Patent Assertion Entity Activities Workshop
Transcript, Part 3 of 4

December 10, 2012
1:30 PM (Lunch) to 4:00 PM (Afternoon Break)

NOTE: This transcript has not been completely proofed and is intended to be temporary. A final version will be posted soon.

ANNE LAYNE-FARRAR: --it says in the PTO. And I think today is just a wonderful experience and just a wonderful example of that. So I'm really glad that you're here.

Dr. Graham is the chief economist at the United States Patent and Trademark Office, where he manages a team of economists researching the impact of intellectual property on the economy. His research focuses on the economics of the patent system, intellectual property transactions and the relationship of IP to entrepreneurship and the commercialization of new technologies. He received his Ph.D. at the University of California and holds other advanced degrees in law, business and information systems.

An attorney licensed in New York state, he has written on companies intellectual property and litigation strategies, patenting by high tech start-ups and entrepreneurs, and comparisons of the United States and European patent systems. His recent research has been published in the journal Science, the Berkeley Technology Law Journal, Management Science, the Journal of Entrepreneurship and Management Strategy, the Annals of Economics and Statistics among other venues. Dr. Graham is currently serving the United States while on leave from his academic post at Georgia Tech. And I'd like to join in everyone for a round of applause to welcome Dr. Graham.

property rights are an important part of the equation for continued growth. But IP must work within our system of competition to ensure that we are not creating and supporting an environment that unnecessarily undermines economic activity.

Patents create legal incentives to invest in invention, but research from economists-- some of whom you'll hear speaking today-- increasingly shows that patenting is doing more than just incentivizing invention. Patents are also playing a positive role in technology commercialization, in technology transfer, in technology entrepreneurship by providing a platform for effective market entry and vertical specialization among companies and in smoothing the markets for entrepreneurial capital.

Of course, a strong vibrant IP system is part of a strong competitive environment. Competition is the great engine of growth. Patents and the limited exclusive rights that they provide by their nature represent an investment to foster more, better and faster innovation in exchange for a temporary marketplace advantage. We make this investment as a society in order to reap the benefits that patents bring to us. These benefits include providing rewards and profits to innovators, and relatedly bringing greater disclosure of technology, from which the next generation of innovators may learn and build.

Innovation happens in a marketplace. Inventors, investors and commercializers act in a marketplace. Products like this one are conceived, developed and sold in a marketplace. And this marketplace includes both tangible items, like components and the capital that goes into funding, and intangible component like ideas. But markets are often defined by the quality of information available to investors and competitors alike.

Risk and uncertainty can lead to inefficiencies and produce sub optimal outcomes. We at the USPTO realize that how we conduct our operations-- things that we do-- can work to reduce uncertainty in the markets for innovation. We have an important role to play along with the courts and Congress, and our sister agencies to help the markets for innovation to work effectively so that innovators are rewarded fairly, but not so to unnecessarily undermine economic activity.

The effect of operation of markets for innovation is at the heart of questions about how the PAE phenomenon has developed. On the one hand, we recognize that patents offer excludability, and this right to exclude provides a valuable incentive in the system. On the other hand, uncertainty over what the rights are, what they encompass and who owns them may provide additional market power to those holding patterns. In the simplest terms, society bargain to award an exclusive right to the inventor covering an invention.

But society may not have bargained for the ability of the patentee to use information asymmetries to increase market power and to so fear uncertainty and doubt in the innovation ecosystem for a profit. It is axiomatic to economists that markets work best when the assets being invested in or traded are identifiable and certain. Many of the USPTO's administrative reforms during the last four years and many of the provisions of the America Invents Act are aimed at reducing uncertainty.

Anyone who has been watching us at the PTO will know that increasing the quality of our examination and our outputs, while also reducing the application backlog and reducing pendency, have been job one at the agency. As of last week, I can report the application backlog at the USPTO has been reduced from 750,000, when the administration entered office, to just over 600,000, even though application filings have grown year on year. This reduction is allowing us to drive down pendency to our goal of reaching an overall average pendency of 20 months by 2015.

Completing examination and finalizing patent claims sooner in time reduces uncertainty for investors and competitors alike. But faster processing is only one part of the solution. Increased examination quality also reduces uncertainty and has been a primary focus of our efforts. In 2010, for example, we strengthened our Section 112 guidelines used by patent examiners to determine which inventions are eligible for patent protection, tightening how written description and enablement are handled by the office. In 2011 we published comprehensive guidelines that have proved to measurably improve the clarity and sharpen the scope of patents.

The USPTO internal quality assurance review found a higher level of compliance with the new guidelines based on nearly 29,000 examination reviews over a five-year period. Both allowances and final rejections were found to be compliant in more than 96% of the cases. We've conducted extensive training with our examiners on the new guidelines, and a follow-up study showed us that these steps have led to a measurable improvement in examination practices and patent quality. We have also reformed our examination processes further through the reclassification process to ensure higher quality reviews by expert examiners. We've also given all of our examiners more time to review applications, particularly in many of our most complicated cases.

The America Invents Act, signed by President Obama in 2011, gives the agency new tools to focus on quality and timeliness, so that we can reduce uncertainty in the marketplace. On September 16 of this year, the USPTO implemented most of the final rules of the AIA. Our AIA rules help companies and inventors to avoid costly delays and unnecessary litigation, and let them focus instead on innovation and job creation. We can now more effectively work to improve the quality of issued patents, while weeding out overly broad ones.

For example, a provision in the AIA for the first time in the history of our patent system allows third parties to submit examples of prior art. Any member of the public or any competitor can participate in the patent system and contribute to greater patent equality. They can do this during the examination process using a simple streamlined internet-based system. And we're already seeing those submissions coming in, two months after implementing this option. As of last week, the USPTO has received over 200 submissions covering all types of technologies.

