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FRAND determination in TCL v. Ericsson and Unwired Planet v. Huawei: Same same but different?

Peter Georg Picht[1]

German abstract: *Die Entscheidungen Unwired Planet/Huawei (GB) und TCL/Ericsson (USA) sind für die FRAND-Lizenzierung von SEPs bemerkenswert, u.a. weil sie eine detaillierte Festlegung von FRAND-Lizenzgebühren treffen. Bemerkenswert ist aber auch ein Vergleich, da die Gerichte auf offenbar ähnlicher Faktenbasis zu unterschiedlichen Ergebnissen gelangen. Der Beitrag konzentriert sich auf einen Hauptgrund, nämlich den Umgang mit der „top-down"- bzw. Vergleichslizenzanalyse als zwei Zentralmethoden zur FRAND-Bestimmung. Er legt u.a. dar, dass die Behandlung öffentlicher Lizenzkonditionenankündigungen als bindende Zusagen eher Probleme schafft; dass FRAND-Zusagen unter Geltung von EU-Recht und in Bezug auf EU-Patente unter Berücksichtigung des EU-Rechts zu interpretieren sind; dass die beiden Gerichte das Nichtdiskriminierungserfordernis stark unterschiedlich interpretieren; und dass eine wertende Gewichtung von Vergleichslizenzen verzerrend wirken kann. Im vorliegenden Sachverhaltskontext erscheinen Vergleichslizenzen als die aussagekräftigere FRAND-Bestimmungsmethode.*

Abstract: *Unwired Planet/Huawei (UK) and TCL/Ericsson (US) are remarkable rulings on the FRAND-licensing of SEPs, not least because they tackle the task of a full-blown FRAND-royalty determination. Equally remarkable is a comparison between them since the two courts looked – it seems – at a similar set of facts but reached quite different results. The present paper focusses on a key reason for these differing outcomes, namely the courts' treatment of "top-down" and "Comparables", two core approaches in FRAND royalty calculation. It argues, i.a., that it creates more problems than solutions to treat the public announcement of royalty rates as a "pledge"; that FRAND commitments made under EU (Member State) law and regarding EU patents ought to be interpreted with a view to EU law; that the two courts interpret the "ND"-requirement differently; and that the weighing and adjusting of Comparables may*

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be distortive. As to the relative importance of the calculation approaches, Comparables seem more relevant regarding the facts at issue.

***Keywords**: FRAND; SEP; TCL; Unwired Planet; Huawei; Ericsson; ZTE; top-down; comparables; pledge; Selna; Birss; ETSI; non-discrimination; hard-edged.*

I. Introduction

The licensing of standard-essential patents (SEPs) at fair, reasonable and non-discriminatory (FRAND) conditions is, at present, a major issue in patent jurisdictions all across the world. And 2017 was a very productive year regarding case-law on this type of licenses. Justice Birss's ruling in *Unwired Planet v. Huawei*[2] and Judge Selna's judgement in *TCL v. Ericsson*[3] were, arguably, the most prominent decisions from Anglo-American jurisdictions, not least because both Courts engaged in detailed FRAND royalty calculation, an undertaking as yet relatively rare in SEP/FRAND case-law.

Although the two cases provide ample opportunity for comparative discussion, the present paper will focus mainly on their treatment of two core approaches in FRAND royalty calculation, namely the so-called "top-down" method and the analysis of comparable previous licenses (hereinafter also: Comparables). This aspect is particularly interesting, not only because of its economic relevance to the parties but also because the two courts looked – it seems – at a similar set of facts[4] but reached, as the paper will show, quite different results.

The paper aims at making the decisions in their pertinent parts – long and forbidding in their use of FRAND/SEP jargon as they may appear to some – more easy to compare and at providing some short comments that hopefully help to spur a lively and critical discussion.[5]

[2] *Unwired Planet International Ltd v Huawei Technologies Co Ltd* [2017] EWHC 711 (Pat).

[3] *TCL Communication Technology Holdings Ltd v Telefonaktiebolaget LM Ericsson*, Nos 8:14-CV-00341 JVS-DFMx, 2:15-CV-02370 JVS-DFMx (CD Cal Sept 21, 2017).

[4] In particular, *TCL* deals with Ericsson-owned SEPs and Ericsson-granted licenses; *TCL v Ericsson* (n 3) 4, 5, 54 et seq. *UWP* focuses on SEPs acquired by Unwired Planet from Ericsson and on Comparables granted by Ericsson; *Unwired Planet v Huawei* (n 2) [382].

[5] Besides scope limitations, another important caveat results from the fact that this paper can rely only on the published versions of the rulings in question which are, in part, heavily blanked out.

Inter alia, the paper argues that it creates more problems than solutions to treat publicly announced royalty rates as a form of binding "pledge" (cf. below VI.1.), that extensive "mid-point guessing" by judges can be problematic, and that FRAND commitments made under EU (Member State) law and regarding EU patents ought to be interpreted with a view to EU law (cf. below VI.2., VII.). It points out how differently the two courts interpret the non-discrimination requirement of FRAND (cf. below VI.4.), that categorizing licensees as "local kings" can be a tricky task, and that the weighing and adjusting of Comparables may distort the results of a Comparables-based approach (cf. below VI.5.). The paper contends that the decisions in *TCL v Ericsson* and *Unwired Planet v Huawei* corroborate the role of both top-down analysis and the use of Comparables as important methods in future case-law on FRAND license determination. At the same time, it is unlikely that either top-down or Comparables will – or should – prevail as the exclusive approach in all complex cases. Regarding the relative importance of the two methods, *Unwired Planet* favors Comparables while *TCL* looks more favorably at the top-down approach. In the view of the author, Justice Birss's position is more convincing regarding the facts at issue (cf. below VI.6.).

II. Case background

1. *Unwired Planet v Huawei*

Unwired Planet[6] was the first major ruling on SEP/FRAND issues in England. It resulted from a dispute between Unwired Planet, a licensing company, and Huawei, a major player in the ICT sector that, consequently, implements a number of ICT standards in its devices. The overall dispute can be separated into – so far – six trials: Three "technical" trials have been completed, each dealing with one patent and relating to technical issues such as validity, infringement and essentiality. Another trial concerned the only non-SEP in the portfolio. The non-technical trial being the subject matter of the decision discussed here relates to competition law as well as FRAND issues and involves patents which are declared to be or to become[7] standard-essential patents (SEPs) according to the ETSI IPR Policy. Unwired Planet's business model is the licensing of patents to companies who

[6] cf n 2; for a review, see Peter Georg Picht, '*Unwired Planet v. Huawei*: A Seminal SEP/FRAND decision from the UK' (2017) 12 Oxford JIPLP (10) 867.

[7] According to Art. 4.1, "a MEMBER submitting a technical proposal for a STANDARD or TECHNICAL SPECIFICATION shall, on a bona fide basis, draw the attention of ETSI to any of that MEMBER's IPR which might be ESSENTIAL if that proposal is adopted". The declaration of a patent to ETSI does, therefore, not necessarily mean that either the patent is standard-essential at the time of its declaration or the declaration is flawed.

make and sell telecommunications equipment such as mobile phones and infrastructure. All these patents were originally granted to Ericsson and are part of a patent portfolio Claimant obtained from Ericsson, purportedly encompassing patents essential to various ICT standards. Defendants in the overall dispute (in particular Huawei, Google and Samsung) produce and market GSM, UMTS and LTE based devices. In 2016, Unwired Planet LLC was acquired by PanOptis, whereas Unwired Planet Inc. changed its name to Great Elm Capital Group Inc. Claimant's contacts with the defendants started in October 2012, a couple of meetings took place and claim charts for the SEPs were, under the cover of a Non-Disclosure Agreement (NDA), provided along with some information about previous litigation. In letters as of September and October 2013, Huawei's board was invited to enter into licensing negotiations and ultimately to reach an agreement, but, in spite of further communications, no licence was concluded. After the beginning of the proceedings, in April 2014, Claimant made an open offer to Defendants to licence its entire global portfolio, including SEPs as well as non-SEPs. Defendants refused to take a licence, because they contended, on the one hand, that the patents were not infringed, not essential or invalid and, on the other hand, that Claimant`s licensing offer was not FRAND. In addition, Defendants raised defenses and counterclaims based on Art. 101 TFEU regarding the Master Sale Agreement (MSA) through which Claimant acquired patents from Ericsson, as well as a violation of Art. 102 TFEU (abuse of a dominant position). In July 2014, Claimant made a second offer limited to the SEPs in the portfolio which was also rejected by Defendants due to its non-FRAND character. Subsequent to directions of the Court in June 2015, both sides submitted offers containing detailed licensing terms. In summer 2015, defendant Google settled and defendant Samsung did the same in summer 2016. As a consequence, Huawei discontinued a significant part of its counterclaims and certain controversial terms – in particular the clause on applicable royalty rates – were removed from the MSA. Since then, the litigation summarized here involves only Unwired Planet and Huawei. In February 2016, Claimant and Defendant exchanged open correspondence concerning their lack of progress in concluding a FRAND licence. In August 2016, Claimant made a new offer comprising the same terms but lower rates. Defendant's offer remained on a per-patent basis. In October 2016, Defendant submitted another licensing offer, amending the per-patent royalties and proposing a licence for the whole UWP UK SEP portfolio. Claimant's proposal as of August 2016 and Defendant's proposal as of October 2016 represent the parties' positions in the trial.

Alongside a number of legal and technical patent infringement issues, Justice Birss had to address the FRAND concept and competition law in order to assess the parties' licensing offers and the admissibility of injunctive relief.[8] After stressing the aim of the FRAND concept to strike a fair balance between the interests involved,[9] examining the ETSI FRAND undertaking under French law,[10] and discussing whether FRAND is a "range" or a "dot" as well as emphasizing the "process component" of FRAND,[11] the Court continued to determine a FRAND rate for the case at hand. After discussing the application of competition law and finding the rules of competition law not infringed,[12] Judge Birss concluded that neither the licensing offer made by Unwired Planet, nor the one made by Huawei was FRAND in the aforementioned sense.[13] Thus, the Court gave the parties some additional time to conclude a license in accordance with the condition set by the Court,[14] and issued formal declaration that the license ultimately framed in the judgement was FRAND.[15]

2. *TCL v Ericsson*

TCL v Ericsson,[16] involves Ericsson's portfolio of patents allegedly essential to ETSI's 2G, 3G and 4G/LTE mobile phone standards. TCL is a large manufacturer of mobile phones and other devices which comply with these standards. In March 2007, TCL affiliates concluded 2G licenses with Ericsson. In 2011, the parties started negotiating a 3G license. From 2012 to 2014, Ericsson brought various lawsuits against TCL for violating Ericsson's SEPs. In 2014, the parties started negotiating a 4G license. According to TCL, no offer or counteroffer made by Ericsson during these negotiations was on FRAND terms. In March 2014, TCL filed the action at issue here when its initial March 2007 2G license with Ericsson was about to expire. Throughout the litigation, and preceding a bench trial in February 2017, made several important decisions relating, *inter alia*, to the exclusion of implementation patents from the scope of a FRAND license, to a global anti-suit injunction, to the taking into consideration of Ericsson's cross-license to TCL, to monetary damages for TCL resulting from an alleged breach of Ericsson's FRAND commitment, to the non-binding effect of a previous arbitral award, as well as to California Unfair Competition Law ("UCL") claims and the Noerr-Pennington doctrine. During the course of litigation, Ericsson made licensing offers, leading to two alternative offers–Option A and

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[8] *Unwired Planet v Huawei* (n 2) [1]–[3], [12]–[14], [81].
[9] *Unwired Planet v Huawei* (n 2) [95].
[10] *Unwired Planet v Huawei* (n 2) [98]–[146].
[11] *Unwired Planet v Huawei* (n 2) [147]–[69].
[12] *Unwired Planet v Huawei* (n 2) [481]–[521].
[13] *Unwired Planet v Huawei* (n 2) [522].
[14] *Unwired Planet v Huawei* (n 2) [794].
[15] *Unwired Planet v Huawei* (n 2) [803].
[16] cf n 3.

