

Price controls and the distribution chain



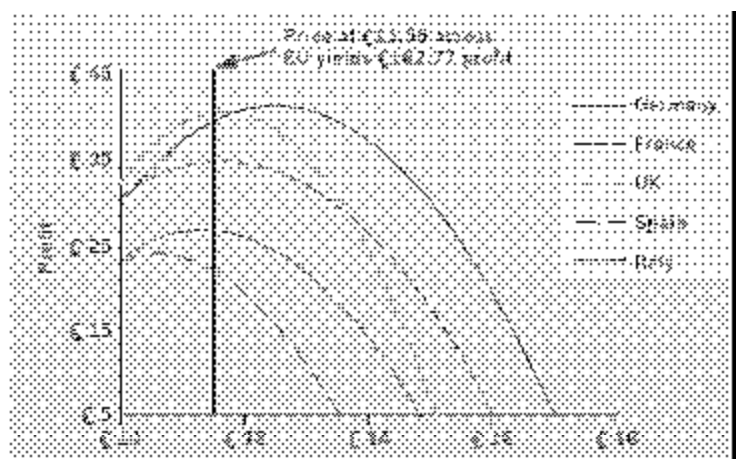
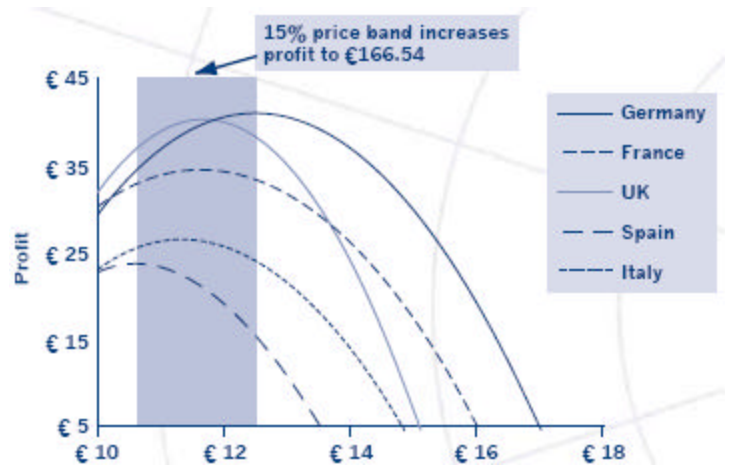
Acknowledgements

This work has gained from discussions/opinions/thought exchanges with the following individuals. Any errors and inaccuracies are however the author's responsibility.

Daniella Ballou Aares and team	■ Dalberg Global Development Advisors
Michael Borowitz	■ UK Department for International Aid
Santiago Kraiselburd	■ MIT-Zaragoza Logistics Program
Richard Laing	■ WHO, Access to Medicines Group
Richard Lai	■ Harvard Business School

