" Resulting from a PAE Demand



Chien, "Start-ups and Patent Trolls," ssrn.com/abstract=2146251 (September 2012) (Author calc usng RPX database)

WINSTON & STRAWN LLP

NPE litigation risk is changing the way that small tech companies do business

Table 1: Primary Responses to NPE Demands, and Their Costs

Primary Response to PAE Demand	Primary Response		Average Cost of Response		% of Annual Revenue Spent Resolving Demand	
	N	%	N	Average $	N	Average $
Product/Business Change	7	9%	5	$32K	5	13%
Doing nothing	17	22%	15	$2.4K	15	0%
Settlement ($ or equity)	14	18%	12	$340K	12	13%
Fighting in court	9	11%	7	$857K	6	24%
Fighting out of court	19	24%	18	$168K	18	5%
Other/unresolved/ legal fees	13	17%	9	$7-$21K	8	0-6%
Total	79	-	66	-	64	-

Chien, "Start-ups and Patent Trolls," ssrn.com/abstract=2146251 (September 2012) (Author calc usng RPX database)

WINSTON & STRAWN LLP

The direct cost of NPE litigation – Total Resolution Cost

Table 4. Aggregate Accrued Direct Costs of NPEs by Year

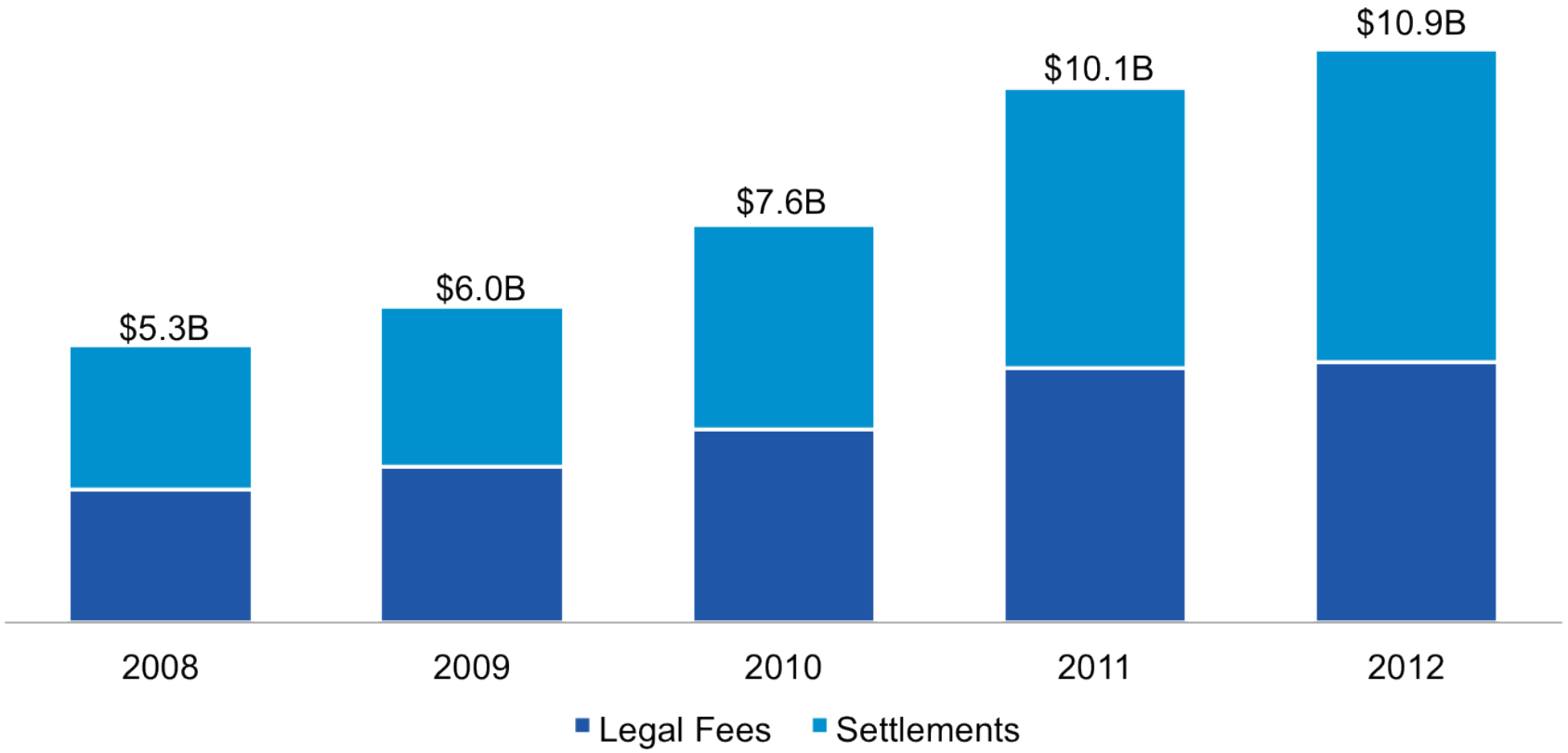
	Number of Defenses		Aggregate Direct Accrued Costs (millions)		
Year	Small/medium	Large	Small/medium	Large	TOTAL
2005	919	482	$2,916	$3,657	$6,574
2006	899	530	$2,853	$4,021	$6,874
2007	1,238	976	$3,929	$7,406	$11,334
2008	1,571	1,004	$4,985	$7,618	$12,603
2009	1,461	1,198	$4,636	$9,090	$13,726
2010	2,588	1,857	$8,213	$14,090	$22,303
2011	3,424	2,418	$10,866	$18,347	$29,213
Size shares	59%	41%	37%	63%	