Option B–considered by Judge Selna in his FRAND decision. The Court held that Ericsson's two final licensing offers were not FRAND, and therefore adjudicated FRAND terms for a worldwide portfolio license.[17]

III. Top-down royalty determination

One of the two core methods applied by both courts is the so-called "top-down" approach. It sets out by determining an "aggregate royalty rate" (ARR), viz. the appropriate total royalty burden from licensing all the intellectual property necessary to implement a standard by, say, producing and distributing a handheld device. Top-down determination then shares out this aggregate royalty across all licensors in proportion to the value of each licensor's patent portfolio based on assessing that value as a share of the total relevant patent portfolio essential to that standard.[18]

1. *Unwired Planet v Huawei*

a) The aggregate royalty rate

Justice Birss, in his top-down analysis, is quite hesitant to deduce the ARR from public statements made by SEP owners. To him, such statements on the appropriate ARR "have little value in arriving at a benchmark rate today for a number of reasons. The claims are obviously self-serving".[19] The decision cites market participants' statements on ARR ranging from "(low) single-digit percentage of the sales price" for 4G/LTE, "6-8% for handsets" regarding 4G/LTE, "8 % for 4G", "5% or less for 3G".[20] Other statements refrain from directly indicating an ARR but specify the (presumed) share of the respective patentee in all relevant SEPs, together with a royalty rate for the patentee's SEP portfolio.[21] The idea of calculating ARRs based on various sets of these combined figures does not convince Justice Birss: "[I]f one assumes Alcatel's 2% royalty claim means they claim at least 20% of the Relevant SEPs (because in April 2008 Alcatel put their name to a "single digit percentage aggregate" […]) then the total shares of Relevant SEPs just mentioned in these statements add up to about 100% without including other major industry players […]".[22]

[17] *TCL v Ericsson* (n 3) 6.
[18] *Unwired Planet v Huawei* (n 2) [178].
[19] *Unwired Planet v Huawei* (n 2) [269].
[20] *Unwired Planet v Huawei* (n 2) [264]–[65].
[21] *Unwired Planet v Huawei* (n 2) [264].
[22] *Unwired Planet v Huawei* (n 2) [269].

The figures on ARR presented by the parties do not seem consistent to the Court either: "[T]he combination of Huawei's submissions on rates and Huawei's submissions on what Unwired Planet's share of the Relevant SEPs is, shows that in truth Huawei's case does not support an aggregate royalty burden of 8%. It supports a higher total burden than that. Where Huawei undoubtedly have a point is that the cross-check shows that if Huawei's case on Unwired Planet's share S of SEPs overall (0.30%) is right, the benchmark rate claimed by Unwired Planet of 0.13% cannot be supported. It would imply a total burden T of 43%. That is far too much. Conversely if Unwired Planet are right about their share S of SEPs overall (1.25%), a benchmark of 0.040% implies a total burden of 3.2%. That is much less than Huawei themselves are prepared to countenance in these proceedings".[23] "Furthermore, putting weight in these statements do [sic!] not take into account what implementers and SEP holders have actually been content to agree in the intervening years. Compared to public statements, comparable licences are concrete data points, albeit their interpretation can be uncertain and the factors derived from them even more so".[24] Consequently, the decision uses top-down analysis as a cross-check but no more than that.[25]

b) SEP in total and in Unwired Planet's portfolio

As said above, for sharing out whatever the appropriate ARR may be, it is necessary to know the total number of patents essential to the pertinent standard(s), the share of a patentee's SEP portfolio in this total set of SEPs, and – if the assessment goes beyond mere patent counting – the relative value (broadly speaking) of the portfolio patents in comparison with the SEPs outside the portfolio.[26] In *Unwired Planet v Huawei*, each party presented to Justice Birss its own approach for determining these elements, Huawei the "HPA" and Unwired Planet the "Revised MNPA".[27]

The Revised MNPA[28] identifies all declared SEPs in the ETSI IPR database, limits this set to the declarations relating to the standard(s) in question, groups patents into families,[29] and filters out families without a pending or issued US or EP patent. The approach then selects the most important families by cutting off all patents with a priority date after 31 December 2008, groups the remaining families

[23] *Unwired Planet v Huawei* (n 2) [271]–[72].
[24] *Unwired Planet v Huawei* (n 2) [270].
[25] *Unwired Planet v Huawei* (n 2) [263], [272].
[26] *Unwired Planet v Huawei* (n 2) [180]–[85], [197].
[27] *Unwired Planet v Huawei* (n 2) [199].
[28] On the following, see *Unwired Planet v Huawei* (n 2) [274]–[75].
[29] A patent „family" encompasses the patents granted on the same technology by different jurisdictions, cf *Unwired Planet v Huawei* (n 2) [201, 546, 548].

in handset or infrastructure-only patents, and filters[30] them to account for over-declaration and for the fact that some SEPs read not on the "core" of the standard but on optional or unused features.[31]

The HPA[32] starts out by creating a de-duplicated list of declared essential patent families (including family members not expressly declared) from the ETSI database and the Korean Telecommunications Technology Association database. From this list, only families including "at least one issued and non-expired patent and an English or Chinese language member" are selected for further analysis and grouped corresponding to the standards on which they read. At the next, vital stage evaluators select – based on a set of rules[33] – a patent from each family as well as one of the pertinent ETSI standards and review the patent's essentiality to that standard. If the evaluator determines that the standard-specification does not provide a clear reason to rule out the patent as being essential, then the family is deemed essential.

Both parties leveled harsh criticism against each other's approaches and Justice Birss scrutinized them very thoroughly. Summarizing key points, he found the Revised MNPA's pre-2009 priority date cut-off to be FRAND but the way in which some value was attributed to post-2008 patents – namely by applying a 80:20 filter – "so crude as to be arbitrary".[34] While the original (non-revised) MNPA's filter for over-declaration was considered reasonable, the filters for optional and non-deployed features were – in their combination with the pre-2009 cut-off and the selection of pertinent standards – held not to be FRAND for lack of empirical basis.[35] Due to this critique, and in order to arrive at an appropriate, combined filter for all three factors, an expert reviewed two samples of patents, owned by Samsung and Huawei respectively and indicated by the HPA method as essential. Spending 5-6 hours per patent family, the expert arrived at essentiality rates of 16.6% (adjusted to 15.9%) and 9.4% respectively for these samples, the highest rate of which was then used

[30] The original MNPA applied three different filters, for over-declaration, essentiality to options only, and essentiality to features not deployed. Reacting to criticisms leveled against the approach in litigation, Unwired Planet adapted the MNPA and used a single filter accounting for all three factors instead. Together with a broader selection of pertinent standards, this change resulted in the "Revised MNPA", cf *Unwired Planet v Huawei* (n 2) [274]–[75].

[31] Standards contain parts of various relevance (core, parts used only by some implementers, parts not widely used at all) and, consequently, not all SEPs are equally "essential"; cf. LG Düsseldorf, 19.1.2016, 4b O 120/14 – *Unwired Planet/Samsung*, Rn. 345; LG Düsseldorf, 19.1.2016, 4b O 122/14 – *Unwired Planet/Samsung*, Rn. 362.

[32] On the following, see *Unwired Planet v Huawei* (n 2) [286]–[87].

[33] On these rules, see *Unwired Planet v Huawei* (n 2) [286].

[34] *Unwired Planet v Huawei* (n 2) [322].

[35] *Unwired Planet v Huawei* (n 2) [324]–[32].

for the Revised MNPA.[36] Looking at the various steps the expert took to determine the relevant samples Justice Birss stated that there "are significant uncertainties in all these exercises and this is another but it does not render the technique meaningless".[37]

Overall, the "MNPA has flaws but […] the Revised MNPA is a reasonable attempt to derive information which allows one to assess the strength of a portfolio of patents declared essential to LTE. […] One needs to take care with the results because the error bars are wide. However the results of the MNPA are not meaningless and do not systematically favour Unwired Planet, as long as one does not think the results are the true essentiality rates".[38] At the same time, however, the decision refuses to rely on the MNPA since "with the MNPA, something like the 80:20 approach is necessary. […] To use the Revised MNPA fairly demands the incorporation of some step which gives some value for the patents […]. That is a serious weakness. […] The complexity of the 80:20 adjustment, layered on top of the multimode adjustment […] makes the Revised MNPA + 80:20 approach impossible to adjust in a credible manner. The only way it can be adjusted would be so broad brush that it would be mere pretence to suggest it was more meaningful than doing my best to just choose values for S and R somewhere between the parties' extremes".[39]

The HPA approach had originally been run as part of an arbitration between Ericsson and Huawei, a fact about which the Court – to its discontent – was not informed from the outset.[40] Neither this point, however, nor the unclear picture of HPA's role in the arbitration,[41] nor doubts regarding the neutrality of the patent evaluation[42] were the decisive reasons for Justice Birss not to base his royalty determination on the HPA. He focused on the role the HPA was initially intended to play in the arbitration between Ericsson and Huawei, namely that of a "coarse filter to screen out non-essential patents",[43] a filter that "would err on the side of essentiality since there was going to be a further detailed study which involved considering the patented technology and the standard".[44] HPA's evaluation exercise was a "huge undertaking" to "produce a pool for further study", but could only spend ½ hour per patent family,[45] and Justice Birss finds that the more extensive and careful analysis

[36] *Unwired Planet v Huawei* (n 2) [333].
[37] *Unwired Planet v Huawei* (n 2) [336].
[38] *Unwired Planet v Huawei* (n 2) [366]–[67].
[39] *Unwired Planet v Huawei* (n 2) [368]–[70], [375].
[40] *Unwired Planet v Huawei* (n 2) [341].
[41] *Unwired Planet v Huawei* (n 2) [341].
[42] *Unwired Planet v Huawei* (n 2) [343].
[43] *Unwired Planet v Huawei* (n 2) [361].
[44] *Unwired Planet v Huawei* (n 2) [360].
[45] *Unwired Planet v Huawei* (n 2) [345].

