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SHAREHOLDER VALUE CREATION OF
MICROSOFT AND GE

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SHAREHOLDER VALUE CREATION OF MICROSOFT AND GE

Abstract:

In this paper, we will define and analyze shareholder value creation. To help us understand this concept better, we will use the example of two listed companies, General Electric and Microsoft, between 1992 and 2003.

To obtain the created shareholder value, we must first define the increase of equity market value, the shareholder value added, the shareholder return, and the required return to equity.

A company creates value for the shareholders when the shareholder return exceeds the required return to equity (K_e). In other words, a company creates value when it outperforms expectations.

The created shareholder value is quantified as follows:

$$\text{Created shareholder value} = \text{Equity market value} \times (\text{Shareholder return} - K_e)$$

The created shareholder value can also be calculated as follows:

$$\text{Created shareholder value} = \text{Shareholder value added} - (\text{Equity market value} \times K_e)$$

We also calculate the created shareholder value of 400 American companies during the eleven-year period 1992-2003.

JEL Classification: G12, G31, M21

Keywords: Value creation, Shareholder value added

SHAREHOLDER VALUE CREATION OF MICROSOFT AND GE*

In this paper, we will define and analyze shareholder value creation. To help us understand this concept better, we will use the example of two listed companies, General Electric and Microsoft, between 1992 and 2003.

On December 31, 1992, General Electric had 854.04 million shares outstanding and the price of each share on the stock market was 85.49 dollars. On December 31, 2003, General Electric had 10,063.12 million shares outstanding and the price of each share on the stock market was 30.98 dollars¹. Consequently, General Electric's equity market value² increased from 73.02 billion dollars in December 1992 to 311.06 billion dollars in December 2003³. The increase of equity market value during this period was 238.05 billion dollars. However, this is not General Electric's created shareholder value during those years.

On December 31, 1992, Microsoft had 275.06 million shares outstanding and the price of each share was 85.37 dollars. On December 31, 2003, Microsoft had 10,812.47 million shares outstanding and the price of each share on the stock market was 27.37 dollars⁴. Consequently, Microsoft's equity market value increased from 23.48 billion dollars in December 1992 to 295.94 billion dollars in December 2003. The increase of equity market value during this period was 272.45 billion dollars.

To obtain the created shareholder value, we must first define the increase of equity market value, the shareholder value added, the shareholder return, and the required return to equity. It is important not to confuse the created shareholder value with any of the other concepts we have mentioned. All of these concepts will be explained in this paper.

Figure 1 shows that between December 1992 and December 2003, General Electric's equity market value increased 238.05 billion dollars, the shareholder value added was 289.89 billion dollars, and the created shareholder value was 197.93 billion dollars.

* Another version of this paper may be found in chapters 1 and 13 of the author's book *Valuation Methods and Shareholder Value Creation*, 2002, Academic Press, San Diego, CA.

¹ GE had three stock splits in between: 2x1 on May 13, 1994; 2x1 on May 9, 1997; and 3x1 on May 5, 2000.

² The equity market value is the value of all of the company's shares.

³ On December 31, 2003: 10,063.12 million shares x 30.98 dollars/share = 311.06 billion dollars.

⁴ Microsoft had five 2x1 stock splits in between: May 20, 1994; December 6, 1996; February 20, 1998; March 26, 1999; and February 14, 2003.

Figure 1. General Electric. December 1992-December 2003.

Increase of equity market value, shareholder value added, and created shareholder value (billion dollars)

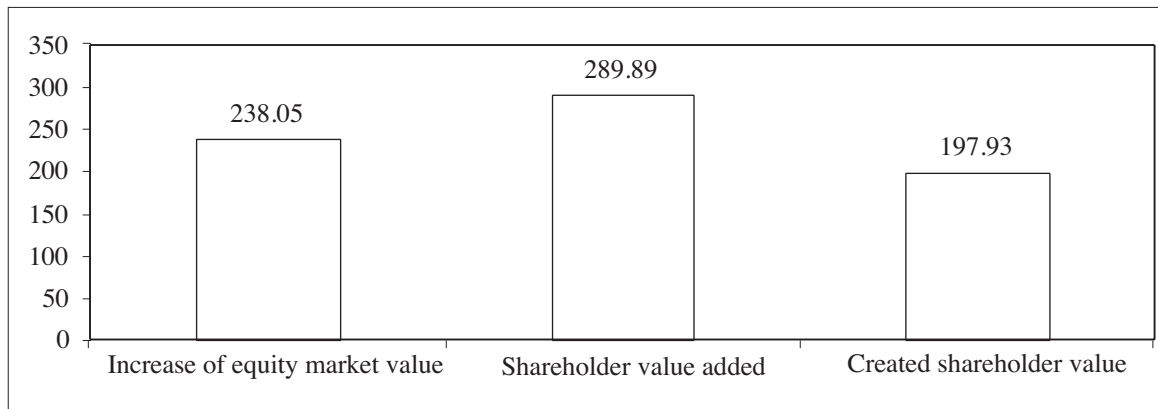
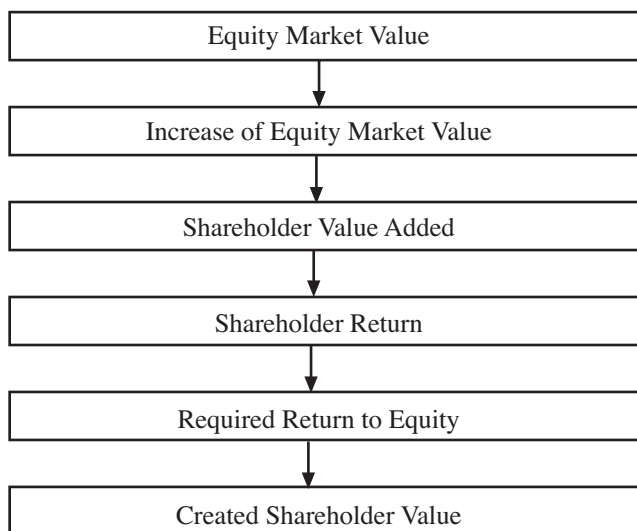
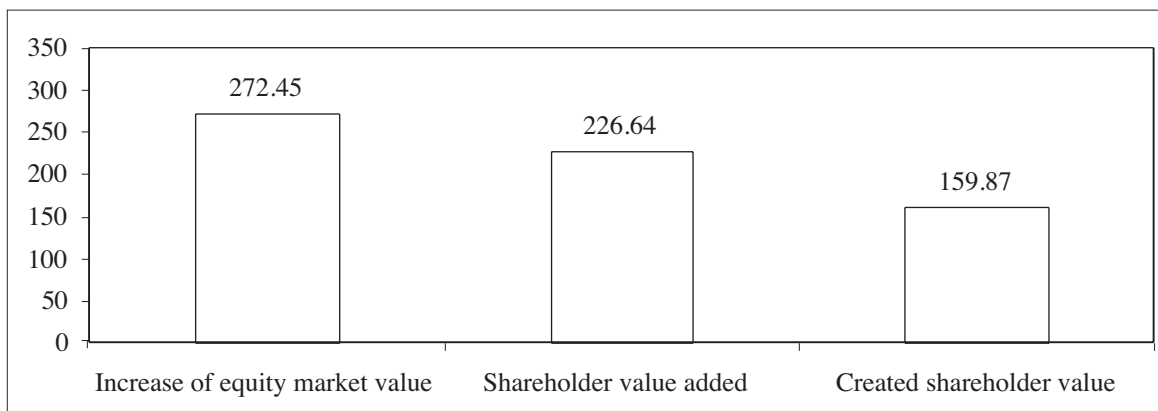


Figure 2. Microsoft. December 1992-December 2003.

