

MERGER ANTITRUST LAW

LAWJ/G-1469-05
Georgetown University Law Center
Fall 2021

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CLASS 14 WRITTEN ASSIGNMENT—INSTRUCTOR’S ANSWER

Instructions

Submit by email by 3:00 pm on Tuesday, October 19

Send to wdc30@georgetown.edu

Subject line: Merger Antitrust Law: Assignment for Class 14

Assignment: Calls for answers to questions (not in a memo form)

1. Products A and B are being tested as a candidate market. The market price for each unit of either product is \$300, each type of product as a constant incremental cost of \$160 per unit and each product type has aggregate sales of 1000 units. When the price for both products is increased by \$15, each firm loses 100 units to products other than A and B. What is the critical loss for the candidate market of products A and B? Do A and B constitute a relevant market under the hypothetical monopolist test using critical loss analysis and SSNIP of 5%?

2. In *FTC v. Occidental Petroleum Corp.*, No. 86-900, 1986 WL 952 (D.D.C. Apr. 29, 1986), the FTC challenged the pending acquisition by Occidental Petroleum, a major producer of polyvinyl chloride (“PVC”), of Tenneco’s PVC business. Both companies produced PVC in plants in the United States. The parties agreed that the relevant product markets were suspension homopolymer PVC and dispersion PVC, and the PI proceeding focused largely on the relevant geographic market. The FTC alleged that the relevant geographic market was the United States for both types of products; the merging parties argued that the relevant geographic market was worldwide. In the Section 13(b) proceeding for a preliminary injunction, the evidence showed that if the price of all suspension homopolymer PVC produced in the United States was increased by 5%, U.S. customers would divert about 17% of their purchases to imports from foreign suppliers (who were ready to serve these customers). The evidence also showed that that if the price of all dispersion PVC produced in the United States was increased by 5%, U.S. customers would divert about 12% of their purchases to imports from foreign suppliers (again, who were ready to serve these customers).¹ The evidence in the hearing also showed that the percentage gross margins for homopolymer PVC and dispersion PVC were 28% and 45%, respectively. Was the FTC correct that the relevant geographic market was the United States using the hypothetical monopolist test and a SSNIP of 5%?

3. Premium ice cream sells at \$4.00/pint and has a constant marginal cost of \$2.25/pint. The own-elasticity of aggregate demand for premium ice cream is -1.9, with almost all diversion going to regular ice cream. Two premium ice cream manufacturers proposed to merge. Is

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premium ice cream a relevant product market under the hypothetical monopolist test under a 5% SSNIP, or should the market be expanded to include regular ice cream?

4. Consider again digital-do-it-yourself (DDIY) tax products, this time with some different (made up) data. Do H&R Block and TaxACT by themselves constitute a relevant product market under the 2010 Merger Guidelines for a 5 percent SSNIP? Do TurboTax, H&R Block, and TaxACT constitute a relevant product market for the same SSNIP? If the DOJ wants to challenge the merger, what market definition should it allege (all things considered) and why?

Here is the data the investigation revealed:

Prevailing conditions

	TT	H&R	TaxAct	
Price	55	25	11	
%Margin	0.5	0.4	0.2	
Marginal cost	27.5	15	8.8	(constant marginal costs)
Quantity	1,131	624	855	
%SSNIP	5%	5%	5%	
%Actual loss	-10.00%	-12.50%	-25.00%	

Diversion ratios (for single-product SSNIPs)

From:	TT	To : H&R	TaxACT	Total Recapture
TT	x	30.0%	9.0%	39.0%
H&R Block	30.0%	x	26.8%	56.8%
TaxAct	25.0%	27.7%	x	52.7%

If you have any questions, send me an e-mail. See you in class.