underlying the modified 16.6% filter of the Revised MNPA – again: an analysis that had spent 5-6 hours per patent family – "is likely to be closer to the true figure".[46] Still, in his view, "this does not mean the method is flawed or unreliable. I am satisfied that the HPA has applied a consistent yardstick and produces meaningful results. It is a reasonable attempt to deal with over-declaration and derive information about how many essential patents there really are. […] However as an absolute value, the numbers from the HPA over-estimate the true number of essential patents. […]".[47]

At the end of his lengthy top-down exercise, Justice Birss's reaches the somewhat disenchanted conclusion that he is "satisfied that both methods produce the wrong answer".[48] Being a judge and having, therefore, to come to a decision, Justice Birss reverts to his subjective estimation and judgment, trying to identify a reasonable weighted mean between the parties' figures: "The problem is whether there is a better way to arrive at the right answer than doing my best to choose values for S and R somewhere between the parties' extremes. […] I have concluded that the right way to reach a conclusion is to apply adjustments to the figures derived from the HPA. The basis for the adjustments is my qualitative evaluation of the evidence as a whole […] The significant overstatement in the HPA is the number produced for the total pool of Relevant SEPs. The number for 4G handsets is 1812 and is much too high. The corresponding number in the Revised MNPA is 355 but that number is much too low if it is to represent all Relevant SEPs. I think both values are out by about a factor of two. Half of 1812 is 906 while twice 355 is 710. Splitting the difference takes one to 800. Standing back, about 800 is fair and in my judgment an appropriate figure for the pool of 4G/LTE patents".[49]

2. *TCL v Ericsson*

a) TCL's top-down analysis

In *TCL*, only the company so named had submitted its own top-down analysis while Ericsson refrained from doing so and presented, instead, an "ex-Standard" calculation based on the inherent value of its portfolio. The ex-Standard method did not find much favor with the Court[50] and is not discussed in greater detail here as it is neither really a top-down nor a Comparables-based approach.

[46] *Unwired Planet v Huawei* (n 2) [362]–[63].
[47] *Unwired Planet v Huawei* (n 2) [361].
[48] *Unwired Planet v Huawei* (n 2) [374].
[49] *Unwired Planet v Huawei* (n 2) [374]–[77]; cf further the passage on the ratio between Unwired Planet's and Ericsson's patent at [379].
[50] cf *TCL v Ericsson* (n 3) 50–54.

Summarily,[51] TCL’s top-down exercise starts out by selecting an ARR of 6% for 4G and 5% for 2G/3G handsets, then determines the total number of SEPs for each pertinent standard and ranks “all of Ericsson’s 192 claim charted patent families on a scale of 1-3 for essentiality”.[52] The analysis then evaluates the importance and contribution of each essential patent family, checks this view against a forward-citation analysis, and applies adjustments to the results of mere SEP counting in order “to reflect the relatively low value of Ericsson’s patents” and to account for “changes in Ericsson's portfolio due to acquisitions and expirations”. Finally, the relative strength of Ericsson’s portfolio for particular regions is determined and TCL’s sales data are used “to weight the royalty by region and blend the regional royalties together to create a single global royalty rate for each standard”.[53]

b) Aggregate royalty rate

TCL proposed to base the total aggregate royalty on ARR-statements made by Ericsson and other SEP owners before the adoption of the respective standards. In the view of the Court these statements are indeed “important because (1) they were made prior to, or around, the time the respective standards were being set, such that they reflect the *ex ante* expectations of what a reasonable aggregate royalty burden should be before the standard was adopted and manufacturers are locked-in; and (2) they were made at a time when Ericsson was both a licensor and licensee with respect to SEPs that read on handsets, and thus Ericsson had an incentive to strike a reasonable balance. These statements were thus intended to provide insight and incentives to encourage other companies to invest in the standard”.[54]

Based on statements by Nokia, NTT DoCoMo, Siemens and Ericsson, “the Court finds that on this record 5% is an appropriate number to use for the total aggregate royalty for 2G and 3G”.[55] As to 4G, the Court relies mainly on announcements made by Ericsson alone, as well as together with other companies, and predicting an ARR that consists of a single-digit percentage of the sales prices, more precisely 6-8% of the price for a 4G-based handset.[56] Regarding the legal nature of these announcements the court takes the remarkable position that “Ericsson's statements were thus not a hope or prediction, but a pledge to the market that if the market adopted Ericsson's

[51] On the following, see *TCL v Ericsson* (n 3) 15–16.
[52] *TCL v Ericsson* (n 3) 15–16.
[53] *TCL v Ericsson* (n 3) 16.
[54] *TCL v Ericsson* (n 3) 19.
[55] *TCL v Ericsson* (n 3) 20–22.
[56] *TCL v Ericsson* (n 3) 22.

championed standard, the total aggregate royalties would be calculated as described above".[57]

Assuming that ARR announcements really are binding pledges leads to the question whether they are binding under all circumstances or whether later developments may permit to adjust the pledge. The Court declines to adjust on the facts of the case, but not in general: "The Court would have certainly considered applying a higher total aggregate royalty than the one initially announced by Ericsson if Ericsson had provided evidence that showed the value of subsequent additions to each standard".[58]

Although it puts so much weight on patentee-announcements, the Court decides to disregard statements made by other patentees: "The publicly declared rates in 2010 from just nine SEP owners totaled 14.8% of the handset selling price. However, these figures were volunteered by individual companies, virtually all of whom had yet to convince anyone to pay anything close to these rates because the first connection between an 4G device and a 4G network only occurred in October 2009. […] In addition, no one was checking whether the individual rates that companies announced were fair, reasonable, or based on anything other than a desire to maximize royalty revenue. Simply totaling individually announced rates plays into the trap of stacking, a vice which standardization seeks to avoid".[59]

c) SEPs in total and in Ericsson's portfolio

After having thus established an ARR, Judge Selna turns to determining the total number of relevant SEPs, as well as Ericsson's share of these SEPs, so as to be able to apportion a share of the ARR to the company. The main source for evaluating the total number of SEPs is a study which TCL submitted, and which seems to have been similar to the HPA approach in *UWP*. Scrutinizing this study, the Court accepts the exclusion of patent families containing no patent in English while it considers it an – although potentially necessary – error to exclude families that contained only expired patents.[60] Nonetheless, the "Court is satisfied that the subset actually examined was a reasonable surrogate for the whole".[61]

[57] *TCL v Ericsson* (n 3) 24.
[58] *TCL v Ericsson* (n 3) 19–20. On the relevance of dropping prices for standard-based products, see *TCL v Ericsson* (n 3) 25.
[59] *TCL v Ericsson* (n 3) 24.
[60] *TCL v Ericsson* (n 3) 28.
[61] *TCL v Ericsson* (n 3) 28.

Neither trigger the rather limited assessment resources invested per patent or the evaluators' awareness of the involved parties serious misgivings: "Ericsson argued that [the evaluators] must have spent on average about 20 minutes per patent, and charged $100, and this is plainly insufficient. By way of contrast, Via Licensing for example charges $10,000 to determine whether a single patent is essential before accepting the patent into a patent pool. The Court is not persuaded that the tasks for which Concur IP charged are comparable to the task performed by Via Licensing. Patent pools ask customers to pay for each specific patent in the pool, so the greater the certainty in their process and the stronger the patents the more they can charge and convince customers and patent owners to join. […] Patent pools therefore require substantially greater certainty than is necessary or reasonable for counting the number of SEPs in a standard. While charging on average only $100 per patent family may be cheap, this process is only intended to provide a workable size of the relevant universe and has no need to be as precise as a licensing pool must be".[62] "In a similar vein, while it would have been better had the team not known who the parties were in this case, there is no requirement that an essentiality study be conducted in a blind manner".[63]

"[M]ore salient" are, in the view of the Court, Ericsson's concerns that the evaluators read the patent claims but not the patent specification, meaning that they "may not have noticed if a patent contained a means plus functions claim, likely would not have noticed if a patent used its own lexicography, and would not have read any specification disclaimer or the file history".[64] Somewhat surprisingly, though, and maybe due in part to perceived shortcomings in Ericsson's own claim chart submissions[65] the Court seems not to follow up in detail on these concerns: "While Ericsson's concerns regarding means plus function claims, lexicography, and specification disclaimers could be substantial, they could also be entirely trivial. The Court declines to speculate on how often they would impact the essentiality determination".[66] While the Court thus comes to the conclusion that "the flaws are not enough to justify rejecting TCL's experts' calculation of the total number of SEPs entirely", it adjusts the numbers by way of comparing them with a SEP examination undertaken by two other experts whose results were equally submitted by TCL.[67]

[62] *TCL v Ericsson* (n 3) 30.
[63] *TCL v Ericsson* (n 3) 31.
[64] *TCL v Ericsson* (n 3) 31.
[65] cf *TCL v Ericsson* (n 3) 31 n 20, criticizing that Ericsson initially claimed 235 essential patent families but lowered that number down to 179 at trial.
[66] *TCL v Ericsson* (n 3) 31.
[67] *TCL v Ericsson* (n 3) 32.

As to the number of SEPs owned by Ericsson, “the Court chose to apply the top down formula twice, using TCL's conceded number of SEPs, and using Ericsson's disputed number of SEPs. This more accurately reflects the reality faced by parties in a licensing negotiation who each have different views how many SEPs the licensor owns”.[68] Results were also adjusted for differing portfolio strengths in the US, Europe and the “Rest of the World”.[69] As to SEPs issued to or acquired by Ericsson during the license term, “the Court agrees that newly issued patents will not make a significant difference to Ericsson's overall proportional share. Even assuming new patents will be added to each standard during the license, there is no evidence that Ericsson will be more successful in obtaining SEPs in the next five years than it has been in the past. […] Thus, Ericsson's newly acquired SEPs will be offset by SEPs being added to the standard”.[70] Patents that expired before the FRAND license which the Court was asked to determine begins do not count into Ericsson’s SEP portfolio since “United States patent law does not permit Ericsson to demand value for patents that have expired. […] Because the FRAND undertaking is an encumbrance and commitment that exists on top of national patent systems, FRAND cannot permit what domestic patent law prohibits”.[71]

d) Valuation

After ascertaining the overall and Ericsson’s SEP portfolio respectively, the next step in the top-down analysis submitted by TCL consists in an attempt to classify Ericsson’s patents according to their “importance and contribution”, viz. their value compared to other SEPs. This valuing exercise does, however, not find much favor with the Court, being considered “too flawed to be used to calculate the overall rates which the Court derives from the top down analysis”.[72]

The four main perceived flaws consisted, firstly, in the fact that the value analysis was applied only to Ericsson’s patents and not to the other SEPs as well.[73] Second, the Court agrees, in principle, that SEP value is driven down by the availability of alternative technologies at the time the standard is set.[74] It disagrees, however, with the way TCL’s approach took into account the mere existence of any alternative technology as it “did not analyze whether [the]

