
Unit 5B: H&R Block/TaxACT

Part 2. Anticompetitive Effects

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**H&R
BLOCK®**

TaxAct®

Explicit Theories of Anticompetitive Harm: Elimination of a Maverick

Mavericks

- General idea and current Guidelines framework
 - A maverick is a firm with a disruptive presence in the market
 - Its presence impedes coordinated interaction that other firms might otherwise find profitable
 - A merger may increase susceptibility to coordination by eliminating the maverick or materially changing its disruptive incentives

Why do firms emerge as mavericks?

1. *Different objectives*: Idiosyncratic management preferences

- ❑ Managers may prioritize growth, innovation, or building market share over short-term profits
- ❑ Conduct tied to particular managers may not persist after management changes

2. *Different incentives*: The firm's competitive position

- ❑ Where customers are sticky, or "learning by doing" or scale matters, a small firm gains more in the long run from winning customers now
- ❑ A smaller firm sacrifices margin on fewer inframarginal sales when it cuts price
- ❑ A firm with few or no substitute products in the market has little to cannibalize
- ❑ Available capacity and low incremental costs may reward expansion

3. *Different capabilities*: A distinctive business model or cost structure

- ❑ Lower costs, different distribution, or a different revenue model may make lower prices or new offerings profitable

The source of the disruptive conduct matters because the merger may preserve some sources while eliminating or changing others

Mavericks in *H&R Block*

■ Plaintiff's theory:

- TaxACT is a "maverick" that has disrupted tacit coordination that otherwise would have occurred in the DDIY market
 - Freemium business model
 - Bucked prevailing pricing norms by introducing free-for-all offering, which others matched
 - Remains the only competitor with significant market share that relies on free and low-priced, high-quality products
 - TaxACT CEO appears dedicated to freemium strategy
 - NB: Note the role of idiosyncratic management preferences
 - Pushed the industry toward lower prices, even when the two major players were not anxious to follow
- The merger will eliminate TaxACT as a disruptive force, which will result in a higher level of coordinated interaction in the relevant market postmerger

Mavericks in *H&R Block*

■ Court:

- DOJ failed to provide a clear standard for identifying a maverick
- But key question remains:

"Does TaxACT consistently play a role within the competitive structure of this market that constrains prices?"

- *Conclusion 1:* TaxACT plays a special role in keeping the market competitive

The Court finds that TaxACT's competition does play a special role in this market that constrains prices. Not only did TaxACT buck prevailing pricing norms by introducing the free-for-all offer, which others later matched, it has remained the only competitor with significant market share to embrace a business strategy that relies primarily on offering high-quality, full-featured products for free with associated products at low prices.¹

¹ United States v. H & R Block, Inc., 833 F. Supp. 2d 36, 80 (D.D.C. 2011).

Mavericks in *H&R Block*

■ Court

- *Conclusion 2*: The incentives of the merged firm to be disruptive will differ from those of TaxACT premerger

[T]he pricing incentives of the merged firm will differ from those of TaxACT pre-merger because the merged firm's opportunity cost for offering free or very low-priced products will increase as compared to TaxACT now. In other words, the merged firm will have a greater incentive to migrate customers into its higher-priced offerings—for example, by limiting the breadth of features available in the free or low-priced offerings or only offering innovative new features in the higher-priced products.¹

- When an aggressive strategy requires a uniform price reduction, the strategy becomes more costly as the number of inframarginal units receiving the reduction increases
 - In a single-price market, a price cut to increase sales requires the firm to reduce prices on all inframarginal sales
- Common ownership also increases the opportunity cost of attractive free or low-priced products when customers using those products could instead purchase the combined firm's higher-priced offerings

¹ United States v. H & R Block, Inc., 833 F. Supp. 2d 36, 80 (D.D.C. 2011) (record citation omitted).