Increase of equity market value, shareholder value added, and created shareholder value (billion dollars)



1. Increase of equity market value

The equity market value of a listed company is the company's market value, that is, each share's price times the number of shares. The increase of equity market value in one year is the equity market value at the end of that year minus the equity market value at the end of the previous year.

Table 1 shows the evolution of General Electric's equity market value and the increase of equity market value during each year. It is important not to confuse the *increase of equity market value* with the *shareholder value added*, as they are two different concepts, as we shall see in the following section.

Table 1. General Electric and Microsoft.
Equity market value and increase of equity market value during each year (billion dollars)

General Electric	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Sum
Number of shares (million)	853	1,710	1,670	1,646	3,273	3,277	3,278	9,909	9,927	9,949	10,063	
Equity market value	89.45	87.19	120.26	162.79	240.14	334.24	507.22	475.00	397.89	242.27	311.07	
Increase of equity market value	16.43	-2.26	33.07	42.53	77.35	94.10	172.98	-32.21	-77.11	-155.62	68.80	238.05

Microsoft	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Sum
Number of shares (million)	284	582	592	1,195	1,207	2,494	5,160	5,332	5,386	5,351	10,812	
Equity market value	22.88	35.60	51.97	98.75	155.96	345.83	602.43	231.29	356.81	276.63	295.94	
Increase of equity market value	-0.60	12.72	16.38	46.78	57.21	189.86	256.61	-371.14	125.52	-80.18	19.31	272.45

2. Shareholder value added

Shareholder value added is the term used for the difference between the wealth held by the shareholders at the end of a given year and the wealth they held the previous year. The *increase of equity market value* is not the *shareholder value added*.

There is an increase in the equity market value, but not in shareholder value added, when:

- Shareholders subscribe to new shares of the company paying money, and when
- A conversion of convertible debentures takes place.

There is a decrease of the equity market value, but not a decrease of shareholder value⁵, when:

- The company pays money to all of the shareholders: dividends, and when
- The company buys shares on the market (share buy-backs)

⁵ When the company pays dividends to the shareholders, they receive money, but the company's equity market value (and the price per share) also decreases by a similar amount

The shareholder value added is calculated as follows:

Shareholder value added =
 Increase of equity market value
 + Dividends paid during the year
 - Outlays for capital increases
 + Other payments to shareholders (discounts on par value, share buy-backs....)
 - Conversion of convertible debentures

Table 2 shows the calculation of the shareholder value added for the period 1993-2003. The shareholder value added exceeded the increase of equity market value every year. This is because the dividends and other payments to shareholders exceeded the outlays the shareholders had to make.

Table 2. General Electric and Microsoft.
Increase of equity market value and shareholder value added each year (billion dollars)

General Electric	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Increase of equity market value	16.43	-2.26	33.07	42.53	77.35	94.10	172.98	-32.21	-77.11	-155.62	68.80	238.05
+ Dividends	2.15	2.46	2.77	3.05	3.41	3.91	4.58	5.40	6.36	7.16	7.64	48.89
+ Other payments to shareholders	0.84	0.74	3.51	2.86	2.18	2.82	1.46	0.00	2.44	0.99	0.00	17.84
- Outlays by shareholders	0.41	0.77	0.00	0.00	0.00	2.39	0.00	3.58	3.25	2.56	1.94	14.90
- Convertible debentures converted	0	0	0	0	0	0	0	0	0	0	0	0.00
Shareholder value added	19.02	0.18	39.35	48.44	82.93	98.44	179.02	-30.39	-71.57	-150.03	74.50	289.89

Microsoft	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Increase of equity market value	-0.60	12.71	16.38	46.78	57.21	189.86	256.61	-371.14	125.52	-80.18	19.31	272.45
+ Dividends	0	0	0	0	0	0	0	0	0	0	0.86	0.86
+ Other payments to shareholders	0.25	0.35	0.65	1.26	3.10	2.50	2.98	4.91	7.44	3.31	0.80	27.55
- Outlays by shareholders	0.96	1.25	1.52	2.14	4.59	13.62	23.17	12.39	10.98	1.50	2.12	74.22
- Convertible debentures converted	0	0	0	0	0	0	0	0	0	0	0	0.00
Shareholder value added	-1.31	11.81	15.51	45.90	55.73	178.74	236.42	-378.62	121.98	-78.36	18.84	226.64

However, the *shareholder value added* is not the *created shareholder value*. For value to be created during a period, the shareholder return must exceed the required return to equity.

3. Shareholder return

The *shareholder return* is the shareholder value added in one year, divided by the equity market value at the beginning of the year.

Shareholder return = Shareholder value added / Equity market value

For example, as Table 3 shows, General Electric's shareholder return in 1998 was 41%: the shareholder value added in 1998 (98.44 billion dollars) divided by the equity market value at the end of 1997 (240.14 billion dollars).

Table 3. Shareholder return of General Electric and Microsoft

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Average
Microsoft	-6%	52%	44%	88%	56%	115%	68%	-63%	53%	-22%	7%	24%
General Electric	26%	0%	45%	40%	51%	41%	54%	-6%	-15%	-38%	31%	17%

One way to calculate the shareholder return is: increase in the share's price plus dividends, rights and other payments (discounts on par value, special payments...) divided by the share's price at the start of the year.

4. Required return to equity

The *required return to equity* (K_e , also called cost of equity) is the return that shareholders expect to obtain in order to feel sufficiently remunerated. The required return to equity depends on the interest rates of long-term Treasury bonds and the company's risk. Let us look at an example. On December 2002, the return provided by 10-year Treasury bonds was 3.79%. A shareholder would therefore demand a return on his investment higher than the 3.79% he could get risk-free. How much higher? That depends on the company's risk. Obviously, he would require a higher return on an investment in shares from a high-risk company than on an investment in shares from a lower-risk company.