[68] *TCL v Ericsson* (n 3) 33.
[69] On this, see *TCL v Ericsson* (n 3) 43–46.
[70] *TCL v Ericsson* (n 3) 35.
[71] *TCL v Ericsson* (n 3) 35, with reference to *Brulotte v Thys Co* 379 US 29, 32 (1964).
[72] *TCL v Ericsson* (n 3) 38.
[73] *TCL v Ericsson* (n 3) 41.
[74] *TCL v Ericsson* (n 3) 41.

alternatives are mutually inconsistent with each other, would perform worse than the standard, would even create a viable, functional standard, or require other patents owned by Ericsson (thus defeating the point of the analysis). […] How much proposed alternatives will affect the value of a patent depends on a number of variables, including whether the alternative is unpatented, expired, part of the previous standard, owned by another company that lets manufacturers use it for free or at a low rate, an entity that aggressively protects its intellectual property, or by the company itself".[75] Third, Judge Selna sees no sufficient scientific or empirical basis for the value/importance tiers into which the SEPs are grouped.[76] And fourth, "the Court is not persuaded by [the] forward citation analysis" used as a check since its "results generally contradicted the importance and contribution analysis […] . It does not appear that any other court or company has used a forward citation analysis for such a task, and it is unclear whether companies would have the same incentives to cite to potential prior art, particularly in the context of multiple standards".[77]

e) The Court's overall view

In sum, "because the Court has found fatal flaws with certain steps in TCL's top down approach, it does not accept [its] final numbers".[78] "However, the Court uses the data it did accept to construct a number of rates based on different assumptions and approaches".[79] Instead of TCL's (partially) qualitative analysis, "[t]he Court adopts a simple patent counting system which treats every patent as possessing identical value, and then applies the numbers that it found reliable from the analyses provided by TCL's experts".[80]

IV. Comparables

Assessing Comparables serves as the second main FRAND determination methodology in *TCL v Ericsson* and *Unwired Planet v Huawei* alike. Comparables can arguably inform FRAND determination in three – closely interconnected – ways,[81] only two of

[75] *TCL v Ericsson* (n 3) 41–42, with reference to *In re Innovatio IP Ventures LLC Patent Litig*, No 11 C 9308 (ND Ill Oct 3, 2013).
[76] For details, see *TCL v Ericsson* (n 3) 42.
[77] *TCL v Ericsson* (n 3) 42–43.
[78] *TCL v Ericsson* (n 3) 43.
[79] *TCL v Ericsson* (n 3) 16.
[80] *TCL v Ericsson* (n 3) 16–17.
[81] Justice Birss's distinction between the relevance of Comparables as data points in assessing the "FR"-prong of FRAND and their role in deciding upon the "ND"-prong shows nicely the various roles Comparables can play in FRAND determination; *Unwired Planet v Huawei* (n 2) [489].

which were used in *Unwired Planet* and *TCL v Ericsson*. Firstly, their conditions provide data points showing how the market values a particular patent portfolio.[82] Since the "fair" and "reasonable" conditions for licensing a portfolio are not preordained by the gods but depend on the economic potential a licensee can reap by using the licensed technologies and since the licensee's willingness to offer the patent holder cash and non-cash benefits expressed in the licensing conditions is directly related to this potential the Comparables' conditions are – if agreed upon in undistorted negotiations (cf. below) – quite valid indicators for the "FR" prong of FRAND.

Secondly, when combined with information on the market position and other characteristics of the licensees, Comparables become the single most important reference for assessing the "ND" prong of FRAND. Whether the offered licensing conditions discriminate a particular licensee can be assessed only against the background of conditions offered to and agreed with other licensees because the differences in the conditions of the licenses and the divergence or similarity between the licensees are decisive for this assessment. This is true even for a "soft-edged" reading of non-discrimination in the sense of *UWP* because in order to assess whether the "benchmark" license conditions were offered to a particular licensee it is relevant to know the conditions offered to other players.

Thirdly, Comparables can also have an informative value with regard to the "procedural" aspect of FRAND. Both Justice Birss[83] and Judge Selna[84] attribute much importance to this aspect which focuses not so much on the *content* of a SEP license but rather on the bona fide-*conduct* of the parties in negotiating the license.[85] This deserves support because a key goal of the FRAND mechanism, the peaceable and effective conclusion of license contracts providing a reliable framework for standard-based market activity, cannot be achieved without parties acting in a proactive and cooperative manner. Party conduct can, for instance, be FRANDly regarding the timeliness of responses to the other party's offers or communications, the level of relevant information provided to the counterpart, or a party's overall negotiation/litigation strategy. Whether party action qualifies as FRAND in these respects has a lot to do with – as the CJEU put it – "recognised commercial practice"[86] in the respective market.[87] At this

[82] *Unwired Planet v Huawei* (n 2) [170].
[83] *Unwired Planet v Huawei* (n 2) [162]–[63].
[84] *TCL v Ericsson* (n 3) 111–12.
[85] Regarding *Unwired Planet*, see Picht, '*Unwired Planet v. Huawei*' (n 6) 876–79; Jorge L Contreras, 'Global Markets, Competition, and FRAND Royalties: The Many Implications of *Unwired Planet v. Huawei*' (2017) 17-AUG Antitrust Source 1, 4–5.
[86] Case C–170/13 *Huawei Technologies Co Ltd v ZTE Corp*, EU:C:2015:477 [2015], para 65.

point, Comparables and, in particular, the way in which they were concluded come into play because they can document patterns of customary market behavior.

1. *Unwired Planet v Huawei*

a) Underlying concept of non-discrimination

The key background for understanding what *Unwired Planet v Huawei* has to say on Comparables is Justice Birss's two-pronged concept of non-discrimination. He distinguishes between a "general" or "soft-edged" non-discrimination obligation and a "hard-edged" one. "The general non-discrimination obligation is […] part of an overall assessment of the inter-related concepts making up FRAND by which one can derive a royalty rate applicable as a benchmark. This rate is non-discriminatory because it is a measure of the intrinsic value of the portfolio being licensed but it does not depend on the licensee. The hard-edged non-discrimination obligation, to the extent it exists, is a distinct factor capable of applying to reduce a royalty rate (or adjust any licence term in any way) which would otherwise have been regarded as FRAND. This will take into account the nature of the particular licensee seeking to rely on it".[88]

b) General non-discrimination

Looking first at general non-discrimination, Justice Birss speaks in favor of including rather more than less licenses as Comparables into the assessment.[89] As general criteria for compatibility, Justice Birss states that the licensor must be identical and that the license must be a "recent" one. He doubts, however, "that the identity of the licensee should be a strong factor in determining what comparables are useful for determining the FRAND rate aside from the hard edged non-discrimination point […]. Different licensees will have differing levels of bargaining power. […] It would be unfair (and discriminatory) to assess what is and is not FRAND by reference to this and other characteristics of specific licensees […]. In my judgment the FRAND rate ought to be generally non-discriminatory in that it is determined primarily by reference to the value of the patents being licensed and has the result that all licensees who need the same kind of licence will be charged the same kind of rate".[90] Nonetheless, the decision

[87] Peter Georg Picht, 'The ECJ rules on standard-essential patents: thoughts and issues post-Huawei' (2016) 37 ECLR (9) 365, 370–71.
[88] *Unwired Planet v Huawei* (n 2) [177].
[89] *Unwired Planet v Huawei* (n 2) [173].
[90] *Unwired Planet v Huawei* (n 2) [175].

mentions some further aspects, such as the worldwide activity of a licensee[91] or a general decline in handheld prices.[92] Geographical scope of the licenses, on the contrary, is not intensely discussed but this may have to do with the fact that, apparently, all licenses before Justice Birss – and, potentially, also before Judge Selna[93] – were of a worldwide scope anyway.[94] Changes in the legal landscape since the conclusion of a Comparable – such as a reduced likelihood for the patentee to get an injunction against an infringing standard-implementer[95] – can reduce this license's relevance and suggest that it may serve as a template for the FRAND license-to-be-determined only when appropriately modified.[96]

When assessing the comparability of specific licenses, the decision looks, accordingly, not so much at the licensee's market position and characteristics in general but rather at whether the license is informative regarding the inherent value of the licensed portfolio.[97] This can depend on the license's conditions, for instance the way in which royalties are framed,[98] but also on the circumstances under which the license was concluded. Regarding, in particular, the Unwired Planet-Samsung license, the Court takes into consideration strategic benefits PanOptis – then the owner of Unwired Planet – expected from granting Samsung advantageous license conditions, a circumstance that led to royalties lower than justified given the portfolio's inherent value.[99] The decision not to admit the 2016 license between Ericsson and Huawei as a Comparable was also based on the circumstances of its conclusion, namely the fact that this license resulted from an arbitral award, the full text of which (in particular the reasoning) were not available to Justice Birss.[100] Regarding the 2014 Ericsson-Samsung license, Justice Birss ponders whether its conclusion was overshadowed by previous litigation and admits the license as Comparable because he believes it was not.[101] Although the decision also considers Samsung's economic strength, size and sophistication,[102] it does so not in order to decide whether Samsung belongs to a camp of comparable licensees in general but to assess

[91] *Unwired Planet v Huawei* (n 2) [446].
[92] *Unwired Planet v Huawei* (n 2) [453].
[93] Both decisions seem to look at quite similar, potentially even the same licenses and licensees. The local king-concept in *TCL* does not necessarily rule out a worldwide scope of the license of a local king as the court looks, in this respect, at where the bulk of the sales take place, not at the language of the license contract.
[94] *Unwired Planet v Huawei* (n 2) [152].
[95] *Unwired Planet v Huawei* (n 2) [432].
[96] *Unwired Planet v Huawei* (n 2) [430]–[32].
[97] *Unwired Planet v Huawei* (n 2) [382] et seq.
[98] See, for instance, *Unwired Planet v Huawei* (n 2) [383] et seq.
[99] *Unwired Planet v Huawei* (n 2) [390]–[409], in particular [408]–[09].
[100] *Unwired Planet v Huawei* (n 2) [411].
[101] *Unwired Planet v Huawei* (n 2) [420].
[102] *Unwired Planet v Huawei* (n 2) [420].

whether the particular license at issue was concluded in an undistorted negotiation process.

c) Hard-edged non-discrimination

Justice Birss's argumentation regarding hard-edged non-discrimination is quite subtle.[103] In a nutshell, it considers, at the outset, what the competition law concept of non-discrimination is and whether a hard-edged element in the "ND" prong of ETSI's FRAND commitment – assuming such an element exists – ought to be interpreted in the same way. Then, however, Justice Birss rejects a hard-edged reading of ETSI's "ND" commitment whilst reserving the application of EU competition law in this respect. Nonetheless, the decision assesses whether Unwired Planet had violated a hard-edged non-discrimination obligation were one – unlike Justice Birss – to read such an obligation into the ETSI FRAND commitment.

