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TANDEM COMPUTERS (TDM)

Second Quarter EPS of $0.17 versus $0.25 in Line; Rating Raised to Moderately Attractive

FACTBOOK Bracket: (2)
Relative Return Projection: +5% to +20%

Rating: Moderately Attractive

Price		Earnings Per Share		
04/24/91	52-Week Range	12/90	12/91E	12/92E
17	28 7/8-8 7/8	$1.13	$0.65	$1.00

Press "RETURN" for more or (H)elp for options:

P/E Ratios		Dividend	
12/91E	12/92E	Rate	Yield
25	16	-	-

DJIA: 2949.50
SPII: 454.30

Shares Outstanding (mil.): 106.0
Market Capitalization (bil.): $1.8

VIEWPOINT

Tandem reported second fiscal quarter (March) earnings of $0.17 per share, a decline of 32% from the $0.25 reported a year ago. Revenue grew 8.4%, which was higher than our estimate of a 5-6% gain. Despite this higher revenue, discounting and increased operating expenses kept pressure on TDM's operating margin, resulting in EPS that were in line with our $0.17 estimate. For the six months earnings were $0.23, a decline of 57% from the $0.53 reco rded a year ago. While this report appears relatively disappointing, we are nevertheless raising our rating from neutral to moderately attractive. Underlying this more positive position are the following points:

* Demand for TDM's products appears better than our original forecast. With better than one-third of product sales coming from financial services at the end of fiscal 1990, we were concerned about whether TDM would realize growth of more than 2-5% in fiscal 1991. However, demand over the first half has been at the high end of this range with the second quarter better than the first, and the trend looks encouraging. Communications and manufacturing are doing well and even financial services appears relatively stable, although it is declining as a percent of total given the higher growth reported in other areas.

* Demand from the communications sector should be helped by TDM's recent reseller agreement with Motorola. During the March quarter, TDM entered into a five-year, $500 million reseller agreement with Motorola, who will deploy TDM products in its cellular infrastructure. Included under the agreement are CLX and S2 processors, non-stop SQL database and Signalling System 7 (SS7) interface software, which is provided by TDM's subsidiary TTSI. This contract should help to boost communications to 20-22% of product revenue in fiscal 1992 from about 15% currently, and will help to reduce TDM's exposure to financial services.

* New products should not only stimulate demand but also enhance TDM's product sales margin. From a high of 73-74% a few years ago, TDM's gross margin on product sales slipped to 67% in the March quarter. Admittedly, there were a couple of unusual factors that depressed this measure like discounting and inventory write-offs. However, 300-400 basis points have still been lost relative to a few years ago. New RISC-based systems, due out late this fiscal year, should improve product margins by allowing TDM to dramatically increase price/performance without having to resort to using the price side of the equation. We have long felt that TDM was among only a few traditional computer systems companies able to bring the benefits of RISC to their traditional customers without meaningful dislocation-something that will be demonstrated with Tandem's new MIPS-based systems.

* The high ratio of operating expenses/revenue continues to be an issue, but better demand and/or a higher top-line margin will reduce the importance over the next six to 12 months. In the March quarter, operating expenses consumed $0.55 of every revenue dollar. Management has been focusing on reducing this percentage over the last year and particularly over the last six months, but little real progress has been made. A year ago operating expenses consumed $0.56 of every revenue dollar. This is out of line with other computer systems

companies and is generally inconsistent with trends in the industry. Consequently, it is something TDM management will have to address at some point. Nevertheless, better demand from key end-markets like communications coupled with the effects of new high-end products (within terms of being a demand stimulus and a margin enhancer) reduces the criticality of this expense issue over the next six to 12 months.

* In our view, TDM's valuation is relatively modest, providing an investment opportunity over the next year. TDM's shares are trading at 25 times our fiscal 1991 EPS estimate of $0.65 but only about 17 times

our fiscal 1992 estimate of $1.00. Furthermore, our fiscal 1992 number may be low given the improved level of demand currently, the new relationship with MOT and expected new products. Looked at on other traditional measures the shares also appear somewhat undervalued, trading at 1.4 times book value, 0.8 times revenue and 7.5 times cash flow. Based on this assessment, we have raised our rating to moderately attractive from neutral with a one-year target price of $15.

SECOND QUARTER RESULTS

TDM reported second fiscal quarter EPS of $0.17, a decline of 32% from the $0.25 earned a year ago. While the results were disappointing on a year-over-year basis, they were generally in line with our expectations, which had been for earnings of $0.17 on revenue of $470 million. Reported revenue actually came in at $489.4 million, which was 4% above our forecast and 8% over a year ago; however, margin pressure was evident. Key points about the quarter include the following:

1) Revenue of $489.4 million was made up of $394.1 million in product sales (80% of total; up 6.6% year over year) and $95.3 million in service (20% of total; up 16.8% year over year).

2) Geographically, the U.S. represented 46% of total, Europe 32% and Intercontinental 22%.

3) Product revenue by application is broken down in Chart 1.

[Graphical Material Omitted: Chart 1 - Tandem Computers Product Sales By Market 2Q '91]

4) Cost of revenue grew 22% year over year, or nearly three times the rate of revenue growth. Both components (cost of product sales and cost of services) expanded faster than revenue. However, product costs increased nearly four times faster than product sales and this was the primary factor driving down the GPM. The increase in cost of product sales related to a higher level of discounting under a trade-in program, some currency hedging costs and inventory reserves for older products (VLX and CLX 700 processors). The GPM on product sales was 67.1%, down from 71.9% a year ago and 70% in the prior quarter. Cost of services grew 18.2% year over year compared with a 16.8% increase in service revenue, and the GPM slipped from 34.9% to 34.1%.

5) Operating expenses were 54.6% of revenue and grew 6.3% year over year. This compares with 55.7% and double-digit growth a year ago, reflecting some measure of cost control. However, if investors consider one aspect of TDM to be disturbing it is the high level of spending in this area, particularly with respect to selling/marketing. Admittedly, there are probably some accounting classification issues that explain what TDM includes in the cost of revenue and operating expense lines, but this does not come close to fully addressing the historically low operating profit margin that TDM has reported. In the March quarter R&D was well controlled, being essentially flat year over year and down 3% sequentially. Unfortunately, the SG&A line grew by nearly $9 million sequentially and $16 million or 8% year over year. SG&A was supposed to be about flat sequentially. Some of the factors at work here included higher selling commissions on the higher volume and additional currency hedging costs.

6) Operating profit of $29.7 million was down 31% year to year and represented 6.1% of revenue compared with 9.5% last year. Other expense of $1.4 million made pretax profit $28.3 million or 5.8% of revenue, a decline of 33% from last year.

7) Net income was $18.0 million or $0.17 a share compared with $26.8 million or $0.25 a share in 1990. The share count fell 2% in the quarter to 107.3 million. For the six months, net income was $25 million or $0.23 compared with $57.6 million or $0.53 a year ago.

8) TDM's balance sheet remains solid with debt/invested capital of 12%. Inventory and receivables both fell in the quarter and remain in good shape at 32 and 78 days' sales, respectively. Stated book value is $11.58 while tangible book value is about $9.50.

NEW CLX 800 SERIES EXTENDS TDM'S OFFERING

Although TDM actually started shipping CLX 800 processors back in the December quarter, the product was officially introduced in January. The 800 series differs from its predecessor, the 700 series, in a few key aspects:

* It extends the upper limit of performance as measured by transaction per second (TPS) by 200%. The CLX 700 series had an upper performance limit of 30 TPS while the 800 series tops out at 92 TPS.

* It extends the maximum number of processors per system by 100%, from eight to 16, which is important for customers seeking a scalable architecture.

* It increases the maximum amount of main memory 300%, from 128 megabytes to 512 megabytes, which is important for customers seeking to perform larger applications, particularly database applications.

* It improves the price/performance by about 10% as evidenced by the price per TPS, which fell from $11,600 to $10,500 on the CLX 700.

Admittedly, the entry point for the 800 series is nearly 40% higher than the comparable entry point for the 700 series ($125,000 versus $89,000), however, lower end models of the 700 series will survive to address this need. At the high end, a 16 processor (model 888) will cost nearly $1 million, which is almost three times what the high end of the 700 series cost. Part of this is the price increase per processor, which has risen to reflect the higher performance (40% higher price for 65% more power) and part reflects the larger number of processors per system at the high end of the 800 series (16 versus eight in the 700 series).

The lower four models of the 800 series (820, 840, 860 and 880) have all been shipping since year-end while the upper four models (882, 884, 886 and 888) are scheduled for shipment in the September quarter of 1991. In the March quarter, TDM wrote down some of its inventory of the 700 series as well as the VLX to reflect the impact of the 800 series. Higher end models of the VLX will still have some life as entry points into the cyclone and for those applications that require more than 92 TPS capability, but this will be a shrinking opportunity.

The real challenge for TDM is to use the CLX to fight off the growing incursion of new players into the OLTP market, since most of these entrants are targeting the market from 10 to 100 TPS. Included are well-established companies like DEC and Hewlett-Packard as well as newer entrants like Sequent, Pyramid and Sequoia. Most of these players are marketing "high availability" as opposed to actual fault-tolerant systems arguing that today's technology has reduced the probability of failure to insignificant levels. Their approach is to focus on price/performance and, increasingly, they are moving toward incorporation of RISC technology to really drive the performance side of the equation. As evidence, Pyramid just announced its S series based on MIPS R3000 RISC processor, which can be scaled up to 12.

TDM is not asleep at the switch. It is planning RISC-based systems of its own for late this year and, like Pyramid, they will be based on MIPS' RISC technology. However, TDM is expected to bring this technology in at the high end, specifically against IBM, and then scale down its traditional Guardian-based product line over time. We believe this leaves TDM somewhat exposed at the low- to mid-range against this new competition, which is clearly striking the right cord with users by offering very aggressive price/performance. In any case, the CLX 800 is a positive for TDM even if it is largely an upgrade and replacement product. The impact of the 800 series was evident in the March quarter and should continue to stimulate demand over the second half as the rest of the models are shipped.

SIGNIFICANT POTENTIAL FROM TDM'S NEW RESELLER AGREEMENT WITH MOTOROLA

During its March quarter TDM signed a significant reseller agreement with Motorola, who will incorporate TDM's CLX and S2 processors as well as its Common Channel Signalling System number 7 (CCSS7) software into its cellular infrastructure. The contract has an estimated value of $520 million over five years and should help make communications one of the key drivers of demand at TDM over the next few years. This is not a new market for TDM but it is a significant new relationship.

In the telecommunications world signaling, which is used to control call establishment, disconnection, supervision and billing, has historically been handled over the same network as the voice or data traffic itself. The signaling information was quite limited and network efficiency quite poor. To address this the phone companies and respective standards bodies established an out-of-band signaling system that is essentially a separate signaling network based on packet switching technology. This approach permits more sophisticated information messages as well as better bandwidth efficiency. In short, this signaling system provides a better way to implement, manage and control the intelligent, digital networks that will dominate the 1990s and beyond.

Basically there are four distinct hardware elements to CCSS7:

* Signal Transfer Point (STP) - An STP is a high-capacity packet switch used to route or switch CCSS7 messages through the network.

* Service Switching Point (SSP) - An SSP is essentially a concentrator used to concentrate signaling traffic and route to the closest STP.

* Service Point (SP) - An SP is the hardware and software that interfaces the local central office with the CCSS7 network.

* Service Control Point (SCP) - An SCP provides the interface between the enhanced service application (voice message, video text, electronic mail, 800, 900, credit card authorization, billing, etc.) and the communications network.

Most computer systems companies, including TDM, focus on providing SCPs and related CCSS7 software. The SCPs are essentially database servers capable of performing a number of transactions per second (TPS). An added feature would be high availability (fault tolerance) since the last thing someone like MOT wants to experience is the loss of its billing system or 800 service capability. TDM's CLX and S2 are ideally positioned for this role with the added appeal of the company's CCSS7 software, which was developed for TDM by its subsidiary Tandem Telecommunications Systems, Inc. (TTSI). After discussions with our telecom and cellular people, we are somewhat skeptical that the full size of the reseller relationship will be realized, but this does not take much away from its importance-both in dollars and in perception.

[Graphical Material Omitted: Chart 2 - The CCSS7 Network]

ACQUISITION OF ACI FURTHERS TDM'S APPLICATION ENVIRONMENT EFFORT

A while ago TDM highlighted its effort to establish Application Environments (AEs) for three key strategic markets: manufacturing, finance and retail/distribution. Included in this effort to develop business and software standards was extensive courting of third-party software developers as well as systems integrators. The best illustration of this to date is TIME (Tandem Integrated Manufacturing Environment), which was introduced a few years ago and which has experienced increased acceptance over the last 12-18 months.

Recently TDM initiated its second strategic effort, this time in the area of finance and, as part of this, acquired Applied Communications, Inc. (ACI) from U S West. ACI has had a marketing relationship with TDM since the mid-1970s in backing, retail distribution and telecommunications and the companies share nearly 250 customers. The other members of this strategic initiative are Deluxe Data Systems, Internet Systems Corp. and Logica PLC.

As part of the acquisition TDM will absorb ACI's 500 employees. It is estimated that ACI will be dilutive by about $0.03-0.05 per share in the June quarter and $0.01-0.03 per share in September. This initiative is important long term but will not be something easily measurable even in 1992-1993. We expect the last initiative to be introduced by year-end.

EARNINGS ESTIMATES

While the composition of second quarter results was different than we had forecast, we are not making any material changes in our estimates for fiscal 1991 or 1992. For fiscal 1991 we are forecasting earnings of $0.65-0.70, down from $1.13 reported in fiscal 1990. Revenue is expected to be up 6-7% to almost $2.0 billion. This implies second half earnings of $0.45 per share, down from $0.60 a year ago, with both the third and fourth quarters down year over year. For fiscal 1992, we are anticipating earnings of $1.00, which would be an increase of over 50% from a depressed level of fiscal 1991. Revenue is expected to advance nearly 12% owing in part to a better business environment and in part to new products like a new RISC-based high end. We would also note that our forecast does not assume much contribution from the new reseller relationship with Motorola since the timing of that effort is uncertain. Consequently, this could represent a source of gain. In general, we see little meaningful upside to our fiscal 1991 forecast but look for gains of 10-20% in our fiscal 1992 model.

INVESTMENT CONCLUSION

Selling at 25 times our estimate for fiscal 1991 earnings and about 17 times fiscal 1992 earnings, TDM's shares do not appear compellingly cheap. However, the shares trade at below market multiples on a price/book value, price/revenue and price/cash flow basis. In addition, there is a probability that our fiscal 1992 forecast estimate is low based on recent demand and the potential of new products, which would make the shares more attractive on a P/E basis. Based on the above assessment, we have raised our rating to moderately attractive from neutral. We believe the shares could trade up to $18-20 over the next six to 12 months.

Note: Prices are as of the close, April 24, 1991.

Digital Equipment Corporation (DEC) (#): 69 7/8
Hewlett-Packard (HWP) (#): 53 1/4
International Business Machines (IBM): 107 3/8
MIPS Computer Systems (MIPS) (*): 18 1/2
Motorola (MOT): 64 1/2
Pyramid Technology (PYRD) (*): 25 5/8
Sequent Computer Systems (SQNT)(*): 16 7/8
Sequoia Systems (SEQS)(*) (+): 13
U S West (USW): 37 7/8

(*) DONALDSON, LUFKIN & JENRETTE SECURITIES CORPORATION MAKES A MARKET IN THIS SECURITY AND HAS PERIODIC POSITIONS IN THIS SECURITY IN CONNECTION WITH THIS ACTIVITY.

(+) WITHIN THE PAST THREE YEARS DONALDSON, LUFKIN & JENRETTE SECURITIES CORPORATION HAS BEEN A MANAGING OR CO-MANAGING UNDERWRITER OF THE COMPANY'S SECURITIES.

(#) DONALDSON, LUFKIN & JENRETTE SECURITIES CORPORATION MAKES A MARKET IN THIS SECURITY, HAS PERIODIC POSITIONS IN THIS SECURITY IN CONNECTION WITH THIS ACTIVITY AND MAY BE ON THE OPPOSITE SIDE OF PUBLIC ORDERS EXECUTED ON A REGIONAL STOCK EXCHANGE WHERE WE ACT AS A SPECIALIST.

