The Impact of the Internet on Advertising Markets for News Media

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The chart of doom

Newspaper Ad Revenue (1980 $m)

Source: Newspaper Association of America

Reactions

Online advertising is ineffective (cf: psychological evidence)

Traditional news media business model – compete for customers and sell access to them to advertisers – is broken.

Need to find other sources of revenue to make up the difference – the waterbed effect.

Policies

Allow news organizations to jointly …
erect paywalls and
negotiate license fees with news aggregators.

Provide government subsidies to news organizations.

Allow tracking of consumers.

Our hypothesis

The Internet has disrupted the operation of advertising markets

Need to understand this and focus on how to improve their operation

Attention is still scarce ...

and advertisers still want to access that attention.

Only two facts

The Internet has facilitated consumer switching between outlets

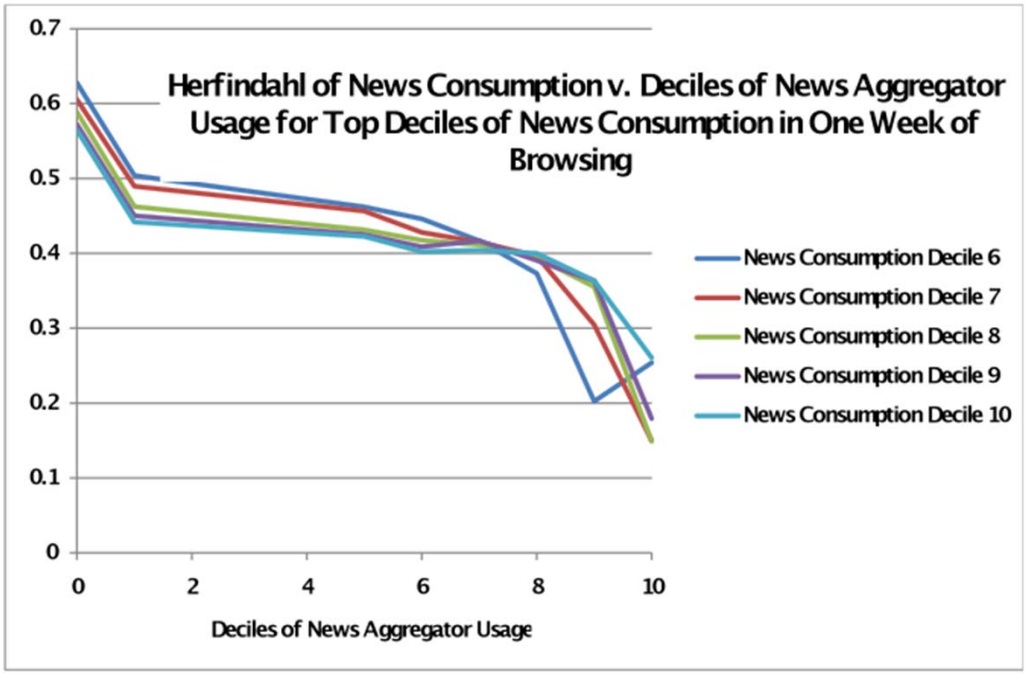
There is imperfect tracking between outlets

Switching

Browsing

Free content

Aggregators, social networks and search

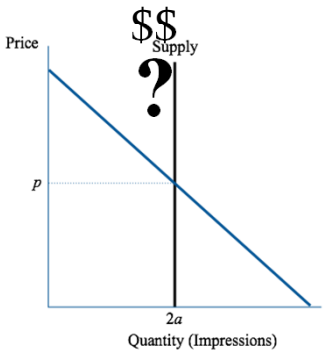


Our contribution

$

The Boston Globe

$$



and/or

and ?

The Washington Post

Choice of ad supply:

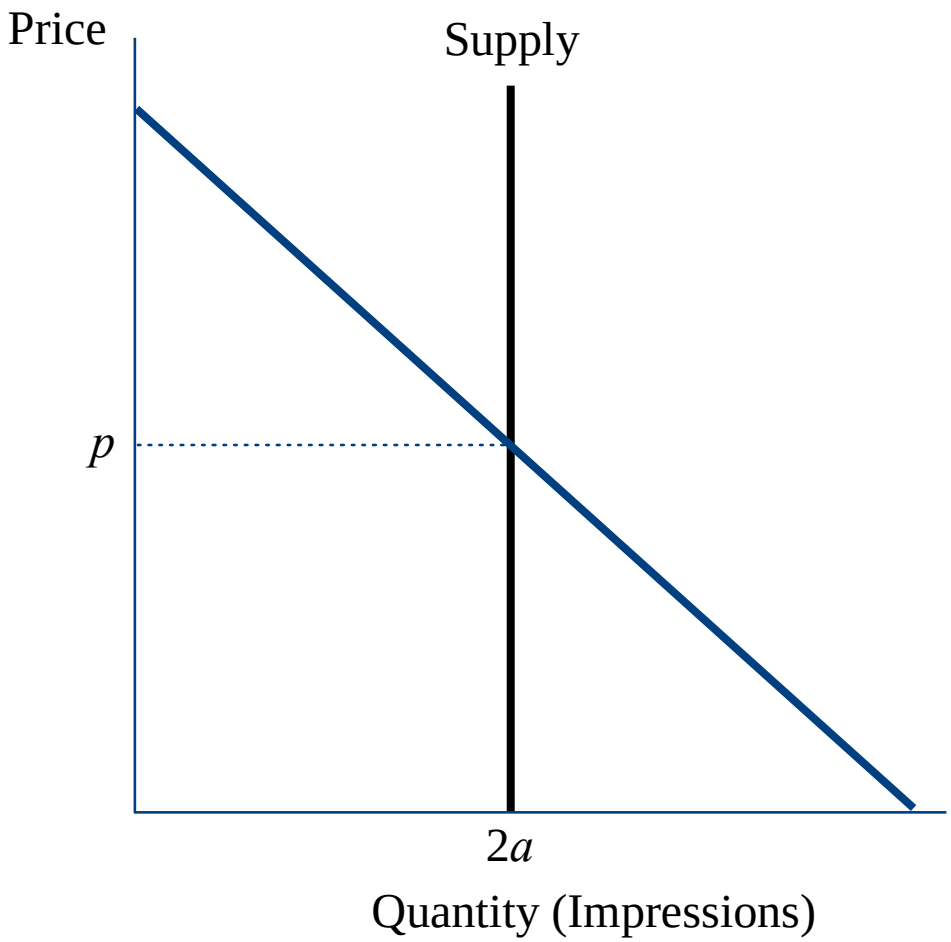
- Anderson-Coate: competition reduces supply (increase ad prices)
- Ambrus-Reisinger: when ‘middle’ consumers multi-home may increase supply

Market

Focus on matching rather than ad quantity

Sensitive to technology (esp: tracking)

Care regarding allocation of consumer attention



Puzzles

Evidence that competition reduces per reader ad prices

Outlets claim mergers will improve ad revenue

For-profit outlets object to lifting of ad restrictions on public broadcasters

Larger outlets earn higher ad revenue per consumer

Advertising supply

Two attention periods.

Two outlets with ad capacity per unit of attention, a_i.

If they have opportunity to choose, consumers select outlet i with probability x_i.

In a given period, the probability that a consumer can choose is ρ.

$$D_i^l = x_i - x_i(1 - x_i)\rho$$
$$D^s = 2\rho x_1 x_2$$

i's ad inventory = $D_i^l 2a_i + D^s a_i$

Advertiser demand

Advertisers want to impress each consumer once over the two periods …

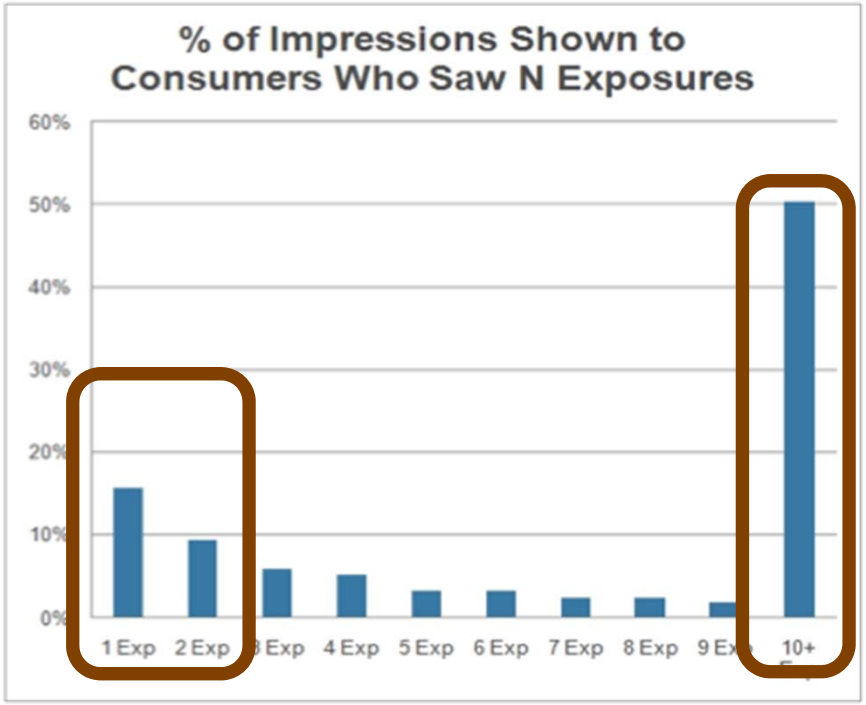
and have heterogeneous values (v) on impressing consumers with distribution $F(v)$; assumed to be U[0,1].

