
Unit 10: H&R Block/TaxACT

CLASS 16 SLIDES

For October 29, 2019

Part 1. Market Definition

Part 2. Anticompetitive Effects

Merger Antitrust Law

Georgetown University Law Center

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TaxAct[®]

Aggregate diversion analysis

■ Evolution in the Merger Guidelines

- 1982 Merger Guidelines
 - Required that all products in the provisional market be increased by the same percentage SSNIP
- 1992 Merger Guidelines
 - Allowed price discrimination in the SSNIP, at least where the premerger market exhibited some price discrimination (and sometimes when the postmerger market arguably would exhibit price discrimination even if the premerger market did not)
- 2010 Merger Guidelines
 - After the 2010 Merger Guidelines, some economists—including agency economists in court proceeding—used price-discriminating SSNIPs in any differentiated products markets
 - A *one-product SSNIP* creates the most narrow relevant markets, since internalizes the maximum amount of diversion
 - The *aggregate diversion ratio* method can whether a candidate market satisfies the hypothetical monopolist test under a one-product SSNIP

Aggregate diversion analysis

■ Diversion ratios

- The metric of interest in aggregate diversion analysis is the *diversion ratio*
- Definition (when firm A raises in price):

$$D_{A \rightarrow B} \equiv D_{AB} = \frac{\Delta q_B}{\Delta q_A}$$

where firm A loses total sales of Δq_A , of which Δq_B go to firm B

■ *Careful:*

- The definition of diversion ratios is motivated by A's price *increasing*
- How are diversion ratios estimated?
 - Data collected during the regular course of business
 - Indications in the company documents
 - Consumer surveys
 - Market shares as proxies
 - Assumes that customers divert in proportion to the market shares of the competitor firms:

$$D_{A \rightarrow B} = \frac{s_b}{1 - s_A},$$

where s_A and s_B are the markets shares of firms A and B, respectively, in the market

- Demand system estimation/econometrics

Aggregate diversion analysis

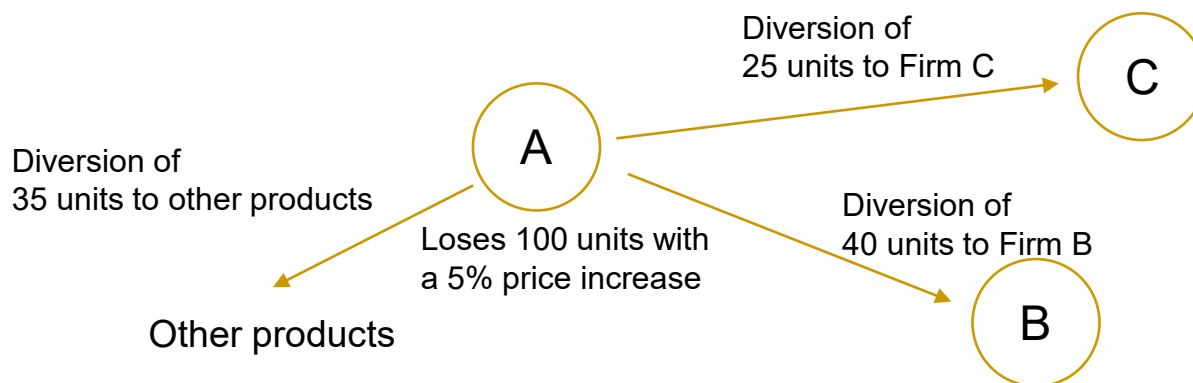
■ Diversion ratios: Illustration

- Firm A raises its price by 5% and loses 100 units
 - 40 units divert to Firm B
 - 25 units divert to Firm C
 - 35 units divert to other products
- Then:

$$D_{A \rightarrow B} = \frac{40}{100} = 0.40 \text{ or } 40\%$$

$$D_{A \rightarrow C} = \frac{25}{100} = 0.25 \text{ or } 25\%$$

Since $D_{A \rightarrow B} > D_{A \rightarrow C}$,
B is a closer substitute
to A than C



Aggregate diversion analysis

■ Diversion ratios

□ How are diversion ratios estimated?

