



Liege  
Competition  
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Innovation Institute

Patent hold-up and the «*antitrustization*» of FRAND: a multi-sided reappraisal?

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# Goals of the presentation

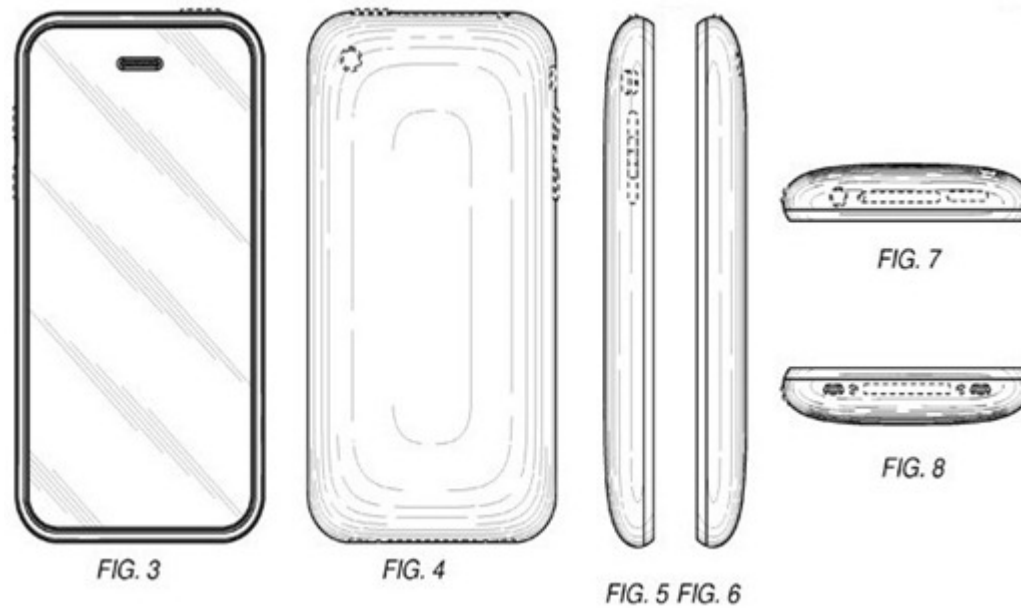
1. Patent hold-up
2. The « *antitrustization* » of FRAND, or FRAND as source of antitrust liability and remedy
3. A reappraisal: FRAND as matching device on multi-sided platforms

# 1. Patent Hold-Up

# 1. Market developments

- ▶ 2001, NTP sues RIM for patent infringement, \$612.5 million settlement
- ▶ 2011, Global patent war

# Apple filing of design patents (January 2007)



# Apple filing of design patents (June 2007)

Apple files massive GUI design patent  
six days before iPhones sold in stores June '07

D604305  
\$725 M verdict  
against Samsung



193 screen shots filed June 23, 2007

# Apple v Samsung litigation (2011)

These pictures, by now familiar to the Court, remain the basic story of our case:



# The global patent war



- ▶ Patent owners enforce their IPRs and seek injunctions in courts across the world (to obtain removal of infringing products)
- ▶ Some patents are core to **standardized** technologies (though not all) => **SEPs** (ex. IEEE 802.11 Wi-Fi standard)
- ▶ Some SEPs are encumbered by a **FRAND** commitment
- ▶ Some of those players are **patent trolls**, or non practicing entities (NPE) or patent assertion entities (PAE): NTP, Intellectual Ventures, etc.



## 2. Academic developments

### Papers

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- ▶ Shapiro, “Navigating the Patent Thicket: Cross Licences, Patent Pools and Standard Setting”, non formal policy paper of 2001
- ▶ Shapiro, “Injunctions, Hold-up and Patent Royalties”, Formal economics working paper of 2006 later published in American Law and Economics Review
- ▶ Shapiro and Lemley, “Patent holdup and royalty stacking”, Interdisciplinary paper of 2007

### Idea

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- ▶ Focus on ICT where products integrate multiple patented components
- ▶ “*injunction threats*” entitle patent holders to “*negotiate royalties far in excess of the patent holder’s true economic contribution*”
- ▶ Severe in the case of “*private standard setting*”, because “*it is extremely costly or even impossible as a practical matter to “redesign” a product standard to avoid infringing a patented technology*”
- ▶ “*Patent surprise*” scenario (implementer ignored there was a patent) as well as “*early renegotiation*” (implementer knew there was a patent)

