

“Patent holdup” allegations encourage SEP free-riders

Despite many years of speculation and recently adjusted claims, there is no empirical support for the theory of “patent holdup.” Various eminent experts refute allegations of systemic “patent holdup.” It is likely that “patent holdup” has not occurred in the context of standards and licensing of standards essential patents (SEPs) because of the fair, reasonable and non-discriminatory (FRAND) licensing contracts and available recourse to the courts have ensured that licensees cannot be forced to pay “excessive” licensing fees.

“Patent holdout,” which is also sometimes referred to as “reverse holdup,” rather than “patent holdup” may instead be a prevalent problem; although calls for remedies have largely been in response to “patent holdup” allegations. Beguiled courts, antitrust authorities, government policy makers and [even a standards development organisation \(SDO\)](#) are tipping the scales in favour of “patent holdout” by infringing implementers of SEPs. This is destabilising the equilibrium between the interests of the licensors and licensees forged by consensus over decades in the [IPR policies of SDOs such as ETSI](#) with Fair, Reasonable and Non-Discriminatory licensing. As [leading academics note](#), “FRAND Implies Balance” and “FRAND [is not] a one-way street.” Whereas alleged “patent holdup” supposedly results in excessive royalties, “patent holdout” is undermining licensors attempts even to achieve FRAND terms or to complete any licensing at all in many cases. Licensors are therefore losing their ability to make a fair return on their investments in SEP technologies. This discourages ongoing investments in standard-essential technologies, participation in SDOs and contribution to the standards.

Free-riders who are not paying for the IP they use are gaining an unfair advantage over other implementers who are paying FRAND royalties as well as stealing property rights from technology developers. There is significant evidence of some infringers flourishing while avoiding paying patent licensing fees on their manufactures and product sales for many years. They can, for example, typically challenge FRAND offers in lengthy litigation before paying any royalties. In some jurisdictions, even the royalties ultimately awarded can be derisively low.¹ In particular, various Asian OEMs accounting for a substantial proportion of global smartphone sales remain significantly unlicensed for at least some of the many SEPs they implement in the devices they manufacture or sell.

On the other hand, Alcatel-Lucent, Ericsson, Nokia and Qualcomm have exited the mobile phone market over the last 15 years while ramping-up R&D in 3G and 4G technologies. These and other technology-development oriented companies can only sustain these risky R&D investments if they can make direct returns on their patent portfolios through licensing. Former network equipment market leader [Ericsson has recently ousted its CEO due to poor growth and weak profits despite cost reductions, including in R&D](#).

“Patent holdup” is manifestly not a systemic problem. There is no empirical evidence of harm to markets or consumers, and such abundant proof of [market success](#)—particularly for innovative

¹ For example, a Chinese court awarded InterDigital in patent litigation against Huawei a [mobile SEP royalty rate of only 0.019 percent of device sales](#). This is extremely low given that InterDigital’s overall royalty yield (i.e. its total royalty income divided by total device market sales revenues) including licensed and unlicensed sales globally is [five times higher at around 0.10 percent](#).

smartphones and the extensive 3G and 4G networks to which they are connected—including seven billion cellular connections and [modest licensing costs totalling only around five percent of device prices](#).

Unmentionable claims

I came upon a paper entitled "[Patent Holdup: Myth or Reality?](#)" by Carl Shapiro, dated 6th October 2015, which was circulated as a hard-copy and presented at an IEEE-SIIT conference at [the Intel-sponsored key-note address](#). In this, the author concedes that there are "few documented instances of actual holdups" and that they are "exceedingly difficult for researchers to detect and reliably quantify." He has backed off from [his previous claims of prevalence of "patent holdup"](#) where he stated "patentees regularly settle with companies in the information technology industries for far more money than their inventions are actually worth. These companies are paying holdup money to avoid the threat of infringement." Shapiro has retreated due to lack of empirical support for these original claims which is because [portfolio licensing among many licensees on FRAND terms together with the courts ensure that holdup royalties are rarely demanded and are never paid](#). However, Shapiro takes another position where there is also no supporting evidence. He now claims that the social costs caused by the alleged "patent holdup" problem are in the actions taken to prevent holdup and in the opportunities forgone under the threat of "patent holdup."

His 2015 paper is labelled a preliminary draft that should not be quoted, yet the verbatim thesis of this most outspoken author is evidently being adopted elsewhere; including in [a speech by the US Department of Justice's Chief Economist, Nancy Rose, at a George Washington University conference on "Patents in Telecoms" in November 2015](#). In this, she analogises that "patent holdup" is like dark matter in the universe – something that cannot itself be detected but is present. She said that the existence of dark matter can be inferred from effects on visible matter.