As summarized by Birss, the competition law non-discrimination requirement rests on the principle "that comparable situations must not be treated differently and different situations must not be treated alike unless such treatment is objectively justified".[104] According to Article 102(c) TFEU, applying dissimilar conditions to equivalent transactions with other trading parties are unlawful "where it is shown that there are (a) equivalent/comparable transactions; (b) resulting in an actual or potential distortion of competition; and (c) absence of objective justification. [T]ransactions are comparable if (a) they are concluded with purchasers who compete with one another, or who produce the same or similar goods, or who carry out similar functions in distribution, (b) they involve the same or similar products, (c) in addition their other relevant commercial features do not essentially differ".[105]

Parties and their experts in the *Unwired Planet* case agreed that the FRAND commitment "means that licensors should treat similarly situated licensees similarly"[106] and that "concepts such as similarly situated parties, equivalent/comparable transactions, and objective justification, were the same under the non-discrimination limb of FRAND as they are in competition law [although] none of those concepts are mentioned expressly in the ETSI FRAND undertaking".[107] They disagreed, however, on "whether distortion of competition is part of the non-discrimination limb of FRAND".[108]

[103] On the following, see *Unwired Planet v Huawei* (n 2) [481] et seq.
[104] *Unwired Planet v Huawei* (n 2) [486].
[105] *Unwired Planet v Huawei* (n 2) [486].
[106] *Unwired Planet v Huawei* (n 2) [485].
[107] *Unwired Planet v Huawei* (n 2) [487].
[108] *Unwired Planet v Huawei* (n 2) [495].

Observing a lack of case-law authority[109] and conducting a thorough analysis of the issue,[110] Justice Birss finds that a hard-edged non-discrimination obligation – if read into ETSI's FRAND commitment – should encompass a distortion of competition requirement, so as not to exercise too rigid a control on price differentiation: "Competition law does not seek to prohibit different prices being charged to different customers. An important aspect of the way that result is assured in competition law is by the requirement that only terms which are sufficiently dissimilar to distort competition are prohibited. In other words, the various elements of the competition law applicable [to] discriminatory pricing operate as a whole to achieve a fair balance. Splitting off some parts without the others is unbalanced and risks unfairness".[111] The absence of an explicit reference to the requirement in the wording of ETSI's FRAND commitment provides no valid counter-argument in the Court's view as the same is true for the other – party-conceded – elements of a hard-edged non-discrimination requirement.[112]

This being said, however, the decision takes quite a sudden turn and jettisons hard-edged non-discrimination altogether as far as ETSI's FRAND declaration is concerned: "[I]t is not necessary to read this hard-edged nondiscrimination obligation into the ETSI FRAND undertaking at all provided one takes a benchmark rate approach to assessing a royalty under the ETSI FRAND undertaking".[113] Parties can arguably bring the hard-edged non-discrimination issue as a matter of competition law, though, because "[c]ompetition law will always be available in an appropriate case".[114]

In its next part, the decision discusses nonetheless whether Unwired Planet has violated a hard-edged non-discrimination requirement, if such a requirement were to be read into ETSI's FRAND declaration.[115] Comparing the license conditions offered to Huawei with an Unwired Planet-Samsung license that formed the main reference point of the parties' arguments Justice Birss finds similarity between Samsung and Huawei,[116] as well as dissimilar treatment of the licensees by Unwired Planet given, mainly, the

[109] *Unwired Planet v Huawei* (n 2) [496].
[110] *Unwired Planet v Huawei* (n 2) [495]–[503].
[111] *Unwired Planet v Huawei* (n 2) [501].
[112] *Unwired Planet v Huawei* (n 2) [495].
[113] *Unwired Planet v Huawei* (n 2) [502].
[114] *Unwired Planet v Huawei* (n 2) [502].
[115] *Unwired Planet v Huawei* (n 2) [503]: "If, contrary to this view, the FRAND undertaking also includes a specific non-discrimination obligation whereby a licensee has the right to demand the very same rate as has been granted to another licensee which is lower than the benchmark rate, then that obligation only applies if the difference would distort competition between the two licensees".
[116] *Unwired Planet v Huawei* (n 2) [488].

difference in royalties they (would) have to pay.[117] However, Justice Birss rejects a distortion of competition given that the relative difference in royalty rates between the licenses was large but amounted only to a very small percentage of the margins on the relevant products.[118]

2. *TCL v Ericsson*

a) General considerations

It is mainly for the assessment of FRAND's "ND" prong that Judge Selna looks at Comparables. As to the concept of non-discrimination "the Court finds that harm to the competitor firm offered discriminatory rates is sufficient. […] Ericsson would [like to] engraft into the FRAND analysis the distinction which American antitrust law makes between the harm to competition, which is actionable, and mere harm to a competitor which is not. [But t]he Sherman Act and its long history provide no guide to understanding ETSI's non-discrimination under FRAND".[119] After stating that "[n]o American cases have definitively addressed the non-discrimination requirement", Judge Selna relies on the testimony of French law experts – as he deems the ETSI FRAND declaration to be governed by French law – for his finding that "different rates offered to different licensees may well be FRAND given the economics of the specific license".[120]

b) The similarly situated firms

Given the parties' agreement that the non-discrimination aspect requires similarly situated firms to be offered like, or close to like rates, the "Court identifies the relevant firms, and then analyzes their rates to test [the conditions offered by Ericsson] for discrimination".[121]

In determining what would be a similarly situated company, Judge Selna favors a broad interpretation[122] and concludes that, on a general level, the analysis should include all firms reasonably well established in the world market.[123] As to specific assessment factors, Judge Selna deems relevant the geographic scope of a company, the

[117] *Unwired Planet v Huawei* (n 2) [490]–[95].
[118] *Unwired Planet v Huawei* (n 2) [518]–[19].
[119] *TCL v Ericsson* (n 3) 91.
[120] *TCL v Ericsson* (n 3) 109.
[121] *TCL v Ericsson* (n 3) 54.
[122] For the reasoning on this point, see *TCL v Ericsson* (n 3) 56 et seq.
[123] *TCL v Ericsson* (n 3) 56.

technology it uses, the licenses the company required, and a reasonable sales volume. In contrast, he considers irrelevant the company's overall financial success or risk, brand recognition, the operating system used by an implementer's devices, and the existence of retail stores operated by the implementer.[124] An important issue lies in the treatment of a company's place in the value chain – on the one hand the decision declares this factor to be relevant in principle.[125] In fact, the value chain position can be of considerable impact. As an important example, royalty rates and other license conditions are usually different on the wholesale and on the retail level, leading to different outcomes when pre-existing licenses are unpacked and FRAND rates calculated based on one or the other royalty base.[126] If, therefore, it is correct that the *TCL* court considered, in some instances, retail prices where it should have considered wholesale prices,[127] this issue may well have distorted the FRAND calculation result.

Among the relevant factors, the Court found geographic scope to be the most important one in this case[128] and distinguishes between global companies and "local kings". Local kings "sell most or all of their devices in a single country".[129] In consequence, they require – in the Court's opinion – a different type of license than a global company: While the global company needs a worldwide license and may get a blended rate given different patents and value thereof in different countries, the local king can operate on a single country license.[130]

Regarding very large players, such as Apple or Samsung, the decision affirms comparability with smaller market participants: "The Court cannot identify any dispositive reason why Apple and Samsung are not similarly situated to TCL with regard to Ericsson's SEPs. All three firms are global firms, Ericsson has asked all three to pay a global blended rate for a multi-modal 4G license, they all create phones of similar technical specifications, and they all have substantial sales volume. […] The prohibition on discrimination

[124] *TCL v Ericsson* (n 3) 57–58.
[125] *TCL v Ericsson* (n 3) 57, 72.
[126] David Long: Judge Selna will make minor changes to FRAND ruling (TCL v. Ericsson), February 13, 2018, https://www.essentialpatentblog.com/2018/02/judge-selna-will-make-minor-changes-frand-ruling-tcl-v-ericsson/ (last accessed April 16, 2018).
[127] David Long: Judge Selna will make minor changes to FRAND ruling (TCL v. Ericsson), February 13, 2018, https://www.essentialpatentblog.com/2018/02/judge-selna-will-make-minor-changes-frand-ruling-tcl-v-ericsson/ (last accessed April 16, 2018).
[128] *TCL v Ericsson* (n 3) 59.
[129] *TCL v Ericsson* (n 3) 59.
[130] *TCL v Ericsson* (n 3) 59. It is this distinction which causes the Court to exclude Karbonn and Coolpad because it considers them to be local kings given that they sell most of their products in India and China respectively; *TCL v Ericsson* (n 3) 59.

would mean very little if the largest, most profitable firms could always be a category unto themselves simply because they were the largest and most profitable firms".[131]

As a result of its considerations, the Court identifies six "similarly situated" firms, namely Apple, Samsung, LG, HTC, Huawei, and ZTE.[132] While the parties agreed on the similarity of Huawei, LG, HTC, and ZTE, only TCL wanted to include Apple and Samsung while only Ericsson wanted to include Coolpad and Karbonn.[133] Within the group of similarly situated firms, however, the Court distinguishes by stating that it finds the rates in the licenses with Apple and Huawei "informative, but declines to use them for a direct comparison in the FRAND analysis" because these licenses came into effect after Ericsson made its licensing offers to TCL. Amongst other reasons, "as a practical matter, Ericsson could not have been expected to factor into [its offers to TCL] rates that had yet to be determined".[134]

c) Unpacking the Comparables

In order to compare the licenses concluded with the "similarly situated" companies, the Court first "unpacks" them, in particular by translating their royalty arrangements into a one-way percentage royalty without caps or floors.[135] While it is surprised that the conclusions of the parties' experts "largely agreed and were rarely widely disparate",[136] the Court also declares it is "very cognizant of just how easy it is to pick particular assumptions or approaches in order to manipulate the unpacking analysis to arrive at a preferred rate for each license".[137] Sometimes, unpacking failed altogether, for instance regarding 2G rates.[138]

Instead of analyzing details of the unpacking exercise the present paper merely points out four of its (particularly important) aspects: First, the Court views released sales-payments – i.e. compensatory payments for past unlicensed sales – "as part and parcel

[131] *TCL v Ericsson* (n 3) 60–61.
[132] *TCL v Ericsson* (n 3) 54.
[133] *TCL v Ericsson* (n 3) 58.
[134] *TCL v Ericsson* (n 3) 91.
[135] *TCL v Ericsson* (n 3) 54–55.
[136] *TCL v Ericsson* (n 3) 61.
[137] *TCL v Ericsson* (n 3) 64. Another layer of complexity is added by the fact that the Court's methodology unpacked Comparables to a global royalty rate "while the top down analysis resulted in a U.S. rate, along with a modification for sales outside the United States which will also have to be added. In order to compare rates calculated from the top down analysis and the comparable license analysis, the comparable license rates must be converted to U.S. rates", cf *TCL v Ericsson* (n 3) 95.
[138] *TCL v Ericsson* (n 3) 103.