The required return is the sum of the interest rate of long-term Treasury bonds plus a quantity that is usually called the company's **risk premium** and that depends on its risk.

$$\boxed{\text{Required return to equity}} = \boxed{\text{Return of long-term Treasury bonds}} + \boxed{\text{Risk premium}}$$

K_e is the term used for the required return to equity (return on the investment required by the shareholder), also known as the equity cost.

If the one-year, risk-free interest rate is 12%, this means that one million dollars to be paid in one year's time with the guarantee of the State (this is what we mean by the expression "risk-free") today has a value of $1,000,000/1.12 = 892,857$ dollars. The value today of obtaining a million dollars in one year's time, as a result of an investment in a company's shares, will be less because that million has more risk (we have less certainty of obtaining it). For the value today of our investment in the company to be less than 892,857 dollars, we must divide the million we expect to obtain by a quantity greater than 1.12. If we give our investment in the company a value of 833,333 dollars ($1,000,000 / 1.20 = 833,333$), this means that we are restating at 20% less the million we expect to obtain in one year's time.

Another way of saying this is that the return we require on an investment guaranteed by the State is 12% (the risk-free interest rate) and the required return on an investment in the company is 20%. The difference between 20% and 12% is due to the risk perceived in a company and is usually called the company's risk premium.

Stating this idea as an equation, we could say that the required return on the investment in the company's shares (K_e) is equal to the risk-free rate plus the company's risk premium. The company's risk premium is a function of the company's perceived risk⁶:

$$K_e = \text{return of Treasury bonds} + \text{company's risk premium}$$

Table 4 shows the evolution of 10-year Treasury bonds and the required return to equity of General Electric and Microsoft.

Table 4. Yield of 10-year Treasury bonds and required return to equity of General Electric and Microsoft (data corresponding to December, 31)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Average
10-year Treasury bonds (t-1)	6.68%	5.80%	7.84%	5.58%	6.42%	5.74%	4.65%	6.43%	5.10%	5.04%	3.79%	5.73%
Required return to equity (K_e) General Electric	10.7%	9.5%	11.8%	9.0%	10.1%	8.9%	7.4%	9.8%	8.3%	8.2%	7.0%	9.1%
Required return to equity (K_e) Microsoft	11.7%	10.2%	12.7%	9.5%	10.9%	9.5%	8.1%	11.1%	9.7%	9.4%	8.0%	10.1%

5. Created shareholder value

A company creates value for the shareholders when the shareholder return exceeds the share cost (the required return to equity). In other words, a company creates value in one year when it outperforms expectations.

The created shareholder value is quantified as follows:

$$\text{Created shareholder value} = \text{Equity market value} \times (\text{Shareholder return} - K_e)$$

As we already saw that the shareholder return is equal to the shareholder value added divided by the equity market value, the created value can also be calculated as follows:

⁶ If, instead of investing in a single company's shares, we were to invest in all companies' shares (in a diversified portfolio), we would then require a return which is the following: $K_e = \text{return of Treasury bonds} + \text{market risk premium}$.

By way of reference, in 2003 and 2000, most market analysts used a market risk premium around 4%.

$$\text{Created shareholder value} = \text{Shareholder value added} - (\text{Equity market value} \times K_e)$$

Consequently, the value created is the shareholder value added above expectations, which are reflected in the required return to equity.

Table 5 shows the created shareholder value of General Electric. General Electric created value for its shareholders every year except the years 1994, 2000, 2001 and 2002. Microsoft was a value destroyer in the years 1993, 2000, 2002 and 2003.

Table 5. General Electric and Microsoft. Evolution of the increase of equity market value, shareholder value added, and created shareholder value (billion dollars)

General Electric	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Increase of equity market value	16.43	-2.26	33.07	42.53	77.35	94.10	172.98	-32.21	-77.11	-155.62	68.80	238.05
Shareholder value added	19.02	0.18	39.35	48.44	82.93	98.44	179.02	-30.39	-71.57	-150.03	74.50	289.89
Created shareholder value	11.22	-8.29	29.04	37.60	66.50	77.17	154.13	-80.07	-111.02	-182.82	57.57	51.01
Created shareholder value in 2003\$	26.55	-17.93	56.13	66.67	107.10	114.17	212.25	-100.43	-128.56	-195.59	57.57	197.93

Microsoft	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Increase of equity market value	-0.60	12.72	16.38	46.78	57.21	189.86	256.61	-371.14	125.52	-80.18	19.31	272.45
Shareholder value added	-1.31	11.81	15.51	45.90	55.73	178.74	236.42	-378.62	121.98	-78.36	18.84	226.64
Created shareholder value	-4.06	9.48	10.99	40.97	44.95	163.96	208.40	-445.32	99.51	-111.89	-3.29	13.71
Created shareholder value in 2003\$	-10.42	22.10	22.73	77.42	76.59	255.19	300.04	-577.23	117.57	-120.84	-3.29	159.87

Table 6 shows in simplified form the relationship between three variables which are sometimes confused: increase of equity market value, shareholder value added, and created shareholder value.

Table 6 Increase of equity market value, shareholder value added, and created shareholder value

<i>Increase of equity market value</i>	$\text{Equity market value}_t - \text{Equity market value}_{t-1}$
	↓
<i>Shareholder value added</i>	$\text{Increase of equity market value} - \text{payments from shareholders} + \text{dividends} + \text{repurchases} - \text{conversions.}$
	↓
<i>Created shareholder value</i>	$\text{Shareholder value added} - (\text{Equity market value} \times K_e)$

6. The ROE is not the shareholder return

ROE means Return on Equity. However, it is not true that the ROE, which is calculated by dividing the net income by the shares' book value, is the shareholder return. In section 3, we already defined the shareholder return as the shareholder value added divided by the equity market value, and that is not the ROE. Table 7, which shows General Electric's ROE and shareholder return, prove this for each year. We can see that the ROE follows a different course from the shareholder return.

Table 7. General Electric's and Microsoft's ROE and shareholder return

General Electric	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Shareholder return	26%	0%	45%	40%	51%	41%	54%	-6%	-15%	-38%	31%
ROE	18%	17%	23%	22%	24%	24%	25%	27%	25%	25%	23%

Microsoft	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Shareholder return	-6%	52%	44%	88%	56%	115%	68%	-63%	53%	-22%	7%
ROE	43%	35%	33%	41%	50%	46%	50%	34%	19%	17%	19%

7. Comparison of General Electric with other companies

Table 8 shows the created shareholder value, shareholder value added, shareholder return and market capitalization of selected American companies during the ten-year period 1993-2003. General Electric was the third biggest company in equity market value in 1992, and the biggest in 2003. Microsoft was the nineteenth biggest company in equity market value in 1992, and the second in 2003. The table is ordered by capitalization in 1992.

