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Patent Purchases and Litigation Outcomes[1]

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There is a vibrant market for purchasing patents. Operating companies buy patents from other companies, from individuals, and in bankruptcy auctions and distress sales. Non-practicing entities also buy patents from individuals, failed companies, or from operating companies that want to generate cash or to engage in patent privateering.[7] In the last decade, a host of service providers have sprung up to serve this market in various ways, ranging from auction houses to brokers to aggregators to "defensive aggregators."[8] Estimates of the patent market are challenging to compute because a significant portion of the transactions are privately conducted, and even for the brokered, quasi-public, market the actual sales prices are rarely if ever reported. Similarly, in mergers and acquisitions, a separate value is rarely available for the patent component of the deal. We do have data and estimate on one piece -- the brokered patent market, which has been estimated to be approximately $230M of annual sales for 2015.[9]

Operating companies buy patents for a variety of reasons. Some buy patents to assert in litigation, but that's not why most patent transactions among operating

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[7] *E.g.* John M. Golden, *Patent Privateers: Private Enforcement's Historical Survivors*, 26 HARV. J.L. & TECH. 545 (2013); Tom Ewing, *Indirect Exploitation of Intellectual Property Rights by Corporations and Investors*, 4 HASTINGS SCI. & TECH. L.J. 1 (2013).

[8] Among the companies serving as patent intermediaries of various sorts are Allied Security Trust, Intellectual Ventures, the LOT Network Ocean Tomo, the Open Invention Network, Patent Freedom, RPX, Richardson Oliver Law Group LLP, Tangible IP, and Unified Patents.

[9] Kent Richardson et al., *The Brokered Patent Market in 2015 - Driving Off a Cliff or Just a Detour*, IAM MAGAZINE, Jan/Feb 2016, http://www.iam-media.com/magazine/issue/75/Features/The-brokered-patent-market-in-2015-driving-off-a-cliff-or-just-a-detour.

companies happen. Buying patents to bolster a defensive portfolio for licensing or counter assertion, or to keep them out of the hands of third parties who might sue the buyer is more common.[10] Some also acquire patents as part of a merger. Non-practicing entities, by contrast, tend to buy patents with an eye towards licensing revenue. Often, that means they buy patents with an eye towards litigating those patents. However, only 10.2% of brokered patent package sales (including sales to both operating companies and NPEs) resulted in litigation and only 3.0% were subject to a request for *inter partes* review.[11] Both rates are higher than brokered patent packages that did not sell.[12] Similarly, one of the largest NPEs, Intellectual Ventures, with a massive patent portfolio (approximately 75,000 total acquired assets), has only ever filed suit on 148 unique U.S. patents (575 assertions total).[13] Both operating companies and NPEs buy patents for a multitude of reasons, and use in litigation is but one.

Scholars and lawyers have done a fair bit of academic work to try to figure out what makes a patent valuable, focusing on observable characteristics like citation patterns, network relationships, the number and length of claims, and the prosecution process,[14] but also focusing on enforcement value.[15] Companies that buy and sell patents have paid attention to this literature, trying to create their own predictors of a valuable patent. So there is some reason to think that companies in

[10] Google and other companies launched a Patent Purchase Program. *See Announcing the Patent Purchase Promotion*, GOOGLE PUBLIC POLICY BLOG (Apr. 27, 2016), https://publicpolicy.googleblog.com/2015/04/announcing-patent-purchase-promotion.html. Allied Security Trust has a similar program called IP3. For discussion, see Richard Lloyd, *First results of IP3 buying spree show up in USPTO database; sellers included Korea's Intellectual Discovery*, IAM (Sept. 27, 2016), http://www.iam-media.com/blog/detail.aspx?g=c64faa1a-d07b-4752-99c5-8ed4635ffb1e.

[11] Erik Oliver et al., *The 2016 Patent Market*, IAM MAGAZINE (forthcoming January 2017).

[12] *Id*.

[13] Erik Oliver et al., *How Intellectual Ventures is Streamlining its Portfolio*, IAM MAGAZINE, May/June 2016, http://www.richardsonoliver.com/news/2016/4/6/how-intellectual-ventures-is-streamlining-its-portfolio.