INSTRUCTOR'S ANSWER

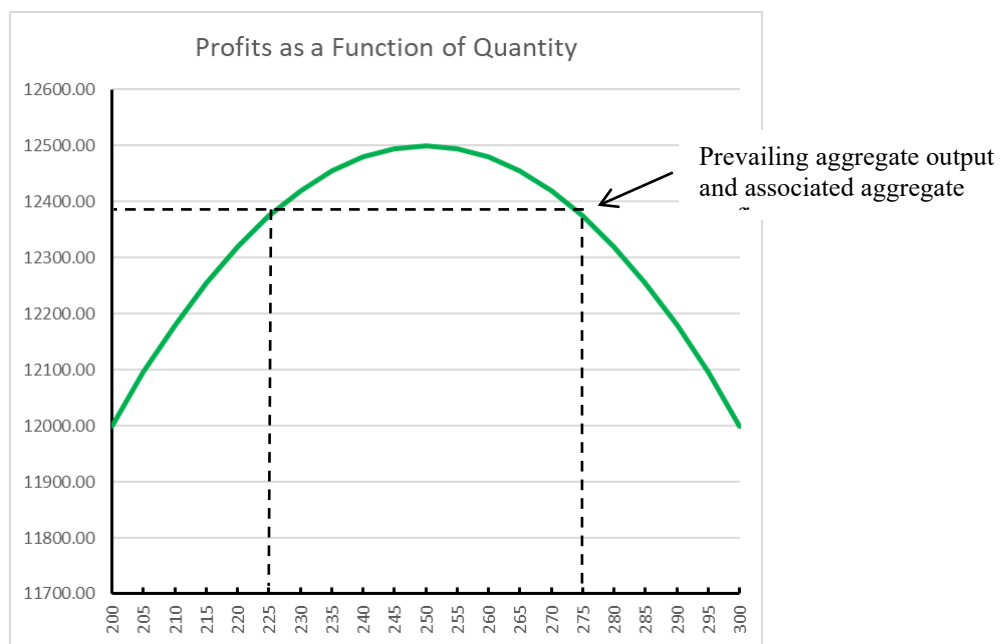
1. Products A and B are being tested as a candidate market. The market price for each unit of either product is \$300, each type of product as a constant incremental cost of \$160 per unit and each product type has aggregate sales of 1000 units. When the price for both products is increased by \$15, each firm loses 100 units to products other than A and B. What is the critical loss for the candidate market of products A and B? Do A and B constitute a relevant market under the hypothetical monopolist test using critical loss analysis and SSNIP of 5%?

Answer

Critical loss is the maximum loss Δq a hypothetical monopolist can sustain without reducing profits at current prices and output. Assuming that the market is not already monopolized (so

that current prices are below the monopoly price and aggregate production is above the monopolist's output²), a small decrease in output by a hypothetical monopolist from current levels will increase its profits. At some point as further reductions are made, the hypothetical monopolist will reach a level of reduction that maximize its profits. After that point, a continued reduction in output will decrease profits below the profit-maximizing level but still maintain them above the profits earned at current prices and output. Again, as reductions continue, at some point the reduction will be sufficient large that profits will equal current profits and a further reduction will reduce profits below current profits. This reduction in output beyond the profit-maximizing level that just breaks even with current profits is called the "critical loss."

A diagram may be helpful. Say the current price (p_1) is 145, the current output is 275, fixed costs are zero, and marginal costs are constant at 100. Accordingly, current profits are 12,375, as shown in the graph below:



As the chart illustrates, the same profits could be made by reducing the output to 225. Any further reduction would reduce profits below the prevailing level. The difference in output between the prevailing level and the lower breakeven output—here, 50 ($= 275 - 225$)—is the *critical loss*. If the output reduction associated with a given price increase exceeds the critical loss, the price increase is unprofitable. If the output reduction associated with the price increase is less than the critical loss, the price increase is profitable.

Applied to the hypothetical monopolist test, if the actual output loss from a SSNIP is less than the critical loss, then the profits resulting from a SSNIP will be greater than current profits. Consequently, under the profitability version of the hypothetical monopolist test, the candidate market would be a relevant market. If the actual loss from a SSNIP is greater than

² This makes aggregate output to the right of the top of the profit "hill."

the critical loss, then the profits resulting from a SSNIP will be less than current profits, and the candidate market will not be a relevant market.