With the passing of ten months since Shapiro presented his paper at the IEEE event and with the DoJ's name endorsing this latest development in "patent holdup" theory, I believe it is high time to shine some light on the flaws in arguments made by Shapiro and Rose by making their writings available and by rebutting them here. I do not see why they should enjoy the privilege of being heard and given the opportunity to persuade, while also indefinitely being able to shield their postulations from scrutiny or criticism.

A big bluff

At first glance of the Shapiro paper's abstract it seems he is going to provide the empirical evidence supporting "patent holdup" theory that many of us have been asking and waiting for over many years. Instead, careful wording sidesteps this issue again and again. He states that "the general theory of holdup enjoys substantial empirical support." This alone is woefully insufficient: critics of "patent holdup" theory claim these are inapplicable to patents in general and to SEPs in particular. Realising this while unwilling to admit this shortcoming, Shapiro goes on to state that "applying the same theoretical and empirical methodologies to "patent holdup" confirms that patent holdup is a substantial real-world problem." This seems conclusive; but instead of supporting this assertion with any [empirical](#) observations in patent licensing, he merely inflates his claim by stating that "patent holdup is shown to be an especially difficult type of holdup to manage." Patent holdup remains a theoretical problem absent specific empirical support.

In the paper's main text Shapiro goes on to claim that he "debunk[s] the assertion that the theory of patent holdup lacks empirical support," but he identifies no such empirical support there either. In his analysis he asserts that the "holdup problem" is actually "the potential for holdup" leading to costs in (1) preventing or mitigating actual holdup, (2) the deadweight loss associated with activities deterred by the prospect of holdup; and (3) the costs caused by actual holdup that nonetheless occur. However, he provides no more than descriptions of his assertions: as with his original theory (3), no empirical support for his revised theory, as indicated in (1) and (2), is provided either.

According to Shapiro and Rose, there are three ways in which the alleged problems with holdup can be mitigated or eliminated, each of which has social costs: vertical integration, long-term contracts and less specific investment. Shapiro maintains that, in general, this is all widely considered to be well established empirically. Even if one accepts that premise, it is also necessary to identify, depict and quantify with respect to costs how each of these effects is occurring in alleged "patent holdup." Shapiro dismisses vertical integration with acquisition of all patents required for manufacture as not being viable because there are many patents under widespread ownership and because competing manufacturers also need to use the same patented technologies. He regards FRAND arrangements as costly and inefficient, but does not even assess these anecdotally, let alone empirically. Similarly, he presents no evidence that specific investments have been curtailed with products subject to patents in general or SEPs in particular.

Sauce for both goose and gander

As indicated above, in close alignment with Shapiro's paper, Rose's PowerPoint deck, including associated "Notes" pages, also alleges potential for "opportunism" or "holdup", if:

1. **'Investments are relationship-specific—the value of investment is substantially lower if this relationship breaks down** (e.g. no foul play if it were a coal-fired power plant with deliveries by barge, and ongoing competition among barge companies ensures competitive transport costs).
2. **Contracts are incomplete—parties can't specify actions under all possible contingencies** (e.g., no foul play if power company can sign a long term supply contract with pipeline before construction (equivalently, before irreversibly committing to that location)).
3. **And where there is not the prospect of frequent similar decisions to be made in the future, in which reputation for "fair dealing" could discipline opportunistic behavior.'**

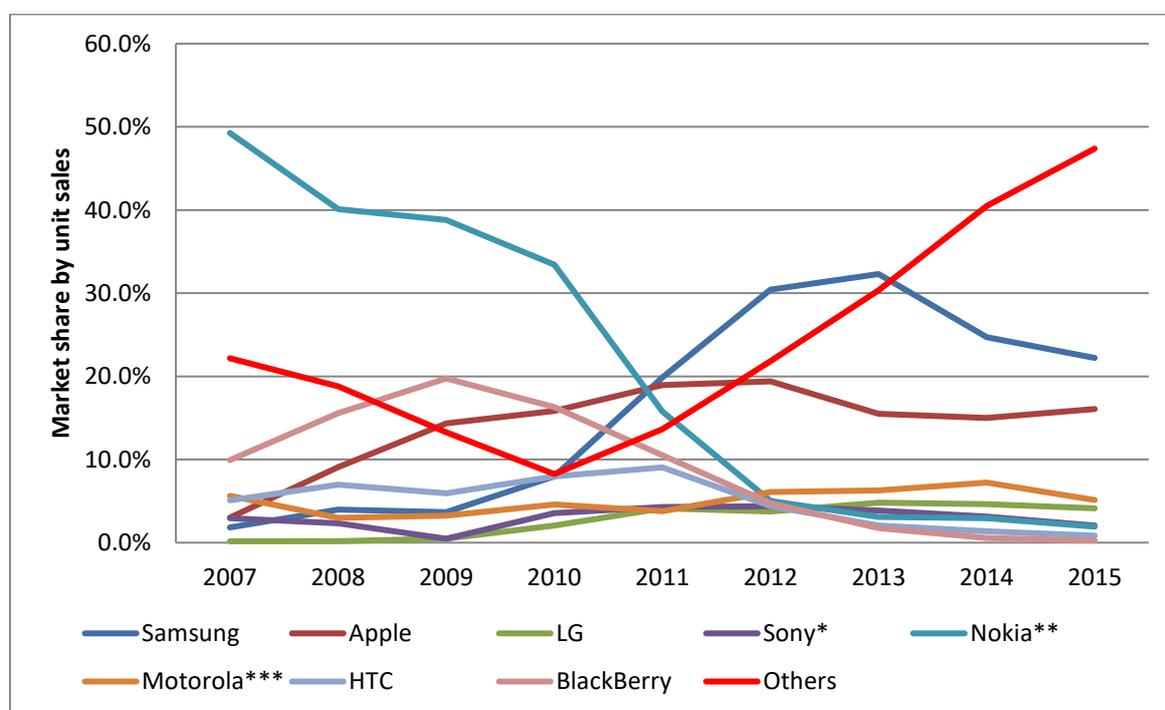
The purported costs of these problems and in mitigating them are: underinvestment, costs incurred to avoid holdup and costs of actual holdup.

