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ORACLE SYSTEMS CORPORATION

The company has experienced phenomenal growth, having doubled in size, year after year, for most of its 13-year history. Founder Lawrence J. Ellison is known for his almost fanatical aggressiveness and take-no-prisoners attitude regarding competitors. "It is not sufficient that I succeed; all others must fail," he once said, paraphrasing Genghis Khan. But now the picture could be changing.[1]

Until 1990, Oracle Systems Corporation had logged a nearly unparalleled record of sustained rapid growth: 118% compound annual sales growth from 1982 to 1989. Competitors, investors, and customers had searched the financial results of the company for clues to its success. Those searches, however, tended to generate more questions than answers. Now, in the first half of 1990, the company had disclosed unsettling news that triggered a 66% drop in the company's share price. That event renewed outsiders' efforts to understand the company: Was the company healthy now in late September 1990? Had management made the right choices in running the company? Was management doing a good job? What represented the real source of value in this company? Investors also wondered what exactly was happening in the company that warranted such a dizzying drop in share price.

The Company

Oracle Systems Corporation was founded in 1979 by Lawrence J. Ellison to commercialize an innovative database management system (DBMS) that he had just developed for an American intelligence agency. The company produced a broad product line of systems, tools, and applications, which by 1990 were portable across all major computing platforms, from personal computer to mainframe. Under Ellison's aggressive leadership, Oracle more than doubled its sales every year from 1980 to 1989. It became the fastest growing software company in the world, and with sales of $971 million in the fiscal year (FY) ended May 31, 1990, was the dominant software producer in its

[1] Andrew Pollack, "Fast Growth Oracle Systems Confronts the First Downturn," *New York Times*, 10 September 1990.

specialty. **Exhibits 1**, **2**, and **3** present the firm's income statements, balance sheets, and financial ratios for 1985–1990.

An extremely aggressive business strategy distinguished Oracle from its peers. Outside observers cited four main elements to that strategy:

- *Sell aggressively.* Oracle distributed its products through a proprietary sales force and had 44 offices in the United States alone. That approach allowed close management and control of the field sales force. Sales representatives were given ambitious objectives each quarter. Typically, representatives' quotas were almost doubled on a yearly basis, while their territory often was reduced. The firm was particularly generous to representatives who achieved or exceeded their objectives. Those who fell short of their quotas were summarily fired. Sales representatives, perceived by some as arrogant and aggressive, often sold Oracle software that was not yet available in order to achieve their quotas. Outsiders attributed the company's marketing style to its founder.
- *Maintain technology and product leadership.* Oracle's current technological leadership benefited from an early lucky decision to use the SQL[2] computer language. Eventually adopted by IBM, this language became the industry standard. Continued development efforts had widened the use of Oracle's software to virtually all types and brands of computer systems. Oracle was the first to offer networking capabilities with its database, and Oracle had aggressively expanded its range of products.

  To maintain its leadership, Oracle recruited aggressively from what it believed were the top five computer schools in the United States (Harvard, the Massachusetts Institute of Technology (MIT), Stanford, the University of California at Berkeley, and Carnegie Mellon). Engineers in research and development (R&D) enjoyed flexible work schedules, higher salaries than the industry average, sizable bonuses, and stock-purchase plans. In 1990, the company built a large headquarters complex in Belmont, California, which included the largest and most modern corporate gymnasium in northern California.
- *Diversify into related fields.* The company had expanded out of the production of software and into computer consulting services and then into the area of systems integration. As the range of Oracle's product line expanded, those compatible services expanded as well.
- *Expand internationally.* Oracle had established subsidiaries and close exclusive distributors in more than 70 countries around the world. It ranked among the top 50 U.S. exporters.

Oracle Systems went public on March 12, 1986, at an issue price of $2.00. Four years later, the share price peaked at $28.375.

[2] SQL is the standardized query language used for requesting information from a database.

The Software Industry

Until the 1980s, the broad business sector referred to as computing had been dominated by equipment manufacturers. With the advent of personal computers and the increasing competition among hardware vendors, however, the software vendors had become significant players in the computing sector. In the 1980s, customers increasingly made hardware decisions based on software availability. This trend drove the hardware manufacturers to integrate forward into software development, a step with comparatively low capital requirements.

