

Standards, IP, and Competition

de aequitate non est disputandum?



CLEARY
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Disclosure of interest: counsel for complainants
in *Microsoft*, *Rambus*, *Qualcomm* and other standards cases

1. Problems with Standards

- Standards are needed for IT interoperability, telecom and other kinds of networks, safety, etc.
- Problem: the chosen standard may depend on proprietary technology and exclude all rival technologies
 - Absent constraint, this can – but does not always – give patentee *de facto* monopoly. **Standards may convey market power** that patentee did not have before:
 - Ability to block rivals and exclude competition in downstream market for standardized product
 - Ability to extract monopoly rent from expanded market – “hold up”
 - Ability to use monopoly to leverage into other products
 - This concern arises **especially in network industries**
 - Risk that IP owner appropriates full value of the standard, beyond his innovative contribution
 - Is IP owner allowed to also appropriate the value of standardization?
 - It may arise with complex standards where complements are needed
 - IP may be worthless without complements,
 - and very valuable with complements

US case law

- “Private standard setting advances [the goal of maximizing consumer welfare] on several levels. In the end-consumer market, standards that ensure interoperability of products facilitate the sharing of information among purchasers of products from competing manufacturers, thereby enhancing the utility of all products and enlarging the overall consumer market... This, in turn, permits firms to spread the costs of research and development across a greater number of consumers, resulting in lower per-unit prices... Industry-wide standards may also lower the cost to consumers of switching between competing products and services, thereby enhancing competition among suppliers.”
 - *Broadcom Corp. v. Qualcomm, Inc.*, No. 06-4292, slip op. at 13-14 (3d. Cir. Sept. 4, 2007).
- But “Conduct that leads to the artificial standardization of products – often due to misuse of the standard-setting process – may serve to **deter entry, exploit rivals, secure market power, or preserve dominance.**”
 - *In the Matter of Rambus*, FTC Docket No. 9302, Concurring Op. of Comm. Leibowitz, slip op. at 17 (Aug. 2, 2006).
- Therefore, “[P]rivate standard-setting by associations comprising firms with horizontal and vertical business relations is **permitted** at all under the antitrust laws **only on the understanding that it will be conducted in a nonpartisan manner offering procompetitive benefits.**”
 - *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 506-07 (1988).

US case law, current status =

Third Circuit decision in *Broadcom v Qualcomm* :

- “We hold that
 - (1) in a consensus-oriented private standard-setting environment,
 - (2) a patent holder’s intentionally false promise to license essential proprietary technology on FRAND terms,
 - (3) coupled with an SDO’s reliance on that promise when including the technology in a standard, and
 - (4) the patent holder’s subsequent breach of that promise, is actionable anticompetitive conduct.”

- “Deception in a consensus-driven private standard-setting environment harms the competitive process by obscuring the costs of including proprietary technology in a standard and increasing the likelihood that patent rights will confer monopoly power on the patent holder... Deceptive FRAND commitments, no less than deceptive nondisclosure of IPRs, may result in such harm.”
 - *Broadcom Corp. v. Qualcomm, Inc.*, No. 06-4292 (3d Cir. Sept. 4, 2007), Slip op. at 24.
 - See also *NDTX in RIM v. Motorola*, December 11, 2008 (US D.Ct. Texas, Dallas): “FRAND commitments are intended as a 'bulwark' against the unlawful accumulation of monopoly power...”

Market mechanism is normally best suited to avoid such “hold-up” problems

- Ideally, auction takes place before standard is set, and before users are “locked in”
- **Ex ante auctions** – foster inter-technology price/quality competition *before the standard is agreed*
 - IPR owners are normally interested in offering good T&Cs
 - If T&C unattractive, standard can still be adjusted
 - Provides indication of “power” achieved through superior technology vs. inclusion in the standard
 - Avoids continuing uncertainty on T&Cs
- When faced with choice between competing alternatives, SSOs are arguably **now allowed** to organize bidding,
 - US law suggested there is a problem: *Sony Corp. v. Soundview*
 - But this is now allowed (e.g. EC Technology Transfer Guidelines, para. 225, EC letter to ETSI, speech by FTC Chair Deborah Majoras)