[14] *E.g.* John R. Allison et al, *Valuable Patents*, 92 GEO. L.J. 435 (2004); John R. Allison et al., *Extreme Value or Trolls on Top: The Characteristics of the Most-Litigated Patents*, 158 U. PA. L. REV. 1 (2009); Katherine J. Strandburg et al., *Law and the Science of Networks: An Overview and an Application to the 'Patent Explosion*,' 21 BERKELEY TECH. L.J. 1293 (2006); Katherine J. Strandburg et al., *Patent Citation Networks Revisited: Signs of a Twenty-first Century Change?*, 87 N.C. L. REV. 1657 (2009); Jonathan H. Ashtor, *Redefining "Valuable Patents": Analysis of the Enforcement Value of U.S. Patents*, 18 STAN. TECH. L. REV. 497 (2015); Shawn P. Miller, *What's the Connection Between Repeat Litigation and Patent Quality? A (Partial) Defense of the Most Litigated Patents*, 16 STAN. TECH. L. REV. 313 (2013); Jean O. Lanjouw & Mark Schankerman, *Characteristics of Patent Litigation: A Window on Competition*, 32 RAND J. ECON. 129 (2001).

[15] *See, e.g.,* Jonathan H. Ashtor, *Redefining "Valuable Patents": Analysis of the Enforcement Value of U.S. Patents*, 18 Stan. Tech. L. Rev. 497 (2015) (assessing patents according to the likelihood of successful enforcement).

the business of buying patents, particularly those who buy patents in order to enforce them, might pick stronger patents than those who simply enforce the patents they have to hand.[16]

To be clear, the evidence suggests that all litigated patents have characteristics that make them more valuable on average than unlitigated patents.[17] That makes sense, as the investment to bring a patent lawsuit is much greater than that required to obtain a patent, and more than half of all patents lapse for failure to pay even a few thousand dollars in maintenance fees.[18] So the real question is *whether purchased patents that are litigated fare better or worse in court than litigated patents that aren't purchased*.

We set out to test this question empirically. We did that by combining two data sets. The first, assembled by John Allison, Mark Lemley, and David Schwartz, collects not just a sample but every patent lawsuit filed in 2009 or 2010 litigated to a substantive decision (interim or final). Those decisions issued between 2010 and 2014 (when data collection ended).[19] The second is a data set produced by Richardson Oliver Law Group that analyzes the USPTO assignment records for all transactions and assignments for the patents in question. This is a richer source than the USPTO's assignment database alone.[20] It identifies the reason behind the change of ownership, distinguishing mergers, amalgamations among related firms, asset transfer agreements that include patents and other assets, pure assignments of patents, and confirmatory and *nunc pro tunc* assignments made to correct ownership errors.

Working from these data sets, we identified every case that had a definitive (rather than interim) winner and had information on the presence or absence of an assignment or other transfer.[21] That left us with 516 decisions. Of those 516

[16] *But see* Michael Risch, *A Generation of Patent Litigation*, 52 SAN DIEGO L. REV. 67 (2015) (suggesting that patents asserted by NPEs are invalidated more often than patents of other plaintiffs).

[17] Allison et al., *Valuable Patents*, *supra* note 14; Colleen V. Chien, Predicting Patent Litigation, 90 Tex. L. Rev. 283 (2011); Ashtor, *supra* note 15.

[18] Kimberly A. Moore, *Worthless Patents*, 20 BERKELEY TECH. L.J. 1521 (2005).

[19] For description of the data set, see John R. Allison et al., *Understanding the Realities of Modern Patent Litigation*, 92 TEX. L. REV. 1769 (2014); John R. Allison et al., *Our Divided Patent System*, 82 U. CHI. L. REV. 1093 (2015); John R. Allison et al., *How Often Do Patent Assertion Entities Win Patent Suits?*, __ BERKELEY TECH. L.J. __ (forthcoming 2016).

[20] Not all assignments are recorded in the U.S. PTO database. *See* Robin Feldman, Tom Ewing, & Sara Jeruss, *The AIA 500 Expanded: The Effects of Patent Monetization Entities*, 17 UCLA J. L. & Tech. 1 (2013).

