How Patent Damages Skew Licensing Markets

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Patent Damages Generally

- Computing patent damages is hard.

- Courts use the *Georgia-Pacific* factors as a field-guide.

- **Factor 14 (most important):** *The outcome of a hypothetical arm's length between the parties just before the infringement occurred.*

- Most other factors are guides or proxies for applying this standard.

Factor 1: Established Royalties

- **Factor 1:** *Royalties the patentee has received for licensing the patent in suit [to a third party].*

- Judges love that it's very administrable.
  - Very widely applied in practice.

- Extolled for "removing the need to guess at the terms to which the parties would hypothetically agree."

Outline of Problems

- We argue this standard systematically distorts licensing markets.
  - Patentees reluctant to accept anything other than a high royalty rate.

  - Discourages output-increasing price discrimination.
  - Undermines patentee's ability to exclude rivals while also licensing non-rivals.
  - Encourages strategic "royalty gamesmanship."

- Courts should generally abstain from applying the standard.
  - Possible exceptions for pooled patents widely-licensed at common rate.

Heterogeneity in Licensing Markets

- For every patent there's a potential licensing market.

- Established royalty standard implicitly treats patent licenses like commodities.

- But most patents cover narrow incremental technologies, not "entire products"

- Often many distinct commercial applications, which vary in terms of value-added.
  - Means consumers (licensees) are often highly differentiated.
  - Disparate levels of willingness to pay (WTP)

Opportunities for Price Discrimination

- In fact, there are many sources of variation that could lead royalties to vary among deals.

- Also: transaction *value* is high in relation to transaction *costs*.
  - Transaction costs don't compel linear pricing.
  - Patentee can bargain bilaterally with individual licensees.

- These conditions make licensing markets prime candidates for efficient price discrimination.

Efficient Discrimination through Bargaining

- Discrimination through bilateral contracting always enhances total welfare relative to linear pricing.
  - No deadweight loss.
  - Like 1st degree (perfect) discrimination, but with shared surplus.

Linear Pricing
(same price for all licensees)

Discriminatory Bargaining
(prices vary among licensees)
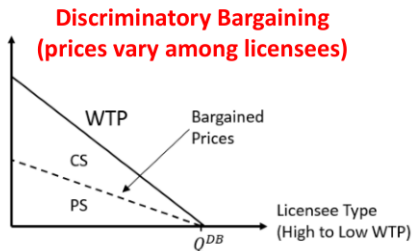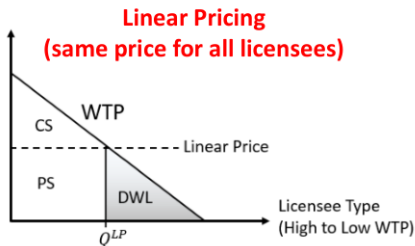
WTP = willingness to pay
CS = consumer surplus
PS = producer surplus

Some Sources of Variation (1/2)

- **Commercial Applications of the Patented Invention**
  - More profitable application $\Rightarrow$ higher WTP

- **Commercial Relationship between Patentee and Implementer**
  - If licensee is a rival, patentee will require larger royalty (or refuse to license)
  - Lower royalty for a complementary licensing application.

- **Sunk Cost Investments; Unintentional Infringement**
  - Unintentional infringers have already made sunk cost investments.
  - Patentee can extract these costs ex post (but couldn't do so ex ante)

- **Cross-Licensing; Ancillary Exchanges**
  - Royalty rate lower (possibly zero) if there's cross-licensing.
  - More generally, if other things/rights are exchanged in the deal, this will affect the royalty rate.

- **Competition Among Licensees; Exclusive Rights**
  - The more competitors already licensed, the lower the marginal value of the next license.
  - Exclusive license would command the largest royalty.

- **Obsolescence; Dynamic Competition**
  - Invention may become outdated or obsolete over time.
  - New substitute technologies may emerge, diminishing the royalties patentee can charge.

Disincentives to License

- Licensing-based damages standard disincentivizes price discrimination and licensing generally.

- **No Low Royalties**
  - Patentee doesn't want to set a "bad precedent"
  - Low royalty undermines ability to charge someone else a high royalty.
  - *Results may look a lot like linear pricing.*

- **Non-Licensing to Exclude Rivals' Access**
  - Patentee doesn't want rival to rely on established royalty to gain access.
  - This may discourage patentee from licensing *anyone*.

Diminished Future Recovery

- An established royalty may diminish future recovery in potential litigation.
    - **Feedback Effect:** diminished royalties in future licensing bargains.

- Standard fails to account for the impact of *uncertainty* on bargaining.
    - Validity and infringement are uncertain at negotiation stage.
    - Results in discounted royalty; more uncertainty $\Rightarrow$ bigger discount.

- The standard preserves this "uncertainty discount"
    - Even though it just resolved that uncertainty.