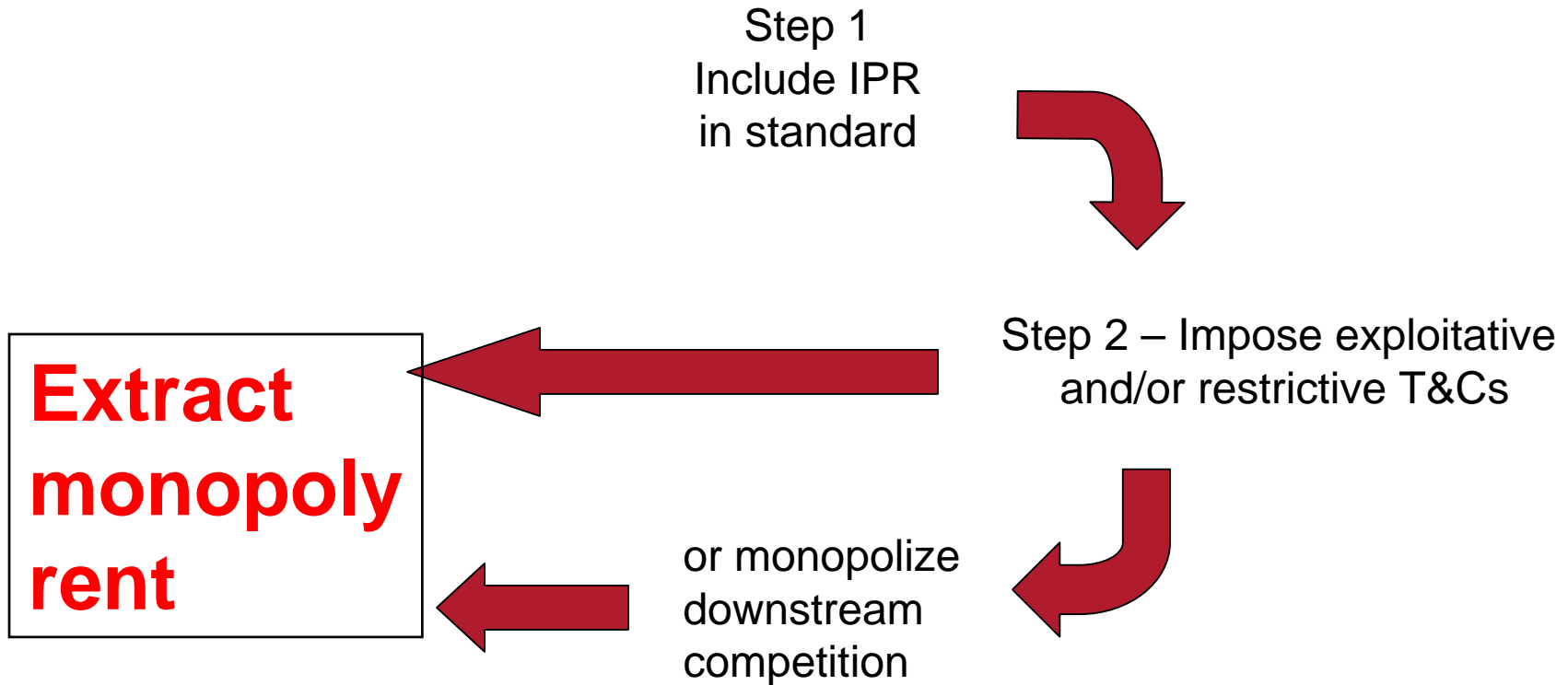
Problem: *ex ante* auction is often not practical

- Problem: Complex standard have many IPRs - maybe 1,000+
 - Upfront choice may have to be made about general direction
 - But process takes years and specs are further developed during standardization
 - Features are added during standardization
 - Unknown applications mature into issued patents; this takes time
 - Not possible to do one “auction” – A series of many auctions would be needed, and there is the risk that initial choices “locks in” the general direction, and foreclose later choices
 - SSOs are still worried about price fixing concerns (even with rule of reason)
- This creates risks of *ex post* hold-up
- Auction may not address the many forms of discriminatory, exclusionary conduct IP owners could engage in
- And mere *ex ante* disclosure does not work either
- So a policy promoting *ex ante* auction/disclosure is not enough.
A FRAND license obligation is also required to avoid abuse of lock-in

Solution: FRAND Obligations in IPR Policies

- To avoid hold-up, SSOs use IPR Policies to avoid exploitation of lock-in power obtained from patents being included in standard.
- SSOs need to know:
 - What patents read on standard, and are they licensed?
 - How much is charged and what terms and conditions apply
- These IPR Policies – as well as Article 81(3) EC -- require SSO members to promise to license on FRAND terms as a condition for inclusion of their IP in the standard
 - or else standard must be dropped
- Article 82 EC may in exceptional cases impose a FRAND license duty
- But what does “FRAND” mean in practice? We have to keep in mind what FRAND is designed to avoid (see next slides)