The impression game

	Morning	Afternoon
Outlet 1	 	
Outlet 2		

If Starbucks single-homes, it misses impressions.
If Starbucks multi-homes, it wastes impressions.

The advertiser's dilemma



Wasted Impressions

Custom analysis of data provided to authors by ComScore of 30 recent large, cross-outlet campaigns

Solving the dilemma

No switching

No tracking

Coordination in time

Pay per click

Perfect tracking

Missed & wasted impressions

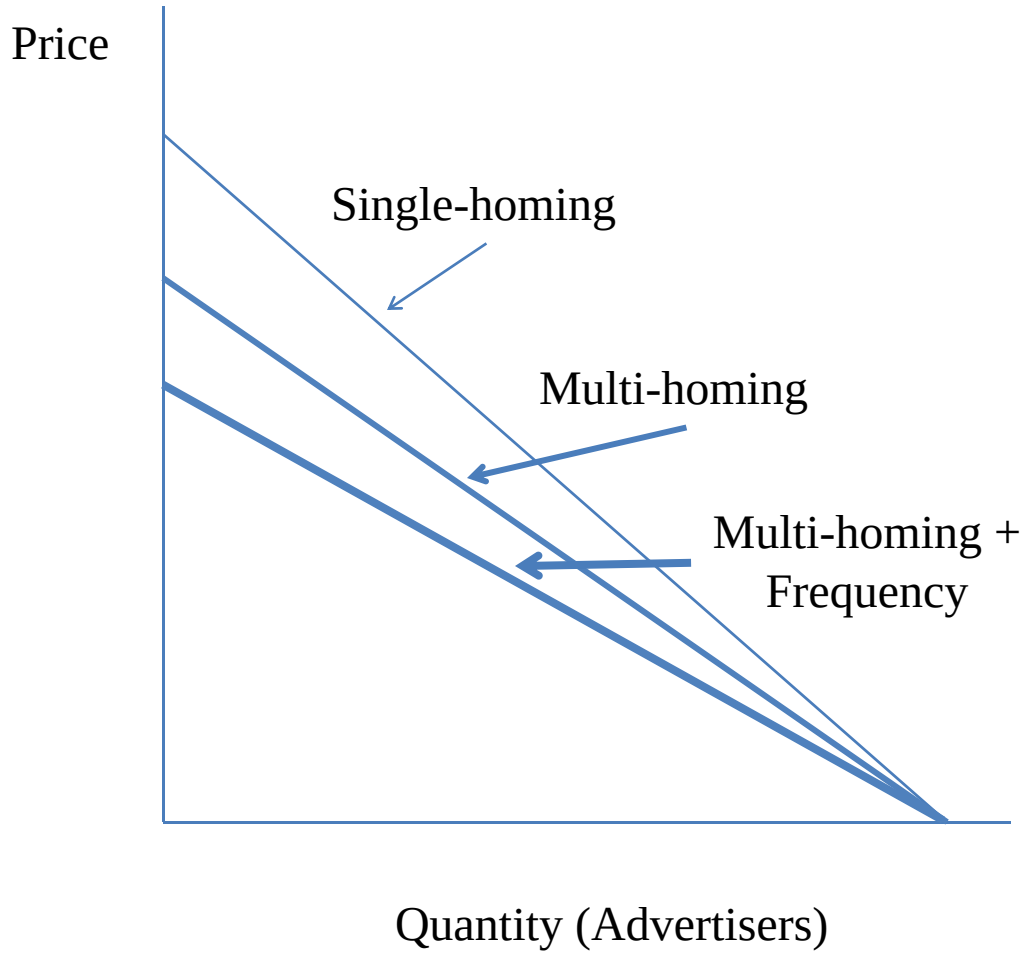
	Expected Unique Impressions
Single-Home on i	$D_i^l + \frac{1}{2} D^s$
Multi-Home	$D_1^l + D_2^l + \frac{3}{4} D^s$
Multi-Home (2 on i)	1

Advertiser demand

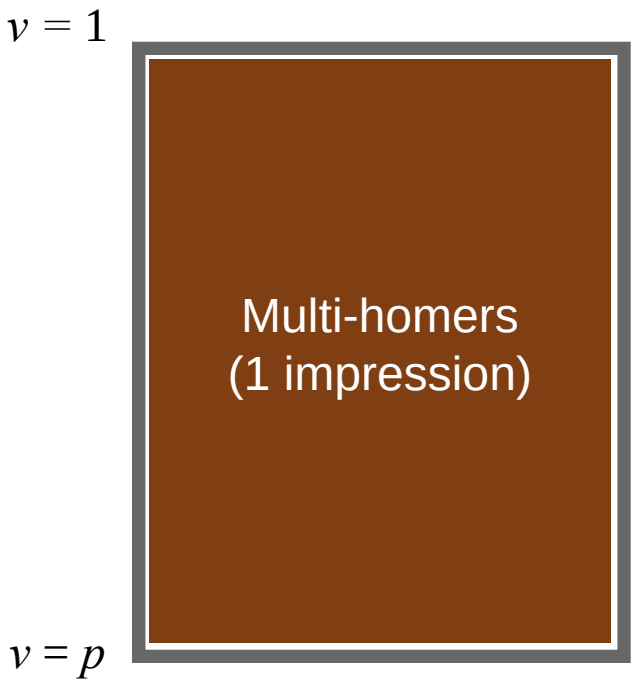
To impress loyals, want to multi-home … at the cost of wasted switcher impressions