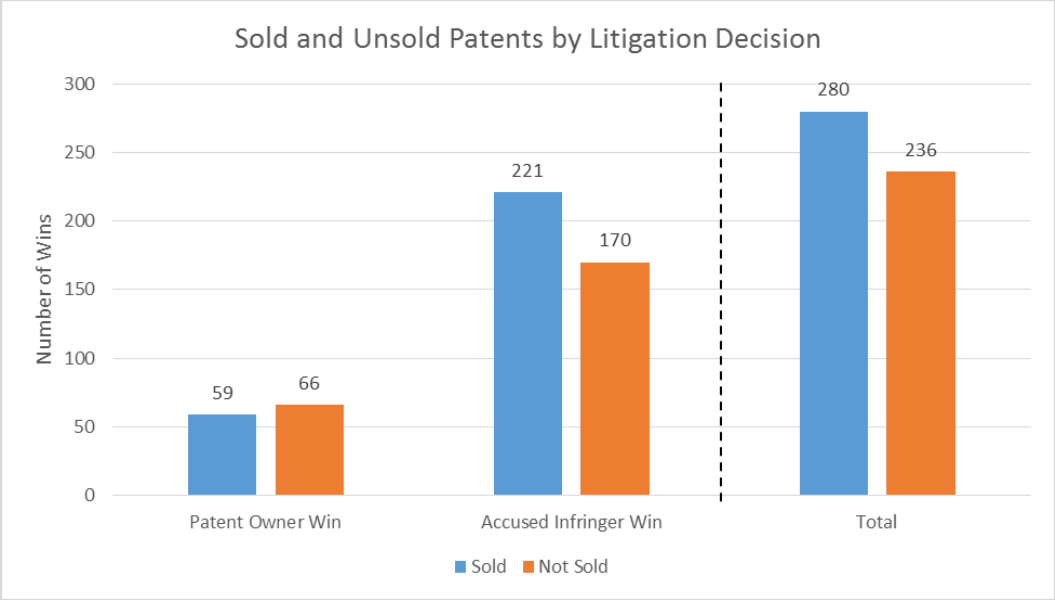
[21] This analysis excludes interim decisions favoring one party, such as the denial of one side's motion for summary judgment or the denial of a preliminary injunction.

decisions, the patentee won 125, or 24.2%.[22] Of the patents, 280, or just over half, had been transferred before the litigation began. We present the results in Table 1.

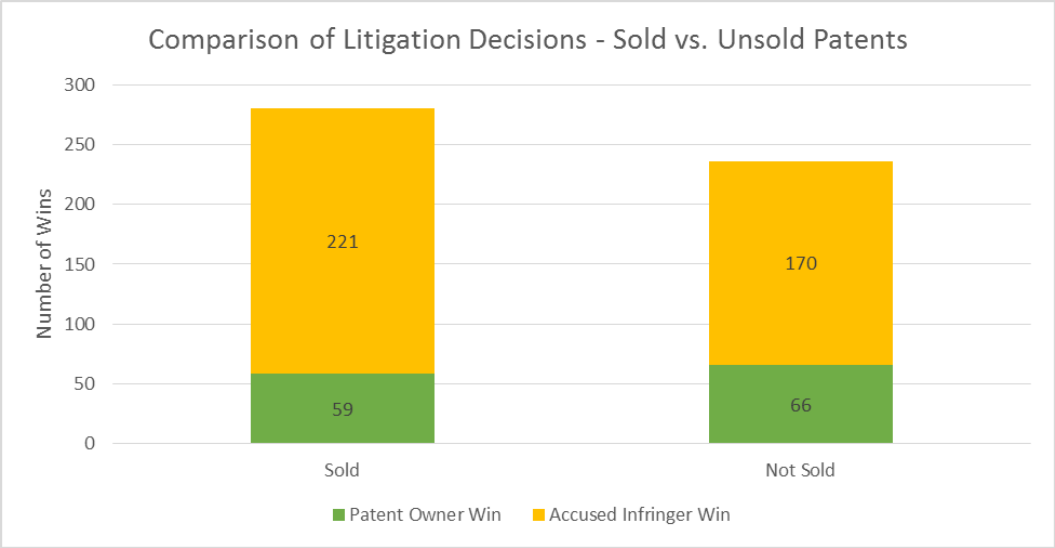
Table 1: Total Cases

	Sold	Not Sold	*Total*
Patent Owner Win	59 (21.1%)	66 (28.0%)	*125*
Accused Infringer Win	221 (78.9%)	170 (72.0%)	*391*
Total	*280*	*236*	*516*

Fisher's exact test (two-tailed): p = 0.0795



[22] This is consistent with previous findings that patentees overall win about ¼ of all cases. Allison et al., *Understanding the Realities*, *supra* note 19; Paul Janicke & LiLan Ren, *Who Wins Patent Infringement Cases?*, 34 AIPLA Q.J. 1 (2006).



