

CRA International: Economic Developments in European Competition Policy  
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# Abuse of Dominance from Microsoft to Qualcomm: Challenges for Economic Analysis

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# Two key features of the Microsoft case

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- The good(s) are *information goods*; some of them are also *platforms*
- Why does this matter? The Commission decided, and CFI upheld, that a dominant firm was
  - Not entitled to do something (integrate features into an operating system) that would have been routine for a non-dominant firm;
  - Obligated to do something (assure a minimum level of interoperability) that a non-dominant firm would not have to consider as a duty at all
- How should we think about dominance?
  - What is it?
  - Why does it imply special duties?
  - Do these arguments still hold unqualified for information goods and platforms?
- Google-DoubleClick and Qualcomm are just two of many cases that will have to face these questions

# Dominance, market share and special duties

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- One of the most robust intuitions in microeconomics concerns the effect of demand complementarity or substitutability on the consequences of concentrating activities
- A seller of two *substitute* (resp. *complementary*) products sets *higher* (resp. *lower*) prices than two separate sellers of the products (absent collusion)
- With markets defined by relations of substitution, high market shares imply (modulo dynamic considerations):
  - High prices (BAD for welfare)
  - Increased incentives to collude or merge with with other suppliers of substitutes (BAD)
  - Incentives to exclude entrants efficiently supplying substitutes (BAD)
  - Increased incentives to collude or merge with suppliers of complements (usually GOOD, very occasionally BAD)
  - Incentives usually to encourage entry of efficient suppliers of complements (GOOD), very occasionally to exclude them (BAD)

# Why special duties for dominant firms?

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- Most of the bad things are ones that non-dominant firms can't do even if they try, but dominant firms can and will do if they can get away with it!
- Most of the good things are ones that non-dominant firms will do if they can but may not be able to, while dominant firms may be effective but may not want to do them as often as is socially desirable
- In most markets it is fairly obvious whether the other products concerned are substitutes or complements, and this relation doesn't change fast over time (it's rare for component producers to compete with assemblers)
- **HOWEVER**, this changes radically for information goods and platforms
  - Any firm supplying information complements can usually change easily to supplying substitutes and vice versa
  - Any two platforms have both complementary and substitute elements, that evolve over time as the market itself evolves

# Information goods:

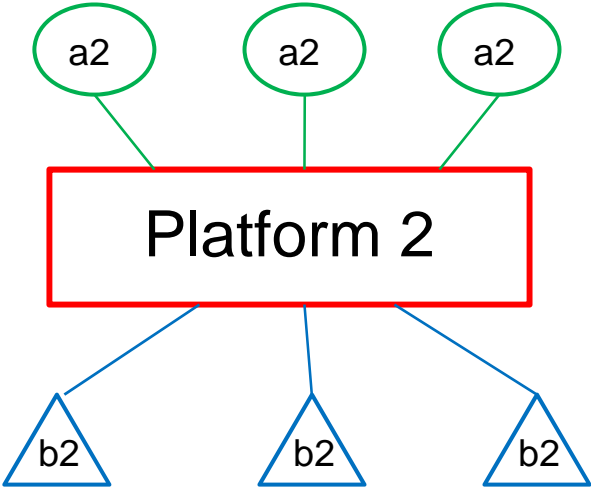
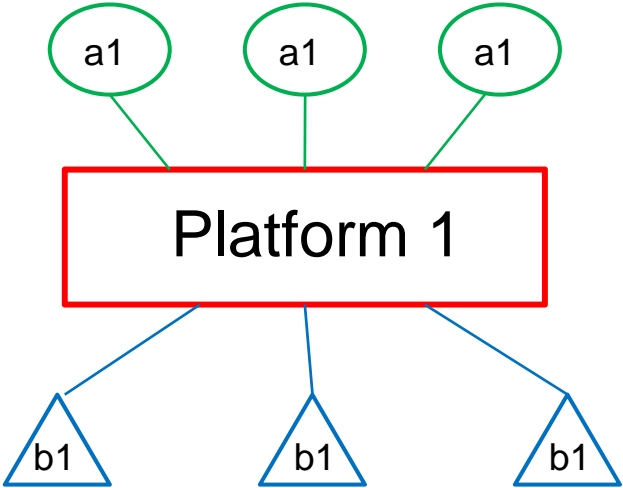
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- These two strings of bits are perfect complements:
  - 0 1 1 0 and 1 0 0 1

