

**MBA – MARKETING/FINANCE/HR/  
PRODUCTION & OPERATIONS  
MANAGEMENT (MBABM)**

00253

**Term-End Examination**

**June, 2015**

**MBME-007 : ADVANCED TOPICS IN FINANCE**

*Time : 3 hours*

*Maximum Marks : 100*

**Note :**

- (i) *Section I is compulsory.*
- (ii) *In Section II, Questions no. 3 to 9 are based on the case Ben & Jerry's Homemade. Solve any five questions from this section.*
- (iii) *Assume suitable data wherever required.*
- (iv) *Draw suitable sketches wherever required.*
- (v) *Italicized figures to the right indicate maximum marks.*

**SECTION I**

1. You are 35 years old and considering your retirement needs. You expect to retire at 65 and expect to live till 90 years. You wish to move to Bahamas when you retire. This move to Bahamas will cost you ₹ 3,00,000 (on your 65<sup>th</sup> birthday) and your expenses will be ₹ 30,000 a year starting at the end of the 66<sup>th</sup> year and continuing through the end of the 90<sup>th</sup> year.

- (a) How much will you need to have saved by your retirement date to be able to afford this course of action? 5
- (b) You already have ₹ 50,000 in savings. How much do you need to save every year till you retire to be able to afford the above retirement plan? 5
- (c) You suddenly remember that you already have ₹ 1,00,000 in savings as part of the will left by your beloved aunt (bless her soul !). How does that change the amount that you need to save every year? 5

2. You are evaluating two companies, company D and company G, operating in the same industry that have a very similar risk profile. Both companies are expected to earn ₹ 6 per share. Company D will pay out all its earnings as dividend, while company G is expected to pay out only ₹ 2 as dividend. D's stock price is ₹ 40. Comment on each of the following statements :

- (a) Company G will have faster growth rate than Company D. Therefore, G's price should be greater than D's. 5
- (b) D's current dividend exceeds that of G's. This should cause D's price to be more than that of G. 5
- (c) If we observe that G's price is also ₹ 40, the best estimate of G's growth rate is 10%. 5

## SECTION II

(Refer to the case attached)

3. Review the role of corporate objectives for companies with profit and non-profit orientation. 14
4. What determines corporate policy at Ben & Jerry's? How has Ben & Jerry's fulfilled its mission statement? 6+8=14
5. Can Ben & Jerry's excel in all dimensions they seek to achieve? Which objective is most important? 14
6. Who should have the right to control the assets of Ben & Jerry's? 14
7. How much are shareholders giving up to allow Ben & Jerry's management to pursue objectives other than long run profitability? 14
8. Discuss the use of at least four anti-defence techniques. Which one would you recommend for Ben & Jerry's? 10+4=14
9. Should Morgan support a takeover offer? 14

## **BEN & JERRY'S HOMEMADE, INC.**

*Jerry* : What's interesting about me and my role in the company is, I'm just this guy on the street. A person who's fairly conventional, mainstream, accepting of life as it is.

*Ben* : Salt of the Earth. A man of the people.

*Jerry* : But then I've got this friend, Ben, who challenges everything. It's against his nature to do anything the same way anyone's ever done it before. To which my response is always, "I don't think that'll work."

*Ben* : To which my response is always, "How do we know till we try?"

*Jerry* : So I get to go through this leading-edge, risk-taking experience with Ben — even though I'm really just like everyone else.

*Ben* : The perfect duo, Ice-cream and chunks. Business and social change. Ben and Jerry.

— Ben & Jerry's Double Dip

As Henry Morgan's plane passed over the snow-covered hills of Vermont's dairy land, through his mind passed the events of the last few months. It was late January 2000. Morgan, the retired dean of Boston University's business school, knew well the trip to Burlington. As a member of the board of directors of Ben & Jerry's Homemade over the past 13 years, he had seen the company grow both in financial and social stature. The company was now not only an industry leader in the super-premium ice-cream market but also commanded an important leadership position in social causes from the dairy farms of Vermont to the rainforests of South America.

Increased competitive pressure and Ben & Jerry's declining financial performance had triggered a number of takeover offers for the resolutely independent-minded company. Today's board meeting had been convened to consider the pending offers. Morgan expected a lively debate. Co-founders Ben Cohen and Jerry Greenfield knew the company's social orientation required corporate independence. In stark contrast, chief executive Perry Odak felt that shareholders would be best served by selling out to the highest bidder.

## **BEN & JERRY'S HOMEMADE**

Ben & Jerry's Homemade, a leading distributor of super-premium ice-creams, frozen yogurts and sorbets, was founded in 1978 in an old gas station in Burlington, Vermont. Cohen and Greenfield recounted their company's beginnings :

One day in 1977 we (Cohen and Greenfield) found ourselves sitting on the front steps of Jerry's parents' house in Merrick, Long Island, talking about what kind of business to go into. Since eating was our greatest passion, it seemed logical to start with a restaurant... We wanted to pick a product that was becoming popular in big cities and move it to a rural college town, because we wanted to live in that kind of environment. We wanted to have a lot of interaction with our customers and enjoy ourselves. And, of course, we wanted a product that we liked to eat..... We found an ad for a \$ 5 ice-cream-making correspondence course offered through Penn State. Due to our extreme poverty, we decided to split one course between us, sent in our five bucks, read the material they sent back and passed the open-book tests with flying colours. That settled it. We were going into the ice-cream business.

Once we'd decided on an ice-cream parlor, the next step was to decide where to put it. We knew college students eat a lot of ice-cream; we knew they eat more of it in warm weather. Determined to make an informed decision (but lacking in technological and financial resources), we developed our own low-budget "manual cross-correlation analysis." Ben sat at the kitchen table, leafing through a U.S. almanac to research towns that had the highest average temperatures. Jerry sat on the floor; reading a guide to American colleges, searching for rural towns that had the most college kids. Then we merged our lists. When we investigated the towns that came up, we discovered that apparently someone had already done this work ahead of us. All the warm towns that had a decent number of college kids already had homemade ice-cream parlors. So we threw out the temperature criterion and ended up in Burlington, Vermont. Burlington had a young population, a significant college population, and virtually no competition. Later we realized the reason there was no competition : it's so cold in Burlington for so much of the year, and the summer season is so short, it was obvious (to everyone except us) that there was no way an ice-cream parlor could succeed there. Or so it seemed.