Note: Aggregate costs are calculated by the method described in the text. Aggregate costs include legal costs, settlement costs and other costs for resolved lawsuits, unresolved lawsuits and non-litigated assertions. These report accrued costs, that is, we include the full projected cost of currently unresolved lawsuits.

Source: Bessen & Meurer, *The Direct Costs from NPE Disputes,* B.U. School off Law Working Paper, No. 12-34 (June 28, 2012)

WINSTON & STRAWN LLP

The aggregate direct impact of NPE litigation



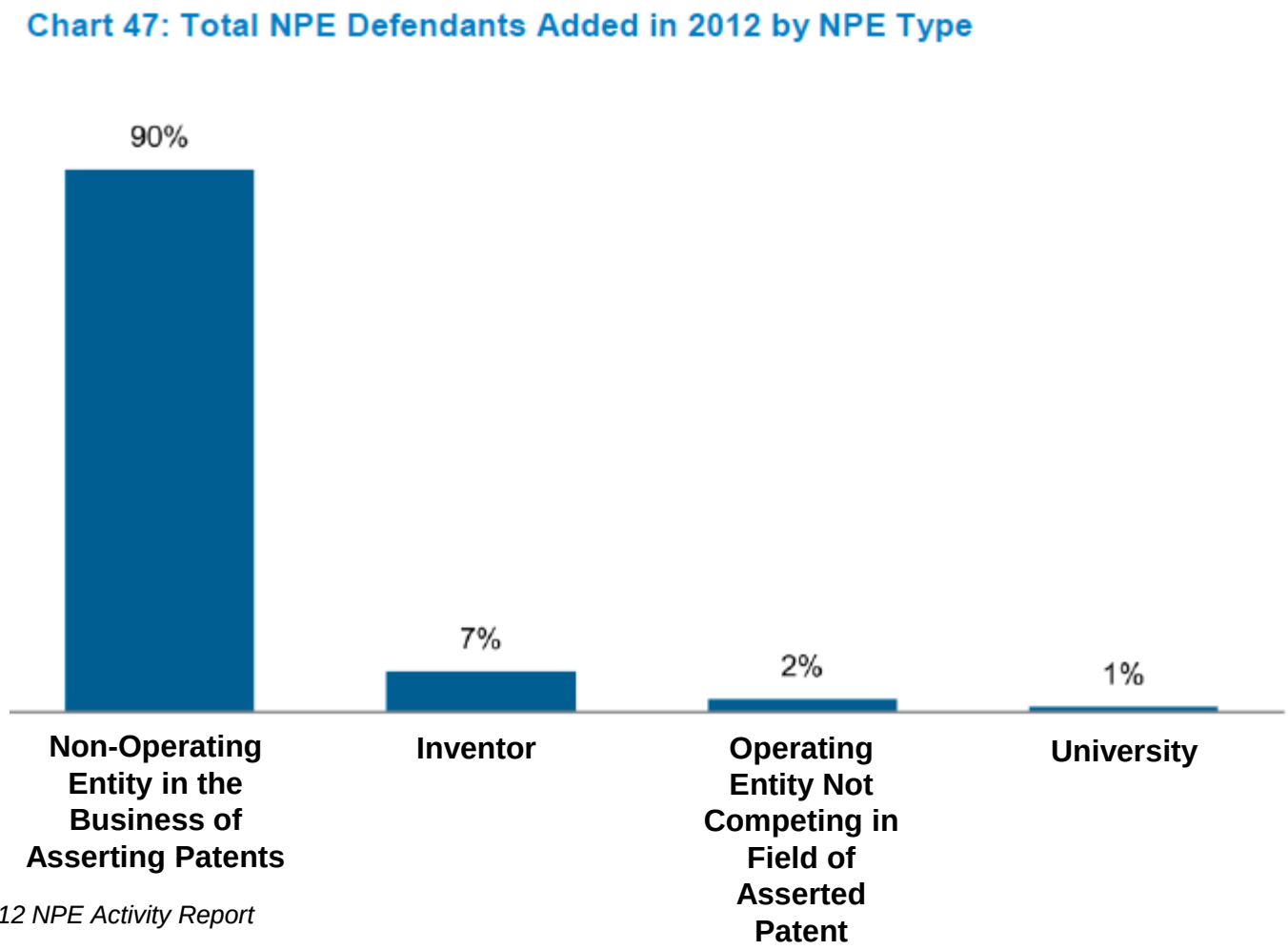
Costs are estimates of what was spent by all defendants in a given year.
Settlements have only been allocated into the actual year of settlement

