Class 23

12. Vertical Mergers

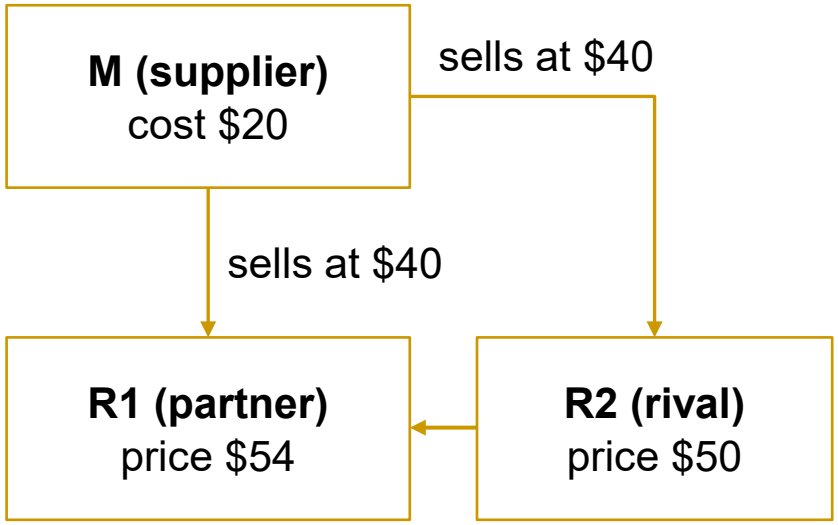
Professor Dale Collins
Merger Antitrust Law
Georgetown University Law Center

November 11, 2026

RAISING RIVALS' COSTS

Raising rivals' costs

- RRC: The example before the merger



40% of R2's lost customers switch to R1

Firm	Margin per unit
M	$40 − $20 = $20
R1	$54 − $40 − $4 = $10
R2	$50 − $40 − $4 = $6

R2 sells 420 a month and loses 70 for each $1 rise in its price

R2 passes on half of a cost increase

The question: After buying R1, would M raise its price to R2 from $40 to $42?

R1's price stays at $54 (no EDM)

Raising rivals' costs

- RRC: Prices and sales with the $2 increase
  - R2:
    - Price $50 → $51
    - Sales 420 → 350
    - 28 of the 70 lost switch to R1

	Price before	Price after	Sales before	Sales after
M (supplier)				
to R1	$40	$40 (internal)	not given	**+28**
to R2	$40	**$42**	420	**350**
R1 (partner) to customers	$54	$54 (fixed)	not given	**+28**
R2 (rival) to customers	$50	**$51**	420	**350**

  - M's price to R2 rises $2 (by hypothesis)
  - R2 passes on half to its customers by increasing its retail price: $50 → $51
    - Linear demand → 50% pass-on
  - M's price to R1 becomes an internal transfer (M and R1 merge)
  - R1's price is held at $54 (no EDM—by hypothesis)
  - Each R1 sale uses one unit from M

Raising rivals' costs

- RRC: The $2 increase in three buckets (no EDM)

Profit change	Before merger	After merger
1. Inframarginal sales: M earns more on units R2 still buys		
350 units × $2	+$700	+$700
2. Marginal sales: M loses its margin on units R2 no longer buys		
70 units × M's $20	−$1,400	−$1,400
3. Diverted sales: customers who switch from R2 to R1		
28 × M's $20 (earned before the merger too)	+$560	+$560
28 × R1's $10 (only after the merger)	—	+$280
Total	**−$140**	**+$140**

- Buckets 1 and 2 are M's accounting gross incremental profit gains and losses from RRC by $2
- Bucket 3 is incremental gross profit gain on sales diverted to R1 from R2