By 1990, the DBMS segment of the software industry included three types of competitors: (1) hardware producers that had integrated forward (e.g., IBM, DEC[3]); (2) specialized database vendors (e.g., Oracle, Ingres, Informix, Sybase, Ashton Tate, Gupta Technologies) whose software could work on a variety of hardware platforms; and (3) many small software houses providing highly specialized DBMS products. One analyst estimated that the market demand for DBMS exceeded $10 billion.[4] The major buying segment of that market consisted of large corporations that had heterogeneous computing environments. Oracle permitted those firms to link their machines together and share the data. **Exhibit 4** reveals that IBM and Oracle dominated the DBMS market. Oracle's revenues grew faster than IBM's because of Oracle's multiple-platform operating ability.

Disclosures in March 1990

On March 20, Oracle reported quarter earnings essentially unchanged from the same quarter a year earlier. The company attributed the zero growth results to the disallowal by auditors of about $15 million in sales. Many Oracle software contracts were sold on a trial basis, which raised questions about when revenue could be recognized.[5] For the first time, the auditors opined that some of those "sales" would never actually be realized. This surprise triggered rumors about declining product quality, increases in accounts receivable (and doubtful accounts), and reports of sales representatives leaving the company. Upon this revelation, the company's stock price plunged 31%

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[3] Digital Equipment Corporation.

[4] S. M. Smith et al., "Oracle Systems," Donaldson, Lufkin and Jenrette, 1991.

[5] Accountants acknowledge that *when* revenue can be recognized is a matter of some judgment. Typically, revenues represent not only cash sales but also credit sales. The key point of judgment is when revenue has been earned, or *realized*. Once it has been realized, it can be *recognized* in the income statement. Realization depends on: (a) management's being able to *measure* the revenue (i.e., knowing with fair certainty how much revenue has been earned), and (b) the occurrence of a *critical event* at which there is fair certainty that the revenue-generating transaction will be completed. For instance, consider at which moment revenue should be recognized: the "handshake deal", the receipt of a formal order, the shipment of the order, or perhaps the receipt of cash. The crucial phrase here is "fair certainty," and it is an important focus of the auditor's work. There are many revenue-recognition methods. Special industries (e.g., consulting, project management, contracting, mining and petroleum, land sales, franchising, and entertainment) have unique recognition techniques. One prominent accounting textbook states: *A misconception about reported numbers is that they are exact or precise. In spite of the best efforts of managers and internal and external auditors, this is rarely if ever the case. There are many reasons for the lack of precision in accounting measures; some may be attributed to necessarily arbitrary cost allocations or alternate reporting procedures, while others may be a function of the intentional manipulation of reported accounting numbers*. [E. R. Brownlee II, K. R. Ferris, and M. E. Haskins, *Corporate Financial Reporting* (Homewood, IL: Richard D. Irwin, 1990), 80–81.]

from its all-time high of $28.375 per share (achieved just days before the announcement). Journalists reported the following comments by securities analysts:

> There is a credibility issue on the part of management… Are these random and fragmentary items constrained to this one quarter, or are they symbolic of a longer-term problem? [David Readermann, analyst with Shearson Lehman Hutton]
>
> Management is stretching harder and harder to make their growth objectives. The disallowal of some sales by auditors tells you that the growth is not sustainable; that the business is just not there. [Rick Sherlund, analyst with Goldman Sachs]
>
> There is a lot of controversy still swirling around Oracle. Most people would consider the first bit of bad news a big red flag and stand clear. I'm still a big fan of the strategy and how well they've done to date. [Mark Findlay, analyst with Soundview Financial Group][6]

Following the announcement and price drop, 20 lawsuits were filed against Oracle. Essentially, those suits alleged fraud and misrepresentation. Investors vented even more outrage when it was disclosed that six Oracle officers profited by selling 645,000 shares before the March earnings disclosure. The company denied any wrongdoing.