By January 2000, Cohen and Greenfield's ice-cream operation in Burlington, Ben & Jerry's Homemade, had become a major premium ice-cream producer with over 170 stores (scoop shops) across the United States and overseas, and had developed an important presence on supermarket shelves. Annual sales had grown to \$ 237 million and the company's equity was valued at \$ 160 million (see **Exhibits 1 and 2**). The company was known for such zany ice-cream flavors as Chubby Hubby, Chunky Monkey and Bovinity Divinity. **Exhibit 3** provides a selected list of flavors from a scoop-shop menu.

## **BEN & JERRY'S SOCIAL CONSCIOUSNESS**

Ben & Jerry's was also known for its emphasis on socially progressive causes and community commitment. Although unique during its early years, Ben & Jerry's community orientation was no longer that uncommon. Companies such as Patagonia (clothing), Odwalla (juice), The Body Shop (body-care products), and Tom's of Maine (personal-care products) shared similar visions of what they termed "caring capitalism".

Ben & Jerry's social objective permeated every aspect of the business. One dimension was its tradition of generous donations of corporate resources. Since 1985, Ben & Jerry's donated 7.5 percent of its pre-tax earnings to various



social foundations and community-action groups. The company supported causes such as Greenpeace and the Vietnam Veterans of America Foundation by signing petitions and recruiting volunteers from its staff and the public. The company expressed customer appreciation with an annual free cone day at all of its scoop shops. During the event, customers were welcome to enjoy free cones all day.

Although the level of community giving was truly exceptional, what really made Ben & Jerry's unique was its commitment to social objectives in its marketing, operations, and finance policies. Cohen and Greenfield emphasised that their approach was fundamentally different from the self-promotion-based motivation of social causes supported by most corporations.

At its best, cause-related marketing is helpful in that it uses marketing dollars to help fund social programs and raise awareness of social ills. At its worst, it's "greenwashing" — using philanthropy to convince customers the company is aligned with good causes, so the company will be seen as good, too, whether it is or not.... They understand that if they dress themselves in that clothing, slap that image on, that's going to move product. But instead of just slapping the image on, wouldn't it be better if the company actually did care about its consumers and the community?

An example of Ben & Jerry's social-values-led marketing included its development of an ice-cream flavor to provide demand for harvestable tropical-rainforest products. The product's sidebar described the motivation :

This flavor combines our super-creamy vanilla ice-cream with chunks of Rainforest Crunch, a cashew & Brazil nut buttercrunch made for us by our friends at Community Products in Montpelier, Vermont. The cashews & Brazil nuts in this ice-cream are harvested in a sustainable way from tropical rainforests and represent an economically viable long-term alternative to cutting these trees down. Enjoy !  
Ben & Jerry

Financing decisions were also subject to community focus. In May of 1984, Ben & Jerry's initiated its first public equity financing. Rather than pursue a broad traditional public offering, the company issued 75,000 shares at \$ 10.50 a share exclusively to Vermont residents. By restricting the offering to Vermonters, Cohen hoped to provide that those who first supported the company be able to profit from its success. To provide greater liquidity and capital, a traditional broad offering was later placed and the shares were then listed and traded on Nasdaq. Despite Ben & Jerry's becoming a public company, Cohen and Greenfield did not

always follow traditional investor-relations practices. "Chico" Lager, the general manager at the time, recalled the following Ben Cohen interview transcript he received before publication in the *Wall Street Transcript* :

**TWST :** Do you believe you can attain a 15 percent increase in earnings each year over the next five years ?

**Cohen :** I got no idea.

**TWST :** Umm-hmm. What do you believe your capital spending will be each year over the next five years ?

**Cohen :** I don't have any ideas as to that either.

**TWST :** I see. How do you react to the way the stock market has been treating you in general and vis-à-vis other companies in your line ?

**Cohen :** I think the stock market goes up and down, unrelated to how a company is doing. I never expected it to be otherwise. I anticipate that it will continue to go up and down, based solely on rumor and whatever sort of manipulation those people who like to manipulate the market can accomplish.

**TWST :** What do you have for hobbies ?

**Cohen :** Hobbies. Let me think. Eating mostly. Ping-Pong.

**TWST :** Huh ?

**Cohen :** Ping-Pong.

Solutions to corporate operating decisions were also dictated by Ben & Jerry's interest in community welfare. The disposal of factory wastewater provided an example.

In 1985, when we moved into our new plant in Waterbury, we were limited in the amount of wastewater that we could discharge into the municipal treatment plant. As sales and production skyrocketed, so did our liquid waste, most of which was milky water. We made a deal with Earl, a local pig farmer, to feed our milky water to his pigs. (They loved every flavor except Mint with Oreo Cookies. Cherry Garcia was their favorite.) Earl's pigs alone couldn't handle our volume, so eventually we loaned Earl \$ 10,000 to buy two hundred piglets. As far as we could tell, this was a win-win solution to a tricky environmental problem. The pigs were happy. Earl was happy. We were happy. The community was happy.

Ben & Jerry's social orientation was balanced with product and economic objectives. Its mission statement included all three dimensions, and stressed seeking new and creative ways of fulfilling each without compromising the others :

**Product** : To make, distribute and sell the finest quality all natural ice-cream and related products in a wide variety of innovative flavors made from Vermont dairy products.

**Economic** : To operate the Company on a sound financial basis of profitable growth, increasing value for our shareholders, and creating career opportunities and financial rewards for our employees.

**Social** : To operate the Company in a way that actively recognizes the central role that business plays in the structure of society by initiating innovative ways to improve the quality of life of a broad community — local, national, and international.

Management discovered early on that the company's three objectives were not always in harmony. Cohen and Greenfield told of an early example :

One day we were talking (about our inability to make a profit) to Ben's dad, who was an accountant. He said, "Since you're gonna make such a high-quality product... why don't you raise your prices?" At the time, we were charging fifty-two cents a cone. Coming out of the sixties, our reason for going into business was that ours was going to be "ice-cream for the people". It was going to be great quality products for everybody — not some elitist treat... Eventually we said, "Either we're going to raise our prices or we're going to go out of business. And then where will the people's ice-cream be ? They'll have to get their ice-cream from somebody else." So we raised the prices. And we stayed in business.