Raising rivals' costs

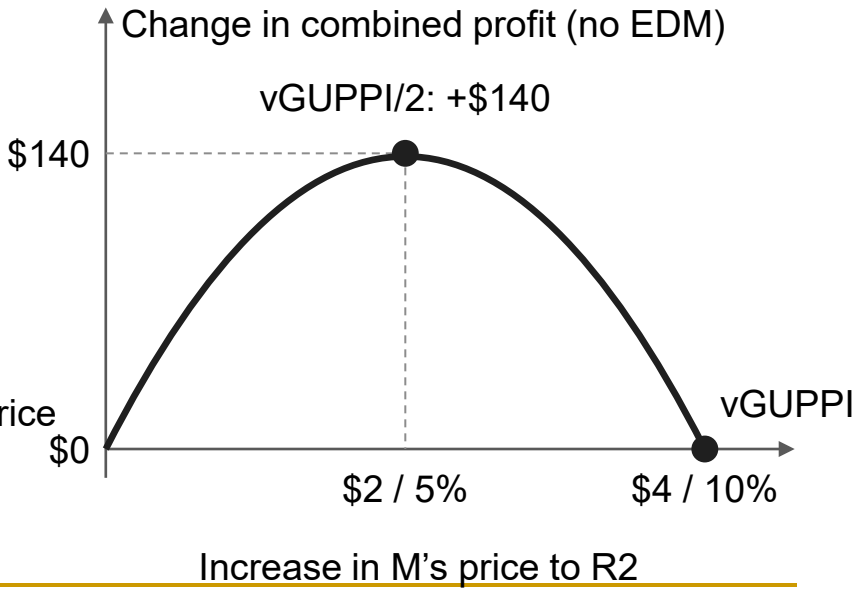
- RRC: vGUPPI and the profit curve
  - The vGUPPI is the diversion ratio from R2 to R1 ($D_{R2 \to R1}$) × R1's dollar margin ($\$m_{R1}$) ÷ M's price to R2 ($w_{R2}$):

$$vGUPPI = D_{R2 \to R1} \% m_{R1} \frac{p_{R1}}{w_{R2}} = \frac{D_{R2 \to R1} \$m_{R1}}{w_{R2}}$$

  - EDM adjustments
    - *No EDM*: R1's price stays at $54 and margin at $10

$$vGUPPI = \frac{D_{R2 \to R1} \$m_{R1}}{w_{R2}} = \frac{0.40 \times \$10}{\$40} = 10\%$$

    - *With EDM*: With EDM, R1's price falls, so its margin, and the vGUPPI, shrink (next class)
  - What the vGUPPI measures
    - The merger makes each unit M sells to R2 cost $4 in lost profit at R1 (40% × $10)
    - vGUPPI states that $4 as a share of M's price
  - *Breakeven*: A 10% ($4) increase leaves combined profit where it was at $40



  - *50% pass-on rule*: With linear residual demand and constant marginal costs, the best increase is vGUPPI/2 = 5% (or $2)

Raising rivals' costs

- RRC: Why $2? Checking vGUPPI/2

Increase in M's price to R2	**$1**	**$2**	**$3**	**$4**
Profit change before merger	−$35	−$140	−$315	−$560
Profit change after merger	+$105	**+$140**	+$105	$0

Profit peaks at a $2 (5%) increase, as vGUPPI/2 predicts, and falls back to zero at $4 (10% = the vGUPPI)

Each $1 step, by bucket (slide 3)	**$41 → $42**	**$42 → $43**
1. $1 more on units R2 still buys	350 × $1 = +$350	315 × $1 = +$315
2. M's margin on 35 lost units	35 × $21 = −$735	35 × $22 = −$770
3. $30 on the 14 who switch to R1	14 × $30 = +$420	14 × $30 = +$420
Net	**+$35**	**−$35**

Each $1 raises R2's price $0.50, so R2 loses 35 sales, and 40% of them (14) switch to R1. M's lost margin is counted at the price it leaves: $21 at $41, $22 at $42.

Raising rivals' costs

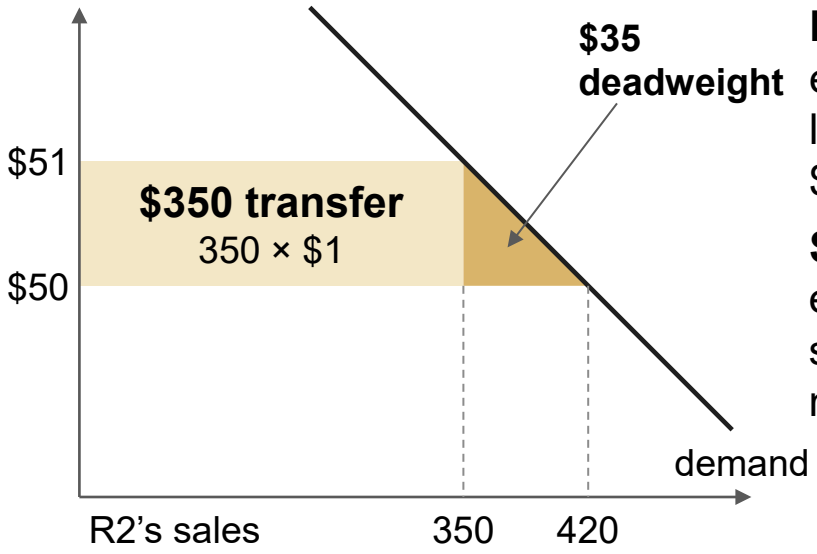
- RRC: Who gains and who loses from the $2 increase