All of the above failings are at least as theoretically applicable to holdout as they are to holdup; including the threats, costs in mitigation and deadweight losses thereof. There will be underinvestment in SEP technologies if SEP owners are deprived of FRAND royalties as a result of "patent holdout" with delays of up to many years before patent royalties are received, if ever, and through licensees underpaying. Avoiding or mitigating "patent holdout" can involve lengthy and costly litigation while implementers continue to profit from infringement. Some implementers avoid ever being licensed, or even if they are, under-declare product sales. Evidence of this points to

holdout not holdup in patent licensing.² Shapiro also refers to costs sunk by implementers with “substantial investments in specific assets” which allegedly make them vulnerable to the three types of holdup costs he defines, but he does not identify these assets or quantify such costs. It is, however, vertically-integrated incumbents with the most extensive SEP portfolios and downstream operations in network equipment, devices and chips that have been most invested in specific assets. They have suffered significant losses as their market positions have declined along the way to exiting the handset market while many others with little or nothing in the way of patents in general and SEPs in particular have usurped them in devices with the rise of smartphones and tablets.

If “patent holdup” or the threat thereof was a systemic problem we could expect to observe incumbent licensors with entrenched or dominant positions across the industry, stifled innovation, inhibited market entry for implementers and inflated prices. [Evidence is to the contrary, as illustrated by what has occurred in smartphones over recent years.](#)

Figure 1: Smartphones: Decline and Market Exit by Major SEP Owners, Others in Ascendancy



* Sony Ericsson until 2011

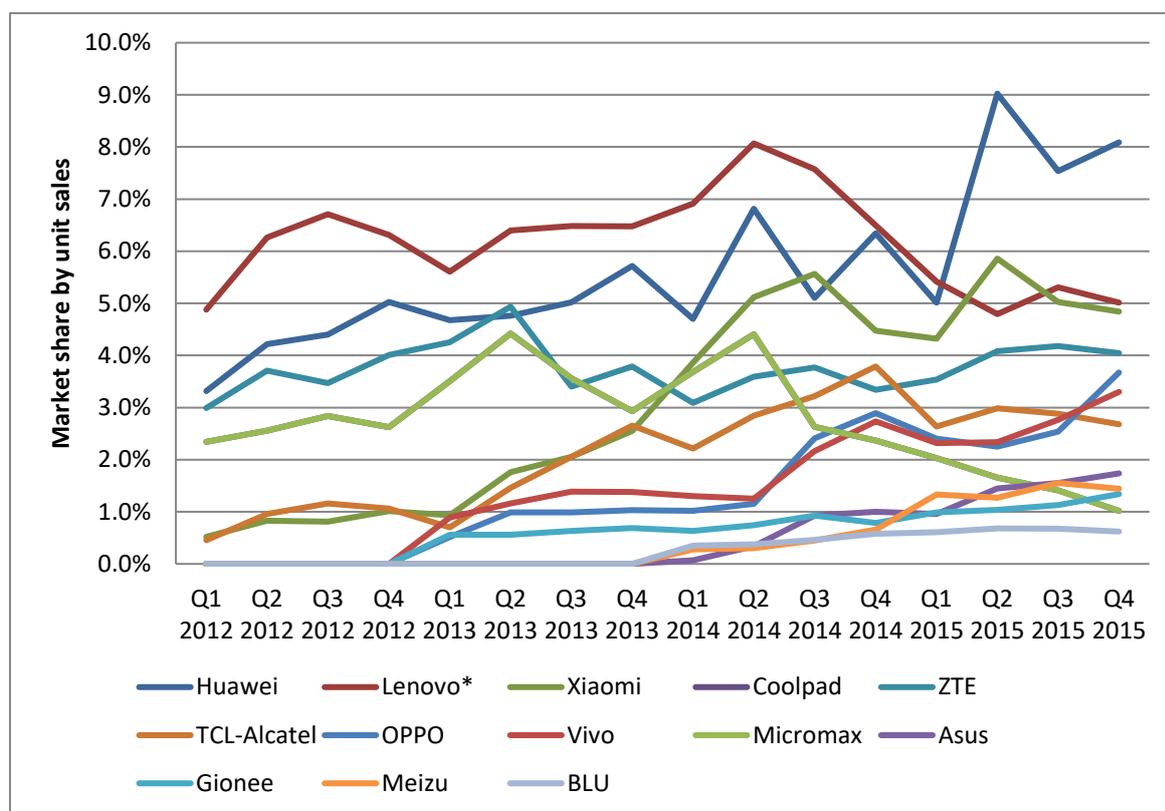
** Nokia’s handset business was acquired by Microsoft in 2014

