Naked Exclusion by a Dominant Supplier

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Motivation (1)

- "Naked Exclusion" – Exclusion for no other reason than to exclude
  - For example, not conditioned on promotional expenditures or other investments
- Dominant Supplier – "Must have" supplier
  - Large part of the market has no good alternative to the dominant supplier
  - Dominance necessary condition to exclude

Motivation (2)

- How could exclusives cause harm? Why would buyers accept an agreement if it were harmful?
  - End user models – coordination failure
    - Rasmussen et. Al (1991)
    - Aghion & Bolton (1987)
  - Intermediate goods models
    - Competing firms pass harm through to end user customers
      - Simpson & Wickelgren (2007 AER)
      - Fumagalli & Motta (2006 AER)
      - Abito and Wright (2008 IJIO)
      - Wright (2009 AER)

Motivation (3)

<div align="center">My Model</div>

- Explicitly Model Dominant Supplier
- Eliminate the "First Mover Advantage"
  - All suppliers can offer exclusive contracts
- Eliminate "Entrant must spend F"
- Model 100% exclusion & market share discounts
- How big do payments have to be?
- Develop a more robust "price/cost test"

Results from 50,000 feet

- Two customer segments
  - Large segment prefers the dominant supplier's input a lot
  - Small segment prefers small rival supplier's input a little
- Downstream firms can sell goods with both suppliers' inputs
  - Dominant supplier pays downstream firm to be exclusive.
    - Rival too small to sign all firms to exclusive contracts so faces competition from dominant firm in the small segment
    - Dominant supplier pays each firm the value of these profits for exclusion and so faces no competition
    - Dominant supplier can therefore set monopoly price for input
    - Profitable if monopoly profits > the payments to the producers
   - Monopoly profits finance payments

Model (1)

- Differentiated Input; Two Input Suppliers
  - Dominant (D)   Sells d to downstream producers
  - Small Rival (R) sells r to downstream producers
- m downstream Producers
  - 1 unit of input$\rightarrow$1 unit final good (MC=0)
  - Undifferentiated except for the input
  - Bertrand price competition
- End users
  - Most will pay much more for d-based good
  - A few will pay a little more for r-based good

Model (2)

The Final Good Market

- w_{cr} = WTP - r-based units
  Contestable segment
- w_d = WTP - d-based units
- w_{nr} = WTP - r-based units
  Non-contestable segment
- q_c contestable segment
- q_n non-contestable segment
- Price discrimination
  - t denotes transfer price
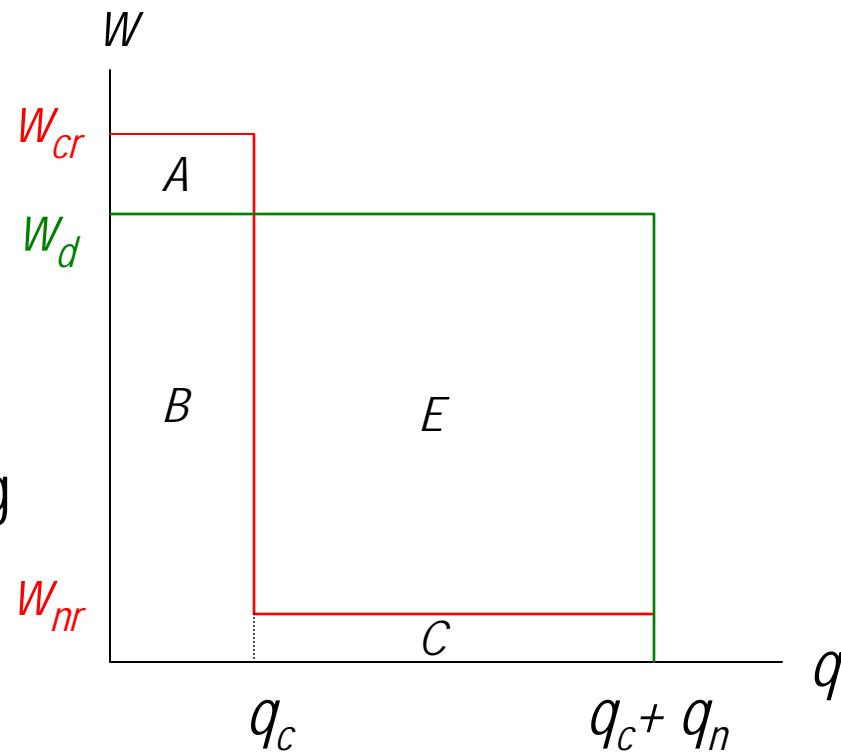 - p denotes final good price.