Per month, $2 increase	Merged firm	R2	R2's customers
Transfers: one party's loss is another's gain			
350 who stay pay R2 $51, not $50	—	+$350	−$350
R2 pays M $2 more on 350 units	+$700	−$700	—
Lost sales: 70 customers stop buying from R2 (slide 7)			
M sells R2 70 fewer units: 70 × $20	−$1,400	—	—
R2 makes 70 fewer sales: 70 × $6	—	−$420	—
The 70 lose R2's edge: 70 × $0.50 avg.	—	—	−$35
Diverted sales: 28 of the 70 switch to R1			
M's $20 + R1's $10 on each	+$840	—	—
Total	**+$140**	**−$770**	**−$385**

Transfers net to zero. **The customers' $35 is a deadweight loss:** no one receives it.

Raising rivals' costs

- RRC: The 70 customers who leave R2



Lost margins. Each of the 70 lost sales had earned M $20 and R2 $6. Those sales no longer happen: M loses $1,400 and R2 loses $420.

Some of it reappears. M and R1 earn $30 on each of the 28 who switch to R1 (+$840); other sellers earn margins on the other 42 (not measured).

Lost advantage ($35). Each of the 70 preferred R2 at $50 to its next-best choice (R1, another seller, or not buying) by $0 to $1: at least $0, or it would not have bought; less than $1, or it would have stayed at $51.

At $51 that advantage is gone. The 70 pay R2 nothing, so **no one receives it.** With linear demand the losses run evenly from $0 to $1: $0.50 on average, the $35 triangle.

Raising rivals' costs

- RRC: A $2 increase versus a complete cutoff

Per month	$2 increase (slide 6)	Complete cutoff*
Merged firm (M + R1)	+$140	−$3,360
R2	−$770	−$2,520
R2's customers	−$385	−$1,260

Merged firm. M loses its $20 margin on all 420 units it sold R2 (−$8,400). The 168 customers who switch to R1 (40% of 420) earn M $20 and R1 $10 each (+$5,040). Net loss: $8,400 − $5,040 = $3,360.

R2. Without the input it sells nothing, so it loses its $6 margin on all 420 sales: its whole $2,520 profit.

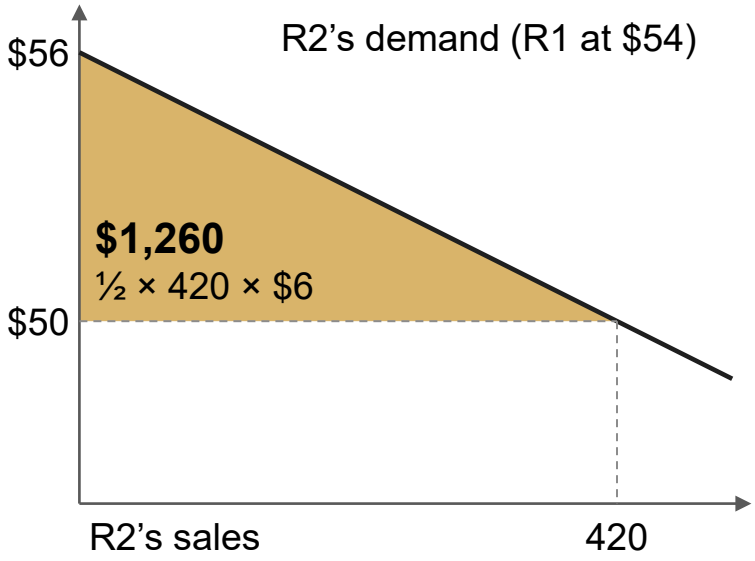
R2's customers. All 420 lose R2: $3 each on average, $1,260 in all (slide 9).

The point. A cutoff hurts R2 and its customers more, but it loses the merged firm money. "We'd never cut them off" can be true and beside the point.

*Assumes a cutoff also sends 40% of R2's customers to R1 and that R2's demand stays linear up to $56. No total: other sellers gain on some of R2's lost customers.