Optimal pricing strategy in heterogeneous income sub-markets

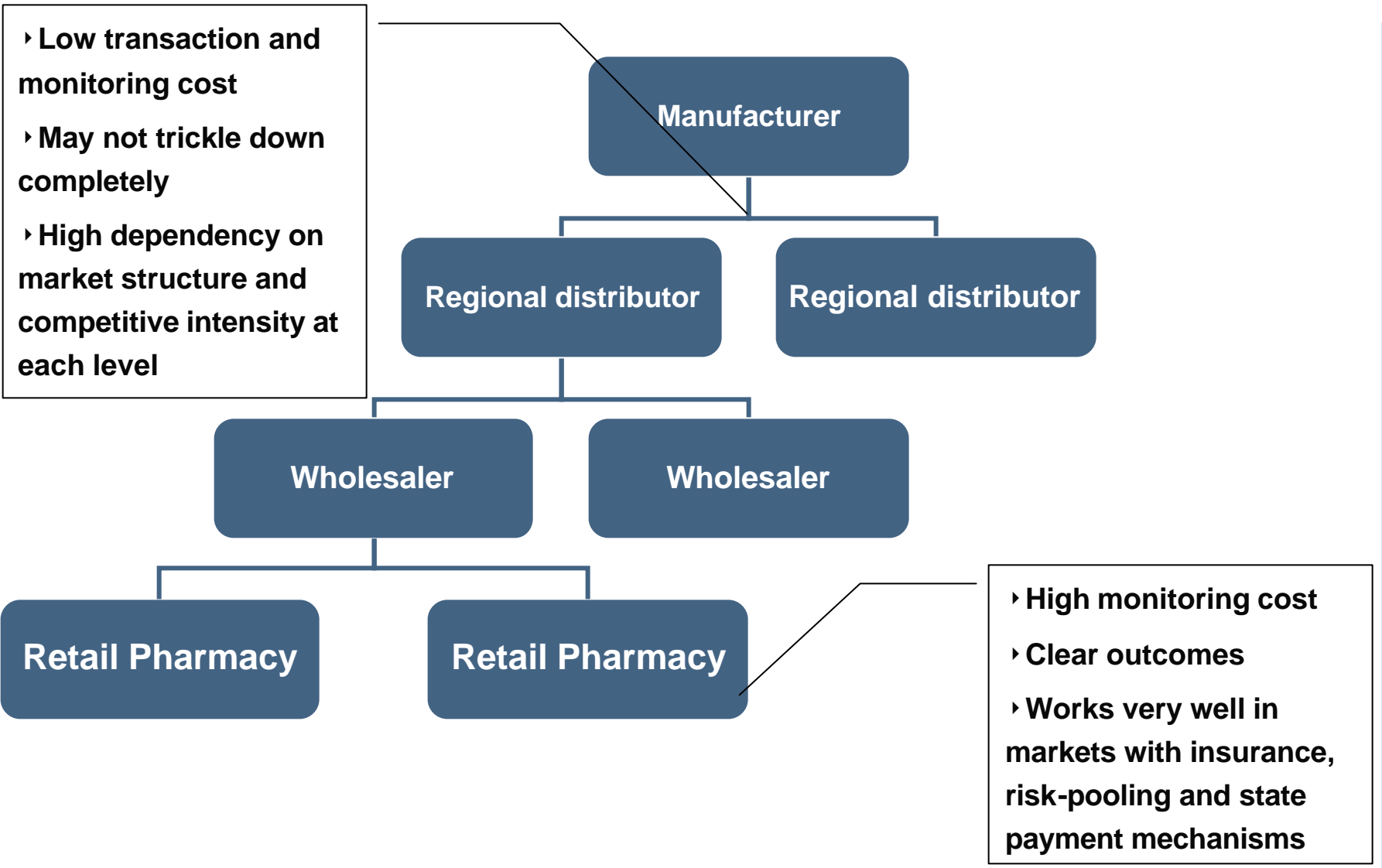
- Before discussing price controls it is important to understand a socially optimal pricing strategy



▸ Source: Analysis by Charles River Associates

- Differentiated pricing in sub-markets /segments is Pareto improving for manufacturer and also for overall social outcomes
- Absence of segment barriers does not allow this

