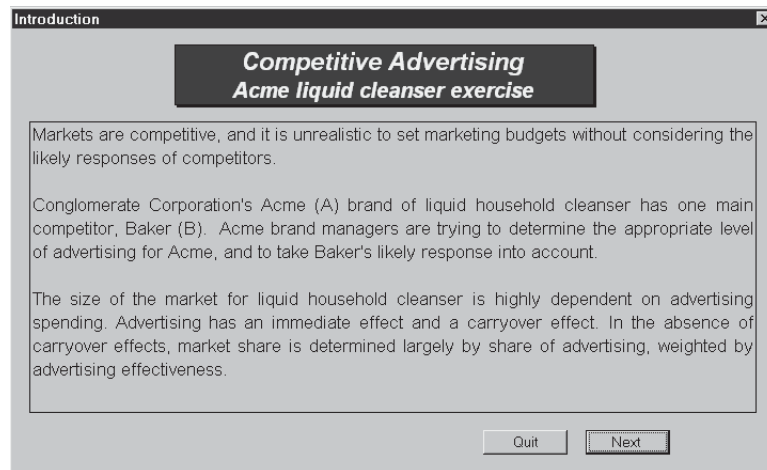


# 12. TUTORIAL FOR COMPETITIVE ADVERTISING (compete.xls)

## CASE: ACME LIQUID CLEANER EXERCISE, P. 231

The Compete spreadsheet helps you to determine the appropriate level of advertising spending in a two-firm market where both market share and total market size are driven by advertising expenditures.

On the **Model** menu, select **Competitive Advertising** (compete.xls) to see the **Introduction** screen:



The following screen summarizes the assumptions about the marketplace. Both our firm's brand (Acme) and the competitor's (Baker) are currently spending about \$1mm per quarter on advertising. Our price is \$1.50 per unit; our cost is about \$0.75 per unit and so forth. The "base" figure for the competitor's advertising is the current level if it were fixed as a constant. The "carryover effect" is a number between 0 and 1. Zero means that market share is affected by current advertising only; 0.5 means that market share results equally from the carryover from past advertising share and from current spending on advertising. Click **Next** to continue.

	A	B	C	D	E	F	G	H
1	<b>Marketing Decisions With Competition (COMPETE)</b>							
2								
3		\$1.00	Initial Brand Advertising (\$MM)					
4		\$1.00	Initial Competitive Advertising ( <b>Base:</b> \$MM)					
5		15.00	Minimum Market Size (MM units)					
6		30.00	Maximum market Size (MM Units)					
7		\$1.50	Unit Price					
8		\$0.75	Unit Cost					
9		60.0%	Initial (Base) Brand Market Share (Fraction 0-1)					
10								
11		5.0%	Market Growth/Decline Rate/period (Fraction--Could Be Negative)					
12								
13		8	Number of Time Periods (at Least 2)					
14		0.50	Carryover Effect (0=Current Only)					Next Page
15		1.0	Advertising Effectiveness Relative to Competition (1=Equal; 2 = Twice as Good, etc)					
16								

Click Next to analyze the case.

	A	B	C	D	M	N	O	P
39	Competitive Response? <input type="radio"/> Yes: Set Level <input type="radio"/> Yes: Customize <input checked="" type="radio"/> No, Keep "Base"							
40	Activate Change							
41								
42	Prev. Page		Optimize					
43					Cumulative			
44	Period	A Adv	B Adv	Tot Adv	A Profit	B Profit	Total Profit	
45	Base	\$1.00	\$1.00	\$2.00	\$8.28	\$6.59	\$14.88	
46	1	\$1.00	\$1.00	\$2.00	\$16.29	\$13.74	\$30.03	
47	2	\$1.00	\$1.00	\$2.00	\$24.23	\$21.25	\$45.48	
48	3	\$1.00	\$1.00	\$2.00	\$32.22	\$29.02	\$61.24	
49	4	\$1.00	\$1.00	\$2.00	\$40.32	\$37.01	\$77.33	
50	5	\$1.00	\$1.00	\$2.00	\$48.57	\$45.19	\$93.76	
51	6	\$1.00	\$1.00	\$2.00	\$56.98	\$53.57	\$110.55	
52	7	\$1.00	\$1.00	\$2.00	\$65.57	\$62.15	\$127.71	
53	8	\$1.00	\$1.00	\$2.00	\$74.35	\$70.92	\$145.27	

In the highlighted area, you should select one of the three options for competitive response:

- **Yes, Set Level:** This assumes that B advertises at a fixed multiple (greater than 0) of A's spending.
- **Yes, Customize:** Here you can use any relationship to link B's advertising spending, in cells C46 and below, to any of the values in the spreadsheet. (For example, you could set up B's advertising to be the square root of A's advertising times a multiplier. You may have to "Unprotect the Sheet" first—see below for instructions.)
- **No, Keep Base:** This sets B's advertising at the base level from the previous page.