Mavericks: Edgewell/Harry's

■ Proposed transaction

- Edgewell, the owner of Schick, agreed to acquire Harry's for \$1.37 billion
- The acquisition would place Harry's under the control of an established incumbent

■ FTC's allegations

- Harry's entry into retail stores disrupted a longstanding pattern of price increases by Gillette and Schick
- Harry's lower-priced products prompted incumbents to reduce prices and introduce previously unavailable value-priced products
- The acquisition would eliminate Harry's independent disruptive influence and reduce competition in the broader wet-shave market

■ Posture and outcome

- The FTC filed an administrative complaint on February 3, 2020
- Edgewell terminated the transaction on February 10 rather than litigate the FTC's challenge
- The parties abandoned the transaction, so the FTC's allegations were not adjudicated

The complaint illustrates a maverick theory based on eliminating a recent entrant whose conduct changed the competitive behavior of established firms

Mavericks

- The acquiring firm as the maverick
 - Either merging firm may be the maverick
 - Continued control by the maverick's managers may support an argument that the disruptive strategy will persist
 - Management continuity is not dispositive because common ownership may change the economic rewards from that strategy
 - The analysis therefore considers both management's likely decisions and the combined firm's postmerger incentives
 - Applications
 - *Deutsche Telekom*:¹ The court credited T-Mobile's "Un-carrier" history, the continuity of its executive team, and the added capacity from Sprint, and predicted that New T-Mobile would keep competing aggressively

¹ New York v. Deutsche Telekom AG, 439 F. Supp. 3d 179 (S.D.N.Y. 2020).

Mavericks: Synthesis

- Requirements of a "maverick" theory of Section 7 anticompetitive harm
 - *H&R Block/TaxACT* suggests the following analytical requirements (although the court did not announce them as a formal four-part test):
 1. The market is conducive to a materially higher degree of coordinated interaction than it exhibits premerger;
 2. The disruptive conduct of the maverick is a material contributor to the inability of the market to achieve this higher degree of coordinated interaction;
 3. The acquisition involving the maverick is likely to result in the discontinuance of the disruptive conduct; *and*
 4. The discontinuance of the maverick disruptive activity is likely to result in a materially higher degree of coordinated interaction in the market to the harm of consumers
 - The disruptive conduct must be sufficiently important that its elimination is likely to produce a material increase in coordinated interaction

Explicit Theories of Anticompetitive Harm: Unilateral Effects

Unilateral effects

■ Definition

- A unilateral effects theory examines whether eliminating competition between the merging firms ("local competition") will allow the combined firm to raise prices, reduce quality, or otherwise worsen competitive terms
- The theory does not require nonmerging firms to accommodate the combined firm's conduct
- Nonmerging firms' existing products and prices nevertheless remain competitive constraints on the combined firm

A merger is likely to have unilateral anticompetitive effect if the acquiring firm will have the incentive to raise prices or reduce quality after the acquisition, independent of competitive responses from other firms.¹

¹ United States v. H&R Block, Inc., 833 F. Supp. 2d 36, 81 (D.D.C. 2011).

Unilateral effects

By convention, we call the combined firm's product subject to the price change "Product A"

- Relation to the one-product SSNIP recapture test
 - Common economic mechanism
 - Both analyses ask whether profits on sales diverted from Product A to Product B make a price increase for Product A profitable
 - The calculation considers:
 - the additional revenue from the higher price on A's retained sales;
 - the lost margin on A's lost sales; *and*
 - the margin earned on sales recaptured by B
 - The analyses address different questions
 - The hypothetical monopolist test specifies a SSNIP and asks whether it would be profitable. Its purpose is to define a relevant market.
 - Unilateral effects analysis asks whether the merger creates an incentive to raise A's price and, when possible, the magnitude of the profit-maximizing price increase
 - The predicted price increase need not equal or exceed a SSNIP
 - A smaller increase may contribute to a substantial lessening of competition
 - The profitability of a specified price increase remains probative, but the profit-maximizing price change more directly measures the predicted unilateral effect

Unilateral effects

■ The idea

□ Premerger

- Firm A independently selects its profit-maximizing price
- If A raises its price, some customers divert to Firm B
- Independent Firm A considers its lost margin but not the profits gained by B

□ Postmerger

- The combined firm internalizes the profits B earns on sales diverted from A
- Those recaptured profits make an increase in A's price more profitable
- The merger therefore creates upward pricing pressure on A
- The magnitude of that pressure depends principally on diversion from A to B and B's dollar margin

Unilateral effects

■ Example 1

- Say firm A faces a residual inverse demand curve $p = 10 - 0.5q$ and has no fixed costs and a constant marginal cost of \$4
 - The residual demand curve is then $q = 20 - 2p$
- Also, suppose that 50% of the sales Firm A loses when it increases its price divert to Firm B (that is, $D_{AB} = 0.50$)
- Firm B earns a constant dollar margin of \$2 on each diverted sale