Since if one is a lock, the other is a key (eg a password)
- A very simple operation on the second string transforms them into perfect substitutes:
  - 0 1 1 0 and 0 1 1 0
- More generally, a firm specialized in producing a complement to the information good produced by another firm usually finds it easier to enter the production of substitutes (an issue re Netscape in the US Microsoft case)
- A dominant firm thus has *more incentive* to exclude suppliers of *complements* than in other markets (a "post-Chicago" point; see Carlton-Waldman 2002), but *less ability* to exclude suppliers of *substitutes*
- Markets become more contestable but the list of potential victims of abuse is longer

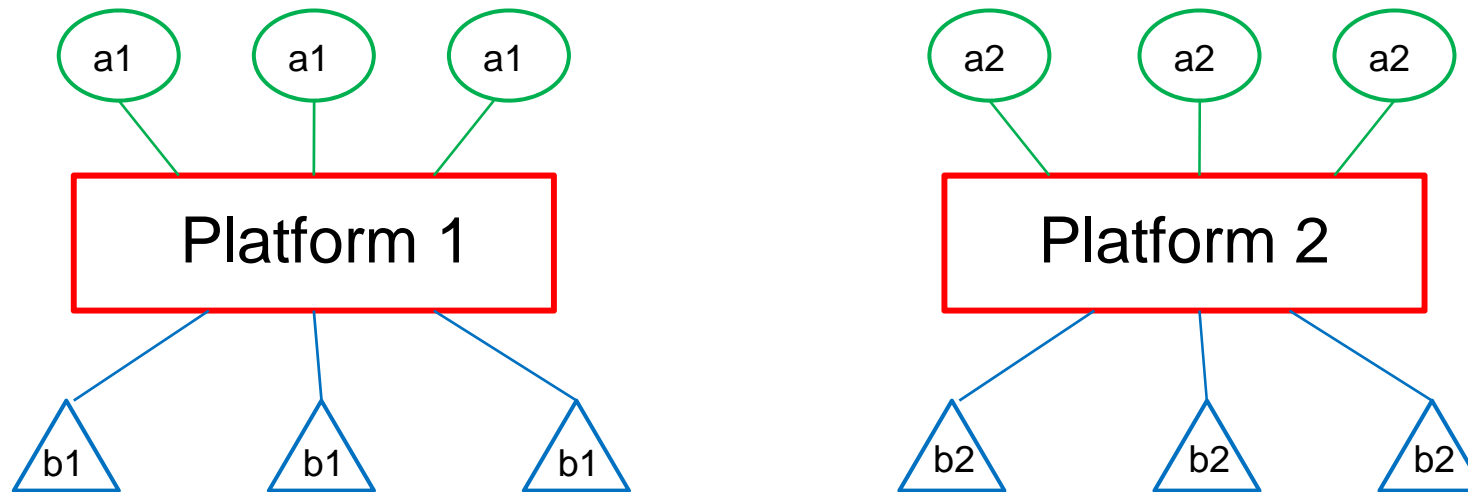
# Platforms

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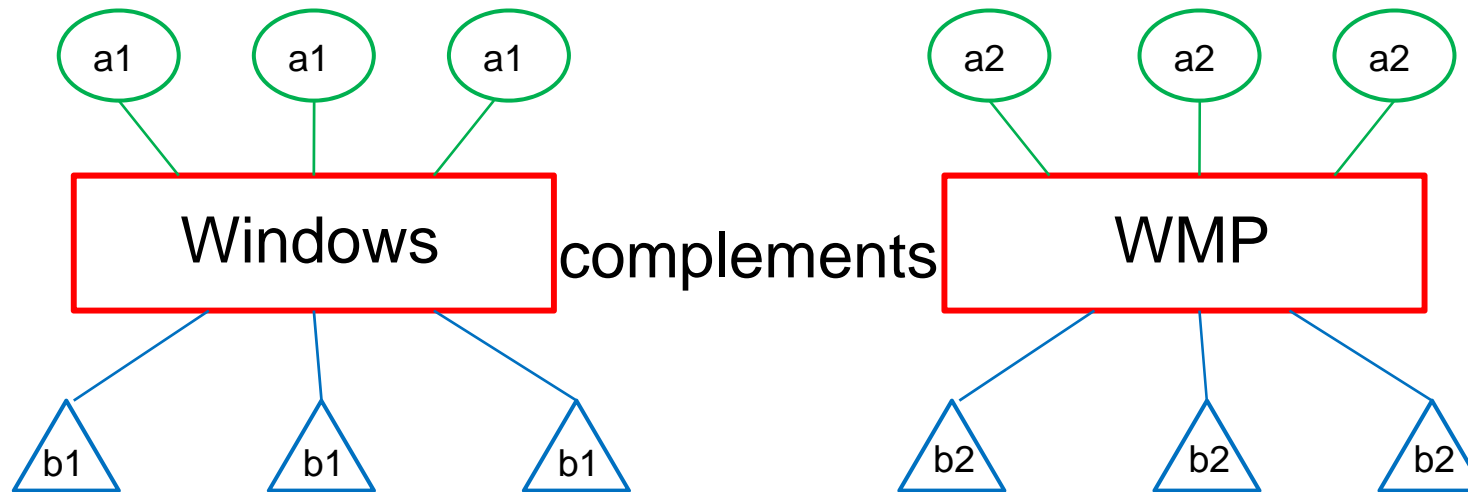
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- For each user  $a_1$ , platform 2 provides a substitute (resp. complementary) service (access to users  $b_2$ ) iff there is diminishing (resp. increasing) marginal value of access to type  $b$  users
- Whether Platform 2 is a substitute or a complement depends therefore on the characteristics of the users who join each one (which is endogenous and can change over time!)