What is FRAND promise designed to avoid? In a static market



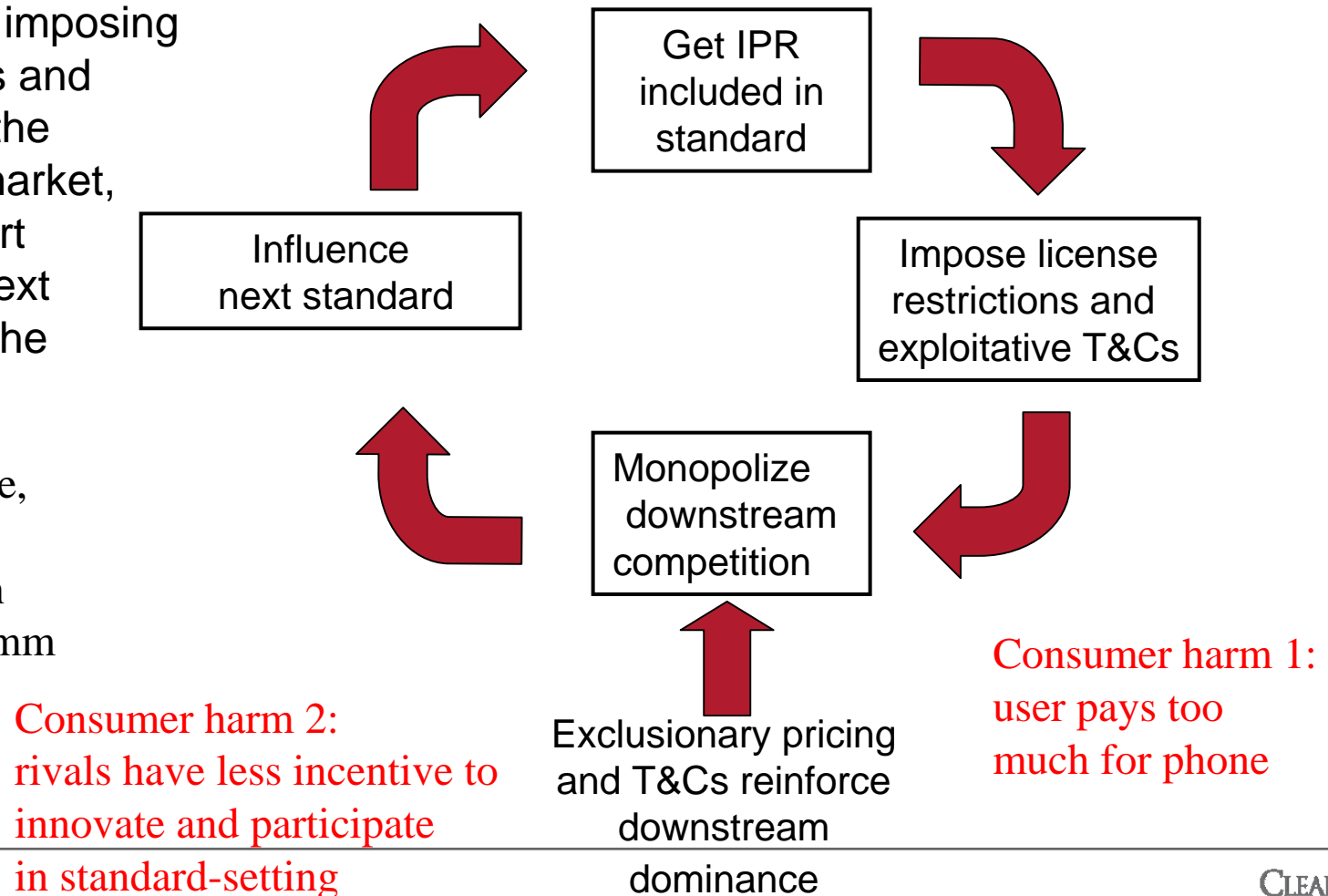
In a static market, patentee can exploit consumers by imposing excessive fees and/or by monopolizing the downstream market. effect = IP owner can appropriate entire value of the standard. That is not **FRAND**

Example of exclusionary and exploitative conduct in a dynamic market

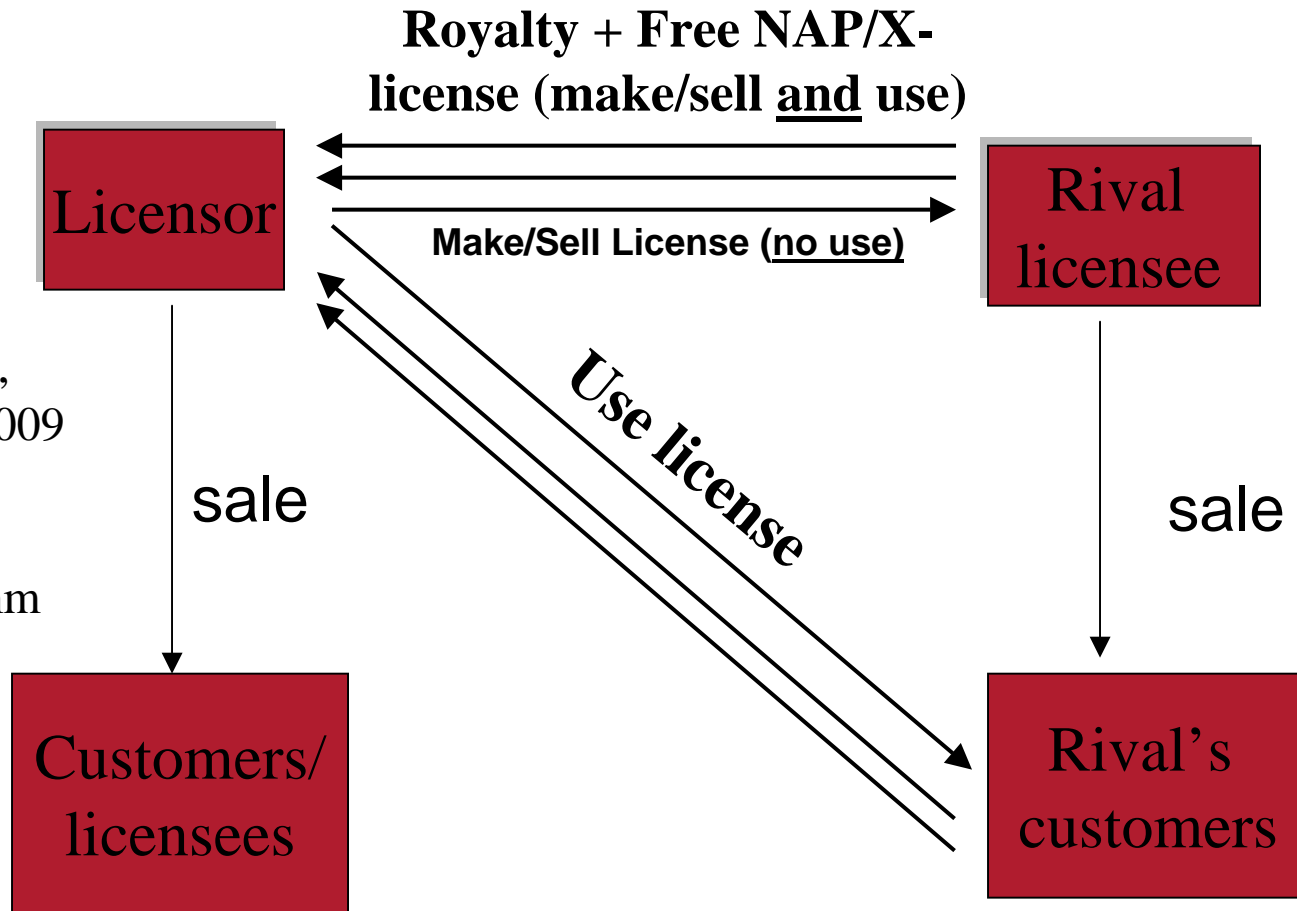
In a dynamic market, patentee can exploit consumers by imposing excessive fees and monopolizing the downstream market, in order to exert influence on next generation of the standard

