# Horizontal and Vertical Mergers in TV Markets: A US and European Perspective

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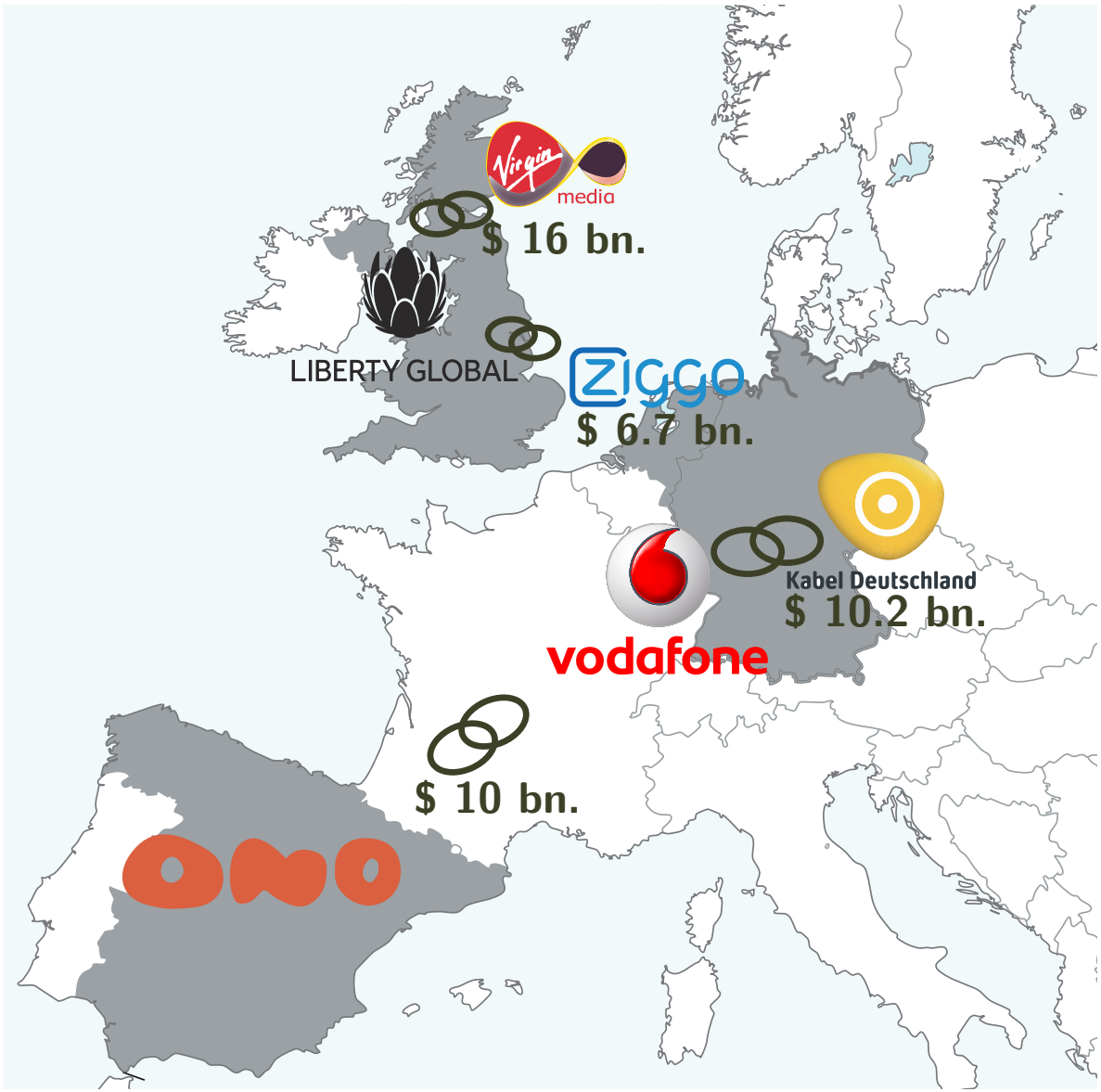
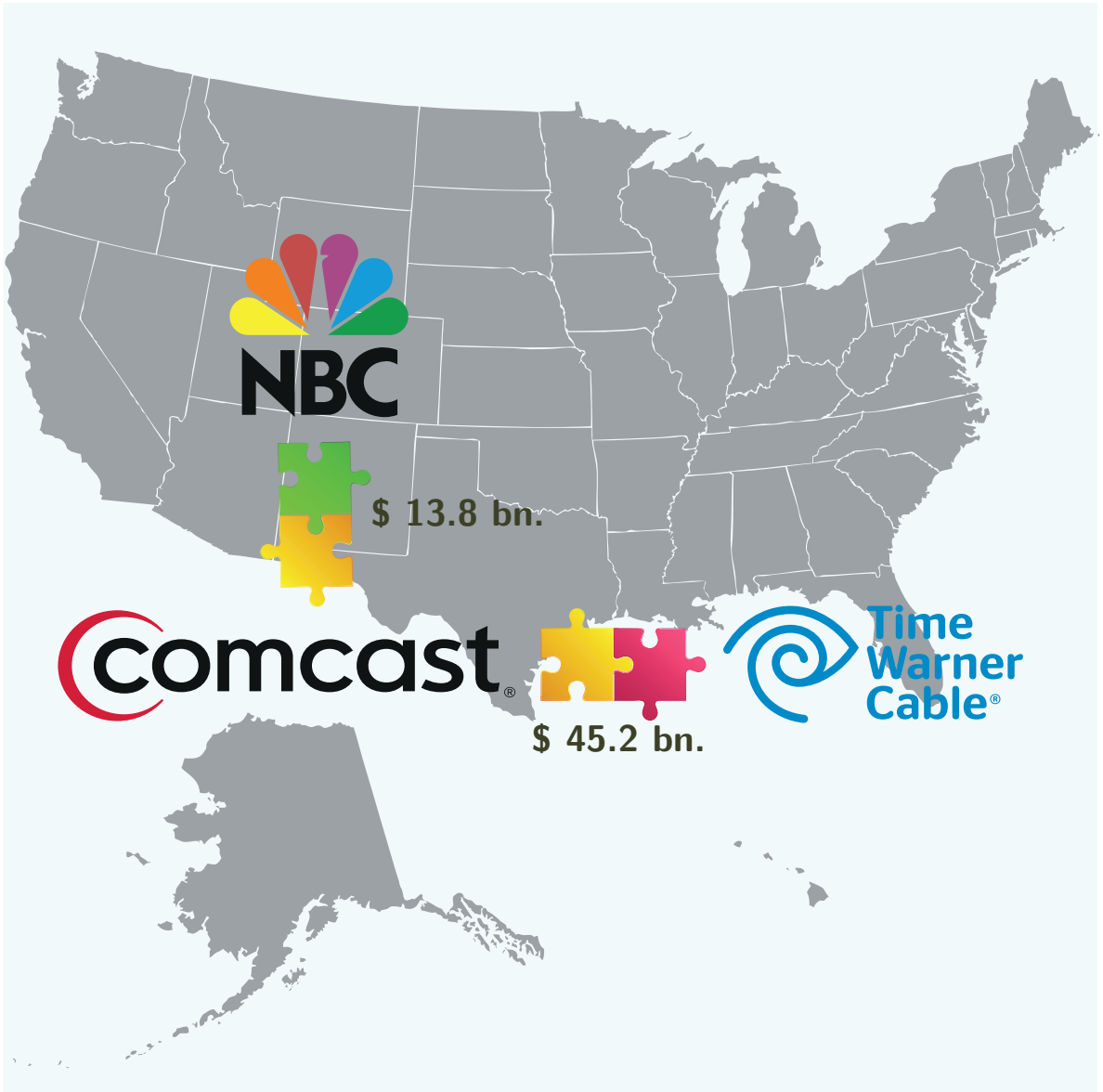
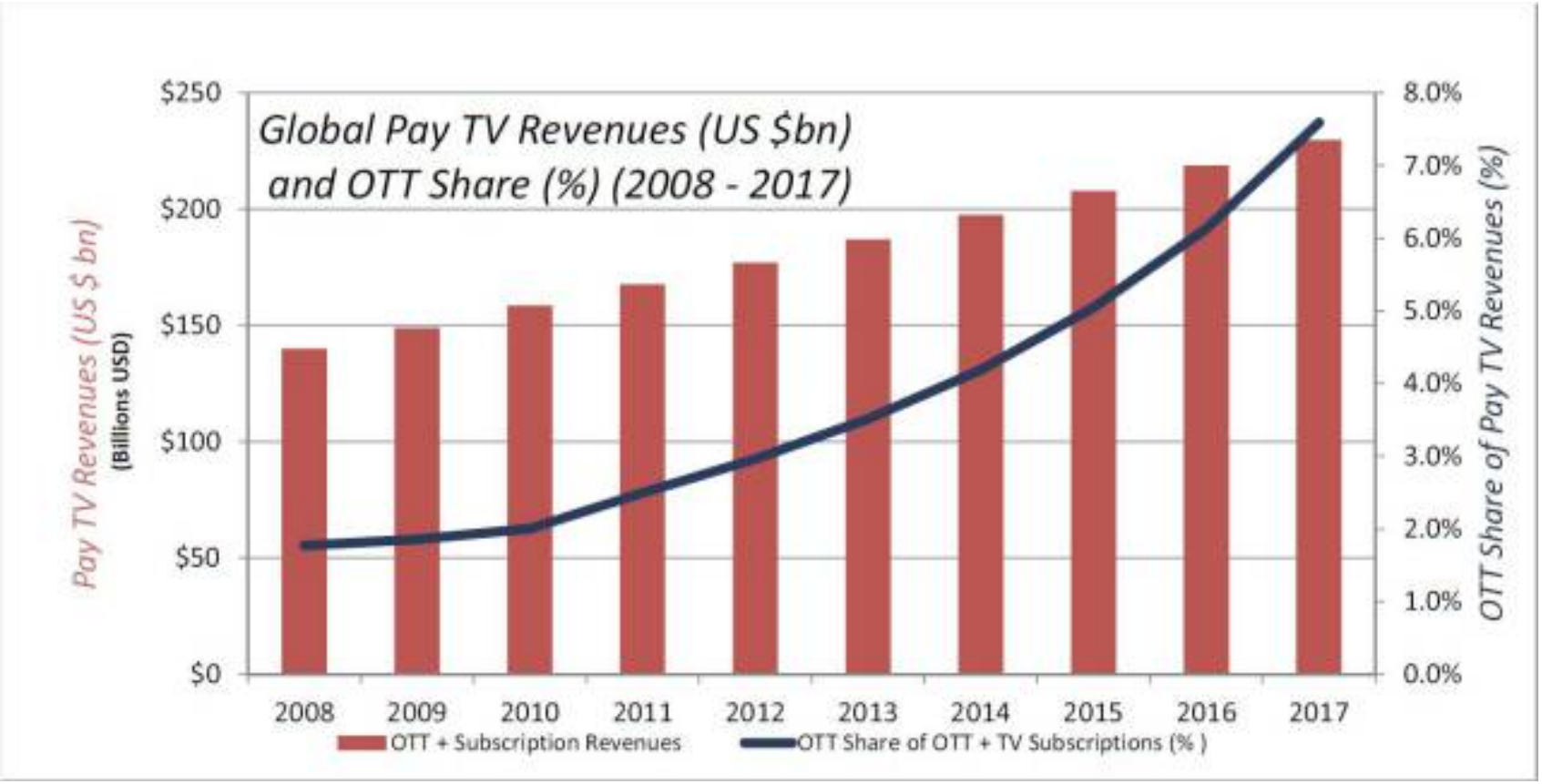
# Context I: M&A in Europe