TABLE 1
TANDEM COMPUTERS
Consolidated Statement of Income
(Dollars in thousands, except per share amounts)

[Part 1 of 3]

	Three months ended 3/31		
	1991	1990	% Chg.
REVENUES			
Equipment	$394,126	$369,735	6.6%
Service & other	95,238	81,522	16.8
Total	489,364	451,257	8.4
COSTS			
Cost of equipment	129,567	104,012	24.6
Cost of service & other	62,756	53,085	18.2

Total	192,323	157,097	22.4
Gross profit	297,041	294,160	1.0
R&D	62,115	61,993	0.2
MGA	205,246	189,430	8.3
Total	267,361	251,423	6.3
Operating profit	29,680	42,737	-30.6
Interest, net	(1,346)	(492)	173.6
Pretax profit	28,334	42,245	-32.9
Taxes	10,342	15,418	-32.9
Net profit	17,992	26,827	-32.9
EPS	$0.17	$0.25	-32.0
Shares outstanding	107,247	109,303	-1.9

% of Revenue		
Equipment profit	67.1%	71.9%
Service & other profit	34.1	34.9
Gross profit	60.7	65.2
R&D expense	12.7	13.7
MGA expense	41.9	42.0
Operating profit	6.1	9.5
Pretax profit	5.8	9.4
Tax rate	36.5	36.5
Net profit	3.7	5.9

[Part 2 of 3]

	Six months ended 3/31		
	1991	1990	% Chg.
REVENUES			
Equipment	$741,273	$732,055	1.3%
Service & other	191,877	155,721	
23.2			
Total	933,150	887,776	5.1
COSTS			
Cost of equipment	233,878	211,252	10.7
Cost of service & other	128,762	104,082	23.7
Total	362,640	315,334	15.0
Gross profit	570,510	572,442	-0.3

R&D	126,004	119,188	5.7
MGA	402,012	363,164	10.7
Total	528,016	482,352	9.5
Operating profit	42,494	90,090	-52.8
Interest, net	(3,117)	558	NMF
Pretax profit	39,377	90,648	-56.6
Taxes	14,373	33,086	-56.6
Net profit	25,004	57,562	-56.6
EPS	$0.23	$0.53	-56.6
Shares outstanding	106,774	108,168	-1.3
% of Revenue			
Equipment profit	68.4%	71.1%	
Service & other profit	32.9	33.2	
Gross profit	61.1	64.5	
R&D expense	13.5	13.4	
MGA expense	43.1	40.9	
Operating profit	4.6	10.1	
Pretax profit	4.2	10.2	
Tax rate	36.5	36.5	
Net profit	2.7	6.5	

[Part 3 of 3]

	2Q '91 3/31/90	1Q '91 12/31/90	% Chg.
REVENUES			
Equipment	$394,126	$347,147	13.5%
Service & other	95,238	96,639	-1.4
Total	489,364	443,786	10.3
COSTS			
Cost of equipment	129,567	104,311	24.2
Cost of service & other	62,756	66,006	-4.9
Total	192,323	170,317	12.9
Gross profit	297,041	273,469	8.6
R&D	62,115	63,889	-2.8
MGA	205,246	196,766	4.3
Total	267,361	260,655	2.6
Operating profit	29,680	12,814	131.6
Interest, net	(1,346)	(1,771)	-24.0

Pretax profit	28,334	11,043	156.6
Taxes	10,342	4,031	156.6
Net profit	17,992	7,012	156.6
EPS	$0.17	$0.07	142.9
Shares outstanding	107,247	106,300	0.9
% of Revenue			
Equipment profit	67.1%	70.0%	
Service & other profit	34.1	31.7	
Gross profit	60.7	61.6	
R&D expense	12.7	14.4	
MGA expense	41.9	44.3	
Operating profit	6.1	2.9	
Pretax profit	5.8	2.5	
Tax rate	36.5	36.5	
Net profit	3.7	1.6	

TABLE 2
TANDEM COMPUTERS
ANALYSIS OF OPERATIONS
(Dollars in millions, except per share amounts)

[Part 1 of 2]

FY September	1989	% Chg.	1990	% Chg.
INCOME STATEMENT				
Revenues	$1,632.5	24.2%	$1,865.9	14.3%
Gross income	1,026.1	24.1%	1,198.0	16.7%
Operating income	184.3	25.2%	188.7	2.4%
Pretax income	186.3	28.2%	187.2	0.5%
Net income	118.3	25.2%	121.8	3.0%
EARNINGS PER SHARE	$1.17	21.9%	$1.13	-3.4%
Average shares	101.4	2.7%	108.2	6.7%
MARGIN ANALYSIS				
Gross margin	62.9%		64.2%	
Operating margin	11.3%		10.1%	
Pretax margin	11.4%		10.0%	
Net margin	7.2%		6.5%	
RATIO ANALYSIS				
Book value per share	$9.69		$11.41	
RETURN ON AVG. EQUITY	12.8%		11.1%	
Employees	9,548	10.7%	10,936	14.5%
REVENUE/EMPLOYEE ($000)	179.7		182.2	

[Part 2 of 2]

FY September	1991E	% Chg.	1992E	% Chg.
INCOME STATEMENT				
Revenues	$1,991.2	6.7%	$2,256.0	13.3%
Gross income	1,228.3	2.5%	1,421.3	15.7%
Operating income	122.3	-35.2%	179.3	46.6%
Pretax income	116.1	-38.0%	173.3	49.2%
Net income	73.7	-39.5%	109.2	48.0%
EARNINGS PER SHARE	$0.65	-15.9%	$1.00	46.2%
Average shares	107.0	-1.1%	108.0	0.9%
MARGIN ANALYSIS				
Gross margin	61.7%		63.0%	
Operating margin	6.1%		7.9%	
Pretax margin	5.8%		7.7%	
Net margin	3.7%		4.8%	
RATIO ANALYSIS				
Book value per share	$11.49		$11.91	
RETURN ON AVG. EQUITY	6.1%		8.7%	
Employees	10,936	0.0%	10,936	0.0%
REVENUE/EMPLOYEE ($000)	182.1		206.3	

Notes:
FY'87 restated for Atalla Corp. acquisition.
FY'88 includes Ungermann-Bass (acquisition: 3/18/88).
FY'88 pretax includes settlement of litigation: -$9.375M.

Balance sheet as of 3/31/91

ASSETS	
Cash	$64.1
Receivables	419.6
Inventories	174.4
Other current	143.6
CURRENT	801.7
Net PPE	620.5
Other	385.4
TOTAL ASSETS	1,807.7
LIABILITIES	
Notes Payable	85.9
Accounts Payable	111.6
Other	219.4
CURRENT	416.8

Long term debt	92.4
Deferred	70.0
Shareholders' equity	1,228.4
TOTAL LIABILITIES AND EQUITY	1,807.7

TANDEM COMPUTERS
QUARTERLY FINANCIAL DATA
(Dollars in millions, except per share amounts)

[Part 1 of 2]

			Gross		Operating	
FY Sep.	Revenues	% YA	Income	Margin	Income	Margin
1Q '89	392.3	39.0%	247.0	63.0%	50.0	12.7%
2Q '89	363.4	17.4%	228.4	62.9%	26.1	7.2%
3Q '89	420.7	24.1%	266.1	63.3%	47.9	11.4%
4Q '89	456.2	18.8%	284.6	62.4%	60.4	13.2%
FY	1,632.5	24.2%	1,026.1	62.9%	184.3	11.3%
1Q '90	436.5	11.3%	278.3	63.8%	47.4	10.8%
2Q '90	451.3	24.2%	294.2	65.2%	42.7	9.5%
3Q '90	472.0	12.2%	302.6	64.1%	50.5	10.7%
4Q '90	506.1	10.9%	322.9	63.8%	48.1	9.5%
FY	1,865.9	14.3%	1,198.0	64.2%	188.7	10.1%
1Q '91	443.8	1.7%	273.5	61.6%	12.8	2.9%
2Q '91	489.4	8.4%	297.0	60.7%	29.7	6.1%
3Q '91E	513.0	8.7%	317.7	61.9%	37.7	7.4%
4Q '91E	545.0	7.7%	340.0	62.4%	42.1	7.7%
FY	1,991.2	6.7%	1,228.2	61.7%	122.3	6.1%
1Q '92E	528.0	19.0%	332.6	63.0%	39.6	7.5%
2Q '92E	543.0	11.0%	342.1	63.0%	43.1	7.9%
3Q '92E	571.0	11.3%	359.7	63.0%	43.7	7.7%
4Q '92E	614.0	12.7%	386.8	63.0%	52.8	8.6%
FY	2,256.0	13.3%	1,421.3	63.0%	179.3	7.9%

[Part 2 of 2]

	Net		Earnings	
FY Sep.	Income	Margin	Per Share	% YA
1Q '89	31.3	8.0%	$0.32	33.3%

Press "RETURN" for more or <H>elp for options:

2Q '89	16.9	4.6%	$0.17	-29.2%
3Q '89	30.8	7.3%	$0.31	72.2%
4Q '89	39.4	8.6%	$0.38	22.6%
FY	118.3	7.2%	$1.17	22.4%
1Q '90	30.7	7.0%	$0.29	-9.4%
2Q '90	26.8	5.9%	$0.25	47.1%
3Q '90	32.4	6.9%	$0.30	-3.2%
4Q '90	31.8	6.3%	$0.30	-21.1%
FY	121.8	6.5%	$1.13	-3.4%
1Q '91	7.0	1.6%	$0.07	-75.9%
2Q '91	18.0	3.7%	$0.17	-32.0%
3Q '91E	23.0	4.5%	$0.21	-30.0%
4Q '91E	25.7	4.7%	$0.24	-20.0%
FY	73.7	3.7%	$0.69	-38.9%
1Q '92E	24.0	4.6%	$0.22	214.3%
2Q '92E	26.2	4.8%	$0.24	41.2%
3Q '92E	26.6	4.7%	$0.25	19.0%
4Q '92E	32.3	5.3%	$0.30	25.0%
FY	109.2	4.8%	$1.01	46.4%

R = 1987 restated for Atalla Corp. acquisition.
1988 includes Ungermann-Bass (acquisition: 3/18/88).
88:2Q net includes settlement of litigation: -$9.375M.

TABLE 3
TANDEM COMPUTERS, INC.
CONSOLIDATED STATEMENT OF INCOME, 1990-1992E
(Dollars in thousands except per share amounts)

[Part 1 of 3]

			FY 3 1990		
TDM	1Q	2Q	3Q	4Q	Year-End
FY Sep.	13	13	13	13	52
Revenues					
Equipment	$362,320	$369,735	$387,335	$420,116	$1,539,506
Service & support	74,199	81,522	84,693	85,953	326,367
Total	436,519	451,257	472,028	506,069	1,865.873
Cost of equipment	107,240	104,012	112,605	1	
23,249	447,106				
Cost of service	50,997	53,085	56,834	59,897	220,813

Total	158,237	157,097	169,439	183,146	667,919
Gross income	278,282	294,160	302,589	322,923	1,197,954
R&D	57,195	61,993	65,696	68,697	253,581
SG&A	173,734	189,430	186,420	206,103	755,687
Total	230,929	251,423	252,116	274,800	1,009,268
Operating income	47,353	42,737	50,473	48,123	188,686
Interest & other income	1,050	(492)	(499)	(1,513)	(1,454)
Interest & other expense	0	0	0	0	0
Net interest	1,050	(492)	(499)	(1,513)	(1,454)
Pretax income	48,403	42,245	49,974	46,610	187,232
Taxes	17,668	15,418	17,538	14,776	65,400
Net income before	30,735	26,827	32,436	31,834	121,832
Extraordinary	0	0	0	0	0
Net income	30,735	26,827	32,436	31,834	121,832
EPS	$0.29	$0.25	$0.30	$0.30	$1.13
Shares outstanding	107,033	109,303	109,531	106,786	108,163

% SALES

Product marign	70.40%	71.87%	70.93%	70.66%	70.96%
Service margin	31.27%	34.88%	32.89%	30.31%	32.34%
Gross income	63.75%	65.19%	64.10%	63.81%	64.20%
R&D	13.10%	13.74%	13.92%	13.57%	13.59%
SG&A	39.80%	41.98%	39.49%	40.73%	40.50%
Operating income	10.85%	9.47%	10.69%	9.51%	10.11%
Pretax income	11.09%	9.36%	10.59%	9.21%	10.03%
Tax rate	36.50%	36.50%	35.09%	31.70%	34.93%
Net income	7.04%	5.94%	6.87%	6.29%	6.53%

TABLE 3
TANDEM COMPUTERS, INC.
CONSOLIDATED STATEMENT OF INCOME, 1990-1992E
(Dollars in thousands except per share amounts)

[Part 2 of 3]

			FY 3 1991E		
TDM	1QA	2QA	3Q	4Q	Year-End
FY Sep.	13	13	13	13	52
Revenues					
Equipment	$347,147	$394,126	$415,000	$445,000	$1,601,273
Service & support	96,639	95,238	98,000	100,000	389,877
Total	443,786	489,364	513,000	545,000	1,991,150
Cost of equipment	104,311	129,567	128,650	137,950	500,478
Cost of service	66,006	62,756	66,640	67,000	262,402

Press "RETURN" for more or <H>elp for options:

Total	170,317	192,323	195,290	204,950	762,880
Gross income	273,469	297,041	317,710	340,050	1,228,270
R&D	63,889	65,115	62,000	68,000	259,004
SG&A	196,766	205,246	215,000	230,000	847,012
Total	260,655	267.361	280,000	298,000	1,106,016
Operating income	12,814	29,680	37,710	42,050	122,254
Interest & other income	(1,771)	(1,346)	(1,500)	(1,500)	(6,117)
Interest & other expense	0	0	0	0	0
Net interest	(1,771)	(1,346)	(1,500)	(1,500)	(6,117)
Pretax income	11,043	28,334	36,210	40,550	116,137
Taxes	4,031	10,342	13,217	14,801	42,390
Net income before	7,012	17,992	22,993	25,749	73,747
Extraordinary	0	0	0	0	0
Net income	7,012	17,992	22,993	25,749	73,747
EPS	$0.07	$0.17	$0.21	$0.24	$0.69
Shares outstanding	106,300	107,247	107,000	107,000	107,000
% SALES					
Product marign	69.95%	67.13%	69.00%	69.00%	68.74%
Service margin	31.70%	34.11%	32.00%	33.00%	32.70%
Gross income	61.62%	63.50%	63.50%	63.50%	61.69%
R&D	14.40%	14.00%	13.80%	13.60%	13.01%
SG&A	44.34%	41.50%	41.00%	40.00%	42.54%
Operating income	2.89%	6.07%	7.35%	7.72%	6.14%
Pretax income	2.49%	5.79%	7.06%	7.44%	5.83%
Tax rate	36.50%	36.50%	36.50%	36.50%	36.50%
Net income	1.58%	3.68%	4.48%	4.72%	3.70%

TABLE 3
TANDEM COMPUTERS, INC.
CONSOLIDATED STATEMENT OF INCOME, 1990-1992E
(Dollars in thousands except per share amounts)

[Part 3 of 3]

			FY 3 1992E		
TDM	1Q	2Q	3Q	4Q	Year-End
FY Sep.	13	13	13	13	52

Revenues					
Equipment	$420,000	$435,000	$460,000	$500,000	$1,815,000
Service & support	108,000	108,000	111,000	114,000	441,000
Total	528,000	543,000	571,000	614,000	2,256,000
Cost of equipment	130,200	134,850	142,600	155,000	562,650
Cost of service	72,360	72,360	74,370	76,380	295,470

Press "RETURN" for more or <H>elp for options:

Total	195,360	200,910	211,270	227,180	834,720
Gross income	332,640	342,090	359,730	386,820	1,421,280
R&D	68,000	69,000	71,000	74,000	282,000
SG&A	225,000	230,000	245,000	260,000	960,000
Total	293,000	299,000	316,000	334,000	1,242,000
Operating income	39,640	43,090	43,730	52,820	179,280
Interest & other income	(1,500)	(1,500)	(1,500)	(1,500)	(6,000)
Interest & other expense	0	0	0	0	0
Net interest	(1,500)	(1,500)	(1,500)	(1,500)	(6,000)
Pretax income	38,140	41,590	42,230	51,320	173,280
Taxes	14,112	15,388	15,625	18,988	64,114
Net income before	24,028	26,202	26,605	32,332	109,166
Extraordinary	0	0	0	0	0
Net income	24,028	26,202	26,605	32,332	109,166
EPS	$0.22	$0.24	$0.25	$0.30	$1.01
Shares outstanding	108,000	108,000	108,000	108,000	108,000
% SALES					
Product marign	69.00%	69.00%	69.00%	69.00%	69.00%
Service margin	33.00%	33.00%	33.00%	33.00%	33.00%
Gross income	63.00%	63.00%	63.00%	63.00%	63.00%
R&D	11.80%	12.30%	11.90%	11.70%	12.50%
SG&A	38.30%	38.50%	38.00%	37.50%	42.55%
Operating income	7.51%	7.94%	7.66%	8.60%	7.95%
Pretax income	7.22%	7.66%	7.40%	8.36%	7.68%
Tax rate	37.00%	37.00%	37.00%	37.00%	37.00%
Net income	4.55%	4.83%	4.66%	5.27%	4.84%

TABLE 4
COMPUTER SYSTEMS
SELECTED QUARTERLY DATA AND RATIO ANALYSIS
(Dollars in millions)

[Part 1 of 3]

TANDEM	Revenues	T4-Rev.	Net	T4-NI	Equity	Deprec.