See, for instance, July 23, 2009 KFTC Decision against Qualcomm

STEP 7, and so the cycle can continue



Free NAP/Pass-thru Clause can restrict competition



See, for instance,
September 30, 2009
JFTC Cease and
Desist Order
against Qualcomm

Effect :

- upstream: if licensor extracts **free** NAP/pass-thru (while charging same fee to all), then NAP discriminates/reduces incentives to innovate upstream, especially if clause is asymmetrical
- downstream: if protection against other licensees' IP is passed on **only** to licensor's customers, while all licensees pay same fee, the discrimination restricts downstream competition
- EC reviewed similar arrangement a few years ago in software sector (settled)

Conclusion 1: No Refusal to license

- FRAND promise is a license or promise to license
- See *Orange Book* case (German Supreme Court), *IPCom* (pending)
 - Right to injunction limited
- There must be no actual or constructive refusal to license, not even if defendant disagrees on T&Cs:
 - **No refusal to license** simply because of disagreement on what is FRAND
 - Refusal only allowed if licensee refuses to license essential IPR on FRAND terms
 - Or if licensee cannot pay or refuses to pay rate that is undisputably FRAND
 - **no injunctive relief** (equivalent to refusal)
 - **No termination** of a license
 - Termination possible only for material breach that cannot be remedied
 - Termination in the form of “defensive suspension” allowed also if licensee refuses to license essential IPR
 - no suit for treble damages (equivalent to constructive refusal)
- No excessive fees, delays, etc. (equivalent to constructive refusal)

Conclusion 2: No discriminatory pricing or T&Cs = no exclusion of downstream competition

- Non-discriminatory license
 - equal treatment of all customers, including the IPR-owner's own downstream business.
- **No restriction of downstream competition on the merits** (no price-squeeze, no T&Cs that have the object or effect of restricting downstream competition, etc)
 - E.g., no differential treatment based on whether licensee purchases the licensor's downstream product => July 23, 09 KFTC decision in *Qualcomm*
 - **No restriction of upstream technology competition** (no free NAP/pass-thru) => September 30, 2009 JFTC decision in *Qualcomm*
- No unremunerated extraction of licensee's IP (NAP/Passthrough Clauses), which would be discriminatory and could be used to restrict both technology competition and downstream competition
- Apply Articles 82(b) and 82(c) and 81 EC
 - Assume dominance
 - Avoid exclusionary or discriminatory terms – plenty of case law

Non-discrimination

- Differential treatment should be allowed only if justified by proportional objective considerations
 - Legitimate objective
 - Necessity (no less restrictive alternative)
 - Balance of interests
- Example: cross-license may justify royalty adjustment if at arms' length
 - And should lead to royalty adjustment on FRAND basis:
 - Royalty-free grant-back or non-assertion of patents (NAP) clause can be unfair (discourages innovation) and discriminatory (IP-rich licensee pays more than IP-poor licensee) => Recent JFTC Decision in *Qualcomm* case
- Royalty system / T&Cs should not discriminate between development models, such as proprietary vs. open source
- No discrimination insiders/outside – level playing field
- No differential treatment based on whether the licensee purchases the licensor's downstream product

Conclusion 3: No excessive royalties

- Fair and reasonable terms, means equitable, balancing all interests, proportionate to IPR owner's contribution to standard
 - Same criterion as 82(a) EC: “not excessive” = share benefits of standards with licensees and consumers (required by 81(3) anyway)
- **No monopoly rent**, moderate, allowing IP owner innovation incentive, but not allowing it to appropriate the entire value of the standard.
 - Avoid Cournot royalty stack
- Fair = rate that the IPR owner could have obtained in *ex ante* inter-technology competition
 - unless the IP owner took anti-competitive action to diminish *ex ante* inter-technology competition, e.g. by buying up alternatives, or by vote stacking
- No unremunerated extraction of licensee's IP (NAP/Passthrough Clauses), which would be discriminatory and could be used to restrict both technology competition and downstream competition