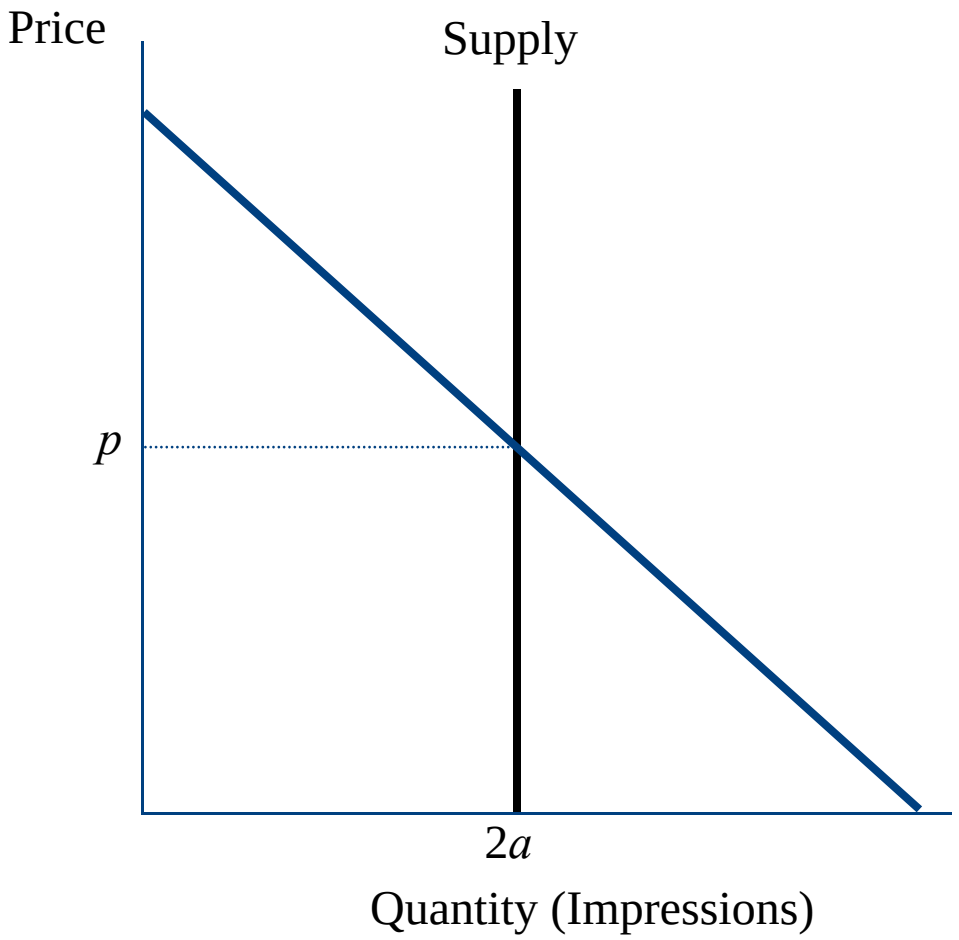
To impress switchers, want to increase frequency … at the cost of wasted loyal impressions