*** Includes figures for Lenovo, which acquired Motorola in 2014

² For example, there are many cases of implementers manufacturing and selling products for years while remaining totally unlicensed, refusing to pay royalties on certain products or under-reporting sales. This shortfall reduces the amounts that could and would otherwise be reinvested in R&D for further improvements in technologies and standards. Publicly-reported disputes include examples involving major SEP owners [Ericsson](#) and [Qualcomm](#) (www.forbes.com/sites/greatspeculations/2015/11/05/qualcomm-earnings-licensing-weakness-subdues-results-but-new-design-wins-can-drive-future-growth/#4595c3dd3d32 noting under-payment and licensing delays), and small and large implementers such as [Apple](#). There are also numerous other examples outside the public glare where infringement is rife, including Chinese suppliers—particularly where products are also sold in China and in nations with weak patent protection.

Specific investments for most smartphone companies, including many new market entrants, are quite modest these days. The ease and extent of smartphone market entry, as illustrated in Figures 1 and 2, exemplifies this. This has been possible with standardized fundamental technology inputs readily available from third parties including 3G and 4G standard-compliant communications processors and RF chips together with applications processors and displays from merchant suppliers, commodity memories and open source operating system software. The Android OS used in 80 percent of smartphones is obtained royalty free. Market entry by garage-scale start-ups is a reality with all these tangible inputs, SEP-technology licensing on FRAND terms and the availability of product [reference designs](#) from MediaTek, Qualcomm and Spreadtrum at minimal up-front and fixed costs to smartphone companies including OEMs and ODMs.

Figure 2: Plentiful Market Entry in the Smartphones, without SEPs and at Low cost



* Includes figures for Motorola, which was acquired by Lenovo in 2014

In addition, even design expertise, brand building and distribution can come relatively cheaply. For example, HMD, a Finnish company, and FIH Mobile, a subsidiary of the Hon Hai/Foxconn Technology Group, are together [acquiring substantially all of Microsoft's feature phone assets](#), including a manufacturing facility in Vietnam, brands, software and services, care network and other assets, customer contracts, and critical supply agreements for \$350 million. Microsoft remained among market leaders shipping 86 million Nokia-branded feature phones in 2015. By way of comparison, total handset market sales of around 1.8 billion per year were worth \$412 billion in 2014, rising by 6.6 percent to \$439 billion in 2015, according to IDC.

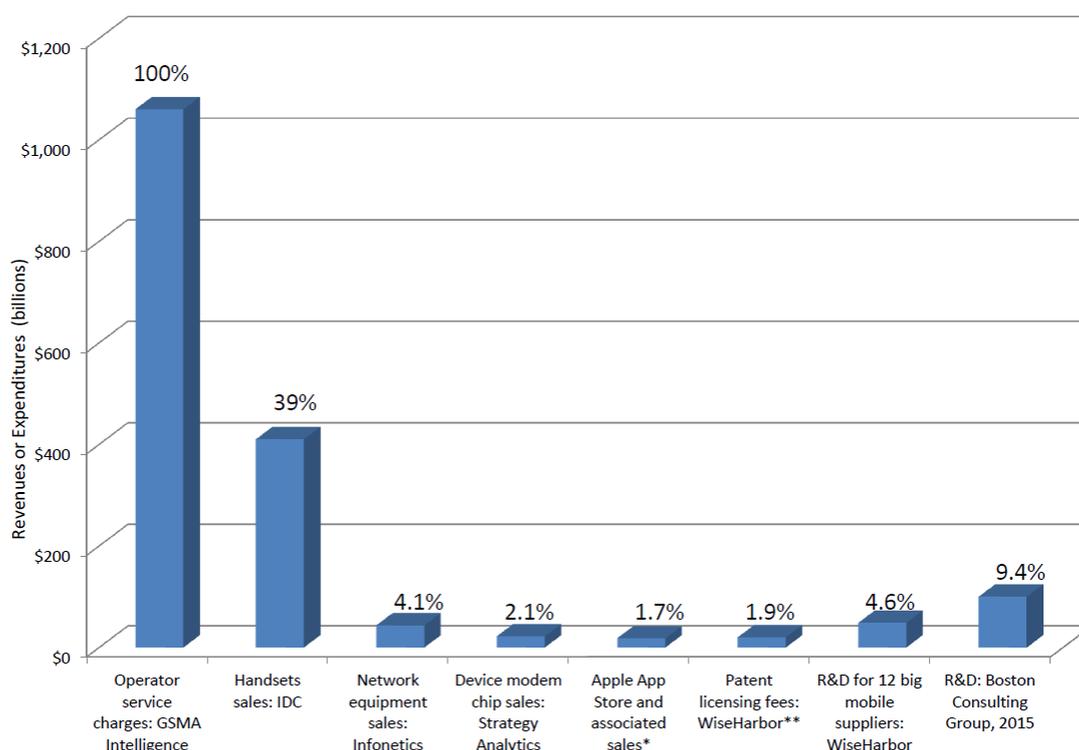
With respect to sinking large costs ahead of licensing agreements, it is the fundamental technology developers who are most exposed. Their financial commitments are generally the greatest and are