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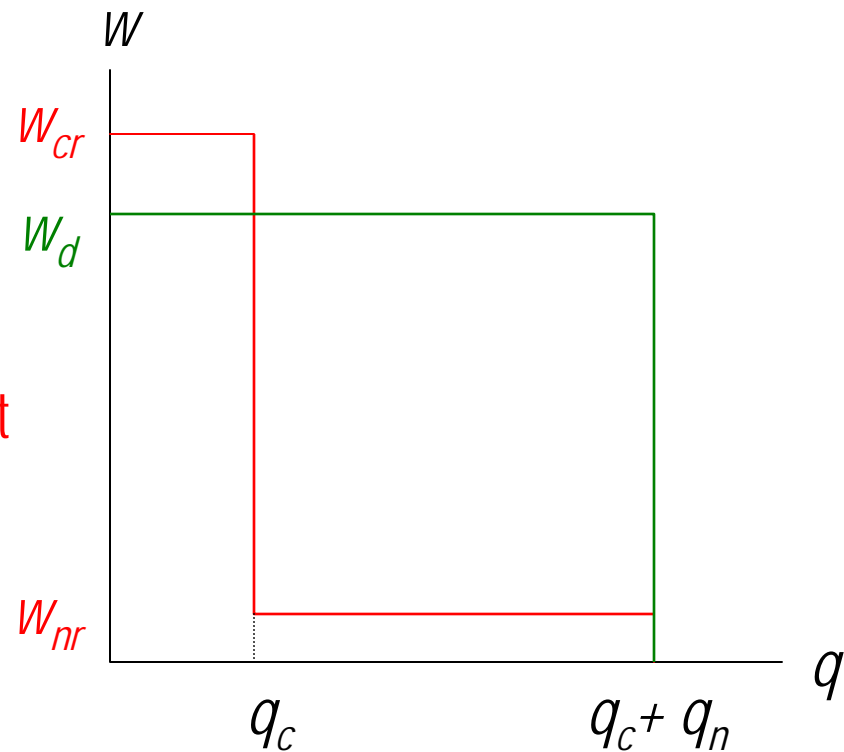
Model (3)

Values

B = d's value to contestable seg

A = r's extra value to con seg.

C = r's value in noncon seg
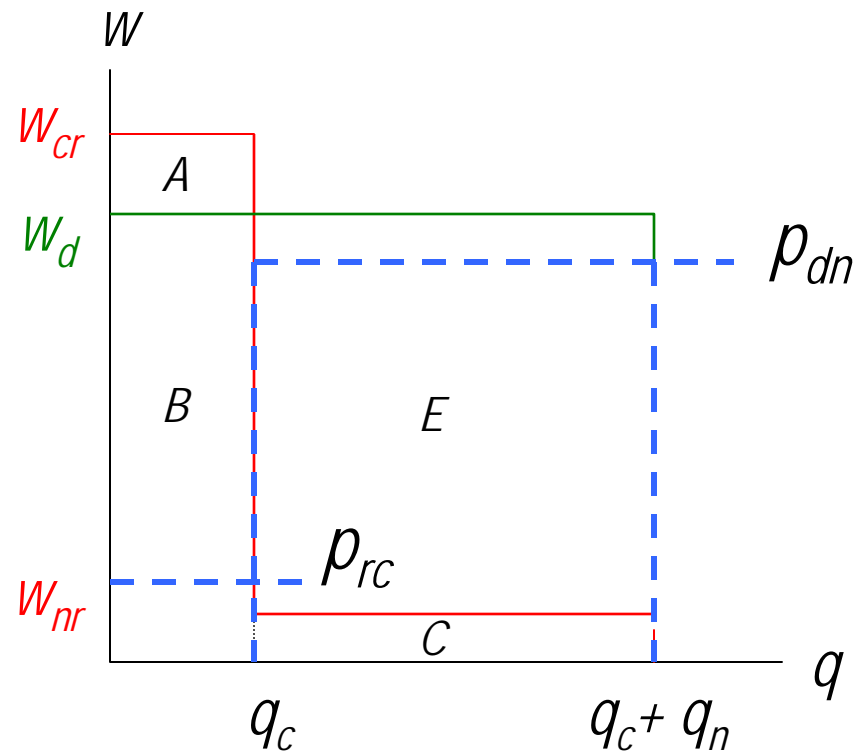
E = d's extra value in non con seg