Mar. '88	309.4	-	23.3	-	796.7	20.0
Jun. '88	339.0	-	17.3	-	818.3	23.5
SEP. '88	384.0	-	30.2	-	857.0	25.4
Dec. '88	392.3	1,424.7	31.3	102.1	898.8	27.1
Mar. '89	363.4	1,478.7	16.9	95.6	919.2	28.4
Jun. '89	420.7	1,560.4	30.8	109.1	952.3	27.3
SEP. '89	456.2	1,632.5	39.4	118.3	989.1	29.9
Dec. '89	436.5	1,676.8	30.7	117.8	1,040.4	29.1
Mar. '90	451.3	1,764.6	26.8	127.7	1,098.8	31.0

Press "RETURN" for more or <H>elp for options:

Jun. '90	472.0	1,816.0	32.4	129.4	1,157.5	33.3
SEP. '90	506.1	1,865.9	31.8	121.8	1,203.3	34.7
Dec. '90	443.8	1,873.1	7.0	98.1	1,218.6	34.6
Mar. '91 (+)	489.4	1,911.2	18.0	89.3	1,228.4	34.6

24-Apr-91:

[Part 2 of 3]

TANDEM	T4-CF	Common	EPS	T4-EPS	BV/s	CF/s
Mar. '88	-	-	$0.24	-	-	-
Jun. '88	-	-	$0.18	-	-	-
SEP. '88	-	-	$0.31	-	-	-
Dec. '88	198.1	96.9	$0.32	$1.05	$9.28	$2.04
Mar. '89	200.0	97.5	$0.17	$0.98	$9.42	$2.05
Jun. '89	217.3	98.0	$0.31	$1.11	$9.72	$2.22
SEP. '89	231.0	98.0	$0.38	$1.18	$10.10	$2.36
Dec. '89	232.5	103.0	$0.29	$1.15	$10.10	$2.26
Mar. '90	245.1	104.6	$0.25	$1.23	$10.51	$2.34
Jun. '90	252.8	105.3	$0.30	$1.22	$10.99	$2.40

Press "RETURN" for more or <H>elp for options:

SEP. '90	250.0	105.4	$0.30	$1.14	$11.41	$2.37
Dec. '90	231.8	106.0	$0.07	$0.92	$11.50	$2.19
Mar. '91 (+)	226.6	106.7	$0.17	$0.84	$11.52	$2.12

24-Apr-91:

[Part 3 of 3]

TANDEM	Price	P/S	P/E	P/B	P/CF
Mar. '88	-	-	-	-	-
Jun. '88	-	-	-	-	-

SEP. '88	-	-	-	-	-
Dec. '88	$16.88	1.1	16.1	1.8	8.3
Mar. '89	$17.25	1.1	17.6	1.8	8.4
Jun. '89	$16.88	1.1	15.2	1.7	7.6
SEP. '89	$23.00	1.4	19.5	2.8	9.8
Dec. '89	$23.00	1.4	20.0	2.3	10.2
Mar. '90	$27.88	1.7	22.7	2.7	11.9
Jun. '90	$23.88	1.4	19.6	2.2	9.9
SEP. '90	$10.75	0.6	9.4	0.9	4.5
Dec. '90	$11.63	0.7	12.6	1.0	5.3
Mar. '91 (+)	$13.75	0.8	16.4	1.2	6.5
24-Apr-91:	$17.00	0.9	20.2	1.5	8.0

(+) estimated depreciation.

TABLE 5
COMPONENTS OF RETURN ON SHAREHOLDERS' EQUITY
(Dollars in millions)

[Part 1 of 4]

TANDEM

FY:9	Revenues	Revenue Growth	EBIT	Oper. Margin	Interest Exp.,net
1977	8.7	-	#N/A	#N/A	#N/A
1978	24.3	179.4%	4.2	17.4%	(0.3)
1979	56.0	130.3%	9.7	17.3%	(0.4)
1980	109.0	94.7%	19.3	17.7%	(1.8)
1981	208.4	91.2%	40.4	19.4%	(10.7)
1982	312.1	49.8%	40.7	13.0%	(6.0)
1983	418.3	34.0%	49.8	11.9%	(0.7)

Press "RETURN" for more or <H>elp for options:

1984R	540.5	29.2%	50.2	9.3%	(5.3)
1985R	636.0	17.7%	49.0	7.7%	(6.2)
1986R	778.0	22.3%	107.0	13.8%	(8.4)
1987R	1,047.5	34.6%	170.4	16.3%	(14.2)
1988	1,314.7	25.5%	147.3	11.2%	1.9
1989	1,632.5	24.2%	184.3	11.3%	(2.0)
1990	1,865.9	14.3%	188.7	10.1%	1.5

[Part 2 of 4]

FY:9	Pretax Income	Pretax Margin	Taxes	Net Income	Net Margin
1977	#N/A	#N/A	#N/A	#N/A	#N/A
1978	4.5	18.5%	2.3	2.2	8.9%
1979	10.1	18.1%	5.2	4.9	8.8%
1980	21.1	19.3%	10.4	10.7	9.8%
1981	51.1	24.5%	24.5	26.5	12.7%
1982	46.7	15.0%	16.9	29.9	9.6%
1983	50.5	12.1%	19.7	30.8	7.4%
1984R	55.5	10.3%	22.9	32.7	6.0%

Press "RETURN" for more or <H>elp for options:

1985R	55.1	8.7%	21.6	33.6	5.3%
1986R	115.4	14.8%	51.2	64.3	8.3%
1987R	184.6	17.6%	79.4	105.2	10.0%
1988	145.4	11.1%	50.9	94.5	7.2%
1989	186.3	11.4%	68.0	118.3	7.2%
1990	187.2	10.0%	65.4	121.8	6.5%

[Part 3 of 4]

			OPERATING MARGIN x	ASSET TURNS =	EBIT ROA –	INTEREST BURDEN =
FY:9	Assets	Equity	EBIT/ SALES	SALES/ ASSETS	EBIT/ ASSETS	INT./ ASSETS
1977	#N/A	2.7				
1978	22.1	15.5	17.4%	#N/A	#N/A	#N/A
1979	45.9	31.5	17.3%	1.6	28.5%	-1.2%
1980	95.7	70.3	17.7%	1.5	27.3%	-2.5%
1981	256.0	204.8	19.4%	1.2	23.0%	-6.1%
1982	337.3	251.0	13.0%	1.1	13.7%	-2.0%
1983	415.5	311.0	11.9%	1.1	13.2%	-0.2%

Press "RETURN" for more or <H>elp for options:

1984R	507.9	378.7	9.3%	1.2	10.9%	-1.1%
1985R	559.2	423.2	7.7%	1.2	9.2%	-1.2%
1986R	710.0	538.0	13.8%	1.2	16.9%	-1.3%
1987R	973.0	723.9	16.3%	1.2	20.3%	-1.7%
1988	1,318.4	856.9	11.2%	1.1	12.9%	0.2%
1989	1,618.8	989.1	11.3%	1.1	12.6%	-0.1%
1990	1,877.4	1,203.3	10.1%	1.1	10.8%	0.1%

+ 1984 taxes excludes benefit of DISC: $9.7 million.
F86-87 restated for Atalla Corp.
Interest expense, net includes: F88-$9.375 (loss from settlement of litigations).

Press "RETURN" for more or (H)elp for options:

TABLE 5
COMPONENTS OF RETURN ON SHAREHOLDERS' EQUITY
(Dollars in millions)

[Part 4 of 4]

FY:9	PRETAX ROA x PRETAX/ ASSETS	LEVERAGE RATIO = ASSETS/ EQUITY	PRETAX ROE x PRETAX/ EQUITY	TAX RETENTION RATE = 1-TAX/ PRETAX	AVERAGE ROE NET/ EQUITY
1977					
1978	#N/A	#N/A	#N/A	48.0%	#N/A
1979	29.7%	1.4	42.9%	48.7%	20.9%
1980	29.8%	1.4	41.4%	50.7%	21.0%
1981	29.1%	1.3	37.1%	52.0%	19.3%
1982	15.8%	1.3	20.5%	63.9%	13.1%
1983	13.4%	1.3	18.0%	61.0%	11.0%
1984R	12.0%	1.3	16.1%	58.8%	9.5%
1985R	10.3%	1.3	13.8%	60.9%	8.4%
1986R	18.2%	1.3	24.0%	55.7%	13.4%
1987R	21.9%	1.3	29.3%	57.0%	16.7%
1988	12.7%	1.4	18.4%	65.0%	12.0%
1989	12.7%	1.6	20.2%	63.5%	12.8%
1990	10.7%	1.6	17.1%	65.1%	11.1%

Press "RETURN" for more or (H)elp for options:

+ 1984 taxes excludes benefit of DISC: $9.7 million.
F86-87 restated for Atalla Corp.
Interest expense, net includes: F88-$9.375 (loss from settlement of litigations).

TABLE 6
INTERNAL EQUITY GROWTH
(Dollars in millions)

[Part 1 of 4]

TANDEM

FY SP.	OPERATING INCOME (EBDIT)	PRETAX INCOME	TAXES	NET INCOME	DIV.
1977	(#) N/A	0.3	0.2	0.2	0.0
1978	4.7	4.5	2.3	2.2	0.0
1979	11.1	10.1	5.2	4.9	0.0
1980	21.9	21.1	10.4	10.7	0.0
1981	44.5	51.1	24.5	26.5	0.0
1982	50.9	46.7	16.9	29.9	0.0
1983	68.6	50.5	19.7	30.8	0.0
1984R	73.0	55.5	22.9	32.7	0.0
1985R	84.6	55.1	21.6	33.6	0.0
1986R	150.4	115.4	51.2	64.3	0.0
1987R	222.9	184.6	79.4	105.2	0.0
1988	233.2	145.4	50.9	94.5	0.0
1989P	297.0	186.3	68.0	118.3	0.0
1990	316.2	187.2	65.4	121.8	0.0

[Part 2 of 4]

INVESTED CAPITAL = TOTAL
ASSETS-NonDEBT CURRENT LIABILITIES
IC = [TA - (CL - STD)]

FY SP.	TA	CL	STD	IC	LTD
1977	5.4	2.3	0.9	3.9	0.3
1978	22.1	5.8	0.2	16.5	0.7
1979	45.9	12.2	0.4	34.1	1.1
1980	95.7	20.4	0.5	75.7	1.7
1981	256.0	41.0	0.7	215.7	2.1
1982	337.3	47.2	2.1	292.2	21.1
1983	415.5	56.6	3.3	362.3	24.0
1984R	507.9	89.2	15.0	433.8	17.1
1985R	559.2	86.8	7.0	479.5	11.9
1986R	710.0	134.0	6.0	582.0	58.0
1987R	973.0	194.6	1.5	779.9	9.1
1988	1,318.4	365.3	90.3	1,043.4	58.2

1989P	1,618.8	441.4	58.6	1,236.0	106.6
1990	1,877.4	494.5	119.7	1,502.6	95.8

F84 taxes excludes benefit of DISC: $9.7 million.
F84-87 Restated for Atalla Corp.
Pretax income -- interest expense, net includes: F88 -$9.375 loss from settlement of litigations.
EBDIT = EBIT + Depreciation (includes amortization).
STD & LTD includes capital lease obligations; LTD excludes other liabilities and deferred taxes.

TABLE 6
INTERNAL EQUITY GROWTH
(Dollars in millions)

[Part 3 of 4]

		PRETAX ROA x	OPERATING LEVERAGE =	PRETAX ROIC x	1-TAX RATE =
FY SP.	EQUITY	PT/TA x	TA/IC =	PT/IC x	1-TAX RATE =
1977	2.7	6.1%	1.36	8.3%	48.0%
1978	15.5	20.4%	1.34	27.3%	48.0%
1979	31.5	22.0%	1.35	29.6%	48.7%
1980	70.3	22.0%	1.26	27.8%	50.7%
1981	204.8	20.0%	1.19	23.7%	52.0%
1982	251.0	13.9%	1.15	16.0%	63.9%
1983	311.0	12.2%	1.15	13.9%	61.0%
1984R	378.7	10.9%	1.17	12.8%	58.8%
1985R	423.2	9.9%	1.17	11.5%	60.9%
1986R	538.0	16.3%	1.22	19.8%	55.7%
1987R	723.9	19.0%	1.25	23.7%	57.0%
1988	856.9	11.0%	1.26	13.9%	65.0%
1989P	989.1	11.5%	1.31	15.1%	63.5%
1990	1,203.3	10.0%	1.25	12.5%	65.1%

[Part 4 of 4]

	NET ROIC x	FINANCIAL LEVERAGE =	ROE x	1-PAYOUT RATIO =	IEG
FY SP.	RETURN ON IC x	IC/ EQUITY	RETURN ON COMMON EQUITY x	1-PAYOUT RATIO =	INTERNAL EQUITY GROWTH
1977	4.0%	1.46	5.9%	100.0%	5.9%
1978	13.1%	1.06	13.9%	100.0%	13.9%
1979	14.4%	1.08	15.6%	100.0%	15.6%
1980	14.1%	1.08	15.2%	100.0%	15.2%
1981	12.3%	1.05	13.0%	100.0%	13.0%
1982	10.2%	1.16	11.9%	100.0%	11.9%
1983	8.5%	1.16	9.9%	100.0%	9.9%

1984R	7.5%	1.15	8.6%	100.0%	8.6%
1985R	7.0%	1.13	7.9%	100.0%	7.9%
1986R	11.0%	1.08	11.9%	100.0%	11.9%
1987R	13.5%	1.08	14.5%	100.0%	14.5%
1988	9.1%	1.22	11.0%	100.0%	11.0%
1989P	9.6%	1.25	12.0%	100.0%	12.0%
1990	8.1%	1.25	10.1%	100.0%	10.1%

F84 taxes excludes benefit of DISC: $9.7 million.
F84-87 Restated for Atalla Corp.
Pretax income -- interest expense, net includes: F88 -$9.375 loss from settlement of litigations.
EBDIT = EBIT + Depreciation (includes amortization).
STD & LTD includes capital lease obligations; LTD excludes other liabilities and deferred taxes.

Tandem Invest analysts report

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
May 22, 1989

CORPORATE
INFORMATION CENTER

Tandem Computers - Company Report
PAINE WEBBER INC. - Smith, S.K.
04-21-89 (RN=912830)

Tandem Computers

Buy

EPS estimates unchanged;
reiterate buy rating

4/20 price: $16 1/4 NYSE -- TDM
52-week range: $12 3/8-21

FY: 9/30	1988	1989E	1990E
Q1	$0.24	$0.32A	na
Q2	0.30	0.17A	na
Q3	0.18	0.28	na
Q4	0.31	0.43	na
Year	1.02	1.20	1.60
P/E	--	13.5	10.2
Div.	--	--	--
Yield		--	--
Secular Growth Rate			20%

Tandem yesterday reported Q2 89 EPS of $0.17, above our recently revised $0.15 estimate. Revenues increased by 17% over Q2 88, reaching $363 million. Despite the $30 million revenue shortfall in Europe (which Tandem indicated it believes to be "an anomaly"), gross margin held up well, falling by only ten basis points from last quarter. Both R&D and SG&A expenses were in line with our expectations, although they rose as a percentage of sales due to the revenue shortfall. Tandem believes that the shortfall in Europe was due to pronounced seasonal factors accentuated by Easter falling at the end of March, a critical closing time for TDM. The shortfall was broad based and could not be attributed to any particular country or industry segment. While its overseas subs expect to recover strongly, Tandem is nevertheless adopting an even more cautious approach to expense growth in the second half of the year which increases our confidence in our current FY 89 EPS estimate of $1.20. We project $1.60 for FY 90. Major enhancements to the CLX family are due next week. New customer activity was strong with 55 new customers, though weaker in Europe than in the U.S. With strong (20%-plus) growth opportunities ahead in the OLTP sector, especially within the emerging telecommunications segment, the stock continues to be rated a buy (1) at ten times our FY 90 EPS estimate. Finally, we believe that Tandem remains one of the most attractive potential takeover targets within the computer industry and that this significantly reduces the downside risk in the stock despite the high earnings volatility.