Source: RPX, www.rpx.com/irrational-market

WINSTON & STRAWN LLP

Who are these people, and why are they doing these terrible things?

NPE's are primarily companies which exist for the sole purpose of making money off of patents



Source: RPX, *2012 NPE Activity Report*

WINSTON & STRAWN LLP

The NPE business model has attracted billions of dollars of investment capital

Company	Market Capitalization
Interdigital	$1,560 Million
Acacia	$1.140 Million
VirnetX	$1,010 Million
Tessera	$1,110 Million
Rambus	$1,030 Million
IP Group	$ 740 Million
Wi-Lan	$ 586 Million
Pendrell	$ 554 Million
RWS	$ 456 Million
Vringo	$ 250 Million
Murgitroyd Group	$ 44 Million
Marathon Patent Group	$ 16 Million

Source: IAM Blog, July 10, 2013 (Based on share information reported by Google Markets

WINSTON & STRAWN LLP

Major technology companies are partnering with patent monetization entities

Press Reports include:

- **Round Rock Research *and* Micron Technologies**
- **Suffolk Technologies *and* British Telecomm**
- **MOSAID and Nokia/Microsoft**
- **Pendrell *and* Nokia**
- **Unwired Planet *and* Ericsson**
- **Acacia Technology *and* Renesas Technology**
- **Rockstar Consortium *and* Apple/Microsoft/Ericsson/Blackberry/Sony/EMC**
- **Spherix/Nuta *and* Harris**

NPE's are bringing a lot of patent suits because it is a good way to make money

12 Publicly Traded NPE's Reported $5.8 Billion In Revenue Between 2005 And 2011

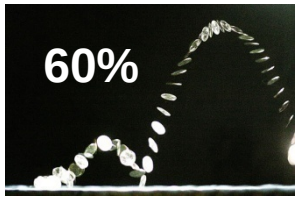
Source: Bessen & Meurer, *The Direct Costs from NPE Disputes,* B.U. School off Law Working Paper, No. 12-34 (June 28, 2012)

WINSTON & STRAWN LLP

NPE's are bringing a lot of patent suits because it is a good way to make money

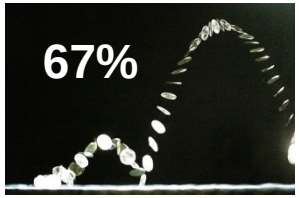
In an adjudicated U.S. lawsuit, the plaintiff has to win at three stages to obtain a final victory. The odds that a plaintiff will win at each of these stages are:

On Summary Judgment



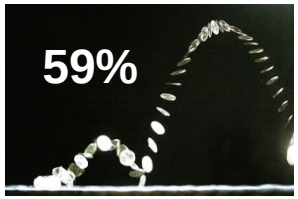
X

At Trial



X

On Appeal



=

Likelihood of prevailing

Sources: LegalMetric, LexMachina, Moore, 99 Mich. L. Rev. 365

WINSTON & STRAWN LLP

NPE's are bringing a lot of patent suits because it is a good way to make money

Discounted Risk of an "Average" U.S. Patent Litigation to a Defendant

Amount at risk	$ 5.0 million
Likelihood of losing	x 24.1%
Discounted Value of Risk	**$ 1.20 million**
PLUS Litigation Cost Through Appeal	+ $ 2.50 million
Net Discounted Value	**$ 3.70 million**

WINSTON & STRAWN LLP

NPE's are bringing a lot of patent suits because it is a good way to make money

Discounted Value of an "Average" U.S. Patent Litigation to a Plaintiff

Amount at risk		$ 5.0 million
Likelihood of winning	x	24.1%
Discounted Value of Recovery		**$ 1.20 million**
MINUS Litigation Cost Through Appeal	-	33% of recovery
Net Discounted Value		**$ 0.80 million**

WINSTON & STRAWN LLP

NPE's are bringing a lot of patent suits because it is a good way to make money

This means that the bargaining range for settlement of a case with an "average" exposure . . .

. . . is between $800,000 and $3,700,000.

Even though the likelihood of prevailing in the long run is high.

Is This a Long Term Trend?

WINSTON & STRAWN LLP

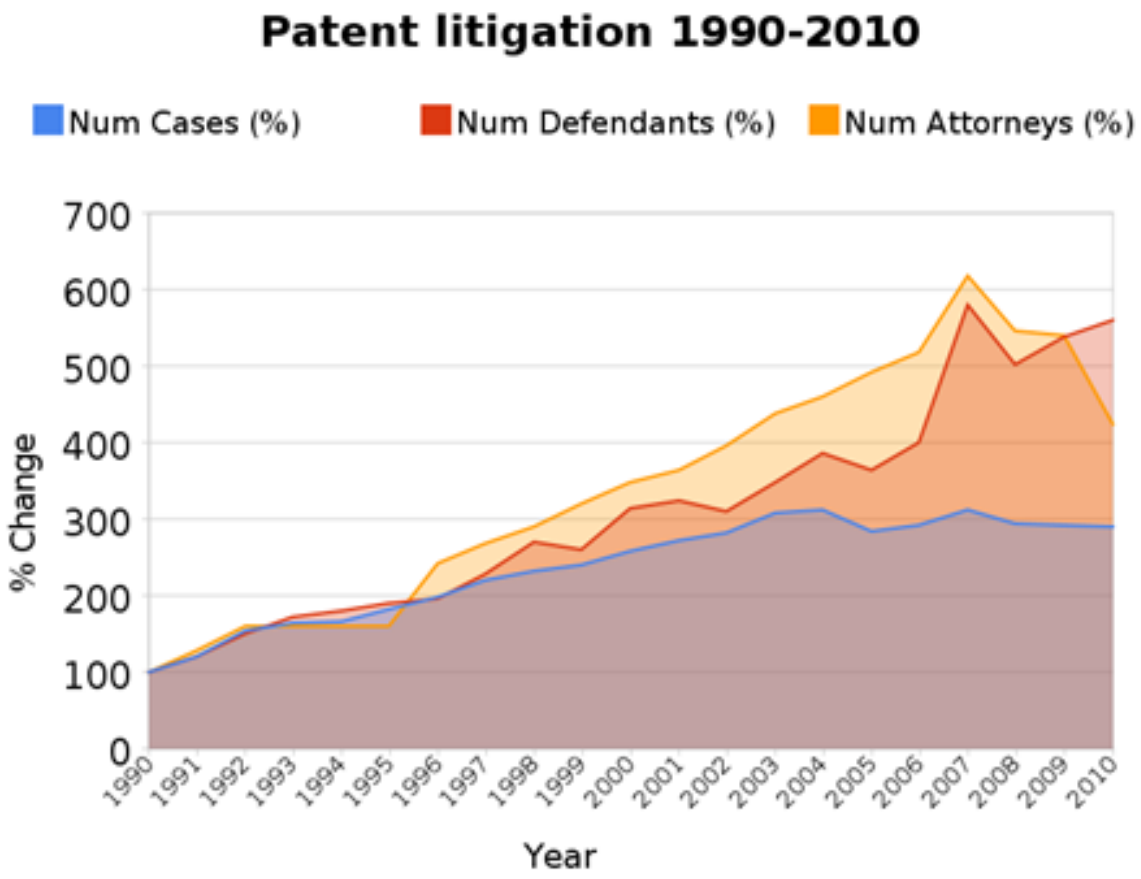
A variety of factors are damping the drivers of the NPE business model