made first by years. Developing prospective standard essential technologies requires large and risky specific investments without knowing if the resulting technologies will ever be adopted in the standards. This can take many years of costly in-house R&D, and it also requires major human resource commitments to the SDO working groups. [More than an estimated one million man-hours is spent actually in 3GPP working group meetings](#) each year. [According to a 2014 study by Signals Research](#), far fewer than 20 percent of LTE submissions have been approved for standardization by 3GPP. In many cases, SEPs read on those contributions. The work undertaken in SDO working groups is merely the tip of the iceberg. Mobile communications sector R&D is estimated to be in the approximate range of \$50 billion to \$100 billion per year.³ Alcatel-Lucent, Ericsson, Nokia and Qualcomm no longer produce mobile phones and yet their total R&D investments were \$17.1 billion in 2014 and \$14.3 billion in 2015. The reduction was in face of declining revenues in US dollar terms for all of these companies from \$96.0 billion in 2014 to \$85.1 billion in 2015, versus the aforementioned growth in mobile phone revenues from \$412 billion to \$439 billion in the same period.

Revenues and costs in the mobile ecosystem differ enormously, as indicated in Figure 3. This chart compares various ecosystem segment values in dollars and as a percentage of what most money is spent on with \$1.1 trillion (100%) in operator service fees in 2014. The next largest market, worth \$412 billion (39% of \$1.1 trillion) that year, is handsets with Apple and Samsung leading and numerous others. There is \$44 billion (4.1%) in network equipment where Alcatel-Lucent, Ericsson and Nokia make most of their sales. Modem chips, worth \$22 billion (2.1%), is where Qualcomm and MediaTek generate most of their revenues but this market is relatively small in comparison to the aforementioned.

³ WiseHarbor has tracked annual R&D expenditures over many years, at \$48 billion in 2014, for 12 predominantly mobile communications oriented companies including Alcatel-Lucent, Apple, BlackBerry, Ericsson, Huawei, LG Electronics, MediaTek, Nokia, Qualcomm, Samsung, Electronics and ZTE. The Boston Consulting Group estimated total R&D expenditures at \$100 billion in a 2015 study: https://www.bcgperspectives.com/content/articles/telecommunications_technology_business_transformation_mobile_revolution/

Figure 3: Mobile Ecosystem Revenues and Costs (2014)



*Only around 17% of phone users have Apple's iPhones. Android, BlackBerry and Windows Phone users buy their apps elsewhere

**Aggregate fees for all mobile SEPs and many other patents (conservatively high estimate of payments actually made)

Even manufacturing is largely unspecific and is commonly outsourced to companies who also manufacture for other product markets and for many different smartphone vendors. Chips are produced in foundries, such as TSMC's, that make chips for all kinds of electronic products and for various different customers using the very same fabrication equipment. Phone displays are manufactured by producers such as Japan Display and LG Display on the same production lines used to make TVs and laptop displays. Smartphones are assembled using production facilities which contract manufacturers such as Foxconn, Pegatron and diversified in-house manufacturers such as Samsung can also use for a wide variety of other consumer electronics.

In ICT and in mobile communications in particular, it is very much a repeat game for technology owners and implementers dealing with each other. Products require numerous different standardised technologies, each subject to many SEPs. There are countless different products with relatively short product lifecycles. Reputation is particularly important for SEP owners who are most exposed because if they try to holdup other SDO members they may find it more difficult to influence standards or have their technologies accepted into the standards. No such sanctions are possible against those implementers who might not even participate in standards development but who can implement any standards they wish with impunity while infringing IP on a widespread and repeated basis. Consequently, licensors are finding it increasingly difficult to negotiate and complete patent licensing agreements including renewals in a reasonable timeframe with many infringers.