Tandem Computers
Quarterly Income Statement
(Fiscal Year ends September 30th)
(Dollars in millions, except percentages and per share data)

[Part 1 of 5]

Revised 4/20/89	1985A	1986A Q1A	Q2A	Q3A	Q4A	Year
Product	$523.41	$143.06	$148.04	$165.90	$183.99	$640.99
Service	$100.73	$29.90	$30.39	$37.66	$39.07	$137.02
Total Revenues	$624.13	$172.96	$178.43	$203.56	$223.06	$778.01
Costs and Expenses:						
Cost of Products	$185.57	$44.10	$41.99	$44.08	$48.56	$178.73
Cost of Service & Other	$83.02	$22.94	$24.89	$27.05	$30.05	$104.93
Total Cost of Rev	$268.59	$67.04	$66.88	$71.13	$78.61	$283.65
Product Development	$73.83	$20.16	$21.58	$22.65	$23.82	$88.20
Marketing, G&A	$231.64	$65.97	$69.93	$78.79	$84.54	$299.23
Total Expenses	$574.06	$153.16	$158.39	$172.58	$186.96	$671.09
Operating Income	$50.07	$19.80	$20.05	$30.98	$36.10	$106.93
Interest, Net	$6.27	$1.62	$2.33	$2.04	$2.41	$8.40
Pretax Income	$56.34	$21.42	$22.38	$33.02	$38.51	$115.33
Tax rate	39.0%	44.5%	44.6%	44.5%	44.0%	44.4%
Taxes	$21.98	$9.53	$9.98	$14.71	$16.94	$51.15
Net Income	$34.36	$11.89	$12.40	$18.32	$21.57	$64.17
shares outstanding	84.0	84.4	86.8	90.0	92.5	88.4
EPS	$0.41	$0.14	$0.14	$0.20	$0.23	$0.73
Growth rates (% year-year)						
product revenue	15	2	19	36	24	22
service revenue	30	29	27	52	39	36

Total revenue	17	7	20	39	27	25
EPS	2	-19	76	607	75	77
Growth rates (% Qtr-Qtr)						
Revenues		-2	3	14	10	
EPS		3	1	42	15	
Ratios (%): -						
costs:sales	35.45	30.82	28.36	26.57	26.39	27.88
costs:service	82.43	76.73	81.89	71.83	76.90	76.58
Gross Margin	56.97	61.24	62.52	65.06	64.76	63.54
Product dev:sales	11.83	11.65	12.09	11.13	10.68	11.34
Mktg, G&A:sales	37.11	38.14	39.19	38.71	37.90	38.46
Operating Margin	8.02	11.45	11.23	15.22	16.18	13.74

Tandem Computers
Quarterly Income Statement
(Fiscal Year ends September 30th)
(Dollars in millions, except percentages and per share data)
[Part 2 of 4]

Revised 4/20/89			1987A		
	Q1A	Q2A	Q3A	Q4A	Year
Product	$200.71	$205.08	$222.39	$243.82	$872.00
Service	$39.53	$40.62	$45.43	$49.95	$175.53
Total Revenues	$240.24	$245.70	$267.82	$293.77	$1,047.53
Costs and Expenses:					
Cost of Products	$54.39	$56.36	$58.62	$62.30	$231.66
Cost of Service & Other	$27.99	$30.20	$36.32	$37.56	$132.07
Total Cost of Rev	$82.37	$86.56	$94.94	$99.86	$363.73
Product Development	$24.62	$26.18	$27.70	$31.01	$109.50
Marketing, G&A	$87.75	$97.45	$103.62	$114.95	$403.77
Total Expenses	$194.74	$210.19	$226.26	$245.82	$877.01
Operating Income	$45.50	$35.50	$41.57	$47.95	$170.52
Interest,					

Net	$2.84	$3.23	$3.92	$4.21	$14.21
Pretax Income	$48.34	$38.73	$45.49	$52.16	$184.73
Tax rate	44.0%	41.8%	43.1%	42.9%	43.0%
Taxes	$21.27	$16.18	$19.61	$22.36	$79.42
Net Income	$27.07	$22.55	$25.88	$29.81	$105.31
shares outstanding	93.6	98.1	99.7	99.6	97.7
EPS	$0.29	$0.23	$0.26	$0.30	$1.08
Growth rates (% year-year)					
product revenue	40	39	34	33	36
service revenue	32	34	21	28	28
Total revenue	39	38	32	32	35
EPS	105	61	28	28	48
Growth rates (% Qtr-Qtr)					
Revenues	8	2	9	10	
EPS	24	-21	13	15	
Ratios (%): -					
costs:sales	27.10	27.48	26.36	25.55	26.57
costs:service	70.79	74.36	79.94	75.20	75.24
Gross Margin	65.71	64.77	64.55	66.01	65.28
Product dev:sales	10.25	10.65	10.34	10.56	10.45
Mktg, G&A:sales	36.53	39.66	38.69	39.13	38.55
Operating Margin	18.94	14.45	15.52	16.32	16.28

Revised 4/20/89	Q1A	Q2A	1988A Q3A	Q4A	Year
Product	$229.53	$253.43	$276.34	$320.26	$1,079.56
Service	$52.75	$56.02	$62.65	$63.74	$235.16
Total Revenues	$282.28	$309.45	$338.99	$384.00	$1,314.72
Costs and Expenses:					
Cost of Products	$63.14	$68.35	$78.11	$100.30	$309.90
Cost of Service & Other	$39.12	$41.56	$46.64	$50.59	$177.90
Total Cost of Rev	$102.26	$109.90	$124.75	$150.89	$487.79
Product Development	$35.87	$37.44	$46.22	$49.83	$169.36
Marketing, G&A	$111.90	$118.77	$140.78	$138.87	$510.31
Total Expenses	$250.02	$266.11	$311.74	$339.59	$1,167.46
Operating Income	$32.26	$43.34	$27.25	$44.41	$147.26
Interest, Net	$4.76	$2.49	($1.02)	$1.25	$7.48
Pretax Income	$37.02	$45.83	$26.23	$45.66	$154.74
Tax rate	36.0%	36.0%	34.1%	33.9%	35.1%
Taxes	$13.33	$16.50	$8.95	$15.48	$54.25

Tandem Computers
Quarterly Income Statement
(Fiscal Year ends September 30th)
(Dollars in millions, except percentages and per share data)

[Part 4 of 5]

Revised 4/20/89	Q1A	Q2A	1988A Q3A	Q4A	Year
Net Income	$23.69	$29.33	$17.29	$30.18	$100.49
shares outstanding	99.7	98.7	98.3	98.0	98.7
EPS	$0.24	$0.30	$0.18	$0.31	$1.02
Growth rates (% year-year)					
product revenue	14	24	24	31	24
service revenue	33	38	38	28	34
Total revenue	17	26	27	31	26
EPS	-18	29	-32	3	-6
Growth rates (% Qtr-Qtr)					
Revenues	-4	10	10	13	
EPS	-21	25	-41	75	
Ratios (%): -					
costs:sales	27.51	26.97	28.26	31.32	28.71
costs:service	74.15	74.18	74.45	79.37	75.65
Gross Margin	63.78	64.48	63.20	60.71	62.90
Product dev:sales	12.71	12.10	13.63	12.98	12.88
Mktg, G&A:sales	39.64	38.38	41.53	36.16	38.82
Operating Margin	11.43	14.00	8.04	11.57	11.20

Revised 4/20/89	Q1A	Q2A	current quarter 1989E Q3E	Q4E	Year	1990E
Product	$325.72	$296.40	$323.32	$377.91	$1,323.35	$1,561.55
Service	$66.57	$66.99	$73.93	$75.21	$282.69	$333.57
Total Revenues	$392.29	$363.39	$397.25	$453.12	$1,606.04	$1,895.12
Costs and Expenses:						
Cost of Products	$98.62	$88.73	$96.35	$112.24	$395.94	$468.47
Cost of Service & Other	$46.71	$46.24	$51.75	$52.65	$197.35	$233.50
Total Cost of Rev	$145.33	$134.97	$148.10	$164.89	$593.28	$701.97
Product Development	$46.09	$49.88	$50.05	$52.11	$198.12	$223.62
Marketing, G&A	$150.87	$152.45	$154.53	$167.65	$625.50	$712.57
Total Expenses	$342.28	$337.30	$352.68	$384.65	$1,416.91	$1,638.16
Operating Income	$50.00	$26.09	$44.57	$68.47	$189.13	$256.97
Interest, Net	($0.72)	$0.46	$0.60	$0.80	$1.14	$3.00
Pretax Income	$49.29	$26.55	$45.17	$69.27	$190.27	$259.97
Tax rate	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%
Taxes	$17.99	$9.69	$16.49	$25.28	$69.45	$94.89
Net Income	$31.30	$16.86	$28.68	$43.99	$120.82	$165.08
shares outstanding	99.1	101.0	102.0	102.0	101.0	103.0
EPS	$0.32	$0.17	$0.28	$0.43	$1.20	$1.60
Growth rates (% year-year)						
product revenue	42	17	17	18	23	18
service revenue	26	20	18	18	20	18
Total revenue	39	17	17	18	22	18
EPS	33	-44	60	40	17	34
Growth rates (% Qtr-Qtr)						
Revenues	2	-7	9	14		18
EPS	3	-47	68	53		34

Ratios (%): -						
costs:sales	30.28	29.94	29.80	29.70	29.92	30.00
costs:service	70.17	69.03	70.00	70.00	69.81	70.00
Gross Margin	62.95	62.86	62.72	63.61	63.06	62.96
Product dev:sales	11.75	13.73	12.60	11.50	12.34	11.80
Mktg, G&A:sales	38.46	41.95	38.90	37.00	38.95	37.60
Operating Margin	12.75	7.18	11.22	15.11	11.78	13.56

Services of Mead Data Central

LEVEL 1 - 4 OF 5 STORIES

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May 31, 1989, Wednesday, BC cycle

CORPORATE INFORMATION CENTER

SECTION: Financial Report.

LENGTH: 143 words

HEADLINE: MONTGOMERY RAISES TANDEM<TDM> RECCOMENDATION

DATELINE: SAN FRANCISCO, MAY 31, REUTER

BODY:

Montgomery Securities analyst John Jones said he has raised his recommendation for shares of Tandem Computers Inc <TDM> to an "aggressive buy" from "buy."

Shares of Tandem were up one at 18-3/8 on volume of 1,077,000.

"We are getting signs that their Cyclone product is on track," Jones said. "It is one of the key ingredients to growth in the next 18 months."

Cyclone is the replacement product for Tandem's high-end transaction processing system called VLX.

Jones said he expects a product announcement from the company in the next three to four months as scheduled.

He expects the company will earn 28 cts per share in the third quarter ending June 30 versus 18 cts a year ago. For fiscal 1989, he projects earnings per share of 1.15 dlrs versus 96 cts last year. In 1990, Jones anticipates per share earnings will grow to about 1.50 dlrs.

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September 28

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
September 21, 1987

Tandem Computers, Inc. - Company Report
DREXEL BURNHAM LAMBERT INCORPORATED - Orr, J.W.
07-21-87 (RN=712713)

POINT OF VIEW

Tandem's results for the third fiscal quarter ended June 30 were in line with our expectations. Revenue growth was strong, at 31.4% year-to-year, with the domestic revenue gain very good and the international gain even better. We are maintaining our fiscal 1987 full year estimate at $1.10 per share. For fiscal 1988, earnings now look like they could be $1.40 to $1.50 per share depending on the tax rate. We are holding our $1.50 single point estimate pending more information on the tax rate. We continue to rate the stock Neutral-1, based on current multiples.

Third Quarter Results

Product sales in the third quarter were $218.8 million, up 34% from $163.4 million a year ago, while service revenues increased 20% from $37.5 million to $45.1 million. Total revenues in the quarter were $264.0 million, up 31% from $200.9 million last year, and net income increased 41% from $18.1 million, or $0.20 per share, in the third fiscal quarter of 1986 to $25.6 million, or $0.26 per share, this year. Domestic revenues were up 19.8% over the prior year while international revenues increased 50% year to year. In plain language, another excellent quarter of top-line growth.

The high-end VLX processors showed very strong growth in the quarter and the EXT-25 gained strength at the low end in the period. Sales to the retailing industry were particularly strong, while sales to the securities and communications industries were also very good. In the quarter, Tandem recorded revenues and expenses related to the services segment of the business which were essentially passed through to a subcontractor and caused the gross margin on services to decline significantly from the previous quarter level. The other ratios were reasonable.

Tandem's balance sheet continues to be very strong with $296 million of cash, almost no long-term debt and $674 million of equity ($6.77 per share) at the end of the quarter.

Outlook

In the fourth fiscal quarter we estimate revenues will again increase 29% to about $285 million and look for earnings per share to be around $0.32, up about 39%. Our fiscal 1987 full year estimate remains $1.10 per share. For fiscal 1988 we estimate revenues will increase 25-27% and, therefore, expect earnings to be $1.40 to $1.50

per share depending on the tax rate for the year, which could be 36-38%. For the time being, we are maintaining our single point estimate at $1.50.

Demand for Tandem's products has been very strong in fiscal 1987, with revenues increasing an estimated 34%; we expect they will continue to grow above 25% in fiscal 1988.

Stock Market Considerations

At the current price, the stock is selling for 19.2x our fiscal 1988 estimate and we believe this valuation reasonably discounts the favorable outlook. We note that after many quarters of upside surprises, Tandem has settled down to a more definable pattern. The likelihood of upside surprises does not seem strong now, coming off a year (fiscal 1987) of 34% revenue growth and pretty fully developed margins. A gain in the mid-20% area in fiscal 1988 revenues, as we are now projecting, should sustain the multiple and offer at least moderate upside. We continue to rate the stock Neutral-1.

Last Research Abstract on Tandem Computers, Inc.: April 21, 1987.

Tandem, Fin analysts

THE VALUE LINE Investment Survey

Part 3 Ratings & Reports

EDITION 7 Pages 1000—1142

File in the binder in order of edition number, removing previous edition bearing the same number.

November 6, 1987

★★Rank highest for Timeliness.
★Rank above average.

ESPECIALLY NOTEWORTHY:

We're inputting two new companies into the Computer & Peripherals Industry: ***3Com Corp.*** *(page 1114) and* ***Key Tronic*** *(page 1101). We've also plugged* ***Dynatech*** *(page 1044) into the Electronics Industry and* ***Cooper Industries*** *(page 1003) into the Electrical Equipment Industry. And for investors interested in the Office Equipment and Supplies Industry, a copy of our report on newcomer* ***Dennison Mfg.*** *can be found on page 1121.*

Tandem *computers kept the Big Board functioning during Black Monday, but Wall Street hardly seemed grateful. See page 1111.*

Market crash or not, ***Arrow*** *is still aiming to acquire* ***Ducommun's*** *distribution business. See pages 1031 and 1043.*

Bottom fishing has been risky business for buyers of ***Fischbach*** *(page 1010).*

IBM's *new personal computers have yet to take a byte out of* ***Compaq.*** *We've crunched the numbers on page 1100 and 1086.*

Digital's *still cleaning up. See our sweeping commentary on page 1096.*

The teacher probably already has an ***Apple****, so where does the company go now? We map it out on page 1082.*

Thin film may spell wider returns at ***Nashua****.* Page 1128.

In three parts: Part I is the Summary & Index. Part II is Selection & Opinion. This is Part III, Ratings & Reports. Volume XLIII, No. 7.
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TANDEM COMP'T'RS NYSE-TDM

RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE
22	18.0	(Trailing: 20.4; Median: NMF)	1.70	Nil	1111

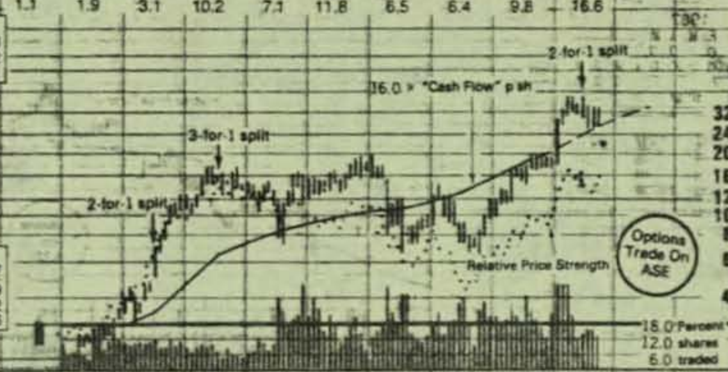
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
High	3.1	3.6	12.6	17.3	16.4	19.8	20.1	14.3	19.8	37.6
Low	1.1	1.9	3.1	10.2	7.1	11.8	6.5	6.4	9.8	16.6

Insider Decisions

	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J
									1987						
to Buy	0	0	0	2	0	0	0	0	1	4	3	1	0	0	2
to Sell	1	5	1	1	3	3	0	2	0	3	2	1	0	1	1

Institutional Decisions

	2Q'86	3Q'86	4Q'86	1Q'87	2Q'87
to Buy	55	58	53	103	89
to Sell	52	53	51	76	82
Hld's(000)	62618	66538	68187	70107	69616



Options Trade On ASE

Target Price Range 1990 1991 1992

November 6, 1987 Value Line

TIMELINESS (Relative Price Performance Next 12 Mos.) **2** Above Average

SAFETY (Scale: 1 Highest to 5 Lowest) **4** Below Average

BETA 1.50 (1.00 = Market)

1990-92 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+195%)	27%
Low	40	(+80%)	16%

1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	© VALUE LINE, INC.	90-92E
--	--	--	--	--	1.02	.55	1.12	1.81	2.86	4.15	5.29	6.56	7.54	8.74	10.35	**12.50**		Sales per sh (A)	19.00
--	--	--	--	--	--	.06	.13	.22	.42	.53	.63	.69	.85	1.22	1.55	**2.05**		"Cash Flow" per sh	3.40
--	--	--	--	--	--	.05	.10	.18	.36	.38	.38	.41	.41	.72	1.08	**1.40**		Earnings per sh (B)	2.25
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**Nil**		Div'ds Decl'd per sh	Nil
--	--	--	--	--	--	.05	.12	.17	.36	.85	.53	.88	.82	.74	.75	**.75**		Cap'l Spending per sh	1.35
--	--	--	--	--	.36	.35	.63	1.17	2.81	3.33	3.93	4.62	5.08	6.09	10.10	**11.50**		Book Value per sh	17.25
--	--	--	--	--	7.51	44.11	50.04	60.15	72.82	75.27	79.11	81.23	82.77	87.84	100.00	**100.00**		Common Shs Outst'g (C)	100.00
--	--	--	--	--	--	35.0	23.9	25.8	35.8	33.2	37.8	33.3	23.2	18.4	25.6	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	23.0
--	--	--	--	--	--	4.77	3.46	3.43	4.35	3.66	3.20	3.10	1.88	1.25	1.57			Relative P/E Ratio	1.80
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			Avg Ann'l Div'd Yield	Nil

CAPITAL STRUCTURE as of 6/30/87

Total Debt $8.4 mill. Due in 5 Yrs $6.0 mill.
LT Debt $7.3 mill. LT Interest $.8 mill.