Table 8. Created shareholder value, shareholder value added, shareholder return and market capitalization of selected American companies (million dollars)

	\$ million	Market Capitalization		Shareholder return	Shareholder Value Added	Shareholder Value Creation (\$ of 2003)
		1992	2003	1993-2003	1993-2003	1993-2003
1	EXXON MOBIL	75,917	271,002	277.4%	182,803	56,994
2	WAL MART STORES	73,560	229,589	254.5%	175,959	59,858
3	GENERAL ELECTRIC	73,020	311,066	446.5%	289,889	197,930
4	ALTRIA GP.	68,854	110,536	269.6%	115,127	31,173
5	AT & T	68,116	16,034	-19.7%	-7,801	-113,698
6	COCA COLA	54,852	124,414	181.7%	93,546	17,638
7	MERCK & CO.	49,751	102,795	189.6%	99,061	31,838
8	PROCTER & GAMBLE	36,449	129,517	361.0%	118,283	69,840
9	BRISTOL MYERS SQUIBB	34,968	55,464	154.6%	52,347	10,154
10	JOHNSON & JOHNSON	33,063	153,334	389.6%	118,945	66,271
11	PEPSICO	33,048	80,035	187.5%	53,109	6,971

12	DU PONT E I DE NEMOURS	31,785	45,742	167.9%	44,759	11,141
13	INTL. BUS. MACH.	28,770	159,449	726.3%	176,771	150,999
14	ABBOTT LABS.	25,422	72,852	283.1%	60,892	27,501
15	BELLSOUTH	25,360	52,302	211.5%	50,299	21,072
16	AMERICAN INTL.GP.	24,541	172,855	461.5%	104,406	53,458
17	PFIZER	23,901	269,622	596.7%	104,890	43,527
18	CHEVRONTEXACO	23,693	92,331	264.7%	52,762	19,047
19	MICROSOFT	23,483	295,937	934.9%	226,642	159,867
20	GENERAL MOTORS	22,743	29,944	197.2%	41,945	17,052
21	WALT DISNEY	22,541	47,718	77.3%	17,481	-26,928
22	HOME DEPOT	22,337	80,747	230.4%	56,077	14,852
23	VERIZON COMMS.	22,187	96,875	110.8%	9,783	-50,087
24	SBC COMMUNICATIONS	22,174	86,309	100.7%	-8,511	-79,534
25	3M	22,049	66,579	365.9%	59,914	32,907
26	WYETH	21,048	56,535	237.5%	44,133	14,715
27	FORD MOTOR	20,928	28,163	208.4%	59,351	47,708
28	FANNIE MAE	20,849	72,933	396.6%	73,062	46,729
29	INTEL	18,109	209,350	1112.7%	194,760	158,227
30	LILLY ELI	17,777	78,974	497.6%	73,676	51,327
31	MCDONALDS	17,740	31,513	122.8%	21,301	-3,804
32	HEWLETT-PACKARD	17,588	70,039	281.6%	60,995	34,769
33	ANHEUSER-BUSCH COS.	16,189	42,922	364.6%	42,852	23,143
34	KELLOGG	15,950	15,542	53.9%	6,249	-15,192
35	SEARS ROEBUCK & CO.	15,711	11,546	250.8%	24,168	22,010
36	DOW CHEMICALS	15,624	38,267	233.8%	28,569	9,883
37	SARA LEE	14,392	17,158	90.6%	12,155	-7,624
38	PG & E	14,121	11,518	30.7%	2,937	-15,441
39	MOTOROLA	13,990	32,589	76.5%	8,128	-23,056
40	SCHLUMBERGER	13,841	32,035	155.3%	20,593	-933
41	BOEING	13,616	33,721	151.8%	19,109	-7,925
42	EASTMAN KODAK	13,171	7,356	15.0%	6,131	-6,531
43	SCHERING-PLOUGH	12,664	25,553	174.1%	22,004	6,320
44	BANK OF AMERICA	12,536	119,503	354.0%	72,634	21,368
45	GILLETTE	12,498	37,161	205.3%	22,777	-2,164
46	EMERSON ELECTRIC	12,335	27,247	208.5%	22,802	6,296
47	BANK ONE	12,296	50,965	103.4%	13,533	-25,000
48	SOUTHERN	12,184	22,149	366.1%	29,198	15,643
49	UNION PACIFIC	11,894	17,730	120.3%	11,686	-3,217
50	AMERICAN EXPRESS	11,891	62,037	691.9%	64,067	51,639
51	TOYS R US HOLDINGS CO.	11,681	2,698	-68.5%	-7,533	-28,386
52	GEN. MILLS	11,223	16,980	123.2%	8,773	-5,185
53	HEINZ HJ	11,159	12,819	103.1%	9,449	-5,245
54	CAMPBELL SOUP	10,580	11,017	72.7%	9,393	-3,229
55	EDISON INTL.	9,850	7,145	51.2%	3,845	-7,857
56	LIMITED BRANDS	9,782	9,316	77.4%	4,091	-10,562
57	AMGEN	9,551	79,209	600.0%	57,807	38,799
58	JP MORGAN CHASE & CO.	9,507	74,804	308.3%	36,696	6,722
59	KIMBERLY-CLARK	9,469	29,808	167.1%	19,948	-866
60	TXU	9,236	7,683	7.0%	1,241	-11,416
61	PENNEY JC	9,107	7,175	2.3%	77	-13,796
62	BAXTER INTL.	9,021	18,626	177.4%	13,671	1,675
63	COLGATE-PALM.	8,901	26,889	336.9%	25,621	14,420
64	MAY DEPT. STORES	8,737	8,389	83.9%	6,845	-3,749
65	FREDDIE MAC	8,710	40,469	467.0%	37,836	25,065
66	ARCHER-DANLS.-MIDL.	8,652	9,842	52.1%	3,994	-8,545
67	NORFOLK SOUTHERN	8,616	9,233	53.8%	4,051	-7,213
68	ITT INDUSTRIES	8,590	6,847	592.8%	12,597	12,110
69	HONEYWELL INTL.	8,569	28,818	169.4%	9,060	-9,405
70	NOVELL	8,505	3,932	-63.1%	-5,169	-28,274
71	FORTUNE BRANDS	8,210	10,428	311.1%	11,256	3,850
72	INTL. PAPER	8,154	20,713	68.5%	5,091	-11,890
73	CONAGRA	8,136	14,169	121.4%	9,003	-2,824