Here, $p_1 = \$300$, $q_1 = 2000$ units (1000 units of product A plus 1000 units of product B),³ and the marginal cost of production is \$160 per unit. The gross margin on each sale is \$140 per unit (price (\$300) – marginal cost (\$160)). A price increase of \$15 is 5% of the current price ($\$15/\$300 = 5\%$), so a price increase of \$15 is a 5% SSNIP. At a 5% SSNIP, the actual loss would be 200 units (100 units of product A plus 100 units of product B).

The breakeven condition for the critical loss Δq_{cl} is that profits at current prices and output is equal to profits with a SSNIP and the associated critical loss:

$$p_1 q_1 - c q_1 = (p_1 + \Delta p_1)(q_1 - \Delta q_{cl}) - c(q_1 - \Delta q_{cl})$$

Collecting terms:

$$(p_1 - c)q_1 = (p_1 + \Delta p_1 - c)(q_1 - \Delta q_{cl}) \leftarrow$$

BTW, when fixed costs are zero and marginal costs are constant, the dollar gross marginal $\$m$ times sales q is equal to profit ($\$mq = \pi$).

Applying the parameters in the hypothetical:

$$(300 - 160)2000 = (300 + 50 - 160)(2000 - \Delta q_{cl})$$

Solving, critical loss $\Delta q_{cl} = 193.55$ units.⁴

We know from the statement of the problem that the actual loss for a 5% SSNIP is 200 units.

Since the actual loss is greater than the critical loss, A and B do not constitute a relevant market under the hypothetical monopolist test using critical loss analysis and SSNIP of 5%.

NOTE: Neither precision nor accuracy is a hallmark of market definition. Although actual loss is greater critical than critical loss, the difference is so small that it is unlikely a court would reject A and B as a relevant market if the qualitative evidence had convinced the judge that A and B are a proper relevant market.

Alternative 1. We can use another “brute force” approach to the problem that does not use critical loss. Using the template on Slide 91 of the Market Definition class notes:

Parameters from problem

Price	p	300
Cost	c	160
Market output	Q	2000
SSNIP	Δp	15
Customer loss	ΔQ	-200

³ There was an unfortunate ambiguity in the statement of the problem. Each product type has aggregate sales of 1000 units, so total sales in the candidate market is 2000 units. The problem could easily be read to say that total sales in the market was 1000. If you read it this way, the critical loss would be 96.8 units. In this case, since the actual loss of 200 is greater than the critical loss, A and B do not constitute a relevant market under the hypothetical monopolist test.

⁴ If you do not want to do the math, just plug the equation into [MathPapa](#) (but using x rather than Δq_{cl} which MathPapa will not understand).

$$\begin{array}{l} \text{Gain on inframarginal sales} = (Q+\Delta Q)\Delta p \\ (Q+\Delta Q) \quad 1800 = 2000 - 200 \\ \Delta p \quad 15 \\ \text{Gain} \quad 27,000 \end{array}$$

$$\begin{array}{l} \text{Loss on marginal sales} = m\Delta Q \\ \text{Margin} \quad m \quad 140 = \text{price} - \text{cost} \\ \text{Customer loss} \quad \Delta Q \quad -200 \\ \text{Loss} \quad -28,000 \end{array}$$

Since the gain on the inframarginal sales is less than the loss on the marginal sales, Products A and B do not satisfy the hypothetical monopolist test and hence are not a relevant market under the Merger Guidelines (subject to the above caution).

Alternative 2. Use the unit critical loss formula

$$\begin{aligned} \Delta q_{cl} &= \frac{Q\Delta p}{(p + \Delta p) - c} \\ &= \frac{2000 \cdot 15}{(300 + 15) - 160} \\ &= 193.55 \end{aligned}$$

This is the same critical loss we calculated originally. This is the most efficient way of implementing the hypothetical monopolist test given the parameters in the problem.