So the Third-party Submission Provision of the AIA should improve the patent quality landscape going forward. But what about patents being issued now? Or that have been already issued over the past two decades that are still in effect? The AIA provides three new procedures to challenge patents after issuance. They are sent to our Patent Trial and Appeal Board, made up of administrative law judges who are legal and scientific experts. These new proceedings, known as "post-grant opposition", "inter partes review" and "covered business method patent review" can

be far more effective and affordable than challenging a patent in federal court, thus providing increased opportunities for certainty in the system.

To start, each proceeding is statutorily mandated to be completed in less than one year, which will save millions of dollars in litigation costs and insure resolution far faster than the district courts can offer. One of those proceedings, "the post-grant opposition", will allow third parties to challenge an issued patent on any ground, including basic eligibility and clarity, to areas of particular concern with many of the issues facing us today. It is noteworthy though that this procedure will only apply to patents issued after we complete the switch to the "first-inventor-to-file" system next spring. And so it cannot

An incomplete ownership record thus presents a significant barrier to competition and market efficiency. Markets operate most efficiently when buyers and sellers can find one another. Yet in our current system, fragmented ownership in the patent rights covering complex products leads to potential buyers facing difficulty finding sellers, and to potential innovators not understanding the nature of the marketplace they're considering entering. To address the need for accurate ownership information for pending patent applications and issued patents, the USPTO is interested in providing more complete patent ownership information to the public, in accordance

ANNE LAYNE-FARRAR: Tim Simcoe and Iain Cockburn will be joining us via conference here.

TIM SIMCOE: Hello, this is Tim.

ANNE LAYNE-FARRAR: Hey, Tim. We're here.

HOWARD SHELANSKI: Hey, Tim. One moment.

ERICA MINTZER: Professor Simcoe and Cockburn dialing in. And I'm sorry, who do we have on the phone?

TIM SIMCOE: Tim Simcoe.

ERICA MINTZER: Great. Hi. This is Erica Mintzer with the Department of Justice.

TIM SIMCOE: Hello.

IAIN COCKBURN: Yes, Iain Cockburn here.

ERICA MINTZER: OK. Great. We are just transitioning to your panel. And so our next panel is going to be a discussion on the potential efficiencies and harms from PAE activity-- the affects on competition and innovation. So if our panelists could come up and get situated, and then we can kick this off. And I know we've got Howard Shelanski of the Federal Trade Commission moderating. And making a grand exit any minute1c.eral Tbpane7D.0005 3 Tw[(Fe Ca Scott Morton An)6o

HOWARD SHELANSKI: Can people hear Tim? I'm getting lots of thumbs up, Tim. OK, so why don't you go ahead and just-- we're at your title slide.

TIM SIMCOE: Great. So first let me just say thank you to everyone at the Department of Justice and Trade Commission who helped organize today and for inviting me to participate, in particularly those who set up this dial-in at the very last moment. As I sat on the runway at Logan this morning hearing many announcements about fog, I was thinking that I was sorry to miss this morning session, which maybe dispelled some of the fog around this issue of patent assertion entities.

So I guess we can go to my second slide, which is titled potential benefits of PAEs. What I've been asked to do this morning is provide a few introductory remarks on the potential benefits of patents assertion entities. And since there's a number of other panelists would like to speak on this topic, I'll try to keep my remarks brief. My objective is just to lay out the economic arguments, which I've divided, I guess, into two broad groups.

The first set of arguments for efficiency benefits of patent assertion entities is related to the market for patents. So this you can think about as the market, where intellectual property rights are bought, sold and licensed-- the main realm of patent attorneys, and I imagine there are many there. And then the second set of arguments is related to the market for ideas, or what some might call the market for technology. So this is the market where innovators sell or license, or otherwise transfer technology to firms that hope to commercialize it.

And it's important to keep in mind that patents are only one piece of the market for technology, transactions in this market also implicate ongoing research and development collaboration know-how, human capital, trade secrets, specialized inputs, et cetera. Nevertheless, my comments will focus on the idea that a more efficient market for patents helps to support a more efficient market for ideas. And after discussing the potential efficiencies of PAEs in those two related markets, I'll briefly discuss the topic that I think of as red herrings, right?

These are common arguments that make PAE sound potentially bad, but not necessarily demonstrate a real inefficiency in either the market for patents or the market for technology. And, finally, before I get into the substance, let me offer one important caveat, which is that I won't present any empirical evidence on the size of the potential benefits that I discuss here, nor will I delve into the question of potential harms which has been left to professor Cockburn in the second panel.

So, if we could go to the next slide, which is entitled, potential market efficiency, or patent market efficiencies. OK, in terms of the market for patents, the first economic argument for patent assertion entities is a very simple one. They may be more efficient than inventors at evaluating patents, negotiating deals or managing litigation.

These kinds of efficiencies could arise through scale or through learning, through superior access to capital, if innovators are capital constrained. But none of that is really strictly speaking necessary, right? Patent assertion entities don't even need to have an absolute cost advantage in these activities. Simple economics tells us that the only thing required to produce games from

trade is that patent assertion entities have a comparative advantage in consummating transactions in the market for patents. To be clear, arguments based on comparative advantage don't imply that there has to be a patent sale. In principle, PAEs could contract out these kinds of evaluation, negotiation or litigation services. And that's what distinguishes the first bullet point on this slide from the second.

The gains from trade arise due to efficiencies in allocating risk across the two parties, where the risk may come from the probabilistic nature of patents, whether they're valid and or infringed, then in that case we do need a patent sale, because the patent assertion entity needs to be the residual claimant or the actual owner of the patent to bear the risk. At an intuitive level those first two points are really about allowing innovators to focus on innovation by having somebody else-- the PAE assume ancillary activities related to the patents.