The NPE Business Model Is Driven By Two Factors

- **The cost of litigation**
- **The risk of litigation**

The cost of litigation is being driven down

In the last several years, the per defendant cost of patent litigation has demonstrably gone down



Source: Patently-O.com

WINSTON & STRAWN LLP

The cost of litigation may not continue to support an arbitrage opportunity for NPE's

Multiple fee-shifting bills are currently pending in Congress:

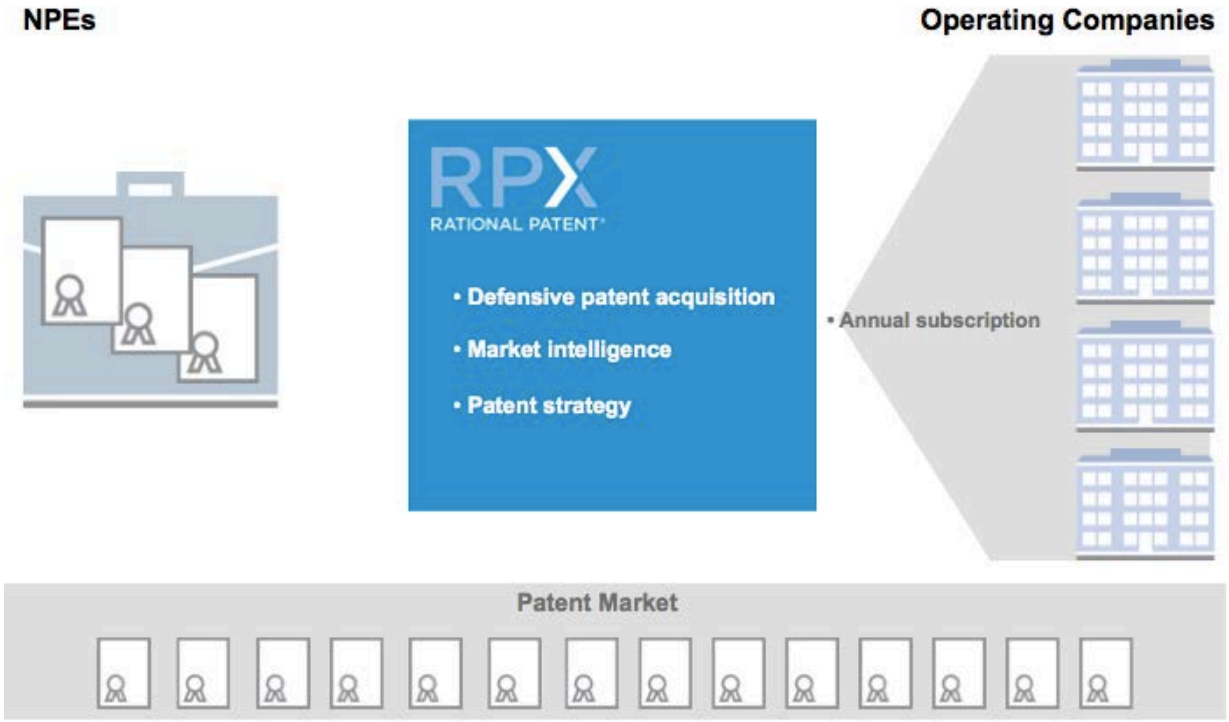
- **Automatic fee shifting to losing plaintiff in NPE cases (DeFazio/Chaffetz)**
- **Loser pays (Goodlatte/Leahy)**
- **Presumptive fee shifting rebutted by showing of objective good faith (Cornyn)**

State law remedies for "abusive" patent litigation (Vermont and Nebraska)

Techniques for achieving patent protection without recourse to litigation are evolving

Doing Away With Litigation Altogether

Patent Aggregation



WINSTON & STRAWN LLP

Techniques for achieving patent protection without recourse to litigation are evolving

Doing Away With Litigation Altogether

Market purchases of covenants not to sue
The Ocean Tomo/ICAP Auction (March 31, 2011)