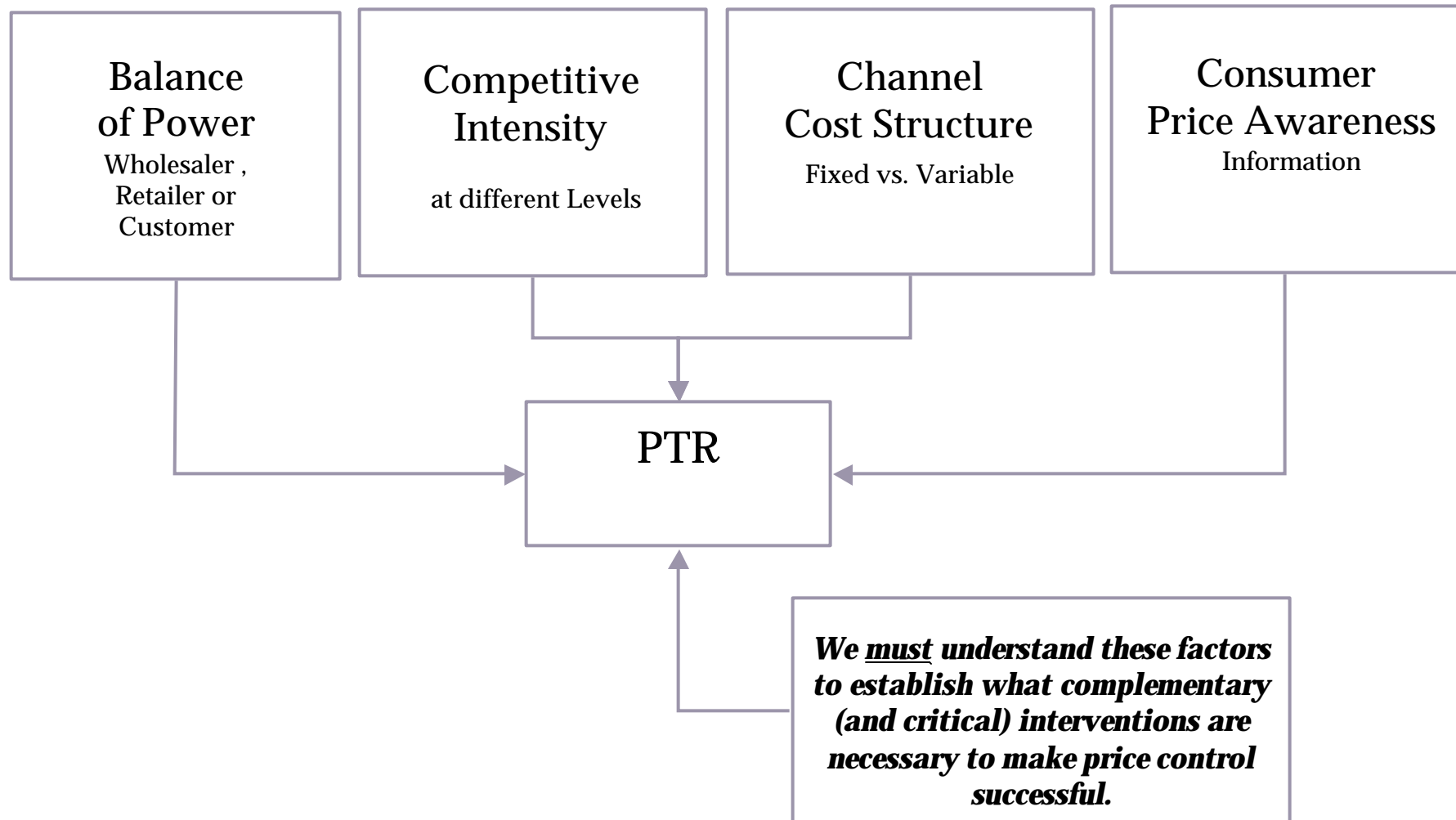
Price controls and market structure



Higher level price control and pass through to retail prices

- How much of an input cost control will “pass-through” to the retail level ?
- What drives this pass through ?
- Low channel markups also decrease the channel’s incentive to stock a product: availability suffers

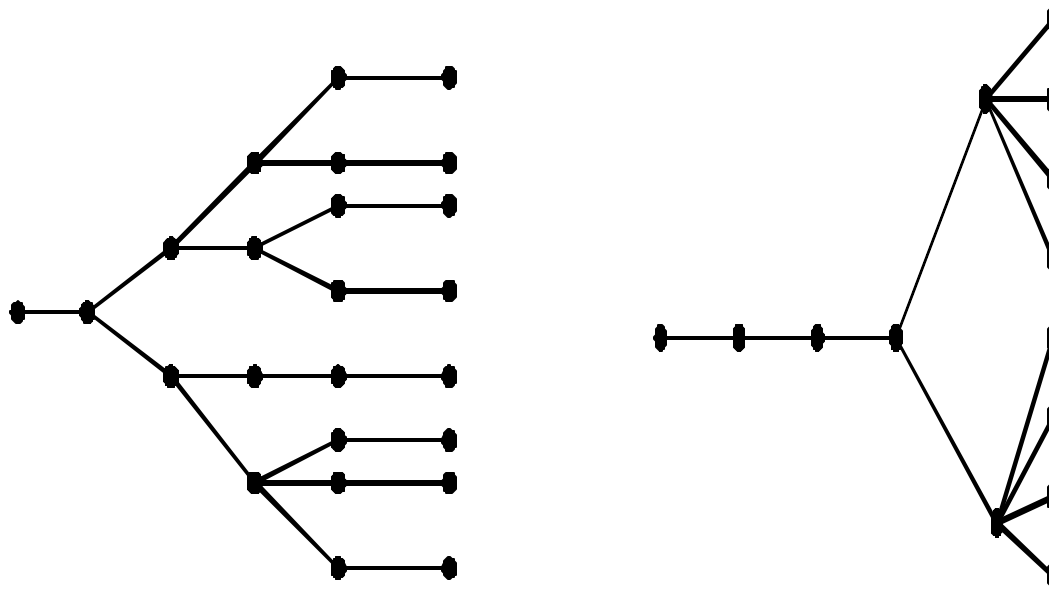
What drives channel markups ?