Announcement in September 1990

On September 25, 1990, Oracle announced its first-ever quarterly loss, $36 million (versus a profit of $11.7 million for the same quarter a year earlier). Ellison told investors that the loss came mainly from a $45 million shortfall in U.S. sales plus a $25 million write-down resulting from a restructuring of the firm. Oracle's U.S. finance department, which was responsible for the faulty third and fourth quarter 1990 financial statements, was merged into the corporate finance department to ensure strict accounting standards. The company also announced that 10% of its domestic work force (about 400 people) would be laid off. Ellison said:

> Oracle is shifting its strategy to emphasize profitability and product quality, instead of market share and sales growth, to meet demands in the maturing market for database applications… Implementation of the reorganization just took too long. Several managers responsible for the restructuring have been fired.[7]

Oracle also indicated that its revenue growth for the first fiscal quarter would be only 30%, rather than the 50% that the company had projected. Finally, the company reduced its growth projections for the rest of the year from 50% to 25%.

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[6] All quotes are from Lawrence M. Fisher, "Surprise Hurts Oracle Systems," *New York Times*, 5 April 1990.
[7] Quoted from Reuters' financial report, September 25, 1990.

At that September announcement, the company's stock price dropped to $8.125. One journalist commented:

> …Investors had been becoming increasingly wary of Oracle, if only because it was inevitable that the company's breakneck growth would have to slow eventually. Some analysts have also said the company had angered customers, in part by promising more product features than it could deliver in its rush for sales… If the suspicions are correct, it would indicate that the company's problems run deeper… But Oracle paints a rosier picture, saying it continues to gain market share. "As we adjust to a more conventional growth rate, our company will be stronger than ever," Ellison said. Some other providers of database software have also seen some softening of business.[8]

Conclusion

About $2 billion in Oracle Systems' market value of equity evaporated between the end of February and the end of September 1990. Analysts wondered whether this change in value was, in fact, associated with changes in financial performance in the recent past. The company's share-price performance had been outstanding (**Exhibit 5**). What had changed? What was the rate of change? Was the company *unhealthy?* For comparison purposes, **Exhibit 6** gives financial ratios for a portfolio of other software companies, and **Exhibit 7** presents comparative financial ratio information on the 11 leading producers of relational DBMSs.

[8] Andrew Pollack, "Fast Growth Oracle Systems Confronts first Downturn," *New York Times*, 10 September 1990.

Exhibit 1

Income Statements, 1984–1990
(in thousands except per-share amounts)

	Fiscal Year Ended May 31							90 Qtr. Ended	
	1984	1985	1986	1987	1988	1989	1990	Aug. 3	Feb. 28
Revenues:									
Licenses	$12,282	$21,902	$44,657	$101,264	$205,435	$417,825	$689,898		
Services	433	1,257	10,726	30,007	76,678	165,848	280,946		
Total revenues	12,715	23,159	55,383	131,271	282,113	583,673	970,844	$214,799	$245,561
Operating expenses									
Sales and marketing	6,431	14,542	27,171	65,651	124,148	272,812	465,074		
Cost of services			5,644	18,661	51,241	100,987	160,426		
Research and development	2,009	3,886	7,478	9,949	25,708	52,570	88,291	20,615	21,685
General and admin.	1,673	1,989	4,248	8,603	17,121	34,344	67,258	230,187	174,673
Total operating expenses	10,113	20,417	44,541	102,864	218,218	460,713	781,049		
Operating income	2,602	2,742	10,842	28,407	63,895	122,960	189,795	(36,003)	49,203
Other income (expense)	(305)	(157)	(367)	(509)	1,084	(2,715)	(17,135)	7,516	5,342
Income before taxes	2,297	2,585	10,475	27,898	64,979	120,245	172,660		
Taxes	908	1,034	4,579	12,275	22,093	38,479	55,250	(14,796)	14,035
Net income	1,389	1,551	5,896	15,623	42,886	81,766	117,410	$(28,723)	$29,826
Earnings per share	$0.11	$0.12	$0.11	$0.12	$0.32	$0.61	$0.86		
Number of shares outstanding	12,340	12,770	54,864	125,028	132,950	135,066	136,826		

Source: Company annual reports.