Incl. $3.2 mill. capitalized leases.
(Total interest coverage: 59x)
(1% of Cap'l)

Leases, Uncapitalized Annual rentals $36.6 mill.

Pension Liability None in '86 vs. None in '85

Pfd Stock None

Common Stock 92,100,865 shs. (99% of Cap'l)

1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989		90-92E
24.3	56.0	109.0	206.4	312.1	418.3	532.6	624.1	767.8	1035.5	**1250**		Sales ($mill) (A)	1900
19.3%	19.8%	20.1%	21.4%	16.3%	16.4%	13.9%	13.7%	19.4%	21.0%	**22.0%**		Operating Margin	23.0%
.5	1.4	2.6	4.1	10.2	18.8	22.7	35.6	43.2	50.0	**65.0**		Depreciation ($mill)	115
2.2	4.9	10.7	26.6	29.9	30.8	33.2	34.4	63.8	105.6	**140**		Net Profit ($mill)	225
52.1%	51.3%	49.3%	48.0%	36.1%	39.0%	41.0%	39.0%	44.3%	43.0%	**38.0%**		Income Tax Rate	38.0%
8.8%	8.8%	9.8%	12.7%	9.6%	7.4%	6.2%	5.5%	8.3%	10.2%	**11.1%**		Net Profit Margin	11.4%
13.7	27.1	61.3	179.1	194.8	254.2	263.4	298.6	385.2	845	**970**		Working Cap'l ($mill)	1400
.7	1.1	1.7	2.1	21.1	24.0	17.2	12.4	6.5	7.0	**5.0**		Long-Term Debt ($mill)	Nil
15.5	31.5	70.3	204.8	251.0	311.0	375.1	420.4	534.7	1010	**1150**		Net Worth ($mill)	1725
13.5%	15.2%	15.1%	12.9%	11.2%	9.6%	8.7%	8.3%	12.0%	10.5%	**12.0%**		% Earned Total Cap'l	13.0%
13.8%	15.6%	15.2%	13.0%	11.9%	9.9%	8.9%	8.2%	11.9%	10.5%	**12.0%**		% Earned Net Worth	13.0%
13.8%	15.6%	15.2%	13.0%	11.9%	9.9%	8.9%	8.2%	11.9%	10.5%	**12.0%**		% Retained to Comm Eq	13.0%
--	--	--	--	--	--	--	--	--	--	**Nil**		% All Div'ds to Net Prof	Nil

CURRENT POSITION ($MILL.)	1985	1986	6/30/87
Cash Assets	128.7	239.8	296.3
Receivables	163.4	197.7	232.7
Inventory(FIFO)	79.0	64.2	81.4
Other	14.3	17.5	21.8
Current Assets	385.4	519.2	632.2
Accts Payable	33.4	50.8	66.4
Debt Due	7.1	6.0	1.1
Other	46.3	77.2	106.7
Current Liab.	86.8	134.0	174.2

ANNUAL RATES of change (per sh)	Past 10 Yrs	Past 5 Yrs	Est'd '84-'86 to '90-'92
Sales	—	43.0%	17.0%
"Cash Flow"	—	46.0%	24.5%
Earnings	—	50.0%	28.0%
Dividends	—	—	Nil
Book Value	—	54.5%	22.0%

Fiscal Year Ends	QUARTERLY SALES ($ mill.) (A) Dec. 31	Mar. 31	June 30	Sept. 30	Full Fiscal Year
1984	126.4	111.2	141.9	153.1	532.6
1985	159.6	146.5	144.2	173.8	624.1
1986	170.1	176.3	200.9	220.5	767.8
1987	238.0	242.4	264.0	291.1	1036.5
1988	**295**	**285**	**315**	**355**	**1250**

Fiscal Year Ends	EARNINGS PER SHARE (A) Dec. 31	Mar. 31	June 30	Sept. 30	Full Fiscal Year
1984	.12	.03	.12	.14	.41
1985	.17	.08	.03	.13	.41
1986	.14	.15	.20	.23	.72
1987	.29	.22	.26	.31	1.08
1988	**.35**	**.30**	**.35**	**.40**	**1.40**

Calendar	QUARTERLY DIVIDENDS PAID Mar. 31	June 30	Sept. 30	Dec. 31	Full Year
1983					
1984					
1985	NO CASH DIVIDENDS BEING PAID				
1986					
1987					

BUSINESS: Tandem Computers, Inc., designs, assembles, and sells fault-tolerant computer systems, under the trademark Non-Stop, for on-line transaction processing. Also designs and sells terminal and communications controller products. About 93% of sales are to end-users; 7% to software and systems developers and original equipment manufacturers. Foreign sales, 40% of total. R&D, 11.3% of sales; payroll costs, estimated 25%. '86 depreciation rate: 15.3%. Estimated plant age: 2 years. Has 5,700 employees; 7,000 shareholders. Insiders control 4.9% of stock. Chairman: Thomas J. Perkins. President: James G. Treybig. Incorporated: Delaware. Address: 19333 Vallco Parkway, Cupertino, California 95014. Tel.: 408-725-6000.

We're estimating a 30% earnings gain in fiscal 1988, which began October 1st. Share profits surged 50% in fiscal 1987, as Tandem reached the $1 billion annual sales mark for the first time. Earnings progress slowed a bit in the second half, due to the timing of new product offerings, start-up costs, and low-margin consulting and subcontracting activities, but we don't see any slippage in fundamentals. We note that Tandem's operating margin probably exceeded 20% last year for the first time since 1981, due largely to improved cost vigilance.

The market for on-line transaction processing (OLTP) systems continues to burgeon. Fueling the expansion are the rapid spread of relatively new applications such as "just-in-time" inventory management in the manufacturing sector and electronic payment and credit-authorization systems in the retail sector. Meanwhile, more traditional OLTP applications, including the processing of securities transactions and airline reservations, continue to expand. Overall, sales of OLTP systems are likely to grow about 20% annually over the next five years. That's about twice the expected growth rate for sales of computer systems generally.

We think Tandem will retain its strong market position. Although IBM holds more than 50% of the OLTP systems market, IBM systems lack an important feature increasingly demanded by users: fault-tolerance, or the ability to continue operating in the event of component failure. (Ironically, the stock market crash underscored the importance of Tandem's design even as its stock participated in the carnage. Fault-tolerance kept the New York Stock Exchange's 200 Tandem minicomputers functioning on October 19th despite transaction volumes that exceeded what the system had been designed to handle.) In addition, Tandem filled out its product line in the past year and has competitive entries in all market segments. We think Tandem's dominant position in fault-tolerant computing will lead to steady gains in its share of the OLTP market into the 1990s.

These shares are ranked to outperform the market averages in the year ahead, after having lost about a fourth of their value in the past three months. In addition, the stock has above-average capital gains prospects to 1990-92.

Blaine Snyder

(A) Fiscal year ends September 30th of calendar year. (B) Based on average common and common equivalent shares outstanding. Excludes extraordinary gain: '78, 3¢. Excludes gain from reversal of DISC taxes: '84, 12¢. Next earnings report due late Jan. (C) In millions, adjusted for stock splits and dividends.

Company's Financial Strength	B+
Stock's Price Stability	5
Price Growth Persistence	60
Earnings Predictability	60

Factual material is obtained from sources believed to be reliable, but the publisher is not responsible for any errors or omissions contained herein.

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
September 21, 1987

Tandem Computers - Company Report
OPPENHEIMER & CO., INC. - Elling, G.D., et al
08-06-87 (RN=714195)

TANDEM COMPUTERS (TDM $27 - 8/4/87)

SUMMARY

* Tandem reported third-fiscal-quarter results in line with our expectations. Revenues rose 31.4% to $264 million from $200.9 million last year. Earnings were $0.26 per share versus $0.20 last year and our $0.25 estimate.

* Order rates in the quarter approximated shipment levels, with particular strength in the retail market. The performance of the individual product families was somewhat mixed, with the high-end VLX series and the mid-range TXP products selling very well but with the new low-end LXN getting off to a slow start. Management is positioning the LXN as a network extender, which most likely will lengthen the sales cycle.

* Tandem maintains its leadership position in the on-line transaction processing market and should continue to generate strong revenues and earnings longer term. We are estimating fiscal 1987 fourth-quarter and full-year earnings at $0.30-$0.35 and $1.10 per share, respectively, and fiscal 1988 earnings at $1.40-$1.50 per share. We believe the shares are fairly valued at current levels. Nevertheless, Tandem's momentum in its niche markets should represent good longer term potential for capital appreciation, and we recommend holding the shares.

TANDEM COMPUTERS (TDM $27 - 8/4/87)

12-Month Range	$37-$17
1985 EPS	$0.42
1986 EPS	$0.72
1987 Est. EPS	$1.10
1988 Est. EPS	$1.40-$1.50

Dividend	Nil
Yield	Nil
Price/EPS 1986	37.5X
Price/Est. EPS 1987	24.5X
Price/Est. EPS 1988	19.3X-18.0X

Capitalization (9/30/87)

	Million	Percent		Million
Long-term Debt	$7.3	1.0%	Current Assets	$632.2
Deferred Taxes	27.4	3.9	Current Liabilities	174.2
Equity	674.2	95.1	Working Capital	$458.0
Total	$708.9	100.0%	Current Ratio	3.6:1

Shares Outstanding	98.6 Million
Float	98.6 Million Shares
Market Capitalization	$2,662.2 Million
Recent Average Daily Trading Volume	609,700 Shares
Fiscal Year Ends	September 30
Book Value/Share (12/31/87E)	$7.15
ROE (1987E)	17.4%

Historical 5-Year EPS Growth Rate	12.2X
Projected 5-Year EPS Normalized Growth Rate	15%-18%
Estimated 1988 P/E Relative to S&P 400 P/E	1.05X
5-Year Historic Relative P/E Range	3.7X-0.9X

S&P 400: 370.65

THIRD-FISCAL-QUARTER RESULTS

Third-quarter results were closely in line with our expectations. Total revenues increased 31.4% to $264 million from $200.9 million in fiscal 1986. Earnings were $0.26 per share compared with $0.20 a year ago and our $0.25 estimate. Line items were essentially as expected, although R&D expenditures were slightly below historical levels. Pretax margins were a healthy 17.0% in the quarter versus 16.3% a year earlier.

Order rates in the quarter closely approximated shipments, with demand in the retail market particularly strong. Management indicated that there were six new accounts in the retail sector and that major enhancements were being ordered from existing customers. The Communications and Securities sectors also were very strong. The VLX family of high-end processors did particularly well, with total revenues now closely approximating those from the highly successful mid-range TXP. Although the new low-end LXN has gotten off to a reasonably slow start from an order standpoint, it is primarily a network extender and thus likely to extend the selling cycle longer term. Momentum in the company's Alliance program remains quite strong.

We project fourth-quarter revenues at $275-$280 million and earnings at $0.30-$0.35 per share. The mid-point of our fiscal 1987 estimate range is $1.10 per share. We expect continued momentum in fiscal 1988, with earnings estimated at $1.40-$1.50 per share. In our opinion, Tandem is well positioned to maintain its leadership position in the on-line transaction processing market, and we would maintain current positions for potential long-term capital appreciation. We believe the stock's near-term price performance will reflect the market's willingness to extend higher multiple valuations for growth situations. However, the stock's multiple of 25X estimated fiscal 1987 earnings appears somewhat rich and could be a limiting factor in its near-term price performance.

TABLE I
TANDEM COMPUTERS
THIRD FISCAL QUARTER INCOME STATEMENT ($ THOUSANDS)

	JUNE 30,		
	1987	1986	% CHANGE
PRODUCT REVENUES	218,838	163,361	34.0%
SERVICE & OTHER	45,140	37,492	20.4%
TOTAL REVENUES	263,978	200,853	31.4%
COST OF PRODUCT REVENUES	57,028	43,431	31.3%
COST OF SERVICE & OTHER	36,164	26,924	34.3%
RESEARCH & DEVELOPMENT	27,417	22,337	22.7%
MARKETING, GEN'L & ADMIN.	102,346	77,560	32.0%
TOTAL COSTS/EXPENSES	222,954	170,252	31.0%
OPERATING INCOME	41,024	30,601	34.1%
INTEREST INCOME, net	3,934	2,054	91.5%
PRETAX INCOME	44,958	32,655	37.7%
TAXES	(19,341)	(14,531)	
TAX RATE	43.0%	44.5%	
NET INCOME	25,617	18,124	41.3%
EARNINGS PER SHARE	$0.26	$0.20	27.7%
AVG SHARES (MIL)	99.7	90.0	
AS % OF TOTAL REVENUE:			
PRODUCT REVENUES	82.9%	81.3%	
SERVICE & OTHER	17.1%	18.7%	
COST OF PRODUCT REVENUES (*)	26.1%	26.6%	
COST OF SERVICE & OTHER (**)	80.1%	71.8%	
RESEARCH & DEVELOPMENT	10.4%	11.1%	
MARKETING, GEN'L & ADMIN.	38.8%	38.6%	
TOTAL COSTS/EXPENSES	84.5%	84.8%	
OPERATING INCOME	15.5%	15.2%	
PRETAX INCOME	17.0%	16.3%	
NET INCOME	9.7%	9.0%	

(*) AS A PERCENT OF PRODUCT REVENUES
(**) AS A PERCENT OF SERVICE AND OTHER REVENUES
Fiscal years end September 30.
Source: Company data; Oppenheimer & Co., Inc. estimates.

TABLE II

TANDEM COMPUTERS INCORPORATED
EARNINGS MODEL ($ Mil.)

[Part 1 of 3]

	1981	1982	% CHANGE	1983	% CHANGE
PRODUCT REVENUES	186.9	272.6	45.9%	360.1	32.1%
SERVICE & OTHER	21.5	39.6	84.0%	58.1	47.0%
TOTAL REVENUES	208.4	312.1	49.8%	418.3	34.0%
COST OF PRODUCT	75.5	109.3	44.7%	168.7	54.3%
COST OF SERVICE & OTHER					
R&D	17.8	33.6	88.7%	39.2	16.4%
MG&A	74.6	128.5	72.2%	160.6	25.0%
TOTAL COSTS & EXPENSES	168.0	271.4	61.6%	368.5	35.8%
OPERATING INCOME	40.4	40.7	0.8%	49.8	22.3%
OTHER INCOME (NET)	10.7	6.0	-43.7%	0.7	-87.9%
PRETAX INCOME	51.1	46.7	-8.5%	50.5	8.0%
TAXES	24.5	16.9	-31.2%	19.7	16.6%
TAX RATE	48%	36%		39%	
NET INCOME	26.5	29.9	12.5%	30.8	3.2%
EARNINGS PER SHARE	$0.36	$0.38	6.2%	$0.38	-0.8%
AVG. SHARES OUT. (MIL.)	74.1	78.4		81.6	
AS % OF REVENUES:					
PRODUCT REVENUES	89.7%	87.3%		86.1%	
SERVICE & OTHER	10.3%	12.7%		13.9%	
COST OF PRODUCT (A)	36.3%	35.0%		40.3%	
COST OF SERVICE & OTHER (B)					
R&D	8.6%	10.8%		9.4%	
MG&A	35.8%	41.2%		38.4%	
TOTAL COSTS & EXPENSES	80.6%	87.0%		88.1%	
OPERATING INCOME	19.4%	13.0%		11.9%	
INTEREST, net	5.1%	1.9%		0.2%	
PRETAX INCOME	24.5%	15.0%		12.1%	
NET INCOME	12.7%	9.6%		7.4%	

MANAGEMENT RECLASSIFIED CERTAIN REVENUE AND EXPENSE ITEMS DATING BACK TO 1985 RENDERING COMPARISONS WITH PRIOR YEARS INAPPROPRIATE.

(A) AS A PERCENTAGE OF PRODUCT REVENUES. PRIOR TO 1985 IT REPRESENTS TOTAL COST OF REVENUES AS A PERCENTAGE OF TOTAL REVENUES.
(B) AS A PERCENTAGE OF SERVICE & OTHER REVENUES.

Fiscal years end September 30.
Source: Company data; Oppenheimer & Co., Inc. estimates.

TABLE II

TANDEM COMPUTERS INCORPORATED
EARNINGS MODEL ($ Mil.)