3. What is “Excessive Pricing”? – Traditional Case Law Criteria Useful?

- Price bears no reasonable relationship to “value” (*Swedish Ports*)
 - What is “value”?
- Objective comparison of the price and the (historical or long-run incremental) cost of R&D (*GM*)
 - difficult in information technology
 - Begg the question: what is a fair and reasonable margin
- Fall-back: a “consistent” comparison with prices of similar products (*United Brands, SACEM*) – **may be useful**
 - Price charged by Licensor in non-standardized competitive markets
 - Price charged by Licensor to its own downstream business
 - Price charged by other licensors for similar technology (*Bodson*) or for complementary essential patents for the same standard
- Further fall-back: excessive profits analysis
 - OFT approach, but this begs the question: what is a fair and reasonable margin
 - Problem: How to adjust for risk factors?
 - *Ex post* analysis penalizes success, and makes advice difficult

What is Excessive Pricing – *Microsoft 2004* Decision Criteria Useful?


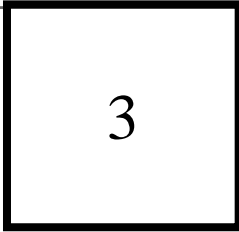
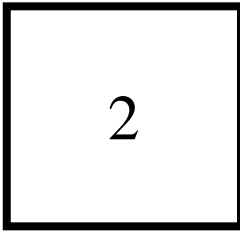
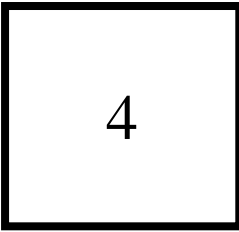
- When a company contributes to a standard, it deserves revenues attributable to its invention, but not “strategic value” (revenues deriving from the benefits of standardization, or the ability to exclude rivals from neighboring market)
 - Network effect can be valuable, but allowing only the patentee to capture that, would reduce economic efficiency. See *Microsoft 2004*, para. 1008:
 - *“terms imposed by Microsoft [must] be reasonable and non-discriminatory... in particular: ...*
 - (ii) ... remuneration should not reflect the “strategic value” stemming from Microsoft’s market power...;*
 - (iii) ...restrictions should not create disincentives to compete with Microsoft, or unnecessarily restrain the ability of the beneficiaries to innovate;*
 - (iv) ... implementing the specifications will ...constitute a significant investment, which ... vendors will not incur if they have no assurance that the terms under which they can make use of the disclosed specifications will remain reasonably stable.”*

- Subject to litigation before the ECJ
 - Case T-167/08 *Microsoft v Commission*

What is “Excessive Pricing”? – Can *ex post* review emulate *ex ante* auction?

- Economist approach to IP valuation: **price of “next best” technology + incremental value of the IP** as benchmark (Shapiro, Baumol-Swanson)
- **This works if there were *ex ante* substitute technologies, and data are available** on their price and relative quality (as in *Rambus* and *Qualcomm*)
 - Value of innovation of technology A = price of next best alternative B + **opportunity cost** of “not using A”
 - Price of next best alternative is probably competed down to zero: this benefit accrues to the consumer
 - opportunity cost of “not using A” = added value over alternative B. If A is better, the opportunity cost is positive, equal to greater revenue that standard implementers gain if they use A instead of B
- This works also if there is “inter-standard” competition
 - E.g., HD-DVD vs Blu-ray
- This works also if the standard features to which the IP applies are optional
 - Value of innovation of technology C = opportunity cost of not implementing the feature using C. If C allows licensee to increase output or increase price for the implementation, the opportunity cost is positive, equal to greater revenue that standard implementers gain if they use C instead of eliminating the optional feature

Problem: This does not work if there is no *ex ante* inter-technology competition

Necessary standards feature	 1	 3
Optional standards feature	 2	 4
	Essential patent	Nonessential patent (alternatives exist <i>ex ante</i>)

- Scenarios:
 1. 1 *ex ante* essential patent for a *necessary* standards feature
 2. 1 *ex ante* essential patent for an *optional* standards feature
 3. alternative patent A and B for a *necessary* standards feature
 4. alternative patents A and B for an *optional* standards feature
- In scenarios 2, 3 and 4, *ex ante* auction means benefits are shared with consumer: probably FRAND. **In shaded area 1, benefits are not shared.** See *Motorola, Inc. v. Rockwell Intl Corp*

If no *ex ante* alternative – Can Game Theory determine what is “fair”?

- Assume essential patent for necessary standards feature, for which there was no *ex ante* competition, and it is also *ex post* unavoidable.
 - Royalty = licensee’s opportunity cost of vetoing the standard in the SSO = net value of the market created by the standard = **monopoly rent – is that really FRAND?**
- This is like the **Dictator game** (proposal to share, take it or leave it) or **Ultimatum game** (proposal to share, responder can veto)
 - SPNE = proposer gets greater of (a) proposer’s opportunity cost of licensing, and (b) 99%; licensee gets 1%. **Is that really FRAND?**
 - Note the difference if both parties (or neither party) have alternative or if this is a repeat game (equal power): in that case, sharing is 50/50
- Dictator game theoretical outcome is just as bad as an *ex post* “hold-up”
- Analyse **Shapley Value** in cooperative games?
 - Too complicated for standards with large number of patents?