Exhibit 2

Balance Sheets, 1985–1990
(in thousands)

	Fiscal Year Ended May 31						
	1985	1986	1987	1988	1989	1990	Quarter Aug. 31, 1990
Assets							
Current assets:							
Cash and cash equivalents	$ 599	$12,524	$ 37,557	$ 48,610	$ 49,393	$ 49,828	$ 50,198
Trade receivables	9,032	26,554	65,205	129,999	261,989	468,071	394,648
Other current assets	331	2,393	6,376	13,218	25,551	51,358	76,428
Total current assets	9,962	41,471	109,138	191,827	336,933	569,257	521,274
Property, net	4,491	14,152	26,896	47,554	94,455	171,945	203,887
Computer software develop.	0	0	4,818	6,920	13,942	33,396	41,707
Other assets	1,010	1,805	2,940	3,267	14,879	12,649	12,245
Total assets	$15,463	$57,428	$143,792	$249,568	$460,209	$787,247	$779,113
Liabilities and stockholders' equity							
Current liabilities:							
Notes payable	$ 694	$ 3,164	$ 5,196	$ 6,507	$ 23,334	$ 42,501	$ 34,970
Accounts payable	1,432	4,835	10,645	23,502	51,582	64,922	57,281
Accrued expenses	3,360	11,301	28,737	62,627	88,014	134,028	82,135
Customer advances	897	2,993	3,847	9,547	15,403	42,121	70,011
Total current liabilities	6,383	22,293	48,425	102,183	178,333	283,572	244,397
Long-term debt	1,373	5,641	9,025	5,363	39,208	94,065	165,643
Deferred income taxes	340	843	3,686	7,379	12,114	22,025	10,397
Stockholders' equity	7,367	28,651	82,656	134,643	230,554	387,585	358,676
Total liabilities and stockholders' equity	$15,463	$57,428	$143,792	$249,568	$460,209	$787,247	$779,113

Exhibit 2 (continued)

Note: Accounts receivable (A/R) are net of these allowances for doubtful accounts:

		% of A/R	% of A/R (restated)
1987	$ 6,628,000	10.2	
1988	$10,102,000	7.8	
1989	$16,829,000	6.4	
1990	$28,445,000	6.1	14.2

The 1990 allowance for doubtful accounts was restated to $66,445,000.

Source: Company annual reports.