Still looking at the whole data set, patentees won 21% of the time with patents that had been sold before litigation began, and 28% of the time with patents they developed in-house. That difference was only weakly statistically significant (p=0.0795). But it does suggest that purchased patents do not fare better in court than ones developed in-house. Indeed, if anything they do less well.

But combining all patent cases may obscure important differences between plaintiffs who buy patents and those who don't. In particular, prior work has shown that some non-practicing entities – notably individuals and patent assertion entities (PAEs) – win far fewer cases than other types of plaintiffs. PAEs win fewer than 10% of their lawsuits, for instance.[23] And because PAEs are, not surprisingly, much more likely to buy the patents they assert than are operating companies, it is possible that the lack of success of purchased patents relates more to who asserts them than to the quality of the patents themselves.

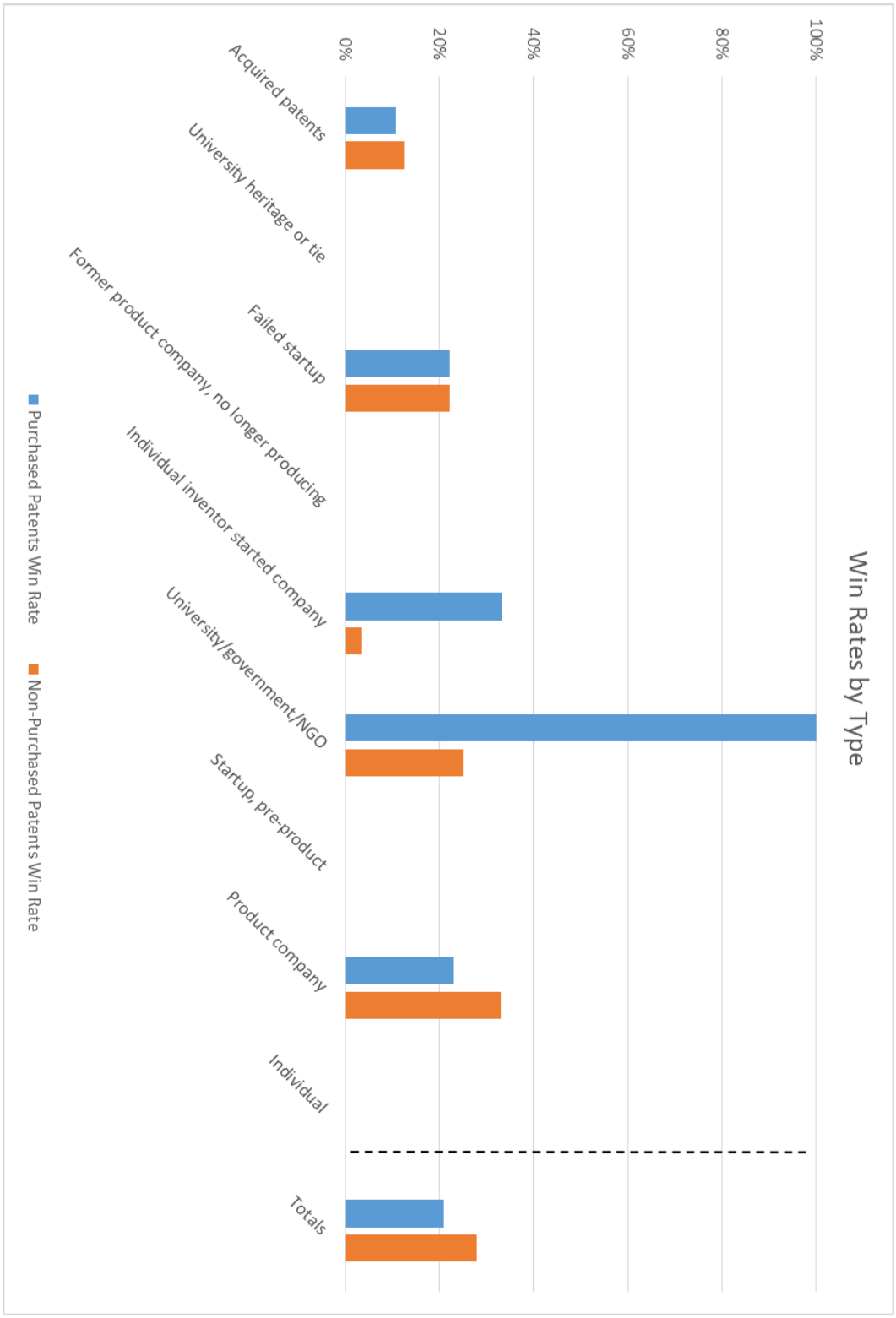
To test this, we divided patent plaintiffs into twelve different categories, following the Lemley-Myhrvold taxonomy we have described elsewhere.[24] We present the results in Table 2.