- Data collected during the regular course of business (including win-loss data)
- Indications in the company documents
- Consumer surveys
 - But very sensitive to survey design and customer ability to accurately predict product choice in the presence of a price increase
- Switching shares as proxies
 - Where switching behavior is not limited to reactions to changes in relative price
 - *Example:* H&R Block/TaxACT (where the court accepted a diversion the analysis based on IRS switching data only as corroborating other evidence)
- Demand system estimation/econometrics
 - Econometric estimation of all own- and cross-elasticities of all interacting firms
 - Usually possible only in retail deals where point-of-purchase scanner data is available
- Market shares as proxies: Relative market share method
 - Assumes that customers divert in proportion to the market shares of the competitor firms (after adjusting for any out-of-market diversion):

$$D_{A \rightarrow B} = \left(1 - \frac{\Delta q_{outside}}{\Delta q_A} \right) \frac{s_B}{1 - s_A},$$

where s_A and s_B are the market shares of firms A and B, respectively, in the market and $\frac{\Delta q_{outside}}{\Delta q_A}$ is the percentage of Firm A's lost sales that are diverted to firms outside of the market

Aggregate diversion analysis

- Warren-Boulton's derivation of diversion ratios in H&R Block/TaxACT

- Used market shares to estimate diversion ratios

- Recall

- $s_{HRB} = 15.6\%$

- $s_{TaxACT} = 12.8\%$

- So

$$D_{HRB \rightarrow TaxACT} = \frac{12.8\%}{1 - 15.6\%} = 15.2\%$$

$$D_{TaxACT \rightarrow HRB} = \frac{15.6\%}{1 - 12.8\%} = 17.9\%$$

- Interestingly, the court reported these diversion ratios as 14% and 12%

- Warren-Boulton probably had some diversion to an outside option that was not given by the court

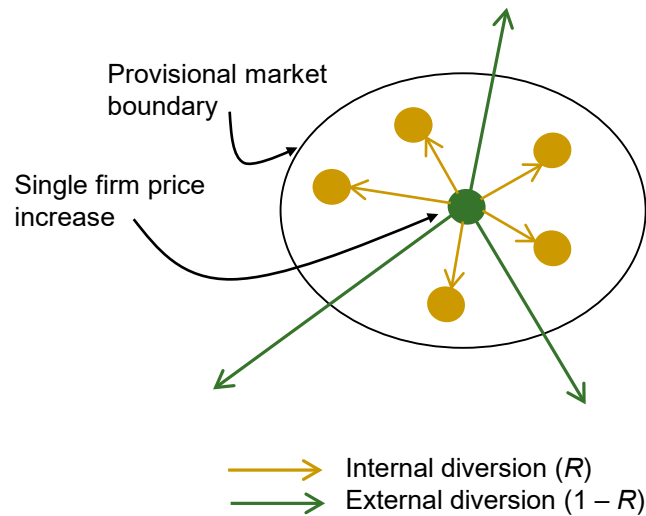
- An outside option (assisted and manual) of 17% for HRB gives $D_{HRB \rightarrow TaxACT} = 14\%$

- An outside option (assisted and manual) of 10% for TaxAct gives $D_{TaxACT \rightarrow HRB} = 12\%$

“Aggregate diversion ratio”

■ Definition

- The percentage of total sales lost by a product in the wake of a uniform SSNIP that is captured by all of the other products inside the provisional market.



- **Key result:** If the aggregate diversion ratio is greater than or equal to the percentage critical loss for a uniform SSNIP across all products in the provisional market, the provisional market satisfies the hypothetical monopolist test:

$$R \equiv \frac{\Delta q_{inside}}{\Delta q} \geq \frac{\Delta q^*}{q} = \frac{\delta}{\delta + m} \Rightarrow \text{Hypothetical monopolist test is satisfied}$$

“Aggregate diversion ratio”

- Extension to single product recapture rates

- Define the critical recapture rate R_{cl} as:

$$R_{cl} = \frac{\delta}{\delta + m}.$$

- Rule:

If $\min_i R_i \geq R_{cl}$, then $R \geq R_{cl}$ and so $L < \%CL$.

- Example

- Assume a three-product candidate market. Each product has a margin of 35%. Assume a uniform SSNIP of 5% across all products. Then $R_{cl} = 12.5\%$.
- Suppose that the SSNIP generates the following recapture rates:

Product	q	Δq	Recapture	
			Units	Rate (R)
A	300	90	20	22.22%
B	400	125	40	32.00%
C	500	200	35	17.50%

- Applying extension, since the smallest R_i (17.5%) is greater than R^* (12.5%), a hypothetical monopolist can profitably sustain a 5% uniform price and so the three products are a relevant market

“Aggregate diversion ratio”

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C	500	200	35	17.50%
Total	1200	415	95	22.89%

Note: The test works because R is a share-weighted linear combination of the R_i s.

