# RPM - economic perspectives
## Seminar BECCLE

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- Contract between manufacturer and retailer consists of a simple per unit price, $w > c$
- Manufacturer use $w$ both to influence the final price and extract profits
- Retailer will put his own margin on top, $p - w > 0$, which means that the price becomes too high
- Manufacturer can use RPM to prevent this type double marginalization

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- Other reasons..?

# Possible harmful effects of RPM

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1. Minimum or fixed RPM to facilitate horizontal control
   - Innes & Hamilton (2009), Rey & Vergé (2010), Foros, Kind & Shaffer (2011) Gabrielsen & Johansen (wp, 2013a)
2. Fixed RPM to facilitate (tacit) collusion between suppliers
   - Jullien & Rey (2007)
3. Maximum RPM to eliminate supplier opportunism?
   - O'Brien & Shaffer (1992), Montez (wp, 2012), Gabrielsen & Johansen (wp, 2013b)

# RPM and horizontal control

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- Assume that $a$ and $b$ are perfect substitutes

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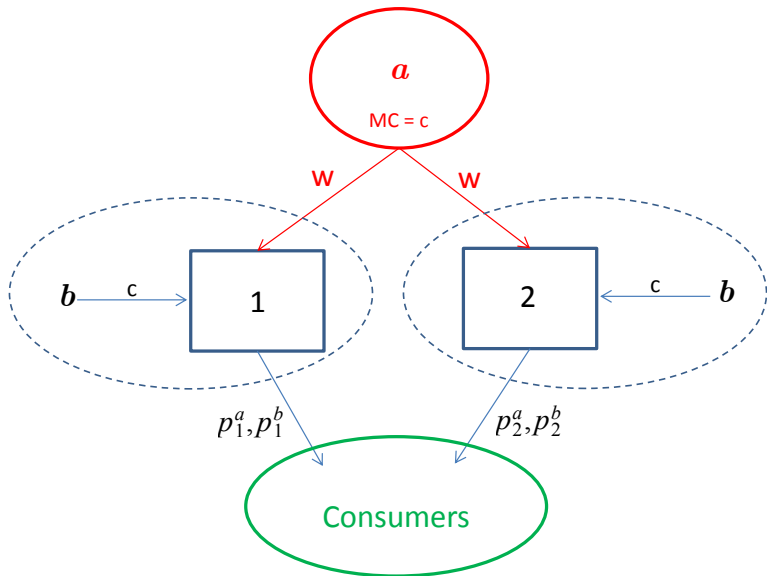
# RPM and horizontal control

Benchmark without RPM

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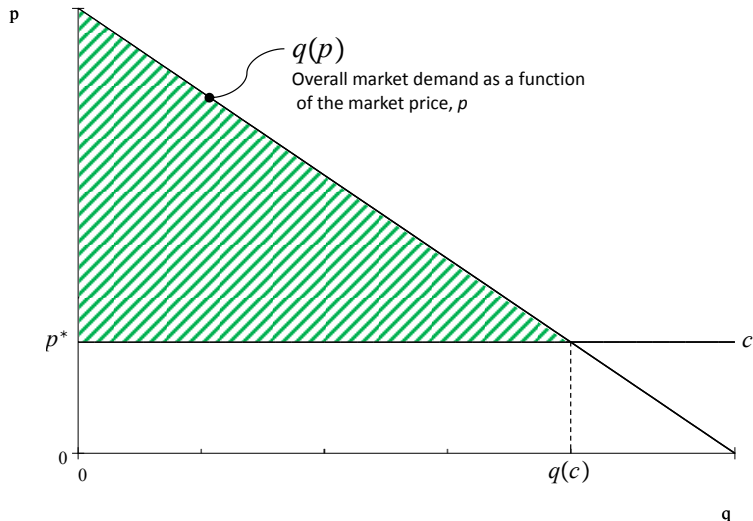
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- Equilibrium is efficient ($p^* = MC$)

# RPM and horizontal control



$q(p)$
Overall market demand as a function of the market price, $p$

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- Manufacturer can then charge each retailer an upfront fixed fee $f > 0$ (or use quantity discounts) to recover retail profits:

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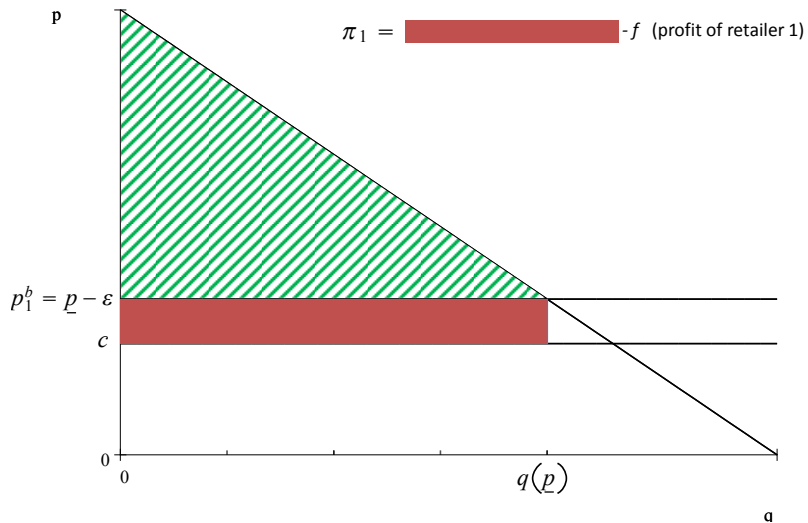
$$\pi_1 = \pi_2 = \left(\underline{p} - c\right) \frac{q\left(\underline{p}\right)}{2} - f$$

- This will not work...