At other times, management chose to sacrifice short-term profits for social gains. Greenfield tells of one incident with a supplier :

Ben went to a Social Ventures Network meeting and met Bernie Glassman, a Jewish-Buddhist-former-nuclear-physicist-monk. Bernie had a bakery called Greyston in inner-city Yonkers, New York. It was owned by a non-profit religious institution; its purpose was to train and employ economically disenfranchised people (and) to fund low-income housing and other community-service activities. Ben said, "We're looking for someone who can bake these thin, chewy, fudgy brownies. If you could do that, we could give you some business and you could make us the brownies we need, and that would be great for both of us." ... The first order we gave Greyston was for a couple of tons. For us, that was a small order. For Greyston, it was a huge order. It caused their system to break down. The brownies were coming off the line so fast that they ended up getting packed hot. Then they needed to be frozen. Pretty soon, the bakery freezer was filled up with these steaming fifty-pound boxes of hot brownies. The freezer couldn't stay very cold, so it took days to freeze the brownies. By the time they were frozen, (they) had turned into fifty-pound blocks of brownie. And that's what Greyston shipped to us. So we called up Bernie and we said, "Those

two tons you shipped us were all stuck together. We're shipping them back." Bernie said, "I can't afford that. I need the money to meet my payroll tomorrow. Can't you unstick them?" And we said, "Bernie, this really gums up the works over here." We kept going back and forth with Greyston, trying to get the brownies right. Eventually we created a new flavor, Chocolate Fudge Brownie, so we could use the brownie blocks.

## **ASSET CONTROL**

The pursuit of a non-profit-oriented policy required stringent restrictions on corporate control. For Ben & Jerry's, asset control was limited through elements of the company's corporate charter, differential stock-voting rights and a supportive Vermont legislature.

### **Corporate Charter Restrictions**

At the 1997 Annual Meeting, Ben & Jerry's shareholders approved amendments to the charter that gave the board greater power to perpetuate the mission of the firm. The amendments created a staggered board of directors, whereby the board was divided into three classes, with one class of directors being elected each year for a three-year term. A director could only be removed with the approval of a two-thirds vote of all shareholders. Also, any vacancy resulting from the removal of a director

could be filled by two-thirds of the directors then in office. Finally, the stockholders increased the number of votes required to alter, amend, repeal, or adopt any provision inconsistent with these amendments to at least two-thirds of shareholders. See **Exhibit 4** for a summary of the current board composition.

### **Differential Voting Rights**

Ben & Jerry's had three equity classes : class A common, class B common, and class A preferred. The holders of class A common were entitled to one vote for each share held. The holders of class B common, reserved primarily for insiders, were entitled to 10 votes for each share held. Class B common was not transferable but could be converted into class A common stock on a share-for-share basis and was transferable thereafter. The company's principals — Ben Cohen, Jerry Greenfield, and Jeffrey Furman — held effectively 47 percent of the aggregate voting power, with only 17 percent of the aggregate common equity outstanding. Non-board members, however, still maintained 51 percent of the voting power (see **Exhibit 5**). The class A preferred stock was held exclusively by the Ben & Jerry's Foundation, a community action group. The class A preferred gave the foundation a special voting right to act with respect to certain business combinations and



authority to limit the voting rights of common stockholders in certain transactions such as mergers and tender offers, even if the common stockholders favored such transactions.

### **Vermont Legislation**

In April 1998, the Vermont Legislature amended a provision of the Vermont Business Corporation Act, which gave the directors of a Vermont corporation the authority to consider the interests of the corporation's employees, suppliers, creditors, and customers when determining whether an acquisition offer or other matter was in the best interests of the corporation. The board could also consider the economy of the State in which the corporation was located and whether the best interests of the company could be served by the continued independence of the corporation.

These and other defense mechanisms strengthened Ben & Jerry's ability to remain an independent, Vermont-based company and to focus on carrying out the threefold corporate mission, which management believed was in the best interests of the company, its stock holders, employees, suppliers, customers and the Vermont community at large.

## THE OFFERS

Morgan reviewed the offers on the table. Discussion with potential merger partners had been ongoing since the previous summer. In August 1999, Pillsbury (maker of the premium ice-cream Häagen-Dazs) and Nestlé (maker of Nestlé-brand frozen treats and 22 percent owner of Dreyer's Grand) announced the formation of an ice-cream joint venture. Ben & Jerry's had previously contracted with both Pillsbury and Dreyer's to distribute Ben & Jerry's products. Thus, with the merger, Pillsbury-Nestlé would become the largest distributor of Ben & Jerry's product. Concerned that the Pillsbury-Nestlé distribution channel was no longer advantageous motivated the Ben & Jerry's board to authorize Odak to pursue joint-venture and merger discussion with Unilever and Dreyer's. By December, the joint-venture arrangements had broken down, but the discussions had resulted in takeover offers for Ben & Jerry's of between \$ 33 and \$ 35 per share from Unilever and \$ 31 from Dreyer's. Just yesterday Unilever had raised its offer to \$ 36 and two private investment houses, Meadowbrook Lane Capital and Chartwell Investments, had made two separate additional offers. The offer prices represented a substantial premium over the

pre-offer announcement share price of \$ 21. See **Exhibit 6** for a comparison of investor-value measures for Ben & Jerry's and selected competitors.

### **Dreyer's Grand Ice-Cream**

Dreyer's Grand Ice-Cream sold premium ice-cream and other frozen desserts under the Dreyer's and Edy's brands and some non-branded labels. The Dreyer's and Edy's lines were distributed through a direct-store-delivery system. Total sales were over \$ 1 billion, and company stock traded at a total capitalization of \$ 450 million. Dreyer's was also involved in community-service activities. In 1987, the company established the Dreyer's Foundation to provide more focused community support, particularly for youth and K-12 public education.

