The Impact of Access to Consumer Data on the Competitive Effects of Horizontal Mergers and Exclusive Dealing

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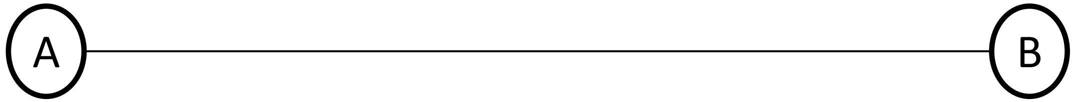
2010 HMGuidelines

“When price discrimination is feasible, adverse competitive effects on targeted customers can arise, even if such effects will not arise for other customers. A price increase for targeted customers may be profitable even if a price increase for all customers would not be profitable because too many other customers would substitute away.”

Corollary 3. Suppose downstream firms have access to partial consumer data and only a merger of complementary data enables individualized pricing. Such a merger increases consumer surplus if the efficiency gain is positive

Intuition: the non-merging firm responds by lowering its uniform price

Linear City Model



Standard Hotelling assumptions:
-linear transportation cost
-full market coverage
-no quality difference
-uniformly distributed consumers

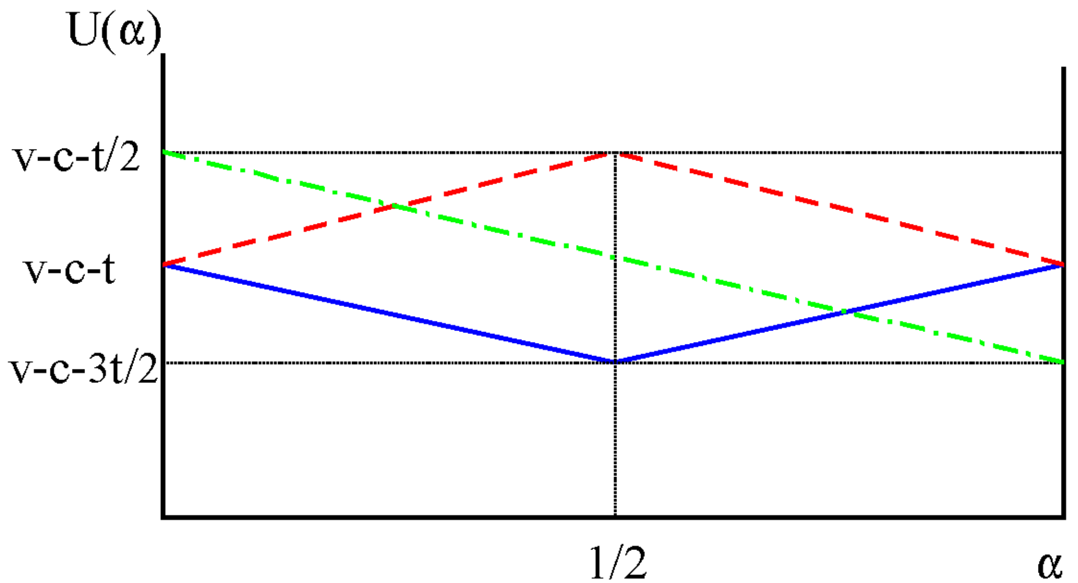
With individualized pricing, firm A faces MC pricing:

$$v - p_A - t\alpha = v - c - t(1-\alpha)$$

(and similarly for B)

Linear City Model

Pre-merger duopoly *consumer utility*:



Blue – no data (uniform pricing)
Red – data (price discrimination)
Green – only B has data