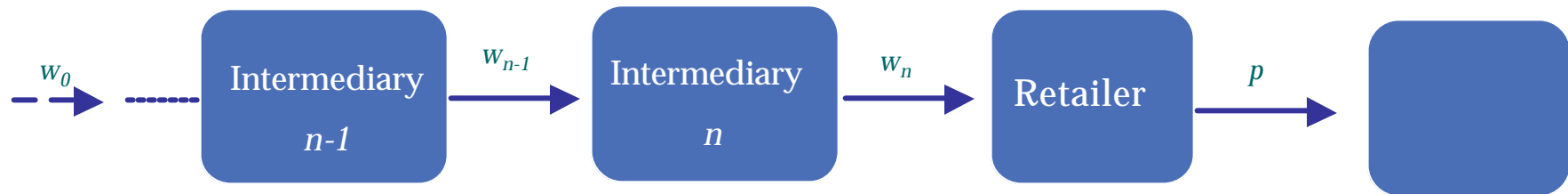
Divergence ratio and its impact on price dispersion in the market

Divergence ratio = number of players in stage $i+1$ /number of players in stage i

Distribution chains that diverge early have higher price dispersion and higher prices on average



Where do mark-ups occur in a perfect supply chain?



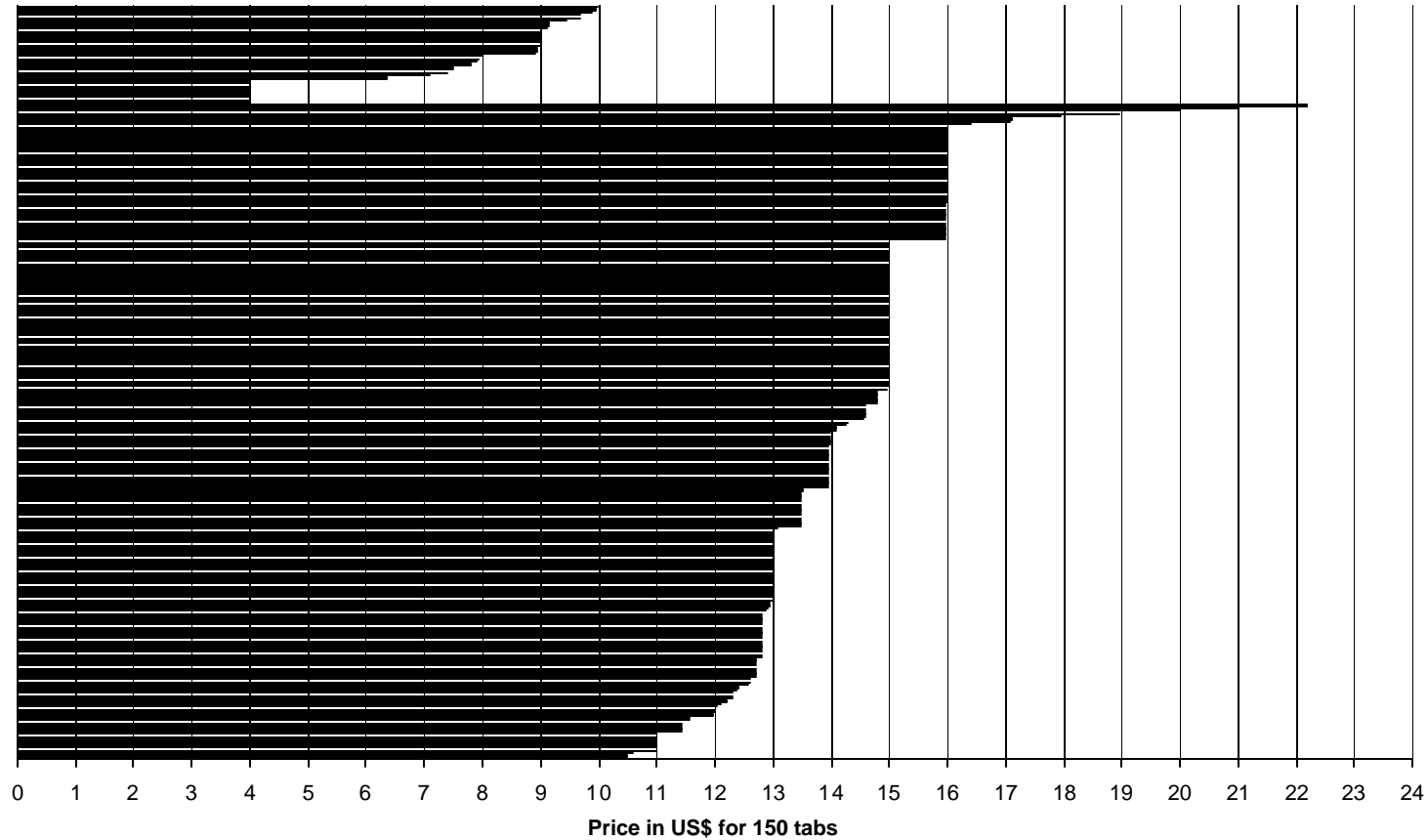
- In therapeutic categories where demand is highly price elastic, lower echelons of the supply chain do not charge supernormal markups unless there is severe lack of competition
- Fostering competition at middle and higher echelons helps achieve better price outcomes
- WHO/HAI price components analysis methodology