Diminished Future Recovery: Example (1/2)

- Two prospective licensees: A and B.
  - WTP levels are v_A for A and v_B for B
  - Patentee bargains with A first, then B.
  - Fixed fees instead of royalties (for simplicity)

- Pre-litigation Uncertainty:
  - A infringes w/probability p_A, and B does w/probability p_B
  - Patent is valid with probability 1 (for simplicity)

- Expected Damages (conditional on winning) from A and B:
  - No license before A. Expected damages from A assumed to be $\mathbb{E}[DAM_A] = v_A$.
  - If A agreed to fee f_A, expected damages from B would be $\mathbb{E}[DAM_B] = f_A$.

- Patentee can make take-it-or-leave-it offer; litigation is costless.

- Patentee and A agree on the following fee:

$$f_A^* = p_A \cdot \mathbb{E}[DAM_A]$$
$$= p_A \cdot v_A$$

- Patentee and B then agree on the following fee:

$$f_B^* = p_B \cdot \mathbb{E}[DAM_B]$$
$$= p_B \cdot f_A^*$$
$$= p_B \cdot p_A \cdot v_A$$

- This fee charged to B makes no sense.
  - It depends on A's valuation rather than B's.
  - It includes *two* uncertainty discounts (p_A and p_B); one comes from A.

Qualifier in the Hypothetical Bargain Standard

- **Georgia-Pacific Factor 14:** *The outcome of a hypothetical arm's length between the parties just before the infringement occurred.*

- This is missing an important qualifier.

- **Qualifier:** in the bargain, the parties *know* the patent is valid and infringed.

- Without this, the hypothetical bargaining standard would mistakenly preserve the uncertainty discount within the damages award.
  - This is an inherent problem with basing damages on prior licensing agreements.

Royalty Gamesmanship

- Clever patentees may strategically exploit the established royalty standard.

- Terms reached between two parties, A and B, can be imposed on a third party, C, who never agreed to them.

Examples:

- In settlement with unintentional infringer, forgive prior infringing sales in exchange for larger royalty on future sales.

- Rebate or reverse payment: contract stipulates very large royalty, but patentee gives some money back to licensee in a side-deal

Damages Standards: Scope of Influence

- Does a standard have more influence within the courtroom, or on private dealings?

- Damages awards are proportionally rare: < 1 per 1000 patents.

- But *all* licensing negotiations occur in the shadow of litigation.
  - And the damages standard shapes this shadow.

- A standard has much more widespread impact on private contracting.
  - We should be most concerned with its influence on private conduct outside the courtroom.

Easy $\neq$ Efficient

- Would be a mistake to prioritize administrability over system-wide efficiency.
    - Patent law has made this mistake before.

- Courts used to rely on a "25% rule of thumb"

- Courts ultimately admitted it's arbitrary; no longer admissable.

- Should similarly recognize problems with comparable license damages.

Example: Qualcomm's Rebate System

- Two high-profile complaints recently filed against Qualcomm.
  - One by FTC, other by Apple.

- Qualcomm's offerings in cellular telecom:
  - Standard-essential patent (SEP) licenses.
  - Chipsets (processors) for high-end smartphones.

- Possible royalty gamesmanship by Qualcomm.
  - Using rebates to obscure the royalties paid by implementers, like Apple.

- Loyalty discounting using a rebate.
  - Set high "default" royalty rate for SEP rights.
  - Give large quarterly rebates, *provided Apple buys chips exclusively from Qualcomm*.

- Refusal to license rival chip makers.
  - Won't give rivals an exhaustive license—just a right to make.
  - Implementers buying a rival's chip must still go to Qualcomm for the relevant SEP rights.

FRAND Puzzle

- Qualcomm's SEPs are covered by FRAND commitments.
  - Compels Qualcomm to license them on "fair, reasonable, and nondiscriminatory" terms.

- FRAND probably prohibits refusing to license rivals on similar terms.
  - Probably breaks the 'nondiscriminatory" prong.

- So how is Qualcomm able to refuse rivals like Intel?
  - Why don't they just sue for breach of the FRAND commitments?

Qualcomm's Treatment of the Rebate

- Qualcomm refuses to describe its backpayments as "rebates".

- Stylizes the payments as reflecting some other aspects of the parties' dealings.

10	99. Although Qualcomm refused to characterize its payments to Apple as
11	"rebates" on the license fee, and insisted on titling these payments with descriptions
12	like "▮▮▮▮▮▮▮▮" and "▮▮▮▮▮▮▮▮," these titles were window-dressing. Apple
13	was under little to no obligation to use many of these funds for any particular purpose.
14	Instead, the sole purpose of these payments was to reduce Apple's royalty burden in
15	exchange for exclusivity.

Possible Royalty Gamesmanship

- Qualcomm may be using its rebate to exploit the established royalty standard.

- Sets very high "default" royalty that most firms wouldn't accept outright.
  - But offers rebates to non-rivals, like apple, to induce acceptance.

- This creates a very high "established royalty"
  - And obscure the rebate, stylizing it as an unrelated transaction.

- Then tell rivals they have to pay this established royalty if they want exhaustive licenses.
  - Suing won't help if the courts use that royalty as the measure of damages.

Thanks!