Premerger, Firm A maximizes profits at $p_A = \$7.00$ and $q_A = 6.0$

Postmerger, the combined firm maximizes its profits at $p_A = \$7.50$ and $q_A = 5.0$, holding the price of B's product constant

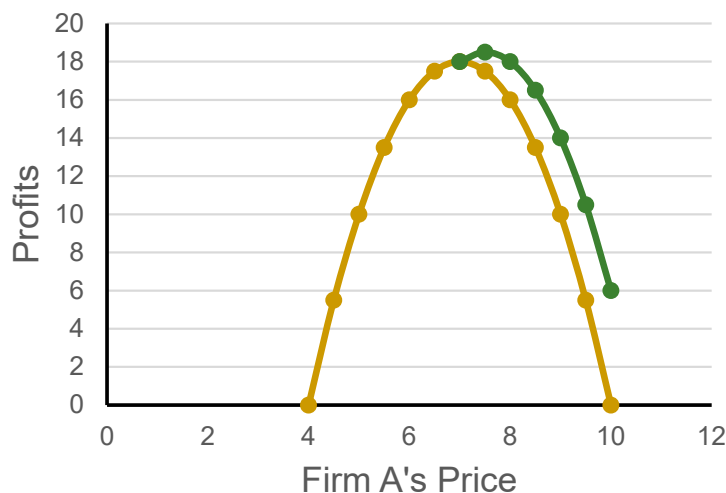
Unilateral effects

■ Example 1 (cont.)

Premerger: Firm A's Profits

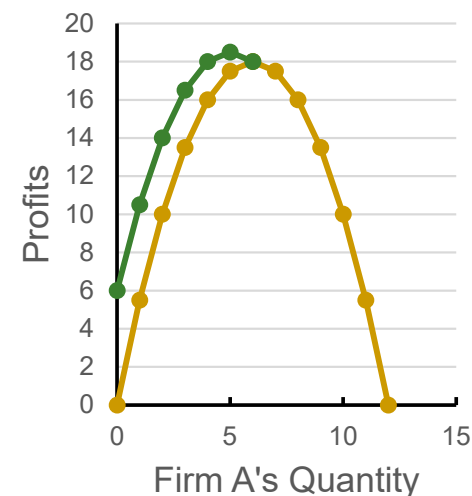
p_A	q_A	$\$m_A$	Profits
0.00	20.000	-4.00	-80.0000
0.50	19.000	-3.50	-66.5000
1.00	18.000	-3.00	-54.0000
1.50	17.000	-2.50	-42.5000
2.00	16.000	-2.00	-32.0000
2.50	15.000	-1.50	-22.5000
3.00	14.000	-1.00	-14.0000
3.50	13.000	-0.50	-6.5000
4.00	12.000	0.00	0.0000
4.50	11.000	0.50	5.5000
5.00	10.000	1.00	10.0000
5.50	9.000	1.50	13.5000
6.00	8.000	2.00	16.0000
6.50	7.000	2.50	17.5000
7.00	6.000	3.00	18.0000
7.50	5.000	3.50	17.5000
8.00	4.000	4.00	16.0000
8.50	3.000	4.50	13.5000
9.00	2.000	5.00	10.0000
9.50	1.000	5.50	5.5000
10.00	0.000	6.00	0.0000

Profits



—●— Premerger: Firm A
—●— Postmerger: Firms A + B

Profits



—●— Premerger: Firm A
—●— Postmerger: Firms A + B

Postmerger: Firms (A + B)'s Profits

(holding B's price constant and including only the incremental profits B earns from diverted sales)

Firm A: Postmerger					Firm B: Postmerger			Combined
Δp_A	p_A	q_A	$\$m_A$	Profits	Δq_B	$\$m_B$	$\Delta \pi_B$	Profits
0.0	7.0	6.0	3.0	18.0	0.0	2	0.0000	18.0000
0.5	7.5	5.0	3.5	17.5	0.5	2	1.0000	18.5000
1.0	8.0	4.0	4.0	16.0	1.0	2	2.0000	18.0000
1.5	8.5	3.0	4.5	13.5	1.5	2	3.0000	16.5000
2.0	9.0	2.0	5.0	10.0	2.0	2	4.0000	14.0000
2.5	9.5	1.0	5.5	5.5	2.5	2	5.0000	10.5000
3.0	10.0	0.0	6.0	0.0	3.0	2	6.0000	6.0000