[Part 2 of 3]

	1984	% CHANGE	1985	% CHANGE	1986	% CHANGE
PRODUCT REVENUES	448.6	24.6%	523.4	16.7%	632.3	20.8%
SERVICE & OTHER	84.0	44.5%	100.7	19.9%	135.5	34.5%
TOTAL REVENUES	532.6	27.3%	624.1	17.2%	767.8	23.0%
COST OF PRODUCT	218.8	29.7%	185.6	-15.2%	175.2	-5.6%
COST OF SERVICE & OTHER			83.0		104.7	26.1%
R&D	52.5	34.1%	73.8	40.6%	87.0	17.9%
MG&A	210.2	30.9%	231.6	10.2%	294.9	27.3%
TOTAL COSTS & EXPENSES	481.5	30.7%	574.1	19.2%	661.8	15.3%
OPERATING INCOME	51.1	2.7%	50.1	-2.0%	106.0	111.6%
OTHER INCOME (NET)	5.2	610.0%	6.3	21.0%	8.5	35.7%
PRETAX INCOME	56.3	11.5%	56.4	0.1%	114.5	103.2%
TAXES	23.1	17.2%	22.0	-4.8%	50.7	130.8%
TAX RATE	41%		39%		44%	
NET INCOME	33.2	7.8%	34.4	3.5%	63.8	85.5%
EARNINGS PER SHARE	$0.41	8.8%	$0.41	0.1%	$0.72	75.3%
AVG. SHARES OUT. (MIL.)	82.8		83.5		88.4	
AS % OF REVENUES:						
PRODUCT REVENUES	84.2%		83.9%		82.3%	
SERVICE & OTHER	15.8%		16.1%		17.7%	
COST OF PRODUCT (A)	41.1%		35.5%		27.7%	
COST OF SERVICE & OTHER (B)			82.4%		77.2%	
R&D	9.9%		11.8%		11.3%	
MG&A	39.5%		37.1%		38.4%	
TOTAL COSTS & EXPENSES	90.4%		92.0%		86.2%	
OPERATING INCOME	9.6%		8.0%		13.8%	
INTEREST, net	1.0%		1.0%		1.1%	
PRETAX INCOME	10.6%		9.0%		14.9%	
NET INCOME	6.2%		5.5%		8.3%	

[Part 3 of 3]

	1987E	% CHANGE	1988E	% CHANGE
PRODUCT REVENUES	855.0	35.2%	1111.5	30.0%
SERVICE & OTHER	170.0	25.4%	200.6	18.0%
TOTAL REVENUES	1025.0	33.5%	1312.1	28.0%
COST OF PRODUCT	225.0	28.4%	289.1	28.5%
COST OF SERVICE & OTHER	125.0	19.4%	150.5	20.4%
R&D	110.0	26.4%	140.0	27.3%
MG&A	390.0	32.3%	498.6	27.8%
TOTAL COSTS & EXPENSES	850.0	28.4%	1078.2	26.8%
OPERATING INCOME	175.0	65.1%	233.9	33.7%
OTHER INCOME (NET)	14.0	64.6%	20.0	42.9%
PRETAX INCOME	189.0	65.1%	253.9	34.4%
TAXES	81.3	60.2%	109.2	34.4%
TAX RATE	43%		43%	
NET INCOME	107.7	68.9%	144.8	34.4%
EARNINGS PER SHARE	$1.10	52.4%	$1.45	31.7%
AVG. SHARES OUT. (MIL.)	98.0		100.0	
AS % OF REVENUES:				
PRODUCT REVENUES	83.4%		84.7%	
SERVICE & OTHER	16.6%		15.3%	
COST OF PRODUCT (A)	26.3%		26.0%	
COST OF SERVICE & OTHER (B)	73.5%		75.0%	
R&D	10.7%		10.7%	
MG&A	38.0%		38.0%	
TOTAL COSTS & EXPENSES	82.9%		82.2%	
OPERATING INCOME	17.1%		17.8%	
INTEREST, net	1.4%		1.5%	
PRETAX INCOME	18.4%		19.4%	
NET INCOME	10.5%		11.0%	

MANAGEMENT RECLASSIFIED CERTAIN REVENUE AND EXPENSE ITEMS DATING BACK TO 1985 RENDERING COMPARISONS WITH PRIOR YEARS INAPPROPRIATE.

(A) AS A PERCENTAGE OF PRODUCT REVENUES. PRIOR TO 1985 IT REPRESENTS TOTAL COST OF REVENUES AS A PERCENTAGE OF TOTAL REVENUES.
(B) AS A PERCENTAGE OF SERVICE & OTHER REVENUES.

Fiscal years end September 30.
Source: Company data; Oppenheimer & Co., Inc. estimates.

· · Tandem, financial analysts

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
August 24, 1987

Tandem Computers Inc. - Company Report
FIRST BOSTON CORPORATION (THE) - Peterson, S.
07-21-87 (RN=712627)

Tandem Computers Inc. TDM

Reports Third Quarter in Line with Expectations; Opinion: HOLD

Price (1) 7/20/87	Earnings (2) Per Share		P/E Ratios	Div'd Yield	52-Week Price Range
28 3/4	1988E	$1.40	20.5X	-	37 5/8-13 7/8
	1987E	1.06	27.1	-	
	1986A	0.72			

Common Shares	99.7 mil.	L.T. Debt as % Total Capital	1.5%
Market Value	$2.9 bil.	Return on Average Equity	13.4%
Book Value/Share	$6.28	Est. Future EPS 5 Yr. Growth Rate	19%

(1) On 7/20/87 the DJIA closed at 2487.7 and the S&P 400 at 364.8.
(2) Fiscal year ends September 30.

Tandem reported its third fiscal quarter on July 16, with earnings per share of $0.26 versus last year's $0.20, a 30% gain. This result was basically in line with our expectations of a $0.24 quarter. These were the areas where the income statement differed from our expectations:

Revenues were modestly higher at $264 million, a 31% increase over last year. We had expected $7 million less for a 28% increase, with the surplus adding $2 million to equipment revenues and $5 million to service revenues. Tandem is expanding its consulting services and these results reflect that push.

Domestic revenues grew only 18%, but international efforts kept the company on plan with 55% growth in Europe and 42% growth elsewhere. This brings international sales to 44% of Tandem's total. End-markets that were particularly strong were the communications area -- the regional Bell operating companies -- and retailing, where Tandem added six major clients.

Equipment gross margins rose once again, but the decline in service gross margins more than offset that gain. Equipment gross margins gained another percentage point over last quarter to 74%, enjoying the benefits of increasing large system sales, improving manufacturing efficiencies at Tandem's plant in Austin, Texas, and strong sales abroad of dollar-denominated systems. However, service gross margins dropped five percentage points over last quarter to 20% because Tandem prices consulting services to reflect business development opportunities.

Other items were in line with our expectations as a percentage of sales -- including marketing expenses, which last quarter worried investors with a precipitous $10 million quarter-over-quarter rise to outstrip revenue growth. This quarter, MG&A increased only $5 million to $102.3 million to match 31% revenue growth.

The number of shares increased 1.6 million less than we had projected, to a total of 99.6 million. We had expected to see more options exercised after the spectacular run the stock has had since the beginning of the year, but employees are evidently optimistic about the longer-term outlook for the company.

Where do we go from here? For next quarter, we are looking for $0.30 versus $0.24 for a fiscal 1987 total of $1.06 versus $0.72. The Street range for the year stands at $1.05-1.12. Tandem has several new products coming onstream in the September quarter, including the new low-end LNX system and SQL database package, which could produce upside surprises. However, worries about Tandem's growing dependence on international sales could be aggravated by Europe's summer siesta.

The fundamental story at Tandem - a gain in market share from mainframes with a distributed processing approach - is not changed by anything we see in the June quarter's results. Although we rate the stock a Hold, we would buy it below $30 as an attractive accumulation level. However, we do not expect the stock to outperform the market over the next six months, because we see a group of investors poised to lock in some profits on good-news rallies. This selling pressure could create a plateau in the low $30s for a while, but we believe Tandem's ability to compete profitably over time will reward the longer-term investor.

Table 1
Possible Fiscal 1987 Results by Quarter
$ in millions, except per share data

[Part 1 of 3]

	Q1A F1986	Q2A F1986	Q3A F1986	Q4A F1986
	($)	($)	($)	($)
Equipment Sales	140.3	146.2	163.3	182.6
Service Revenues	29.8	30.2	37.6	37.9
Net Sales	170.1	176.4	200.9	220.5
Less:				
Cost of equipment	43.3	41.5	43.4	47.0
Cost of service	22.8	24.8	26.9	30.2
Marketing, general & adminin.	64.8	68.8	77.5	83.8
Research & development	19.8	21.3	22.3	23.6
Interest income (net)	1.7	2.4	2.1	2.4
Pretax income	21.1	22.4	32.9	38.3
Income tax	-9.3	-10.0	-14.5	-16.9
Effective tax rate	44.5	44.5	44.5	44.5
Net income	11.6	12.4	18.1	21.6
Earning per share	0.14	0.15	0.20	0.24
Average shares outstanding	83.2	85.6	90.6	91.8
Percent of Sales				
Equipment sales	82.5	82.9	81.3	82.8
Service revenues	17.5	17.1	18.7	17.2
Cost of equipment	30.9	28.4	26.6	25.7
Cost of service	76.5	82.1	71.5	79.7
Marketing, general & admin.	38.1	39.0	38.6	38.0
Research & development	11.6	12.1	11.1	10.7
Interest	1.0	1.4	1.0	1.1
Pretax income	12.4	12.7	16.4	17.4
After-tax income	6.8	7.0	9.0	5.8

Note: Fiscal Year Ends September 30.

Tandem declared a 2-for-1 stock in May, 1987. These numbers represent pre-split numbers.

Table 1
Possible Fiscal 1987 Results by Quarter
$ in millions, except per share data

[Part 2 of 3]

	Q1A F1987	Q2A F1987	Q3A F1987	Q4E F1987
	($)	($)	($)	($)
Equipment Sales	198.7	202.4	218.5	237.5
Service Revenues	39.3	40.0	45.5	42.5
Net Sales	238.0	242.4	264.0	280.0
Less:				
Cost of equipment	53.6	54.9	57.0	66.7
Cost of service	27.8	30	36.3	30.4
Marketing, general & adminin.	86.8	96.3	102.3	104.5
Research & development	24.3	25.8	27.4	29.0
Interest income (net)	2.8	3.2	3.9	3.4
Pretax income	48.3	38.6	45.0	52.8
Income tax	21.3	16.1	19.3	21.8
Effective tax rate	44.0	41.6	43.0	41.3
Net income	27.0	22.5	25.7	31.0
Earning per share	0.29	0.23	0.26	0.30
Average shares outstanding	93.6	98.0	99.7	104.0
Percent of Sales				
Equipment sales	83.5	83.5	82.8	84.8
Service revenues	16.5	16.5	17.2	15.2
Cost of equipment	27.0	27.1	26.1	28.1
Cost of service	70.7	75.0	79.8	71.5
Marketing, general & admin.	36.5	39.7	38.8	37.3
Research & development	10.2	10.6	10.4	10.4
Interest	1.2	1.3	1.5	1.2
Pretax income	20.3	15.9	17.0	18.9
After-tax income	11.3	9.3	9.7	11.1

[Part 3 of 3]

	% Change			
	Q1 versus Q1	Q1 versus Q2	Q3 versus Q3	Q4 versus Q4
	(%)	(%)	(%)	(%)
Equipment Sales	41.6	38.4	33.8	30.1
Service Revenues	31.9	32.5	21.0	12.1
Net Sales	39.9	37.4	31.4	27.0
Less:				
Cost of equipment	23.8	32.3	31.3	41.9
Cost of service	21.9	21.0	34.9	0.7
Marketing, general & adminin.	34.0	40.0	32.0	24.7
Research & development	22.7	21.1	22.9	22.9
Interest income (net)	64.7	33.3	85.7	41.7
Pretax income	128.9	72.3	36.8	37.9
Income tax	129.0	61.0	33.1	29.0
Effective tax rate				
Net income	132.8	81.5	42.0	43.5
Earning per share	107.1	58.6	30.0	27.7
Average shares outstanding	12.5	14.5	10.0	13.3
Percent of Sales				
Equipment sales	1.2	0.7	1.8	2.4
Service revenues	-5.7	-3.6	-7.9	-11.7
Cost of equipment	-12.6	-4.4	-1.8	9.1
Cost of service	-7.5	-8.7	11.5	-10.2
Marketing, general & admin.	-4.3	1.9	0.5	-1.8
Research & development	-12.3	-11.9	-6.5	-3.2
Interest	17.7	-3.0	41.3	11.6
Pretax income	63.6	25.4	4.1	8.6
After-tax income	66.4	32.0	8.1	90.9

Note: Fiscal Year Ends September 30.

Tandem declared a 2-for-1 stock in May, 1987. These numbers represent pre-split numbers.

Table 2
Possible Fiscal 1987 and Fiscal 1988 Results
$ in millions, except per share data

[Part 1 of 2]

	Estimated		Actual	
	F1988	F1987	F1986	F1985
Equipment Sales	$1,080.0	$854.6	$632.3	$523.4
Service Revenues	195.0	162.8	135.5	100.7
Net Sales	1,275.0	1,017.4	767.8	624.1
Less:				
Cost of equipment	$300.0	$235.9	$175.2	$185.6
Cost of service	142.0	117.7	104.7	83.0
Marketing, general & adminin	478.0	387.1	294.9	231.6
Research & development	130.0	106.6	87.0	73.8
Interest income (net)	15.0	12.6	8.5	6.3
Pretax income	240.0	182.7	114.5	56.4
Income tax	$89.0	$77.7	$50.7	$22.0
Effective tax rate	37.1%	42.5%	44.3%	39.0%
Reversal of deferred taxes on DISC				
Net income	$151.0	$105.0	$63.8	$34.4
Earnings per share before DISC	$2.80	$2.12	$1.44	$0.82
Earnings per share after DISC				
Average shares outstanding	54.0	49.6	44.2	41.8
Earnings per share post split	$1.40	$1.06	$0.72	$0.41
Average shares outstanding post split	108.0	99.2	88.4	83.6
Percent of Sales				
Equipment sales	84.7%	84.0%	82.4%	83.9%
Service revenues	15.3	16.0	17.6	16.1
Cost of equipment	27.8	27.6	27.7	35.5
Cost of service	72.8	72.3	77.3	82.4
Marketing, general & admin	37.5	38.0	38.4	37.1
Research & development	10.2	10.5	11.3	11.8
Interest	1.2	1.2	1.1	1.0
Pretax income	18.8	18.0	14.9	9.0
After-tax income				

before DISC	11.8	10.3	8.3	5.5

[Part 2 of 2]

	F1988 versus F1987	% Change F1987 versus F1986	F1986 versus F1985
Equipment Sales	26.4%	35.2%	20.8%
Service Revenues	19.8	20.1	34.6
Net Sales	25.3	32.5	23.0
Less:			
Cost of equipment	27.2%	34.6%	-5.6%
Cost of service	20.6	12.4	26.1
Marketing, general & adminin	23.5	31.3	27.3
Research & development	22.0	22.5	17.9
Interest income (net)	19.0	48.2	34.9
Pretax income	31.4	59.6	103.0
Income tax	14.5%	53.3%	130.5%
Effective tax rate	(12.8)	(4.0)	13.5
Reversal of deferred taxes on DISC			
Net income	43.8	64.6	85.5
Earnings per share before DISC	32.1	47.2	75.0
Earnings per share after DISC			
Average shares outstanding	8.9	12.2	5.7
Earnings per share post split	32.1	47.2	75.6
Average shares outstanding post split	8.9	12.2	5.7

Note: Fiscal Year Ends Sept. 30.

Tandem, financial analysts

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TANDEM COMPUTERS, INC. (TDM - 28)

Third-Quarter Earnings In Line At $0.26 Versus $0.20;
Business Remains Strong, But The Valuation Appears Full

	Earnings Per Share			P/E Ratio		
52-Week Range	1986	1987E	1988E	1987E	1988E	Dividend
38-14	$0.72	$1.05-1.10	$1.40	26.2	20.0	Nil

Shares outstanding: 99.7 million
Market capitalization: $2,891.3 million

In July 14, TDM reported third-quarter earnings of $0.26 a share, an increase of 27.7% over the $0.21 earned last year. For the nine months, earnings are up an even more impressive 59.7% to $0.77 per share, and on 12% more shares outstanding. Key points about the quarter are as follows:

* Revenues of $264.0 million were in line with expectations and were up 31.4% over the same quarter of 1986, spurred by demand in foreign markets and demand for TDM's high-end VLX.

* International growth of 54% was nearly three times that domestically, causing international to rise to 43.9% of total from 38.9% last year.

* TDM added 45 new customers in the quarter, with seven buying TDM's largest processor, the VLX. One customer, a travel agency in New York, actually purchased a nine-processor VLX system. In terms of markets, TDM's new-account success was greatest in retail where the company added six new accounts, including two of the three largest retailers in Japan.

* TDM's balance sheet remains strong, with cash totaling $296 million, or $3.00 per share. At its current rate of growth, TDM is a modest consumer of cash, however, employee stock purchases have contributed over $50 million over in the last six months.

* Selling at 20.7 times our fiscal-1988 estimate of $1.40 per share, the shares of TDM appear to be fully valued at $28. On the basis of our valuation model, the shares are worth $32 off 1988 earnings and

the implied ROE (excluding cash). Having said that we note that, we believe that TDM is in an extremely attractive position for the next few years. Thus, a correction of 10% would, in our opinion, be a good opportunity to get into the stock.