of the forward-looking terms of the license agreements”,[139] calculating their FRAND level based on the same formula that applies to the forward-looking royalty payments.[140] Second, the Court stresses both the need and the difficulty to apportion lump sum payments, which almost all Comparables contain, between multiple standards. “[E]ach apportionment will affect each later standard, and the more assumptions the experts made, the more the license reflects the expert's decisions rather than the parties' agreed upon royalties rates”.[141]

Third, the Court decides not to integrate dollar-per-unit rates, caps or floors into the license-to-be-determined.[142] Regarding, in particular, caps or floors, Judge Selna perceives “no support in the record that a package of SEPs has a fixed, determinable value which would justify a fixed dollar-per-unit rate or a percentage rate as modified by floors or caps. [E]xisting caps and floors are solely the product of negotiations, not any sort of analysis of whether they are fair or reasonable. To be sure, in the course of private negotiations, parties may enter into a variety of licensing schemes that reflect each party's unique assessment of the risk of a particular arrangement. However, the Court prefers to conduct its FRAND analysis on principles of general application which do not require the Court to discern the peculiarities of those risk assessments”.[143]

Finally, both parties and their experts agreed on the need to introduce a factor called “Portfolio Strength Ratio” (PSR) which measures “the strength of Ericsson's SEP portfolio relative to the licensee's SEP portfolio, on a standard-by-standard basis”. In order to do so, however, TCL counted SEPs in the respective portfolios whereas Ericsson counted (approved) contributions, i.e. technological solutions proposed by a standardization participant during the standard-setting process.[144] While voicing doubts over the validity of a mere counting approach,[145] the Court favors counting patents instead of contributions: “Patent counting, while not perfect, does reflect the number of SEPs that are owned by each company. In addition, patent counts will reflect changes to a company's portfolio from purchases, expirations, and transfers of SEPs”.[146] In contrast, “Contributions can be made for ideas that are unpatented, unpatentable, patented by someone else, or split into multiple contributions. […] The two major flaws with contribution counting are the absence of any evidence that

[139] *TCL v Ericsson* (n 3) 66.
[140] *TCL v Ericsson* (n 3) 104–105.
[141] *TCL v Ericsson* (n 3) 66–67.
[142] *TCL v Ericsson* (n 3) 68–69.
[143] *TCL v Ericsson* (n 3) 69.
[144] *TCL v Ericsson* (n 3) 73–74.
[145] *TCL v Ericsson* (n 3) 74.
[146] *TCL v Ericsson* (n 3) 74.

it corresponds to actual intellectual property rights, and its inability to account for transferred or expired patents”.[147]

V. Relation between top-down approach and Comparables

Overall, Justice Birss holds the top-down approach in rather low esteem. As a general concern he notes that “via the valuation experts and in their submissions both sides presented the court with a blizzard of figures. […] A frequent problem is in keeping track of the bases on which numbers are presented so as to try and make sure one is comparing like with like”.[148]

Judge Selna’s view on the top-down method seems more favorable although it does not accept it as the exclusive FRAND determination approach: “The appeal of a top down approach is that it prevents royalty stacking. […] If the total aggregate royalty is properly based upon the total value of the patents in the standard, it can also prevent hold-up because it prevents SEP owners from charging a premium for the value added by standardization. […] A top down method, however, cannot address discrimination as the Court interprets the term, and is not necessarily a substitute for a market-based approach that considers comparable licenses”.[149] Instead, “the comparable licenses and top down analysis act as a reasonable check on each other”.[150] “[L]icenses are a proper measure for determining whether an offered rate meets the FRAND requirements, but not the exclusive measure. […] Actual licenses to the patented technology at issue are probative as to what constitutes a fair and reasonable royalty for those patent rights because such actual licenses reflect the economic value of the patented technology in the market place”.[151] At the same time, the Court underlines the intricacies present in every attempt to determine FRAND license conditions: “Before turning to the royalty setting analyses advanced by the parties' experts, the Court makes one central observation as the fact finder in this case. The search for precision and absolute certainty is a doomed undertaking. […] The complexity of the analyses and the number of variable components inevitably lead to criticism”.[152]

[147] *TCL v Ericsson* (n 3) 75.
[148] *Unwired Planet v Huawei* (n 2) [227].
[149] *TCL v Ericsson* (n 3) 15.
[150] *TCL v Ericsson* (n 3) 98.
[151] *TCL v Ericsson* (n 3) 109–110.
[152] *TCL v Ericsson* (n 3) 14. Cf. also *TCL v Ericsson* (n 3) 99, 101.

VI. Comments

Even the limited comparison between *TCL v Ericsson* and *Unwired Planet* undertaken in this paper indicates a plethora of interesting legal and economic topics. Far from being able to address all of them, the following comments focus on aspects which may be of particular relevance to future FRAND-determination case-law.

1. ARR-determination in top-down analysis

When trying to determine an aggregate royalty rate as the starting point of a top-down royalty calculation, both Justice Birss and Judge Selna look at public announcements on royalty rates made by SEP holders. The importance and legal function which the two judges are willing to accord to them is, however, quite different. Being deeply skeptical whether patentee-announcements are reliable indicators, Justice Birss seems not ready to accord them more than an informative role. *TCL v Ericsson*, on the contrary, goes much farther where it considers Ericsson's public announcements as some sort of binding "pledge" to actually grant the announced rates in individual licenses.

This position provokes numerous follow-on questions. One of them goes to the legal basis for a binding effect of the royalty announcement. Does, in particular, the announcement constitute a third-party beneficial contract as it is the case (in the view of Judge Selna) with ETSI's FRAND commitment? Or is the binding effect rather estoppel-based? Does it follow from one or both of these options that a transferee is – for instance after having acquired the respective SEP portfolio – equally bound to the announced rates?

Another question relates to the viewpoint from which a "royalty pledge" ought to be construed. Both a contractual and an estoppel interpretation of the "pledge" would probably suggest asking what the addressees of the announcement, i.e. (potential) implementers and licensees, could have reasonably understood it to mean. Can they, for instance, reasonably expect rates to drop in the course of a standard's lifecycle although the announcement makes no explicit mention of such a drop? Must they understand the announcement of single-figure royalty rates or rate ranges as relating to global (blended) licenses or can they expect regional discounts – as applied by *TCL* – although the announcement makes no mention of such regional differences? Do royalty announcements cover single mode or – as the *TCL* court seems to assume[153] – multimode devices if they do not explicitly clarify this point? Are they intended to be binding "forever" or for a limited

[153] *TCL v Ericsson* (n 3) 22, 26. On the single-mode/multi-mode content of royalty announcements, see also Eric Stasik, les Nouvelles 2010, 114 ff.

period of time? Of the construing effort necessary to answer such intricate questions one finds rather little in the *TCL* decision. Instead, it is more the judge's than the addressees' viewpoint that seems to matter in interpreting the announcement.

Conditions integrated ex-ante into the "pledge", as well as ex-post modifications based on a subsequent change of circumstances, present a related issue. The *TCL* decision appears to leave room for them where it states that Ericsson could have conditioned its announced rates on a particular dollar-per-unit return[154] and that increasing the ARR ex-post can be legitimate in the event of additions to the standard.[155] Furthermore, the option to make conditional announcements squares with contract law's fundamental principal that a party chooses the content of its offers. Were a binding effect of public royalty announcements, together with the option to include conditions, really to become the law, patentees would clearly see the incentive to either not make royalty announcements at all or subject them to all sorts of conditions and caveats. If they chose the first option, a guiding effect of royalty announcements to the market would be lost. If they chose the latter, the law would have to decide whether and where the FRAND concept sets boundaries as to which conditions are permissible. Turning from future to past announcements, would it be legitimate to give them an (unconditionally) binding effect although *TCL v Ericsson*'s "pledge approach" seems not to have formed part of (US) FRAND license law so far and patentees could therefore not foresee the ramifications of their doing? If this seemed too far-reaching, should pre-*TCL v Ericsson* announcements have no binding effect at all or should the effect be attenuated by reading into the "pledge" conditions or subsequent modifications reasonably to be expected by its addressees?

As one broadens the view and introduces multiple patentee-"pledgees", the question marks become even more numerous. An assumption that each patentee is bound by its individual announcement and that the patentee has some leeway in framing this announcement could result in differing ARRs for different patentees. Evidently, such an outcome contradicts the concept of a coherent, top-down determined royalty framework for all SEP holders in the respective market, endangers the goal to prevent royalty-stacking (since patentees may race for higher ARR "pledges"), and tends to disincentivize reasonable, FRAND-oriented ARR announcements. By extrapolating ARRs resulting from combined patentee-announcements, Justice Birss shows nicely that some of them are certainly not an appropriate starting point for top-down calculation. Adjusting, instead, the individual announcements into a blended, uniform ARR does largely away with the concept of a contract- or

[154] *TCL v Ericsson* (n 3) 25.
[155] *TCL v Ericsson* (n 3) 19–20.

estoppel-based "pledge" because it removes (most of) a patentee's freedom to decide upon the content of its offer/promise. Furthermore, it then becomes necessary to specify the source from which a uniform ARR springs. *TCL v Ericsson* selects some announcements as relevant and discards others as insignificant, but the criteria for doing so are not entirely clear and convincing. Why, for instance, do nine individual patentee announcements made in the year 2010 not qualify while Ericsson's individual 2008 announcement does?[156] The decision suggests it is because the 2010 announcements were made too early, before the standard was really being implemented.[157] However, Ericsson's statements date from an even earlier point in time. The Court further stresses that Ericsson made its announcements to convince the market to use one of several competing standards. But, first, this may also be true for the 2010 announcements since the standard was not successfully implemented at this point in time either. And, second, it can be hard for patentees to perceive whether the existence of competing standards (not an altogether rare event) creates an environment which turns their royalty announcements into binding "pledges". Nor should it matter that the statements came from individual SEP holders and were, naturally, driven by their individual interests because this constitutes an inherent feature of each "pledge"-based approach. If, however, the crux lies in the level of the declared ARR – and this seems the case in *TCL* as the mentioned nine announcements would have added up to an ARR of 14.8% – all comes down to checking announced ARRs against the (presumed) "objective" FRAND level of the ARR and accepting only those announcements as relevant which correspond to the objective level. Under such an approach, individual ARR announcements can still have informative value for determining the objective FRAND ARR against which they are subsequently measured. But it would be misleading to consider them as "pledges" which add some substantial form of legal commitment to the obligations springing already from the ETSI FRAND declaration.

Summing up, when deciding a particular case it may be attractive to selectively consider some of the public royalty announcements made by SEP holders as a form of legally binding "pledge" because this may appear to provide stable grounds for a top-down royalty determination. As a general framework, however, this approach generates more problems than solutions. Using, as it is the Court's tendency in *Unwired Planet*, all available ARR announcements as indicative criteria in the determination of an "objective" FRAND ARR (while not necessarily attributing the same weight to all of them) seems – subject to general concerns regarding

[156] *TCL v Ericsson* (n 3) 22–25.
[157] *TCL v Ericsson* (n 3) 24.

top-down methodology (cf. below VI.6.) – the more convincing approach.