The acquisition of competitor Firm B creates upward pricing pressure on the price of Firm A's price

Unilateral effects

- What is going on here?
 - With a downward-sloping residual demand curve and a single price, Firm A must reduce its price on all its sales to increase production
 - Firm A's price increase causes some of firm A's customers to divert to B
 - This is called a *positive externality* on B of A's price increase
 - Alternatively, if A had decreased its price, some of B's customers would divert to A, creating a *negative externality* on B
 - An *externality* is a benefit or cost caused by an economic actor that is not suffered or enjoyed by that actor
 - *Example (positive externality)*: A firm's restoration of historic buildings encourages more people to visit the area and patronize nearby businesses
 - *Example (negative externality)*: A firm's pollution diminishes the property values or health of people in the surrounding area
 - When an externality exists, the acting firm does not take into account all of the costs and benefits of its actions when making decisions
 - Internalizing a pricing externality between competitors may reduce competition and harm consumers

When A acquires B, A internalizes the externalities A's decisions impose on B

Unilateral effects: An example

ColaCo and FizzCo, two soft-drink companies, propose to merge. If ColaCo increases the price of Cola Classic, 30% of its lost unit sales divert to FizzCo's Fizz Cola. Although both products sell for \$6.00 per 12-pack, ColaCo earns a dollar margin of \$3.00 on Cola Classic, while FizzCo earns a dollar margin of \$2.50 on Fizz Cola. Would the merged firm impose at least a 5% price increase on Cola Classic if it were to hold the price of Fizz Cola constant?

■ Answer

- The problem invites the use of a one-product SSNIP recapture test to ascertain whether the merged firm would raise Cola Classic's price by at least 5% while holding the price of Fizz Cola constant
- Also, because the question is what the merged firm would do and not just whether it would be profitable, we need to use the profit-maximization version of the HMT. To test whether a price increase of at least 5% would be profit-maximizing, we need to use a SSNIP of 10%
- Create a candidate two-product "market" consisting of Cola Classic and Fizz Cola. The critical recapture rate in the two-firm case is:

$$R_1^{Critical} = \frac{\delta}{m_o} = \frac{\delta p_1}{m_2 p_2} = \frac{\$SSNIP_1}{\$m_2}.$$

- $\$SSNIP = 0.10 \times 6.00 = \0.60
 $\$m_2 = \2.50

- So: $R_1^{Critical} = \frac{\$0.60}{\$2.50} = 24\%$

- Because the actual recapture rate of 30% exceeds the critical recapture rate of 24% for a 10% SSNIP, the merged firm would impose at least a 5% price increase on Cola Classic if it held the price of Fizz Cola constant

Unilateral effects: Requirements

■ Specific Guidelines requirements

□ 1992: Widely understood to require—

1. A substantial number of customers regarded the merging products as their first and second choices, *and*
2. The merging firms had a combined market share of at least 35%

Problem: These screens cabined a theory that otherwise might apply whenever the merging products were substitutes and the recapturing product earned a positive margin, even when remaining competitive constraints made substantial harm unlikely

□ 2010: Removed both conditions as threshold requirements, while retaining closeness of substitution and market shares as relevant evidence

Unilateral effects: Requirements

■ Specific Guidelines requirements (cont.)

□ 2023 Merger Guidelines

■ The 2023 Merger Guidelines provide:

A merger eliminates competition between the merging firms by bringing them under joint control. If evidence demonstrates substantial competition between the merging parties prior to the merger, that ordinarily suggests that the merger may substantially lessen competition.¹

■ Further, the 2023 Guidelines explain:

- Competition may occur through price, quality, features, wages, contractual terms, innovation, or products not yet commercially available

The more the merging parties have shaped one another's behavior, or have affected one another's sales, profits, valuation, or other drivers of behavior, the more significant the competition between them.²

- NB: Evidence of substantial competition between the merging firms supports an inference of harm but does not by itself establish a likely substantial lessening of competition
- The analysis must also consider whether the remaining competitive constraints will prevent the merger from substantially lessening competition

¹ 2023 Merger Guidelines § 2.2 (on Guideline 2).