And my final point on this slide about the market for patents highlights a somewhat different type of efficiency that can arise. And this kind of efficiency arises when there's externalities across transactions in the market for patents. In particular, PAEs can reduce transaction costs by assembling bundles of complimentary intellectual property rights. So, compared to a world of fragmented licensors, setting up a one-stop shop in a particular technology can reduce search and bargaining costs, and may give PAEs the incentives to price below the rate that would be charged by a collection of independent monopolists

HOWARD SHELANSKI: OK, good, because that way you'll be able to hear the panelists react to you. And, well, there's a certain temptation to have them react without your hearing. I think we would probably be better to have a more interactive dialogue.

Well, we do have a wonderful panel here to comment, to, I think, make a number of points on their own, and, I think, to offer some reactions to what Tim has presented. And I would like to start with Ron Epstein, the CEO of Epicenter IP Group.

RON EPSTEIN: I thought I got sat at this end so I'd be last.

HOWARD SHELANSKI: Well, I've defeated your plans by listing you first.

RON EPSTEIN: Great. Hi, everyone. My name is Ron Epstein. I run a company called Epicenter IP Group. I mostly participate as a market maker in the IP monetization marketplace. What does that mean? So we've done over $400 million worth of patent sales transactions and have participated in over $1 billion worth of licensing transactions, not as an owner, but as an agent.

And my background is having spent most of the first half of my career on the buy side, as I now call it, otherwise known as the "dirty rotten infringer side." First being a lawyer at Wilson Sonsini, protecting small companies from the depredations of the portfolios of large companies. Then at Intel, defending Intel's microprocessor and promoting the depredations of large companies' portfolios on small companies, and then doing the general counsel thing before starting this business up. And launching into my comments, just to give you a perspective of where I'm coming from.

I thought the professor's comments were actually very on-point and very thought provoking. He mentioned a couple of key points, and I guess I would expand and emphasize on them. The first is the canard on patent quality. I think we can all agree that a large percentage of the patent estate in the US is not of great value. To borrow a statement from a good friend of mine, Mark Kaufman at Reed Smith, over 75% of the US patent estate is abandoned by the end of the second maintenance period. So we can look at the patent holders themselves and hear this news.

The second part is that obviously within the patent prosecution process you're filing patents years before the technologies are adopted. And as a consequence you're going to guess wrong a lot. And, oh by the way, that is you're going to file patents on technology that's not ultimately

we're all familiar with the cell phone wars. Are each of those companies coming up with all those features by themselves, or are they looking at their neighbors products?

The day before the iPhone came out, there were cellphones, they did have Wi-Fi, they did have touch screens, there were app stores. All of that technology pre-existed the Apple iPhone. What they got to do was build a wonderful incredibly useful user interface on top of that. But those

So first you had some firms that were filing for bankruptcy, like Nortel. You had some firms that were exiting a particular market niche that was no longer profitable, like Motorola Mobility. And yet other firms like Nokia, where they were trying to monetize and sort of keep their portfolios fresh.

So those illustrate some of the potential benefits then from the PAE model, first being exit value, to the extent that you have more assets to sell after you've had a failed entry attempt. That's going to reduce the risk of entering in the first place. That makes entry more likely. And it also makes it easier to get funding for entry, if the funders think you've cut assets, that I'm going to get something out, if you fall flat on your face. And giving the high odds of falling flat on your face, that's a good thing.

In terms of the getting rid of or shedding divisions or business practices that are no longer profitable for you, this can also be highly competitive enhancing competition, because it helps firms remain flexible. So I may not be able to earn a reasonable profit on these particular assets anymore, but that doesn't mean somebody else can't. And if I just let them lie fallow, as opposed to turning them back into the marketplace, not only do the remaining players not benefit then, but I also lose the source of revenue that could be funding my entry into other divisions or helping me survive elsewhere in keeping me overall healthy and profitable and, therefore, competitive.

So I think it's important to step back and remember that, yes, the mobile patent wars and all of these patent acquisitions have a downside-- in that there's a lot of litigation-- there's some good things underlying this too that sort of emphasizes the positive role that PAEs can play. I think you can see this as well on the other side. So we just talked a minute about who was putting these patents up for sale and where the patents were sourcing. But look at who purchased a lot of them.

I know that at the initial auctions there was a huge fear that it was going to be PAEs who were buying Nortel and the Novell patents. But it ended up, instead, being new entrants into the mobile space. So it was Apple and Google with Android, and Microsoft. These TD.n.8(re)4.8(ason)Tw th th

And you're going to have to accept some good with some bad. And then the question is, what's the ultimate trade off? What's the weight? And I think that goes then to the comments that Carl gave this morning about how much is lost in the bucket and what's the end calculus.

HOWARD SHELANSKI: OK, thanks. Thanks very much, Anne. I think I will have some follow-up questions on some of the points you've made. But I want to hear from the rest of the panelists first. So with that, we'll turn to Professor Adam Mossoff, who's come over to join us

machine, which was called in the 1850s "the sewing machine war". It had a lot of similar parallels to our current so-called "smartphone war".

One of the early patent owners of one of the element of the sawing machine, John Bradshaw, transferred his patent actually to AP Klein and Edward Lee. Edward Lee then later a year later threatened another patent owner, Alan Wilson, for violating their patent. And, as a result of this threat from Klein and Lee, Wilson settled the lawsuit by transferring his patent to Klein and Lee. So that's so the patent, which was a commodity, which was valuable asset, he transfer to them as a way of settling this lawsuit.

Wilson then went on to come up with a bunch of other patented innovations in technology market. Also John Bachelder came up with a particular patent on some components for the sewing machine in 1849 and transferred those to Isaac Singer, very many people know from Singer sewing machine. So those are just a few examples of what was a very active prominent secondary market in patents, even in the early years of this country in the 1840's and 1830's.

In fact, one of my favorite classified ads from the back of A Scientific American. I think it was 1845. Someone was offering to sell a patent on a new type of an engine, called a Dynamo at that time, because they wanted to build a gate, a new gate for their fence. He said, I'll trade you my patent on this engine, if you give me a gate.

So now, why is this important? Well, I think it's important to recognize, because-- this my second point-- aggregation is good. Aggregation represents the division of labor and specialization in our society, broadly even beyond the patent context, right? I mean, this is corporate law corporations, and aggregations of copyright of property and contracts.