[23] Allison et al., *Patent Assertion Entities*, *supra* note 19.

[24] Allison et al., *Extreme Value*, *supra* note 14. Of the twelve categories, only nine are represented in our data set.

Table 2: Win Rate By Sale and Entity Type

		Purchased Patents			Non-Purchased Patents		
Entity Type	**Type Name**	**Patent Owner Win**	**Accused Infringer Win**	**Win Rate**	**Patent Owner Win**	**Accused Infringer Win**	**Win Rate**
1	Acquired patents	6	50	11%	1	7	13%
2	University heritage or tie						
3	Failed startup	4	14	22%	2	7	22%
4	Former product company						
5	Individual inventor started company	5	10	33%	1	27	4%
6	University-government-NGO	1		100%	2	6	25%
7	Startup, pre-product					1	0%
8	Product company	43	144	23%	60	122	33%
9	Individual		3	0%			
	Totals	**59**	**221**	**21%**	**66**	**170**	**28%**


Win Rates by Type
0%
20%
40%
60%
80%
100%
Acquired patents
University heritage or tie
Failed startup
Former product company, no longer producing
Individual inventor started company
University/government/NGO
Startup, pre-product
Product company
Individual
Totals
Purchased Patents Win Rate
Non-Purchased Patents Win Rate

Consistent with prior work by Allison et al., the results show substantial variation in overall win rate by entity type.[25] Of the twelve entity types, only seven filed lawsuits in our data set that resulted in a final decision. And three of those categories – class 6 (universities), class 7 (pre-product startups) and class 9 (individuals without a company affiliation) – had only a small number of cases (and in the latter two cases, no wins).

Of the remaining classes, patent assertion entities (class 1), not surprisingly, overwhelmingly asserted patents they bought, not patents they developed in house. The win rate for both set of patents was roughly equal, with purchased patents faring slightly less well. That different was not statistically significant, however (p=1.000).[26] Failed startups (class 3) did equally well with purchased and indigenous patents, winning 22.2% of the time with each. Not surprisingly, that result wasn't significant either (p=1.000).

The most interesting findings were in classes 5 (inventor-started company) and 8 (operating companies). Class 5 companies are started by an inventor, but have never made products. They aren't on their way to making products (that's class 7), and they aren't failed product companies (that's class 3). They are companies started by an inventor to sell the invention.

Interestingly, class 5 companies do far better when they buy patents from other people than when they assert their own patents. The win rate for inventor-founded companies asserting their own patents is a miserable 3.6%, the lowest in our study. By contrast, those companies do surprisingly well with patents they buy, winning 33.3% of the time – nearly ten times as often as with their indigenous patents. That difference is statistically significant (p=0.0146).

Operating companies (class 8), by contrast, fare better when they assert patents they developed in house. They won 33% of the time when asserting their own patents, but only 23% of the time when asserting purchased patents. That result too is statistically significant (p=0.0369).