Runaround

Shapiro misrepresents the situation and developments with respect to availability of injunctions. He asserts “worry that giving SEP holders greater ability to obtain injunctions would facilitate SEP hold up.” However, whereas it used to be possible to seek and in some instances obtain injunctions, it is the loss or weakening of the ability to obtain or have enforced, and in some cases [face antitrust liability for even seeking an injunction](#), that is undermining the position of SEP owners and fostering abuse by implementers. For example, [no injunctions were granted](#) for any SEPs in US smartphone litigation between 2000 and 2014.

Shapiro’s argument that courts have displayed a restrained approach to issuing injunctions demonstrates the existence of holdup is circular. He asserts that the alleged holdup problem is being “addressed” by the Federal Circuit making it clear that owners of SEPs who have promised to license those patents on FRAND terms will rarely obtain injunctions. The Federal Circuit’s action does not prove that there was or would have been “patent holdup” but for the Federal Circuit’s action. Shapiro dismisses critics’ claims that “patent holdup” lacks empirical support on the basis that prospective “patent holdup” has been averted by this remedy for the alleged problem. He cites no empirical evidence of costs from actual holdup, costs in preventing holdup or of opportunities forgone by the prospect of holdup which might justify making injunctions virtually unobtainable. The courts resolve FRAND commitment disputes when called upon by setting terms where parties cannot agree. This is why “patent holdup” does not actually occur.

That obtaining SEP injunctions has already become nigh impossible in some jurisdictions including the US does not absolve Shapiro or the DoJ from the need to show empirically that alleged “patent holdup,” or even only the threat of “patent holdup,” is problematic. Merely stating that “the remedy for infringement of these patents will be the payment of reasonable royalties” is simplistic and neglects various major factors that determine actual rates and when they might be agreed and paid. Fostering licensing negotiation through patent litigation is a poor policy choice which results in significant costs and delays.

Making injunctions virtually unobtainable or only granting them as a last resort when infringers have held out licensors for years by refusing FRAND licensing terms and making no royalty payments is like not allowing someone to use their umbrella until they can show that they have been rained upon for a very long time and are thoroughly drenched.

What is FRAND, then?

The questions of whether or not the (F)RAND licensing regime is efficient and effective, and whether a fair and effective balance is being struck between the interests of licensors and licensees, can only be answered with empirical analysis. This should include consideration of benefits received and costs incurred by both licensors and licensees, together with the risks and timing for these.

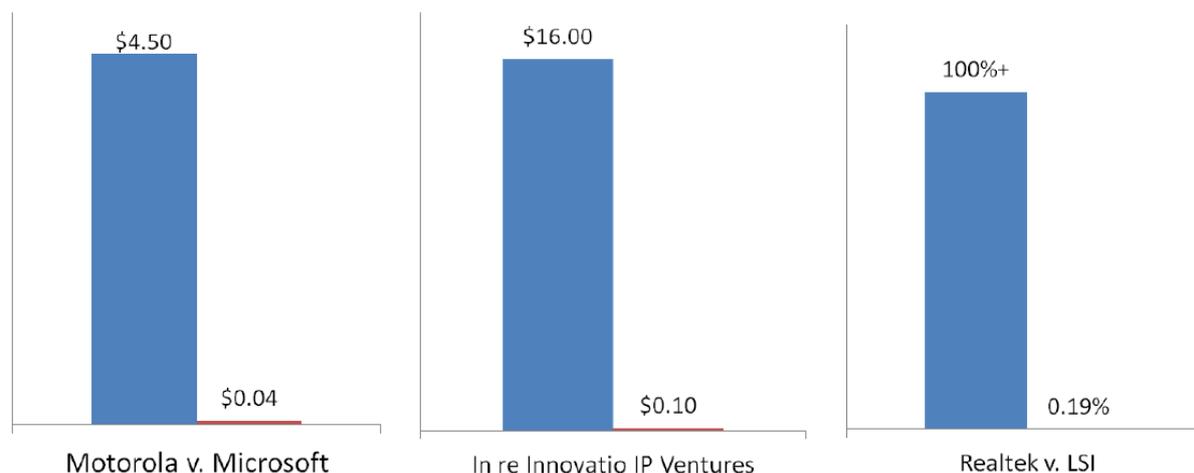
If Shapiro and Rose seek regulatory or legislative changes, particularly to a system which is critical to the economy, the burden of proof should be on them to show the significant harms and costs they contend. This is most important because they are advocating limitations on patent rights, a property right granted by another arm of government to that of any competition authority. They need to show the harms with respect to cellular markets where they and others are most significantly

seeking and enforcing change to eliminate alleged “patent holdup.” They have failed to do this and indeed cannot do so because the evidence instead shows [market success—not market failure—in smartphones](#); with [royalty payments representing only around five percent of mobile phone sales revenues](#), equivalent to less than two percent of entire ecosystem revenues also including operator service revenues.