### **Unilever**

Unilever manufactured branded consumer goods, including foods, detergents, and other home and personal-care products. The company's ice-cream division included the Good Humor, Breyers, Klondike, Dickie Dee, and Popsicle brands, and was the largest producer of ice-cream in the world. Good Humor-Breyers was headquartered in Green Bay, Wisconsin, with plants and regional sales offices located

throughout the United States. Unilever had a total market capitalization of \$ 18 billion.

### **Meadowbrook Lane Capital**

Meadowbrook Lane Capital was a private investment fund that portrayed itself as socially responsible. The firm was located in Northampton, Massachusetts. The Meadowbrook portfolio included holdings in Hain Foods, a producer of specialty health-oriented food products. Meadowbrook proposed acquiring a majority ownership interest through a tender offer to Ben & Jerry's shareholders.

### **Chartwell Investments**

Chartwell Investments was a New York City private-equity firm that invested in growth financings and management buyouts of middle-market companies. Chartwell proposed investing \$ 30 – \$ 50 million in Ben & Jerry's in exchange for a convertible preferred-equity position that would allow provided that Chartwell to obtain majority representation on the board of directors.

Morgan summarised the outstanding offer details as follows :

<b>Bidder</b>	<b>Offering Price</b>	<b>Main Proposal</b>
Dreyer's Grand	\$ 31 (Stock)	<ul style="list-style-type: none"> <li>• Maintain B&amp;J management team</li> <li>• Operate B&amp;J as a quasi-autonomous business unit</li> <li>• Encourage some social endeavours</li> </ul>
Unilever	\$ 36 (Cash)	<ul style="list-style-type: none"> <li>• Maintain select members of B&amp;J management team</li> <li>• Integrate B&amp;J into Unilever frozen desserts division</li> <li>• Restrict social commitments and interests</li> </ul>
Meadowbrook Lane	\$ 32 (Cash)	<ul style="list-style-type: none"> <li>• Install new management team</li> <li>• Allow B&amp;J to operate as an independent company controlled under the Meadowbrook umbrella</li> <li>• Maintain select social projects and interests</li> </ul>
Chartwell	Minority Interest	<ul style="list-style-type: none"> <li>• Install new management term</li> <li>• Allow B&amp;J to continue as an independent company</li> </ul>

## CONCLUSION

Morgan doubted that the social mission of the company would survive a takeover by a large traditional company. Despite his concern for Ben & Jerry's social interests, Morgan recognised that, as a member of the board, he had been elected to represent the interests of shareholders. Financial reporter Richard McCaffrey expressed the opinion of many shareholders :

Let's jump right into the fire and suggest, depending upon the would-be acquiring company's track record at creating value, that it makes sense for the company (Ben & Jerry's) to sell. Why ? At \$ 21 a share. Bell & Jerry's stock has pattered around the same level, more or less, for years despite regular sales and earnings increases. For a company with a great brand name, about a 45 percent share of the super-premium ice-cream market, successful new-product roll-outs and decent traction in its international expansion efforts, the returns should be better. Some of the reasons for underperformance, such as the high price of cream and milk, aren't factors the company can control. That's life in the ice-cream business. But Ben & Jerry's average return on share-holders's equity, a measure of how well it's employing shareholders' money, stood at

7 percent last year, up from 5 percent in 1997. That's lousy by any measure, though it's improved this year and now stands at about 9 percent. This isn't helped by the company's charitable donations, of course, but if you're an investor in Ben & Jerry's you knew this going in — it's an iron clad part of corporate culture, and has served the company well. Still, Ben & Jerry's has to find ways to create value.

The plane banked-over icy Lake Champlain and was beginning its descent into Burlington as Morgan collected his thoughts for what would undoubtedly be an emotional and spirited afternoon meeting.

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**EXHIBIT 1**

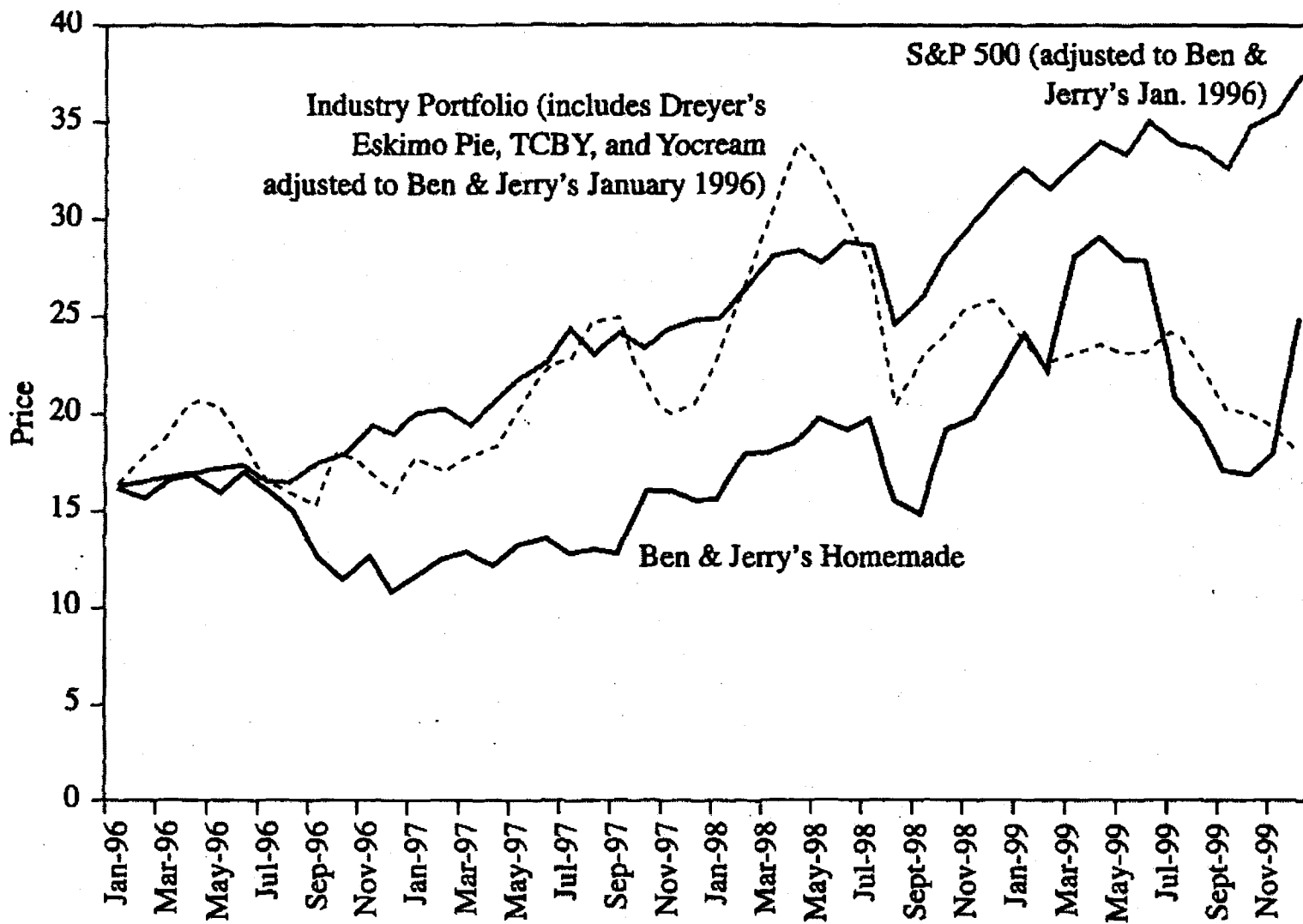
**Ben & Jerry's Homemade Financial Statements and Financial Ratios**