2. In *FTC v. Occidental Petroleum Corp.*, No. 86-900, 1986 WL 952 (D.D.C. Apr. 29, 1986), the FTC challenged the pending acquisition by Occidental Petroleum, a major producer of polyvinyl chloride (“PVC”), of Tenneco’s PVC business. Both companies produced PVC in plants in the United States. The parties agreed that the relevant product markets were suspension homopolymer PVC and dispersion PVC, and the PI proceeding focused largely on the relevant geographic market. The FTC alleged that the relevant geographic market was the United States for both types of products; the merging parties argued that the relevant geographic market was worldwide. In the Section 13(b) proceeding for a preliminary injunction, the evidence showed that if the price of all suspension homopolymer PVC produced in the United States was increased by 5%, U.S. customers would divert about 17% of their purchases to imports from foreign suppliers (who were ready to serve these customers). The evidence also showed that if the price of all dispersion PVC produced in the United States was increased by 5%, U.S. customers would divert about 12% of their purchases to imports from foreign suppliers (again, who were ready to serve these customers).⁵ The evidence in the hearing also showed that the percentage gross margins for homopolymer PVC and dispersion PVC were 28% and 45%, respectively. Was the FTC correct that the relevant geographic market was the United States using the hypothetical monopolist test and a SSNIP of 5%?

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Answer

This problem gives the actual loss in percentages, so we can use the percentage critical loss formula to calculate the percentage critical loss $\% \Delta q_{cl}$:

$$\% \Delta q_{cl} = \frac{\delta}{\delta + m},$$

where δ is the percentage SSNIP and m is the percentage gross margin (NOT the dollar gross margin). Substituting the parameters from the statement of the problem:

$$\% \Delta q_{cl-suspension\ PVC} = \frac{5\%}{5\% + 28\%} = 15.15\%$$

$$\% \Delta q_{cl-dispersion\ PVC} = \frac{5\%}{5\% + 45\%} = 10.00\%$$

The actual loss was 17% for suspension PVC and 12% for dispersion PVC. Consequently, under the hypothetical monopolist test (profitability version), technically neither was a relevant product market under a 5% SSNIP.

NOTE: Same caution as in Note 1 to Answer 1

3. Premium ice cream sells at \$4.00/pint and has a constant marginal cost of \$2.25/pint. The own-elasticity of aggregate demand for premium ice cream is -1.9, with almost all diversion going to regular ice cream. Two premium ice cream manufacturers proposed to merge. Is premium ice cream a relevant product market under the hypothetical monopolist test under a 5% SSNIP or should the market be expanded to include regular ice cream?

Answer

This problem gives actual own-elasticities, so we can use the percentage critical elasticity formula to calculate the critical elasticity ε_{cl} :

$$|\varepsilon_{cl}| = \frac{1}{\delta + m}.$$

The percentage gross margin m is equal to 43.75% (= (4.00 – 2.25)/4.00)

Substituting the parameters from the statement of the problem:

$$|\varepsilon_{cl}| = \frac{1}{5\% + 43.75\%} = 2.05.$$

The problem gives the actual own-elasticity as -1.9 or, in absolute value, 1.9. Since the absolute value of the actual own-elasticity is less than the absolute value of the critical elasticity, then technically premium ice cream is a relevant product market under the hypothetical monopolist test (profitability version) with a 5% SSNIP.

NOTE: Same caution as in Note 1 to Answer 1 (except the other way around).

4. Consider again digital-do-it-yourself (DDIY) tax products, this time with some different (made up) data. Do H&R Block and TaxACT by themselves constitute a relevant product market under the 2010 Merger Guidelines for a 5 percent SSNIP? Do TurboTax, H&R Block, and TaxACT constitute a relevant product market for the same SSNIP? If the DOJ wants to challenge the merger, what market definition should it allege (all things considered) and why?

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Diversion ratios (for single-product SSNIPs)

From:	TT	To : H&R	TaxACT	Total Recapture
TT	x	30.0%	9.0%	39.0%
H&R Block	30.0%	x	26.8%	56.8%
TaxAct	25.0%	27.7%	x	52.7%

Answer

The market in this problem contains differentiated products with different prices and different margins. This situation calls for a one-product SSNIP test.