Thus, merger to monopoly is worse with data than without

Linear City Model

The above results assume data broker market is competitive

Now suppose the data broker (upstream market) is monopoly

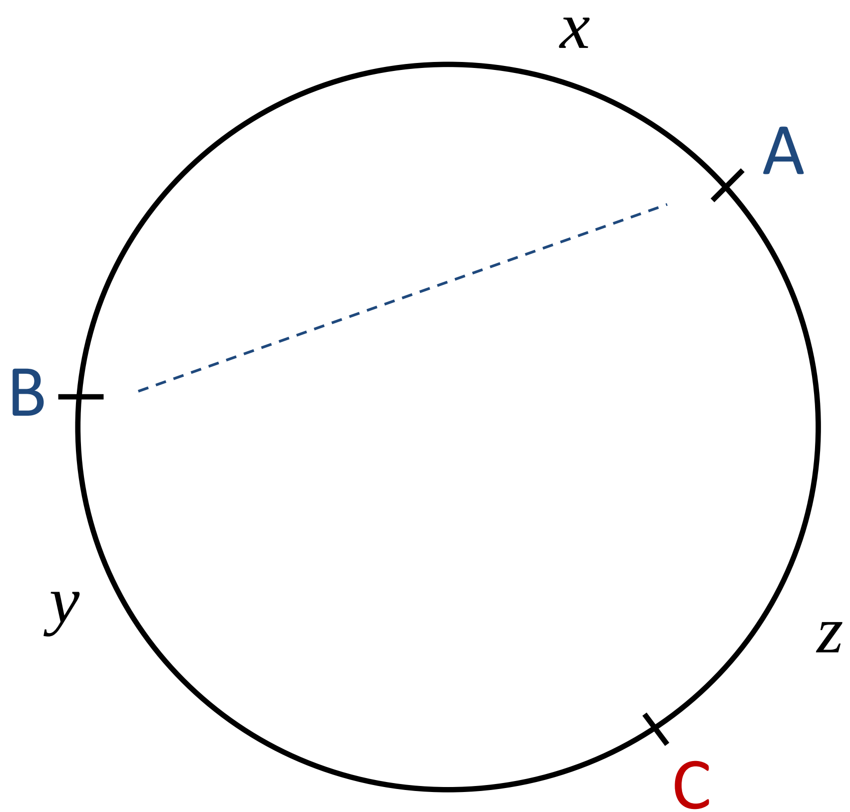
-> The monopoly broker sells an *exclusive access* to data

Merger to monopoly without data

> Merger to monopoly with monopoly data broker

> Merger to monopoly with competitive data market

Circular City Model

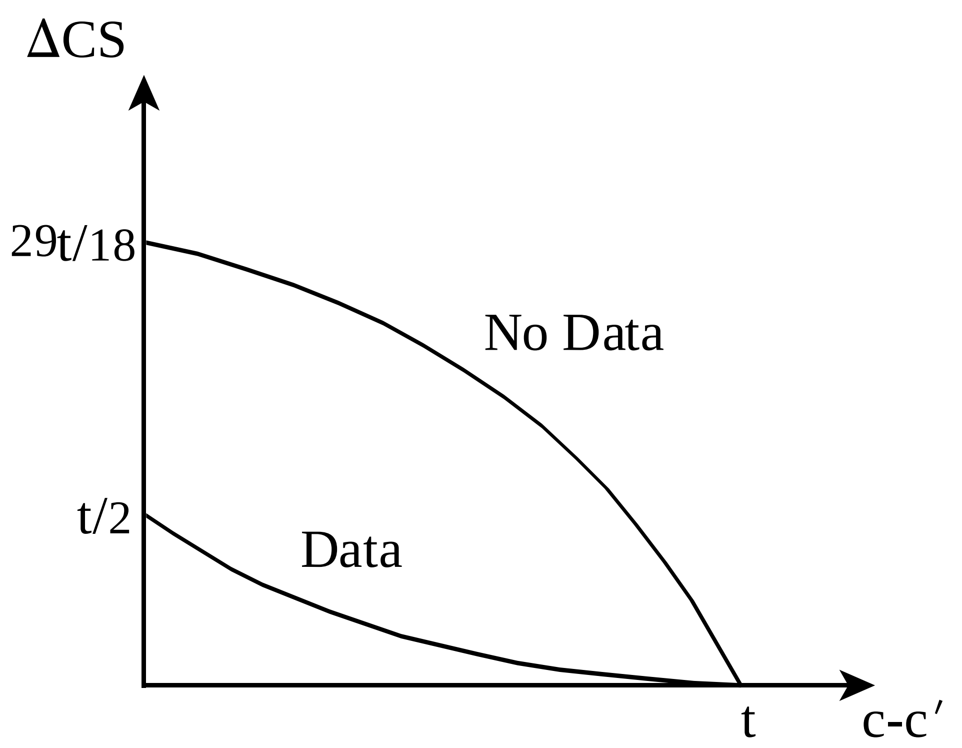


-consumers can travel either direction and need not be trapped

-asymmetric firm location is possible but things will be continuous

Circular City Model

	Pre-merger (A, B, C)	Post-merger (AB, C)	
No Data	CS1	-CS2	=ΔCS
Data	CS3	-CS4	=ΔCS