# Context II: M&A in the US



# Context III: OTT Lurking in the Background




- OTT = Over-the-top (Internet) television

# Goals

- Three goals for my talk today:
  1. Why care about mergers in TV markets?
  2. Summarize
     - Recent { horizontal / vertical } mergers in { the US / Europe }
     - The insights of the { case record / academic literature } on these topics
  3. Highlight open issues going forward

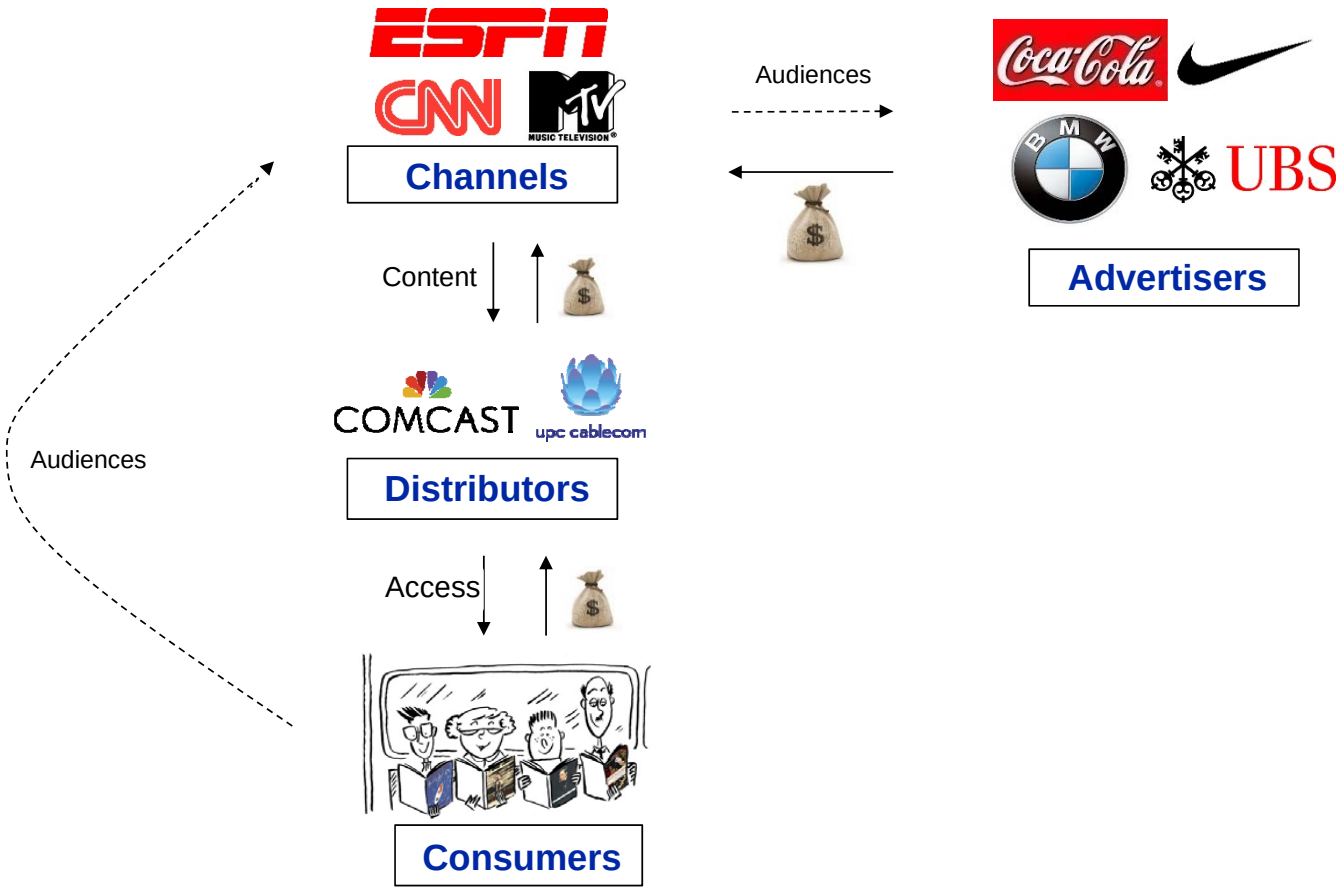
# Why Care about Television Markets?

- Television is special:
  1. It dominates people's leisure time
  2. It impacts political participation, debate, and power
     - e.g., Gentzkow (2006), Prat and Strömberg (2011)
  3. It impacts beliefs, social outcomes, and culture
     - e.g., Gentzkow and Shapiro (2007), Jensen and Oster (2009)
  4. *And* it's a $400 billion global industry

# Why Care about Competition in Television Markets?

- Competition is therefore particularly important in TV markets
- Both for its effects on
  1. Conventional economic outcomes
     - Access and use
     - Consumer and social welfare
  2. Non-economic outcomes
     - Television and violence, social engagement
     - Media ownership and viewpoint diversity

# Television Markets are Two-sided




1. Consumers value content and are willing to pay for it
2. This creates audiences that can be sold to advertisers

# Competition Concerns in the Television Industry

- There are multiple potential competition concerns
  - Horizontal concentration in content or distribution
  - Vertical affiliation between content and distribution
- In practice, most policy discussion focuses on
  1. Concentration in distribution
     - e.g. Downstream horizontal mergers
  2. Vertical affiliation between content and distribution
     - e.g. Vertical mergers