The fact that aggregate royalties paid are demonstrably such a small proportion of handset or service costs, while there are thousands of SEPs and hundreds of patent owners, explains Shapiro’s conclusion that “there are few documented examples of actual holdups.” Actual “patent holdup” is therefore not systemic and “royalty stacking” of “patent holdup” charges is not occurring. In absence of these alleged excessive costs, these are neither being absorbed by manufacturers with lower profits, nor being passed on to consumers in higher prices.

Nevertheless, Rose attempts to show actual “patent holdup.” As indicated by the title of one of her slides and as in Figure 4 below, her “anecdotal evidence from court decisions” of just a few instances where negotiations have broken down were not from regular commercial activities where most patent licensing negotiations, agreements and payments occur. None of her three examples of where she alleges “patentees often demand royalties well in excess of RAND” included any cellular SEPs and in no case was the higher attempted holdup price ever actually paid. It is precisely these court decisions (on rare occasions when disputes go this far before being resolved) that show that SEP holders cannot impose unfair rates and, where parties cannot agree on terms, courts can and do adjudicate the issue.

Figure 4: Anecdotal evidence from court decisions



These examples show that recourse to the courts can and does ensure that there is no “patent holdup.” Manufacturers continued to make and sell product without paying those relatively high rates indicated. As for costs in mitigation, those have been mainly with the patentees who appear to be the losers with these examples in litigation. And as for deadweight losses: I find it hard to imagine anybody has hesitated one instant from investing in making products compliant with WiFi or H.264 (video compression) for fear of exorbitant SEP royalty demands. Those two ICT standards are among the world’s most very successful with respect to manufacturer and consumer uptake. Shapiro and Rose provide no evidence that implementers have been deterred. To the contrary, implementers have more commonly held a prevailing misconception about WiFi that it is IP royalty free, as

opposed to being reasonably and non-discriminately priced. There is no evidence WiFi or H.264 is perceived to be subject to excessive royalty charges. [Many an implementer would evidently like WiFi for free](#); and such perceptions are probably coloured by us being used to connecting our PCs, tablets and smartphones to WiFi access points for free in many public places.

There is nothing illegal, untoward, or abusive about SEP owners making relatively high initial licensing offers so long as they are negotiating in good faith towards a (F)RAND licensing agreement. Court judgments indicate that (F)RAND rates can fall in ranges varying, for example, by up to a factor of 30 in recent cases.⁴ Licensing may include many different terms and conditions and so headline royalty rates can reduce significantly during the course of negotiations. IP holders and prospective licensees typically negotiate in a succession of steps towards the resulting license contract, and this is consistent with the requirement of the SDO IP policies that negotiating parties must apply fair and reasonable behaviour.⁵

Ridicule and imbalance

Shapiro labels holdup theory critics, including several eminent experts in this field, as “deniers” in an attempt to take the high moral ground for himself while seeking to portray others as being blind to clear evidence, as he also says do those who deny climate change.⁶ This is another unabashed bluff: neglecting evidence on market success and “patent holdout” while failing to produce anything on alleged “patent holdup” is precisely what *he* is doing. His paper is one-sided because it does not even mention the possibility of “patent holdout” or that measures such as making injunctions virtually unobtainable could promote “patent holdout,” let alone any empirical or even only theoretical analysis on this.

There is no reason to suppose that there would have been market failure or excessive royalties but for the weakening of SEPs that has occurred in recent years. To the contrary, by any reckoning, the markets for communications products and services have continued to work very well over the last decade or so with the widespread licensing of mobile SEPs. The grave danger is that the good balance that has been long struck between the interests of patent owners and implementers in consensus-based SDO IPR policies that seek to encourage innovation, participation in standards setting and widespread standards adoption is being destroyed. There is no basis for weakening

⁴ For example, in *Microsoft versus Motorola*, the court-concluded rates ranged from 0.555 cents per unit to 16.389 cents per unit for Motorola’s H.264 SEPs and from 0.8 cents per unit to 19.5 cents per unit for its 802.11 SEPs.

⁵ This has been expressly recognized by an Administrative Law Judge from the US International Trade Commission. See [ITC Inv. No. 337-TA-800, 421 and 422](#) Final Initial Determination (Public Version): “This commitment means that the IPR owner must negotiate towards licenses on FRAND terms, making genuine and good faith efforts to reach agreement. By so doing, the IPR owner fulfils its FRAND obligations” and “the type of obligation set forth in the ETSI undertaking”... “imposes on both negotiating parties a duty to negotiate in good faith.” (emphasis added.)