Raising rivals' costs

- RRC: R2's customers in a cutoff



Where the $6 comes from. R2 loses 70 customers per $1, so at $56 it would have none (420 ÷ 70 = $6). Each customer's advantage from R2 at $50 is $0 to $6, $3 on average.

Switchers are already counted. R2's demand is drawn with R1's price fixed at $54, so each loss is measured against the customer's next-best choice.

The 168 who switch to R1 lose only how much more they liked R2 at $50 than R1 at $54. Their switching shows up as the merged firm's $30 on each (+$5,040), not as a gain to customers.

Caution: $56 is far outside the estimates, which cover prices near $50, so the $1,260 assumes R2's demand stays a straight line all the way.



AT&T

TimeWarner

The litigation: Preliminaries

- Tried in the District Court for the District of Columbia
- Bench trial before Judge Richard Leon
  - Appointed by George W. Bush
  - Assumed office on February 19, 2002
  - Began senior status on December 31, 2016
  - Same judge who entered the Comcast/NBCUniversal consent decree
  - Known for a sharp tongue and aggressive management of his courtroom



The key litigation question

Would the merger increase the combined company's bargaining leverage enough to raise the affiliate fees rival distributors pay for Turner content and, ultimately, subscriber prices?[1]

- DOJ: Yes
  - Business documents say so
  - Rival distributors say so
  - Expert economic analysis says so

[1] The DOJ agreed at trial that the combined company would not completely foreclose rival distributors and that the content would be licensed. It only litigated the case on raising rivals' costs.

The key litigation question

Would the merger increase the combined company's bargaining leverage enough to raise the affiliate fees rival distributors pay for Turner content and, ultimately, subscriber prices?[1]



- AT&T/Time Warner: No
  - Transaction eliminates no competitors/increases no market shares
  - Any increase in prices could result only from an increased willingness to walk away from a licensing deal and withhold content
  - The incentive of the merged company is to license its content as widely as possible
  - The DOJ agrees that license agreements will be reached with all rival companies and the merged company will not withhold its content
  - The DOJ's evidence shows that there is a gross procompetitive savings of $352 million annually to DirecTV from the elimination of double marginalization
  - Prior vertical deals in industry did not result in increased prices
  - No customer testified that it would accede to higher affiliate fees postmerger

The DOJ's evidence

1. Business documents
2. Testimony from rival MVPDs and OVDs representatives
3. DOJ expert economist

The bulk of the trial and the opinion concerned Theory 1: Raising Rivals' Costs. This will be our focus.

The DOJ's evidence

1. Business documents



- *DOJ*: Three types of documents
  - *Business documents* showing that Turner content was very valuable to rival distributors
  - AT&T and DirecTV *regulatory filings* before the FCC in Comcast/NBCUniversal and other proceedings showed that each believed that the vertical integration would give the merged firm the power to raise content prices
  - *Ordinary course documents* from AT&T to the same effect

The DOJ's evidence

1. Business documents: Value of Turner content



- *Court*:
  - Most documents spoke to the value or "must have" nature of Turner content
  - BUT Turner content had this value premerger—need an explanation of how the merger would increase this value
  - The documents did not purport to explain the mechanism the combined company could use to increase the value of the content and so achieve higher negotiated affiliate fees postmerger than TW could obtain premerger

Court: Documents were not probative on the ability of the merged company to obtain higher prices for TW content

The DOJ's evidence

1. Business documents: AT&T/DirecTV regulatory filings in Comcast/NBCU

- *AT&T/DirecTV:*
  - Submitted comments to the FCC arguing that the Comcast/NBCU deal would result in higher prices for NBCU content to Comcast rivals



- *Court*: Context must be assessed carefully to determine probative value
  - Submitted in opposition by a competitor or a customer to a rival's transaction
  - Industry has changed significantly since the filings were made in 2010
  - Even accepting arguendo that vertical integration would increase bargaining power, says nothing about—
    - What the size of the price increase would be here, *or*
    - Whether it would outweigh the admitted savings to subscribers from the elimination of double marginalization

Court: Regulatory filings have little probative value on this deal and given very limited credit

The DOJ's evidence

1. Business documents: AT&T/DirecTV ordinary course documents



- The hearsay rule
  - *FRE 801(c)(definition):* "Hearsay" means a statement that:
    - the declarant does not make while testifying at the current trial or hearing; *and*
    - a party offers in evidence to prove the truth of the matter asserted in the statement[1]
  - *FRE 802 (rule)*: Hearsay is not admissible unless any of the following provides otherwise:
    - a federal statute;
    - these rules; or
    - other rules prescribed by the Supreme Court[2]

.