74	PNC FINL. SVS. GP.	7,999	15,175	195.8%	13,468	2,946
75	LOEWS	7,820	9,170	87.2%	5,280	-5,467
76	CHUBB	7,771	12,788	93.4%	6,706	-4,518
77	CONS. EDISON	7,632	9,675	155.6%	7,975	-1,001
78	XEROX	7,521	10,928	29.1%	2,934	-11,350
79	WEYERHAEUSER	7,519	14,068	143.7%	8,587	-2,593
80	AUTOMATIC DATA PROC.	7,470	23,546	230.5%	17,075	4,652
81	DUKE ENERGY	7,401	18,559	82.8%	5,476	-9,073
82	GANNETT	7,316	24,168	324.5%	20,263	10,227
83	CORNING	7,298	13,869	14.2%	-4,211	-22,387
84	PUB. SER. ENTER. GP.	7,236	10,300	191.1%	8,765	572
85	CSX	7,085	7,692	35.6%	2,229	-8,512
86	APPLE COMPUTERS	7,067	7,858	-25.7%	-3,106	-20,963
87	PPG INDUSTRIES	6,990	10,879	165.7%	9,065	906
88	RAYTHEON 'B'	6,909	12,503	48.4%	3,697	-6,243
89	ELECTRONIC DATA SYSTEMS	6,779	11,788	-12.2%	-4,537	-28,423
90	ALBERTSONS	6,677	8,311	11.9%	104	-11,250
91	UST	6,665	5,919	101.2%	3,977	-4,407
92	MARSH & MCLENNAN	6,653	25,393	328.5%	20,629	9,928
93	FPL GROUP	6,586	12,034	192.2%	9,952	1,819
94	CONOCOPHILLIPS	6,538	44,638	266.9%	21,247	10,571
95	DOMINION RES.	6,440	20,707	202.5%	10,731	1,166
96	ROCKWELL AUTOMATION	6,416	6,637	549.6%	14,621	10,092
97	PITNEY-BOWES	6,260	9,489	177.7%	9,397	1,848
98	SLM	6,233	16,987	606.9%	17,236	9,953
99	ALCOA	6,137	32,883	423.6%	25,229	14,559
100	UNOCAL	6,131	9,537	88.9%	5,049	-3,865
101	MERRILL LYNCH & CO.	6,115	55,272	836.1%	40,356	29,937
102	AMER. ELEC. PWR.	6,113	12,052	83.1%	3,447	-5,181
103	WELLS FARGO & CO	6,040	99,644	617.4%	63,922	35,987
104	UNITED TECHNOLOGIES	5,953	44,430	870.0%	43,518	36,316
105	CENTERPOINT EN.	5,941	2,966	0.8%	1,004	-6,583
106	WINN-DIXIE STRS.	5,886	1,409	-64.5%	-2,929	-12,221
107	ENTERGY	5,780	12,899	200.9%	10,265	1,789
108	EXELON	5,757	21,623	316.9%	11,868	2,726
109	WACHOVIA	5,748	61,872	218.4%	24,054	-4,239
110	MEDTRONIC	5,673	58,919	770.5%	44,961	32,018
111	SPRINT	5,612	14,843	152.0%	8,753	-2,287
112	CVS	5,554	14,265	88.0%	3,580	-8,057
113	GEORGIA PACIFIC	5,500	7,794	75.7%	4,060	-4,106
114	SUNTRUST BANKS	5,476	20,129	323.3%	14,908	6,423
115	CATERPILLAR	5,413	28,828	689.5%	29,929	23,721
116	TARGET	5,400	35,000	600.3%	30,152	21,574
117	COOPER INDS.	5,370	5,408	75.0%	2,473	-5,218
118	WALGREEN	5,369	37,286	637.2%	32,198	23,786
119	CITIGROUP	5,313	250,402	1412.1%	176,740	128,875
120	AIR PRDS. & CHEMS.	5,297	12,006	179.7%	8,421	464
121	BURLINGTON RES.	5,239	11,001	60.2%	4,153	-5,925
122	DILLARDS 'A'	5,149	1,305	-64.4%	-3,396	-12,698
123	OCCIDENTAL PTL.	5,144	16,268	298.8%	12,986	5,524
124	DONNELLEY R R	5,092	3,426	24.7%	959	-6,005
125	SYSCO	4,942	24,093	559.4%	22,493	15,744
126	MARATHON OIL	4,938	10,266	177.0%	7,388	138
127	GT. LAKES CHM.	4,937	1,376	-50.1%	-2,009	-9,098
128	GOODYEAR TIRE	4,899	1,378	-69.8%	-2,995	-11,518
129	DTE ENERGY	4,814	6,631	131.9%	4,441	-1,473
130	CISCO SYSTEMS	4,791	167,268	2118.7%	115,900	78,164
131	GAP	4,748	20,792	413.1%	18,692	11,445
132	MASCO	4,507	12,695	137.4%	6,557	-1,815
133	PROGRESS EN.	4,460	11,018	192.9%	6,677	888
134	BANK OF NEW YORK	4,331	24,098	548.6%	25,293	19,171
135	AMERADA HESS	4,259	4,779	34.2%	1,459	-5,026