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“Aggregate diversion ratio”

■ Warren-Bolton analysis in H&R Block/TaxACT

1. Question: Is DDIY a relevant market?
2. *Critical aggregate diversion ratio* (R_{cl}): Use percentage critical loss formula
 - Starting point: Start with DDIY products (HRB, TaxACT, and TurboTax)
 - SSNIP (δ): 10%
 - Gross margin (m): 50% on each product

$$R_{cl} = \frac{\delta}{\delta + m} = \frac{10\%}{10\% + 50\%} = 16.7\%$$

3. *Actual loss*: Determine aggregate diversion ratios (recapture rates R) for each product
 - *Test*: If each $R_i \geq R_{cl}$, then product grouping is a market
 - Using IRS switching data as a proxy for R , Warren-Bolton found:
 - HRB: $R_{HRB} = 57\%$
 - TaxACT: $R_{TaxACT} = 53\%$
 - TurboTax: $R_{TurboTax} = 39\%$
4. Conclusion (Warren-Bolton)
 - Since each $R_i > R_{cl}$, a hypothetical monopolist of the DDIY product could profitably raise price by a SSNIP and therefore DDIY was a relevant product market

Aggregate diversion/recapture analysis

- Merging parties' criticism:
 - Using critical loss analysis, HRB+Intuit and HRB+TaxACT alone are both smaller relevant markets
 - Tried to discredit use of CLA (through reductio ad absurdum)
 - Remember: The defendants were arguing for larger markets, not smaller markets
- Warren-Boulton response:
 - Markets need to make sense
 - These smaller markets do not make sense
 - Presumably in light of functional similarities and document evidence
- Court:
 - Warren-Boulton's critical loss analysis is supportive of DDIY as the relevant market, but not dispositive

Merger Simulation

Merger simulation

■ Warren-Boulton

- In addition to critical loss analysis, used “merger simulation” to predict price increases resulting from the merger to test whether a hypothetical monopolist would increase prices postmerger more than a SSNIP

■ Warren–Boulton results

- Used Bertrand pricing model
- Predicted price increases—
 - TaxACT 83%
 - HRB 37%
 - TurboTax 11%

■ Court

- Confirms DDIY as a relevant market
 - But discusses in competitive effects analysis

As did the Court, we will defer an examination of the Warren-Boulton simulation model until the anticompetitive effects analysis

Defendants' Market Definition Rebuttal

Dr. Christine Meyer

- Two lines of attack:
 1. Warren-Boulton's analysis is unreliable
 2. More reliable analysis shows that the relevant product market is all tax preparation methods

Warren-Boulton's analysis is unreliable

1. IRS switching data did not test for cross-price elasticity

- ❑ Merging parties' primary critique
- ❑ Court:
 - Agreed, but still probative when keeping the limitations in mind (especially since it is the best data available)—but not conclusive

2. DDIY excludes assisted (closest substitute to HRB) and manual (closest to TaxACT)

- ❑ Meyer used “simulated diversion data” (from survey) to detect close substitutes
- ❑ Court:
 - Survey data unreliable (omitted prices for many choices)
 - Meyer erred in aggregating all assisted into one product and all manual into one product, while disaggregating within DDIY

3. Even using IRS switching data, RWB did not include all closest substitutes

- ❑ Court: Not correct if products are properly disaggregated:
 - HRB: 56.8% to DDIY; 36.9% to assisted; 6.3% to manual
 - TaxACT: 52.7% to DDIY; 40.1% to assisted; 7.3% to manual

Meyer's affirmative market definition case

1. Review of party documents (rejected by court)
2. Assisted is the most popular method across complexity levels
 - Simple returns: 44% assisted
 37% DDIY
 - Court:
 - Still correlates with complexity
 - Says nothing about how consumers would switch in the wake of a SSNIP

Meyer's affirmative market definition case

3. "Pricing simulator" (dynamic excel spreadsheet)