The overall result in Table 1, then – that purchased patents do somewhat less well than those developed in house – turns out to reflect two offsetting effects. Operating companies do significantly better when they assert patents they developed themselves than when they buy patents and then assert them. For some types of NPEs, the situation is reversed – they fare much better with purchased patents than with their own.

Why this is true is a bit of a puzzle. One might think that operating companies would purchase high-quality patents, since they have the money to do so. But if they are, that doesn't seem to translate into litigation success. One explanation is that when a

[25] Allison et al., NPEs, *supra* note 19.

[26] All significance reports use a two-tailed Fisher's exact test.

company purchases a patent it is hard to fully assess all of the litigation risks. This suggests that improved pre-litigation diligence may be important. More important, most patents purchased by operating companies rather than NPEs are used for non-litigation purposes. Only 2% of those patents are ultimately asserted. So it may be that operating companies that purchase patents are optimizing something other than litigation success.[27]

Further, our evidence suggests that, contrary to what we have heard in some quarters, companies can successfully buy and assert patents through litigation. While companies are better off with their own patents, purchasing patents to assert them is a viable strategy for operating companies. When making a purchase decision for litigation reasons, the purchase financial model should peg the litigation success at a lower rate of 23% (vs 33%) compared to internally developed patents, and companies should calibrate their due diligence efforts accordingly.

It is received wisdom that purchased patents are less desirable in litigation than a company's patents developed in house. Perhaps there is merit to the "invented here" story before a judge or jury. But that doesn't explain why inventor-started NPEs do so poorly with the same story. Further, while one might imagine that companies in the business of patent assertion are better at identifying high-quality patents than operating companies – that's their business, after all – the data don't seem to fully bear out that explanation either. After all, it is the PAEs in category 1, not category 5, who are in the business of buying patents, and they don't do as well with the patents they buy as the ones in category 5. It does seem to be true that inventor-started companies have particularly weak internal patents, but that doesn't explain why they do better than anyone else when they buy patents.

To try to understand what is driving the results for operating companies, we subdivided acquired patents into acquisitions that were part of a larger transaction (a merger or an amalgamation) and those that were a pure patent acquisition or litigation license. It seems plausible that companies would pay more attention to the quality of a patent if they were just buying the patent than if the patents came along with a company being acquired for other reasons. In fact, however, we found no significant difference between the two. We present the results in Table 3.[28]

[27] For a discussion of patents purchased at various points in a company's lifecycle, for varying reasons, see Michael J. Risch, *Licensing Acquired Patents*, 21 Geo. Mason L. Rev. 979 (2014).

[28] We ran this test only for operating companies because NPEs do not generally acquire patents by merger.

Table 3
Mergers Versus Patent Assignments[29]

Patents Acquired by Merger

	Sold	Not Sold	*Total*
Patent Owner Win	3	60	*63*
Accused Infringer Win	8	122	*130*
Total	*11*	*182*	*193*

Fisher's exact test (two-tailed): p = 1.000

Patents Acquired by Assignment

	Sold	Not Sold	*Total*
Patent Owner Win	33	60	*93*
Accused Infringer Win	100	122	*222*
Total	*133*	*182*	*315*

Fisher's exact test (two-tailed): p = 0.1339

Recall that operating companies win 33% of the time with their in-house patents. Companies that acquired patents by assignment won 24.8% of the time with those patents. Companies that acquired patents by merger won 27.3% of the time with those patents. These differences were not statistically significant, either from each other (p=1.000) or from the overall win rate for in-house patents (p=0.1339). So it doesn't appear that operating companies do significantly better with patents they buy outright than with patents that come along with a merger.

Finally, we tested the technology area in which each assertion occurred to see if purchased patents were more successful in some technology areas than others. We present the results in Table 4.

[29] Notably, patents in both sub-categories did better than the overall transacted category. There is a third category of transacted patents that did not obviously reflect a merger or patent assignment. Those included change of corporate name, corrected assignments adding additional assignor, and notice of judgments in bankruptcy. Patents in that omitted category performed least well in litigation, winning only 7 times out of 43, or 16.3%.