Part A. Calls for an evaluation of H&R Block plus TaxACT as a relevant market. Since this is a two-product candidate market, we can use the following one-product SSNIP formula:

$$R_i > R_{cl}^i = \frac{\delta p_i}{\$m_{RAve}} \left(= \frac{\$SSNIP_i}{\$m_{RAve}} \right),$$

where R_i is the actual recapture ratio for product i and R_{cl}^i is the critical one-product SSNIP recapture ratio. A hypothetical monopolist could profitably increase the price of product i by a SSNIP if $R_i > R_{cl}^i$. What makes the use of this formula easy in the two-product case is that $\$m_{RAve} = \m_j , where product j is the other product in the candidate market.

$$\$m_{H\&R} = \%margin \text{ times price} = (0.4)(25) = 10$$

$$\$m_{TaxACT} = \%margin \text{ times price} = (0.2)(11) = 2.2$$

So

$$R_{cl}^{H\&R} = \frac{\delta p_{H\&R}}{\$m_{TaxACT}} = \frac{(0.05)(25)}{2.2} = 0.568 = 56.8\%$$

$$R_{cl}^{TaxACT} = \frac{\delta p_{TaxACT}}{\$m_{H\&R}} = \frac{(0.05)(11)}{10} = 0.055 = 5.5\%$$

The recapture ratio $R_{H\&R}$ is simply the diversion ratio to TaxACT or 26.8%. This is less than the critical recapture ratio of 56.8%, so a one-product SSNIP test on H&R block fails.

The recapture ratio R_{TaxACT} is simply the diversion ratio to H&R Block or 27.7%. This is more than the critical recapture ratio of 5.5%, so a hypothetical monopolist could profitably increase the price of TaxACT by 5%.

Since only one product needs to satisfy the one-product SSNIP test for the candidate market to be a relevant market, H&R Block plus TaxACT is a relevant market under the Merger Guidelines.

Alternative: We could have done this by brute force:

Candidate market: H&R Block + TaxACT

One-product SSNIP: Brute force

	SSNIP Product		
	H&R Block	TaxACT	
<i>Gain from inframarginal sales</i>			
q1	624	855	DATA FROM PROBLEM
$\Delta q1$	-78	-213.64	Marginal sales = %Actual loss times q1
$q2 = q1 - \Delta q1$	546	641	Inframarginal sales
%SSNIP	5%	5%	DATA FROM PROBLEM
\$SSNIP	1.25	0.55	%SSNIP times p1
Gain	682.5	352.5	\$SSNIP times q2
<i>Loss from marginal sales</i>			
$\Delta q1$	-78	-213.64	Already calculated
%margin	40%	20%	DATA FROM PROBLEM
\$margin	10	2.2	%margin times p1
Loss	-780	-470	\$margin times $\Delta q1$
Net gain on SSNIP product	-97.5	-117.5	Gain on inframarginal sales minus loss on marginal sales
<i>Profit on recaptured sales</i>			
To TaxACT			
Diversion ratio	26.8%		DATA FROM PROBLEM
Δq_{TaxACT}	20.90		Recaptured unit sales = Diversion ratio times $\Delta q1$
%margin (TaxACT)	20%		DATA FROM PROBLEM
\$margin (TaxACT)	2.2		%margin times p_{TaxACT}
Gain on TaxACT	45.99		\$margin times recaptured unit sales
<i>Profit on recaptured sales</i>			
To H&R Block			
Diversion ratio		27.7%	DATA FROM PROBLEM
$\Delta q_{\text{H&R Block}}$		59.18	Recaptured unit sales = Diversion ratio times $\Delta q1$
%margin (H&R)		40.0%	DATA FROM PROBLEM
\$margin (H&R)		10	%margin times $p_{\text{H&R Block}}$
Gain on H&R Block		591.77	\$margin times recaptured unit sales
NET GAIN WITH RECAPTURE	-51.51	474.27	Net gain on SSNIP product + gain on recaptured sales
One-product SSNIP test:	FAILS	PASSES	