Is there an exception for ordinary course documents?

[1] Fed. R. Evid 801(c).
[2] *Id*. 802.

The DOJ's evidence

1. Business documents: AT&T/DirecTV ordinary course documents



- FRE 803(6) (exceptions to the hearsay rule):

Records of a Regularly Conducted Activity. A record of an act, event, condition, opinion, or diagnosis if:

Requirements

(A) the record was made at or near the time by—or from information transmitted by—someone with knowledge;

(B) the record was kept in the course of a regularly conducted activity of a business, organization, occupation, or calling, whether or not for profit;

(C) making the record was a regular practice of that activity;

Proof

(D) all these conditions are shown by the testimony of the custodian or another qualified witness, or by a certification that complies with Rule 902(11) or (12) or with a statute permitting certification; and

(E) the opponent does not show that the source of information or the method or circumstances of preparation indicate a lack of trustworthiness.

The DOJ's evidence

1. Business documents: AT&T/DirecTV ordinary course documents



- *Court*:
  - Would not admit under the "business document" hearsay exception without a foundation, including testimony by the author on—
    - Reason for creation
    - Knowledge of the author about the subject matter
    - Reliance on the document by senior decision-makers

"Witnesses would be able to contextualize and explain the technical and lengthy documents at issue, which might otherwise be misunderstood or selectively cited in post-trial briefs."

Court: DOJ elected not to present foundation witnesses, so AT&T and DirecTV ordinary course documents on which the DOJ planned to rely were not admitted into evidence

The DOJ's evidence

2. Testimony from rival MVPDs and OVDs



- *DOJ*: Would show that rival distributors believed—
  - The transaction would give AT&T increased bargaining power
  - AT&T would use this power to raise the prices to rival distributors for TW content

- *Court*:
  - In vertical cases, where customers are also competitors, testimony could reflect self-interest rather than genuine concerns
  - Witnesses could not explain the mechanism by which the bargaining postmerger would result in prices higher than those reached in premerger bargaining
  - No customer would testify that it would accede to demands by the merged company for increased affiliate fees

Court: Testimony from rivals that transaction would raise prices and diminish innovation not credited

The DOJ's evidence

3. Economic expert testimony



- DOJ expert: Carl Shapiro
  - Professor of Business Strategy, UC Berkeley
  - Former chief economist, Antitrust Division (twice)
    - A principal author of the 2010 DOJ/FTC Horizontal Merger Guidelines
  - Former Member, Council of Economic Advisers
  - Ph.D in Economics, MIT (1981)
  - Very experienced trial expert witness

- *DOJ*: Expert evidence will show that—
  1. The transaction would give AT&T increased bargaining power
  2. AT&T would use this power to raise their prices for TW content
  3. Subscribers on balance would be harmed

Shapiro's approach

- Basic idea
  - To assess whether the transaction is anticompetitive on balance, must determine—
    1. The savings resulting from the elimination of double marginalization
    2. Against the loss resulting from the increase in prices to DirecTV's rivals
  - If the aggregate dollar loss from higher prices is greater than the aggregate dollar savings from EDM, the deal is anticompetitive

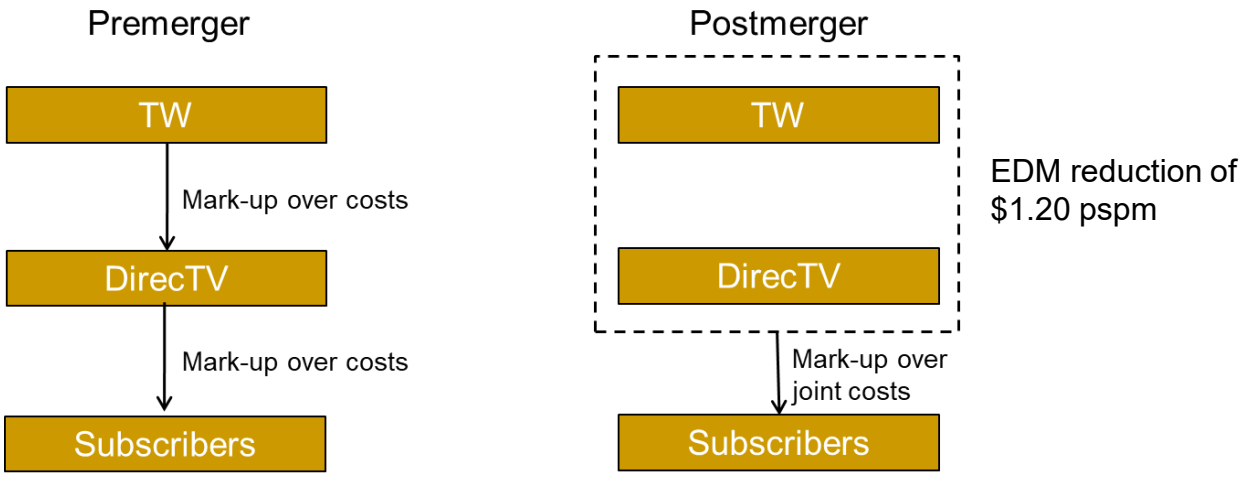
From a consumer welfare perspective, what is going on here?