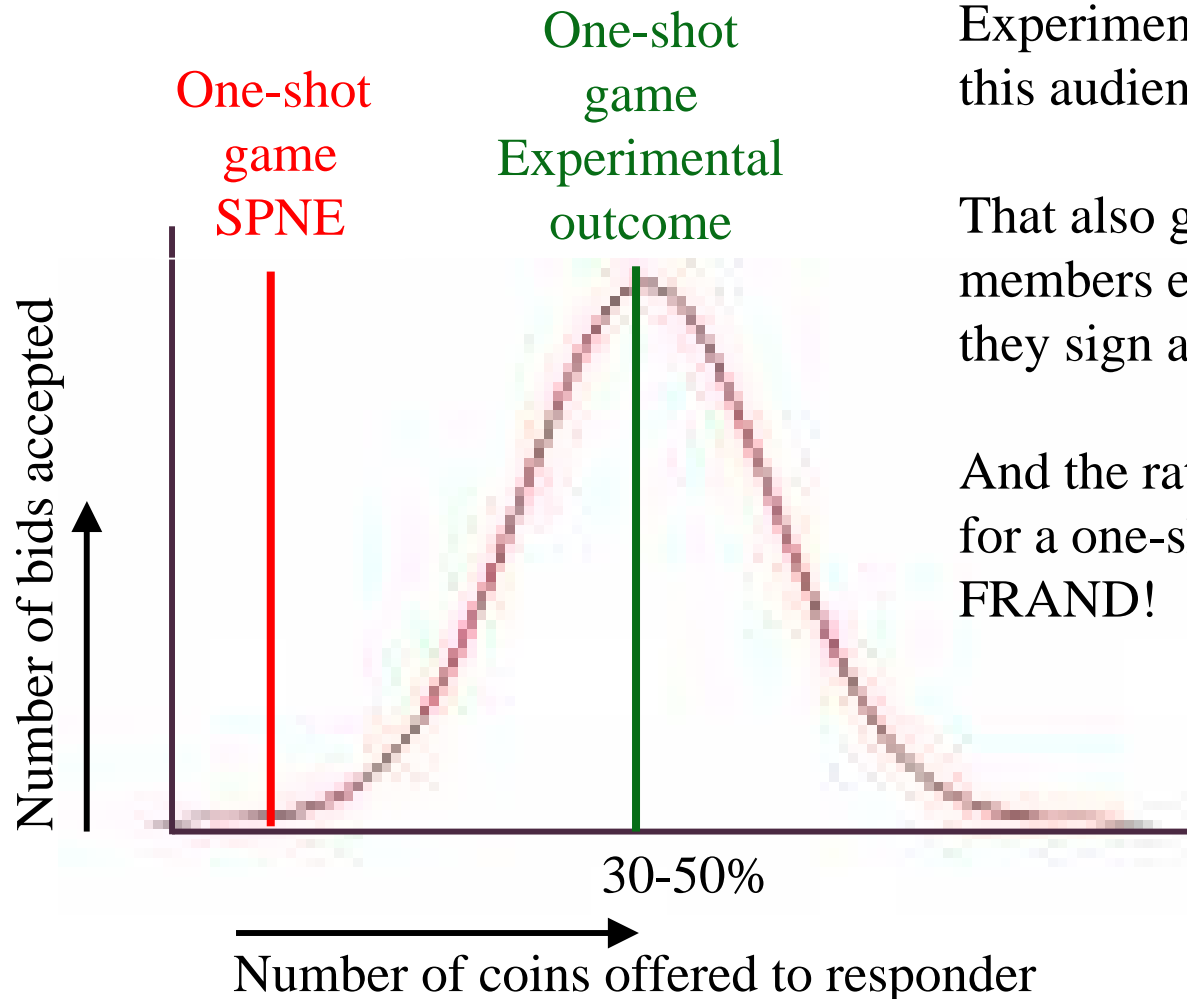
Problem is even worse when multiple owners of *ex ante* essential patents vie for royalties

- Before standard is adopted: The licensor who is the first to impose royalty demands will extract monopoly rent; other licensors and the licensees get the crumbs
 - **Ultimatum game** (proposal to share, responder can veto)
 - SPNE = Proposer will charge greater of (a) proposer's opportunity cost, and (b) 99%. Remainder goes to second licensee who can veto (block the patent or refuse to license his patent), but who knows he will himself lose out if he vetoes)
 - **Is that FRAND?**
 - Note the difference if both parties (or neither party) have *ex ante* alternative or if this is a repeat game (equal power): in that case, SPNE sharing is 50/50
- Ex post (after standard is adopted) is even worse: **Dictator game** (take it or leave it proposal). $P_b = W_{ab} - P_a$
 - SPNE = Proposer will charge greater of (a) proposer's opportunity cost, and (b) 100%. 0 for responder who can no longer veto since he has already accepted the standard. **Is that FRAND?**