This brute force accounting method makes clear what is going on here. Take H&R Block, for example. Pre-SSNIP, H&R Block was maximizing its profits as a stand-alone firm. With the SSNIP, its profits necessarily decrease. That is, the additional profit gain on its inframarginal sales (682.5) is less than its profit loss on its marginal sales (-780) for a net profit loss for H&R Block (-97.5). The hypothetical monopolist question is whether the profits from the sales recaptured by TaxACT (45.99) are sufficient to outweigh H&R Block's net loss and make the SSNI profitable for the hypothetical monopolist. The answer is no, so the one-product SSNIP test for H&R Block fails.

Conversely, when the SSNIP is imposed on TaxACT, its profits again necessarily decrease. The additional profit gain on its inframarginal sales (352.5) is less than its profit loss on its marginal sales (-470) for a net profit loss for TaxACT (-117.5). This time, however, the profits recaptured by H&R Block (591.77) are sufficient to outweigh TaxACT's net loss. So the one-product SSNIP test for TaxACT passes and the two-product candidate market is a relevant market under the Merger Guidelines.

Part B. Calls for an evaluation of H&R Block plus TaxACT plus TurboTax as a relevant market.

The simple way to answer this question is to recall that if one group of products is a relevant market, then any superset of products (that is, any larger product grouping containing the original group) is also a relevant market. Here, H&R Block plus TaxACT is a relevant market under a one-product SSNIP test for TaxACT. *A fortiori*, the three-product market will also satisfy the one-product SSNIP test for TaxACT since the recapture of profits by H&R Block alone is sufficient to offset the loss in TaxACT even if there is no recapture of profits by TurboTax.

Alternative 1. We could also have used brute force to calculate the gains from the increase in margin on the inframarginal sales, the loss from the marginal sales, and the profits recapture by each of the other two products in the candidate market.

Candidate market: H&R Block + TaxACT + TurboTax

One-product SSNIP: Brute force

	SSNIP Product			
	H&R Block	TaxACT	TurboTax	
<i>Gain from inframarginal sales</i>				
q1	624	855	1,131	DATA FROM PROBLEM
Δq_1	-78	-213.64	-113.09	Marginal sales = %Actual loss times q1
q2 = q1 - Δq_1	546	641	1,018	Inframarginal sales
%SSNIP	5%	5%	5%	DATA FROM PROBLEM
$\$SSNIP$	1.25	0.55	2.75	%SSNIP times p1
Gain	682.5	352.5	2799	$\$SSNIP$ times q2
<i>Loss from marginal sales</i>				
Δq_1	-78.00	-213.64	-113.09	Already calculated
%margin	40%	20%	50%	DATA FROM PROBLEM
$\$margin$	10.00	2.20	27.50	%margin times p1
Loss	-780.00	-470.00	-3,110.00	$\$margin$ times Δq_1
Net gain on SSNIP product	-97.50	-117.50	-311.00	Gain on inframarginal sales minus loss on marginal sales
<i>Profit on recaptured sales</i>				
To TaxACT				
Diversion ratio	26.8%	x	9.0%	DATA FROM PROBLEM
Δq_{TaxACT}	20.90	x	10.18	Recaptured unit sales = Diversion ratio times Δq_1
%margin (TaxACT)	20%	x	20%	DATA FROM PROBLEM
$\$margin$ (TaxACT)	2.20	x	2.20	%margin times p_{TaxACT}
Gain on TaxACT	45.99	x	22.39	$\$margin$ times recaptured unit sales
<i>Profit on recaptured sales</i>				
To H&R Block				
Diversion ratio	x	27.7%	30.0%	DATA FROM PROBLEM
Δq_{TaxACT}	x	59.18	33.93	Recaptured unit sales = Diversion ratio times Δq_1
%margin (H&R)	x	40%	40%	DATA FROM PROBLEM
$\$margin$ (H&R)	x	10	10	%margin times $p_{H\&R\ Block}$
Gain on H&R Block	x	591.77	339.27	$\$margin$ times recaptured unit sales
<i>Profit on recaptured sales</i>				
To TurboTax				
Diversion ratio	30.0%	25.0%	x	DATA FROM PROBLEM
$\Delta q_{TurboTax}$	-23.40	-53.41	x	Recaptured unit sales = Diversion ratio times Δq_1
%margin (TurboTax)	50%	50%	x	DATA FROM PROBLEM
$\$margin$ (TurboTax)	27.50	27.50	x	%margin times $p_{TurboTax}$
Gain on TurboTax	643.50	1,468.75	x	$\$margin$ times recaptured unit sales
Total gain on recapture	689.49	2,060.52	361.66	
NET GAIN WITH RECAPTURE	591.99	1,943.02	50.66	
One-product SSNIP test	PASSES	PASSES		