136	ALLTEL	4,216	14,536	166.9%	5,146	-4,360
137	H & R BLOCK	4,211	9,871	265.7%	7,855	1,717
138	CIGNA	4,206	8,078	289.3%	14,533	11,283
139	INTL. FLAV & FRAG.	4,188	3,271	33.3%	1,201	-4,285
140	TORCHMARK	4,141	5,154	92.2%	2,865	-3,280
141	PPL	4,133	7,758	193.2%	5,042	-145
142	NIKE 'B'	4,033	11,797	271.9%	9,458	2,751
143	FLEETBOSTON FINL.	4,030	46,032	298.5%	25,679	9,124
144	ORACLE	3,983	69,161	1788.1%	74,562	67,574
145	AVON PRODUCTS	3,975	15,962	521.3%	15,446	10,236
146	DELUXE	3,922	2,089	83.7%	1,560	-3,770
147	UNITEDHEALTH GP.	3,904	34,131	723.1%	32,728	23,323
148	NAT. CITY	3,896	20,614	324.6%	12,612	2,680
149	GENUINE PARTS	3,893	5,776	113.8%	3,875	-1,724
150	TEXTRON	3,886	7,761	230.5%	7,987	3,473
151	TEXAS INSTS.	3,841	50,846	984.2%	38,922	27,258
152	BURL. NTHN. SANTA FE C	3,825	12,009	170.9%	7,466	-2,247
153	WRIGLEY WILLIAM JR.	3,817	10,324	317.1%	9,991	5,549
154	FIRST DATA	3,781	29,947	389.5%	23,856	11,597
155	KEYCORP	3,733	12,289	186.3%	11,872	5,065
156	CARNIVAL	3,685	25,013	461.1%	18,022	9,506
157	ILLINOIS TOOL WKS.	3,649	25,855	488.4%	19,221	11,815
158	COMERICA	3,648	9,831	279.8%	8,352	3,759
159	ROHM & HAAS	3,613	9,510	209.9%	6,302	723
160	SAFECO	3,596	5,394	95.1%	2,674	-2,588
161	UNUMPROVIDENT	3,573	4,669	-26.5%	-1,965	-9,501
162	FIRSTENERGY	3,528	11,610	191.4%	6,030	225
163	AON	3,525	7,508	103.4%	3,558	-2,229
164	HERSHEY FOODS	3,521	7,676	307.2%	8,137	4,511
165	LIZ CLAIBORNE	3,437	3,870	95.7%	1,661	-3,932
166	SUN MICROSYSTEMS	3,422	14,602	325.4%	4,383	-5,584
167	PHELPS DODGE	3,403	6,798	107.1%	3,559	-1,469
168	PROVIDIAN FINL.	3,402	3,378	134.7%	5,373	3,009
169	NUCOR	3,396	4,384	59.7%	1,810	-3,940
170	COMPUTER ASSOCS. INTL.	3,394	15,832	370.4%	12,861	5,651
171	CONSTELLATION EN.	3,359	6,536	188.2%	5,034	882
172	DEERE & CO.	3,339	15,893	472.0%	14,726	9,909
173	STATE STREET	3,281	17,406	440.7%	14,322	8,728
174	LNA. PACIFIC	3,260	1,893	-24.5%	-898	-6,684
175	HUMANA	3,249	3,681	218.5%	5,649	7,855
176	ST. PAUL	3,234	9,046	186.6%	6,247	964
177	FIFTH THIRD BANCORP	3,228	33,629	567.4%	20,934	12,451
178	BAUSCH & LOMB	3,202	2,695	20.8%	312	-4,880
179	KNIGHT-RIDDER	3,180	6,182	230.4%	5,129	1,277
180	NEWELL RUBBERMAID	3,180	6,248	43.8%	1,040	-5,134
181	NORDSTROM	3,173	4,714	104.8%	2,811	-2,595
182	GRAINGER W W	3,151	4,325	84.8%	2,390	-2,178
183	V F	3,134	4,684	113.1%	3,251	-1,417
184	TRIBUNE	3,123	16,112	397.1%	11,334	6,331
185	WHIRLPOOL	3,119	5,061	111.4%	3,125	-1,771
186	LINCOLN NAT.	3,105	7,185	216.0%	6,758	2,061
187	HALLIBURTON	3,080	11,390	136.7%	3,492	-5,287
188	GEN. DYNAMICS	3,073	17,873	630.6%	14,687	11,127
189	REEBOK INTL.	3,056	2,316	20.3%	577	-4,212
190	CINCINNATI FIN.	3,052	6,698	187.4%	5,122	702
191	INGERSOLL-RAND	3,043	11,776	319.3%	9,205	4,168
192	MCGRAW-HILL CO.	3,014	13,397	489.6%	12,681	8,752
193	BECTON DICKINSON & CO.	2,983	10,447	381.2%	9,061	5,384
194	SUNOCO	2,976	3,951	177.7%	2,901	-560
195	INTL. GAME TECH.	2,960	12,360	487.4%	9,839	4,224
196	FEDEX	2,950	20,141	398.5%	13,833	6,745
197	SIGMA ALDRICH	2,862	3,965	118.0%	2,672	-1,691

198	MELLON FINL.	2,859	13,815	398.2%	16,745	12,698
199	TEMPLE INLAND	2,840	3,401	57.9%	1,421	-2,902
200	COOPER TIRE RUB.	2,838	1,579	-22.2%	-779	-5,597
201	HASBRO	2,833	3,713	63.5%	1,444	-3,343
202	AFLAC	2,832	18,554	772.0%	18,077	14,377
203	EATON	2,823	8,206	296.0%	7,094	3,077
204	NEWMONT MINING	2,803	17,801	61.3%	8,640	650
205	VIACOM 'B'	2,800	71,702	112.6%	11,790	-16,195
206	HERCULES	2,766	1,353	-29.1%	587	-2,185
207	GOLDEN WEST FINL.	2,758	15,677	660.8%	14,731	10,637
208	SEMPRA EN.	2,744	6,801	138.5%	3,440	-1,137
209	AUTOZONE	2,743	7,436	334.2%	7,535	2,796
210	DOW JONES & CO.	2,731	3,032	135.5%	3,328	494
211	BAKER HUGHES	2,731	10,769	96.8%	4,947	-1,967
212	FRANK. RES.	2,730	12,936	382.2%	10,521	5,145
213	SOUTHWEST AIRLINES	2,726	12,705	321.6%	9,280	3,948
214	ALLEGHENY EN.	2,718	1,620	-5.2%	456	-2,927
215	XCEL ENERGY	2,706	6,772	49.2%	-34	-5,288
216	SHERWIN-WILLIAMS	2,702	5,064	178.5%	4,003	211
217	MBIA	2,649	8,537	230.9%	6,031	1,405
218	DOVER	2,622	8,050	319.1%	7,615	4,441
219	INTERPUBLIC GP.	2,613	6,119	53.1%	-769	-6,364
220	CLOROX	2,540	10,248	445.7%	9,331	5,716
221	DELTA AIR LINES	2,528	1,458	-52.0%	-1,371	-6,669
222	FEDERATED DEPT. STRS.	2,489	8,521	140.8%	5,055	-1,308
223	MBNA	2,456	31,750	1287.1%	28,786	24,567
224	CIRCUIT CITY STORES	2,438	2,133	20.1%	115	-5,429
225	JEFFERSON PILOT	2,433	7,144	373.5%	7,326	4,385
226	MATTEL	2,431	8,284	67.3%	2,960	-3,852
227	MCCORMICK & CO NV.	2,426	3,731	151.8%	2,322	-1,209
228	TECO ENERGY	2,391	2,546	24.3%	701	-2,648
229	EOG RES.	2,350	5,314	233.5%	4,109	218
230	PALL	2,327	3,373	73.1%	1,540	-2,178
231	ENGELHARD	2,307	3,757	138.3%	2,474	-980
232	MEADWESTVACO	2,245	5,967	102.0%	2,644	-606
233	SUPERVALU	2,215	3,834	151.2%	2,505	-515
234	NTHN. TRUST	2,193	10,198	423.7%	9,143	5,898
235	PRAXAIR	2,183	12,422	425.9%	9,871	5,601
236	KERR-MCGEE	2,173	4,688	48.2%	657	-3,442
237	DANA	2,156	2,727	8.1%	-1,009	-5,921
238	BOSTON SCIENTIFIC	2,125	30,112	604.2%	22,392	13,238
239	HILTON HOTELS	2,065	6,499	196.3%	3,653	-1,013
240	RYDER SYSTEM	2,065	2,190	84.7%	1,150	-1,513
241	TENET HLTHCR.	2,054	7,460	101.5%	974	-5,927
242	NEW YORK TIMES 'A'	2,039	7,078	328.2%	7,223	4,012
243	US. STEEL	2,023	3,617	43.1%	1,042	-3,434
244	OFFICE DEPOT	2,005	5,233	66.5%	-85	-6,835
245	ST. JUDE MED.	1,994	10,585	348.2%	8,002	3,903
246	TJX COS.	1,977	11,097	617.4%	11,420	7,778
247	CENDANT	1,967	22,564	159.2%	637	-18,667
248	PROGRESSIVE OHIO	1,942	18,055	794.2%	16,211	12,303
249	PACCAR	1,936	9,932	747.7%	9,688	7,096
250	STANLEY WORKS	1,934	3,070	144.3%	2,334	-382
251	RADIOSHACK	1,878	5,035	365.3%	5,674	3,286
252	STRYKER	1,869	16,958	790.0%	14,814	11,253
253	BMC SOFTWARE	1,868	4,220	105.8%	-50	-5,857
254	BIOMET	1,865	9,266	419.1%	7,623	4,157
255	HARRAHS ENTM.	1,862	5,498	299.6%	4,688	2,317
256	VULCAN MATERIALS	1,826	4,838	282.1%	4,104	1,783
257	BEAR STEARNS	1,817	7,971	692.9%	8,763	6,799
258	WILLIAMS COS.	1,802	5,089	111.3%	-598	-5,839
259	JOHNSON CONTROLS	1,798	10,487	550.8%	9,061	6,372