- Developed by HRB in 2009—uses discrete choice survey of 6119 respondents
- Choices:
 - Online DIY
 - Software DIY
 - CPA/accountant
 - Manual (including friends/family)
- Meyer
 - Used simulator to calculate diversion ratios
 - Found HRB largest diversion to CPA/accountant, second largest to manual
- Court: Analysis critically flawed
 - Not all of the options in the survey had prices associated with them (including CPA/accountant HRB retail office, pen & paper)
 - Respondents appear not to have appreciated or considered price differences → renders analysis unreliable
- Warren-Boulton
 - Pricing simulator also has demand increasing for some products (TaxCut Online Basic) with price increases (violates assumption of downward-sloping demand curve)
 - Some results inconsistent and anomalous

Meyer's affirmative market definition case

4. 2011 email survey of TaxACT customers

- Jointly commissioned by TaxACT and HRB
- One primary question: “If you had become dissatisfied with TaxACT's price, functionality, or quality, which of these products or services would you have considered using to prepare your federal taxes?”
- Provided a list of options and asked respondent to select—
 - all applicable alternative options, and
 - The respondent's top choice
- Sent out 46,899 requests—ultimately 1089 responded
- Survey results showed that—
 - 27-34% would switch to manual
 - 4-10% to HRB At Home
- Meyer: Shows that TaxACT and HRB are not close substitutes
- Dr. Ravi Dhar (FTC's rebuttal expert)
 - Survey asks about switching, not diversion in response to price changes
 - IRS data does same and is much more complete and extensive
- Court:
 - Survey is not reliable – REJECTED
 - Other critiques (e.g., high level of nonresponses (>98%) could have biased result)

Conclusion on expert testimony

- Court:
 - Viewed Warren-Boulton analysis as more persuasive generally
 - With Meyer's testimony based on the pricing simulator and email survey rejected, little else remains of her affirmative market definition testimony
 - Although RWB analysis is not conclusive, it tends to confirm conclusions drawn from other evidence in the case

Court finding of fact: DDIY is the relevant product market

Anticompetitive Effects

Part 2. The *PNB* Presumption

Introduction

- Likely competitive effect
 - Having established the dimensions of the relevant market in which to assess the merger, the next step was to assess the merger's likely competitive effect in this market
- *Baker Hughes*
 - Recognizes that a prima facie showing of the requisite anticompetitive effect may be made through the *Philadelphia National Bank* presumption
- The *PNB* presumption

Specifically, we think that a merger which **produces a firm controlling an undue percentage share of the relevant market**, and **results in a significant increase in the concentration of firms** in that market is so inherently likely to lessen competition substantially that it must be enjoined in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects.”¹

¹ United States v. Philadelphia National Bank, 374 U.S. 321, 363 (1963).

The *PNB* presumption

- Court uses the Merger Guidelines thresholds as triggers for the *PNB* presumption

	Premerger Shares	HHI Contribution	
Intuit	62.2%	3869	The square of the firm's market share
HRB	15.6%	243	
TaxACT	12.8%	164	
Others (6)	9.4%	15	Residual share (9.4%) divided by 6 firms and added six times
	100.0%	4291	The sum of the squared shares of all of the firms in the market
Combined share	28.4%		
Premerger HHI		4291	
Delta		400	$2 \times \text{HRB share} \times \text{TaxACT share}$
Postmerger HHI		4691	

“Violates” the 2010 Guidelines:
Postmerger HHI exceeds 2500 and delta exceeds 200

Note: Court appears to have assumed that six equal-sized firms are in the “other” category