	1999	1998	1997	1996	1995	1994
1 Net sales	\$ 237.0	\$ 209.2	\$ 174.2	\$ 167.2	\$ 155.3	\$ 148.8
2 Cost of sales	<u>145.3</u>	<u>136.2</u>	<u>114.3</u>	<u>115.2</u>	<u>109.1</u>	<u>109.8</u>
3 Gross profit	91.7	73.0	59.9	51.9	46.2	39.0
4 Selling, general and administrative expenses	<u>78.6</u>	<u>63.9</u>	<u>53.5</u>	<u>45.5</u>	<u>36.4</u>	<u>36.3</u>
5 Earning before interest and taxes	13.1	9.1	6.4	6.4	9.8	2.8
6 Net income	12.0	6.2	3.9	3.9	5.9	(1.9)
8 Working capital	\$ 42.8	\$ 48.4	\$ 51.4	\$ 50.1	\$ 51.0	\$ 37.5
9 Total assets	150.6	149.5	146.5	136.7	131.1	120.3
10 Long-term debt and obligations	16.7	20.5	25.7	31.1	32.0	32.4
11 Stockholders' equity	89.4	90.9	86.9	82.7	78.5	72.5
Per share figures —						
Sales	\$ 31.34					
Earnings	1.59					
Book equity	\$ 11.82					
Gross margin (3/1)	38.7%	34.9%	34.4%	31.0%	29.7%	26.2%
Operating margin (5/1)	5.5%	4.3%	3.7%	3.8%	6.3%	1.9%
Net income margin (6/1)	5.1%	3.0%	2.2%	2.3%	3.8%	- 1.3%
Asset turnover (1/9)	1.6	1.4	1.2	1.2	1.2	1.2
Working capital turnover(1/8)	5.5	4.3	3.4	3.3	3.0	4.0
ROA (5*(1 - 40%)/9)	5.8%	3.7%	2.6%	2.8%	4.5%	1.4%
ROE (6/11)	13.4%	6.8%	4.5%	4.7%	7.5%	- 2.6%



**EXHIBIT 2**

**Ben & Jerry's Homemade Stock-Price Performance**



### EXHIBIT 3

#### Ben & Jerry's Selected List of Flavors (January 2000)

Bovinity Divinity	Milk-Chocolate ice-cream and white-chocolate cows swirled with white-chocolate ice-cream and dark fudge cows
Cherry Garcia	Cherry ice-cream with cherries and fudge flakes
Chocolate Chip Cookie Dough	Vanilla ice-cream with gobs of chocolate-chip cookie dough
Chocolate Fudge Brownie	Chocolate ice-cream with fudgy brownies
Chubby Hubby	Chocolate-covered peanut-butter-filled pretzels in vanilla-malt ice-cream with fudge and peanut-butter swirls
Chunky Monkey	Banana ice-cream with walnuts and chocolate chunks
Coconut Almond Fudge Chip	Coconut ice-cream with almonds and fudge chips
Coffee, Coffee, BuzzBuzzBuzz !	Coffee ice-cream with espresso-fudge chunks
Deep Dark Chocolate	Very chocolaty ice-cream
New York Super Fudge Chunk	Chocolate ice-cream with white- and dark-chocolate chunks, pecans, walnuts, and chocolate-covered almonds
Peanut Butter Cup	Peanut-butter ice-cream with peanut-butter cups
Phish Food	Milk-chocolate ice-cream with marshmallow nougat, caramel swirls, and fudge fish
Pistachio Pistachio	Pistachio ice-cream with pistachios
S'mores	Chocolate low-fat ice-cream with marshmallow swirls and graham-cracker wedges
Southern Pecan Pie	Brown-sugar ice-cream with roasted pecans, chunks of pecan-pie pieces and a pecan-caramel swirl

## EXHIBIT 4

### Composition of Board of Directors

<b>Name</b>	<b>Age</b>	<b>Office*</b>	<b>Year Elected</b>
Jerry Greenfield	48	Chairperson, Director	1990
Ben Cohen	48	Vice Chairperson, Director	1977
Perry Odak	54	Chief Executive Officer, President and Director	1997
Pierre Ferrari	49	Director, Self-Employed Consultant	1997
Jeffery Furman	56	Director, Self-Employed Consultant	1982
Jennifer Henderson	46	Director, President of leadership-consulting firm Strategic Interventions	1996
Frederick A. Miller	53	Director, President of management-consulting firm Kaleel Jamison Consulting Group	1992
Henry Morgan	74	Director, Dean Emeritus of Boston University School of Management	1987
Bruce Bowman	47	Senior Director of Operations	1995
Charles Green	45	Senior Director of Sales and Distribution	1996
Michael Sands	35	Chief Marketing Officer	1999
Frances Rathke	39	Chief Financial Officer and Secretary	1990

\*Occupations of directors who were neither employed at Ben & Jerry's nor The Ben & Jerry's Foundation, Inc., as of March 25, 1999, are as follows :

*Ben Cohen* : Co-founder of Ben & Jerry's, and served as a director at Blue Fish Clothing, Community Products, Inc., Social Venture Network, and Greenpeace International.