Exhibit 3

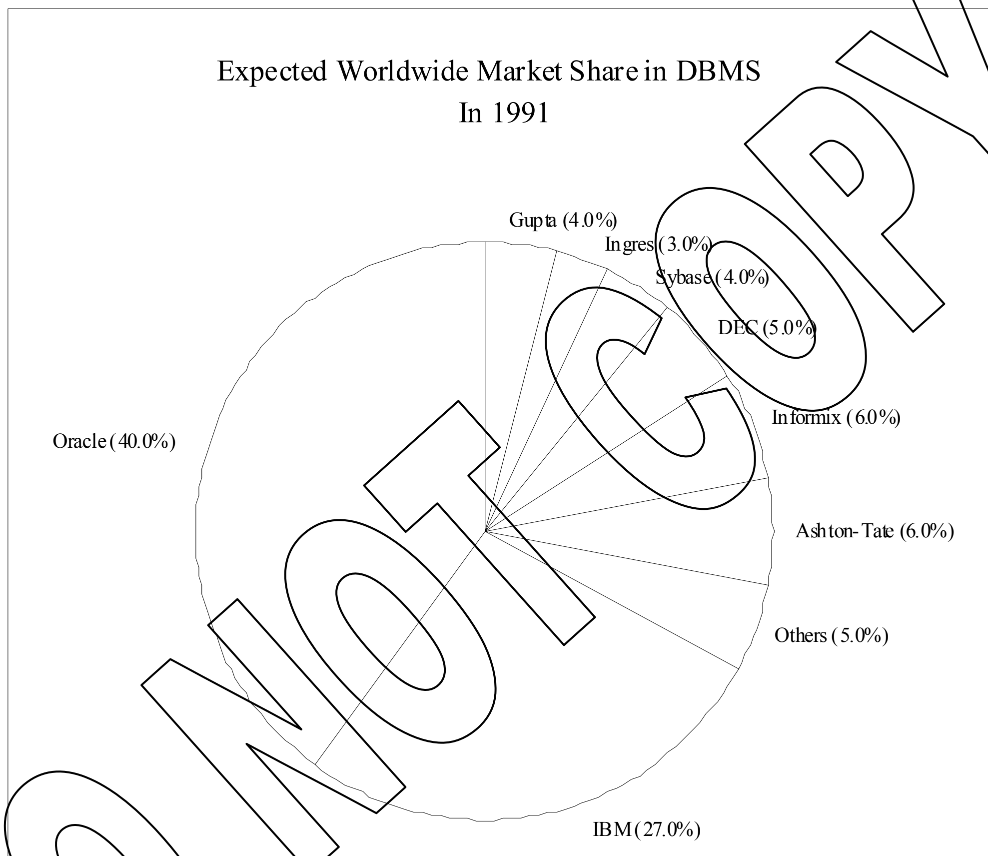
Analytical Financial Ratios, 1985–1990

	Fiscal Year Ended May 31					
	1985	1986	1987	1988	1989	1990
Current ratio	1.56	1.86	2.25	1.88	1.89	2.01
Quick ratio	1.51	1.75	2.12	1.75	1.75	1.83
Debt/Total assets	13.37%	15.33%	9.89%	4.76%	13.59%	17.35%
Days' sales outstanding	142	175	181	168	164	176
Debt/Equity	0.28	0.31	0.17	0.09	0.27	0.35
Times interest earned	17.46	29.54	55.81	58.94	45.29	11.08
Inventory turnover	69.97	23.14	20.59	21.34	22.84	18.90
Asset turnover	1.50	0.96	0.91	1.13	1.27	1.23
Operating profit margin	11.84%	19.58%	21.64%	22.65%	21.07%	19.55%
Net profit margin	6.70%	10.65%	11.90%	15.20%	14.01%	12.09%
Return on total assets	10.03%	10.27%	10.86%	17.18%	17.77%	14.91%
Return on equity	21.05%	20.58%	18.90%	31.85%	35.47%	30.29%

Source: Company annual reports.

Exhibit 4

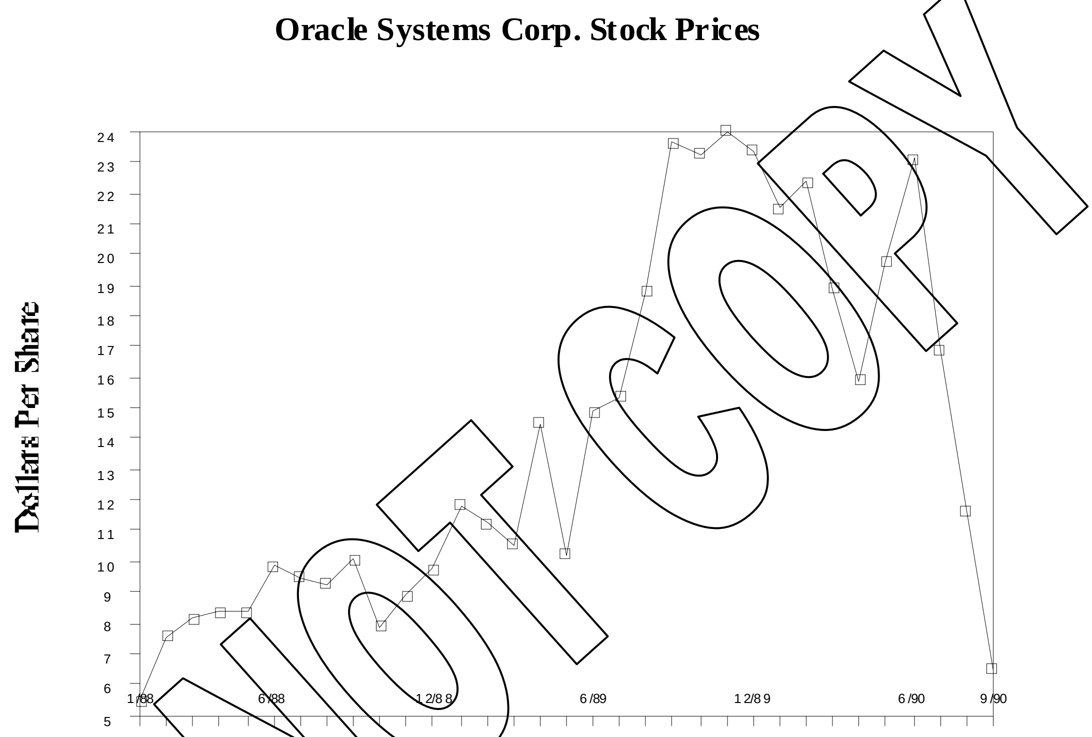
Percentage Shares of Market for Database Management Systems Expected in 1991



Source of Market Share Estimates: Datamation.