Higher value advertisers more willing to bear costs

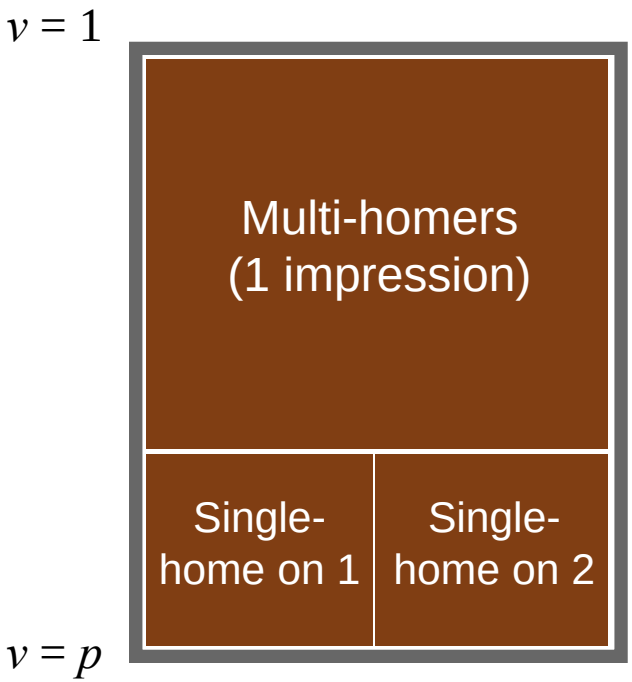


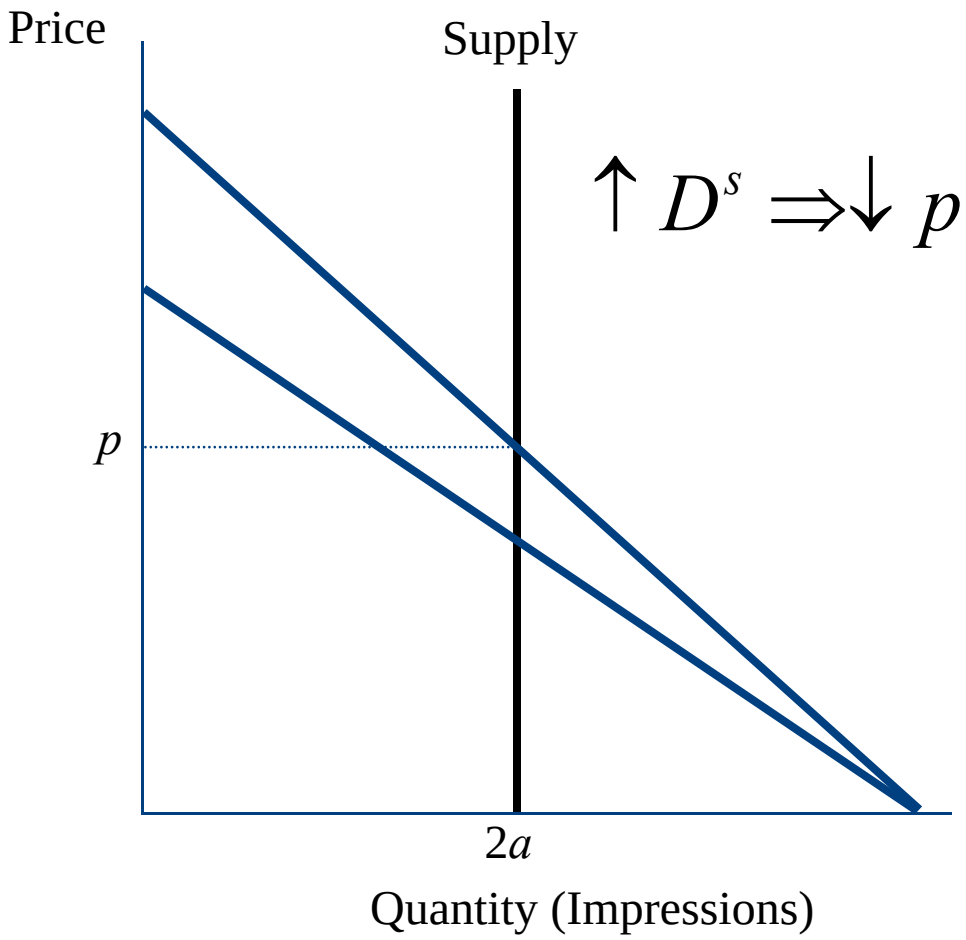
No switching