⁶ Shapiro states that he “address[es] a number of specific submissions and papers by patent-holdup deniers” including: “Ohlhausen and Wright: ITC Submission,” “Wright and Ginsburg: Japan FTC Submission,” “Galetovic, Haber and Levine: An empirical Examination of Patent Hold-Up,” Layne-Farrar: Patent Holdup and Royalty Stacking Theory and Evidence,” “Sidak: The Antitrust Division’s Devaluation of Standard-Essential Patents,” and “Teece: Intellectual Property Issues in A Global Context.”

patents in standards by, for example, making injunctions even more difficult to obtain. Resulting harms might not be immediately apparent but might be very significant and difficult to correct later.

Current industry success is more a function of yesterday's conditions in IPR, than it is of recent changes to undermine patent rights, due to significant time lags. Shapiro distorts matters by not recognizing this. Those (adverse) effects might take years to flow through to harms that can actually be measured in the markets. Rather like with climate change—where the danger is that we wait too long before recognising and dealing with the harm being done to what was a well-functioning ecosystem—by tipping the scale against technology developers and in favour implementers of SEPs the ultimate damage will also be severe and irreparable. This will be particularly the case in developed regions such as the US and Europe where most of the SEP technology innovation occurs.

The courts, antitrust authorities and even an [SDO making injunctions more and more difficult to obtain](#), if they can ever be obtained at all, has harmfully encouraged so called "[efficient infringement](#)." With this increasing phenomenon, implementers get away with being unlicensed for a long time, many years in some cases, and at least until after litigation has been initiated by patent owners. Any shifts in balance of negotiating power between licensor and licensee can have enormous effects on the level or rate of patent royalties as well as timing for agreements and payments.

Licensors are finding it increasingly difficult to get prospective licensees to the negotiating table absent litigation. For example, [Ericsson has resorted to suing](#) Indian OEMs Micromax, Intex and Gionee, over infringement of patents pertaining to 2G and 3G wireless technologies. It has also pursued similar litigation against Chinese OEMs Xiaomi, and TCL who [Ericsson claims](#) employed "patent licensing 'hold-out' tactics" over a span of more than six and a half years. [Qualcomm has recently brought suit against Meizu](#) following vain attempts to license on terms consistent with the rectification plan submitted by Qualcomm to, and accepted by, China's National Development and Reform Commission (NDRC) in 2015 in settlement of the agency's investigation into Qualcomm's patent licensing practices.

Action and reaction opposite but not equal

As indicated above, in the real world, "patent holdout" is significant. SDO IPR policies, such as ETSI's which guides FRAND-based licensing for all 3GPP standards, recognise this by seeking to strike a balance between the interests of licensors and licensees. ETSI seeks to ensure investment in the preparation, adoption and application of standards is not wasted as a result of a SEPs being unavailable, while also ensuring IP owners are able to be adequately and fairly rewarded for the use of their IPRs in the implementation of the standards.

It is disingenuous that neither Shapiro nor Rose makes any mention of "patent holdout." Not even as a possibility or as something that they refute. When prospective patent licensees hold out licensors, for up to several years in some cases, it also eliminates any possibility of holdup rates being imposed by licensors. Under these circumstances and with significant costs in litigation while implementers are benefiting from non-payment of royalties, licensors can in some cases be coerced into accepting sub-FRAND licensing terms or might give up seeking a license at all. This is an unbalanced state of affairs.

When questioned about “patent holdout,” the Department of Justice’s Acting Assistant Attorney General Renata Hesse is dismissive about it on the basis that such behaviour unilaterally would not be an antitrust concern. Even if that is the case, I cannot understand why any consideration of “patent holdout” should be entirely disregarded when analysing the alleged “patent holdup” and possible antithetical effects. For example, [European Commission guidance on the assessment of supplier dominance](#) considers constraints imposed by the bargaining strength of customers. For example, “[e]ven an undertaking with a high market share may not be able to act to an appreciable extent independently of customers with sufficient bargaining strength.” Countervailing buying power may result from a buyer’s size, commercial significance and other factors.

And similarly, astrophysicists investigate the behaviour of non-dark matter to test their theories on the existence of dark matter and its opposing role in the scheme of things.

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[Keith Mallinson](#) is founder of [WiseHarbor](#), providing expert commercial consultancy since 2007 to technology and service businesses in wired and wireless telecommunications, media and entertainment serving consumer and professional markets. He is an industry expert and consultant with 25 years of experience and extensive knowledge of the ICT industries and markets, including the IP-rich 2G/3G/4G mobile communications sector. His clients include several major companies in ICT. He is often engaged as a testifying expert witness in patent licensing agreement disputes and in other litigation including asset valuations, damages assessments and in antitrust cases. He is also a [regular columnist](#) with [FierceWireless](#) and IP Finance – “where money issues meet intellectual property rights.”

The author can be contacted at WiseHarbor. His email address is kmallinson@wiseharbor.com and you can also follow him on Twitter at <http://twitter.com/WiseHarbor>.

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