Table 1
Tandem Computer
Consolidated Statement of Income
[Dollars in millions, except per share amounts]

[Part 1 of 2]

	Third Quarter 6/30		
	1987	1986	% Chg.
Equipment	$218,838	$163,361	34.0%
Service & other	45,140	37,492	20.4
Total revenues	263,978	200,853	31.4
CGS	93,192	70,355	32.5
Gross profit	170,786	130,498	30.9
R&D	27,416	22,337	22.7
SGA	102,346	77,560	32.0
Total	129,762	99,897	29.9
Operating profit	41,024	30,601	34.1
Net interest	3,934	2,054	91.5
Pretax profit	44,958	32,655	37.7
Taxes	19,341	14,531	33.1
Net profit	25,617	18,124	41.3
EPS	$0.28	$0.20	27.7
Shares out.	99,652	90,006	10.7
% of Revenue			
Gross profit	64.7%	65.0%	
R&D expense	10.4	11.1	
SG&A expense	38.8	38.6	
Operating profit	15.5	15.2	
Pretax profit	17.0	16.3	
Tax rate	43.0	44.5	
Net profit	9.7	9.0	

[Part 2 of 2]

	Nine months 6/30 1987	1986	% Chg
Equipment	$619,573	$449,763	37.8%
Service & other	124,808	94,478	28.0
Total revenues	744,381	547,241	36.0
CGS	259,583	202,740	28.0
Gross profit	484,798	344,501	40.7
R&D	77,598	63,471	22.3
SGA	285,342	211,116	35.2
Total	362,940	274,587	32.2
Operating profit	121,858	69,914	74.3
Net interest	10,014	6,089	64.5
Pretax profit	131,872	76,003	73.5
Taxes	56,714	33,821	67.7
Net profit	75,158	42,182	78.2
EPS	$0.77	$0.48	59.7
Shares out.	97,098	87,044	11.6
% of Revenue			
Gross profit	65.1%	63.0%	
R&D expense	10.4	11.6	
SG&A expense	38.3	38.6	
Operating profit	16.4	12.8	
Pretax profit	17.7	13.9	
Tax rate	43.0	44.5	
Net profit	10.1	7.7	

Third-Quarter Results (See Table 1)

TDM reported a 27.7% increase for its third-quarter earnings to $0.26 per share on revenue of $264.0 million, an increase of 31.4%. For the nine months, per-share earnings were up 59.7% on a 36% increase in revenues. The per-share results are understated because nearly 12% more shares are outstanding in fiscal 1987. Net income was up an even more impressive 41.3% in the third quarter and 78.2% for the nine months. International revenue grew 54% in the quarter, reaching 43.9% of total. Even on a sequential basis, international revenue growth was impressive, rising 12.7%, and, while Japan remained strong, its growth did slow from the unusually healthy rate of the second quarter. During the quarter, TDM signed major contracts with two of the three largest retailers in Japan. The third is already a customer of TDM. Other major international contracts included the British Post Office and Euroclear, a Eurobond clearing house in Brussels. Major domestic wins included St. Joseph's Hospital of New Jersey; Allegheny-Ludlum; and a

New York travel agency, which ordered a nine-processor VLX system. Also included in revenue was about $1.5 million of contract-manufacturing revenue related to TDM's production of personal computers for PC Limited, Inc. This was down from $2.5 million in the previous quarter.

Table 2
Tandem Computers
Revenue Breakdown by Industry

	Year 1986	Third Quarter 1987
Finance	32%	27%
Manufacturing	21	12
Communications	12	17
Transportation	6	5
Government	5	5
Distribution	5	11
Services	18	18
Other	2	5
Total	100%	100%

Table 2 depicts the third-quarter revenue breakdown by industry segment compared with fiscal 1986. The biggest changes on the plus side are communications (17% versus 12% in 1986) and distribution (11% versus 5%). On the negative side are finance (27% versus 32%) and manufacturing (12% versus 21%). The shifts occurring are a reflection of the maturing of TDM's Alliance program, something that management has targeted over the last year as it has emphasized the quality rather than quantity of third-party software houses. Today, Alliance members participate in more than 70% of sales, and, in the third quarter, half of TDM's new accounts were spurred by Alliance members not previously active. During the third quarter in retail, TDM signed six new accounts, three of which were driven by the "Storelink," a third-party software package that allows TDM processors to attach to NCR cash registers. Clearly, TDM's efforts and spending in the third-party software area have been highly successful, something that should become even more true as newer members market their applications more actively.

Costs continued to be well controlled in the quarter. The gross margin declined modestly from its level in the previous quarter and from the year-earlier level. Nevertheless, the erosion was overstated somewhat because TDM floated nearly 100% of the costs of some software consulting that it did through the cost of service and other. Adjusted for this, the gross margin would have been about flat with that over the first half. For the quarter, operating expenses grew 29.9%, which was less than the rate of revenue growth, though the disparity between the two did narrow from what it had been running over the first half. This narrowing reflects the conscious efforts of management to manage the business between a 16% and 18% pretax margin, reinvesting when profitability moves higher as it did in the first quarter. There are currently 666 quota-carrying salespeople, an increase of 22% for the third quarter of fiscal 1986. The tax rate held constant at 43%, and it's expected to fall to at least 38% in fiscal 1988.

The company's balance sheet remains strong with cash and marketable securities of $296 million, or $3.00 per share. Despite a 9% increase in sequential revenue, receivables actually declined by $2.0

million in the quarter and are now at 80 days' sales. Inventory increased by $4.0 million from March, but remains a low 28 days' sales. Shareholders' equity increased at an annualized rate of 25% in the quarter and now stands at $675 million, or $6.75 per share. During the quarter, employees contributed $13 million through their stock purchases, and, though down from the $38 million in the preceding quarter, it remains a very healthy flow.

Third-Quarter Product Moves Leave TDM Well Off

During its third quarter, TDM strengthened its product position further by extending its price points down to less than $40,000 with introduction of the CLX and up to $8.5 million with the VLX model 804. Both systems are based on TDM's proprietary CMOS microprocessor, thus demonstrating the highly scalable nature of the product offering. Table 3 highlights TDM's product line after recent additions and repricings. This processor line, together with the company's highly regarded NON-STOP SQL, a truly distributed relational data base that adheres to the Structured Query Language (SQL) standard, leaves TDM in an attractive position in the outline-transaction processing (OLTP) market, which is growing almost three times faster than the traditional computer market. The fact that TDM has a scalable, microprocessor-based architecture and the ability to truly share data in a distributed, multiprocessor environment places it in a highly competitive position as the world moves more toward downsizing. Evidence of this was TDM's benchmarking of its VLX system running NON-STOP SQL against IBM's (**) 3090 running DB2 and CICS, a benchmark that showed TDM having nearly a fourfold price/performance advantage over the five-year life of a system. In short, over the last year, TDM has demonstrated its clear drive for leadership in OLTP through hardware (VLX, CLX), systems software (NON-STOP SQL), and applications (Alliance Program). Although we expect heightened competitive responses by IBM and particularly by DEC, we nonetheless believe that TDM is moving forward fast enough to ensure a place among the leaders in the OLTP market.

Table 8
Tandem Computers
Current Product Line

System	No. of Processors	Operating System	Entry Price (a)	TPS (b)
LNX	1-3	UNIX 5.0	$18,000	NA
CLX	1-6	Guardian	39,900	8-15
EXT 10	1-2	Guardian	59,200	4-8
EXT 25	1-2	Guardian	250,000	9-18
TXP	2-4	Guardian	300,000	9-18
VLX	2-32	Guardian	585,000	13-200

(a) Entry price for volume purchases.
(b) Transactions per second.

Investment Conclusion

Selling at 20.7 times our 1988 estimate of $1.40 per share, 4.3 times book value, and 2.27 times projected fiscal-1988 revenues, the shares of TDM appear to be fully valued. On the basis of our 1988 earnings and the implied ROE (exclusive of cash and interest), the shares are worth $32, which means that a buy point of $25-26 is necessary in order to see 25-30% appreciation. Therefore, while we view TDM's position in the market favorably, and while we recognize that its shares have declined nearly 25% from their recent high, we do not feel that the current price is compelling enough to warrant purchase.

Table 4
Tandem Computer
Income Statement

[Part 1 of 2]

	1987				
	1Q	2Q	3Q	4QE	Year-End
	13	13	13	13	52
Revenues					
Equipment	$198,725	$202,010	$218,838	$235,000	$854,573
Service & support	39,310	40,358	45,140	48,000	172,808
Total	238,035	242,368	263,978	283,000	1,027,381
CGS	81,418	84,973	93,192	100,465	360,048
Gross income	156,617	157,395	170,786	182,535	667,333
R&D	24,315	25,867	27,416	29,000	106,598
SG&A	88,761	96,235	102,346	106,691	392,033
Total	111,076	122,102	129,762	135,691	498,631
Operating income	45,541	35,293	41,024	46,844	168,702
Interst & other income	2,847	3,233	8,934	4,000	14,014
Interst & other expense	0	0	0	0	0
Net interest	2,847	3,233	3,934	4,000	14,014
Pretax income	48,388	38,526	44,958	50,844	182,716
Taxes	21,291	16,082	18,341	21,863	78,577
Income before extra.	27,097	22,444	25,617	28,981	104,139
Extra.	0	0	0	0	0
Net income	27,097	22,444	25,617	28,981	104,139
					0
EPS	$0.29	$0.23	$0.26	$0.29	$1.06
Shares Out.	94,000	98,056	99,652	100,000	98,000
% SALES					
Gross income	65.80%	64.94%	64.70%	64.50%	64.95%
R&D	10.21%	10.67%	10.39%	10.25%	10.38%
SG & A	36.45%	39.71%	38.77%	37.70%	38.16%
Operating inc.	19.13%	14.56%	15.54%	16.55%	16.42%
Pretax income	20.33%	15.90%	17.03%	17.97%	17.78%
Rate	44.00%	41.74%	43.02%	43.00%	43.00%
Net income	11.38%	9.26%	9.70%	10.24%	10.14%

Table 4
Tandem Computer
Income Statement

[Part 2 of 2]

	1988E				
	1Q	2Q	3Q	4Q	Year-End
	13	13	13	13	52
Revenues					
Equipment	$238,470	$236,352	$258,229	$277,300	$1,010,351
Service & support	47,172	48,430	54,168	57,600	207,370
Total	285,642	284,781	312,397	334,900	1,217,720
CGS	101,403	101,097	110,901	118,890	432,291
Gross income	184,239	183,684	201,496	216,011	785,429
R&D	29,992	29,902	32,802	35,165	127,861
SG&A	105,688	111,065	118,711	123,913	459,376
Total	135,680	140,967	151,512	159,078	587,237
Operating income	48,559	42,717	49,983	56,933	198,193
Interest & other income	4,000	4,000	4,000	4,000	16,000
Interest & other expense	0	0	0	0	
Net interest	4,000	4,000	4,000	4,000	16,000
Pretax income	52,559	46,717	53,983	60,933	214,193
Taxes	19,972	17,753	20,514	23,155	81,393
Income before extra.	34,587	28,965	33,470	37,778	132,800
Extra.	0	0	0	0	
Net income	32,587	28,965	33,470	37,778	132,800
					0
EPS	$0.33	$0.29	$0.33	$0.38	$1.33
Shares Out.	100,000	100,000	100,000	100,000	100,000
% SALES					
Gross income	64.50%	64.50%	64.50%	64.50%	64.50%
R&D	10.50%	10.50%	10.50%	10.50%	10.50%
SG & A	37.00%	39.00%	38.00%	37.00%	37.72%
Operating inc.	17.00%	15.00%	16.00%	17.00%	16.28%
Pretax income	18.40%	16.40%	17.28%	18.19%	17.59%
Rate	38.00%	38.00%	38.00%	38.00%	38.00%
Net income	11.41%	10.17%	10.71%	11.28%	10.91%

Table 5

TANDEM COMPUTERS INC. (TDM)

[Part 1 of 5]

FY SEP	SALES	PRETAX INCOME	NET INCOME	EPS (P) EXCL. ADJUSTED	STOCK-HOLDERS' EQUITY	BK. VALUE PER SHARE ADJUSTED
77	7.7	0.3	0.2	0.01	2.7	0.36
78	24.3	4.4	2.2	0.05	15.5	0.35
79	56.0	10.1	4.9	0.10	31.5	0.63
80	109.0	21.1	10.7	0.18	70.3	1.17
81	208.4	51.1	26.5	0.36	204.8	2.81
82	312.1	46.7	29.9	0.38	251.0	3.33
83	418.3	50.5	30.8	0.38	311.0	3.93
84	532.6	56.3	33.2	0.41	375.1	4.62
85	624.1	56.4	34.4	0.41	420.4	5.08
86	767.8	114.5	63.8	0.72	534.7	6.09
87(E)	1,027.4	182.7	104.1	1.06	638.8	6.52
88(E)	1,281.5	228.4	141.6	1.42	780.4	7.80

(*) Current quarter
(A) Actual
(E) = Estimate

[Part 2 of 5]

FY SEP.	COMMON SHARES ADJUSTED	PRICE DEC. 31st ADJUSTED	REVENUE GROWTH %YA	PRETAX MARGIN %	AFTERTAX MARGIN %	EPS GROWTH % YA
77	7.5	1.313		4.3%	2.1%	-
78	44.1	2.063	216.0%	18.1%	8.9%	900.0%
79	50.0	3.542	130.3%	18.1%	8.8%	96.7%
80	60.2	12.667	94.7%	19.3%	9.8%	79.7%
81	72.8	13.875	91.2%	24.5%	12.7%	103.8%
82	75.3	12.688	49.8%	15.0%	9.6%	5.6%
83	79.1	17.563	34.0%	12.1%	7.4%	0.0%
84	81.2	9.750	27.3%	10.6%	6.2%	6.6%
85	82.8	11.125	17.2%	9.0%	5.5%	1.2%
86	87.8	17.125	23.0%	14.9%	8.3%	75.6%
87(E)	98.0	29.125	33.8%	17.8%	10.1%	47.6%
88(E)	100.0	29.125	24.7%	17.8%	11.0%	33.3%

[Part 3 of 5]

FY SEP.	P/E x	P/B x	P/S x	ROE %	ROE/(P/B) %
77	262.5	3.6	1.3	5.8%	1.6%
78	41.3	5.9	3.7	23.6%	4.0%
79	36.0	5.6	3.2	20.9%	3.7%
80	71.7	10.8	7.0	21.0%	1.9%
81	38.5	4.9	4.8	19.3%	3.9%
82	33.4	3.8	3.1	13.1%	3.4%
83	46.2	4.5	3.3	11.0%	2.5%
84	24.1	2.1	1.5	9.7%	4.6%
85	27.1	2.2	1.5	8.6%	3.9%
86	23.8	2.8	2.0	13.4%	4.7%
87E	27.4	4.5	2.8	17.7%	4.0%
88E	20.6	3.7	2.3	20.0%	5.3%

* Dollars in millions except per share amounts.
* Data restated. Fiscal 1984 excludes DISC benefit of $9.7 million or $0.12 per share.
* Adjusted for stock splits.
* F87e & F88e stock price as of 07/28/87.

RELATIVE ANALYSIS

[Part 4 of 5]

FY	P/E TDM/SPIN	P/B TDM/SPIN	ROE TDM/SPIN	ROE/(P/B) TDM/SPIN	RVA TDM/SPIN
77	NM	282.6%	40.0%	14.1%	NM
78	501.7%	487.9%	155.0%	31.8%	323.7%
79	484.8%	458.5%	120.7%	26.3%	401.8%
80	748.3%	760.2%	134.8%	17.7%	555.1%
81	470.5%	417.6%	129.4%	31.0%	363.7%
82	279.6%	286.3%	116.4%	40.7%	240.1%
83	366.5%	283.4%	89.4%	30.5%	409.9%
84	233.9%	140.5%	65.8%	46.9%	355.4%
85	177.5%	117.8%	70.5%	59.8%	251.8%
86	129.3%	136.5%	117.1%	85.7%	110.4%
87(E)	133.5%	168.8%	134.1%	79.5%	99.6%
88(E)	116.0%	151.2%	138.5%	91.6%	83.7%

RVA = (REL.P/E)/(REL. ROE)

EARNINGS PERSPECTIVE

EARNINGS PER SHARE

FY	1	2	3	4(*)	YEAR
1984	$0.12	$0.03	$0.12	$0.15	$0.41
1985	$0.17	$0.08	$0.03	$0.14	$0.41
%YA	41.7%	220.0%	-73.9%	-6.9%	1.1%
1986	$0.14	$0.15	$0.20	$0.24	$0.72
%YA	-17.6%	81.3%	566.7%	74.1%	75.8%
1987(E)	$0.29(A)	$0.23(A)	$0.26(A)	$0.29	$1.07
%YA	107.1%	58.6%	30.0%	23.4%	48.6%
1988(E)	$0.36	$0.30	$0.35	$0.40	$1.41
%YA	24.1%	30.4%	34.6%	37.9%	31.8%

(*) Current quarter
(A) Actual
(E) = Estimate

Table 6

ANALYSIS OF OPERATIONS

[Part 1 of 3]