- Steps
  1. Quantify savings from EDM
  2. Quantify the loss from the increase in prices to DirecTV's rivals
  3. Compare the two

- *Query*: Should these comparisons be made at the level of—
  - The distributors
    - Can be computed directly
  - Or the subscribers
    - Requires an analysis of "pass-on"

Remember, at a profit maximum, marginal revenue is equal to marginal cost. But if the demand curve is linear, the marginal revenue curve falls twice as fast as the demand curve. So only one-half of a cost change is "passed on" to customers, and the other one-half is absorbed by the firm.

1. Savings from EDM



- Shapiro:
  - Calculations
    - EDM marginal cost reduction per-subscriber per-month (pspm): $1.20 (estimated from company documents)
    - Number of DirecTV (premerger) subscribers with Turner content: 24.4 million
    - Total marginal cost reduction for DirecTV (premerger)
      - Per month: $1.20 pspm × 24.4 million subscribers = $29.3 million
      - Per year: $352 million[1]

Ignored any diversion

Parties: Accepted Shapiro's EDM calculation—Presented no evidence

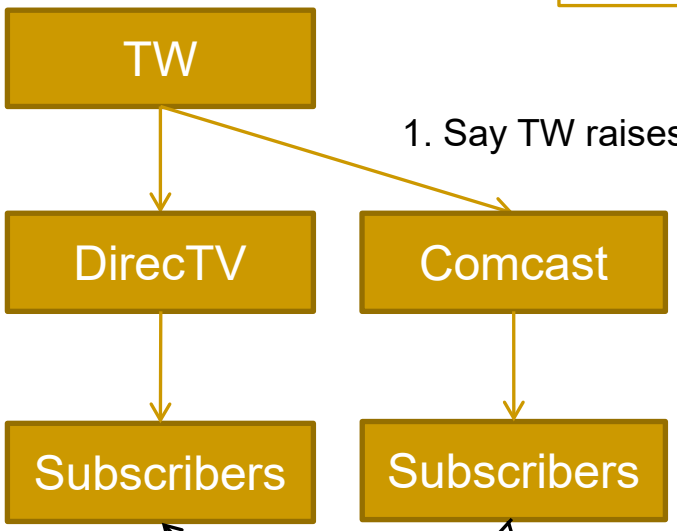
[1] Judge Leon in his opinion mistakenly characterized this as the savings passed on to DirecTV's subscribers, not the savings to DirecTV.

2. Price increase to rival distributors

- Incentive to increase prices

Remember, in these diagrams I am using Comcast as the proxy for all DirecTV rivals

