

Industry Analysis from a *Finance Perspective*

General Comments: When you think of an industry analysis, you think of benchmarks or “bogeys”.

- The industry should be compared to the economy as a whole as proxied by the S&P500.
- Each firm in your industry should be compared against the industry and also the S&P500

Life cycle of the industry. To ascertain which stage of the life cycle your industry is in, plot on a graph the sales growth for your industry versus the sales growth for the S&P500 over time using log of sales for the y-axis and time (year) for the x-axis. Do a similar graph of profit margins and also earnings growth. One source of data is the *S&P Analysts Handbook, Annual Edition*. See my website for other sources of data. Please discuss your results. Appendix A provides further elaboration of the life cycle concept.

Logic: Is your industry growing or starting to grow only as fast as the economy (on average)? This could have implications on cash flow forecasting at the industry and at the firm level.

Business Risk. Please calculate the amount of business risk that your industry has. In addition to this, please calculate the business risk for the main firms, which comprise your industry and provide some discussion of your results. (If you do not know how to calculate business risk or know what it is, please refer to the power point presentation on my website).

Logic: business risk is the relative dispersion in a firm or industry's EBIT due to its cost structure, product demand characteristics, and intra(inter)-industry competitive position. Such business risk is a direct result of the firm's investment decision.

Degree of Operating Leverage, Degree of Financial Leverage, and Degree of Combined Leverage. Please calculate the degree of operating leverage (DOL), the degree of financial leverage (DFL), and the degree of combined leverage (DCL) that your industry has. Perform the same calculations for the S&P500. In addition to this, please calculate the DOL, DFL, and DCL for the main firms which comprise your industry. Provide some discussion of your results. (If you do not know how to calculate DOL, DFL, and DCL please refer to the power point presentation on my website).

Logic: This should provide an indication of the extent to which fixed operating cost and/or fixed financing costs magnify profits or losses. This analysis should give you insights into the appropriate mix of debt and equity to maximize shareholder wealth.

Estimation of Sustainable Growth via DuPont Model. Please calculate the expected growth rate for your industry and the major firms in your industry using the DuPont Model. This model partitions the growth into the 5 major drivers. Do the same calculations of growth and its 5 components for the last 5 years and graph of your results. Compare the sustainable growth rate with the actual growth rate. Discuss your results e.g. what's driving high or low growth. Bloomberg does the analysis for you in the detailed ratio section. (For a further discussion of the DuPont model, please refer to the power point presentation on my website).

Logic: This analysis provides an indication of what are the key or dominant growth drivers from a financial perspective e.g., is growth purely due to increasing your leverage or more efficient use of your assets?

□ Profitability. Please report and graph the profitability ratios for your industry such as return on assets and return on equity (a component of the sustainable growth rate using the DuPont model) over time (say a period of 7-10 years) against those for the S&P500 or S&P400 (see S&P Analyst Handbook). Discuss your findings.

Specific Comments

Publishing Industry: The Internet: The New Frontier.

Please look at my general comments and address these in your revision.

What drives profits and growth for this industry? Look at revenue and cost drivers. Some of the keys to analyzing this industry include:

- Judging correctly the demographic trends, such as increased high school and college enrollments
 - Although your group has a section on Consumer Demographic Trends (pg 17), you do not provide a forecast of population growth and the growth of various age groups over the next 5-10 years. (please look at my information sheet on my website). Rather, you report on what's currently happening. I want to see numbers and a graph. Compare this forecast to the recent past. What does this trend portend in terms of sales growth?
 - An implicit assumption in focusing on the Internet is that most people are "wired". I need a sense of the degree to which the age group you're focusing on, say people aged 35 and over, have computers or have access to one. It's akin to taking a telephone survey to ask a question when the audience you're targeting may not own a phone. To some extent, what has been the trend in computer sales and the typical buyer? I also need some sense of the traffic on the Internet in order to judge sales growth. To what extent has the number of people on the internet grown over time and what is the age breakdown relative to your target audience? It should give your group a sense of potential internet sales.
- Evaluating the future impact of labor, paper, printing, and postage costs on profits (Please provide numbers and a graph (s))
 - While some costs such as rent have declined through distribution channel changes, the continuing increase in postal rates or UPS rates could have a significant effect on the industry over the long term.
 - What is the impact of the trends in the price and availability of both newsprint and coated papers on booksellers? Ditto for printing costs. These should affect all booksellers regardless of whether they use the Internet as their distribution channel.