Model (4) - Benchmark

Bertrand outcome
in each segment

Dominant earns E

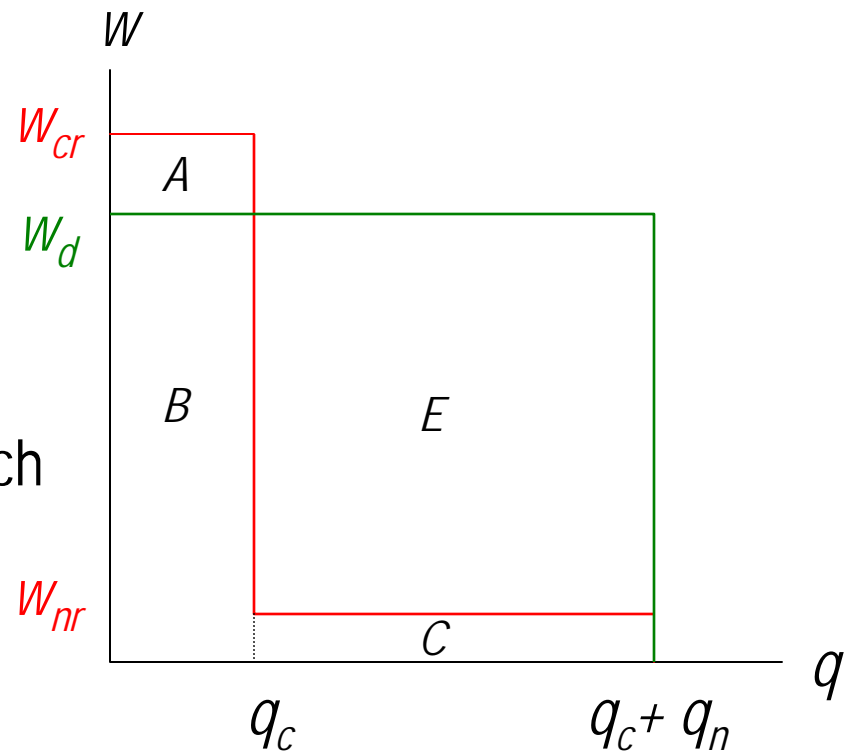Rival earns A

$$p_{rc} = W_{cr} - W_d$$

$$p_{dn} = W_d - W_{nr}$$

Model (5)

The Game

- Both suppliers offer pmnt. $\mathcal{P}$
- m producers accept or reject
- Suppliers set prices, t_{ij}
- Producers can breach
- Supplier set new $\downarrow$ $t's$ if breach
- Producers set prices, p
- *Producers and supplier discriminate across segments*
- All players observe all decisions

Model (6) - Exclusivity
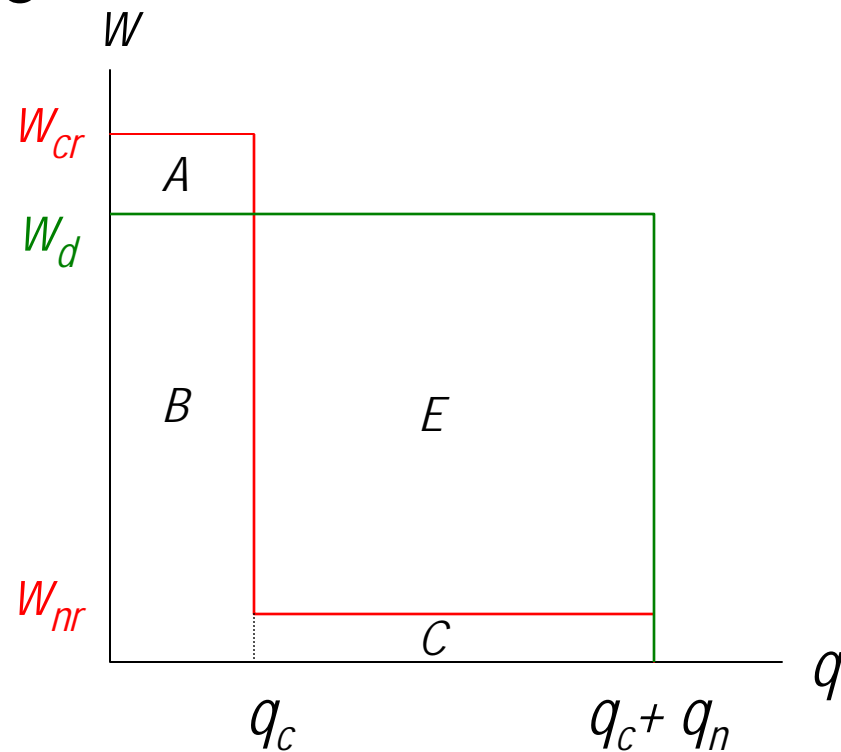
Equilibrium With Exclusives

If $mA < B+C$

$(A+B+C)/m < E$

D signs all producers
to exclusives (pays A)