### 3. Legal recognition of patent hold up

- ▶ Horizontal cooperation guidelines, §269: IPR owners can “*behave in anti-competitive ways, for example by ‘holding-up’ users after the adoption of the standard*”
- ▶ Reference to §269 of the HCG in footnote 32 of the *Google/Motorola Mobility Merger Decision* of 2012
- ▶ Reference to “*hold-up*” in two press releases of 2012 in Samsung and Motorola
- ▶ Reference to §269 of the HCG in 2014 Samsung (§39) and Motorola decisions (§§76, 77 and 289)
- ▶ Cited by AG Wathelet in *Huawei v ZTE*
- ▶ Soft law turned to hard law?

11. FRAND « *antitrustized* »?

# Issue

- ▶ Antitrust agencies' view of FRAND pledges as anti-hold-up tools by patent owner, HCG §287, *Motorola* §77, *Samsung* §40 => **distributional purpose**
- ▶ But issue is that FRAND pledges have no teeth: mere paper-tiger, courtesy obligation;
- ▶ Let's turn FRAND pledges into antitrust theory of liability and source of antitrust remedy!
- ▶ (+ Let's encourage (standardize) them, HCG as good practice)
- ▶ Antitrust empowerment of FRAND

# Two possible approaches

## FRAND as source of antitrust pricing discipline?

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- ▶ Verify if licensing terms are un-FRAND, and consider the price level abusive => outcome interpretation of FRAND commitments
- ▶ Agencies have repugned to do this
- ▶ *Qualcomm* case, 2007

## FRAND as source of antitrust conduct obligations

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- ▶ Commission has embraced this interpretation
- ▶ FRAND creates « *exceptional circumstances* »
- ▶ SEP holder can no longer seek injunction in courts (agst implementer that is not unwilling)
- ▶ SEP holder can no longer introduce non-challenge or termination clauses in contract
- ▶ SEP holder must take very « *specific steps* »: Samsung « *licensing framework* » and Wathélet's « *Guidelines* »

# The law

- ▶ Commission Decision, *Samsung – Enforcement of UMTS Standard Essential Patents*, 29 May 2014, AT 39939 (Article 9) (Apple complaint)
- ▶ Commission Decision, *Motorola – Enforcement of GPRS Standard Essential Patents*, 29 May 2014, AT 39985, (Article 7) (Apple complaint)
- ▶ Preliminary reference before the CJEU, *Huawei v ZTE*, C-170/13, Opinion of AG Wathelet, 20 November 2014

# Legal problem with FRAND « *Antitrustization* »

## External controversies

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- ▶ No explanation why FRAND creates « *exceptional circumstances* »
- ▶ Discussion axed on national law concepts
  - ▶ Contract or quasi-contract?
  - ▶ Moral promise?
  - ▶ Estoppel theory or waiver principle?
  - ▶ « *License of right* », AG Wathelet, §65
- ▶ Example: the German quagmire
  - ▶ DE test is whether there's « *willing licensee* »
  - ▶ FSC, Orange Book Standard; Request under Article 15 of Regulation 1/2003, Judge Andreas Voß request in *Motorola v. Apple*, November 2013; Preliminary reference before the CJEU, *Huawei v ZTE*, C-170/13, Dusseldörf Court

## Internal inconsistency

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- ▶ Antitrust tends to consider that unilateral announcement of pricing intentions not liable to create assurances on which third parties can rely and make design choices (*Woodpulp, Bayer, etc.*)
- ▶ Well settled that for price announcements to trigger antitrust exposure, strategic information must be disclosed: FRAND too abstract in content?