# Horizontal Mergers

# Horizontal Concerns in Distribution I

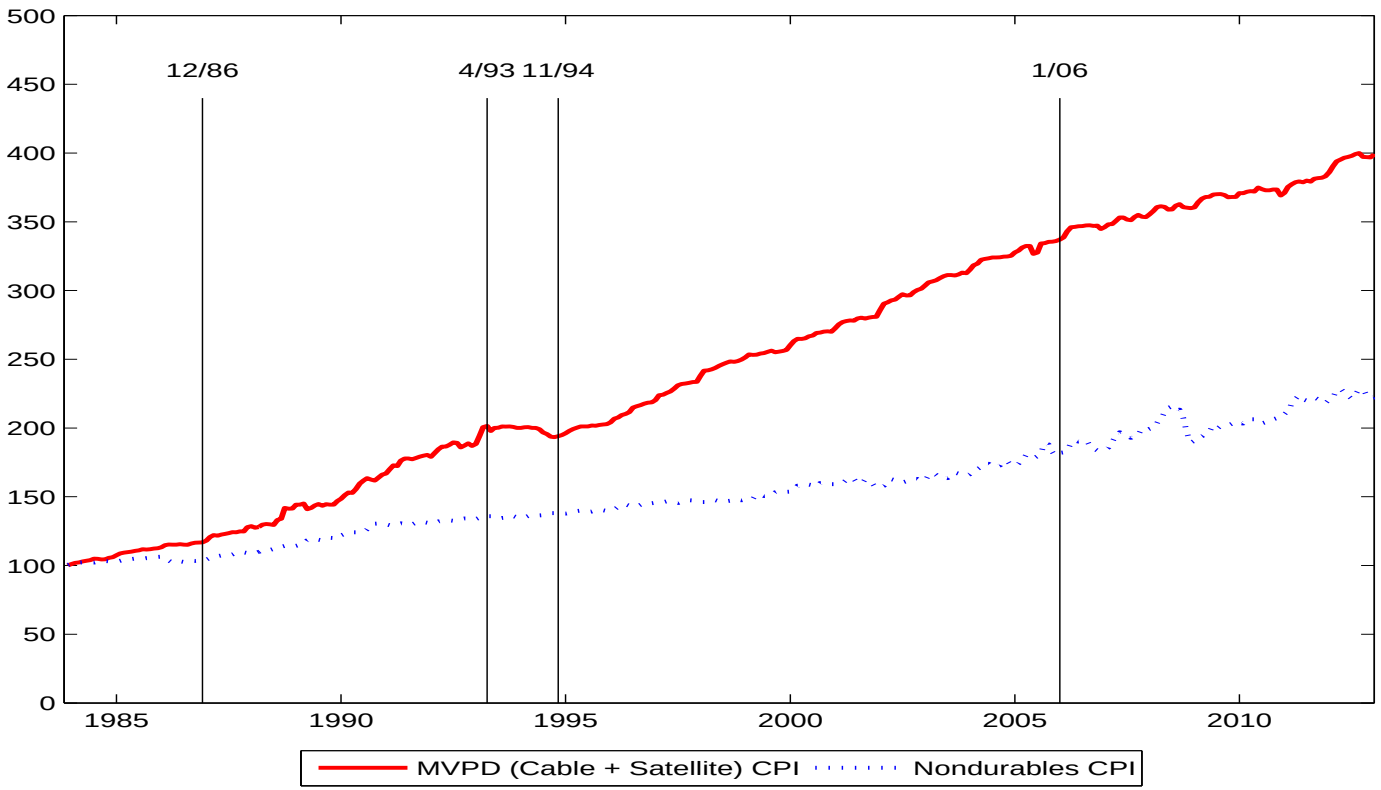
- Most horizontal concerns in distribution are the standard ones regarding market power and prices, e.g.
  - As ownership of US pay-television systems has become more concentrated:

| | 1997 | | 2010 | |
|---|---|---|---|---|
| Rank | Company | Market Share | Company | Market Share |
| 1 | TCI | 25.5 | Comcast | 22.6 |
| 2 | TimeWarner | 16.0 | DirecTV* | 19.0 |
| 3 | MediaOne | 7.0 | Echostar (Dish)* | 14.0 |
| 4 | Comcast | 5.8 | TimeWarner | 12.3 |
| 5 | Cox | 4.4 | Cox | 4.9 |
| 6 | Cablevision | 3.9 | Charter | 4.5 |
| 7 | DirecTV* | 3.6 | Verizon FiOS** | 3.5 |
| 8 | Primestar* | 2.4 | Cablevision | 3.3 |
| | Top 4 | 54.3 | Top 4 | 68.0 |
| | Top 8 | 68.6 | Top 8 | 84.0 |
| | Top 25 | 84.9 | Top 25 | — |