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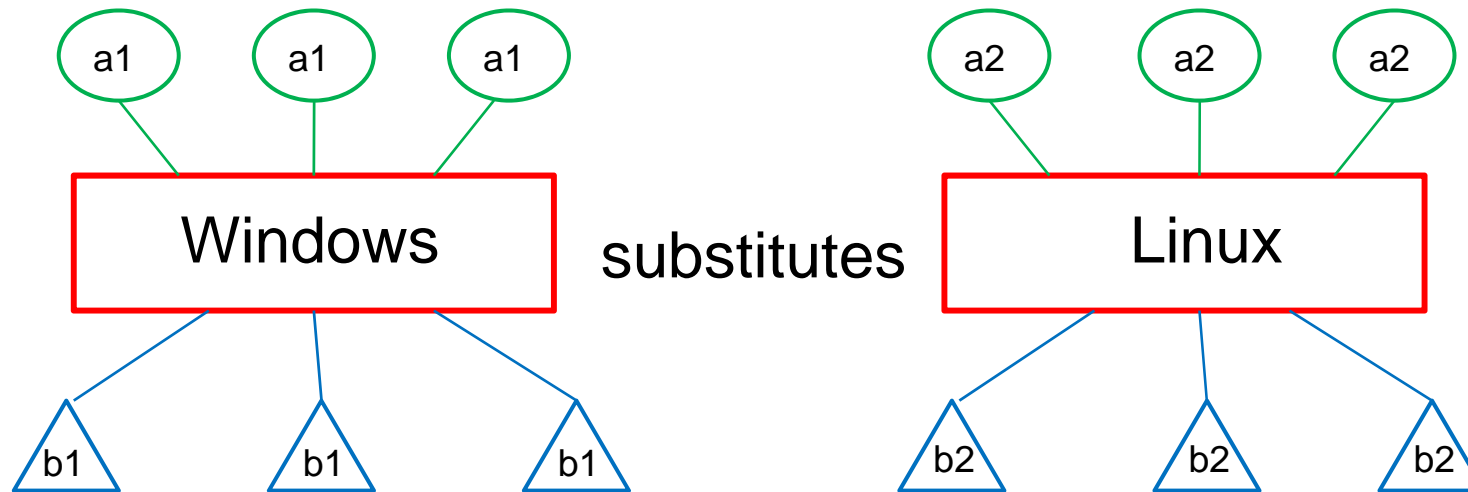
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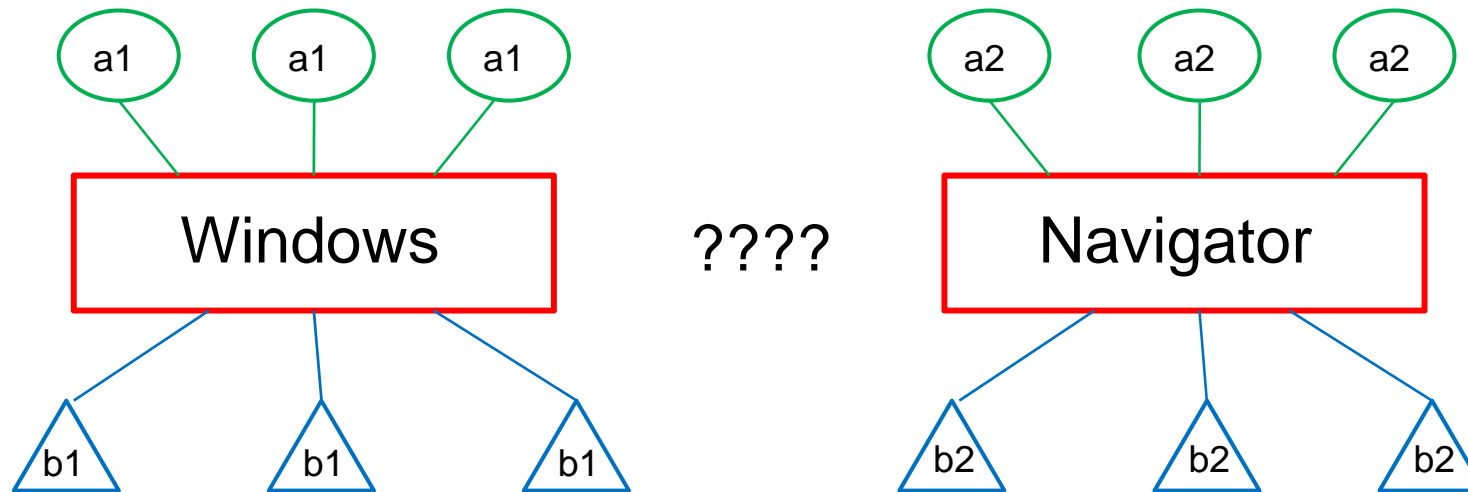