2. Calculating portfolio size

Top-down methodology necessitates quite a precise account of the pertinent SEPs in general and the part of these SEPs held by the respective patentee. The Courts in both *TCL v Ericsson* and *Unwired Planet* have to largely rely, for this account, on party-submitted data and they both struggle with the shortcomings in these submissions. This evidences, yet again, that a core weakness of the entire SEP/FRAND system lies in the absence of a neutral player that effectively checks and approves true, or at least likely, standard-essentiality of declared SEPs,[158] thereby also lending more credibility to the entire top-down exercise.

Absent such external assurance, the evidential weight given to TCL's SEP assessment and Huawei's HPA study respectively became of crucial importance in the cases at issue. In part of their methodology and of the experts employed, both assessments appear quite similar. Nonetheless, they encountered a different reaction from the two Courts, in particular regarding the question whether the resources invested were sufficient to generate tolerable results. Justice Birss denied this, which appears convincing given the short time invested per patent (30 minutes) and the fact that patents were not even entirely read in the process. Judge Selna, surprisingly, is content with the SEP-counting part of the TCL-submitted study although it presumably invested even less time (20 minutes) into each patent. From the viewpoint of keeping litigation costs within certain limits, the USD 10.000-per-patent assessment (purportedly) undertaken by license pools seems very extensive, indeed. As a matter of principle, however, the selection of patents to-be-licensed through a patent pool and the identification of SEPs to-be-licensed as part of a Court-framed FRAND license differ not as strongly as the Court suggests. While Judge Selna agrees, as it were, with Justice Birss that not reading the entire patent is a major flaw, the decision goes on to say that, in sum, the study's weaknesses do not suffice to discard it. No closer explanation is offered of how the gravity of the perceived flaws was measured and where the threshold for (no longer) accepting results from the study lay. The cross-check of the study's result against another expert assessment cannot really remedy this somewhat

[158] Commission, 'Setting out the EU approach to Standard Essential Patents' (Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee) COM (2017) 712 final, ch 1.2.2.; Peter Georg Picht, 'The ECJ rules on standard-essential patents: thoughts and issues post-Huawei' (2016) 37 ECLR (9) 365, 374–75.

unsatisfactory reasoning as the analysis used as a check was equally carried out by experts close to TCL. Dissatisfaction with Ericsson's decision to offer a different calculation method instead of a full-blown top-down analysis and with the company's claim-chart selection may have been a motive underlying this part of the *TCL* decision. In the attempt to reach a reliable general framework for FRAND determination, though, such case-specific, procedural considerations present no great help.

The same is true for the – rather numerous[159] – instances in which both Justice Birss and Judge Selna revert to "best guesses" informed by and sometimes somewhere in the middle between numbers submitted by the parties. Such estimations imply a high degree of subjectivity instead of an abstract rule that could be applied across case-borders. Unavoidable as some "mid-point guessing" probably is, it should be as limited as possible.

An intricate Conflicts of Laws issue arises where Judge Selna states that expired patents must be discounted from Ericsson's portfolio, and the royalties based on them from the overall FRAND royalty rate, because US patent law forbids post-expiration royalties and "FRAND cannot permit what domestic patent law prohibits".[160] Precedents like *Brulotte*[161] and *Kimble*[162] lend support to this position as far as US-members of patent families are concerned. For instance in the EU, though, the law is different and permits, in principle, post-expiration royalties.[163] Discounting, without further analysis, entire patent families based on the expiration of the US-sibling only may, therefore, constitute too much of a shortcut.

3. Value vs. numbers

The shortcomings in party-submitted top-down models get even more severe as they proceed from SEP-counting to valuing the patented technology. Justice *Birss's* assessment of the revised MNPA and

[159] cf, for instance, *Unwired Planet v Huawei* (n 2) [377]–[81]: Birss taking some form of mid-point between the estimates of the HPA and the MNPA; as well as *TCL v Ericsson* (n 3) 33–50: Selna applying the top-down formula twice, once with the numbers of TCL, once with the numbers of Ericsson. To the extent this double calculation tries to simulate license negotiations (*TCL v Ericsson* (n 3) 33), one may even criticize it as a deviation from orthodox top-down methodology, mixing top-down with elements of a Comparables approach.

[160] *TCL v Ericsson* (n 3) 36.

[161] *Brulotte v Thys Co* (n 71) 32.

[162] *Kimble v Marvel Entertainment LLC*, 576 US ___ (2015), 135 SCt 2401.

[163] eg Case C-567/14 *Genentech Inc v Hoechst GmbH*, EU:C:2016:526 [2016], para 40; Case C-320/87 *Kai Ottung v Klee & Weilbach A/S*, EU:C:1989:195 [1989], para 11; Peter Georg Picht, 'Post signing adjustment of SEP/FRAND licenses' (les Nouvelles 2018) *forthcoming*.

Justice *Selna's* critique of available alternative technologies and forward-citations as instruments employed to determine patent value reflect this concern. Although it is, therefore, coherent that Judge *Selna* thrashes TCL's value analysis, the alternative solutions are not too appealing, either. A court may – as partly done in *TCL v Ericsson* – follow a counting-only approach, neglecting the argument that fair royalties should depend on a patent's market value[164] which, in turn, is based to a large extent on the relevance of the technology a patent protects and on the patent's strength.[165] Or the court may guess, as best it can, the value of the pertinent patent (portfolio), an exercise that presents all the subjectivity concerns mentioned above. As long as no valuation methodology is convincing and consented enough to provide a uniform framework for determining the quality of various SEP portfolios, this open flank will continue to weaken the reliability of top-down royalty calculation.

4. Comparables and the non-discrimination requirement

Both in *Unwired Planet* and in *TCL*, Comparables were employed, *inter alia*,[166] as part of the non-discrimination analysis. The two decisions agree that Comparables are an important tool in carrying out this analysis and that the "ND"-prong does not categorically require all concluded FRAND licenses to look the same since there ought to be room for treating similar settings alike and differing ones differently. This position can be said to have evolved into established law on FRAND licenses.[167] In two other respects, however, the decisions differ substantially.

First, *TCL v Ericsson* contains no mention of a two-pronged concept of non-discrimination similar to the soft-edged/hard-edged framework *Unwired Planet* discusses. Instead, the US decision focusses, as it were, on the hard-edged component, looking mainly at whether the license offered to TCL is similar to those concluded with similarly situated companies. A soft-edged criterion would ask instead whether Ericsson offered to TCL the "benchmark" conditions to which, in principal, all implementers of the respective standard are entitled. *TCL's* focus on the hard-edged prong stands all the more in

[164] *TCL v Ericsson* (n 3) 15.
[165] „Strength" means, in this context, the likelihood that a patent will survive validity challenges; cf. Bret Dickey, Jonathan Orszag and Laura Tyson, 'An Economic Assessment of Patent Settlements in the Pharmaceutical Industry' (2010) 19 Annals of Health Law 367, 377.
[166] They also served, for instance, to determine adequate license conditions with regard to a single licensee.
[167] See, for instance, LG Düsseldorf 31 March 2016 Case No 4a O 73/14, paras 256–60; LG Düsseldorf 31 March 2016 Case No 4a O 126/14, paras 250–55; LG Mannheim 29 January 2016 Case No 7 O 66/15, para 72.

contrast to *Unwired Planet* as Justice Birss ultimately rejects a hard-edged component altogether. Since both judges come to their conclusions interpreting the same, French law-governed ETSI FRAND declaration their differing readings create considerable uncertainty for market participants active on both sides of the Atlantic. It remains to be seen how future case-law will resolve the tension.

Second, only *Unwired Planet* requires harm to competition as a prerequisite for finding hard-edged discrimination in the FRAND sense, provided one reads a hard-edged component into the "ND"-prong of ETSI's FRAND declaration at all. This result is by no means trivial or of merely academic interest since it creates something like a threshold, treating dissimilar conditions only as a FRAND violation if the unequal treatment is grave enough to distort competition in the respective market. Looking exclusively at US law, Judge Selna may or may not be correct in discarding a harm-to-competition-requirement, thereby interpreting the ND-obligation more strictly than *Unwired Planet*. Deducing this position – as *TCL v Ericsson* does – from a French-law based interpretation of ETSI's FRAND commitment is, however, not legitimate without also taking into consideration the CJEU's *Huawei/ZTE* decision and its progeny in the form of case-law from EU Member State-courts. This is because French national law must comply with EU competition law.[168] Assuming, on the one hand, that the "ND"-prong of ETSI's FRAND commitment, as governed by French law in compliance with EU competition law, contains either no hard-edged component at all (as is Justice Birss's view) or a hard-edged component that requires harm to competition (a reading Justice Birss apparently finds conceivable) and presuming, on the other hand, that a US court's application of the ETSI FRAND commitment must be coherent with the interpretation of the commitment as instructed by French law in compliance with EU competition law (this seems to be Judge Selna's view), one perceives a contradiction: If *TCL* reads into the "ND"-prong of ETSI's FRAND commitment a hard-edged component without a harm-to-competition-requirement it is either at odds with the law governing the commitment (namely French law as impacted by EU competition law) or Justice Birss has misinterpreted EU and French law on his part. Several ways may lead out of this dilemma, for instance an interpretation of ETSI's FRAND commitment guided by US law (instead of French/EU law) as far as US SEPs are concerned, but here lies certainly an issue for close consideration by a potential appeal court.

[168] On the supremacy of EU law, see eg Craig/de Búrca, EU Law, 6th ed. 2015, 266 et seq.

5. Scope of the comparability analysis

It seems right, as a general tendency, to keep the range of Comparables broad, including numerous data points that may serve to level out the particularities of each individual license (varying bargaining power, etc.).

a) Local kings and global players

In assessing whether sufficient similarity exists to rate a license among the Comparables, Judge Selna distinguishes between "local kings" and global players. However, it may be hard to find a coherent formula that defines whether local and global players are sufficiently dissimilar to exclude comparability or global players sufficiently similar to consider them comparable.

How to decide, for instance, where the local king covers a large regional area and is economically (market share, returns) very strong while the globally active company has a relatively weak position, albeit in a geographically larger market – is it not possible that economic strength and geographical scope of activity level out so as to result in similar license conditions? And if the strong local negotiated better conditions than the weak cosmopolite would it not undermine the concept of non-discrimination to not consider the local's license when determining a FRAND license for another globally active company? After all, the TCL Court's treatment of very large players like Apple or Samsung seems to be guided by the assumption that large and powerful companies receive more favorable license conditions, conditions that should be included into the range of Comparables so as to favorably influence the FRAND conditions for smaller players as well.

Furthermore, whenever the local king requests and receives a global license because it is about to attack on new geographical markets – would it then not be more convincing to also look at the license instead of only at the (present position of the) licensee? And, to give a last example, should it make a difference whether the local king is active in the same country in which the global player's devices are manufactured since, in the view of the *TCL* court, the royalty rate for this country sets a "global floor" for the royalties to be paid by the global player and, consequently, the license conditions for the global player and the local king may be more closely aligned?