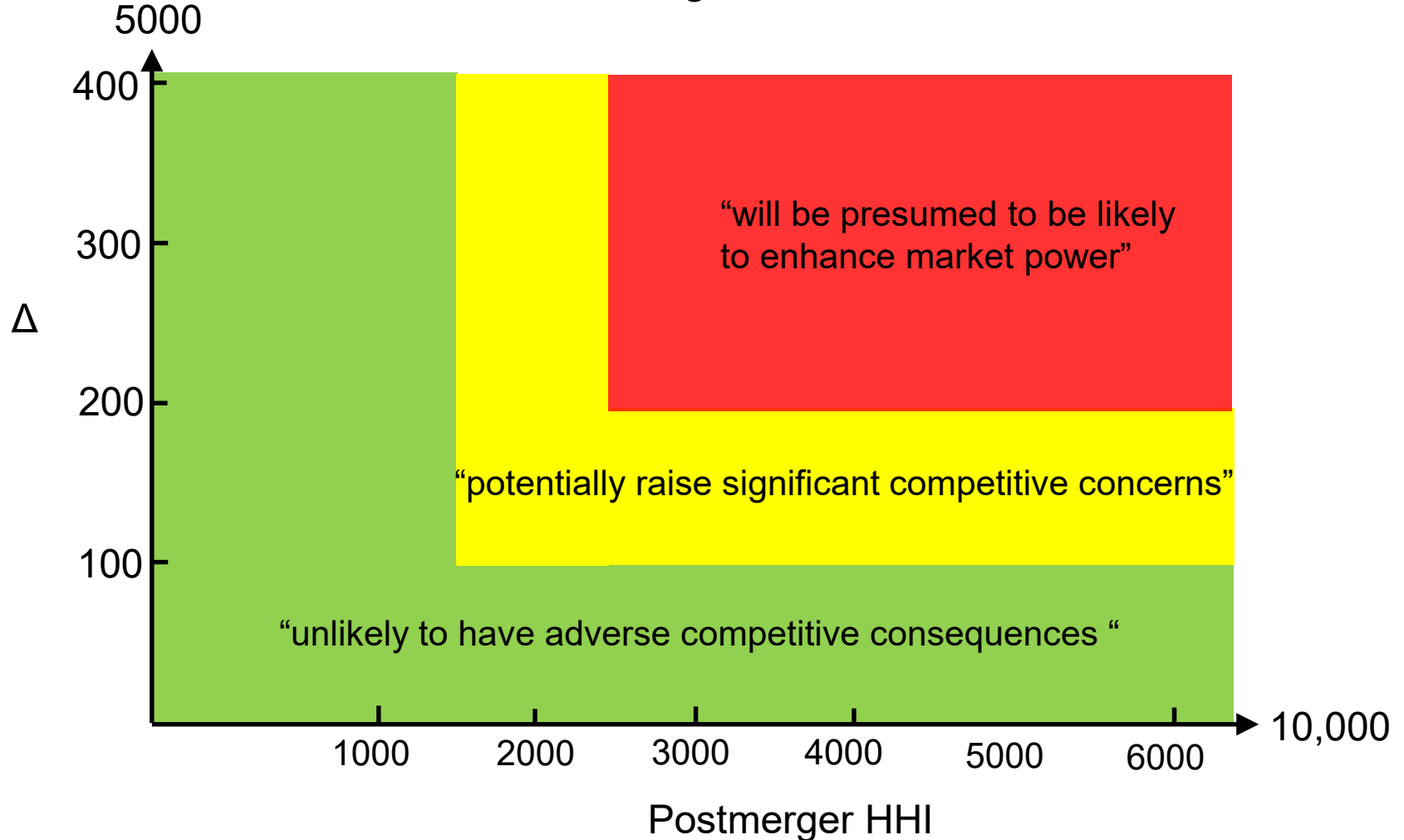
The *PNB* presumption

- The 1982 Merger Guidelines
 - Provided new market share thresholds to be used by the DOJ based on:
 - The change in the HHI (the “delta”) resulting from the merger, and
 - The postmerger HHI
- The 2010 Merger Guidelines: Current thresholds

Postmerger HHI	Δ HHI	Guidelines
< 1500	< 100	“unlikely to have adverse competitive consequences and ordinarily require no further analysis”
	--	“unlikely to have adverse competitive consequences and ordinarily require no further analysis”
Between 1500 and 2500	\geq 100	“potentially raise significant competitive concerns and often warrant scrutiny”
> 2500	100-200	“potentially raise significant competitive concerns and often warrant scrutiny”
	\geq 200	“will be presumed to be likely to enhance market power. The presumption may be rebutted by persuasive evidence showing that the merger is unlikely to enhance market power.”

The *PNB* presumption

- The current thresholds: 2010 Merger Guidelines



Homework problem 1

■ Firms A and C merge

	Share	HHI Contribution
Firm A	33%	1089
Firm B	25%	625
Firm C	23%	529
Firm D	19%	361
	100%	2604
Combined share	56%	
Premerger HHI		2604
Delta		1518
Postmerger HHI		4122

- Where does the merger fall in the 2010 Merger Guidelines?
 - Postmerger HHI > 2500 and delta > 200: Presumed to be likely to enhance market power”
- Where does the merger fall under case law precedent?
 - Compared to the litigated cases, the postmerger HHI is low but the delta is high enough to be within the case precedent for a triggering the *PNB* presumption
- Looking only at the HHI analysis, should the merger be challenged? Why?
 - Yes. Under the Guidelines and the case precedent, the HHIs make out a well-supported prima facie case of anticompetitive effect.