But even within patents, we've seen aggregation over the years. The formation of the very first patent pool in US history was the sewing machine combination of 1856, which was the solution to the sewing machine war of 1850s. And even more broadly what we know today now is aggregation is good, because we all benefit from it, because there's an aggregation of research and development.

So there's been creation of firms like 3M. And, of course, Thomas Edison's Menlo Park, which were invention factories, aggregation of inventors. And, of course, most modern corporations have research and development departments, which are aggregation of inventors. And so, obviously, aggregation of inventors has produced massive amounts of efficiencies in the creation of new inventions. And we should expect and have seen aggregation of commercialization on the back end as well.

And so it's little surprise that taking advantage of modern developments in corporate form-- they didn't have corporations the way we now have them in the early 19th century. Taking developments of modern technology-- email and all the wonderful ways that we can communicate. And taking developments in market innovations, a new financing mechanism, what not.

We have seen the development on the commercialization side of patents, aggregation of patents for purposes of deployment aggregation. Taking advantage of the exact same division of labor and specializations that had made the creation of inventions possible, we now have seen it being deployed on the commercialization and development of new technology. And, ultimately, innovation. Thank you.

HOWARD SHELANSKI: Thanks very much, Adam. Very interesting. I'd like to turn next to C. Graham Gerst, who is a partner in the Global IP-- or a member of the Global IP Law Group and get your reaction.

C. GRAHAM GERST: Last time I checked, yes.

So just a quick background on our firm. We were formed about four years ago. Early on we got engaged by Nortel Networks to help them with their patent-- really to figure out what to do with this treasure trove of patents they had. And we ran that monetization process to conclusion last summer.

My background, my personal background is primarily in the area of patent litigation. I spent some time at Justice Department as well handling IP and technology-related national security type issues. I was one of the original partners of Global IP. And the focus of the firm is on patent monetization through sales, licensing and litigation. But our real focus has been in the sales area.

The other transaction that I referred to is-- at least I hope it ends up being a transaction-- is on behalf of a portfolio company for a very large, well-respected private equity fund. And it funded a small company that had some really innovative ideas, made a go of it, but was unable to compete against a larger handset companies. But they came up with some interesting intellectual property.

The company is now, essentially, in a kind of a sell-off mode. And we are trying to sell that

two are pretty different. But in the area that I research, we often do that, because patents are easy to count and innovations are really hard to count.

The second comment is but a reaction to Anne, who noted correctly, I think, that it's hard to separate these two sides. So this exercise, I think, is intellectually useful, the exercise of separating out the potential benefits from the potential harms, but they're closely interrelated. So at the risk of undermining Iain-- since standard essential patents came up a few times, I have to say that one of my worries about PAEs is that some of the gains from trade may come from undoing things like FRAND commitments.

And then, lastly, let me put my question out there. Maybe the panelists will agree with this assertion or maybe they won't, but I think it's often useful to view litigation as basically an indicator of uncertainty. And I have seen empirical evidence that assertion entities hold many

But I'm reasonably ethical. I know who the inventor is. This is very true in standards licensing, by the way. I know who the inventor is, and I'm willing to negotiate a license. But that license is going to be at a much cheaper price than whole integer royalties. It's going to be a fraction of an integer royalty, and it will usually ultimately end up being summed up in Tc.0291 royaio ba ing,lr luapsumm

C. GRAHAM GERST: But not for patent quality.

ADAM MOSSOFF: Well, but see, no one can even agree on what's the standards for patent quality. Now--

C. GRAHAM GERST: It might changed in 200 years.

ADAM MOSSOFF: Well, people think. But, again, data is-- what's the data on that? People think, people have intuitions, but there's no real data. Now, interestingly enough, patent litigation rates didn't stay at 1.65% every decade, they fluctuated substantially in the first 60 years of US patent system. And in the decade that they skyrocketed, from 1840 to 1829, it went to 3.6%.

Now, the only significant change or the thing that people were litigating over-- actually, I've read every patent decision in the 19th century, and I have to confess, there's about 1,400 of them in the court reporters-- is the 1836 Patent Act. Now, that's an example of legal uncertainty causing litigation, because there were a lot of new provisions in the 1836 Patent Act. People were litigating over them to resolve it and things of that sort.

Litigation rates then collapsed in the 1850s again, even during the sewing machine war, when there was massive amounts of litigation at that time. And the sewing machine war really did have all of the attributes that we now associate with the smartphone war. Lawsuits in multiple jurisdictions, defendants and plaintiffs both being both defendants and plaintiffs in multiple different lawsuits. Complaints of excessive cost.

I mean, this is a time period before typewriters, before computers, telephones. Elias Howe had to risk his life and limb to go to Isaac Singer to

We can think of it either way. They're aggregating, if they're buying up each individual inventor's patents. But they're desegregating, if they're buying Nokia's patent portfolio and splitting it up. So I think that in terms of value weighted, we might want to know the answer to that.

I also think in terms of stimulating innovation. Well, it's true that the bondholders of Nortel did fantastically well out of this. Was that really what causes Nortel to be founded in the first place? Did the founders of Nortel think for themselves, some day in 25 years, when we go bankrupt, our bondholders are going to get a lot of money. And that's why everyone should invest in us.

So there's some scenarios, where you can see, like the small Silicon Valley guy, who maybe can sell out or get venture capital funding because he's got a couple of patents. And there are others, where we think probably that that was not really a motivation. And we should be able to look at these markets and try to measure that.

RON EPSTEIN: But the motivation is the value in innovation. And we have the most innovative economy in the world. And we also have the most robust patent enforcement system in the world. And perhaps there's some link between those two things.

And this notion about regulating and getting involved in the regulation of this market, when the data that we have, several panels have noted that we have real dearth of data here. And the data we do have is pretty suspect from what I've seen today. So to jump in and try to regulate a very complex ecosystem that is not fully understood and is also one that's evolving very rapidly.