In these and other intricate constellations, the Court should rather err on the side of inclusion and consider the respective license(s) as Comparables, so as to increase the range of available data points.

b) Adjusting Comparables

Driven, perhaps, by this very tendency, both Courts wish sometimes to take a license into consideration although they are not ready to accept it as a fully adequate Comparable. One example is Judge Selna's treatment of the Apple and Huawei licenses which were concluded after the license offer made to TCL. In these instances, it is difficult for the parties of the case, as well as for interested outsiders (e.g. other courts), to discern how exactly the court figured in the relevant-but-not-quite-comparable licenses (or: "weak Comparables").

It is probably true that, depending on the circumstances, weak Comparables can be less significant than full-fledged (or: "strong") Comparables and that some strong Comparables tell more about the market value of a SEP portfolio than others. At the same time, weighing – on a hidden scale – Comparables and attributing to them unequal relevance may provoke the critique that a court uses this step to align unwelcome real world-license conditions with a preconceived FRAND level. Where a court does not deem it appropriate to treat all Comparables alike it should, therefore, at least try to avoid opaqueness as to how it treats different Comparables differently.

Further opportunities to "adjust" Comparables instead of taking them as they are arise in the very complex "unpacking" operation. Regarding floors and caps, for instance, Judge Selna discounts some parts of Comparables entirely, stating that "caps and floors are solely the product of negotiations, not any sort of analysis of whether they are fair or reasonable".[169] To be sure, the license conditions in a Comparable are the result of the circumstances under which they were negotiated. This applies, however, to *all* elements of the license and does not explain why caps and floors alone should be disregarded on this account. Furthermore, the entire exercise of looking at Comparables rests on the assumption that the result of negotiations conducted with care and business acumen between informed parties tells something about how the market values a SEP portfolio. Whether this "market wisdom" translates into lower percent-per-piece royalties together with a floor, a floorless higher percentage-royalty, or some other package of conditions should not, as such, be decisive on whether to consider it. After all, the *TCL* Court itself says[170] that a SEP portfolio has no pre-determined value but depends, regarding the price at which it licenses, on how the market values it. From this perspective, it seems more in line with the Comparables approach to listen to the market instead of accepting or rejecting – at this stage of the analysis – its results based on a preconceived FRAND concept.

[169] *TCL v Ericsson* (n 3) 69.
[170] *TCL v Ericsson* (n 3) 109–10.

6. The relation between top-down and Comparables

The decisions in *TCL v Ericsson* and *Unwired Planet v Huawei* corroborate the role of both top-down analysis and the use of Comparables as important methods in future case-law on FRAND license determination. These methodologies may continue to outshine other approaches, such as a modified application of the *Georgia-Pacific* test[171] or inherent value-methodologies as, for instance, the ex-Standard analysis proposed by Ericsson[172] in *TCL*. At the same time, it is unlikely that either top-down or Comparables will – or should – prevail, at present, as the exclusive approach in all complex cases. Too marked are the limitations of both methodologies. Nor should pre-litigation party statements predetermine the (combination of) methods to be used. This would leave room for manipulation and contradict the idea of a universal framework for FRAND calculation.

Regarding the relative importance of the two methods, Justice Birss favors – to a certain extent – Comparables while Judge Selna looks more favorably at the top-down approach. Both judges use both methods but they accord, as it were, the default role differently. In the view of the author, Justice Birss's position is more convincing given the facts at issue. For sure, Comparables are not as reliable a yardstick for FRANDly conditions as one might wish. This is demonstrated, for instance, by the difficulties and the room for manipulation in unpacking these licenses. On the other hand, uncertainties in the determination of an appropriate ARR, of the total and the patentee-owned SEP portfolio, and of the portfolio patents' value can add up and make top-down results quite fragile, especially when they are at the outset based on party-submitted data and analysis.[173] If only (shaky) party-submitted data is available, judges may understandably be skeptical and try to adjust (results based on) this data. But such informed guesses are, by necessity, subjective and to a certain extent arbitrary. It is quite questionable whether they should loom larger than the collective "market intelligence" embodied in Comparables, especially when the licenses were negotiated by experienced players and absent impending litigation or similar pressure factors,

Top-down is, theoretically, strong in arriving at numbers for royalties. But is it equally apt to determine other license conditions

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[171] *Georgia-Pacific Corp v United Stated Plywood Corp*, 318 F Supp 1116 (SDNY 1970); modified for FRAND-committed patents by *Microsoft Corp v Motorola Inc*, No C10-1823JLR (WD Wash Apr 25, 2013), and *Ericsson v D-Link*,773 F.3d 1201, 1230–35; cf J Gregory Sidak, 'Apportionment, Frand Royalties, and Comparable Licenses After *Ericsson v. D-Link*' (2016) U Ill L Rev 1809, 1854–68; however, the *Georgia-Pacific* test was rejected by Judge Selna in *TCL v Ericsson* (n 3) 110.

[172] *TCL v Ericsson* (n 3) 50–54.

[173] For instance, patentees may be biased towards decreasing the overall number of SEPs while increasing their own SEP portfolio; implementers' figures may be reversely biased.

(duration, auditing, etc.) which Comparables will, if they are sufficiently relevant and conform to established business practice, usually contain? Furthermore, a considerable weakness of the top-down approach is its tendency to value all patents equally, regardless of their individual value. An advantage of top-down calculation is its power to set an upper threshold limiting royalty stacking, although the appropriateness of this threshold depends on the quality of the underlying data and even then top-down will not be able to yield a very exact figure separating stacking from non-stacking by the decimal place. On the other hand, Comparables may equally establish some limits as implementers – especially the strong and experienced ones – know the overall cost of the licenses they have taken and will try to resist individual conditions which would, if combined with other (pre-existing) licenses, create a severe stacking problem.

Mind you, these considerations do not suggest discarding top-down calculation altogether and for all cases. Depending on the facts of the case, for instance on the availability of meaningful Comparables, top-down may even, in some cases, generate the most trustworthy results.[174] If good Comparables are at hand, though, while a top-down analysis rests – as in *UWP* and *TCL* – to a substantial extent on problematic data, Comparables should loom large and produce the default results.

VII. Further aspects

As this paper focuses on the use of top-down calculation and Comparables in the two decisions at issue, it does not discuss several other interesting points. Among them are the impact of Comparables resulting from ADR,[175] as well as the provisions and principles based on which both Courts come to apply French law to ETSI's FRAND declaration.[176]

Furthermore, the Court in *TCL v Eric*sson saw no need to decide whether a SEP holder is obliged to make an implementer a license offer that qualifies as FRAND since the answer to this question would not have had material consequences in the case at hand.[177] In discussing the issue, the Court cites party submissions relating to French (national) law but makes no mention of the CJEU's *Huawei/ZTE* decision nor of any case-law building on that decision. This calls – again – for the remark that French national law, be it

[174] As to Unwired Planet, for instance, commentators have regarded Comparables as a particularly useful approach, Contreras (n 74) 6.
[175] cf *TCL v Ericsson* (n 3) 82, 91; *Unwired Planet v Huawei* (n 2) [171].
[176] cf *TCL v Ericsson* (n 3) 9, 107; *Unwired Planet v Huawei* (n 2) [98]–[146].
[177] *TCL v Ericsson* (n 3) 110–12.

contract, patent or competition law, cannot be applied to ETSI's FRAND commitment without also taking EU competition law and the FRAND case-law based on it into consideration.

Something like an "evergreen" is the question of whether FRAND conditions should entitle a SEP holder to part of the value resulting not from the initial economic potential of its patented technology but from standardization, i.e. from the fact that the technology was integrated into a standard and, thus, became part of a "bundle" of technology crucial for operating on the respective standard-based market(s). Conventional wisdom,[178] including *TCL v Ericsson*,[179] answers strictly in the negative while the author of these lines remains[180] unconvinced by so categorical an approach: The additional value standardization generates results from the contributions of many parties, including patentees contributing their protected technology, participants that further the standard-setting process in other ways, and implementers producing and distributing products based on the standard. In a way, even society and the state contribute as they set the legal and economic framework standardization needs to succeed. Given this multitude of contributors, SEP owners should certainly not reap *all* the value added by standardization. But somewhere this added value must go – if patentees are forbidden to profit from any of it, either consumers will appropriate it because they pay prices which are "too low" in that they do not reflect the value of the standard as such; or implementers will collect it by way of higher returns; or some mixed scenario, potentially involving additional players, will evolve. Distributing the added value seems, prima facie, fair and we cannot tell, by way of a generally applicable formula, how the distribution should be made. But there is no reason a SEP holder, of all parties involved, should receive *nothing* of the added value. Against the background of these reflections, it comes as a welcome surprise that the EU Commission seems to be developing a more balanced view, judging from its recent Communication on SEPs and FRAND.[181]

Although both the *Unwired Planet* and the *TCL v Ericsson* decisions set precise FRAND royalty rates, they are in sharp contrast

[178] *Ericsson v D-Link*, 773 F.3d 1201, 1232–33; FTC, 'The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition' (2011) 22–23; Joseph Farrell et al, 'Standard Setting, Patents, and Hold-Up' (2007) 74 Antitrust LJ (3) 603; opposing this conventional view: Sidak (n 171) 1862–68.
[179] *TCL v Ericsson* (n 3) 15, 108.
[180] Peter Georg Picht, Standard Essential Patents, Antitrust and Market Power, December 6, 2017, http://www.ipwatchdog.com/2017/12/06/standard-essential-patents-antitrust-market-power/id=90634/.
[181] Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee setting out the EU approach to Standard Essential Patents, 29.11.2017, COM(2017) 712 final, p. 6, 7.

as to whether FRAND constitutes "a range or a dot".[182] While Justice Birss decidedly holds the opinion that there is only one "true" FRAND set of conditions for each setting,[183] Judge Selna concludes – and we concur - "there is no single rate that is necessarily FRAND, and different rates offered to different licensees may well be FRAND given the economics of the specific license".[184]

VII. Conclusion

FRAND determination is a tricky business. *Unwired Planet* and *TCL v Ericsson* contribute to the development of the law in this area but the decisions also reveal, alone and in comparison, the numerous pitfalls which the exercise holds. Two courts assess what seems to be a similar set of facts and reach results which are so different that it is hard to reconcile them. Regardless of whether the *TCL* approach or – as considered here – the *UWP* approach produced the more convincing results, the inconsistency between the courts' assessments creates uncertainty for licensors and licensees alike. More case-law will evolve around top-down analysis and the use of Comparables. Hopefully, future decisions can, together with an intense scholarly discussion, work out a coherent framework for the application of these FRAND determination methods. In the long run, courts and the legal system in general should work on structural improvements, such as the increased use of court-appointed experts or impartial out-of-court instances that access key factors like essentiality and (market) value of patents.

[182] Picht, '*Unwired Planet v Huawei*' (n 6) 869–70, 879.
[183] *Unwired Planet v Huawei* (n 2) [147]–[57].
[184] *TCL v Ericsson* (n 3) 109.