Pharmaceutical Price Dispersion in NY

PRICE of AMOXICILLIN 250/5ML in 277 pharmacies in the state of NY

Mean price= \$13.31

Std Dev = \$2.86



New York price information study

- **Retail competition does not always result in a higher adherence to price**
- **Pharmacy type rather than location or competition matters most**
- **Chain pharmacies better performers than single owner operator stores**
 - ◆ Sourcing costs are lower
 - ◆ Principal agent issues around price setting
- **Single sourced branded drugs have lower price dispersion**
- **Multi-sourced generics have higher price dispersion**
- **Public broadcasting of price information reduces consumer search cost and lowers market equilibrium prices**
- **WWW.NYAGR.X.ORG**

The economics of price information

- The cost of searching for low-priced pharmacies affects the market price.
- The more costly the search, the more likely it is that any given pharmacy will be able to set a price exceeding marginal cost.
- When a patient does not know what price each pharmacy charges, he must go from pharmacy to pharmacy seeking information.
- Every visit entails a cost: the searcher's own time is valuable, transportation is costly, and delay in making the purchase also may be costly.
- Sellers can take advantage of this.
- Not all buyers have the same search costs. Those with lower costs will look at more than one price
- Search costs have a concave relationship with socio-economics status


Frequency of consumer purchase and price controls

- Incentives to price-shop are strongest for prescriptions that must be purchased frequently such as medications used to treat chronic conditions
- Consumers' increased propensities to price-shop for frequently purchased prescriptions lead to less absolute dispersion and lower markups for such prescriptions
- Products with high frequency of purchase are price self-regulating

Cross subsidization effects in pricing

- Drugs with low frequency of purchase cross subsidize those with high frequency purchases
- Sorensen (2000) New York Study

REGRESSOR	\bar{R}^2 (1)
Drug effects	.907
Drug and pharmacy effects	.938
Drug and pharmacy effects, with drug type interactions	.942



Spatial competition and retail price ceilings

- Wholesale distributors with geographical distribution rights
- Each of them has a single collection point from which they supply retail outlets at many locations
- Wholesalers have some influence over the quantity shipped to each retail outlet and thus influence the market clearing levels of retail prices
- Costs of shipping depend on distance
- This arrangement system results in higher retail prices
- Products are not shipped exclusively from the nearest collection point
- Matsumura (2003) and Pal (1998) have confirmed these findings
- **In an environment with exclusive territorial distribution, price controls are not self-regulating**