* = Satellite Operator ** = Telco Operator

# Horizontal Concerns in Distribution II

- Prices have risen by 5 v 3% per year



# Horizontal Concerns in Distribution II

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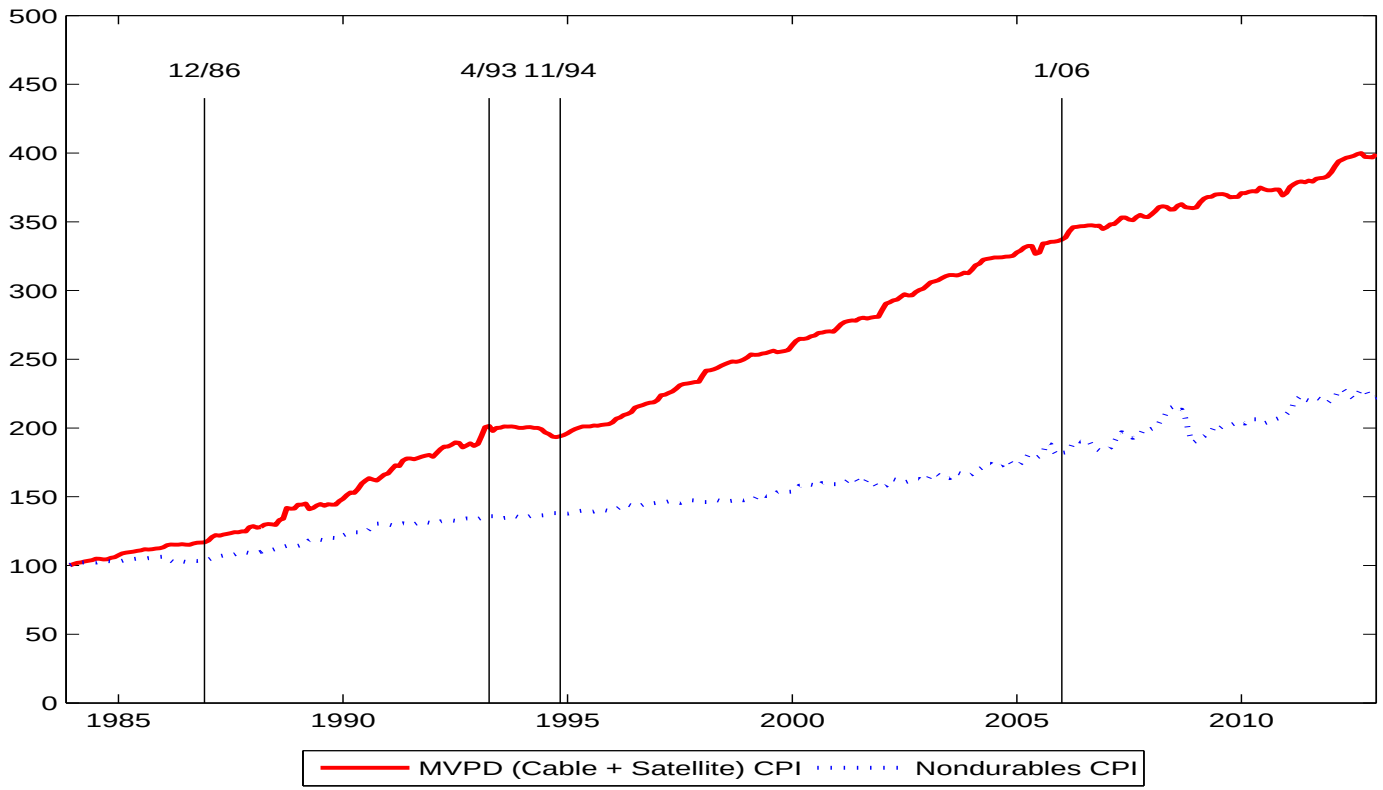


- (Tho careful: quality has also grown significantly over time)

# Horizontal Mergers: Differences

- Horizontal mergers in television markets can be different from a typical horizontal transaction:
  1. Downstream mergers may *not* reduce competition in local markets, e.g.
     - Comcast & Time Warner don't compete head-to-head
  2. $\Rightarrow$ Most effects may be in wholesale markets, e.g.
     - A downstream merger may enhance a distributor's bargaining power with channels...
     - In principle *lowering* affiliate fees...
     - Possibly *reducing* prices to ultimate consumers
  3. Upstream mergers could both
     - Enhance channel bargaining power, raising prices, and...
     - Also affect ad markets

# Recent Horizontal Mergers I

- Because of this lack of overlap in service areas, there have been relatively few challenges to US horizontal mergers
- Last big US challenge was Echostar-DirecTV (2001)
  - Blocked by both DOJ and FCC
- Comcast/Time Warner-Adelphia (2006):
  - Imposed some (largely vertical) merger conditions

# Recent Horizontal Mergers II

- Recent European cases:
  - Kabel BW - UnityMedia (Germany, 2012, Liberty Global)
    - Approved by the Bundeskartellamt with conditions
    - But the Oberlandesgericht Düsseldorf recently disapproved,
    - (Lots of experience in the room on this)
  - Ziggo - UPC Netherlands (Netherlands, 2014, Liberty Global)
  - Canal Plus - Movistar TV (Spain, 2014, Telefonica)

# Horizontal: Academic Literature? I

Academic literature both thin and somewhat discouraging:

- Modest price, quality effects of satellite competition:
  - Goolsbee and Petrin (2004, *Econometrica*), Chu (2010, *RAND*)
- Theory and empirics discourage price regulation as an alternative to promote consumer/social welfare:
  - Besanko et. al. (1988, *JIE*), Crawford (2000, *RAND*), Crawford (2014, NBER Volume)
- Mandatory à la carte not likely any better:
  - Crawford and Yurukoglu (2012, *AER*)
  - (Also estimate bargaining parameters)
- [Survey: Armstrong & Crawford (2015, *Handbook of Media Econ*)]

# Horizontal: Academic Literature? II

Recent horizontal mergers have focused on bargaining effects:

- Several bargaining papers in the literature...
  - Getting bigger bad for bargaining:
    - Chipty and Snyder (1999, *REStat*), Raskovich (2001, *JIE*)
  - Getting bigger good for bargaining:
    - Adilov and Alexander (2006, *Economics Letters*)
- Unfortunately all have weaknesses

# Horizontal: Conclusions (?)

- Horizontal competition policy in television markets *seems* straightforward
  1. Content markets are often relatively unconcentrated
     - Depending on how narrowly one defines markets
  2. Distribution markets are often quite concentrated
     - Suggesting a normal market power v efficiencies analysis for merger review

# Horizontal: Conclusions (?)

- Horizontal competition policy in television markets *seems* straightforward
  1. Content markets are often relatively unconcentrated
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  2. Distribution markets are often quite concentrated
     - Suggesting a normal market power v efficiencies analysis for merger review
- I think this is too optimistic

# Horizontal: Open Issues I

- Evaluating horizontal competition policy - whether mergers or otherwise - requires answers to some difficult open issues:
  1. How do consumers trade off price versus quality?
  2. Is there a connection between competition and quality?
  3. What are likely bargaining effects?
  4. Worry about (tacit?) collusion?

# Horizontal: Open Issues II

- Difficult open questions, cont:
  3. What role does/should public-service broadcasting play in the functioning of television markets?
  4. Could govt provision *in distribution* improve social outcomes?