Quick-Service Industry: Fast Foods.

Please look at my general comments and address these in your revision. (This report is one of the better ones in terms of focusing on revenues and costs. Besides this, your group actually lists the major players by product type. Your group has done an admirable job for a preliminary report). That said...

Considerations:

➤ Role of franchisees and their cost

- The recent news that McDonalds franchisees refused to go along with Mickey Ds promotions suggest that there is definitely a cost associated with franchising ones operations. I need to see to what extent various fast food operators use franchises because the revenues and expenses will differ. To the extent that a company uses franchises in order to grow, the company receives rent + sale percentages. If they don't use franchises, then revenue is based on sale percentages (no rent).

➤ Location, location, location

- A fast food retailer's base assets are its locations. On a map, please provide % of sales and profits by location e.g. on a state or regional basis. Are they equal for each region? If they are not, this would suggest that an area's demographics such as per capita income and the percentage of people that eat out in a given region become even more important.
- Also provide a percentage breakdown by domestic sales/profits vs. regions of the world. One of the reasons that Coke is having problems is that 30% of their revenues and profits come from Asia. Any economic turmoil in a particular region could have an impact on sales.

➤ Sales and profit drivers

- Please provide a breakdown of revenues and profits e.g. numbers and percentages by type of customer over time (say 5-7 years). More specifically, your analysis focuses on the individual consumer. One way that some companies are growing is through institutional sales. Starbucks, for example, has made a deal with United Airlines to serve only Starbucks coffee on their flights. Some airlines as well as schools have also made deals with hamburger chains such as McDonalds. You briefly touch on this trend on page 21, but I want to see numbers or percentages e.g. the whole profit "pie".
- To what extent are toys and other promotional items driving sales? On a broader basis, to what extent is tie-in businesses affecting sales and profits, if any?

Biotechnology.

Please look at my general comments and address these in your revision. In addition to this..

➤ Sales and profit drivers

- To what extent does growth come from foreign sales? The reason for this question is that I understand that the drug approval process is much shorter abroad so that products come to the market in less time.
- What percentage of revenue and profits come from each customer group that is enumerated on page 6 of your report? Please provide numbers and percentages of this sales and profit breakdown. I'm particularly interested in the tie-in arrangement between drug companies and biotech firms since I suspect that this is where the bulk of revenues for the biotech firms come from. If so, what is (are) the tie-in arrangements? Who is partnered with whom? This is important since your group states that the large drug firms provide funding for the biotech firms. To some extent, isn't the funding provided to biotech firms by drug companies dependent on how well that particular drug company is doing?
- After discovering what markets various firms in your industry serves, you need to address the existing and/or potential size of the market(s), what is the growth rate in those markets, and what is the company's position in those markets? Again, I would like to see numbers and percentages.
- Is your last column on page 28, R&D expenses? If so, please state them as a percentage of sales as well as the dollar amounts. Graph the percentage R&D to sales ratio against profitability ratios for the major players in this industry over time. Discuss your results.

➤ Biotech as key man businesses with intangible assets

- One topic which your group has only briefly addressed are the key players in the industry and in each company. Biotech firms to some extent are like football teams or restaurants. Lose the key players or chef and the team's fortunes start to slide. Do some companies have a competitive advantage in certain areas? This is especially important in areas of research/product markets where firms overlap. Who are the key players on each team?

While this industry is certainly interesting, I'd like to see more analysis in terms of revenues, costs, growth, and profit in your revision to this section.

Wireless (Telecommunications) Industry.