Homework problem 2

■ Firms A and D merge

	Share	HHI Contribution
Firm A	53%	2809
Firm B	15%	225
Firm C	8%	64
Firm D	4%	16
Others (4)	20%	100
	100%	3214
Combined share	57%	
Premerger HHI		3214
Delta		424
Postmerger HHI		3638

- Where does the merger fall in the 2010 Merger Guidelines?
 - Postmerger HHI > 2500 and delta > 200: Presumed to be likely to enhance market power”
- Where does the merger fall under case law precedent?
 - Compared to the litigated cases, both the postmerger HHI and the delta are a little low.
- Looking only at the HHI analysis, should the merger be challenged? Why?
 - Probably not. Unless Firm D is a maverick, the court is likely to say that the addition of four percentage points of market share is unlikely to materially change the market equilibrium postmerger.

Homework problem 3

- Firms A and B merge, but sell a plant to Firm C accounting for 10 percentage points of market share in a "fix-it-first"

	Premerger		Postmerger (w/fix)	
	Share	HHI Contribution	Share	HHI Contribution
Firm A	70%	4900	85%	7225
Firm B	25%	625	--	
Firm C	5%	25	15%	225
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	100%	5550	100%	7450
Combined share			85%	
Premerger HHI				5550
Delta				1900
Postmerger HHI				7450

- Where does the merger fall in the 2010 Merger Guidelines?
 - Postmerger HHI > 2500 and delta > 200: Presumed to be likely to enhance market power"
- Where does the merger fall under case law precedent?
 - Compared to the litigated cases, both the postmerger HHI and delta are well within the ranges that the courts have found to trigger the *PNB* presumption
- Looking only at the HHI analysis, should the merger be challenged? Why?
 - Yes. Under the Guidelines and the case precedent, the HHIs make out a strong prima facie case of anticompetitive effect. The "fix" does not work.

Homework problem 4

- Firms A and B merge, but are willing to sell a plant to Firm C in a "fix-it-first" to solve any antitrust concerns
 - a. Does it matter whether the divested plants come from Firm A or Firm B?
 - No. In calculating the postmerger HHI, the combined firm will contribute the square of its market share. Whether the divested market share comes from Firm A or Firm B will not matter.

Homework problem 4

- b. What do you recommend as the minimal share point divestiture under the 2010 Merger Guidelines? Why?
- If we want the HHIs to be in a safe harbor under the Merger Guidelines, we need to get either the postmerger HHI under 1500 or the delta under 100. There is no divestiture to Firm C that will yield this result. Even divesting the entirety of Firm B to Firm C creates a Merger Guidelines violation because of the increase in the HHI due to Firm C's postmerger contribution:

	No fix		Guidelines Postmerger (w/fix)	
	Share	HHI Contribution	Share	HHI Contribution
Firm A	35%	1225	35%	1225
Firm B	30%	900	--	
Firm C	14%	196	44%	1936
Firm D	5%	25	5%	25
Others (4)	16%	64	16%	64
	100%	2410	100%	3250
Complete divestiture of Firm B			30%	
Combined share		65%	35%	
Premerger HHI		2410		2410
Delta		2100		840
Postmerger HHI		4510		3250

Homework problem 4

- c. What do you recommend as the minimal share point divestiture under the case law? Why?
 - Again, for the same reasons as before, even divesting the entirety of Firm B to Firm C creates a problem under the case precedent because of the increase in the HHI due to Firm C's postmerger contribution

Market participants¹

- The idea

- Under the Merger Guidelines, only demand-side substitutability counts in market definition
- BUT who participates in the market—and their associated market shares—does take supply-side substitutability into account

Note: Historical precedent allows courts to take supply-side substitutability into account when defining markets

¹ See 2010 Merger Guidelines § 5.1.