Round Rock Lots

- 4000+ patent portfolio, primarily from Micron
- Lot covering entity not in the semiconductor business sold for $35 million
- Unrestricted covenant not to sue: $200 million reserve. Attracted $75 million bid
- Covenant excluding companies in the semiconductor, computer or handset businesses: $30 million reserve and did not attract any bids
- Five year covenant excluding companies in the semiconductor, computer or handset businesses: $20 million reserve. Attracted $18 million bid

WINSTON & STRAWN LLP

Techniques for achieving patent protection without recourse to litigation are evolving

Doing Away With Litigation Altogether

Market purchases of covenants not to sue
The Ocean Tomo/ICAP Auction (March 31, 2011)

Walker Digital Lots

- Lots offered covenants not to sue limited to portfolios of patents related narrow product sectors
- Reserves ranged from $5 million to $10 million
- No lots sold
- Bidding ranged from $3 million to $7 million

WINSTON & STRAWN LLP

Techniques for achieving patent protection without recourse to litigation are evolving

Doing Away With Litigation Altogether

Market purchases of covenants not to sue Intellectual Property Exchange International (IPXI)

- Founded in December 2009
- Trading platform launched October 2012
- First trading product launched June 2013
    - Portfolio of more than 600 patents and applications relating to OLED technologies for screen applications issued by Koninklijke Philips, N.V.

WINSTON & STRAWN LLP

Techniques for achieving patent protection without recourse to litigation are evolving

Doing Away With Litigation Altogether

Intellectual Property Exchange International (IPXI)

IPXI's Founding Members include:

Brookhaven National Laboratory
Columbia Technology Ventures
Com-Pac International, Inc.
Ford Global Technologies, LLC
Hewlett-Packard Company
JPMorgan Chase Bank, N.A.
Lawrence Livermore National Laboratory
MetaPower, Inc.
Northwestern University
Palo Alto Research Center, Inc.
Philips Intellectual Property & Standards
The Regents of the University of California
Rutgers University
Sony Corporation of America
Taiyo Yuden Co., Ltd.
University of Notre Dame
University of Southern California
University of Utah

WINSTON & STRAWN LLP

The Patent & Trademark Office is evolving to diminish the risk of patent litigation

The PTO seems likely to emerge as a viable alternative to the Courts for adjudicating the validity of patents

- **The America Invents Act mandated a new system of "post-grant review" which makes it easier for patent litigation defendants to request a second-look at the validity of issued patents**

The PTO has invested heavily in improving patent quality which may have a direct effect on the amount of patent litigation

- **A commonly cited factor which encourages litigation and increases the risk associated with litigation is the claim that patent rights are "fuzzy" – that is, indeterminate prior to adjudication**
- **One study conducted in the late-1990's concluded that an additional hour of examination for each patent application would have reduce the amount of litigation then prevalent by 24-26 cases, roughly 3% at the time**
  (Source: GAO Report, at 42, n. 77)
- **The PTO launched a "patent quality initiative" in 2009**

WINSTON & STRAWN LLP

The law is evolving to diminish the risk of patent litigation

The risk that a product will be banned from the market place is diminishing

- **The *eBay* decision has made it all but impossible for patent trolls to obtain injunctive relief**
- **Exclusion orders from the ITC are increasingly difficult to obtain**

WINSTON & STRAWN LLP

The law is evolving to diminish the risk of patent litigation

The risk of very large damage awards is diminishing

- **Recognition of the "smallest saleable unit" rule**
  - **Damages are increasingly measured based on the value of the smallest saleable unit embodying the invention; for example, based on the value of the ASIC or the software module that embodies the funtionality, not the entire computer**
- **Recognition of "next best alternative" damages analysis**
  - **Damages are increasingly measured based on the cost of the next best alternative to the infringing product; for example, the one-time cost of a redesign, rather than an ongoing percentage of all sales**
- **Recognition of the problem of royalty stacking**
  - **Damages are increasingly measured in a way that accounts for the relative significance of the patented invention in comparison of the thousands or tens of thousands of other patents incorporated in the infringing products**

WINSTON & STRAWN LLP

WINSTON & STRAWN LLP

CHICAGO GENEVA LONDON LOS ANGELES MOSCOW NEW YORK PARIS SAN FRANCISCO WASHINGTON, D.C.

Thank you