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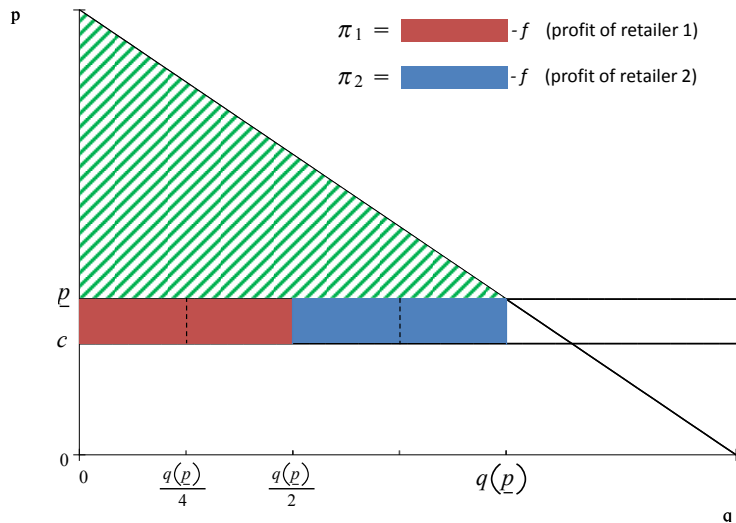
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$\pi_1 = \phantom{xxxxxxxx} - f$ (profit of retailer 1)

# RPM and horizontal control

- A minimum price $\underline{p}$ ensures a higher price for brand $a$

- However, the manufacturer also has to ensure that a price cut on brand $b$ is unprofitable for the retailer
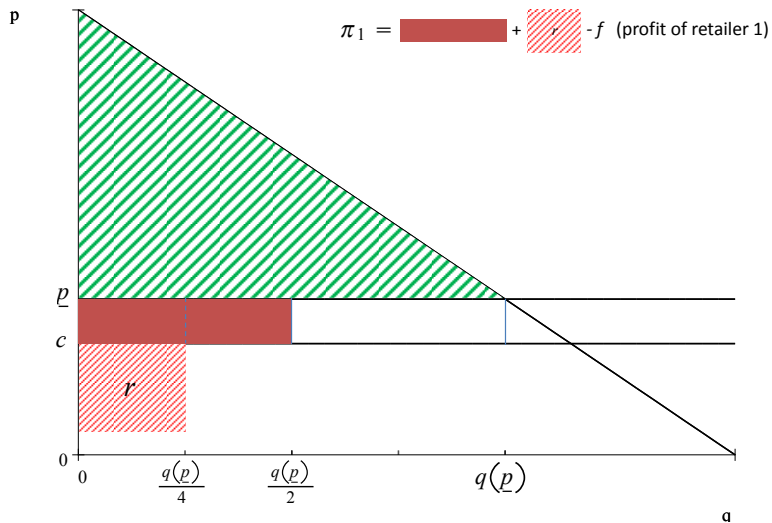
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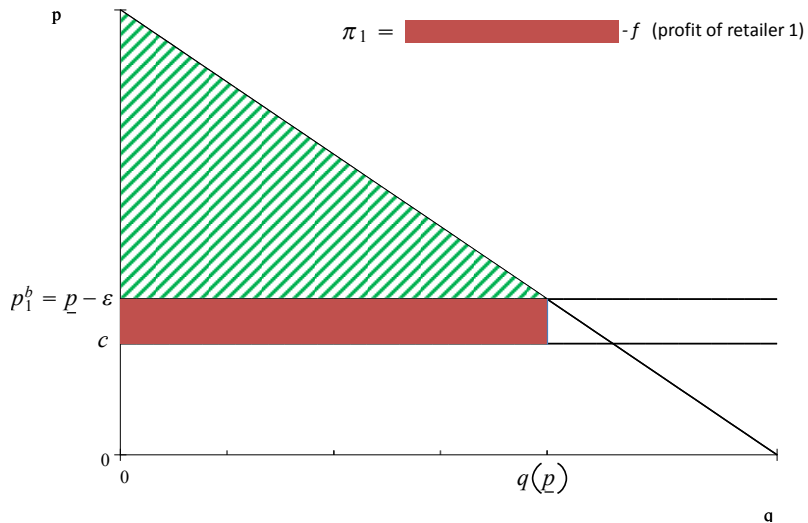
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- Suppose therefore that the manufacturer offers each retailer a discount $r > 0$, which is contingent on the retailer selling at least $q\left(\underline{p}\right)/4$ units of $a$...