D sets $t_{dc} = t_{dn} = W_d$

End users pay W_d

R sets $t_r = 0$ to one producer

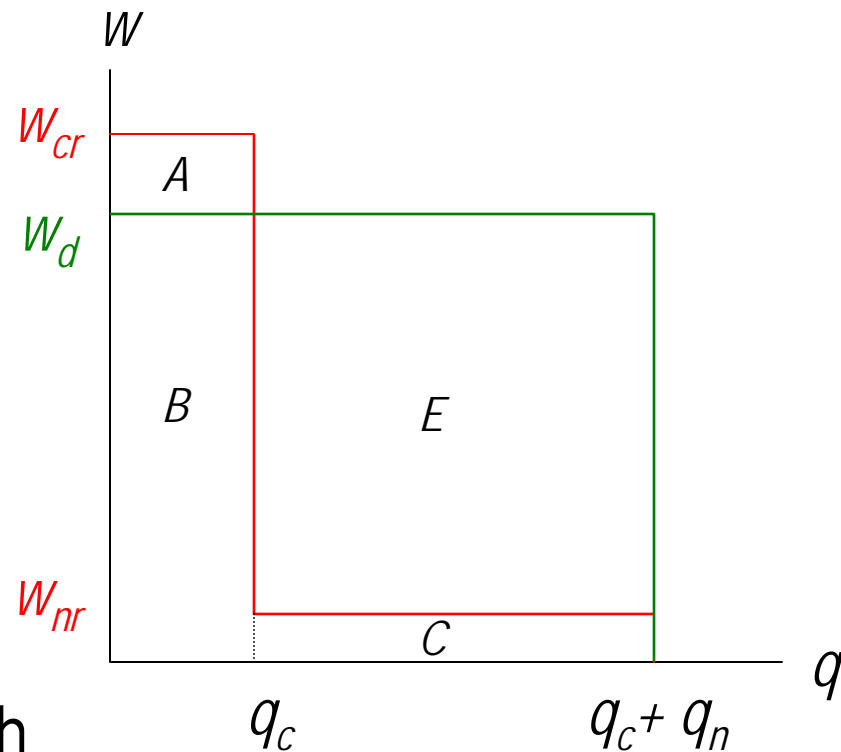# Model (7) - Exclusivity

$mA < B+C$

Excluding R makes D a monopolist.

He earns $B+C$ more than he would in competition.

D pays A to each producer for a total of mA

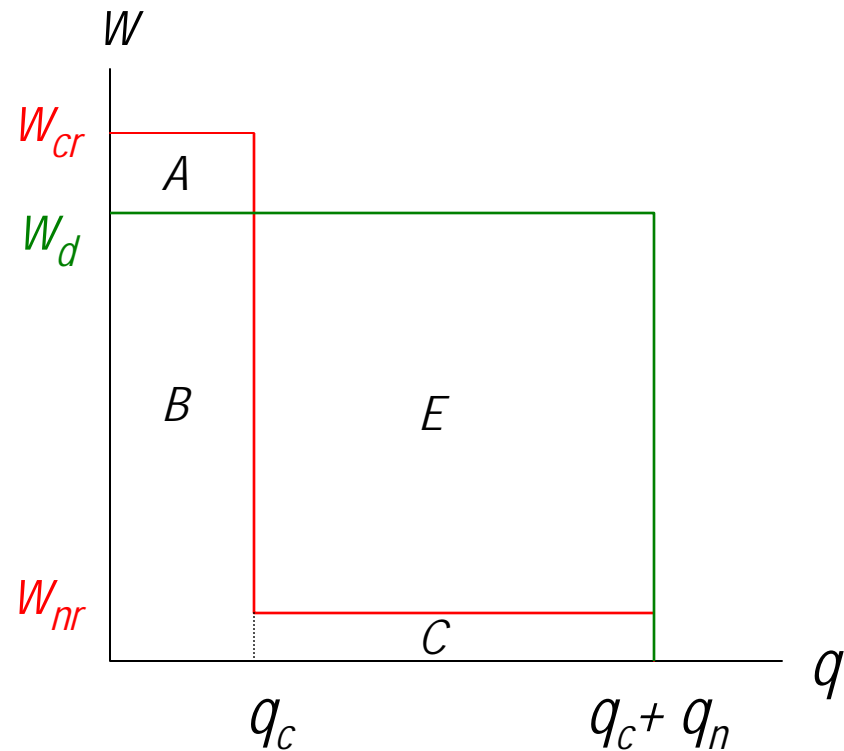If $mA < B+C$ it's profitable to pay all m producers A each