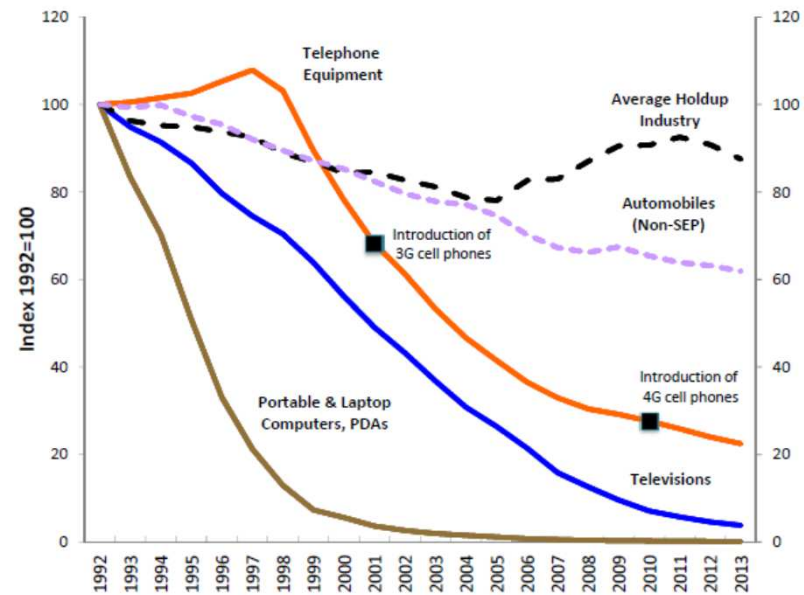
# Economic problem with FRAND « *antitrustization* »

- ▶ The current antitrust interpretation of FRAND as a source of strict conduct obligations seeks to prevent hold-up, rather than remedying it when it occurs
- ▶ This theory assumes, conjectures, predicts hold-up is inevitable result of un-FRAND SEPs owner conduct
- ▶ Normative assumption devoid of support
- ▶ Weak theoretical evidence: extrapolation of Shapiro papers
  - ▶ No antitrust remedy => stay injunctions until redesign has taken place;
  - ▶ Heavy focus on non-integrated innovators (trolls)
- ▶ Weak empirical evidence:
  - ▶ Joshua Wright, “Evidence-Based Antitrust Enforcement in the Technology Sector”, enforcement should be “disciplined by empiricism”
  - ▶ ICT sector, public enemy N°1 for both abolitionists – innovation is said to be hampered by patents – and reformists – view that weak patents and thickets plague the sector

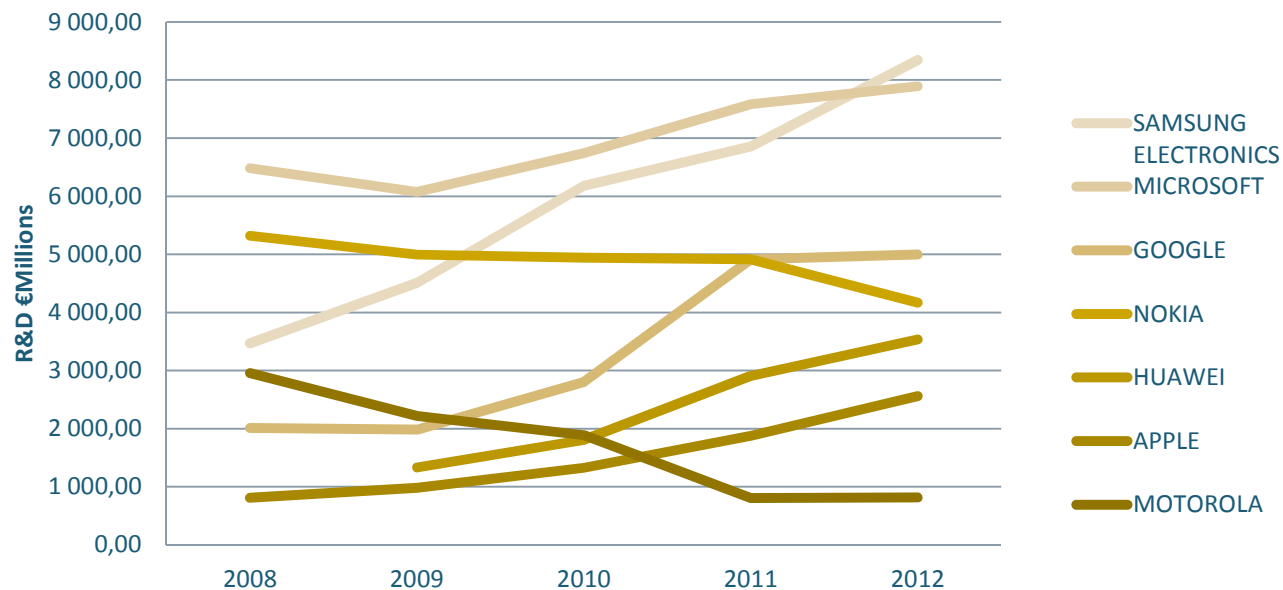


# Prices (Galetovic, Haber and Levine, 2014)

Figure 3  
Relative Prices of Textbook Hold Up Products vs  
Consumer Products Produced by SEP Industries, and a Consumer  
Product Produced by a Non-SEP Industry, 1992-2013