Game theory does not reflect reality – The SPNE for Ultimatum Game is not FRAND

- **Experimental outcomes** suggest that the SPNE outcome for game between dominant player (who has alternative) and player without power (who has no alternative) is not considered FRAND
- **Ex ante: One-shot Ultimatum game**
 - In many cultures, or if responder and proposer know each other, proposer offers 50/50 to avoid reputation of greed and unfairness.
 - And responders reject offers below 20% even though they lose out
 - Reverse ultimatum game (proposer can repropose if responder vetoes): although SPNE is 99% for responder and 1% for proposer, in most games, the proposer end up with abt 49% and the responder with 51%
 - These outcomes appear even where players are not constrained by FRAND promise!
 - if a FRAND duty applies, argument is even better that SPNE outcome is not “fair”
 - Repeat game (series where responder and proposer switch roles):
experimental outcome = SPNE = 50/50
- **Ex Post: One-shot Dictator game**
 - 20% offers nothing, 20% offers 50/50, and median appears to be at 30% sharing

Game theory does not reflect reality – The SPNE for Ultimatum Game is not FRAND



Experimental outcome indicates what this audience regards as FRAND

That also gives indication what SSO members expect from each other when they sign a FRAND promise

And the rationally optimal outcome for a one-shot game is NOT deemed FRAND!

These outcomes appear even where players are not constrained by FRAND promise!– if a FRAND duty applies, argument is even stronger that SPNE outcome is not deemed “fair”

Real life in the licensing world confirms this

- In real life, licensors in competitive market (e.g., where there is choice, or technology is not absolutely essential) do not appropriate all or even most of the “added value” for licensees’. Only dominant firms can and on occasion do this
- **Goldscheider’s rule**: 25% of the incremental profit due to IPRs (pl.), should go to the licensors (less if licensee takes unusual risks).
 - often about 10% of the total revenue,
 - Often criticised as **too rich for IPR owners**... So taking 99% or most of opportunity costs would *a fortiori* not be FRAND.
 - This reflects actual licensing experience in many cases, in situations where licensee and licensor have comparable power, and has been used in court

Real life in the licensing world confirms this

- In real life, companies on both side of the fence recognize limits are proper:
 - “NTT DoCoMo, Ericsson, Nokia and Siemens ...reached a mutual understanding to introduce licensing arrangements whereby essential patents for W-CDMA are licensed at *rates that are proportional to the number of essential patents owned* by each company. ... The intention is to set a benchmark ... to achieve fair and reasonable royalty rates. ... This arrangement would enable the *cumulative royalty rate for W-CDMA to be at a modest single digit level*. ... As essential patent holders, Japanese manufacturers Fujitsu, Matsushita Communication Industrial (Panasonic), Mitsubishi Electric, NEC and Sony Corporation have also expressed their willingness to co-operate with such arrangements. ... targetted cumulative 5% level.”
(<http://www.3g.co.uk/PR/November2002/4377.htm>); See also 2008 promise for 4G: <http://www.ericsson.com/ericsson/press/releases/20080414-1209031.shtml>.
- This concerns example where IP owners’ pricing is constrained by desire to foster acceptance of a new-generation standard (competition with installed GSM base)
- EC letter to ETSI of 21-6-2006: Fixed total royalty with proportional allocation to licensors not allowed if it excludes *ex ante* inter-technology competition between alternative solutions for standard components
 - But this does not appear to prohibit setting a maximum cumulative royalty

Real life in the licensing world confirms this

- Others use more general wording (e.g., Article 15(4) of Blu-ray Charter) – note that Blu-ray competes with HD-DVD:
 - “All Members, regardless of whether they do or do not join any established joint licensing program for the Essential Patents, agree that the aggregate of terms and conditions of all licenses necessary under the Members’ Essential Patents shall not block, frustrate or harm acceptance of any Blu-ray Disc Format as a worldwide standard or development of products complying with any Blu-ray Disc Format or commercialization of the same. “

- In real life, the “FRAND” outcome is seen in standards/pool licensing
 - Pool members sharing royalties proportionally to their contribution
 - Where value data are unavailable, or information costs too high, numerical proportion is in certain cases taken as a proxy

- Comparison with real-life competitive markets is relevant for assessment under 82(a) EC

Why should competition authorities care about “unfairness”? (Policy issues)

- Collective standard setting where competitors agree to limit options to one are tolerated by antitrust only where the effort achieves substantial efficiencies and adopts limits on the exploitation of market power created by the standard (see e.g., *Allied Tube* case)
 - Avoid consumer harm
- Giving a FRAND promise to create a standard including IP, and then breaching FRAND promise creates risk of inefficiencies and may **endanger the particular standard**
 - Other IP owners may unilaterally raise their prices to same level
 - Objective is to punish “Dictator” to force him to lower price
 - Effect is to raise royalty stack above monopoly rent (Cournot problem) destroying viability of the standard (a Game of Chicken)
 - This game is inefficient, and to avoid it is one reason why 81(3), 82 and SSO IPR Policies impose FRAND license requirement
 - Uncertainty resulting from this reaction, **and the possibility that it may fail because of Dictator’s downstream dominance and SSO’s members dependence on the Dictator**, threatens the process of standardization in general, reducing innovation and competition, to the detriment of consumers

Why should competition authorities care?

Because normal market forces do not work...