Premerger



1. Say TW raises price *p* to Comcast

2. Comcast passes on some of the price increase to its subscribers

3. Some Comcast subscribers leave Comcast for other forms of entertainment → *TW loses TW margin on these customers*

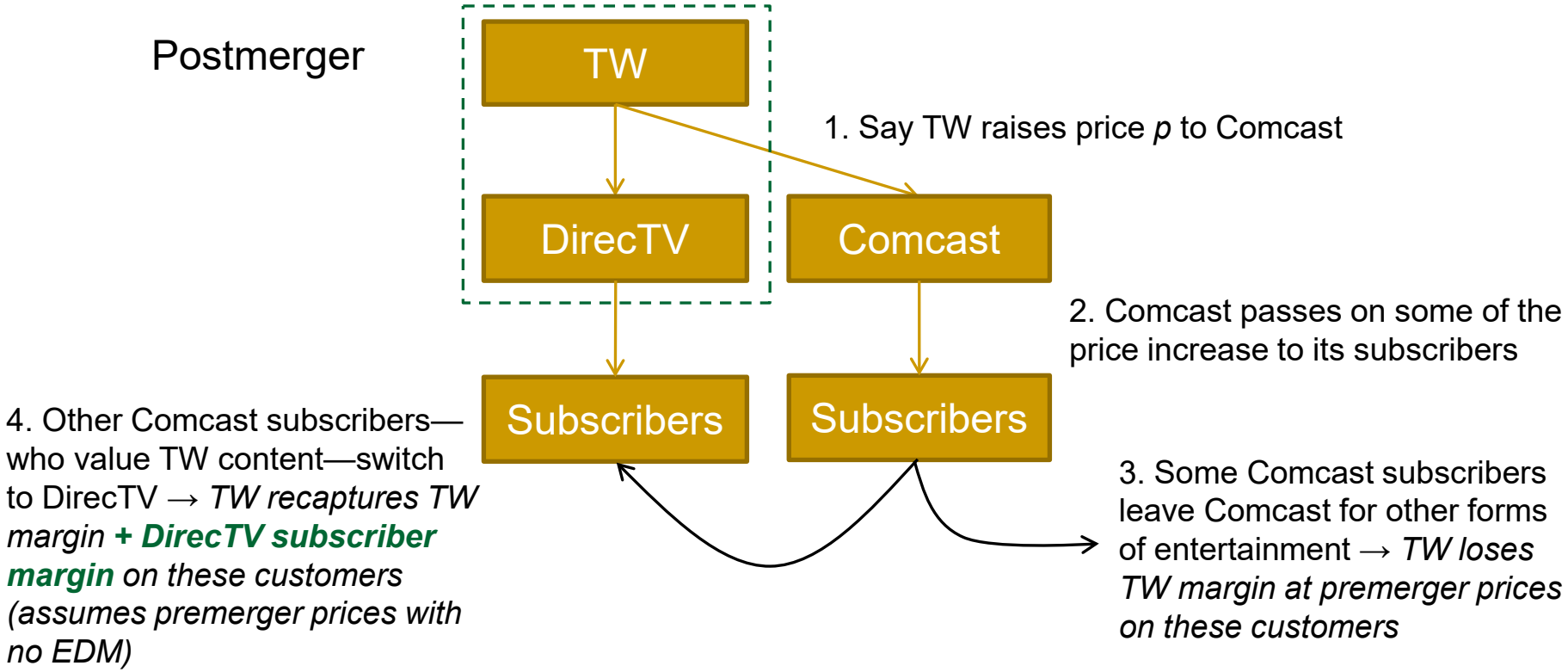
4. Other Comcast subscribers—who value TW content—switch to DirecTV → *TW recaptures TW margin on these customers premerger*

Premerger, Turner maximizes profits when—

1. Its profit loss from the marginal subscribers that divert to the outside option
2. Equals its profit gain from—
    1. the price increase to the TW inframarginal customers, *and*
    2. the recapture of some marginal subscribers who divert to DirecTV and other distributors that carry Turner content

2. Price increase to rival distributors

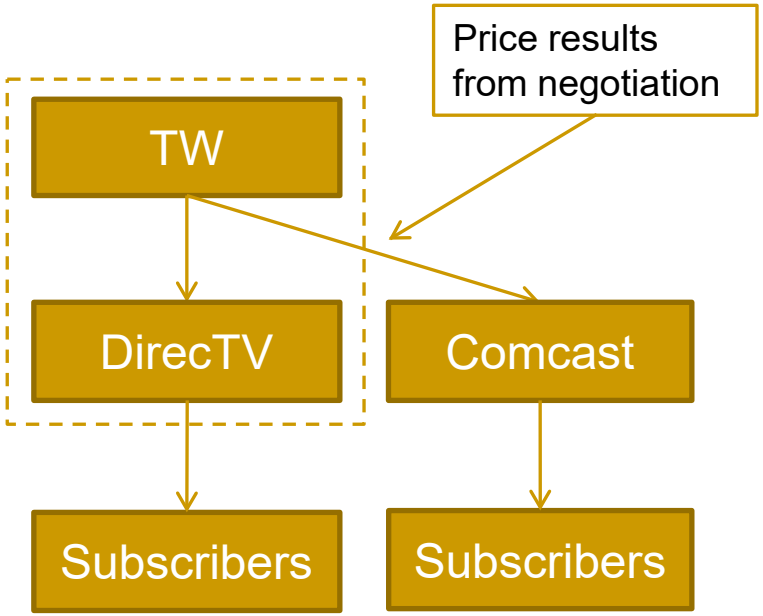
- Incentive to increase prices



Postmerger, the capture of the ***DirecTV margin*** from marginal subscribers diverting to DirecTV upsets the premerger marginal revenue = marginal cost first-order condition and incentivizes the combined firm to *increase* the price of its content to DirecTV rivals