² *Id.*

Unilateral effects: Evidence

- 2023 Guidelines evidence of competition between the merging firms
 1. Monitoring and strategic decisions
 - Whether each merging firm monitors or responds to the other's prices, products, capacity, marketing, or innovation
 2. Natural experiments
 - How one firm responded to the other's entry, expansion, or exit
 3. Customer substitution
 - Diversion ratios and other evidence that customers switch between the merging firms following changes in price or other terms
 4. Competitive impact
 - How one firm's actions affect the other's sales, profits, or strategic decisions
 5. Postmerger plans and other evidence
 - Merger planning documents and other evidence of how the combined firm expects to operate

No single category is required or necessarily sufficient

¹ 2023 Merger Guidelines § 2.2 (on Guideline 2).

Unilateral effects and market definition

- If a merger creates a unilateral price effect of at least a SSNIP, the hypothetical monopolist test will—
 - define narrow markets around the merging parties, *and thereby*
 - create corresponding high market shares and HHIs

If the merger allows the merged firm profitably to increase the price of one merging product by at least a SSNIP, a candidate market consisting of the merging firms' products satisfies the hypothetical monopolist test. The candidate market may then be expanded as necessary to reflect commercial realities.

- **Consequence:** When the unilateral effect supports a profitable SSNIP—
 1. The relevant markets will be smaller, and
 2. The *PNB* presumption will be stronger (higher HHIs)

Compensating marginal cost reductions (CMCR)

- We know a marginal cost reduction reduces the profit-maximizing price of a firm
- *Query:* What marginal cost reduction would be necessary to offset a one-product unilateral effect when firms A and B merge?
 - Consider the change in the merged firm's profits when it *lowers the price* of Product A to increase A's unit sales, holding the price of Product B constant:

$$\Delta\pi = \Delta R_A - \Delta C_A - \Delta q_B \$m_B$$

where Δq_B is the *loss* of unit sales from B to A

- Evaluate the derivative of the merged firm's profits with respect to Product A's output at the premerger price and output, assuming no marginal cost efficiencies:

$$\underbrace{\cancel{mr_A^{premerger}} - \cancel{mc_A}}_{= 0 \text{ at premerger conditions}} - D_{AB} \$m_B = - D_{AB} \$m_B < 0$$

where $D_{AB} = \Delta q_B / \Delta q_A$

- Since the derivative is less than zero, the merged firm has an incentive to reduce A's output by increasing A's price

This is the standard unilateral effects result

Compensating marginal cost reductions (CMCR)

- Query: What marginal cost reduction would be necessary to offset a one-product unilateral effect when firms A and B merge? (cont.)
 - If the merger reduces A's marginal cost by the proportion e^{CMCR} , restoring the first-order condition at A's premerger output level requires:

$$mr_A - (1 - e^{CMCR})mc_A - D_{AB}\$m_B = 0$$

- Rearranging terms and cancelling $mr_A - mc_A$, which equals zero premerger:

$$\cancel{mr_A} - \cancel{mc_A} + e^{CMCR}mc_A - D_{AB}\$m_B = 0$$

- So

$$e^{CMCR}mc_A = D_{AB}\$m_B$$

- Or

$$e^{CMCR} = \frac{D_{AB}\$m_B}{mc_A}.$$

Rule: If the actual efficiency gain is e , then

$$e \geq e^{CMCR}$$

Upward pricing pressure offset

$$e < e^{CMCR}$$

Upward pricing pressure not offset

Compensating marginal cost reductions (CMCR)

ColaCo and FizzCo, two soft-drink companies, propose to merge. If ColaCo lowers the price of Cola Classic, 30% of its additional unit sales are diverted from FizzCo's Fizz Cola. Cola Classic sells for \$6.00 per 12-pack and has a dollar margin of \$3.00, while Fizz Cola has a dollar margin of \$2.50 per 12-pack. The parties claim that the merger will reduce Cola Classic's marginal cost by 10%. Will that marginal cost efficiency offset the merger's upward pricing pressure on Cola Classic, holding the price of Fizz Cola constant?