Model (8) - Exclusivity

$(A+B+C)/m < E$

R cannot sign all producers

R can pay $(A+B+C)/m$ to each producer for exclusivity

If R signs all producers, D looses E. D could pay one producer $E-\varepsilon$ Not to be exclusive.
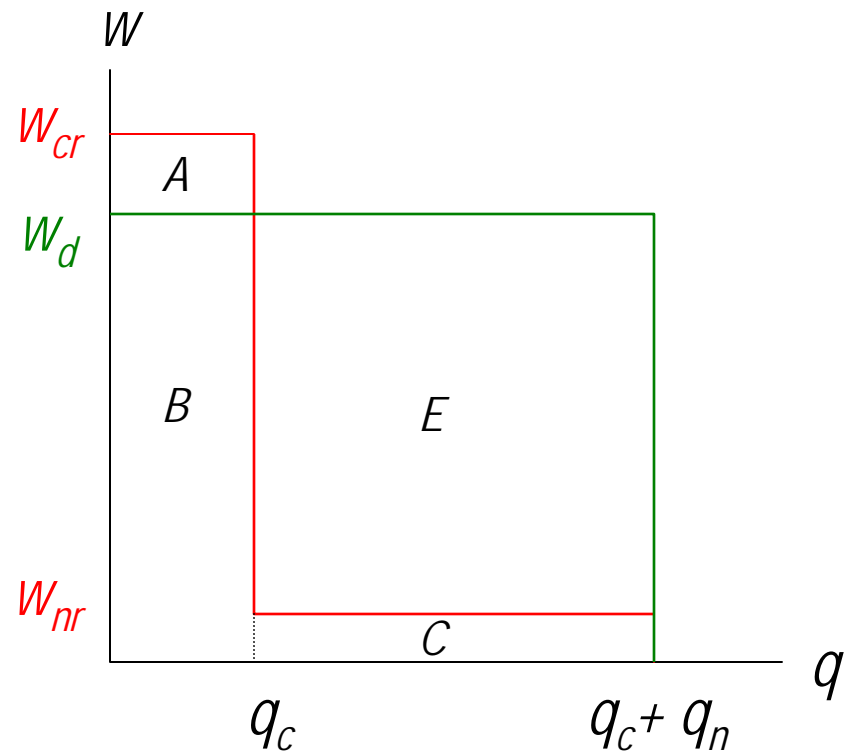
R faces competition from D.

Model (9) - Exclusivity

(A+B+C)/m < E

R cannot sign one producer

In competition the most *R* Could pay one producer to Breach and sell *r* is *A.*

But each producer already gets *A,* so no benefit in deviating
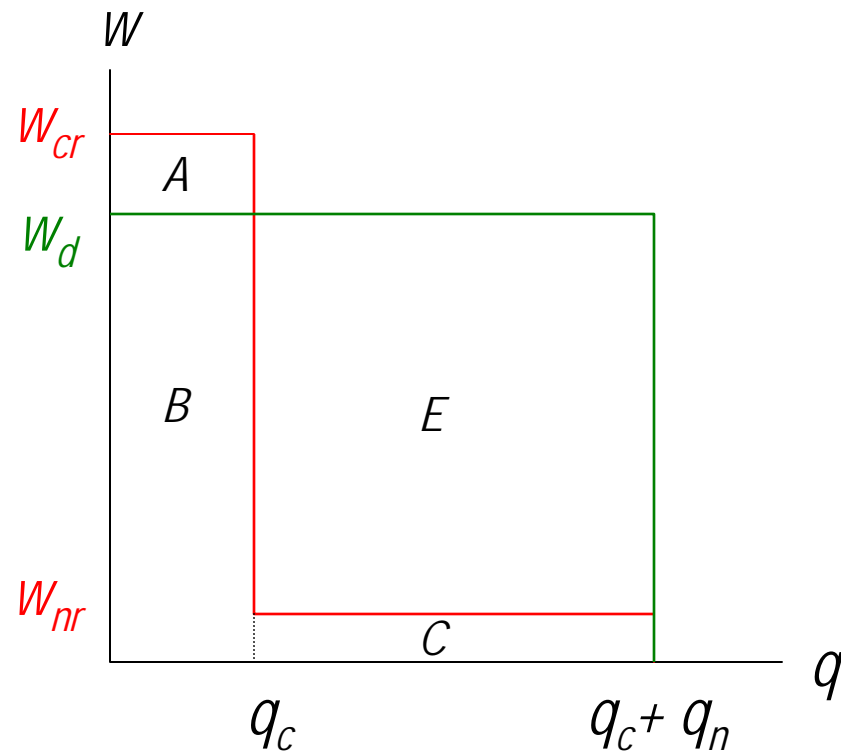
Model (10) - Exclusivity

If a producer breaches:

D sets $t_{djc} = 0$

r-based unit price $= W_{cr} - W_d$

Producers earn 0

Again breach causes Bertrand

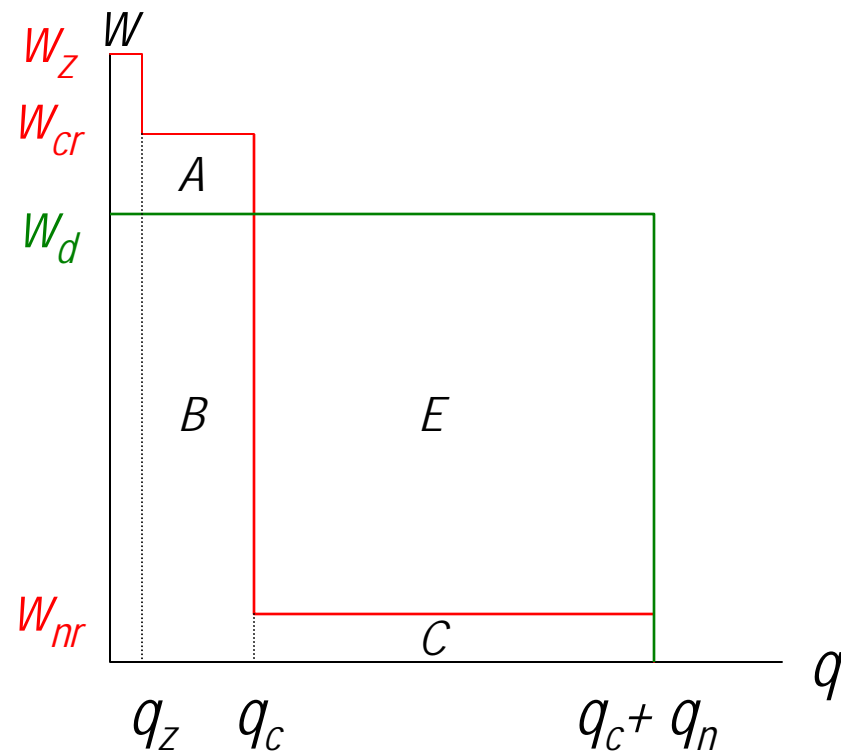# Model (13) - Market Share Discount

q_z end users WTP w_z

$m(w_z - w_d) > w_d$ and
$mA < B + C$ creates
incentive for MS discount

Cheaper to concede q_z units
rather than compensate
producers for not selling
those r-based units