# RPM and horizontal control

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Conclusion...

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Conclusion...

- A *minimum* price $\underline{p}$ together with a (retroactive) discount $r$, is enough to facilitate a price increase on both brands, $a$ and $b$

- The manufacturer can then use an upfront fee $f$ (or quantity discounts) to recover retail profits

- The discount can be on the unit wholesale price, i.e. setting $w < c$

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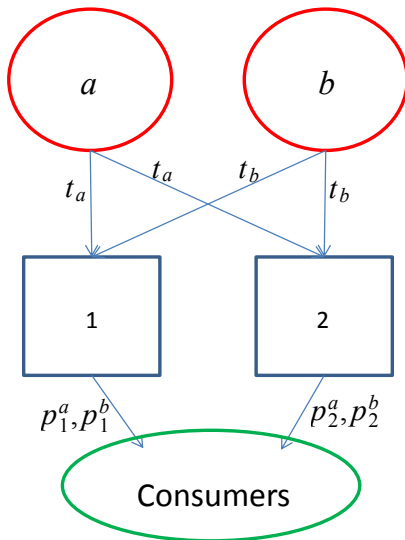Intuition holds if the brands and the retailers are differentiated:

- When giving the retailers higher margins on product $a$ than on product $b$ (through discounts), the retailers would like to sell more units of $a$

- With minimum RPM, the only way for a retailer to sell more units of $a$, is to increase her price for $b$

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- Two differentiated brand manufacturers, $a$ and $b$, *who both act strategically* when negotiating contracts with retailers

- Both $a$ and $b$ set a minimum resale price $\underline{p}$ equal to the monopoly level, and each charges the retailers $w = c$ per unit sold of their respective brands

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- Hence, if both (all) manufacturers use minimum RPM, then large discounts ($r$) are not needed to achieve higher prices

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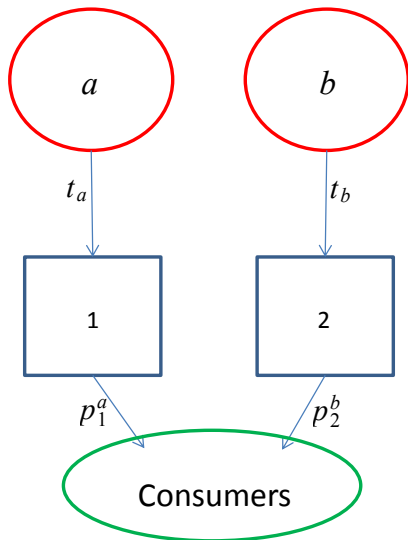
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- Manufacturers observe final prices, but not each others' contracts with their retailers

- Demand may be characterized by local shocks (observable only to the retailer at that location)

- When $a$ observes a lower price $p_2^b$ for the rival's brand, she cannot know for certain whether this is
  - the retailer responding to a local demand shock, or
  - manufacturer $b$ giving his retailer a discount on the margin

# RPM and upstream collusion

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- If both manufacturers use fixed RPM: then $a$ knows with 100% certainty when and if $b$ deviates to a lower price $p_2^b$ (and vice versa)

- Fixed RPM contracts may therefore facilitate (tacit) collusion at the upstream level, by making manufacturers capable of detecting (and therefore respond to) deviations by rivals

# Difference between min and max RPM?

- Most papers that demonstrate harmful effects of RPM, consider min (or fixed) RPM

- Very few papers in the literature demonstrate harmful effects of max RPM

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- This has recently been confirmed by Montez (wp, 2012)

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- If retailers engage in sales effort that affects demand in any form, then the result of OS (1992) breaks down
  - max RPM then has no effect on prices

# Special considerations in two-sided markets?

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  - Cross-side network effect is positive on both sides (e.g., video game consoles, computer operating systems, etc): min or max RPM
  - Cross-side network effect is positive on one side and negative on the other (e.g., newspapers, TV channels): max RPM

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- Not a story about the harmful effects of RPM, but about collusion and the (indirect) exchange of information between downstream competitors

# How to deal with RPM case-by-case?

A three step procedure for evaluating the effects of minimum and fixed RPM

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A three step procedure for evaluating the effects of minimum and fixed RPM

1. Any important efficiency rationale for the use of RPM? (e.g., services)
   - Do retailers provide valuable (tangible or intangible) services? (critical for the market to "function" correctly)
   - In-store product information, opportunities to test the product, etc

If no, then proceed to step 2...

2. Look for any "abnormal" discounts (large retail margins, retroactive discounts, etc) or retail sales requirements (minimum sales)

If no, then proceed to step 3.

3. Is RPM a common occurance in that market? (more than one firms using it?)