# Horizontal: Open Issues III

Answering these questions is difficult:

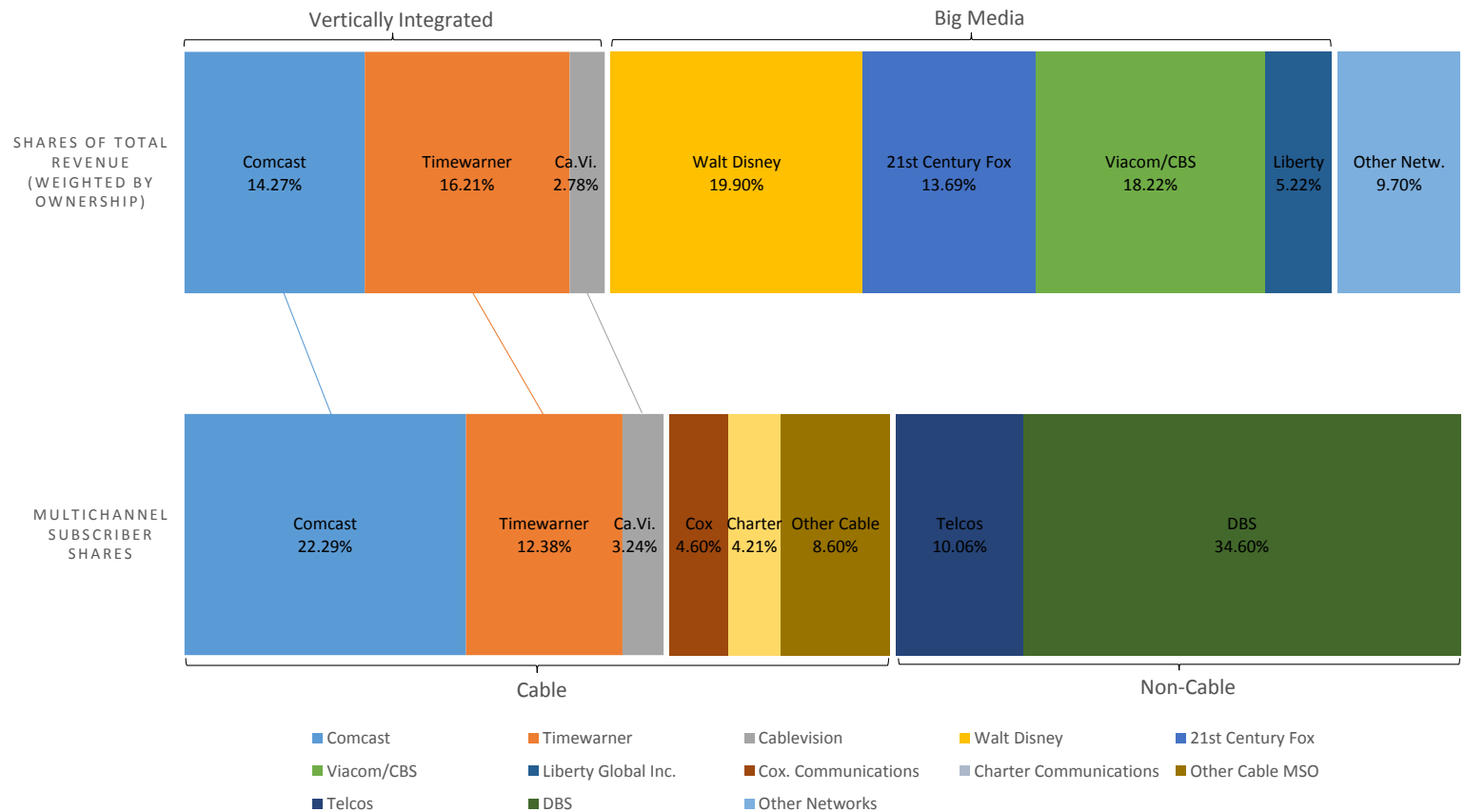
1. Enough information in a horizontal case setting?
2. Using quasi-experimental research methods?
3. Using structural research methods?

There is a tendency to "do what one knows how to do," but that may miss a lot in television markets

# Vertical Mergers

# Vertical Concerns I

- There has recently been much greater concern about vertical issues in television mergers. In the US,



# Vertical Concerns II

- The academic literature identifies (at least) three reasons a vertical merger can cause a competition problem:
  1. Restoring monopoly power
  2. Raising rivals' costs
     - (Also: reducing rivals' revenue)
  3. Foreclosure
- I'll focus on (2) and (3) as they are most relevant for TV markets

# Raising Rivals' Costs

- This literature potentially very relevant in TV markets
  - Salop and Scheffman (1983), Ordover, Saloner, and Salop (1990)
- Consider 1 upstream (U) firm setting prices, $\tau_j$, to 2 symmetric downstream (D) firms
- Basic issue is a vertical externality:
  - As U raises $\tau_2$, $p_2 \uparrow$, and demand for firm 1 increases.
  - Without integration, U ignores this and sets symmetric $\tau$s
  - With $(U : D_1)$ integration, U sets a higher $\tau_2$
- VI also:
  - Resolves double marginalization
  - Softens downstream competition (Chen (2001))

# Reducing Rivals' Revenue

- There can be an analogous effect in upstream markets which one can call *Reducing Rivals' Revenue*:
- Consider 2 upstream substitutes ($U_j$) and 1 downstream (D) firm that bargain à la Nash
- Basic issue again a vertical externality:
  - $D$ contracting with $U_2$ reduces $U_1$'s revenue
  - Without integration, $D$ carries both at symmetric $\tau$s
  - With ($U_1 : D$) integration, $D$ is a tougher negotiator with $U_2$
    - Reducing $U_2$'s revenue
- Long-run effects also possible
  - If $U_2$ has a lesser incentive to invest in quality
  - (Common in television markets)