*Pierre Ferrari* : President of Lang International, a marketing-consulting firm.

*Jeffrey Furman* : Self-employed consultant.

*Jennifer Henderson* : Director of Training at the Center for Community Change, and President of Strategic Interventions, a leadership- and management-consulting firm.

*Frederick A. Miller* : President of Kaleel Jamison Consulting Group, a strategic-culture-change and management-consulting firm.

*Henry Morgan* : Retired Dean Emeritus of Boston University School of Management. Also served as a director at Cambridge Bancorporation, Southern Development Bancorporation, and Cleveland Development Bancorporation.

**EXHIBIT 5**

**Beneficial-Ownership Structure of Ben & Jerry's Homemade**

	Class A Common Stock		Class B Common Stock		Preferred Stock	
	Number of Shares	% Outstanding Shares	Number of Shares	% Outstanding Shares	Number of Shares	% Outstanding Shares
Ben Cohen	4,13,173	6.7%	4,88,486	61.5%	—	—
Jerry Greenfield	1,30,000	2.1%	90,000	11.3%	—	—
Jeffrey Furman	17,000	*	30,300	3.8%	—	—
Perry Odak	3,68,521	6.0%	—	—	—	—
Pierre Ferrari	8,121	*	—	—	—	—
Jennifer Henderson	1,138	*	—	—	—	—
Frederick A. Miller	4,345	*	—	—	—	—
Henry Morgan	5,845	*	—	—	—	—
Bruce Bowman	46,064	*	—	—	—	—
Charles Green	17,809	*	—	—	—	—
Frances Rathke	51,459	*	—	—	—	—
Crédit Suisse Asset Management	8,60,500	14.1%	—	—	—	—
Dimensional Fund Advisors	3,59,000	5.9%	—	—	—	—
All Officers and Directors (as a group of 15 persons)	11,15,554	18.2%	6,08,786	76.6%	—	—
The Ben & Jerry's Foundation, Inc.	—	—	—	—	900	100.0%
<b>Total shares outstanding</b>	<b>61,21,493</b>		<b>7,94,539</b>		<b>900</b>	

\* Less than 1%.

**EXHIBIT 6****Investor-Value Measures — Ben & Jerry's and Industry Comparables**

	Price/Earnings	Price/Book
Dreyer's Grand	47.2	7.8
Eskimo Pie	30.7	1.1
TCBY Enterprises	12.5	1.2
Yocream International	9.4	1.8
Ben & Jerry's	13.2	1.7

Table A.1 Present Value of \$1 :  $PVIF = 1/(1 + k)^t$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	.1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	.0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	.1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	.0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	.0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001	*	*
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001	*	*	*	*
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001	*	*	*	*	*	*

\* The factor is zero to four decimal places.

Table A.2 Present Value of an Annuity of \$1 Per Period for n Periods :  $PVIFA = \sum_{t=1}^n \frac{1}{(1+k)^t} = \frac{1 - \frac{1}{(1+k)^n}}{k}$

Number of Payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8772	0.8696	0.8621	0.8475	0.8333	0.8065	0.7813	0.7576
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.6901	1.6467	1.6257	1.6052	1.5656	1.5278	1.4568	1.3916	1.3315
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4018	2.3216	2.2832	2.2459	2.1743	2.1065	1.9813	1.8684	1.7663
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.0373	2.9137	2.8550	2.7982	2.6901	2.5887	2.4043	2.2410	2.0957
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6048	3.4331	3.3522	3.2743	3.1272	2.9906	2.7454	2.5320	2.3452
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.1114	3.8887	3.7845	3.6847	3.4976	3.3255	3.0205	2.7594	2.5342
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.5638	4.2883	4.1604	4.0386	3.8115	3.6046	3.2423	2.9370	2.6775
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	4.9676	4.6389	4.4873	4.3436	4.0776	3.8372	3.4212	3.0758	2.7860
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.3282	4.9464	4.7716	4.6065	4.3030	4.0310	3.5655	3.1842	2.8681
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.6502	5.2161	5.0188	4.8332	4.4941	4.1925	3.6819	3.2689	2.9304
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	5.9377	5.4527	5.2337	5.0286	4.6560	4.3271	3.7757	3.3351	2.9776
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.1944	5.6603	5.4206	5.1971	4.7932	4.4392	3.8514	3.3868	3.0133
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.4235	5.8424	5.5831	5.3423	4.9095	4.5327	3.9124	3.4272	3.0404
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.6282	6.0021	5.7245	5.4675	5.0081	4.6106	3.9616	3.4587	3.0609
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	6.8109	6.1422	5.8474	5.5755	5.0916	4.6755	4.0013	3.4834	3.0764
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	6.9740	6.2651	5.9542	5.6685	5.1624	4.7296	4.0333	3.5026	3.0882
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.1196	6.3729	6.0472	5.7487	5.2223	4.7746	4.0591	3.5177	3.0971
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.2497	6.4674	6.1280	5.8178	5.2732	4.8122	4.0799	3.5294	3.1039
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.3658	6.5504	6.1982	5.8775	5.3162	4.8435	4.0967	3.5386	3.1090
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.4694	6.6231	6.2593	5.9288	5.3527	4.8696	4.1103	3.5458	3.1129
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	7.8431	6.8729	6.4641	6.0971	5.4669	4.9476	4.1474	3.5640	3.1220
30	25.8077	22.3965	19.6004	17.2920	15.3725	13.7648	12.4090	11.2578	10.2737	9.4269	8.0552	7.0027	6.5660	6.1772	5.5168	4.9789	4.1601	3.5693	3.1242
40	32.8347	27.3555	23.1148	19.7928	17.1591	15.0463	13.3317	11.9246	10.7574	9.7791	8.2438	7.1050	6.6418	6.2335	5.5482	4.9966	4.1659	3.5712	3.1250
50	39.1961	31.4236	25.7298	21.4822	18.2559	15.7619	13.8007	12.2335	10.9617	9.9148	8.3045	7.1327	6.6605	6.2463	5.5541	4.9995	4.1666	3.5714	3.1250
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2492	5.5553	4.9999	4.1667	3.5714	3.1250