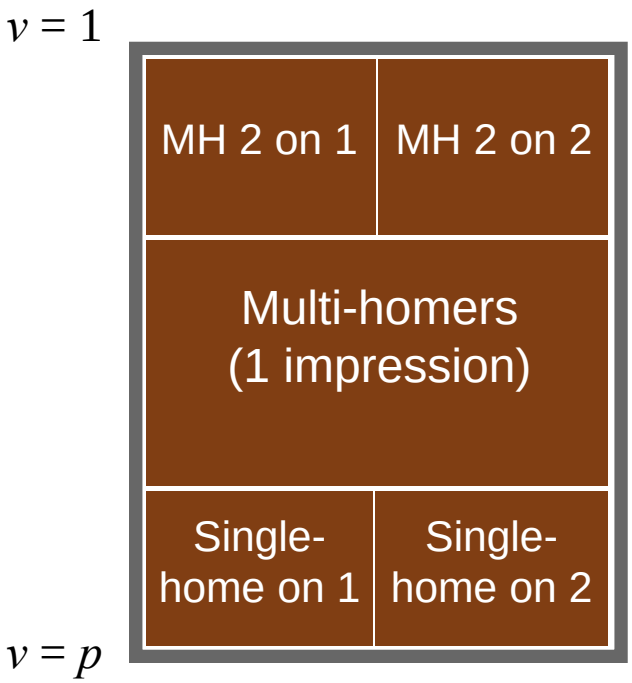


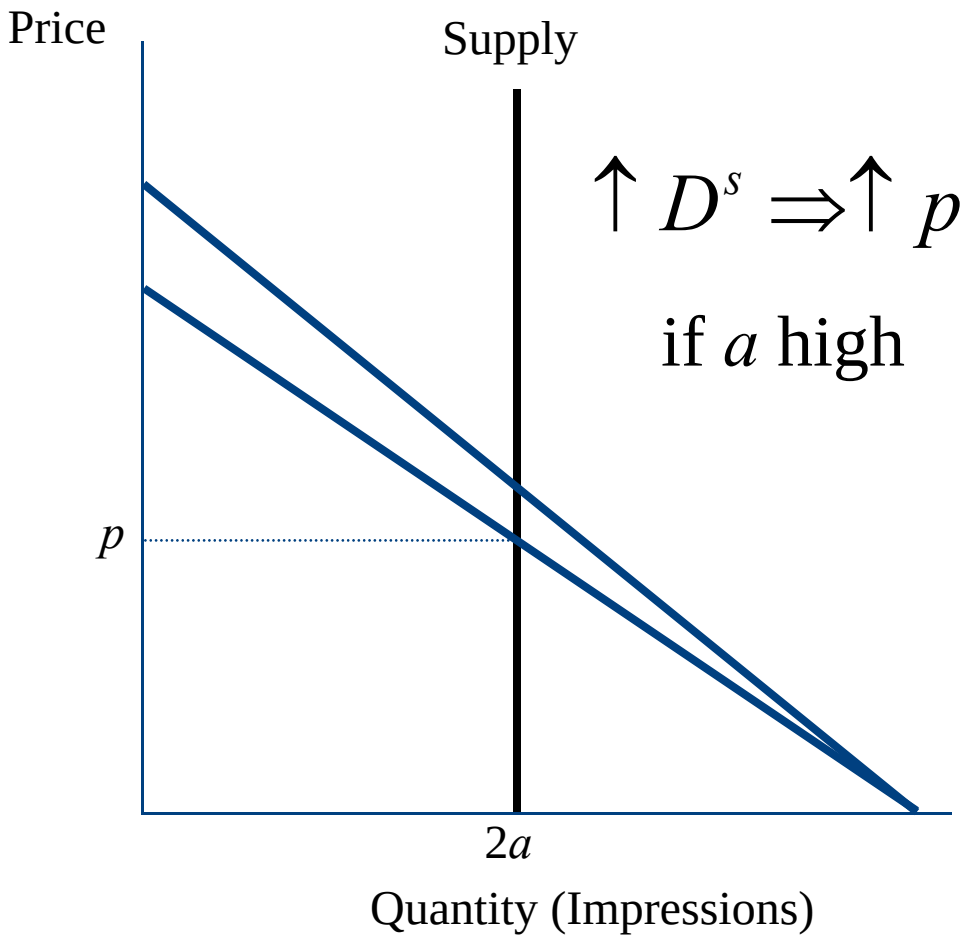
More switchers



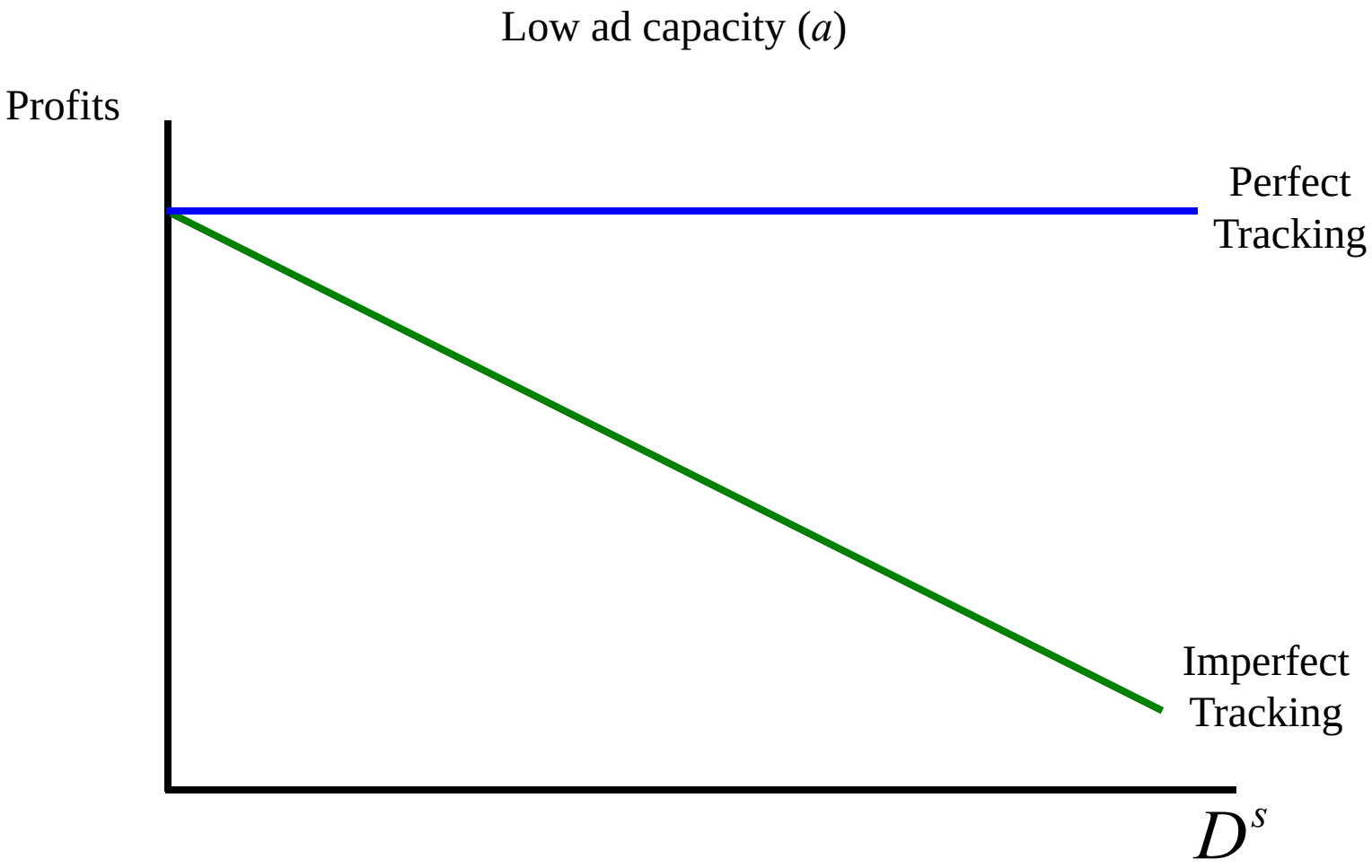


High switchers