Please look at my general comments and address these in your revision. Considerations:

- Report your results on a per subscriber basis
 - For each major player in your industry as well as for your industry as a whole, report revenues and profits on a per subscriber basis. Also report the capital investment per subscriber over time. In valuing these types of firms where subscriptions are the key e.g. the credit card business, internet providers, etc., one method used is a per subscriber method. What has been the trend in revenue per subscriber over time?
- Drivers of revenues and profits
 - Report numbers and percentage breakdowns of sales, income, and profit margins, by geographic area – state and/or regional basis as well as international basis. To what extent are sales and profits driven by any one area. Is the current crisis in Asia affecting profits? Also report numbers and percentage breakdowns of sales, income, and profit margins, by age. Are some age groups the main users of cell phones? Teenagers?
 - Has the telecommunications industry and in particular, the wireless communication subsector relied on pricing for its growth? I agree that pricing is an important factor but that said, you need to address this issue since you talk about pricing throughout your report.
 - What is the key cost(s) in this business? For example, is controlling marketing costs the key to meeting the competitors prices? Have cellular service plans increased margins and profitability by tailoring sales commissions and marketing costs to usage patterns? If not, how have margins and profitability increased?
 - Are wireless operators being hampered in their efforts to put up more towers to transmit signals? This could have growth implications.
 - What are the major costs of this industry? Are costs changing over time e.g. are they declining? Is capital being increasingly substituted for labor? Is the productivity of capital improving for the industry as a whole?
 - There are no 5 year forecasts provided of sales (profit) growth for the industry or what will account for this growth.
- Market Share: What is the market share of each player?
- Substitutes for Product: Aren't there two new kinds of cellular service that are emerging to compete with established wireline and nonwireline operators: enhanced specialized mobile radio and PCS, a miniaturized cellular system? Also, aren't cellular companies expanding into paging and data transmission?

This report is weak with respect to revenues, profits, and growth from an industry perspective.

Lodging Industry.

Please look at my general comments and address these in your revision. You've made a good start at identifying the revenue and cost drivers of the industry. That said, you need to provide further details which I've enumerated below.

Considerations:

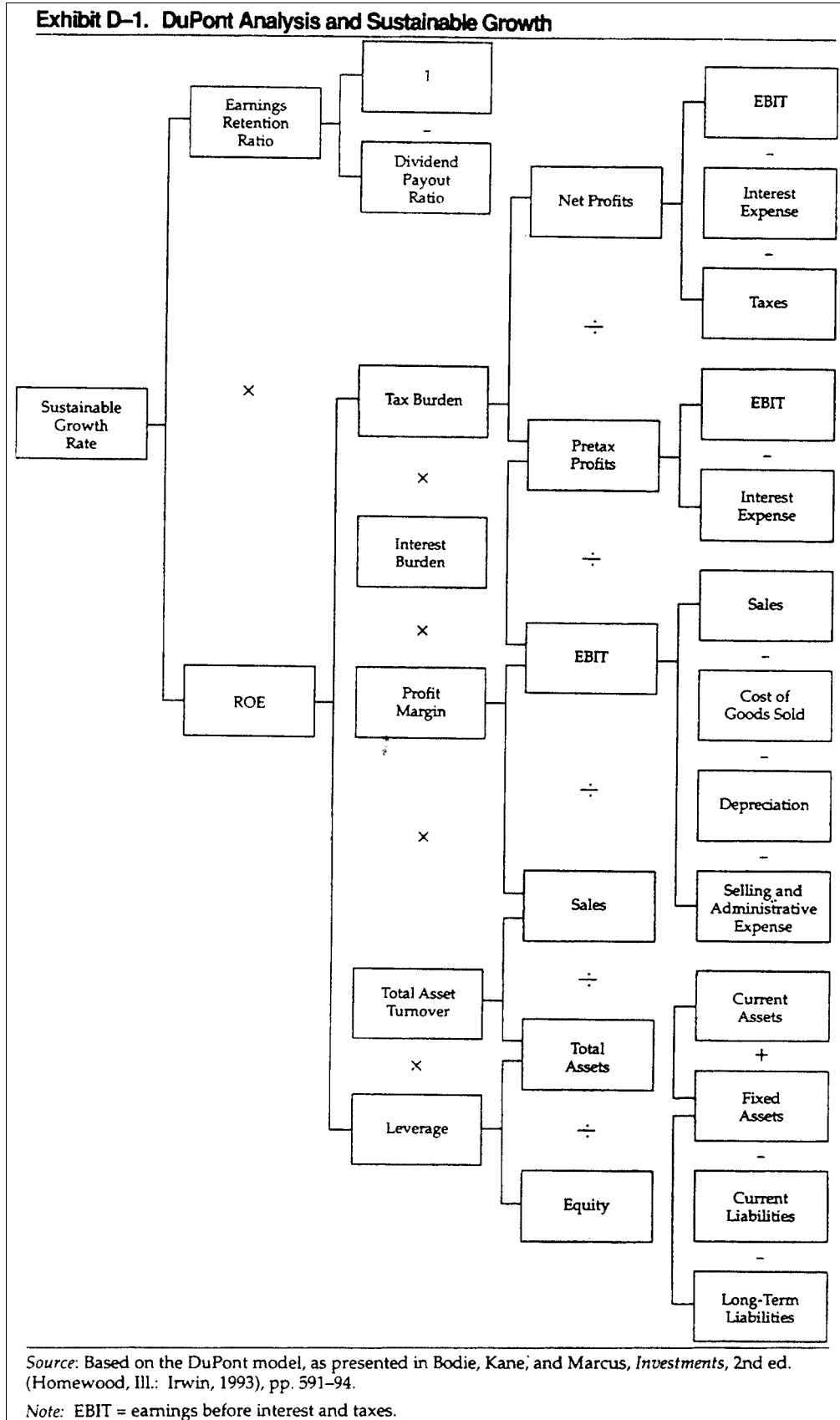
➤ Drivers of revenues and profits

- Report numbers and percentage breakdowns of sales, occupancy rates, income, and profit margins, by geographic area – state and/or regional basis as well as international basis. To what extent are sales and profits driven by any one area?
- To what extent does the upscale lodging segment which you focus on, use the sale and leaseback method? For example, motels such as LaQuinta Inns set up a REIT which they sell their properties to with a long term leaseback arrangement.
- Although your appendix contains a 5-year forecast for your industry, there is no discussion of this in your report. What drives this forecast e.g. what assumptions were made to do the forecast such as labor, transportation costs, etc.?
- While you do recognize the de-leveraging of the lodging industry and increased worker productivity, your mention of these factors is very brief. Both of these factors continue to drive profitability in the lodging industry. Moreover, these factors, which are unrelated to occupancy or ADR growth, have effectively lowered the economic breakeven occupancy in the industry from 67% in 1986 to 56% in 1997. The point that I'm trying to make is that you can't simply place graphs of these in your appendix. You need a little bit more elaboration of both of these important concepts.

➤ Market share

- What is the market share of each player in your defined sub-industry?