Model (14) - Market Share Discount

Equilibrium
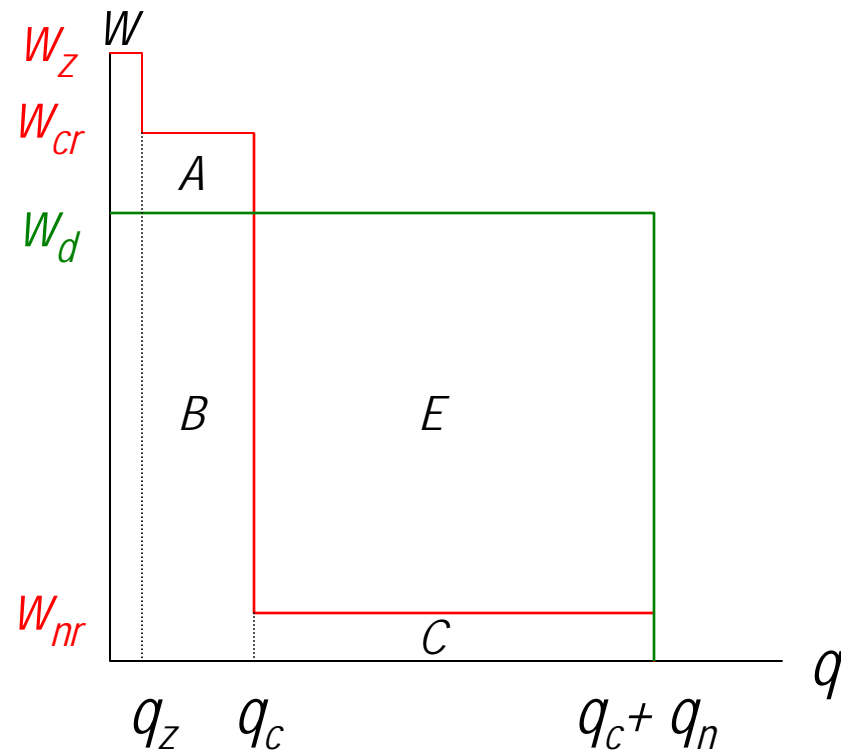
D offers A to producers

Producers accept

D sets $t_{dz} = 0$; $t_{d-z} = w_d$

R sets $t_{rz} = w_z - w_d$; $t_{r-z} = 0$

If breach

$t_{dc} = 0$; $t_{dn} = w_d - w_{cn}$

Model (15) - Price-Cost Test

Naïve price-cost test -

$mA < B$ wrongly concludes
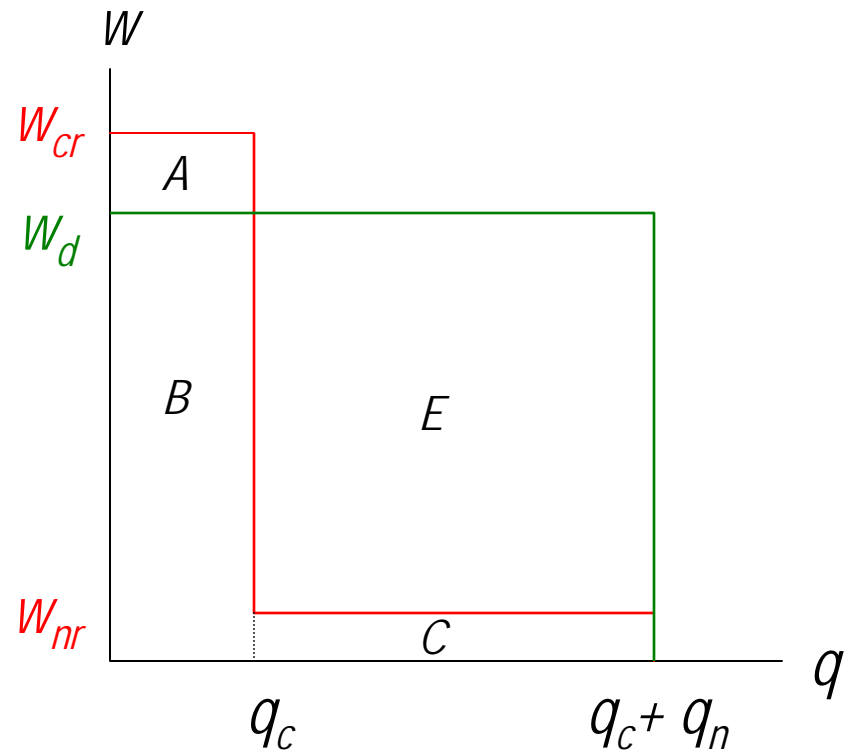anticompetitive payments
are procompetitive

Naïve Test:

Effective Discount:

    Divide $\mathcal{P}$ by q_j

Effective Price:

    t minus effective discount

Model (16) - Price-Cost Test

$mA < B \rightarrow A < w_d q_c/m.$
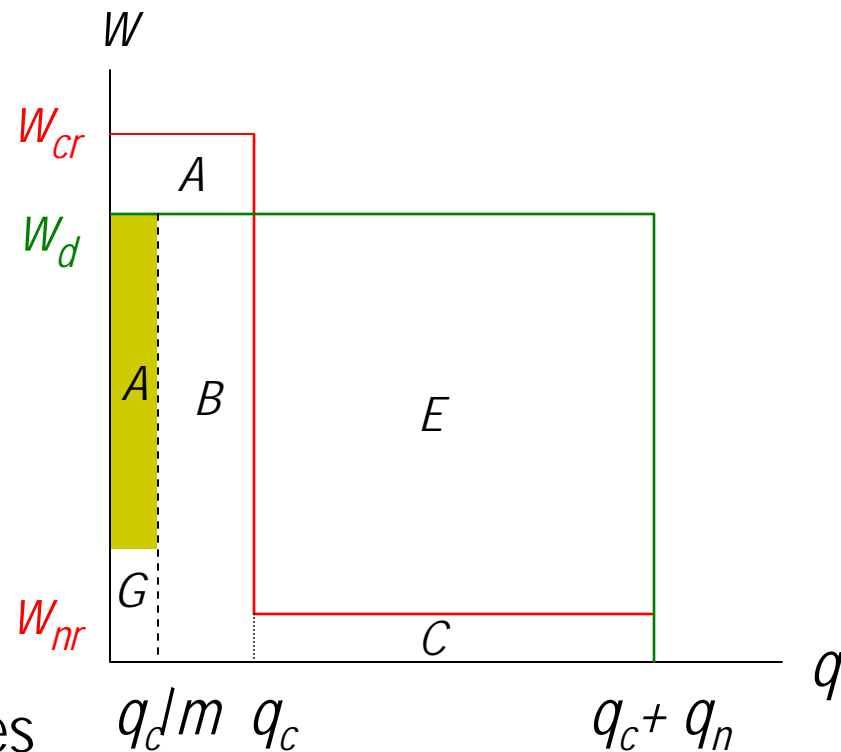
Naïve Test