Incentives to adopt perfect tracking



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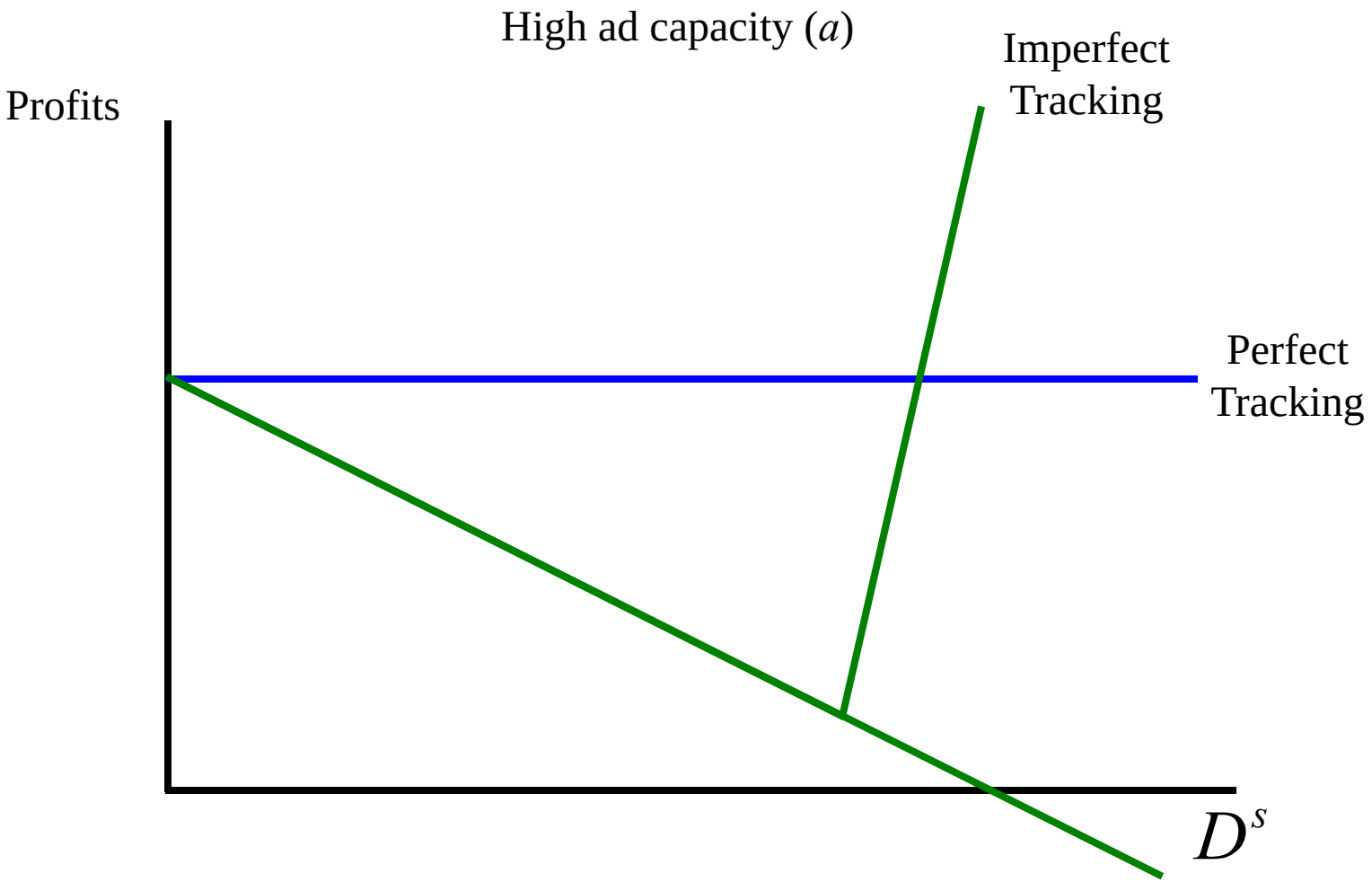
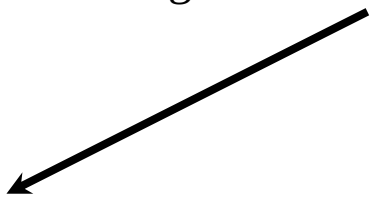