Table A.3 Future Value of \$1 at the End of n Periods :  $FVIF_{k,n} = (1 + k)^n$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1200	1.1400	1.1500	1.1600	1.1800	1.2000	1.2400	1.2800	1.3200	1.3600
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2544	1.2996	1.3225	1.3456	1.3924	1.4400	1.5376	1.6384	1.7424	1.8496
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.4049	1.4815	1.5209	1.5609	1.6430	1.7280	1.9066	2.0972	2.3000	2.5155
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5735	1.6890	1.7490	1.8106	1.9388	2.0736	2.3642	2.6844	3.0360	3.4210
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.7623	1.9254	2.0114	2.1003	2.2878	2.4883	2.9316	3.4360	4.0075	4.6526
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.9738	2.1950	2.3131	2.4364	2.6996	2.9860	3.6352	4.3980	5.2899	6.3275
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.2107	2.5023	2.6600	2.8262	3.1855	3.5832	4.5077	5.6295	6.9826	8.6054
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926	2.1436	2.4760	2.8526	3.0590	3.2784	3.7589	4.2998	5.5895	7.2058	9.2170	11.703
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.7731	3.2519	3.5179	3.8030	4.4355	5.1598	6.9310	9.2234	12.166	15.916
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	3.1058	3.7072	4.0456	4.4114	5.2338	6.1917	8.5944	11.805	16.059	21.646
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.4785	4.2262	4.6524	5.1173	6.1759	7.4301	10.657	15.111	21.198	29.439
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.8960	4.8179	5.3503	5.9360	7.2876	8.9161	13.214	19.342	27.982	40.037
13	1.1381	1.2936	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658	3.4523	4.3635	5.4924	6.1528	6.8858	8.5994	10.699	16.386	24.758	36.937	54.451
14	1.1495	1.3195	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.8871	6.2613	7.0757	7.9875	10.147	12.839	20.319	31.691	48.756	74.053
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	5.4736	7.1379	8.1371	9.2655	11.973	15.407	25.195	40.564	64.358	100.71
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5950	6.1304	8.1372	9.3576	10.748	14.129	18.488	31.242	51.923	84.953	136.96
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	6.8660	9.2765	10.761	12.467	16.672	22.186	38.740	66.461	112.13	186.27
18	1.1961	1.4282	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171	5.5599	7.6900	10.575	12.375	14.462	19.673	26.623	48.038	85.070	148.02	253.33
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	8.6128	12.055	14.231	16.776	23.214	31.948	59.567	108.89	195.39	344.53
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	9.6463	13.743	16.366	19.460	27.393	38.337	73.864	139.37	257.91	468.57
21	1.2324	1.5157	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088	7.4002	10.803	15.667	18.821	22.574	32.323	46.005	91.591	178.40	340.44	637.26
22	1.2447	1.5460	1.9161	2.3699	2.9253	3.6035	4.4304	5.4365	6.6586	8.1403	12.100	17.861	21.644	26.186	38.142	55.206	113.57	228.35	449.39	866.67
23	1.2572	1.5769	1.9736	2.4647	3.0715	3.8197	4.7405	5.8715	7.2579	8.9543	13.552	20.361	24.891	30.376	45.007	66.247	140.83	292.30	593.19	1178.6
24	1.2697	1.6084	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111	9.8497	15.178	23.212	28.625	35.236	53.108	79.496	174.63	374.14	783.02	1602.9
25	1.2824	1.6406	2.0938	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.834	17.000	26.461	32.918	40.874	62.668	95.396	216.54	478.90	1033.5	2180.0
26	1.2953	1.6734	2.1566	2.7725	3.5557	4.5494	5.8074	7.3964	9.3992	11.918	19.040	30.166	37.856	47.414	73.948	114.47	268.51	612.99	1364.3	2964.9
27	1.3082	1.7069	2.2213	2.8834	3.7335	4.8223	6.2139	7.9881	10.245	13.110	21.324	34.389	43.535	55.000	87.259	137.37	332.95	784.63	1800.9	4032.2
28	1.3213	1.7410	2.2879	2.9987	3.9201	5.1117	6.6488	8.6271	11.167	14.421	23.883	39.204	50.065	63.800	102.96	164.84	412.86	1004.3	2377.2	5483.8
29	1.3345	1.7758	2.3566	3.1187	4.1161	5.4184	7.1143	9.3173	12.172	15.863	26.749	44.693	57.575	74.008	121.50	197.81	511.95	1285.5	3137.9	7458.0
30	1.3478	1.8114	2.4273	3.2434	4.3219	5.7435	7.6123	10.062	13.267	17.449	29.959	50.950	66.211	85.849	143.37	237.37	634.81	1645.5	4142.0	10143.
40	1.4889	2.2080	3.2620	4.8010	7.0400	10.285	14.974	21.724	31.409	45.259	93.050	188.88	267.86	378.72	750.37	1469.7	5455.9	19426.	66520.	*
50	1.6446	2.6916	4.3839	7.1067	11.467	18.420	29.457	46.901	74.357	117.39	289.00	700.23	1083.6	1670.7	3927.3	9100.4	46890.	*	*	*
60	1.8167	3.2810	5.8916	10.519	18.679	32.987	57.946	101.25	176.03	304.48	897.59	2595.9	4383.9	7370.1	20555.	56347.	*	*	*	*

\*FVIF > 99,999.