- Normally in a “repeat game”, SSO members could punish the greedy IP owner by avoiding his IP when the next generation of the standard is developed
 - Little comfort for the users of the current standards, since it takes 10+ years for a generation switch...
- But this long-term “market force” may be disrupted:
 - If IP owner has used IP in standard to restrict downstream competition (through restrictive licensing terms), causing SSO members to become dependent on the IP owner, allowing IP owner to make implicit threat of disruption of supply
 - If IP owner may have bought up alternative technologies (often below merger control threshold since patents for next generation standard do not yet carry turnover)
 - If IP owner distorts standard-setting process (e.g., IEEE 802.20 vote stacking)
 - If IP owner through excessive fees has appropriated funds that other SSO members needed to develop next-generation technology
- Getting away with this discourages future cooperation in SSOs and thus **threatens the standards process**, reducing consumer benefit

CONCLUSION: So, what is a FRAND Promise?

- A license or promise to license:
 - **No refusal or termination** of a license, **no injunctive relief**, no suit for treble damages, if defendant is willing and able to pay, but disagrees on T&Cs
 - No constructive refusal to license (e.g., excessive fees, delays, etc.)
- Fair and reasonable – equitable, balancing all interests (proportionality)
 - Same criterion as 82(a) EC: “not excessive” = share benefits of standards with licensees and consumers (required by 81(3) anyway)
 - rate that the IPR owner could have obtained in inter-technology competition, unless the IP owner took anti-competitive action to diminish ex ante inter-technology competition
 - **No monopoly rent**, moderate, allowing IP owner innovation incentive, but not allowing IP owner to appropriate entire value of standard. Avoid Cournot stack
- Non-discriminatory – equal treatment of all customers, including the IPR-owner’s own downstream business.
 - Same criterion as 82 EC(b) and 82(c) and 81(3)(b): “not exclusionary, not discriminatory”
 - **No restriction of downstream competition on the merits** (no price-squeeze, no T&Cs that have the object or effect of restricting downstream competition, etc)
 - E.g., no differential treatment based on whether licensee purchases the licensor's downstream product
- **No restriction of upstream technology competition** (no free NAP/pass-thru)

Conclusion on “fairness”

- If before the standard was set, there were alternatives, then the “fair price” is the incremental value of the chosen technology over the next best alternative
- If no information is available about alternatives or their relative value, then use “proxy”: a “consistent” comparison with prices of similar products
 - Price charged by Licensor in non-standardized competitive markets
 - Price charged by Licensor to its own downstream business
 - Price charged by other licensors for similar technology (*Bodson*) or for complementary essential patents for the same standard

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Backup

(disclosure: counsel to complainants/interested parties
in Qualcomm, Rambus and Microsoft standards cases)

4.2 *Qualcomm case: key allegations*

- WCDMA is air interface technology for UMTS (3G mobile communications)
- During standardisation, ETSI considered 5 alternatives: (i) WCDMA; (ii) OFDMA; (iii) WTDMA; (iv) TD-CDMA; and (v) ODMA. Conclusion: all technically viable, none superior to the others
- For OFDMA and WTDMA, Qualcomm did not have essential patents
- Qualcomm promised to license on FRAND terms in March 1999
- Based on that (and other) promises, the 3G UMTS standard was adopted by ETSI in December 1999
- After the standard had been adopted, Qualcomm charged 5%-6% royalties and apply exclusionary licensing conditions

Excessive royalty demands

- Generally known to charge 4.5 – 6% "tax" at handset level
- Arguments raised:
 - There were several *equivalent* technology alternatives in 1998 in which Qualcomm had no patents, which suggests fee for Qualcomm patents should be close to 0%
 - Qualcomm 1998-1999 statements suggested it would charge about 1%, and a 1% royalty for about 10% of the patents results in a reasonable royalty stack
 - Qualcomm charged 5% for CDMA where it had 50% of patents, which suggested it would charge 1% for WCDMA where it has around 10% of patents
 - Qualcomm kept its contracts secret and made its demands public only *after* the industry is locked in the UMTS standard
 - Qualcomm contributed only about 10% of the essential patents for WCDMA: if others charge 5% royalty for every 10% of patents, the total stack will 50% (and 100% for dual-mode phones). Apply Kant's Categorical Imperative...
- This is alleged to be a "royalty trap".
- Also: owners of complementary essential IP for the same products charge much less even though they own more patents. See <http://www.3g.co.uk/PR/November2002/4377.htm>. See also Nokia FRAND Best Practice, http://ec.europa.eu/enterprise/newsroom/cf/document.cfm?action=display&doc_id=3655&userservice_id=1&request.id=0

Discriminatory and exclusionary licensing terms

- Insistence on royalty-free grant-backs/pass-through rights/NAP Clauses
 - Means higher effective royalty rates
 - Discourages licensees of Qualcomm's patents from developing their own technology, discriminates against IP-rich licensees, and limits innovation competition.
 - When applied to non-essential patents, it reduces handset manufacturers' ability to compete through product diversification.
 - By passing on valuable 3rd party IP (extracted for free) to chipset customers, Qualcomm raises rivals' costs

- Disproportionate royalties exacerbate exclusionary effects
 - 5% "tax" at handset level may equal a 33% of chipset price, which means royalty rebates and other incentives have great impact
 - Because Qualcomm applies its royalty rate on the value of the entire handset, it also discourages handset manufacturers from using non-Qualcomm technology for additional functions.

- But while KFTC and JFTC acted (see above), EC has not taken action. Concern: This may encourage other IP owners to ignore FRAND too.
 - CRAI estimated consumer harm conservatively at 4.35 billion Euro; more if others start doing the same