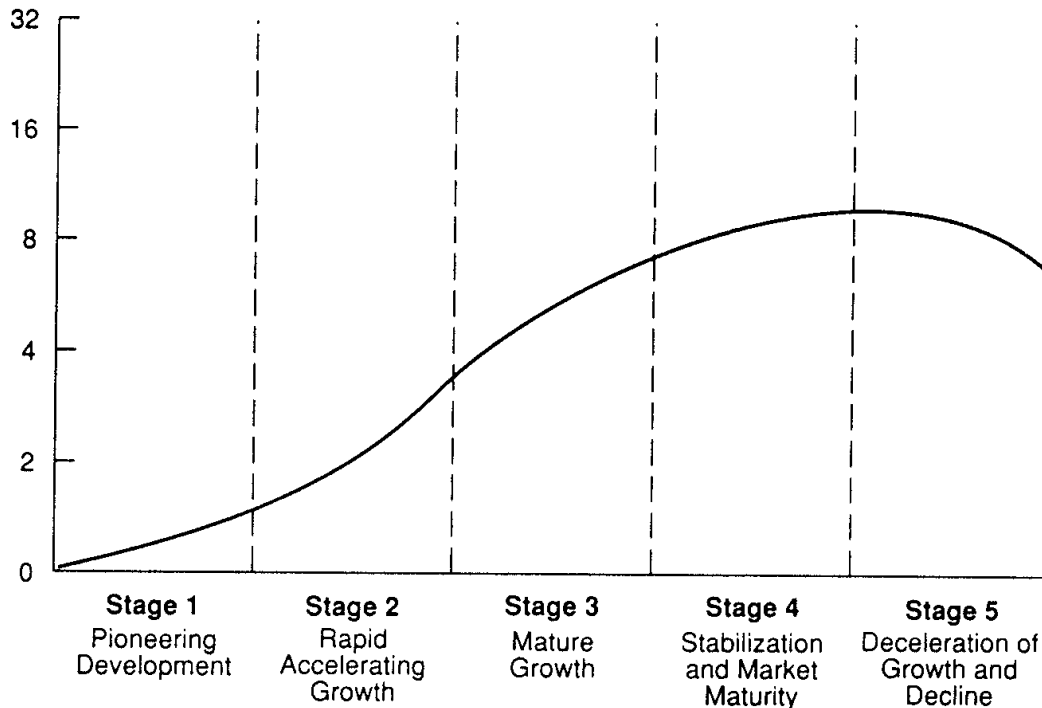
Appendix A: DuPont Sustainable Growth Model



Appendix B: Industrial Life Cycle

Portrayal of Industrial Life Cycle for an Industry

Net Sales Log Scale

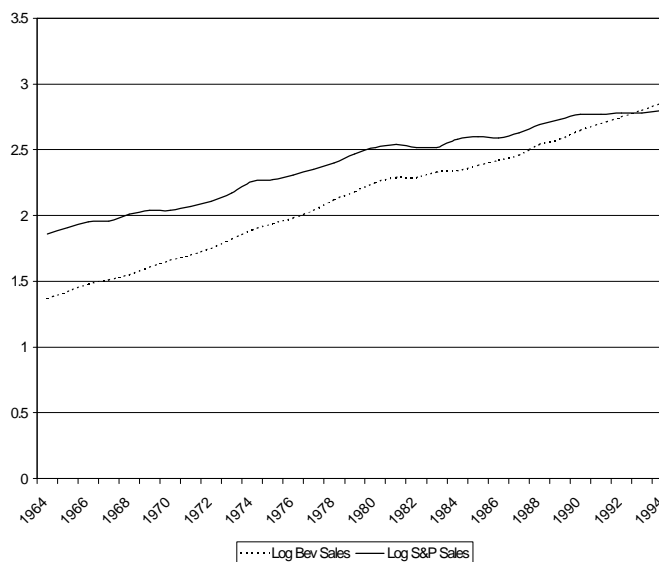


1. **Pioneering development.** This is the start-up phase where sales growth is modest and profit margins and profits are very small or even negative. During this time period the market is small, and there are major development costs.
2. **Rapid accelerating growth.** During this interval, the product or service is recognized as viable, and the demand is substantial. Because there are few firms in the industry, there is little competition, backlogs are possible, and the profit margins are very high. As productive capacity is built, sales grow at a rate that increases over time as the industry attempts to meet excessive demand. Given the high sales growth and high profit margins that likewise increase, as firms become more efficient, profits explode. For example, during this phase profits may be growing at over 100 percent a year due to the low base and rapid growth.
3. **Mature growth.** Because of the great success during the second stage, a lot of the pent-up demand has been satisfied. Further, given the larger base of sales, future sales growth may still be above normal, but it is not accelerating. As an example, if the overall economy is growing at 8 percent, this industry might be growing at 15-20 percent a year with a tendency for the rate of growth to stabilize. Also, because of the rapid growth and previously high profit margins, there is an influx of competition and the profit margins begin to decline to normal levels.