Exhibit 5

Oracle Systems Month-End Share Prices, adjusted for Stock Splits



Note: This graph presents Oracle share prices at month-ends.
The all-time high share price, $28.375, occurred in mid month March 1990.

Source: *Daily Stock Price Record: Over-the-Counter*, New York: Standard & Poor's Corporation, quarterly volumes from Q1 1998 to Q3 1990.

Exhibit 6

Common-Sized Financial Statements of Computer-Software Producers' Averages, 1986–1990
(in percentages)

	1986	1987	1988	1989	1990
Income statement					
Sales	100.0	100.0	100.0	100.0	100.0
Costs and expenses	80.6	79.9	79.0	78.9	82.3
Operating income	19.4	20.1	21.0	21.1	17.7
Depreciation	6.1	6.1	5.9	5.3	5.2
Interest	1.0	1.1	0.8	1.0	1.1
Special items	0.9	!0.7	0.0	0.0	0.0
Income taxes	4.9	5.4	5.2	4.7	4.1
Net income	6.5	8.2	9.1	10.1	7.3
Common dividends	1.6	1.2	1.1	1.5	1.3
Balance sheet: Assets					
Cash and equivalents	28.8	24.2	20.1	17.2	19.2
Receivables	22.9	26.0	27.9	32.4	31.8
Inventories	1.3	1.7	1.7	1.7	1.5
Other current assets	6.1	4.3	3.3	3.7	3.5
Total current assets	59.2	56.2	53.0	55.0	55.9
Net property, plant, and equipment	26.8	19.5	20.0	19.1	17.5
Intangibles	9.7	8.5	9.2	10.0	9.1
Other assets	4.3	15.9	17.7	15.8	17.5
Total assets	100.0	100.0	100.0	100.0	100.0
Balance sheet: Liabilities and equity					
Notes payable	0.8	0.8	0.8	0.9	3.3
Current long-term debt	1.4	1.4	1.4	0.7	0.9
Accounts payable	3.3	3.8	3.8	4.5	3.9
Taxes payable	6.6	6.2	5.7	5.9	5.7
Accrued expenses	5.1	3.7	3.2	5.0	5.8
Other current liabilities	8.5	9.2	9.8	9.0	9.8
Total current liabilities	25.7	24.6	24.6	26.1	29.4
Long-term debt	18.7	12.2	11.0	11.2	5.8
Deferred taxes	1.4	2.6	3.7	3.4	3.5
Investment tax credit	0.9	0.0	0.0	0.0	0.0
Other liabilities	2.4	2.3	1.8	1.9	1.7
Common stock	1.1	1.0	0.9	2.1	2.0
Capital surplus	12.0	23.1	22.8	19.4	19.0
Retained earnings	38.6	37.6	41.0	43.9	46.6
Less treasury stock	−0.8	−3.3	−5.8	−8.0	−8.1
Total liabilities and equity	100.0	100.0	100.0	100.0	100.0

Note: The companies on which this exhibit is based include Autodesk, Automatic Data, Computer Associates, Computer Sciences, Lotus Development, Novell, Oracle, Shared Medical Systems, and Cullinet.
Source: *Industry Surveys*, Standard & Poor's Corporation, Vol. 1, July 1992.