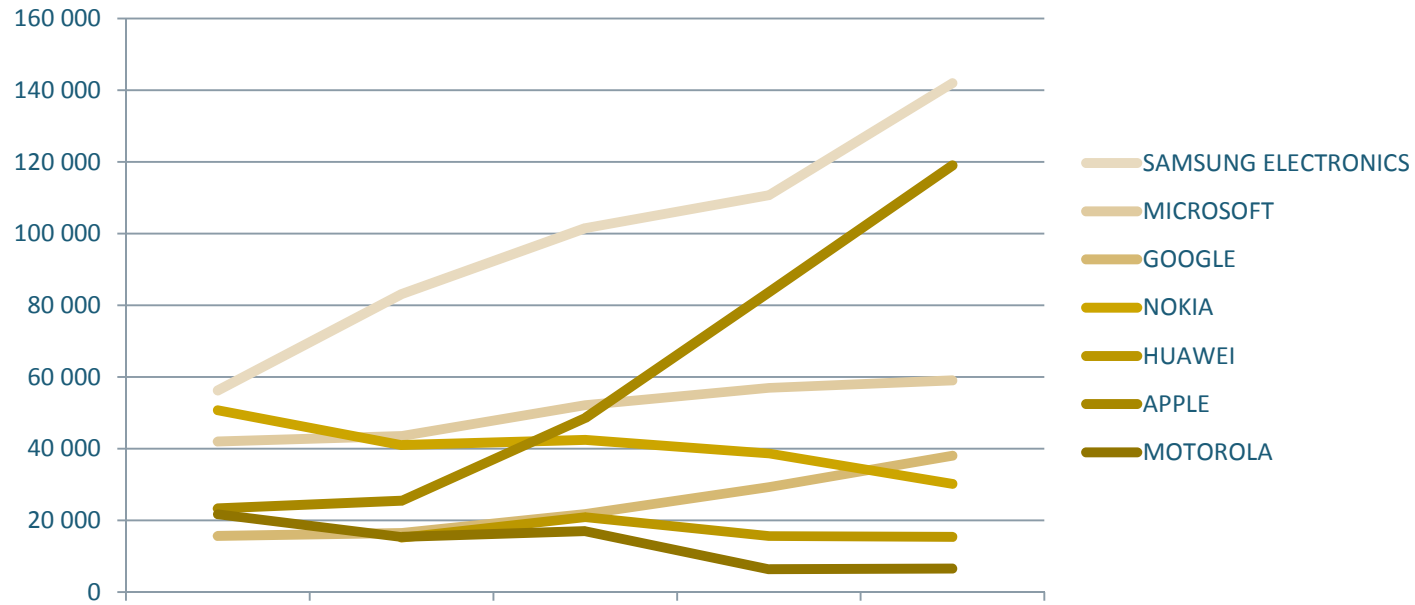
## R&D expenditures



EU Commission  
Joint Research Centre

Data retrieved from EU Industrial  
R&D Investment  
SCOREBOARDS 2009-2013

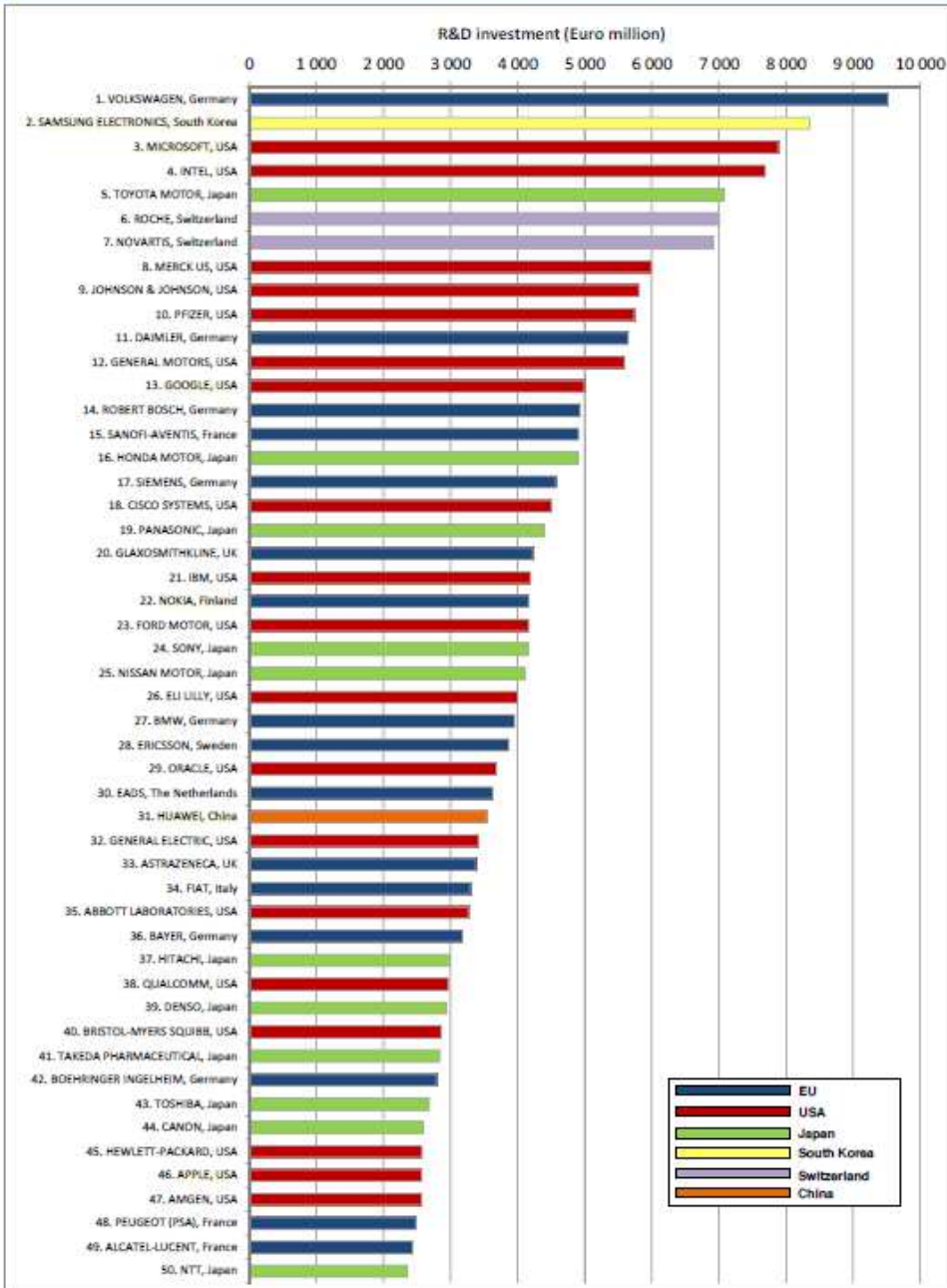
## Sales €million



EU Commission  
Joint Research Centre

Data retrieved from EU Industrial  
R&D Investment  
SCOREBOARDS 2009-2013

Figure 2.1. The world's top 50 companies by their total R&D investment (€m) in the 2013 Scoreboard.



Source: The 2013 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

Number of ICT firms in top 40 (and rank)

1. Samsung (2)
2. Microsoft (3)
3. Intel (4)
4. Google
5. Cisco
6. IBM
7. Nokia
8. Sony
9. Ericsson
10. Oracle
11. Huawei
12. Qualcomm

### III. FRAND commitments, a multi-sided reappraisal?

# Intuition

- ▶ Distributional purpose of FRAND (avert hold up by patent owner) is misguided
- ▶ FRAND is primarily a matching (or courting) device on a multi-sided platform
- ▶ Classic cross-platform positive externality, cuts both ways
  - ▶ Developers positively impacted by presence of implementers on the other side: technology dissemination
  - ▶ Implementers positively impacted by presence of developers on the other side: faster conception, increased technology selection, avoid inadvertent infringement
- ▶ SSOs face the well-known challenge « *to bring all sides on board* »
  - ▶ Bring as many implementer, to convince developpers to join
  - ▶ Bring as many developpers, to convince implementers to join