2. Price increase to rival distributors

- Some problems



a. Very complicated affiliate relations contracts

b. Tension with merged firm's goal to maximize viewership
   - Affiliate fees
   - Advertising fees*

c. Very data intensive: Need—
   - TW margin on Comcast sales
   - Comcast pass-through rate
   - Diversion ratio for Comcast subscribers lost to the "outside option" with a subscriber rate increase
   - Diversion ratio for Comcast subscribers diverted to DirecTV with a subscriber rate increase
   - TW margin on DirecTV premerger sales
   - DirecTV margin on new subscribers
   - Advertising data

d. TW does not "set" the price with distributors (inc. DirecTV premerger)
   - Price results from a *negotiation*
   - ∴ Need a *bargaining model*
   - Shapiro used the *Nash bargaining solution*

* Typically 18 minutes of advertising in each hour of television programming
- Programmers: 16 minutes
- Distributors: 2 minutes

2. Price increase to rival distributors

- The bargaining game
  - Basic setup
    - Two parties—call them A and B—can cooperate to generate a joint benefit
      - The joint benefit is called the *gains from trade* or *surplus from trade*
    - To reach agreement, they must decide how to divide those gains
    - If they fail to agree, each party receives a disagreement payoff (their outcome from no deal)
  - Simple example: A house sale
    - Seller (A) owns a house worth $400,000 to her (the lowest price at which she would sell)
    - Buyer (B) values the house at $500,000 (the highest price he would pay)
    - A sale at any price between $400,000 and $500,000 makes both better off
    - Gains from trade = $100,000
    - Distribution of the gains
      - Seller gains: Sale price – $400,000
      - Buyer gains: $500,000 – sale price
      - The total surplus from trade is $100,000
    - The *bargaining problem*: How will A and B divide that $100,000 surplus through negotiation?

*The **Nash bargaining solution** provides a theoretically grounded answer—predicting the price that splits the surplus according to a set of fairness and consistency axioms*

2. Price increase to rival distributors

- The Nash Bargaining Solution[1]
  - Axiomatically derived—Results from theory, not empirical observation or testing
  - Nash axioms: Look for a solution that satisfies these requirements—
    1. Pareto efficiency
       - Must be impossible to make one party better off without making the other worse off
    2. Symmetry
       - If the problem swaps the players, the solution will swap their outcomes as well
    3. Invariance to affine transformations
       - The solution should be invariant to positive linear transformations of the utility functions
       - For geeks:
         - An affine transformation of *x* into *y* is of the form: $y = a + bx$
         - *Example*: Adding $10 to every entry in the payoff matrix results in the original solution plus $10
         - *Example*: Doubling every entry in the payoff matrix results in the original solution doubled
    4. Independence of irrelevant alternatives
       - If the set of feasible agreements is reduced but the original solution remains feasible, the solution should not change
       - This ensures that the bargaining outcome is not influenced by options that were never going to be chosen

Basic result: Negotiating parties ***split the total net gains from trade*** between the parties to maximize the product of their respective individual gains

[1] John F. Nash Jr., *The Bargaining Problem*, 18 Econometrica 155 (1950).

2. Price increase to rival distributors

- The Nash Bargaining Solution
  - *Game 1*: Agee on how to split $100 or get nothing
    - Mary and Bob have $100 to split
    - If they agree on a division *s* (the fraction of $100 Mary gets),
      - Mary gets $100*s*
      - Bob gets $100(1-*s*)
    - If they fail to agree, they each get nothing

This is called the *disagreement payoff*

    - They have equal bargaining power
    - *Nash bargaining solution*: Pick *s* to maximize the *product* of the Mary's and Bob's respective gains—

$$\underset{s}{Max}\left[100s\right]\left[(1-s)100\right]$$

Mary's gain with agreement

Bob's gain with agreement

    - Nash bargaining solution in this problem: *s* = 0.5
      - They agree on a division where Mary get $50 and Bob gets $50