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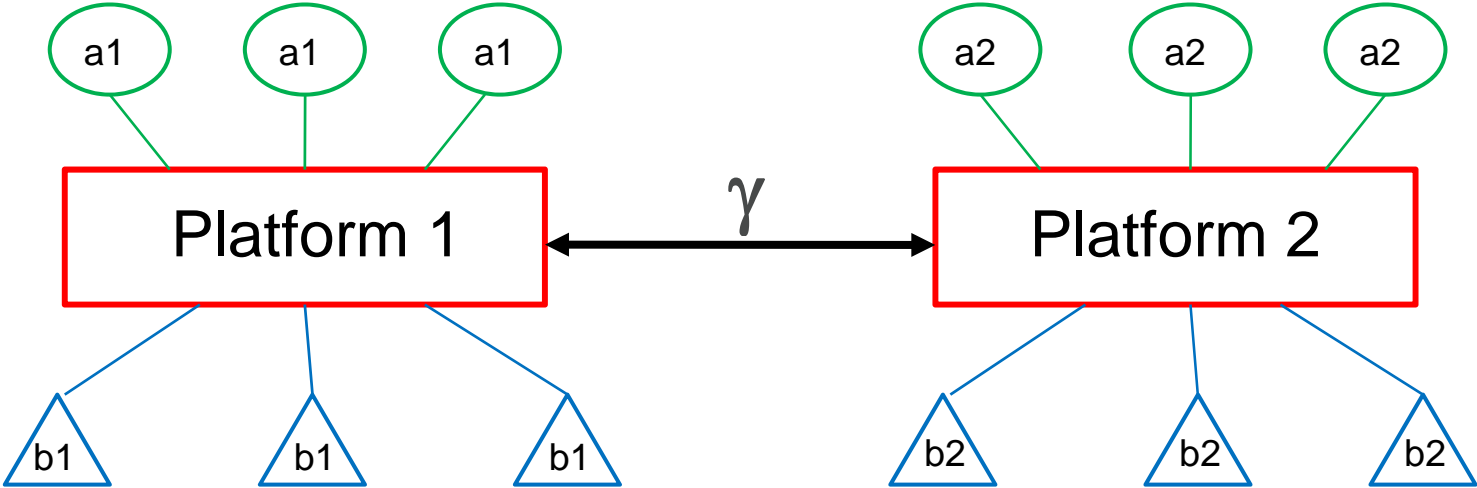
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Now suppose that there is an  
interconnection of strength  $\gamma$  ( $0 \leq \gamma \leq 1$ )