Table A.4 Sum of an Annuity of \$1 Per Period for n Periods :  $FVIFA_{k,n} = \sum_{t=1}^n (1+k)^{n-t} = \frac{(1+k)^n - 1}{k}$

Number of Periods	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	2.0100	2.0200	2.0300	2.0400	2.0500	2.0600	2.0700	2.0800	2.0900	2.1000	2.1200	2.1400	2.1500	2.1600	2.1800	2.2000	2.2400	2.2800	2.3200	2.3600
3	3.0301	3.0604	3.0909	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100	3.3744	3.4396	3.4725	3.5056	3.5724	3.6400	3.7776	3.9184	4.0624	4.2096
4	4.0604	4.1216	4.1836	4.2465	4.3101	4.3746	4.4399	4.5061	4.5731	4.6410	4.7793	4.9211	4.9934	5.0665	5.2154	5.3680	5.6842	6.0156	6.3624	6.7251
5	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847	6.1051	6.3528	6.6101	6.7424	6.8771	7.1542	7.4416	8.0484	8.6999	9.3983	10.146
6	6.1520	6.3081	6.4684	6.6330	6.8019	6.9753	7.1533	7.3359	7.5233	7.7156	8.1152	8.5355	8.7537	8.9775	9.4420	9.9299	10.980	12.135	13.405	14.798
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3938	8.6540	8.9228	9.2004	9.4872	10.089	10.730	11.066	11.413	12.141	12.915	14.615	16.533	18.695	21.126
8	8.2857	8.5830	8.8923	9.2142	9.5491	9.8975	10.259	10.636	11.028	11.435	12.299	13.232	13.726	14.240	15.327	16.499	19.122	22.163	25.678	29.731
9	9.3685	9.7546	10.159	10.582	11.026	11.491	11.978	12.487	13.021	13.579	14.775	16.085	16.785	17.518	19.085	20.798	24.712	29.369	34.895	41.435
10	10.462	10.949	11.463	12.006	12.577	13.180	13.816	14.486	15.192	15.937	17.548	19.337	20.303	21.321	23.521	25.958	31.643	38.592	47.061	57.351
11	11.566	12.168	12.807	13.486	14.206	14.971	15.783	16.645	17.560	18.531	20.654	23.044	24.349	25.732	28.755	32.150	40.237	50.398	63.121	78.998
12	12.682	13.412	14.192	15.025	15.917	16.869	17.888	18.977	20.140	21.384	24.133	27.270	29.001	30.850	34.931	39.580	50.894	65.510	84.320	108.43
13	13.809	14.680	15.617	16.626	17.713	18.882	20.140	21.495	22.953	24.522	28.029	32.088	34.351	36.786	42.218	48.496	64.109	84.852	112.30	148.47
14	14.947	15.973	17.086	18.291	19.598	21.015	22.550	24.214	26.019	27.975	32.392	37.581	40.504	43.672	50.818	59.195	80.496	109.61	149.23	202.92
15	16.096	17.293	18.598	20.023	21.578	23.276	25.129	27.152	29.360	31.772	37.279	43.842	47.580	51.659	60.965	72.035	100.81	141.30	197.99	276.97
16	17.257	18.639	20.156	21.824	23.657	25.672	27.888	30.324	33.003	35.949	42.753	50.980	55.717	60.925	72.939	87.442	126.01	181.86	262.35	377.69
17	18.430	20.012	21.761	23.697	25.840	28.212	30.840	33.750	36.973	40.544	48.883	59.117	65.075	71.673	87.068	105.93	157.25	233.79	347.30	514.66
18	19.614	21.412	23.414	25.645	28.132	30.905	33.999	37.450	41.301	45.599	55.749	68.394	75.836	84.140	103.74	128.11	195.99	300.25	459.44	700.93
19	20.810	22.840	25.116	27.671	30.539	33.760	37.379	41.446	46.018	51.159	63.439	78.969	88.211	98.603	123.41	154.74	244.03	385.32	607.47	954.27
20	22.019	24.297	26.870	29.778	33.066	36.785	40.995	45.762	51.160	57.275	72.052	91.024	102.44	115.37	146.62	186.68	303.60	494.21	802.86	1298.8
21	23.239	25.783	28.676	31.969	35.719	39.992	44.865	50.422	56.764	64.002	81.698	104.76	118.81	134.84	174.02	225.02	377.46	633.59	1060.7	1767.3
22	24.471	27.299	30.536	34.248	38.505	43.392	49.005	55.456	62.873	71.402	92.502	120.43	137.63	157.41	206.34	271.03	469.05	811.99	1401.2	2404.6
23	25.716	28.845	32.452	36.617	41.430	46.995	53.436	60.893	69.531	79.543	104.60	138.29	159.27	183.60	244.48	326.23	582.62	1040.3	1850.6	3271.3
24	26.973	30.421	34.426	39.082	44.502	50.815	58.176	66.764	76.789	88.497	118.15	158.65	184.16	213.97	289.49	392.48	723.46	1332.6	2443.8	4449.9
25	28.243	32.030	36.459	41.645	47.727	54.864	63.249	73.105	84.700	98.347	133.33	181.87	212.79	249.21	342.60	471.98	898.09	1706.8	3226.8	6052.9
26	29.525	33.670	38.553	44.311	51.113	59.156	68.676	79.954	93.323	109.18	150.33	208.33	245.71	290.08	405.27	567.37	1114.6	2185.7	4260.4	8233.0
27	30.820	35.344	40.709	47.084	54.669	63.705	74.483	87.350	102.72	121.09	169.37	238.49	283.56	337.50	479.22	681.85	1383.1	2798.7	5624.7	11197.9
28	32.129	37.051	42.930	49.967	58.402	68.528	80.697	95.338	112.96	134.20	190.69	272.88	327.10	392.50	566.48	819.22	1716.0	3583.3	7425.6	15230.2
29	33.450	38.792	45.218	52.966	62.322	73.639	87.346	103.96	124.13	148.63	214.58	312.09	377.16	456.30	669.44	984.06	2128.9	4587.6	9802.9	20714.1
30	34.784	40.568	47.575	56.084	66.438	79.058	94.460	113.28	136.30	164.49	241.33	356.78	434.74	530.31	790.94	1181.8	2640.9	5873.2	12940.	28172.2
40	48.886	60.402	75.401	95.025	120.79	154.76	199.63	259.05	337.88	442.59	767.09	1342.0	1779.0	2360.7	4163.2	7343.8	22728.	69377.	*	*
50	61.463	84.579	112.79	152.66	209.34	290.33	406.52	573.76	815.08	1163.9	2400.0	4994.5	7217.7	10435.	21813.	45497.	*	*	*	*
60	81.669	114.05	163.05	237.99	353.58	533.12	813.52	1253.2	1944.7	3034.8	7471.6	18535.	29219	46057.	*	*	*	*	*	*

\*FVIFA > 99,999.