The marketplace today, both for enforcement and for transactional work, is very different today than it was 16 months ago. And so to try and gather empirical data, it's always going to be lagging. So we run the risk if we start regulating without the right analysis behind it to doing some real national harm. At a time, when the rest of the world is trying to bolster their patent systems, we are engaged in a process where we're weakening ours, which may not make a lot of sense.

ANNE LAYNE-FARRAR: If I could just add a little bit to that. So I think the other side of the

mobile computers, I guess, we're now calling thems-- television sets, retail models, retail-like internet commerce.

Well, that sounds like the same three markets we think are moving incredibly surprisingly fast. I don't know how about you guys, but I seem to get the need to buy a new TV every three or four years, because they change so much and they're innovative so fast. And we all know that's true for handsets.

So one question I think is this whole debate a canard? Is it in fact? Is this patent assertion litigation in fact negatively affecting speed of innovation in the markets where there's an awful lot of litigation? I'm not sure I've seen a lot of work on that.

And secondly, one might look and see how seriously this problem is really being addressed from a business perspective before government regulation starts. For example, when I had a survey of

connected to firms that are also participants in certain downstream markets, for which their patents will need to be licensed too a real new entrant?

ANNE LAYNE-FARRAR: Well, yes and no. And I would say both because one, I think to go back to some of the points that were made

Another way in which royalties or settlements or so forth being too high may matter, is the extent to which they pass through into end user prices and welfare losses to consumers generates a familiar kind of distortions we're familiar with in terms of the double or treble modularization, as we look at the value chain of an industry. And thir

conceivable this will lead people to abandon projects there some way down the line. Then they'll realize, whoa, this is more trouble than it's worth to try to pursue this in the face of anticipated vigorous assertion of rights, which weren't clear to this entity when it began spending money on R&D. So that they abandon projects or diversion of innovative effort into solutions, which are second best but are believed to be non-vulnerable to exposed hold-up.

That may be the case that companies or institutions who'd believed themselves to be particularly vulnerable to PAEs, may spend money, which has scarce resources on acquiring large amounts of IP, which are not central to what they're doing. They don't believe they are particularly helping them, but are there to stop them from falling into the hands of PAEs.

Let's go to the next slide. I've titled this unpooling. I think it's an ungainly term. What I'm referring to here is the challenges that are created when we think about large portfolios of patents or other kinds of IP, which are strongly complementary in the sense that it is very difficult to tease out that the value of any individual component or subset, or sub-portfolio. Within the world of innovators and produces, I think that industry practices being to take these portfolios and think about them in terms of a specific technology in a specific product and to license or price the portfolio on that basis.

An entity which is purely focused on maximizing now the value of this IP and trying to capture it, it may go through is unbundling exercise. So rather than licensing 1,000 patents for x%, you may try to turn that into five portfolios of 200 patents, each of which is attracting a similar royalty. You can see these paradoxes can arise very easily, where the value of a portfolio as a whole doesn't easily separate into the value of its components. I think that is one of the phenomenon potentially underlying systematic overcompensation.

We'll go to the last slide in my deck. Here I listed out where I think there are potentially deleterious impacts on the competitive process and the pace of innovation. So one thing we see in many industries is, if you like a truce between major innovators and R&D spenders, the threat of entering into mutually assured destruction types of suits and cross suits over intellectual properties, one of the things which, I think, leads to the pervasive phenomenon, at least historically, of large scale cross licenses. Now, to extend that these are efficient, or are better than alternatives we can think of. The appearance of new entities who don't play by the rules have different cost-benefit calculus, may start to break apart this delicate balance and result in not just the litigation or enforcement activity of the PAE, but result in this collapse of detente, if you like, between the existing parties.

I suppose, at least in principle, you could imagine a very well funded and very vigorous entity managing to accumulate enough intellectual property to have a dominant position and significant market power within the market for IP. I don't know that I've seen that jump out at me, at least in the industries or cases that I've looked at. But I suppose it's at least possible. And we may care about monopolization of upstream intellectual property. I suspect this may be a topic for discussion in the next panel, where, no doubt, they'll be some reflection on the guidelines for antitrust and licensing.

Another antitrust type issue-- and I don't want to steal thunder from the next panel-- is at least the possibility that the presence of a PAE can create a situation, where one product market competitor can come up with a contractual arrangement with a PAE, which in the end results in this product market competitors being able to successfully raise its rivals' costs and distort competition in the ways that the agencies are often interested.

Lastly, and this is to pick up on something that Tim said earlier, and it, I think, has probably come up a few times is-- I'm calling it time consistency. This notion that a next post mover can break apart contracts that were entered into, for example, over a pool of patents containing standard essential patents and then friend licensing agreements, that may have been constructed privately and with some degree of social efficiency to solv

terms within each patent that they can draw on, depending on how the different products emerge in the market, and how the negotiations over each particular patent bargain unfold.

It's difficult for the individual who has the patent or even the individuals drafting the patent to know what terms they're going to need. It's difficult for the Patent and Trademark Office examiners to know which terms they're going to wish they hadn't given you. And that's true, even if we gave patent examiners all the time in the world to do the job that we are asking them to do.

And so within this structure of uncertainty, you create the type of market that is right for the harms that Iain identified in terms of companies being able to bargain, or patent holders being able to bargain for far more value than an individual patent is worth, or than a handful of patents might be worth. It's something Iain talked about, and a number of our speakers today have alluded to.

Now you add monetization into this particular landscape. Monetization in which patterns are stripped from any underlying product, they are operating essentially as a commodity on their own that can earn a reward through litigation or through licensing. They are tradable, and now they are being traded. That is the new level that you have to understand and look at as a market of its own. I think it's useful to think about all of the harms that Iain raised on two levels. So the first level is in this market for patent monetization itself. That is the buying, selling, and the trading of patents.