Circular City Model

Now suppose the data broker (upstream market) is monopoly

-> The monopoly broker again sells an *exclusive access* to data, and it decreases consumer surplus by t [this should raise antitrust concern even without deterring entry]

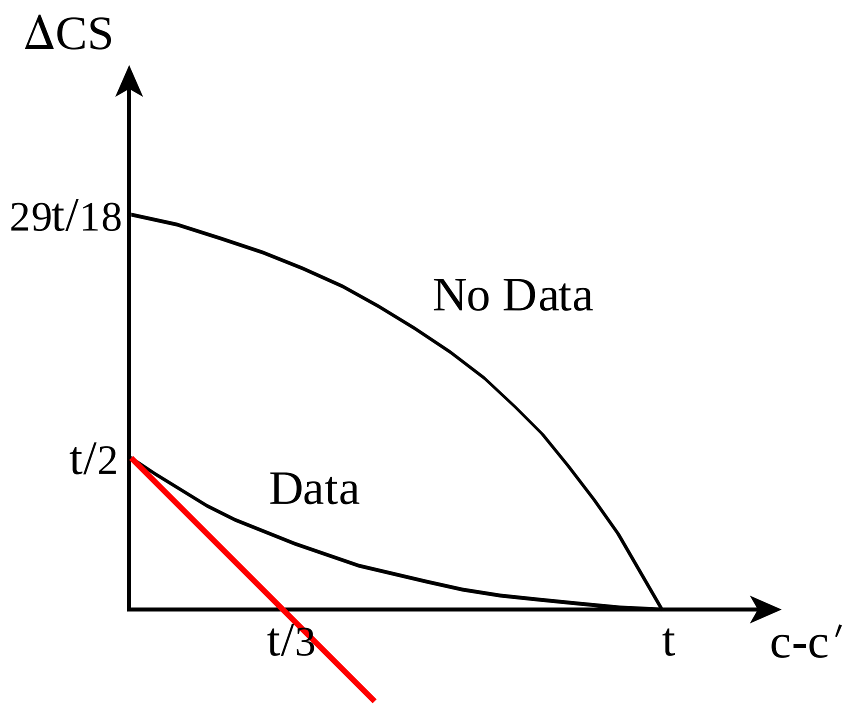
Corollary 1. A vertical merger between a monopoly data broker and one downstream firm can reduce consumer surplus (absent conditions ensuring equal access to data)

Circular City Model

Going back to the three-to-two merger implication:

-> The merger reduces consumer surplus less with a *monopoly data broker* and *exclusive contract* than with a competitive data market

Further, the merger increases consumer surplus if the MC reduction exceeds t/3



Circular City Model

Suppose A is vertically integrated with the monopoly data broker

Corollary 2. A merger between A and B(or C) reduces consumer surplus *less* than a merger between B and C

Oligopoly Data Brokers

Suppose there are finite number of data brokers and exclusive contracts *are not* permitted

Q: If the brokers have a positive (high) MC, then would the outcome be similar to the one with a monopoly data broker?

A: Not likely except for a small range of MCs

- Only when $11t/36 < MC < 7t/18$, a single downstream firm (one of A, B, C) purchases data
- $7t/18$ is much lower than $17t/18$ the monopoly broker can charge with exclusive contracting

Oligopoly Data Brokers

Suppose there are finite number of data brokers and exclusive contracts *are* permitted

Q: Even if all brokers’ MCs are zero, would the outcome be similar to the one with a monopoly data broker?

A: Yes, only one downstream firm will purchase data on an exclusive basis from *all* data brokers

-> Hence, our result on the effect on mergers with monopoly broker may extend to mergers with a small number of data brokers

Conclusion

The impact of consumer data on mergers depends on both downstream and upstream market structures, e.g.,

- whether non-merging firm has access to data
- exclusive contracts by upstream data brokers

Caveats: privacy harm; data breach; other uses of data, etc.

Thank you