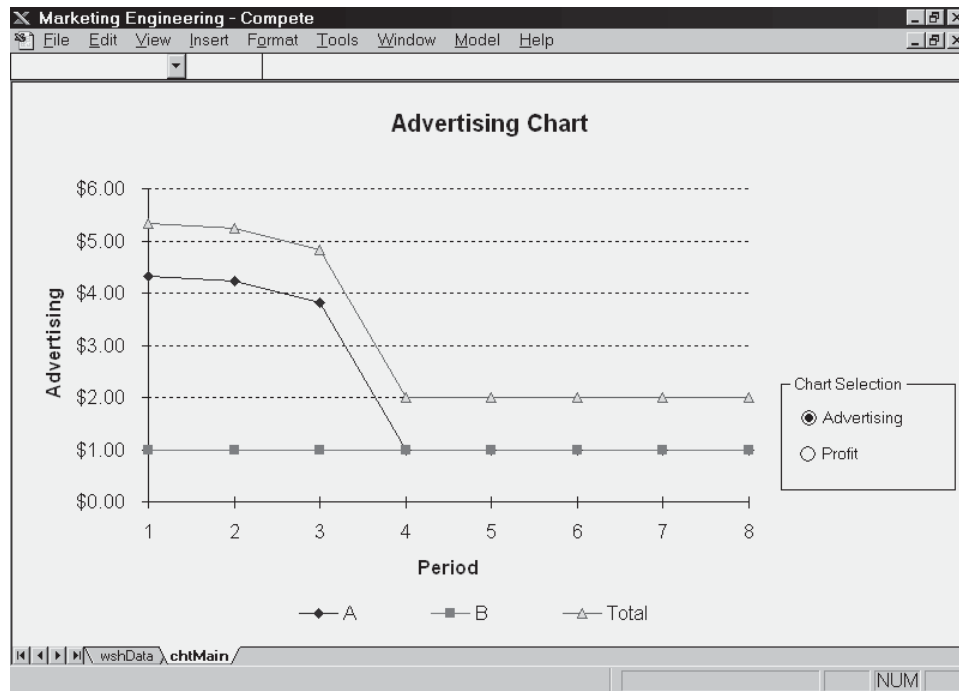
After you describe how your competitor will respond, click **Activate Change**.

Click **Optimize** to call Solver, which will allow you to select an objective and specify approximate decision values. For example you might want to maximize A's cumulative profit in period 3 (set target cell to M48) as a result of A's advertising spending in periods 1 through 3. (set by changing cells to \$B\$46:\$B\$48 then click **Solve**).

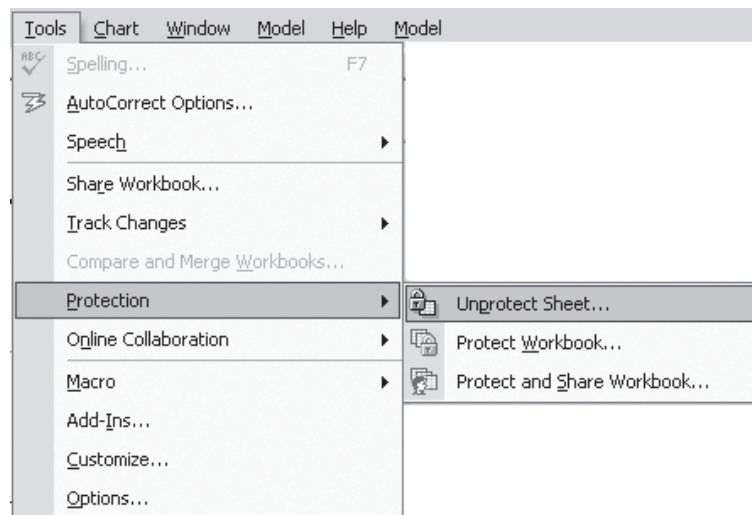
	A	B	C	D	M	N	O	P
39	Competitive Response? <input type="radio"/> Yes: Set Level <input type="radio"/> Yes: Customize <input checked="" type="radio"/> No, Keep "Base"							
40	<b>Activate Change</b>							
41								
42	<b>Prev. Page</b>		<b>Optimize</b>					
43					<b>Cumulative</b>			
44	Period	A Adv	B Adv	Tot Adv	A Profit	B Profit	Total Profit	
45	Base	\$1.00	\$1.00	\$2.00	\$8.28	\$6.59	\$14.88	
46	1	\$4.33	\$1.00	\$5.33	\$18.67	\$12.48	\$31.15	
47	2	\$4.23	\$1.00	\$5.23	\$30.88	\$17.11	\$47.99	
48	3	\$3.82	\$1.00	\$4.82	\$44.25	\$21.28	\$65.53	
49	4	\$1.00	\$1.00	\$2.00	\$54.73	\$26.89	\$81.62	
50	5	\$1.00	\$1.00	\$2.00	\$64.18	\$33.87	\$98.04	
51	6	\$1.00	\$1.00	\$2.00	\$73.20	\$41.63	\$114.83	
52	7	\$1.00	\$1.00	\$2.00	\$82.11	\$49.89	\$132.00	
53	8	\$1.00	\$1.00	\$2.00	\$91.05	\$58.50	\$149.56	

Under **Model**, select **Main Menu** and then choose **Make Charts** to graph the results.

Select the profit chart or the advertising chart. Go back to **Main Menu** under **Model** and select **Go to Analysis Area** to modify some analyses.



*Note: If you want to create your own objective function (e.g., market share target at end of period  $x$ ), you have to first unprotect the worksheet. To do so, under the **Tools** menu choose **Protection** and then **Unprotect Sheet**.*



Finally, note that columns A through D in the main worksheet are frozen, and that you can see other data on sales and market share in columns through O by scrolling.