It is its own market, and as with any market, it is subject to manipulation if there's not any regulation of that market. At the moment, there are virtually no constraints in that market if parties in that market were to wish to collude, to divide up the market, to manipulate that market in various ways. It has arisen so quickly that we are only beginning to think of it as a market on its own.

That's the first level of harms I think is worth thinking about. The second level of harm relates to the individual intellectual property markets underneath the layer of the market for patent monetization. So Iain alluded to the fact that we might have a potential concern that a patent assertion entity might acquire enough intellectual property in one particular product market that it could influence the cost of products in that market.

I would like to suggest that in this new world of monetization, the problems may run even deeper than that. So it may be that you don't need power in a particular intellectual property market in order to affect goods prices in that market. So let me give you an example. Suppose you are an automobile manufacturer and I have a patent in the banking industry.

And I knock on your door, and I say my banking patent effects reads on your automobile. Now,

And so may everybody else in the automobile industry decide that it is worth paying what I demand. I have exercised a potential power over th

Or to use whatever the defensive mechanism is in a hub and spokes manner so that the defensive hub becomes the hub in a hub and spokes anti competitive enterprise. So I want to thank the FTC and the DOJ for putting together this remarkable day of discussion.

FIONA SCOTT MORTON: Thank you very much, Professor Feldman. All right. I neglected to give a title last time, which is my mistake. So next we have Michael Muerer, who is a professor of law, and a Abraham and Lillian Benton scholar at Boston University. We have a high proportion of Boston University today, which must reflect favorably on that institution.

MICHAEL MEURER: We sure do, but I'm the only one that made it here today, and my flight back was canceled. So I hope someone can put me up for tonight.

SPEAKER: Your economist colleagues were simply much more efficient.

MICHAEL MEURER: They were, they were. The issues raised today are vitally important. Society needs an effective policy response to socially harmful patent litigation, and my best evidence on this point comes from Zach, my eight-year-old son, who was nearly brought to tears when he overheard me talking about a patent that was asserted against Notch, the creator of his favorite computer game, Minecraft.

I reassured him that Notch was not a bad person, and the game will probably continue to be available. But there's no end to the interesting anecdotes that we can mine, but I think Iain's probably not going to be content to hear me talk about more anecdotes, so I want to talk about some of the research that I've done relevant to the patent system generally, and to PAEs in particular.

So for a long time I studied the successes and failures of the patent system to incentivize innovation, and to perform like a healthy property rights system. In my book, Patent Failure with Jim Bessen, we conclude that based on research, covering the period from 1984 to 1999, the patent system does indeed reward chemical innovators, including those in the pharmaceutical industry.

But for most kinds of technologies and most other industries, the patent system imposes a tax on innovation. So please observe that we reached that conclusion studying a time period during which PAE activity was insignificant. We reached our conclusion by estimating both the costs imposed by patent defense and the profits derived from owning and enforcing patents.

Recently, Bessen and I conducted two new studies using data from the decade of the aughts that focus on the costs of defense against NPE lawsuits. Likely most of those are PAE lawsuits, but we were using the notion of NPE instead. The first study relied on a survey that was done with the assistance of RPX.

And the direct cost of patent assertions are substantial, according to that study, totaling about $29 billion of accrued cost in 2011, including the costs of non litigated assertions. Importantly, this figure excludes various indirect cost to the defendants' businesses, such as diversion of resources, delays in new products, and loss of market share.

In the other study, we're able to measure direct and indirect cost. We observe what happens to a defendant's stock price around the filing of a patent lawsuit, and we're able to assess the effect of the lawsuit on the firm's wealth after taking into account general market trends and random factors affecting the individual's stock.

We find that NPE lawsuits are associated with the loss of wealth to defendants that averaged

The mean and median figure are very different because the estimated defense costs are highly skewed. The skewness might be attributable, I believe it is attributable to the distinct business models of PAEs. Many nuisance suits and the occasional big game hunter. If Karl is still skeptical, he might be willing to buy the results from the other study.

Although Dave sitting next to me will also be skeptical, and might express some of that skepticism about the other study. But anyway, I'm hoping at least Karl will come along with the other study that focuses only on direct costs. The survey study estimates the mean legal costs per defense range from $420,000 for small and medium companies to $1.52 million for large companies.

And the median total litigation costs for small or medium companies is $318,000, and for large companies, $646,000. So those numbers probably sound familiar. You think about a typical case, you think about medians and you hear those numbers, I think they're going to sound fairly plausible.

So to conclude, I want to emphasize that much of

by data. However, the data as it exists today and that I've reviewed is not convincing. That's not to say that it can't be empirically shown, it just hasn't been empirically shown yet.

And we need better data on benefits as well. And so there's surely anecdotal information, and we heard some of that this morning. There's lots of theories on why PAEs may cause harm, but there's very little data. And much of the data that exists is mixed and inconclusive. And so I want to talk a little bit more about data on potential harms.

But before I do, I just want to raise a preliminary issue, which is a definitional issue about what a PAE is. Because Chairman Leibowitz and Professor Shapiro talked about PAEs being patents that are acquired or purchased from the regional inventor. And some other people, I think, include original inventors or failed start ups that are enforcing their own patents as part of PAEs.

And actually, I think it matters because there's a decent chunk of litigation that is initiated by individuals or by companies that are the original owners of patents. And so in the past, I've argued that you should, even if you think one definition is better than the other, you should de-aggregate your results so we can look at it both ways.

And one reason I don't really take a position on which is the right definition, other than to say that to the extent that one of the arguments is that the bucket is leaky, and not enough money is being returned to the original inventor, then that isn't really applicable if the inventor is the one enforcing the patent, because they're reaping most of the rewards, I presume.

And so that leads me to my second point, which is we need a baseline for comparison. And for that, I mean PAE harms, or costs, have to be compared to something. And that's something can't be zero, because all litigation has costs, and patent litigation is notoriously expensive, with very high attorney and expert fees.