# FRAND AS a matching mechanism

- ▶ SSOs have no obvious instruments of cost allocation or cost subsidization to bring technology developers and implementers on board
- ▶ A priori, far from the canonical multi-sided platform where some users (advertisers) are charged and others are not (eyeballs)
- ▶ But platforms may also interfere on transaction prices between users to promote participation to the platform (Rochet and Tirole, “*Defining Two-Sided Markets*”, 2004)
- ▶ In particular, transaction between buyer and user must not involve a “*price determined through ... monopoly price-setting*”
- ▶ And this matters on both sides: A SSO must obtain “*enough commitments from these owners (reasonable royalties, exact implementation of the technology, treatment of future innovation, etc.) in order to convince various potential users (e.g., consumer electronics and software companies) to invest in the technology, while also making it attractive for each and every intellectual property owner to get on board*” (Rochet and Tirole, “*Defining Two-Sided Markets*”, 2004)
- ▶ Major implications for antitrust policy

# Superiority

- ▶ Avoidance of lengthy legal controversies that originate in national law
- ▶ Places the debate on antitrust territory: monopoly power



## FRAND has two sides

- ▶ FRAND seeks to rein in monopoly price setting on technology developer side *but also* on the implementer side
- ▶ FRAND thus also embodies concern for monopsony power, or group-monopsony power
- ▶ Antitrustization of FRAND is appropriate *but* focus of antitrust agencies should not only be on developer (selling) side
- ▶ SSOs and antitrust agencies to be cautious in relation to licensing initiatives driven by implementers => IEEE, DoJ *Business Review Letter, 2015?*

# IEEE, DoJ Business review letter, February 2015

- ▶ SEP holder « *shall neither seek nor seek to enforce ... prohibitive order* »
- ▶ Definition of « *reasonable rate* »: « shall mean appropriate compensation ... excluding the value, if any, resulting of the inclusion of [the patent's claim] technology in the IEEE standard »  
=> switching cost
- ▶ Three recommended factors for valuation
  - ▶ Value that claimed invention « *contributes to the smallest saleable compliant implementation* »
  - ▶ Value in light of all « *essential patent claims for same IEEE standard* »
  - ▶ « *Existing licences covering use of the essential patent claims* », provided they were not negotiated under threat of prohibitive order

# Refine understanding of « *monopoly price-setting* » in SSOs

- ▶ Is detention of SEP source of monopoly power?
- ▶ Standardization in ICT features hybrid participants, where technology developers are at same time implementers who buy technology
- ▶ Innovation in ICT is combinational, so pure technology developers need cross licensing from each other if they want to keep developing technology
- ▶ Standardization in ICT is ephemeral, with rapid pace of technological innovation => 2G, 3G, 4G (>< barcode)
  - ▶ Repeated game with punishment mechanisms
  - ▶ Market dominance but no permanence (*Motorola* decision, GPRS and EDGE not substitutes!)
- ▶ Pricing component products with neighbouring monopoly manufacturers => mutual Cournot moderation

# The price problem

- ▶ Fallacy that there is one FRAND pixelized price point
- ▶ There are many distributional price points below the monopoly price
- ▶ What matters is that price is not above what the market can bear

# Tirole and Lerner, 2014

## Standard Essential Patents

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- ▶ SSOs have two functions (i) essentialization and (ii) regulation
- ▶ Lack of price commitment
- ▶ Framework to reveal the price that would follow ex ante competition

## Structured price commitments

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- ▶ Discovery phase
- ▶ Recess before standard finalization
- ▶ Firms commit to prices (caps)
- ▶ Final choice made
- ▶ Structured price commitment comes on top of FRAND (if failure of discovery), FRAND remains important
- ▶ Owners of SEPs may forum shop, to avoid structured price commitments
- ▶ Hence, need to make them mandatory
- ▶ Problem with multidimensional pricing

# Welfare assessment should focus on participation of SSO membership

- ▶ Multi-sided market theory predicts that price structure has effect on SSO participation
- ▶ Hold-up or hold-out hypothesis should be validated or contradicted through that metric
- ▶ More empirical research is needed
- ▶ Change in SSO participation following change in SSO licensing policy?
  - ▶ VITA 2007, IEEE 2015, etc.
  - ▶ RF to FRAND?
  - ▶ ISO v other standards
- ▶ Increase in standards wars in ICT?

# Conclusion

- ▶ Need to change approach of FRAND: not distributional but output-centered
- ▶ FRAND is pricing structure that seeks to « *get all sides on board* »
- ▶ Admission that risks can arise (and scrutiny) on buyer side too



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