Market participants

■ Market participants

1. All firms that currently earn revenues in the relevant market
2. Vertically integrated firms to the extent that they would divert production from captive use to merchant sales in response to a SSNIP
3. Firms not currently earning revenues in the relevant market but have committed to entering the market in the near future
4. Firms that are not current producers in a relevant market but would very likely provide a rapid supply response to a SSNIP
 - The 2010 Merger Guidelines limit these “rapid entrants” to those firms whose entry do not require significant sunk costs
 - The 1992 Guidelines called these firms “uncommitted entrants”¹

■ *Example:*

Farm A grows tomatoes halfway between Cities X and Y. Currently, it ships its tomatoes to City X because prices there are two percent higher. Previously it has varied the destination of its shipments in response to small price variations. Farm A would likely be a rapid entrant participant in a market for tomatoes in City Y.²

- NB: Entry that would take place more slowly in response to adverse competitive effects, or that requires firms to incur significant sunk costs, is considered in the entry defense analysis, not as market participation

¹ See 1992 Merger Guidelines § 1.32.

² 2010 Merger Guidelines § 5.1 (example 16).

Market share attribution¹

■ Current sellers

- Normally based on recent historical level of sales
 - Homogeneous products are usually measured in units
 - Reflects Cournot competition, where production levels are the firm's control variable
 - Differentiated products are usually measured in revenues
 - Reflects Bertrand competition, where price is the firm's control variable
- Adjustments
 - Recent or ongoing changes in a firm's condition may indicate that the historical measures either understates or overstates the firm's future competitive significance
 - *Example:* Firm A, which operates close to full capacity, has just developed a new technology, which will enable it to increase production by 20%
 - *Example:* One of Firm B's plants was recently destroyed by a fire, which will reduce the firm's production levels in the future
 - The Merger Guidelines envision adjustments to historical measures based on changed conditions when these adjustments can be reliably made

¹ See 2010 Merger Guidelines § 5.2.

Defendants' Rebuttal Arguments

Defendants' rebuttal arguments

■ *Baker Hughes*

The basic outline of a section 7 horizontal acquisition case is familiar. [1] By showing that a transaction will lead to undue concentration in the market for a particular product in a particular geographic area, the government establishes a presumption that the transaction will substantially lessen competition. **[2] The burden of producing evidence to rebut this presumption then shifts to the defendant.** [3] If the defendant successfully rebuts the presumption, the burden of producing additional evidence of anticompetitive effect shifts to the government, and merges with the ultimate burden of persuasion, which remains with the government at all times.¹

- In Step 2 of *Baker Hughes* three-step burden shifting, the defendant bears the burden of production to rebut the plaintiff's prima facie case
 - The burden of production requires the defendant to adduce sufficient evidence to put the prima facie case in issue and create a question of fact for the trier of fact
 - The quantum of evidence required depends on the strength of the plaintiff's prima facie case: "The more compelling the prima facie case, the more evidence the defendant must present to rebut it successfully."²

¹ United States v. Baker Hughes Inc., 908 F.2d 981, 982-83 (D.C. Cir. 1990) (footnote and internal citations omitted).

² *Id.* at 991.

Defendants' rebuttal arguments

- Four arguments
 1. The likelihood of expansion by existing DDIY firms besides Intuit, HRB, and TaxACT will offset any anticompetitive effects
 2. The relevant market is not susceptible to coordination and the merger will not increase the probability of effective coordination interaction
 3. The merger will not result in anticompetitive unilateral effects
 4. The efficiencies resulting from the merger will offset any anticompetitive effects

Defendants' rebuttal arguments

- Note on opinion's structure:
 - H&R Block/TaxACT court concluded its analysis of the DOJ's prima facie case with nothing more than the *PNB* presumption
 - It did not go on as does the 2010 DOJ/FTC Horizontal Merger Guidelines and look at other evidence the DOJ presented to bolster the *PNB* presumption
 - Rather:
 - It flipped the express theory and supporting evidence of anticompetitive harm into the second stage of the *Baker Hughes* burden-shifting paradigm, and
 - Placed the burden on the defendants of going forward with evidence showing that the coordinated effects and unilateral theories of anticompetitive harm do *not* apply in the case
 - Still, the burden on the defendants was one only of production; the burden of persuasion remained on the plaintiffs in Step 3
 - Subsequent opinions have placed the analysis of coordinated and unilateral effects after the *PNB* presumption in the section analyzing the DOJ's prima facie case (i.e., in the first stage of *Baker Hughes*)