Table 4
Patentee Win Rates by Area of Technology

	Sold			Not Sold		
Technology	**Patent Owner**	**Accused Infringer**	**Win Rate**	**Patent Owner**	**Accused Infringer**	**Win Rate**
Mechanical	17	39	30.36%	18	48	27.27%
Electronics	3	17	15.00%	15	22	40.54%
Chemistry	25	36	40.98%	15	15	50.00%
Biotech	2	17	10.53%	0	10	0.00%
Software	12	106	10.17%	14	64	17.95%
Optics	0	6	0.00%	4	11	26.67%
Total	59	221	21.07%	66	170	27.97%

For primary technology = medical

	Sold	Not Sold	*Total*
Patent Owner	17	18	*35*
Accused Infringer	39	48	*87*
Total	*56*	*66*	*122*

Fisher's test: p = 0.8411

For primary technology = electronics

	Sold	Not Sold	*Total*
Patent Owner	3	15	*18*
Accused Infringer	17	22	*39*
Total	*20*	*37*	*57*

Fisher's test: p = 0.073

For primary technology = chemistry

	Sold	Not Sold	*Total*
Patent Owner	25	15	*40*
Accused Infringer	36	15	*51*
Total	*61*	*30*	*91*

Fisher's test: p = 0.502

For primary technology = biotech

	Sold	Not Sold	*Total*
Patent Owner	2	0	*2*
Accused Infringer	17	10	*27*
Total	*19*	*10*	*29*

Fisher's test: p = 0.532

For primary technology = software

	Sold	Not Sold	*Total*
Patent Owner	12	14	*26*
Accused Infringer	106	64	*170*
Total	*118*	*78*	*196*

Fisher's test: p = 0.1346

For primary technology = optics

	Sold	Not Sold	*Total*
Patent Owner	0	4	*4*
Accused Infringer	6	11	*17*
Total	*6*	*15*	*21*

Fisher's test: p = 0.2807

As prior work by one of the authors has shown, patents overall fare very differently in different technology areas.[30] There appear to be some differences in outcomes between purchased and unpurchased patents by technology area as well, though the small number of cases in each category makes it hard to draw any statistically significant conclusions. The only result that is close to statistically significant (p=0.073) is electronics, where purchased patents fared far worse than unpurchased patents, winning 15% of the time compared to 40.5% of the time for unpurchased electronics patents.

Implications

We analyzed the data based on ownership and source to test our intuitions about how successfully purchased patents can be litigated. The results, especially, when analyzed based on the entity type produced both confirmatory and surprising results. For example, the intuition that companies generally do better with their own patents was confirmed. In contrast, surprisingly, inventor-started companies fared better with purchased patents. Purchasers can use the results of this analysis

[30] Allison et al., *Divided*, *supra* note 19.

to inform future modeling and purchase decisions.

Aspects of the results might lead us to question how well the market for patents is working.[31] At least when it comes to enforcement through litigation[32], the effort spent trying to identify high-quality patents to buy and assert does not seem to be producing meaningful results. But before we jump to conclusions, some caveats. First, we don't actually have evidence on the amount of effort any particular plaintiffs spends to identify high-quality patents to purchase. For at least one category of companies – PAEs (class 1) – the incentive of some companies might in fact be the opposite. Some PAEs, particularly bottom-feeder or nuisance-value patent plaintiffs, might just want to buy patents cheaply regardless of their quality because they aren't interested in winning, just leveraging a settlement based on the cost of defense, or because they maximize breadth (and therefore number of potential defendants) over ultimate validity.[33] Further, operating companies appear to often acquire patents for reasons unrelated to planned litigation and only later end up asserting the patents. That is likely true of mergers, which is why we tested them separately. But it is also be true of other patent assignments done to build a defensive portfolio, trying to establish freedom to operate, obtained through a merger-like asset purchase, or simply purchased to bulk up an otherwise-anemic patent portfolio. Patents that were not purchased with litigation in mind may not be optimized for litigation. Further, we don't have information about the purchase prices of the assets. If the purchase price was set based on a model of expected win rates in various assertion scenarios, the purchased patents may in fact be performing at (or above) expectations.