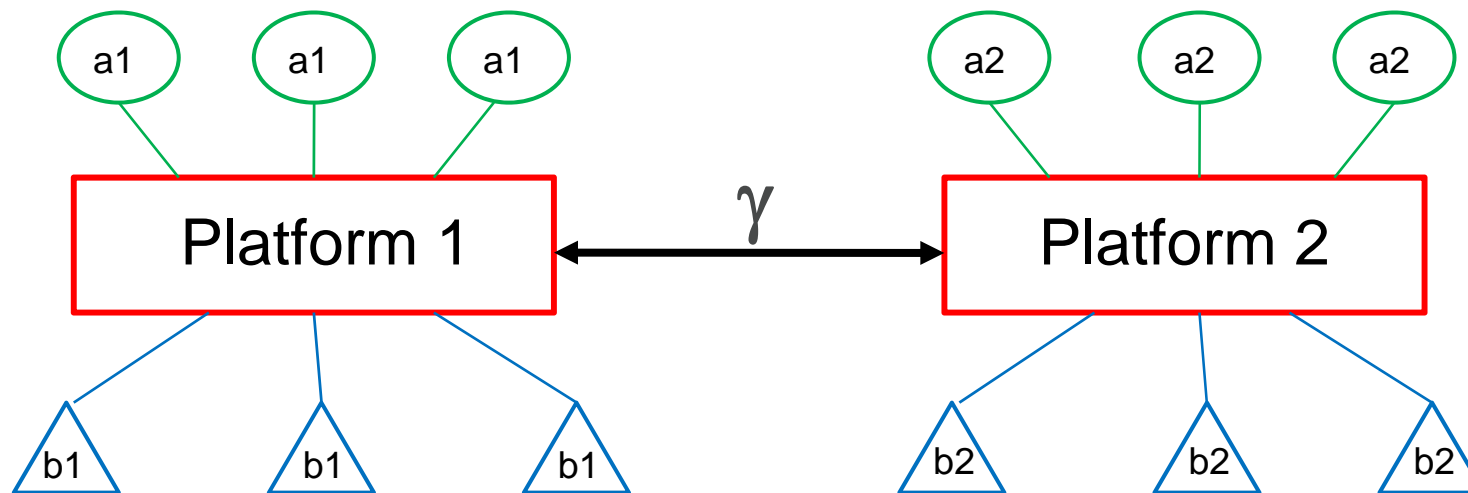
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# Platforms