- Answer by determining if the claimed marginal cost efficiency equals or exceeds the CMCR
 - Cola Classic's marginal cost is \$6.00 - \$3.00 = \$3.00
 - The compensating marginal-cost reduction is:

$$e^{CMCR} = \frac{D_{AB} \$m_B}{mc_A} = \frac{0.30 \times \$2.50}{\$3.00} = \frac{\$0.75}{\$3.00} = 25\%.$$

- The merger therefore requires a 25% reduction in Cola Classic's marginal cost to offset its upward pricing pressure
- Because the claimed marginal cost reduction is only 10%, it does not offset the upward pricing pressure on Cola Classic

CMCR: An application

- Kroger/Albertsons (2024)¹
 - Plaintiffs' economics expert, Dr. Nicholas Hill, identified 1,472 alleged local markets in which the acquisition was likely to increase prices unless it reduced marginal costs by more than 5%
 - A CMCR below 5% did not imply an absence of competitive harm. Hill used 5% as a conservative screening threshold.²
 - The total reductions in marginal costs that Defendants estimated—regardless of whether such estimates are verified or merger-specific—are less than 1% of Defendants' combined total operating costs
 - WDC: This is not an apples-to-apples comparison. If the estimated savings are marginal cost savings, measuring them against total operating costs understates their percentage effect on marginal costs because total operating costs include fixed costs. If the estimates also include fixed cost savings, however, they may overstate the savings relevant to CMCR.
 - Plaintiffs concluded that the CMCR analysis "confirms that substantial competition will be eliminated and is conservative in using a 5% threshold to reach that conclusion."³

¹ See [Plaintiffs' Memorandum of Law in Support of Plaintiffs' Preliminary Injunction Motion 16, FTC v. Kroger Co., No. 3:24-cv-00347](#) (filed July 26, 2024; redacted version July 30, 2024).

² *Id.* at 17 n.82.

³ *Id.* at 17 (footnote omitted).

Merger Simulation

Merger simulation

■ The basic idea

- Merger simulation estimates postmerger equilibrium prices under a specified model of demand, costs, and competitive behavior
- You have already performed a simple merger simulation
 - In Example 1 on unilateral effects above, using Product A's demand and cost, diversion to Product B, and Product B's margin, we calculated the merged firm's new price for Product A: \$7.00 → \$7.50
- A full merger simulation extends the same logic across all modeled products
 - Demand is estimated or calibrated rather than simply assumed
 - The prices of both merging firms' products may adjust
 - Rivals' prices may also adjust until no firm wants to change its prices
 - Credited marginal-cost efficiencies can be incorporated
- *Output:* Model-implied postmerger price changes for the modeled products

Merger simulation

■ How a merger simulation works

1. *Choose a model of competition*: Usually Bertrand competition, in which each firm selects the prices of all products it owns, taking rival firms' prices as given
2. *Estimate or calibrate demand*: How each product's sales respond to changes in its own price and the prices of competing products
3. *Recover marginal costs*: Assuming the observed prices constitute a premerger equilibrium under the chosen model, the demand estimates and firms' first-order conditions imply marginal costs
 - For single-product firms, the first-order condition reduces to the familiar Lerner condition, $(p - mc)/p = 1/|\varepsilon|$ (where ε is the own elasticity of the firm's residual demand curve)
 - For multiproduct firms, the first-order conditions also account for cross-price effects among the firm's products
4. *Change ownership*: Place the merging products under common ownership so that the merged firm internalizes the profits recaptured on diverted sales
5. *Solve for the postmerger equilibrium*: The set of prices at which no firm could increase its profits by changing one or more of its own prices
6. (If applicable): *Add credited efficiencies and solve again*: The CMCR is the cost reduction that would leave the predicted price unchanged

Merger simulation

■ Problems with merger simulation

- Only as reliable as the model, data, parameter estimates, and assumptions used in the simulation
- Simplifying assumptions—such as linear demand or diversion proportional to market shares—reduce the data needed, but make the results depend more heavily on whether those assumptions fit the market
- Simulations commonly isolate short-run pricing incentives and may omit
 - Product repositioning and innovation
 - Entry and expansion
 - Competitors' responses other than price changes (including any move toward coordination)
 - Nonprice dimensions of competition
- Sensitivity and robustness testing are therefore essential
- Comparatively few studies directly compare a simulation's predictions with the realized effects of the consummated merger (i.e., little validation)
- 2023 Merger Guidelines
 - The Agencies use simulations "to give an indication of the scale and importance of competition, not to precisely predict outcomes"
 - A simulation may capture only selected aspects of the competition eliminated by the merger