Recall that a one-product SSNIP must contain at least one product of the merging firms. Hence, there was no need to perform a one-product SSNIP test for TurboTax. I included that calculation just to provide another illustration of the brute force technique.

Alternative 2. I find brute force to be both more intuitive and easier to check than using a formula. However, we could use the general one-product SSNIP formula for calculating critical one-product recapture ratios:

$$R_{cl}^i = \frac{\delta p_i}{\$m_{RAve}} \left(= \frac{\$SSNIP_i}{\$m_{RAve}} \right).$$

The key to applying this formula is to remember that the average margin for the recaptured products ($\$m_{RAve}$) is the *recapture share-weighted* average. To this in four steps:

1. Calculate the number of units recaptured by each of the “other” products j when a SSNIP is imposed on product i by multiplying the units lost by product i times the diversion ratio from product i to j .
2. Calculate the percentage of the total recapture units for each of the “other” products in the candidate market.
3. Then, for each “other” product j , multiply its recapture percentage by product j ’s dollar margin to get product j ’s dollar margin contribution to the average.
4. The recapture share-weighted margin average for the “other” products is the sum of these dollar margin contributions.

	SSNIP imposed (Product i)			
	H&R Block	TaxACT	TurboTax	
Price	25	11	55	From problem
\$margin	10	2.2	27.5	%margin times p1
Loss (units)	-78.00	-213.64	-113.09	Actual loss times q1
1. #Recapture (units) by product j				
TurboTax	23.40	53.41	x	Diversion ratio times actual loss of H&R Block
H&R Block	x	59.18	33.93	Diversion ratio times actual loss of TaxACT
TaxACT	20.90	x	10.18	Diversion ratio times actual loss of TurboTax
<u>Total</u>	<u>44.30</u>	<u>112.59</u>	<u>44.11</u>	Summing to give total units recaptured
2. %Recapture by product j				
TurboTax	52.82%	47.44%	x	Recaptured units (TurboTax) divided total recaptured units
H&R Block	x	52.56%	76.92%	Recaptured units (H&R Block) divided total recaptured units
TaxACT	47.18%	x	23.08%	Recaptured units (TaxACT) divided total recaptured units
<u>Check</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	
3. \$margin contribution from product j				
TurboTax	14.52	13.05	x	%Recapture times \$margin (both for TurboTax)
H&R Block	x	1.16	7.69	%Recapture times \$margin (both for H&R Block)
TaxACT	1.04	x	0.51	%Recapture times \$margin (both for TaxACT)
<u>4. $\\$m_{RAve}$</u>	<u>15.56</u>	<u>14.20</u>	<u>8.20</u>	Sum of \$margin contributions
$\$SSNIP_1$	1.25	0.55	2.75	%SSNIP times p1
$\$SSNIP_1 / \m_{RAve}	8.03%	3.87%	33.54%	Calculated
R_1	56.8%	52.7%	39.0%	From problem
$R_1 > \$SSNIP_1 / \m_{RAve}				
	YES	YES	YES	

Again, the calculation for TurboTax is included only for illustration of the arithmetic. Since it is not a product of one of the merging firms, the one-product SSNIP test would not apply to it.