260	AVERY DENNISON	1,784	6,189	404.8%	5,823	3,632
261	PINNACLE WEST CAP.	1,774	3,653	191.7%	2,945	429
262	NISOURCE	1,768	5,758	177.9%	2,360	-246
263	LOWE'S COMPANIES	1,760	43,556	1825.5%	38,442	33,384
264	HUNTINGTON BCSH.	1,756	5,150	235.1%	4,052	788
265	DELL	1,756	87,003	4430.7%	89,956	88,349
266	BARD C R	1,750	4,193	202.0%	3,047	311
267	ALLERGAN	1,749	10,312	609.0%	9,384	6,794
268	CHIRON CORP	1,724	10,696	303.4%	7,185	2,067
269	AMER. GREETINGS 'A'	1,689	1,342	10.4%	233	-2,334
270	FOREST LABS.	1,679	22,596	1128.3%	19,493	16,153
271	DYNEGY 'A'	1,674	1,199	-46.4%	-5,186	-9,492
272	UNISYS	1,638	4,907	46.6%	-1,596	-8,665
273	ANADARKO PETROLEUM	1,625	12,798	271.3%	2,393	-3,245
274	NORTHROP GRUMMAN	1,610	17,507	268.0%	4,173	-433
275	ADVD. MICRO DEVC.	1,589	5,194	64.5%	1,428	-4,802
276	MAYTAG	1,585	2,188	144.0%	2,389	570
277	COCA COLA ENTS.	1,584	9,949	467.6%	7,205	3,963
278	ASHLAND	1,581	3,023	142.8%	1,921	-652
279	EQUIFAX	1,562	3,407	316.6%	4,590	2,469
280	BRUNSWICK	1,546	2,913	150.4%	1,928	-659
281	BLACK & DECKER	1,512	3,834	215.2%	3,196	691
282	AMBAC FINANCIAL	1,511	7,415	434.7%	6,140	3,839
283	MGIC INVT	1,476	5,609	361.2%	5,197	3,019
284	CMS ENERGY	1,469	1,228	-29.6%	-837	-3,613
285	PARKER-HANNIFIN	1,434	7,055	453.4%	5,999	3,749
286	BROWN-FORMAN 'B'	1,401	3,015	343.4%	3,246	1,672
287	NICOR	1,384	1,499	124.8%	1,353	-194
288	CENTURYTEL	1,377	4,704	181.3%	2,929	213
289	PARAMETRIC TECH.	1,358	1,049	-40.5%	-1,256	-5,577
290	WORTHINGTON INDS.	1,358	1,558	75.0%	736	-1,321
291	MARSHALL & ILSLEY	1,355	8,661	357.1%	6,399	3,531
292	HARLEY-DAVIDSON	1,353	14,400	958.1%	13,338	10,897
293	CUMMINS	1,343	2,070	63.9%	762	-1,986
294	SNAP-ON	1,330	1,878	111.9%	1,316	-426
295	KROGER	1,321	13,790	406.3%	7,050	1,456
296	FAMILY \$ STRS.	1,316	6,176	442.6%	5,207	2,918
297	AMSOUTH BANC.	1,308	8,601	289.4%	5,799	2,484
298	APPLIED MATS.	1,296	37,732	2027.7%	30,786	25,104
299	LEGGETT&PLATT	1,293	4,152	210.3%	2,930	412
300	COUNTRYWIDE FINL.	1,291	13,966	618.3%	10,523	7,373
301	COMPUTER SCIS.	1,286	8,285	239.2%	3,093	-1,587
302	BEMIS	1,285	2,656	157.4%	1,834	-135
303	SAFEWAY	1,283	9,678	573.8%	8,661	5,309
304	THERMO ELECTRON	1,267	4,103	187.6%	2,713	-79
305	GOODRICH	1,251	3,492	87.5%	1,257	-1,473
306	CINTAS	1,249	8,570	488.4%	6,395	3,745
307	WENDY'S INTL.	1,244	4,471	252.6%	3,322	1,011
308	THOMAS & BETTS	1,229	1,338	-6.7%	-332	-2,774
309	AES	1,224	5,850	116.7%	-3,310	-9,354
310	AMER. POWER CONV.	1,220	4,865	252.9%	3,359	137
311	REGIONS FINL.	1,206	8,265	223.8%	3,697	-688
312	SOUTHTRUST	1,179	10,864	697.2%	9,971	7,385
313	OMNICOM GP.	1,177	16,593	899.5%	13,479	10,519
314	EL PASO	1,156	4,909	-26.6%	-13,850	-20,495
315	ECOLAB	1,156	7,052	603.6%	6,516	4,862
316	APPLERA APPD. BIOS.	1,156	4,308	200.9%	3,024	276
317	ALLEGHENY TECHS.	1,144	1,066	-44.1%	-2,040	-6,043
318	NATIONAL SEMICON.	1,132	7,017	270.9%	4,226	-250
319	AUTODESK	1,109	2,773	132.0%	1,519	-908
320	PERKINELMER	1,103	2,165	125.9%	392	-1,480
321	KOHL'S	1,051	15,280	1098.3%	12,594	10,198