Courts generally treat merger simulations as corroborative rather than dispositive evidence

Merger simulation in *H&R Block*

- **Court:** Merger simulation also shows likely unilateral price increase
 - Warren-Boulton performed a linear-demand Bertrand simulation of the proposed H&R Block/TaxACT merger
 - Principal inputs included
 - Price-cost margins
 - Diversion between the merging firms' products
 - Units sold and average revenue per unit
 - Predicted price increases absent efficiencies
 - Using market-share-based diversion:
 - TaxACT 12.2%
 - H&R Block 2.5%
 - Using IRS switching data (DDIY-to-assisted switching discounted by half):
 - TaxACT 10.5%
 - H&R Block 2.2%
 - **Query:** Why is TaxACT's predicted price increase about five times H&R Block's?
 - Diversion is roughly symmetric: 12% from TaxACT to H&R Block, and 14% from H&R Block to TaxACT, using market shares
 - The difference is in the value of a recaptured customer: A TaxACT customer who switches to a higher-priced H&R Block product is worth more to the merged firm than an H&R Block customer who switches to TaxACT

Merger simulation in *H&R Block*

■ Testing the simulation

Defendants' critique	Response or court's treatment
Switching data do not measure diversion, and halving DDIY-to-assisted switching was arbitrary	<i>Court:</i> The discount "appears imprecise," but undiscounted switching still predicted significant harm, and share-based diversion produced similar results
Share-based diversion is circular because the shares come from a market definition that relied on the switching data	<i>Court:</i> Its DDIY market finding did not depend on Warren-Boulton's analysis
The model predicts a price increase whenever diversion is positive	<i>W-B:</i> Economic theory predicts some increase absent efficiencies, which makes it "not a deficiency, but a strength" of the model
A static model cannot explain free products and omits innovation and marketing	<i>W-B:</i> Free products earn positive average revenue through paid add-ons, which the model reflects; every model simplifies, and there is no reason to assume the omissions negate the predicted price effect

Merger simulation in *H&R Block*

■ Court:

- Characterized the simulation as "an imprecise tool," but found that it had "some probative value"
- Used only to corroborate the documentary, testimonial, and other evidence that the merger was likely to increase prices

■ Effective criticisms of a simulation

- *Sensitivity*: Correcting an input or assumption changes the prediction of harm
- *Implausibility*: The model implies economically irrational or implausible results, such as an upward-sloping demand curve, negative implied marginal costs, a price decrease where theory predicts an increase, or price increases that defy common sense
- *Poor fit*: The model cannot reproduce observed premerger conduct, as in the defendants' argument that the model could not explain free products

An implausibility or poor-fit attack can defeat a simulation without the defendants offering a competing forecast

GUPPIs and One-Product Price Predictions

Gross Upward Pricing Pressure Index (GUPPI)

- Under the standard assumptions used in this course, a GUPPI turns the one-product SSNIP recapture test around
 - The SSNIP test begins with a specified price increase and asks whether the profit on recaptured sales makes that increase profitable
 - The GUPPI begins with the diversion ratio and Product 2's dollar margin and calculates the percentage increase in Product 1's price at which the profit on recaptured sales exactly offsets the net profit lost on Product 1
- Under our standard assumptions—
 - GUPPI equals the breakeven one-product percentage price increase
 - $\text{GUPPI}/2$ equals the profit-maximizing one-product percentage price increase

GUPPIs

■ Gross Upward Pricing Pressure Index (GUPPI)

□ Definition:

$$GUPPI_1 = D_{12} \frac{\$m_2}{p_1} = D_{12} m_2 \frac{p_2}{p_1}$$

Remember, the one-product SSNIP recapture formula for critical recapture:

$$R_{Critical}^1 = \frac{\delta p_1}{\$m_2}$$

where $GUPPI_1$ is the GUPPI for Product 1 in a merger with Product 2, D_{12} is the diversion ratio from Product 1 to Product 2, m_2 is the percentage margin of Product 2, and p_1 and p_2 are the premerger prices of Products 1 and 2, respectively