And so in work I've done in the past with Jay Kesan, we suggest that we compare PAE litigation to either patent litigation in which the patent holder is a practicing entity, or maybe just complex civil litigation more broadly. And there are few, if any, empirical comparisons, broad comparisons of PAE litigation in general in other patent litigation.

Now, one article that provides some comparative information is an article that was mentioned by few people this morning, and that was done by my co-panelist Robin Feldman. And so that article picked 500 cases at random from the last five years. And so in preparation for today, I reviewed that study.

And at the end of the study, she reported some tables on settlement rates, summary judgment loss rates, patent holder win rates for a bunch of categories, including practicing entities, individuals and monetizers. The paper didn't do any statistical or hypothesis testing of her results, and so as I looked at them, I thought, wow, those numbers across all the categories looked really close.

And that actually isn't consistent with some of the data we've heard this morning about really high loss rates for NPEs. Granted, her study was different because she had a random sample

rather than some of the-- I'm thinking of the Allison, Walker, Lemley study. And also, Michael Risch has a study that looks at kind of the most litigated patents, or the most litigious PAEs.

So it might be looking at outliers. And so to get a better handle on this, I recreated her data from the disclosures that she made in her article, and then I ran statistical tests on the results. And as it turns out, there's no discernible statistical differences among the different types of entities she reported.

In other words, from the data that she provided, we can't say that there's a difference either way, with 95% confidence among PAE plaintiffs or practicing entities in terms of settlement rates, summary judgment loss rates, or win rates. So I think we need better data on the differences, if any, between PAE litigation and other patent litigation.

And as I look at the list that Professor Cockburn put in is his slides, a lot of those harms, for the most part, appear to be really potential harms that are just tied to patents, or to patent litigation in general. And few of them seem really unique so PAEs. And so I see very little evidence right now that PAE litigation is materially more costly, or that the claims that are asserted are materially weaker than practicing patent entity litigation.

And so without that evidence, I'm just concerned that we're talking more about issues that are from the patent litigation system, or patents in general, rather than about PAEs. So briefly I just want to talk about Professor Muerer's study that he mentioned $29 billion in direct costs, the estimate that he did with Jim Besson.

And so as Jay Kesan and I have previously written about, we believe that his estimates of direct costs are inflated. We think they rely on a non representative sample, which was likely biased too high. He also included individual inventors in his costs, and did not compare it, did not compare the kind of proportion of legal fees to settlement amounts in PAE litigation to what that is in practicing any of the litigation, which I think would be important.

And so to me, I think we should just focus more on the merits of the assertions. The question that we should be asking are, are the patents likely invalid? Is the allegation of infringement untethered to the original invention? Is the quantum of damages sought based on a sound damages theory? And so my final point is that we really also need to look at the distribution of cases in both practicing entity and operating company litigation.

Now to be fair, every patent is unique. There's stronger cases, there's weaker cases, and there must be meritless cases. There must be cases that are brought both by practicing entities and by non-practicing entities that are meritless. But the question is, are those outliers? Where does the median fit, where does the mean fit? And we need to compare practicing entity and non-practicing entity litigation, and look at the distribution.

And then if we decide that there are problems that we need to address, we can determine the best way to do it in a tailored manner. If the problem is there's a lot of cost of defense settlements and weak patents, or weak assertions, then we need cheaper ways to get to the merits. But we don't want to weaken all patents if the concern is just the outliers. So thank you for your time.

FIONA SCOTT MORTON: Excellent. Thank you very much. I think what we'll do is collect up-- I'm assuming you would like to respond, but should we do that right this second? Let's keep going. We're going to keep going and collect comments at the end. Yep. OK. So Thomas Ewing is our next panelists, and thank you very much. Go ahead.

THOMAS EWING: Thank you very much for inviting me. So I have a couple of comments on PAEs. First of all, I could have been on the pro or con panel for what that's worth. But I think patent assertion entities, there are, when an operating company versus another operating company, there are countermeasures to the assertion, commercial countermeasures to the assertion that they just vanish when a PAE arises on the scene.

So what I could do one of my competitors were they to assert patents against me, I can't do against a patent assertion entity, and moreover, if it's a patent mass aggregator, I'm really out a luck, because there's not a whole lot I can do against those guys. They combine the best of the patent assertion entity with the best of the large commercial licensors. They give me an offer I cannot refuse.

If someone comes to me with 300 patents that I have to license, there is no forum for testing whether I actually owe them a penny. They might sue me over six of them, and we can test whether I actually owe them money over those six, but the other 294 won't be tested. Now when we go to settlement discussion, they likely will heavily discount my license fee, but if my license fee was actually in fact zero, I will still be paying something. The other thing about patent insertion entities, especially traded patents, it's a little bit different than operating companies. Operating companies tend to buy patents that are owned by their competitors, or people at least in the same field of business that they're in.

Which means once they buy them, they might know a little something about them. Once a patent's been traded four or five times, especially into a patent assertion entity, that entity doesn't know anything about the technology that they've just purchased. Which means if you look at these buckets that we've talked about today, good buckets, innovation, patents, technology.

There's not a single patent mass aggregator that has a prayer of being able to grant me a technology license. They don't know how this stuff works. They just know that they have certain legal rights, and they can transfer those legal rights to me. But as far as telling me what the patent's about, they're clueless.

If they want to know what it's about, they couldn't tell me any more about what it's about than I could tell by looking at the US Patent and Trademark web site, which is likely what they would do, because they probably don't have an electronic version of their own patent.

So there are inefficiencies in the system, and they apply to operating companies, and they apply to patent assertion entities. It's an inefficient system. Ironically, it's probably the world's most precise litigation system for patents, which is part of its problem. It's too darned elaborate. There are to many--

MITCH: Hey, it's Mitch. I'm here.

Now, there are foreign companies that are engaged in business in the United States, and they don't really quite understand the value of a US patent. I think that's really all I have.