322	US BANCORP	1,048	57,438	915.7%	23,036	10,229
323	PEOPLES ENERGY	1,047	1,491	159.2%	1,223	-65
324	FIRST TEN. NAT.	1,034	5,535	580.6%	5,724	4,352
325	MILLIPORE	1,000	2,101	207.1%	1,653	366
326	GENZYME	987	11,048	359.8%	6,038	2,589
327	CHARLES SCHWAB	986	16,062	1355.2%	10,582	6,817
328	NEXTEL COMMS. A	983	29,852	203.4%	10,124	-1,281
329	CENTEX	976	6,691	619.9%	5,638	3,842
330	KEYSPAN	965	5,853	191.2%	2,764	146
331	JONES APPAREL GROUP	961	4,451	271.5%	2,868	808
332	WASHINGTON MUTUAL	944	36,081	448.0%	19,434	6,510
333	STAPLES	935	13,518	653.6%	8,302	4,298
334	BALL	928	3,357	368.5%	2,749	1,383
335	ELECTRONIC ARTS	928	14,202	824.7%	11,112	8,364
336	EMC	910	31,033	1704.9%	14,544	5,262
337	COMPUWARE	902	2,320	87.7%	445	-2,414
338	SCIENTIFIC ATLANTA	900	4,145	342.7%	3,162	792
339	LINEAR TECH.	900	13,143	1288.7%	11,993	9,891
340	APACHE	880	13,141	446.8%	8,584	5,056
341	SYNOVUS FINL.	874	8,727	687.1%	7,529	5,592
342	TYCO INTL.	850	52,976	565.8%	-7,436	-35,216
343	MOLEX	838	3,503	309.4%	2,578	1,054
344	BIG LOTS	828	1,661	23.5%	-69	-2,586
345	PULTE HOMES	823	5,767	565.8%	4,371	2,859
346	BOISE CASCADE	802	1,961	93.7%	793	-969
347	ANALOG DEVICES	780	16,973	1586.8%	13,630	10,610
348	COMCAST 'A'	764	44,485	454.9%	14,888	12,598
349	DANAHER	738	14,052	1342.3%	11,305	9,371
350	DOLLAR GENERAL	724	7,074	832.5%	6,143	4,556
351	MICRON TECH.	724	8,215	622.2%	1,589	-3,513
352	CRANE	720	1,827	276.0%	1,672	734
353	ADOBE SYS.	712	9,145	950.8%	8,696	5,922
354	PAYCHEX	697	14,044	1884.6%	13,573	12,242
355	T ROWE PRICE GP.	652	5,904	888.0%	5,426	4,316
356	CITIZENS COMMS.	638	3,533	15.9%	922	-1,256
357	ADC TELECOM.	628	2,390	105.5%	-3,184	-6,939
358	BED BATH & BEYOND	624	12,935	1775.0%	11,558	10,287
359	SOLECTRON	614	4,943	153.0%	-6,092	-12,888
360	TEKTRONIX	603	2,678	431.6%	2,437	1,199
361	PLUM CREEK TIMBER	601	5,572	373.9%	2,589	1,312
362	ADOLPH COORS 'B'	598	1,971	322.8%	1,731	870
363	ROWAN COS.	576	2,179	197.0%	1,215	-319
364	CARDINAL HEALTH	574	26,479	771.0%	15,211	8,208
365	NAVISTAR INTL.	572	3,300	113.5%	1,510	-1,460
366	XILINX	571	13,225	1735.6%	10,204	7,838
367	FISERV	569	7,663	692.6%	5,896	4,219
368	HCA	550	20,385	211.5%	10,645	-8,438
369	TIFFANY & CO	541	6,628	1019.6%	5,806	4,590
370	MANOR CARE	533	3,082	219.4%	1,288	-706
371	QUALCOMM	503	43,148	3566.0%	12,581	-4,960
372	TERADYNE	500	4,870	562.1%	3,213	1,077
373	BB & T	495	21,121	449.1%	9,656	4,611
374	LSI LOGIC	484	3,362	230.1%	29	-3,342
375	STARBUCKS	484	13,061	1333.9%	10,853	8,951
376	SEALED AIR	483	4,601	331.0%	1,849	-493
377	KB HOME	477	3,361	420.8%	2,824	1,765
378	ZIONS BANCORP.	466	5,512	691.7%	3,650	2,124
379	SUNGARD DATA SYSTEMS	453	7,961	645.2%	5,006	3,100
380	BEST BUY CO.	438	16,961	2323.5%	14,641	12,131
381	ALBERTO CULVER 'B'	428	3,781	448.3%	1,758	1,098
382	MEREDITH	420	1,965	715.5%	2,149	1,937
383	UNION PLANTERS	404	5,938	200.2%	2,633	-804

384	MAXIM INTEGRATED PRDS.	398	16,292	2604.3%	12,108	9,995
385	ANDREW	394	1,835	140.7%	559	-378
386	NABORS INDS.	380	6,083	538.5%	3,313	1,106
387	CHARTER ONE FINL.	377	7,692	544.1%	5,780	3,494
388	HEALTH MAN. AS. A	352	5,827	956.8%	5,010	3,677
389	TELLABS	339	3,509	736.6%	603	-1,639
390	SYMANTEC	316	10,628	912.7%	8,462	6,491
91	CONCORD EFS	309	6,902	1045.8%	2,401	228
392	MEDIMMUNE	306	6,282	562.1%	1,847	-419
393	SYMBOL TECHS.	304	3,876	903.2%	2,866	1,880
394	PEOPLESOFT	283	8,545	1210.4%	3,567	1,056
395	KINDER MORGAN KANS	274	7,283	517.7%	5,081	3,546
396	ALTERA	259	8,579	2714.6%	7,797	6,554
397	KLA TENCOR	229	11,398	1811.2%	8,467	5,920
398	CLEAR CHL. COMMS.	187	28,828	2786.8%	3,059	-6,842
399	TIME WARNER	164	78,105	7775.8%	-28,439	-66,238
400	BIOGEN IDEC	80	12,023	2416.7%	3,359	2,307
		2,409,199	9,144,622		6,285,445	2,050,471

8. What should the shareholder return be compared with?

In section 5, we saw that the company creates value if the shareholder return exceeds the required return (and it destroys value in the opposite case).

However, the shareholder return is often compared with other benchmarks⁷. The most common benchmarks are:

- a) zero. If the shareholder return is positive (above zero), the shareholders have more money in nominal terms than they had at the beginning of the year.
- b) the return of Treasury bonds. If the shareholder return exceeds that of investing in Treasury bonds, the shareholders have obtained an additional return for bearing more risk (the additional risk of investing in the company instead of investing in Treasury bonds).
- c) required return to equity. If the shareholder return exceeds the expected return, the company has created value: the shareholders have obtained a return that is greater than that required to compensate the additional risk of investing in the company instead of investing in Treasury bonds.
- d) shareholder return of companies in the same industry. If the shareholder return exceeds the shareholder return of companies in the same industry, the company has created more value than the other companies in its industry (for an equal investment and risk).
- e) return of the stock market index. If the shareholder return exceeds the return of the stock market index, the company has outperformed the market as a whole.

⁷ Comparing different benchmarks enables different questions to be answered.