■ Using GUPPIs in antitrust merger analysis

- A GUPPI measures the gross incentive created by the merger to increase the price of a merging product; it does not, by itself, predict the postmerger price increase
- BUT under linear demand, constant marginal cost, and with all other prices held constant, the predicted profit-maximizing percentage price increase for Product 1 is $GUPPI_1 / 2$

GUPPI/2 price predictions

■ GUPPI/2: One-product price-increase example

- Say firms 1 and 2 are merging in a differentiated products market and have the following characteristics:

	Price (p)	%Margin (m)	Margin (\$m)	Diversion Ratio (D)
Product 1	\$1.20	50.0%	\$0.60	$D_{12} = 30.0\%$
Product 2	\$1.00	60.0%	\$0.60	$D_{21} = 40.0\%$

- Apply the GUPPI formula for a one-product price increase:

$$GUPPI_1 = D_{12} \frac{\$m_2}{p_1} = 0.30 \left(\frac{\$0.60}{\$1.20} \right) = 15\% \quad GUPPI_2 = D_{21} \frac{\$m_1}{p_2} = 0.40 \left(\frac{\$0.60}{\$1.00} \right) = 24\%$$

- This yields:

Product <i>i</i>	$GUPPI_i$	$GUPPI_i/2$
Product 1	15.00%	7.50%
Product 2	24.00%	12.00%

- Under linear demand and constant marginal cost, absent efficiencies and holding all other prices constant, the model-implied one-product price increases are 7.5% for Product 1 and 12.0% for Product 2
 - These are not full-equilibrium predictions because each calculation holds the other product's price constant

GUPPIs

■ Some observations

- The GUPPI is a cardinal measure of merger-created *upward pricing pressure*
 - A 10% GUPPI represents twice the opportunity cost, relative to price, of a 5% GUPPI
 - However, that does not mean the resulting price increase will be twice as large because the profit-maximizing response also depends on demand and the responses of other prices
- The GUPPI is a *unilateral measure* because it isolates the merged firm's incentive to raise one product's price without requiring coordination with rivals
- The GUPPI is a *gross measure* because it does not deduct marginal-cost efficiencies
- The GUPPI is *directional*: $GUPPI_1$ may differ from $GUPPI_2$ because diversion ratios, prices, and margins may differ by direction
- The GUPPI and CMCR use the same recaptured-margin numerator but different denominators: GUPPI divides by Product 1's price, while CMCR divides by Product 1's marginal cost
 - Recall that in the ColaCo problem, the same \$0.75 recaptured margin ($0.30 \times \2.50) is 12.5% of Cola Classic's \$6.00 price (GUPPI) but 25% of its \$3.00 marginal cost (CMCR)

GUPPIs and merger simulation

■ GUPPI/2 under linear demand

- We know that when a firm's residual demand curve is linear, marginal cost is constant, and δ_1 is the breakeven percentage SSNIP, then $\delta_1/2$ is the firm's unilateral profit-maximizing percentage price increase
- *Key result:* With linear residual demand, constant marginal cost, and an initial premerger profit-maximizing price, the profit-maximizing increase is half the breakeven increase holding the price of the other product constant:

$$\frac{GUPPI_1}{2} = \frac{D_{12}m_2}{2} \frac{p_2}{p_1}$$

- *Important:* This is a one-product price calculation, not a full postmerger equilibrium
 - The $GUPPI_1/2$ calculation holds Product 2's price constant, but after the merger, the combined firm generally chooses the prices of Products 1 and 2 jointly
 - An increase in Product 2's price may divert additional sales to Product 1 and change Product 1's profit-maximizing price
 - In the standard linear-demand Bertrand model with substitute products, allowing both merging-product prices to adjust generally produces larger increases than the separate GUPPI/2 predictions
 - A full merger simulation also permits rivals' prices to respond

GUPPIs

■ Merger Guidelines

- Section 6.1 of the 2010 Horizontal Merger Guidelines analyzed the value of diverted sales relative to Product 1's lost revenue and illustrated unilateral effects with a numerical example (Example 19), but did not use the term "GUPPI"
- Section 4.2.B of the 2023 Merger Guidelines retains the ratio of diverted-sales value to lost revenue as an indicator of upward pricing pressure, but does not use the term "GUPPI" or provide a numerical example

Neither the 2010 nor the 2023 Guidelines establishes a particular GUPPI as a dispositive legal threshold