Take A

Overlay in $w_d q_c/m$

G is positive

$G/(q_c/m)$ is effective price

Naïve test says no harm but
exclusion leads to monopoly prices

Model (17) - Price-Cost Test

☐ Sophisticated price-cost test
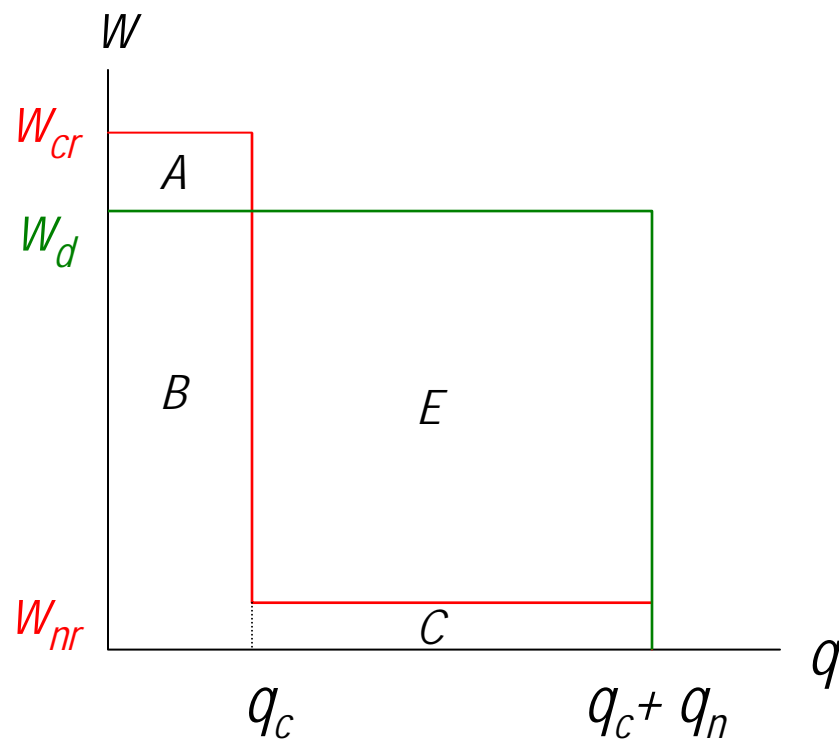 *D*'s transfer price
  - effective discount
  + extra willingness to pay
  - <u>reduction in competitive price</u>
    compare to *D*'s marginal cost

Wd – A/(qc/m) + (A)/qc – (Wcr - Wd) = (1-m)A/qc + Wcr

- This is not a profit sacrifice test
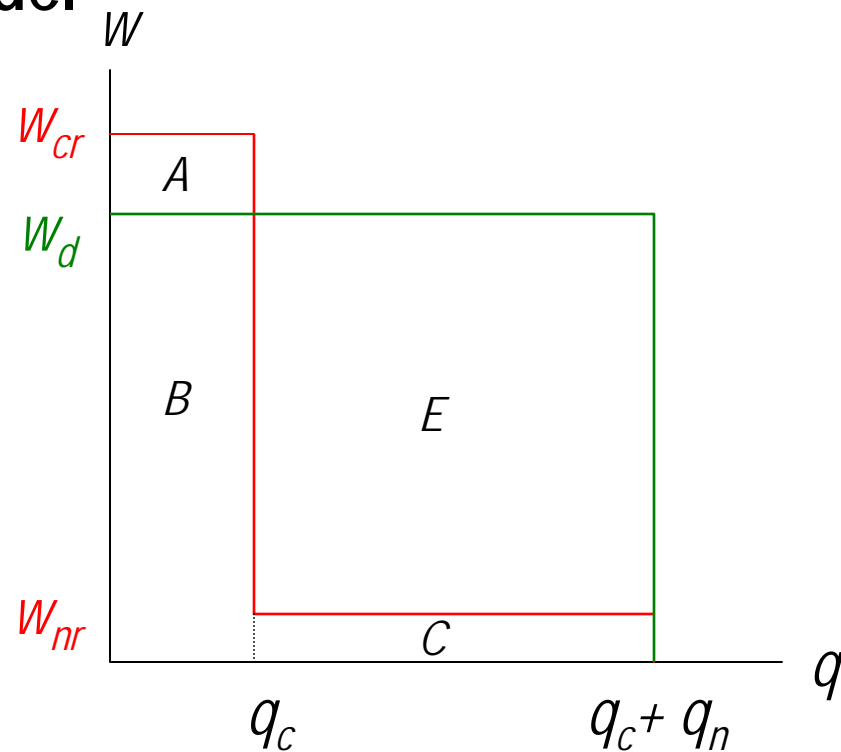- More like an equivalent profit test

Model (20) - Punishment Conjecture

Need for a punishment model

Dominant supplier has existing relationship with producer that is threatened if producer does not accept exclusivity.

Could threaten A profits from "other markets" to enforce exclusivity.

Differentiated Producers

- Differentiation downstream
  - One producer can't serve entire Market.
  - Creates quasi-rents for each producer.

- Adds a potential for "Punishment"
  - Producer earns quasi-rents in non-contested segment.
  - D threatens to eliminate quasi-rents by raising prices to those who breach exclusivity.
  - Subgame perfection obtained by D charging less than monopoly price. Implementing price increase is profitable.
  - Welfare loss from exclusion weighed against welfare gain from initial lower prices.