FIONA SCOTT MORTON: Fascinating. OK, and our final panelist is Brad Burnham, managing partner of Union Square Ventures.

BRAD BURNHAM: Thank you. So I've been thinking as I've listened to this panel that one of these panelists is not like the others. I am not a lawyer, not an academic. I'm an investor, and I'm an investor that invests primarily in internet services.

things that they did was allow you to create an avatar, a representation of yourself by creating your own eyes and nose and mouth, and putting it together and putting it up there. Sort of Mr.

We have lots of other examples in the portfolio. Again, none of those examples are ones that we could have known about, or should have known about, at least in my opinion. So what I want to do here is say that as we talk about doing all of this research, I really believe in empirical evidence, and I really think we should do it.

But I would ask everybody to at least, as they do the research, separate software patents and business method patents from other patents, because I think you'll find that a significant majority of the PAE prosecutions are on these vaguer, more abstract software and business method patents.

And I think if you do separate them out, you'll see some things that you wouldn't see if you conflated with pharmaceuticals and material science, and things like that. So sort of the summary for me is that software patents are just too abstract, and too difficult to research. So it's very, very difficult.

We are seeing, at least we are seeing bad patents asserted in completely different fields of use that we couldn't possibly have anticipated, and that doesn't feel right. One of arguments for patents is that, and for PAEs is that some of this technology is hard to reduce to practice, and therefore they need capital in order to be able to reduce it, so there's a justification for this market in the intellectual property independent of the practice.

That is not true in software. I mean, we have lots and lots of companies that are two person app development shops that are making lots of money in the app stores by delivering those products directly to market. So it's not really that same, we don't have that same problem. Finally, I think that in this market, we are uniquely victims of a problem that I heard Mark Lemley describe as patenting the problem, not patenting the solution.

So he used the example of a jackhammer, and said the patent office would not allow you to patent a method for breaking rocks. They would allow you to patent a jackhammer. The problem with the software patents that we're being hit with is that they never define the solution. If you go back to putting the video, the face in a video, we were using very sophisticated 3-D modeling to do it.

The company in question that sued us was cupyued ueduceo in ort o[(s t at le]4J20.185 0 T9.0003 1allc

really care about. So there's two aspects of that one. It's asymmetry, and that they tend not to have made large sunk investments in anything except paper assets or IP.

The other is that they, and I sort of hear a strong sense of this from this panel, that they're not participants in the innovation ecosystem, and that are may not-- may have been involved in the generation of technology, or may have people who were engaged in it, but they're not in that, embedded to the degree that other participants are.

And those other participants have other important commercial relationships with all the other participants. The ecosystem that the PAEs are kind of exempt from caring about the consequences of their actions for--

The second thing I'll say is that on this topic of how well is this market working, and harking back to that, I think the last time I was at one of these FTC hearings, which was that we have almost no easily accessible data on what these trans

of today's discussion, but more since we've, a number of participants have mentioned the trade off there's, pros and cons, is there anything that can be done to enhance the pros and decrease the cons so that the consumer ends up getting a bit of a better deal? So I think it's a little bit of a less dramatic question, but maybe--

MICHAEL MUERER: Can I respond to the less dramatic?

FIONA SCOTT MORTON: Yes, please do.

MICHAEL MUERER: Or the more dramatic question. Bessen and I contend that for publicly traded American firms, if we abolished the patent system, they would have a stronger incentive to innovate.

We don't advocate that policy, but we contended that when you measure the rents, the patents deliver to innovators who get patents and put those on the other side of the scale with the costs imposed on innovators as defendants, that cost is larger.

FIONA SCOTT MORTON: A firm answer. Next question? Yep, sure.

AUDIENCE: Hi, this question is for the whole panel, but mainly for Brad. And I'm wondering, Brad, how come we don't see some of the venture capital investors like Fred Wilson and Brad Feld who rail against the patent system, talk more about entrepreneurship as a way of dealing with all the problems and harms that we've been talking about.

So among top venture capital investors, Izhar Armony really stands alone is someone who's really backed a lot of companies and entrepreneurs that are trying to do exactly that. So he did IV, he did and he did RPX most recently. Are you guys just not seeing the deals? Are you just seeing deals that are brought to you by founders who are not venture backable? Or something else?

BRAD BURNHAM: So Fred's my partner, and we wouldn't do one of those deals because as we talk to the engineers in our companies, they believe that on balance, at least when it comes to software patents, they do more harm than good.

And so we would be kind of taking a philosophical stance, even to the degree that the company was defining itself as defensive, we would be taking a philosophical stance that would require us to believe that software companies and particularly internet services companies would be able to get their engineers to sit down with a lawyer and write patents.

And what we're finding is that our engineers, the engineers in our portfolio companies are not willing to do that because they don't believe that the patent system is helping them. So it would be hard for us to do that, make that kind of investment.

FIONA SCOTT MORTON: Fantastic. One more, this side of the room, maybe. I wasn't looking that way last time. No? Right here.

AUDIENCE: Hi. So given the costs that are imposed on society by licensing transactions for the most part being secret, is there anyone on the panel who would just say, let's make it so that licensing transactions have to be transparent? The way stock market trades are transparent?

ROBIN FELDMAN: So I don't know that I would go quite that far, I haven't thought of it in those terms. I certainly applaud the PTO's exploration real party and interest information. I have contemplated, and I think it's worth contemplating a system for patents that looks more like the real property system.

In other words, if you want to have any type of interest related to a patent, including a license for that patent, that you should record it and disclose it. Not necessarily the price. I know that a lot of academics would like to know the price information, too. I would, too. I don't think we'll ever get that through, but I have contemplated a system like that, which would give us much more information.

BRAD BURNHAM; I would love to see a system where all you did was make it difficult, expensive, impossible to impose a contract term in a settlement agreement that required a gag on the selling parties, because I believe that if more of what was going on was, people were more aware of what was going on, it wouldn't continue.

THOMAS EWING: I'd answer your question in the reverse. What would the real property