Mergers

Allow intra-outlet tracking	Merge only if a and D^s not too high
No intra-outlet tracking	Neutral unless can price discriminate between single and multi-homers



Mergers may increase profits even when $D^s = 0$

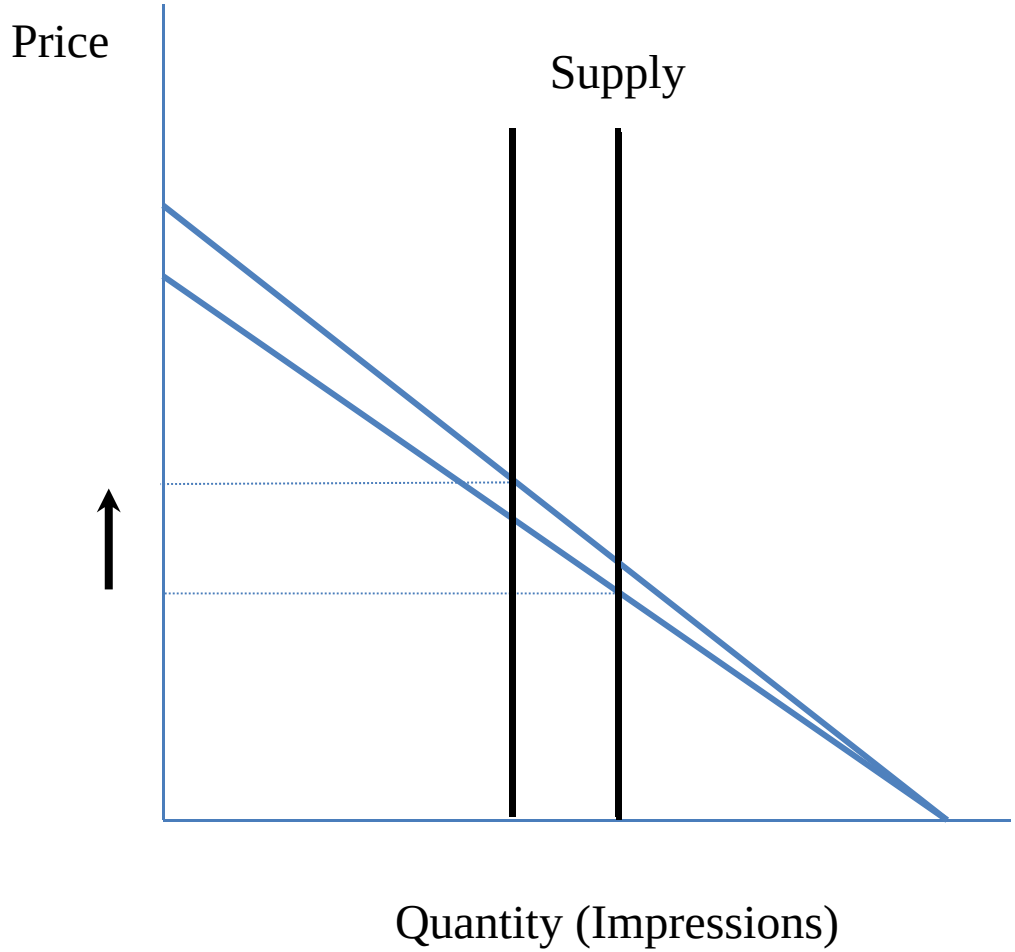
Public broadcasters & blogs

Blogs and other non-ad content …

decrease available ad capacity in the market …

and reduce adverse effect of switching …

Causing impression prices to rise.



Policies

Larger or ‘better’ readership leads to a premium in the ad market …

- Less reason to enact paywalls
- Tracking may reduce competition for consumers
- Increased incentive to disaggregate and focus on reach rather than total reader attention

Conclusions

Theory requires empirical verification (examination of extent of wasted impressions).

Generalizations: impact of more outlets, aggregator behavior, incentives to adopt tracking technologies, impact of ad disutility and endogenous ad capacity.