4. **Stabilization and market maturity.** During this stage the rate of growth is consistent with the aggregate economy or the segment of the economy related to this industry (e.g., Disposable Personal Income, Personal Consumption Expenditures). During this stage (which is probably the longest stage) it is relatively easy to estimate growth because sales are closely related to an economic series. While sales grow in line with the economy, profit growth varies by industry and for individual firms within the industry based upon management ability to control costs. Because of the competition, profit margins are very tight, and returns to capital are at the competitive level or slightly below.
5. **Deceleration of growth and decline.** At this stage the mature industry experiences declines in growth due to lower sales because of shifts in demand or an increase in substitutes. Profit margins continue to be squeezed, and some firms experience low profits or losses. Even those firms that have profits may experience very low rates of return on capital and begin thinking about alternative uses for the capital tied up in this industry.

Example: Following is a discussion of the life cycle process and its impact with respect to sales growth as applied to the beverage-soft drink industry.

Year	Bev Sales	S&P Sales	Log Bev	Log S&P
1964	23.40	73.19	1.37	1.86
1965	26.34	80.69	1.42	1.91
1966	30.25	88.46	1.48	1.95
1967	32.70	91.86	1.51	1.96
1968	35.61	101.49	1.55	2.01
1969	40.41	108.53	1.61	2.04
1970	46.09	109.85	1.66	2.04
1971	50.37	118.23	1.70	2.07
1972	56.31	128.79	1.75	2.11
1973	65.67	149.22	1.82	2.17
1974	78.04	182.10	1.89	2.26
1975	87.45	185.16	1.94	2.27
1976	96.06	202.66	1.98	2.31
1977	110.70	224.24	2.04	2.35
1978	131.17	251.32	2.12	2.40
1979	152.95	292.38	2.18	2.47
1980	177.47	327.36	2.25	2.52
1981	193.30	344.31	2.29	2.54
1982	195.77	333.86	2.29	2.52
1983	213.51	334.07	2.33	2.52
1984	217.22	379.70	2.34	2.58
1985	240.68	398.42	2.38	2.60
1986	264.37	387.76	2.42	2.59
1987	286.85	430.45	2.46	2.63
1988	348.14	486.92	2.54	2.69
1989	382.27	541.38	2.58	2.73
1990	447.17	594.55	2.65	2.77
1991	498.58	586.86	2.70	2.77
1992	563.42	601.39	2.75	2.78
1993	629.08	603.62	2.80	2.78
1994	731.96	631.51	2.86	2.80



Source: S&P Analysts Handbook: 1995 Annual Edition

Example of Analysis - The graph on the next page reveals that the soft drink industry is in the mature growth phase of the industrial life cycle. However, the charts also show that soft drink sales exhibit above normal growth relative to sales of the S&P Industrials indicating that expansion opportunities still exist. More specifically, soft drink sales on a per share basis grew at an average rate of 14% from 1990-1994 compared to a sales growth of 3% per annum for S&P Industrials over the same time period¹. While most

¹ Detailed Calculations of Sales Growth for Past 5 years.

Year	Bev Sales	S&P Sales	%DBev Sales	%DS&P Sales
1989	382.27	541.38		
1990	447.17	594.55	17%	10%
1991	498.58	586.86	11%	-1%
1992	563.42	601.39	13%	2%
1993	629.08	603.62	12%	0%
1994	731.96	631.51	16%	5%

of the expansion is forecast to come from international growth, there is still some upside opportunity in the U.S. for profitable growth. In fact, the following exhibit shows that the industry has had a rough time penetrating the Pacific region which has the lowest consumption of soft drinks per capita. Another region with relative low consumption is in the Northeast although in percentage terms, soft drink consumption in the Northeast mirrored the national growth pattern of .8% from 1991 to 1992.

Region	'92 Gallons Per Capita	'91 Gallons Per Capita	%Δ '92-'91
Northeast	39.7	39.4	0.8%
South	57.6	57.1	0.9%
E Central	50.1	50	0.2%
W Central	59.7	59.2	0.8%
West	50.3	47.6	5.7%
Southwest	58.5	57	2.6%
<i>Pacific</i>	<i>35.9</i>	<i>36.6</i>	<i>-1.9%</i>
Total	48.8	48.4	0.8%

Source: Beverage World: 1993-94 Databank.

Avg 14% 3%