# Foreclosure

- Consider again 1 upstream (U) and 2 downstream (D) firms
- It might be in the interests of the integrated $U : D_1$ to raise $\tau_2$ so high that $D_2$ doesn't use $U$'s input
  - This is complete "foreclosure" (Rey and Tirole (2007))
- The trade-off to $U$:
  1. Market coverage (favoring lower $\tau_2$) versus
  2. Differentiation (favoring higher $\tau_2$)
     - This trade-off turns on the elasticity of substitution between $D_1$ and $D_2$
- There is a similar tradeoff to $D$ in the RRR case
- Many recent US cases have centered on these tradeoffs
  - News-Hughes, Comcast/Time Warner-Adelphia, Comcast-NBC

# Vertical Efficiencies

- Of course, there can also be efficiencies associated with vertical integration:
  1. Eliminating double marginalization
  2. Aligning investment incentives; eliminating holdup
  3. Reducing other (effort) incentive problems
  4. Reducing transactions costs
- (1), (2), and (4) are all potentially relevant in TV markets
  - Assessing the merits of a vertical transaction must consider both pro- and anti-competitive effects

# Vertical Policy: US Program Access/Carriage

- Until recently, vertical contracts in US TV markets were influenced by Program Access and Program Carriage rules
  - Set by the Federal Communications Commission (FCC)
- These forbid affiliated distributors and content providers from discriminating against unaffiliated rivals in either the programming (PC) or distribution (PA) markets.
- These were replaced in 2012 by rules forbidding "unfair acts"
  - With a rebuttable presumption that exclusive agreements with affiliated Regional Sports Networks (RSNs) are unfair.

# Recent Vertical Mergers I

Recent big US cases:

1. Comcast/Time Warner - Adelphia (2005)
   - DirecTV model of RRC showed incentives for integrated distributor to increase its price to unaffiliated distributors as its size increased
   - Conditions:
     - Program Access Conditions for RSNs for 6 years
     - Commercial arbitration remedy in case of disagreements

# Recent Vertical Mergers II

Recent big US cases, cont:

2. Comcast-NBCU (2011)
   - Foreclosure and RRC models demonstrated incentives for merged entity to both withhold programming from and raise prices to rival distributors
   - Conditions:
     - Non-discriminatory access conditions for broadcast, cable, and RSN programming
     - Non-discriminatory access conditions for content to be delivered *online*
     - Reasonable offering of standalone broadband access
     - Non-discrimination in "neighborhooding" of television channels

# Recent Vertical Mergers III

Recent big European cases:

1. CanalSat - TPS (France, 2006)
   - Merged entity also significant owner of content
   - Conditions:
     - Facilitating ability of upstream competitors to acquire sports and movie rights
     - Must-offer for seven affiliated channels
     - Objective and open carriage of independent channels

# Recent Vertical Mergers IV

Recent big European cases:

2. BSkyB - Ofcom (UK, 2012)
   - Pay TV inquiry focusing on BSkyB market power in provision of sports and movie programming
   - Found narrow economic markets for content, that BSkyB had market power, and that it abused that power
   - 2010: Implemented wholesale must-offer regime for sports at prices 20% below existing rates
     - 2012: Competition Appeals Tribunal (CAT) struck down rules as unfounded
     - 2014: Courts require CAT to revisit issue

# Vertical: Academic Literature?

Academic literature again thin:

- Analyses in policy decisions cited earlier worth reading
  - FCC's Comcast/Time Warner-Adelphia good for horizontal
  - FCC's Comcast-NBCU order good for vertical
- Integrated operators favor affiliated channels in carriage...
  - Waterman and Weiss (1996, *JofEconometrics*), Chipty (2001, *AER*)
  - (Tho is this pro- or anti-competitive?)
- ...though less the more competition there is downstream
  - Goolsbee (2007, *FCC Ownership Study*)

# Vertical: Comcast-NBCU I

- The recent Comcast-NBCU merger is indicative of vertical cases
- Three elements:
  1. Unaffiliated distributor's access to/price of integrated content
  2. Unaffiliated content's access to integrated distribution
  3. Vertical issues in online video and internet access markets
- I will only discuss the first of these

# Comcast-NBCU: Foreclosure model I

- The FCC estimated the costs and benefits to Comcast-NBCU of foreclosure of broadcast programming
- (Simplified) Costs and Benefits:

$$Costs = (1 - d) \times Subs \times (Fee + Ad)$$
$$Benefits = (\alpha \times d \times Subs) \times \pi$$

  - $d$ = fraction rivals' subs that switch
  - $Subs$ = number of rivals' subs
  - $Fee$ = Fee paid by rivals for C-NBCU content
  - $Ad$ = per-sub Ad revenue
  - $\alpha$ = share of switching subs that choose C
  - $\pi$ = profit per new subscriber
- All of these but $d$ can be estimated using company data

# Comcast-NBCU: Foreclosure model II

- Solve for the threshold share of rivals' subs...
  - ...above which foreclosure is profitable

$$d^* = \frac{Ad + Fee}{\alpha \times \pi + Ad + Fee}$$

- Key question: how to calculate $d$ to compare to $d^*$?