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- For each user  $a1$ , as  $\gamma$  increases Platform 2 provides a) an (increasingly close) substitute means of access to  $b1$ ; b) an (increasingly unnecessary) substitute means of access to  $b2$ ; note that  $\gamma$  might be a choice variable for them;
- As  $\gamma$  increases uniformly this also reduces the rent each user  $a1$  can gain from users  $b1$  if there are congestion or competition effects from users  $a2$ , but may increase the rent if there are peer effects

# Some general welfare messages

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- It can be very hard to identify whether two platforms are "intrinsically" complements or substitutes; they may have components of both
- There is NO simple presumption that size, or "share" of market has bad incentives. In many models of platform competition monopolists can be BETTER citizens than competing firms (see Nocke-Peitz-Stahl 2007), independently of cost efficiencies.
- It is empirically hard to identify why some platforms are larger than others – indirect network externalities or differences in quality of access?
  - If externalities are weak but platforms are close substitutes, small differences in quality may lead to apparent dominance ("superstar effects")
  - If externalities are strong, initial differences in size may persist in spite of lower quality ("tipping")
  - We have no theories of which market structures give best incentives to invest in quality
- We need better theories of "bad dominance" and *empirical tests*

# Standard setting and the economics of FRAND: the Qualcomm case

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- A technology standard – like the WCDMA standard adopted in 1999 by the EU for 3G mobile telephony - has a challenging configuration of complementarity-substitution relationships; standards are also often platforms
- Once the standard is chosen, different contributions to the standard are complements – meaning that cooperation among the firms involved typically lowers royalty rates and enhances welfare – and should not attract anti-trust intervention
- In fact, independent setting of royalty rates by owners of complementary technologies (such as that alleged to be practiced by Qualcomm) would typically involve very high prices – above those of a monopoly owner of the technology! Firms undertaking specific investments in the standard would face severe *hold-up*
- Initial choice of standards involves selecting among different *substitute* technologies – so cooperation among suppliers of *rival* standards is regarded with suspicion
- *Some* standard is more efficient than none – but often creates market power

# The purpose of Fair Reasonable And Non-Discriminatory (FRAND) pricing

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- In an ideal world, there would be
  - Competition between rival technologies for adoption as the standard, and the price determined by this competition would determine royalty rates for the lifetime of the standard, thus avoiding hold-up of specific investors
  - Cooperation between parties to each candidate standard to ensure that they did not pitch their price bids inefficiently high, and to determine the subsequent division of the royalty stack if the standard is chosen
- The world is not ideal because
  - The technology in the standard evolves unforeseeably over time
  - The parties to any one standard are often also parties to rival standards, so supply complements and substitutes simultaneously
- So in practice they agree on a standard, persuade users to adopt it, and promise FRAND

# Possible solutions to the problem

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- Ex post non-cooperative price-setting?
- Ex-ante contracts?
- A FRAND promise enforceable by contract law?
- A FRAND promise enforceable by competition law?
- Gentlemanly muddling-through?

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- Ex post non-cooperative price-setting? (*Could yield very high prices because contributions to the standard are complements*)
- Ex-ante contracts? (*hard to foresee circumstances and even all relevant parties, and could lead to higher than ex-ante competitive prices though not as high as under non-cooperative price setting*)
- A FRAND promise enforceable by contract law? (*hard to establish breach, not all interested parties are parties to the contract*)
- A FRAND promise enforceable by competition law? (*what notion of dominance? Is the abuse excessive pricing? How to establish a “fair” price?*)
- Gentlemanly muddling-through? (*This is what we have at the moment...how well is it working?*)

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- Gentlemanly muddling-through? (*This is what we have at the moment...how well is it working?*)
- No solution will be perfect – but some may be better than others.....

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