Second, analysts may simply not be all that good at identifying which patents will do well in court based on objective criteria. There is some reason to believe that the observable characteristics account for only a small percentage in the variation in outcomes.[34] A number of scholars have challenged the value of things like citation counts. And since patents are by definition unique goods, it seems logical that they will defy categorization to a greater extent than other assets. The way the claims and the specification are written, the quality of the lawyers and experts, and the nature of the inventor and the defendant may all matter more. All that is true, though it doesn't explain why purchased patents fare differently than indigenous ones.

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[31] For discussions of the desirability of that market overall, see Michael J. Burstein, *Patent Markets: A Framework for Evaluation*, 47 Ariz. St. L.J. 507 (2015); Robin C. Feldman & Mark A. Lemley, *Patent Licensing, Technology Transfer, and Innovation*, 106 Am. Econ. Rev. __ (forthcoming 2016).

[32] *See Supra* note 9, discussing litigation rates for purchased brokered patents.

[33] Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117 (2013); Colleen Chien, *Startups and Patent Trolls*, 17 STAN. TECH. L. REV. 461 (2014); Michael J. Mazzeo et al., *Do NPEs Matter?: Non-Practicing Entities and Patent Litigation Outcomes*, 9 J. COMPETITION L. & ECON. 879 (2013).

[34] Allison et al., *Understanding the Realities*, *supra* note 19.

Third, winning cases at the end of the day is not all there is to patent litigation. Most cases settle, and because those settlements are confidential we can't observe them. It is possible that there is something about the selection of cases that go to judgment that skews away from valuable patents when it comes to purchased patents but not indigenous patents. It is hard to know what that might be, though.[35] One possibility is that buyers who intend to assert their patents look for patents that are extremely broad so that they can sue multiple defendants and so it is easier to prove infringement. Those broader patents may be less likely to win in court, either because their breadth makes them invalid or because courts refuse to read the claims as broadly as the patentee does.[36]

Finally, we might consider the possibility that purchased patents are overall of lesser quality than patents that are asserted without being sold. Companies buying patents work hard to avoid this problem, designing patent ranking systems to assess assets to purchase in the brokered patent market.[37] Nonetheless, it is worth remembering that a major source of purchased patents is companies that commercially have either failed or are struggling financially.[38] While there are many reasons a company fails, perhaps on balance more of those companies failed because their ideas were not as commercially successful as the ones who succeeded. A second major source is operating companies who sell off part of their portfolio while holding on to other patents. It seems likely that those companies keep the "crown jewels" and sell only patents of more marginal quality. We don't want to push this idea too far because the purchasers are selective in purchasing patents from these sources. Many patents remain unsold on the market,[39] so even if the patent market is flooded with low-quality patents discriminating buyers can still choose high-quality patents to purchase, leaving the rest unsold.

Whatever the explanation, our data offers guidance for companies to better price their purchases of patents that they wish to use for litigation. The data also suggests that companies may need to refine pre-litigation diligence of purchased patents to

[35] For a detailed discussion of selection effects in the context of patent win rates, see Allison et al., *Patent Assertion Entities*, *supra* note 19.

[36] John R. Allison et al, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 Geo. L.J. 677 (2011) (offering this explanation).

[37] *See, e.g.*, Oliver et al., *Finding the Best Patents – Forward Citation Analysis Still Wins*, IPWATCHDOG (Mar.. 14, 2016), http://www.ipwatchdog.com/2016/03/24/finding-best-patents-forward-citation-analysis-still-wins/id=67192/; Oliver et al., *High Value Patents: Does family size matter when looking for better patents?*, IPWATCHDOG (Mar. 27, 2016), http://www.ipwatchdog.com/2016/03/27/high-value-patents-size-matter/id=67198/.

[38] For second point, see Erik Oliver et al., *When do Operating Companies Sell Their Patents*, IPWATCHDOG (Aug. 16, 2016), http://www.ipwatchdog.com/2016/08/16/operating-companies-sell-their-patents/id=71890/.

[39] *See id*.

better assess the risks compared to indigenously developed patents where the risks may be better understood.

Whether or not the patent market is efficient is a more complex question. Certainly, if the goal for participants is to purchase patents that are more likely to success in litigation it appears that the answer is a qualified no. A direction for future research would be to layer in an analysis of the purchase prices for acquired assets, loaded development costs of indigenous assets, and expected litigation costs through to test whether on a cost-adjusted basis there is different performance for acquired vs. indigenous assets.