Exhibit 7

Financial Ratios for Competitors in Database Management Software

	Ask Computer (FY 6/90)	BMC Software (FY 3/90)	Borland International (FY 3/90)	Computer Associates (FY 3/90)	Informix Corp. (12/89)	Lotus Development (12/89)	Microsoft Corp. (FY 6/90)	Oracle Systems (FY 5/90)	Platinum Technol. (12/89)	Progress Software (11/89)	Software Publish. (FY 9/90)	Sybase, Inc. (12/89)
Business focus	DBMS	DBMS	Broad Line	Broad Line	DBMS	Broad Line	Broad Line	DBMS	DBMS	DBMS	Broad Line	DBMS
Previous four quarters' sales	$112 mm	$110 mm	$262 mm	$1.25 bn	$14.9 mm	$652 mm	$1.3 bn	$980 mm	$11.1 mm	$26.9 mm	$140 mm	$89 mm
Liquidity ratios												
Quick ratio	1.88	2.97	2.54	2.13	2.68	3.39	3.37	1.51	1.99	1.54	3.64	2.00
Current ratio	2.01	3.26	2.92	2.20	2.94	3.73	3.85	1.75	1.99	1.67	3.95	2.07
Sales/Cash	0.35	1.66	8.79	11.32	5.76	2.02	2.63	18.39	12.93	3.61	1.78	3.43
Activity ratios												
Receiv. turnover	3.42	9.53	27.20	2.11	2.00	5.69	6.54	2.18	2.57	4.24	7.38	2.23
Days' sales out.	105	38	13.23	170	180	63	55	165	140	85	48.8	161
Inventory turn.	53.6	NA	290	49.16	27.46	24	21.3	NA	NA	46.23	73.4	NA
Days' inv. out.	6.67	NA	1.24	7.32	13.11	15	16.9	NA	NA	7.8	4.9	NA
Sales/Net working capital	40.5	1.86	8.87	3.14	2.05	1.85	2.22	3.90	4.32	4.5	1.77	2.54
Sales/Plant and equipment	20.18	4.64	18.63	3.90	6.68	3.55	3.64	5.33	37.7	9.62	11.83	4.79
Sales/Curr. assets	2.03	1.29	5.78	1.72	1.35	1.36	1.64	1.68	2.15	1.80	1.32	1.31
Sales/Assets	1.25	1.00	4.36	0.86	1.01	0.92	1.07	1.20	2.03	1.48	1.17	1.01
Sales/Employees	220,028	205,396	649,407	180,348	122,570	198,583	210,017	134,546	NA	NA	214,033	105,385

Exhibit 7 (continued)

	Ask Computer (FY 6/90)	BMC Software (FY 3/90)	Borland International (FY 3/90)	Computer Associates (FY 3/90)	Informix Corp. (12/89)	Lotus Development (12/89)	Microsoft Corp. (FY 6/90)	Oracle Systems (FY 5/90)	Platinum Technol. (12/89)	Progress Software (11/89)	Software Publish. (FY 9/90)	Sybase, Inc. (12/89)
Leverage ratios												
Liabilities/Assets	0.32	0.34	0.38	0.32	0.48	0.54	0.17	0.56	0.48	0.54	0.25	0.49
Liabilities/Capital	0.47	0.52	0.51	0.46	0.86	0.68	0.20	1.00	0.90	1.08	0.34	0.97
Liabilities/Equity	0.47	0.52	0.61	0.47	0.93	1.17	0.20	1.27	33.47	1.15	0.34	0.97
Times int. earned	37.8	NA	NA	NA	NA	NA	NA	10.77	NA	31.66	NA	7.76
Total debt/Equity	0.01	NA	0.19	0.03	NA	0.73	NA	0.30	NA	0.11	NA	NA
Assets/Equity	1.47	1.52	1.61	1.47	1.93	2.17	1.20	2.27	1.90	2.15	1.34	1.97
Profitability ratios												
Net income/Sales	0.02	0.19	−0.04	0.10	0.04	0.12	0.24	0.09	0.06	0.09	0.14	0.06
Net income/Assets	0.03	0.19	−0.19	0.08	0.04	0.11	0.25	0.11	0.12	0.13	0.16	0.06
Net income/Capital	0.04	0.29	−0.26	0.12	0.08	0.14	0.30	0.19	0.23	0.25	0.22	0.12
Net income/Equity	0.04	0.29	−0.31	0.12	0.09	0.24	0.30	0.24	8.66	0.27	0.22	0.12

Source: *Disclosure Database* (Bethesda, MD: Disclosure Incorporated).