# Comcast-NBCU: Foreclosure model III

- FCC calculated both these critical values by DMA and compared them to estimates of departure rates from a dispute between Dish and Fisher in 2008.
  - Applicants and FCC agree this is best available evidence
- These values unfortunately redacted, but higher than threshold
  - FCC conclusion: foreclosure would be profitable

# Comcast-NBCU: Raising Rivals Costs I

- The FCC also calculated the incentives for the integrated C-NBCU to raise rivals' costs
- Estimated percentage change in fees paid by rivals for integrated content as

$$\Delta P = (1 - \mu) \times d \times \alpha \times \pi$$

where

  - $\mu =$ the bargaining parameter of NBCU
  - (Other parameters as in foreclosure model)

# Comcast-NBCU: Raising Rivals Costs II

- Estimates of some bargaining parameters come from (what eventually was published as) Crawford and Yurukoglu (2012)
  - For cable nets:
    - $\mu = 0.53$ with telcos
    - $\mu = 0.56$ with satellites
  - For broadcast nets, assume $\mu = 0.67$
- Estimates for departure rates, $d$, come from
  - Earlier data (b/c) or DirecTV study using bargaining model fit to affiliate fees (cable)
- FCC concludes bargained prices will rise
  - Estimated price increases unfortunately redacted

# Vertical: Comcast-NBCU Remedies

- Remedies to foreclosure and RRC?
  - Non-discriminatory access conditions for broadcast, cable, and RSN programming
  - Baseball-style (final offer) arbitration
  - All distributors, not just those that compete directly with Comcast
  - Standstill provisions keeping content on distribution
  - Lower arbitration costs for small and medium operators

# Vertical: Work in Progress

- Co-authors and I are investigating further evidence of RRC and foreclosure both up- and down-stream
  1. Upstream:
     - Do integrated operators $\left\{ \begin{array}{l} \text{favor} \\ \text{discriminate against} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{affiliated} \\ \text{unaffiliated} \end{array} \right\}$ channels in $\left\{ \begin{array}{l} \text{carriage} \\ \text{tier placement, and/or} \\ \text{channel position} \end{array} \right\}$
  2. Downstream:
     - Do integrated operators avoid double-marginalization ($\mu$)?
     - Do integrated operators raise rivals costs ($\lambda_R$)?
     - Does integration soften competition downstream ($\lambda_C$)?

# Upstream Work in Progress

Crawford, Lee, Viera, Whinston, Yurukoglu:

- Examine the channel lineups of the population of US cable systems from 1998 to 2011
  - 6-10k/year, 10 million system-channel positions
- Focus on:
  1. Channels in well-defined genres with multiple channels
     - At least one of which was VI in this period
  2. Whether channel is leader in its genre or not
     - As may not be strong effects for leading channels

# Upstream: Preliminary Results

- Integrated firms carry their own channels more, ...
- Integrated firms put unaffiliated rivals on higher tiers, and ...
- Integrated firms put their own channels on (much) lower channel positions
  - ...if those channels aren't the leading channel in the genre
- (With lower channel position yielding more viewership.)
- Prelim conclusions: evidence of mild favoritism, less of discrimination

# Downstream Work in Progress

Crawford, Lee, Whinston, Yurukoglu:

- For our work in progress looking at downstream vertical effects
  - We focus on Regional Sports Networks (RSNs)
  - These considered "must-have" programming...
  - ...and a focus of recent policy
- Model an extension of Crawford and Yurukoglu (2012, *AER*)
  - No results yet, but a coherent framework to measure these effects

# Downstream: Framework I

Distributor $f$'s profit downstream:

$$\Pi_f = (p_f - \underbrace{\sum_c \tau_{fc}}_{mc_f})s_f + \mu \sum_{\text{c owned by f}} \tau_{fc} s_{jfmt}$$

$$+\lambda_C \underbrace{\sum_{\text{c owned by f}} \sum_g \tau_{gc} s_{gt}}_{\text{Input fees of integrated channels from other distribs}}$$

- $\mu$ parameterizes Double Marginalization
  - Equals 1 if downstream unit perfectly internalizes integrated upstream profits
- $\lambda_C$ parameterizes competition softening (Chen) effect
  - Equals 1 if internalization is as strong on sales of upstream unit's content through other distributors as it is for own downstream unit

# Downstream: Framework II

Content provider $k$'s profit upstream:

$$\Pi_k = \sum_{\text{c owned by k}} \left[ \sum_f (\tau_{fc}) s_f + \lambda_R \sum_f (p_f - \sum_c \tau_{fc}) s_f \right]$$

- $\lambda_R$ parameterizes Raising Rivals' Costs
  - Equals 1 if content provider fully internalizes its downstream unit's profits when bargaining with other distributors
- Basic idea: exploit variation in horizontal and vertical ownership across time to test for vertical effects

# Vertical: Conclusions

- Vertical competition policy in television markets is active across the world
  - Both raising rivals' costs and foreclosure have drawn the attention of regulators
  - With $\left\{ \begin{array}{l} \text{Merger conditions} \\ \text{Sector regulations} \end{array} \right\}$ designed to mitigate harms from any anti-competitive effects of vertical affiliation
- As for the horizontal case, there remain some difficult open issues

# Vertical: Open Issues I

1. Articulating the incentives for RRC and/or foreclosure is straightforward, but credibly measuring them can be hard:
   - Profit margins up- and down-stream may be reasonably approximated
   - But critical cross-distributor elasticities of substitution in the absence of integrated content ($d$) can be very difficult to estimate
2. How well do conditions/regulations mitigate harm?
   - Particularly if (possibly important) dynamic effects
3. How to (credibly) measure vertical efficiencies?

# Vertical: Open Issues II

- There are similar issues in *online* markets, e.g.
  1. Google search bias
     - FTC concluded no harm; EC disagreed.
     - Google - EC have tentative settlement with Google providing independent adjacent to affiliated results
  2. Net Neutrality
     - In February, Netflix agreed to pay Comcast for faster delivery of its content
     - (Can be rational for N and C and still be welfare-reducing)
- Almost *no* empirical evidence on these incentives

# Conclusions

# Conclusions I

- A recurring set of themes:
  1. Competition in distribution
  2. Vertical affiliation and $\left\{ \begin{array}{l} \text{foreclosure v} \\ \text{efficiencies} \end{array} \right\}$
- While challenging, more measurement is needed:
  1. How consumers trade off price versus quality
  2. Concentration, vertical affiliation, and investment incentives
  3. Vertical efficiencies
  4. Effects in online markets

# Conclusions II

- *Not* discouraging!
  - We know what to look for...
  - The burden:
    - Finding creative ways to bring evidence to bear
    - (In a realistic time frame)

Thank You

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