TANDEM COMPUTERS (SEP) ($Thousands)	1981	1982	1983	1984	1985	1986
Revenues	208,397	312,143	418,282	532,620	624,138	767,793
Operating income	40,391	40,708	49,771	51,101	50,081	105,978
Other income	10,707	6,033	730	5,183	6,269	8,504
Pretax income	51,098	46,741	50,501	56,284	56,350	114,482
Taxes (+)	24,549	16,885	19,696	23,076	21,976	50,716
Net income	26,549	29,856	30,805	33,208	34,374	63,766
(+) F84 excludes DISC benefit ($9.7 million.)						
Cash	89,806	24,816	93,501	106,862	128,676	239,819
Accounts receivable	70,671	98,810	119,558	146,342	163,378	197,658
Inventory	54,543	101,335	85,920	92,375	78,962	64,229
Gross plant	44,339	107,466	132,772	191,755	241,344	282,125
Depreciation	8,434	18,080	33,991	50,253	80,746	107,103
Net plant	35,905	89,386	98,781	141,502	160,598	175,022
Other	5,046	23,019	17,765	14,792	20,730	28,297
Total operating assets	161,119	289,531	304,259	380,219	402,938	436,909
Total assets	255,971	337,366	415,525	501,873	552,344	705,025
Short term debt	682	2,060	3,335	15,025	7,049	5,969
Long term debt	2,054	21,102	23,957	17,155	12,412	6,526
Deferred taxes	8,143	18,063	23,966	20,422	32,718	29,828
Total debt	10,879	41,225	51,258	52,602	52,179	42,323
Stockholders' equity	204,810	250,988	310,993	375,122	420,408	534,680
Employees	2,730	3,821	4,396	5,223	5,494	5,719

[Part 2 of 3]

	1981	1982	1983	1984
Operating Margin	19.4%	13.0%	11.9%	9.6%
Pretax Margin	24.5%	15.0%	12.1%	10.6%
Operating asset turn	1.75	1.39	1.41	1.56
Net asset turn	1.19	1.05	1.11	1.16
Return on operating assets	33.9%	18.1%	16.8%	14.9%
Return on net assets	29.1%	15.8%	13.4%	12.3%
Receivable turnover	3.68	3.68	3.83	4.01
Inventory turnover	5.52	4.00	4.47	5.97
Net plant turns	8.35	4.98	4.45	4.43
Depreciation/Gross plant	19.0%	16.8%	25.6%	26.2%
Tax rate	48.0%	36.1%	39.0%	41.0%
Debt/Equity	5.9%	11.4%	16.5%	15.1%
Operating assets/Equity	0.87	0.99	1.06	1.00
Net assets/Equity	1.28	1.30	1.34	1.34
Return on equity	19.3%	13.1%	11.0%	9.7%
Revenue/Employee	101.24	95.30	101.81	110.74
Operating profit/Employee	19.62	12.43	12.11	10.63
Total assets/Employee	124.35	103.00	101.14	104.35

[Part 3 of 3]

	1985	1986	3-YR MOVING AVERAGE '84-'86	TDM 4-QTR. MOVING AVERAGE
Operating Margin	8.0%	13.8%	10.47%	17.17%
Pretax Margin	9.0%	14.9%	11.50%	18.52%
Operating asset turn	1.59	1.83	1.66	1.83
Net asset turn	1.18	1.22	1.19	1.15
Return on operating assets	12.8%	25.2%	17.65%	31.45%
Return on net assets	10.7%	18.2%	13.72%	21.23%
Receivable turnover	4.03	4.25	4.10	4.05
Inventory turnover	7.29	10.72	7.99	12.72
Net plant turns	4.13	4.58	4.38	4.54
Depreciation/Gross plant	33.5%	38.0%	32.54%	37.47%
Tax rate	39.0%	44.3%	41.43%	43.21%
Debt/Equity	13.2%	9.9%	12.73%	6.55%
Operating assets/Equity	0.98	0.88	0.95	0.83
Net assets/Equity	1.33	1.32	1.33	1.33
Return on equity	8.6%	13.4%	10.56%	16.01%
Revenue/Employee	116.48	136.95	121.39	Incl. Jun. Qtr.
Operating profit/Employee	9.35	18.90	12.96	
Total assets/Employee	103.08	125.75	111.06	

(**) DONALDSON, LUFKIN & JENRETTE SECURITIES CORPORATION MAKES A MARKET IN THIS SECURITY, HAS PERIODIC POSITIONS IN THIS SECURITY IN CONNECTION WITH THIS ACTIVITY AND MAY BE ON THE OPPOSITE SIDE OF PUBLIC ORDERS EXECUTED ON THE P.S.E. IN THE STOCK.

T, earnings

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Jeffry Canin
Kathleen Charles

July 22, 1987

TANDEM COMPUTERS INCORPORATED (NYSE-TDM) $28 1/2

52-Week Range	Market Val. (mil.)	Fiscal EPS 1986A	1987E	1988E	Calendar P/E 1987	1988	Trend-Line Growth Rate
$14-38	$2,840	$0.72	$1.08	$1.45	26	20	25%

Year Ends: September 30 **DJIN:** 2470.18 **SPIN:** 360.94 **Note:** f

Revenues (12 mos):	$965 million	**Return on Avg Equity:**	17%
Shares Outstanding:	100 million	**LT Debt/Total Capitalization:**	1%
Annual Dividend:	nil	**Current Yield:**	nil

- Third quarter results reported in line with expectations.
- Fault-tolerant processor line broadened.
- Fiscal fourth quarter estimates increased slightly.

Third Quarter Results in Line with Expectations

Tandem Computers, a leading vendor of distributed fault tolerant on-line transaction processing (OLTP) systems, announced fiscal 1987 third quarter results in line with expectations (see Exhibit 1). Record quarterly revenues of $264 million increased 31% relative to last year's revenues and 9% sequentially. Product gross margins, at 73.9%, were the second-best ever, reflecting increasing proportional sales of the company's high-margin VLX systems. Service margins dropped from the immediately preceding quarter's 25.5% to 19.9%, due in part to a specific large consulting contract in which Tandem served as the prime contractor. Reflecting these lower service margins, overall gross margins dropped slightly from the second quarter's 64.9% to 64.7%—slightly below our estimate of 65.6%. R&D and SG&A expenses were up moderately, yielding operating margins of 15.5%. These results compare favorably with the previous quarter's 14.6% and last year's 15.2%. Net interest income of $3.9 million yielded pretax margins of 17.0%, up over 1% relative to the second quarter but below the first quarter's record 20.3%. Net income of $25.6 million increased 41% compared with last year's net income and 14% sequentially. Earnings per share were on target at $0.26 and compare with last year's $0.20.

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Exhibit 1
TANDEM COMPUTERS INCORPORATED
Fiscal Third Quarter 1987 Results

	THIRD QUARTER RESULTS				YR-TO-DATE: 9 MONTHS		
	6/30/87	6/30/86	% CHG	H&Q EST	6/30/87	6/30/86	% CHG
Revenues (000)	263,978	200,853	31%	260,000	744,381	547,241	36%
Pretax Income (000	44,958	32,655	38%	44,926	131,872	76,003	74%
Net Income (000)	25,617	18,124	41%	25,608	75,158	42,182	78%
Earnings per Share	0.26	0.20	28%	0.26	0.78	0.48	60%
Average Shares(000	99,652	90,006	11%	100,000	97,098	87,043	12%
Gross Margin	64.7%	65.0%		65.6%	65.1%	63.0%	
Operating Margin	15.5%	15.2%		15.9%	16.4%	12.8%	
Pretax Margin	17.0%	16.3%		17.3%	17.7%	13.9%	
Tax Rate	43.0%	44.5%		43.0%	43.0%	44.5%	
Net Margin	9.7%	9.0%		9.8%	10.1%	7.7%	

Tandem's reported cash levels increased $10.8 million during the quarter. Accounts receivable increased $2 million but decreased in terms of days outstanding from 88 to 80. Inventory levels increased by only $4.2 million, improving inventory turns from 4.4 in the second quarter to 4.6 in the third quarter. Headcount increased by 6% in the quarter to 6,680.

Tandem enjoyed continued growth in four of its focus industries; over the last twelve months, sales increased approximately 77% in the communications sector, 73% in the health care sector, 63% in the retail industry, and 45% in the securities industry. Compared with second quarter results, sales to the banking industry (one component of Tandem's financial sector) fell slightly as a percentage of revenues, from approximately 21% to 17%. Exhibit 2 highlights the revenue composition of Tandem's shipments for the first nine months of fiscal 1987.

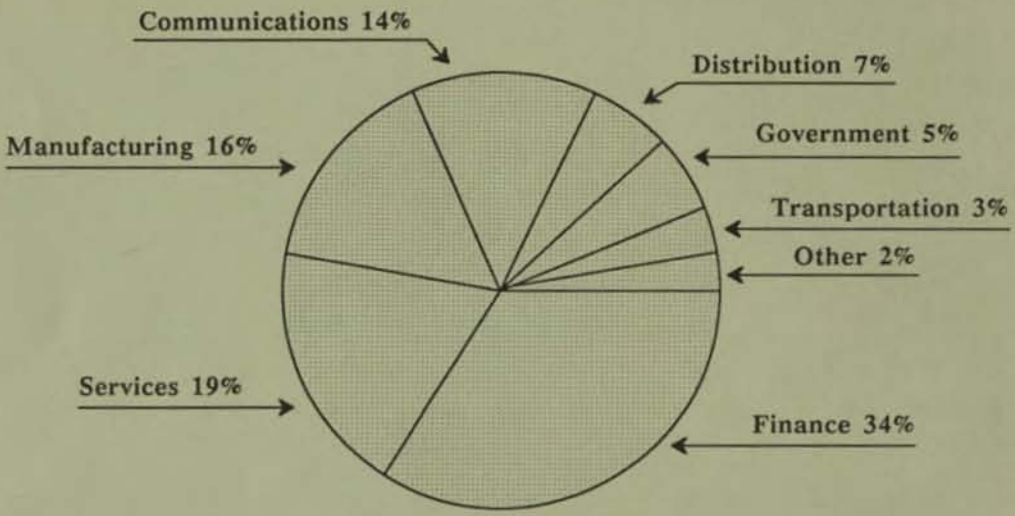
Tandem added 45 new accounts during the third quarter, yielding a base of 1,476 customers. Significant new customers for the company included the Euro-Clear Operations Center in Brussels, Belgium; St. Joseph's Hospital in New Jersey; and two of the top three retailers in Japan. Compared with those in the second fiscal quarter, international sales grew from 42.7% to 43.9% of total revenues; during the third quarter, European shipments increased sequentially by 12.7%, Pacific Basin revenues were up 10.4%, while U.S. business increased only 6.6%.

Tandem announced two new computer systems during the quarter. The entry-level **NonStop CLX** family, based on proprietary CMOS VLSI technology, is priced between $57,000 and $240,000 and offers claimed performance of from 2.5 to 15 SQL transactions per second (tps). The **LXN**, supplied by Altos, is a 32-bit multiuser UNIX-based system base-priced at $23,700. Shipments of the LXN, the company's first non-fault-tolerant offering, began during the third quarter; the NonStop CLX will be available by calendar year-end. In addition, Tandem's high-end mainframe-class offering, the **NonStop VLX**, was expanded upward to include eight- to 32-processor models priced from $2.1 million to $8.6 million and supporting up to 200 SQL tps. The NonStop VLX was also expanded downward to include two- and three-processor models. Simultaneously, the company enhanced its mid-range **NonStop EXT** system, reducing prices by up to 25% for it and the TXP system; volume pricing of the entry-level EXT10 now starts below $60,000. The VLX, representing the highest-margin products in Tandem's line, is contributing an increasing portion of total revenues. The two-processor VLX accounted for seven of the company's new customers in the third quarter.

Exhibit 2

Tandem Computers Incorporated

Fiscal 1987: Percentage of Revenue Generated in the First 9 Months



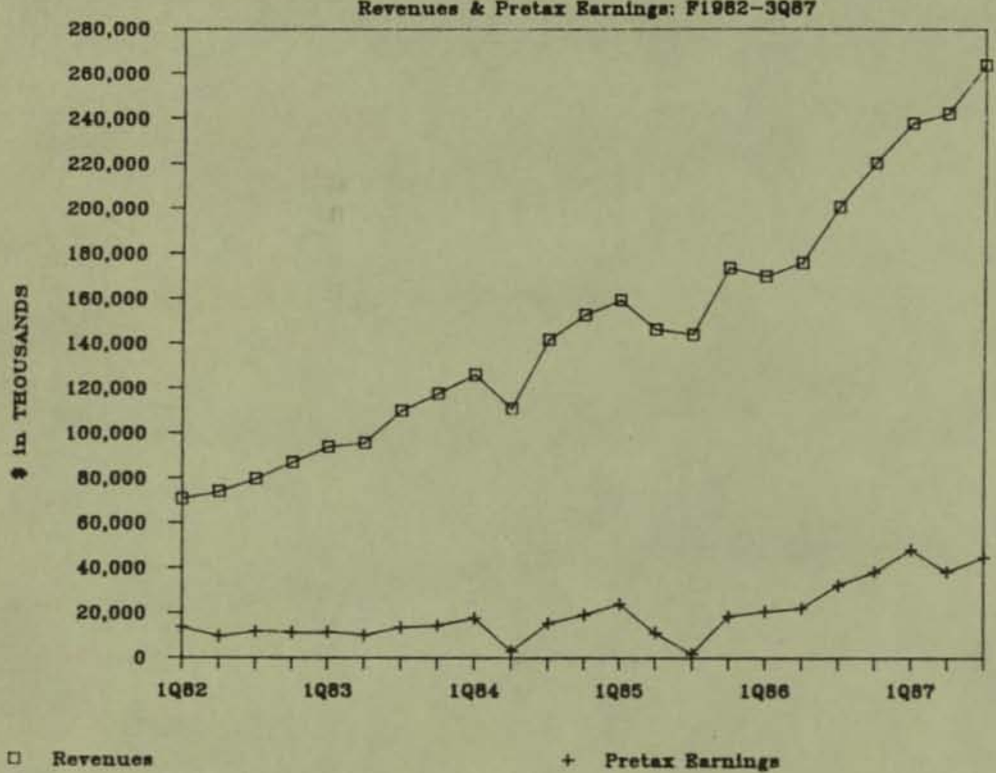
Source: Tandem Computers Incorporated

Fourth Quarter and Fiscal Year Projections Raised Slightly

We have raised our fourth quarter revenue projection for Tandem by $7 million to $282 million, representing a 28% increase relative to the fourth quarter a year ago. We assume gross margins of 65.2% and operating margins of 17.4%. We have raised our EPS estimates by $0.01 to $0.30, up 30% over last year's per-share earnings. Our current estimates for fiscal 1987 are $1.03 billion in revenues and $1.08 in earnings per share, increases of 34% and 50%, respectively, relative to 1986 results. Fiscal 1988 revenue projections have been increased $14 million to $1.26 billion; EPS projections remain unchanged at $1.45. Exhibit 3 highlights the company's reported quarterly revenues and pretax profits since fiscal 1985.

Exhibit 3

TANDEM COMPUTERS INCORPORATED



In our opinion, Tandem is well positioned to play an increasingly significant role in the expanding market for distributed transaction-processing systems, despite competition from Stratus and from general-purpose manufacturers, most notably IBM and DEC. This year marks the second year of substantial improvement in profitability after five years of relatively flat earnings, a reflection of the company's broadened product line and expanded array of application software offerings. On the other hand, Tandem's financial progress has been widely recognized and is, in our view, largely reflected in the company's present share price; at current valuations, we rate the stock a long-term buy.

NOTE (f) Options are available on this issue.

TANDEM COMPUTERS
SALES AND EARNINGS MODEL
($ in thousands, except EPS)

JC
07/16/87

Fiscal: September

	REV $	YR-TO-YR REV CHG %	GROSS MARGIN %	OPER INCOME $	OPER MARGIN %	PBT $	PBT MARGIN %	TAX RATE %	NET INCOME $	NET MARGIN %	EPS $	YR-TO-YR EPS CHG %	SHARES
1984-1Q	126,369	34%	60.1%	16,878	13.4%	17,954	14.2%	44.0%	10,054	8.0%	0.24	36%	41,841
2Q	111,236	16%	57.5%	2,006	1.8%	3,148	2.8%	37.3%	1,974	1.8%	0.05	-70%	41,794
3Q	141,924	29%	59.3%	14,342	10.1%	15,585	11.0%	40.6%	9,250	6.5%	0.23	10%	41,039
4Q	153,090	30%	58.6%	11,111	11.7%	19,597	12.8%	39.1%	11,930	7.8%	0.29	36%	40,923
YEAR(A)	532,620	27%	58.9%	51,101	9.6%	56,284	10.6%	41.0%	33,208	6.2%	0.80	6%	41,399
1985-1Q	159,653	26%	57.1%	22,509	14.1%	24,397	15.3%	42.5%	14,028	8.8%	0.17	-29%	82,768
2Q	146,489	32%	56.2%	9,703	6.6%	11,276	7.7%	39.3%	6,841	4.7%	0.08	72%	84,312
3Q	144,165	2%	55.4%	540	0.4%	1,838	1.3%	-29.9%	2,388	1.7%	0.03	-87%	83,792
4Q	173,831	14%	58.7%	17,329	10.0%	18,839	10.8%	41.0%	11,117	6.4%	0.13	-54%	83,246
YEAR(A)	624,138	17%	57.0%	50,081	8.0%	56,350	9.0%	39.0%	34,374	5.5%	0.41	-49%	83,530
1986-1Q	170,061	7%	61.1%	19,315	11.4%	20,988	12.3%	44.5%	11,648	6.8%	0.14	-19%	84,354
2Q	176,327	20%	62.4%	19,998	11.3%	22,360	12.7%	44.5%	12,410	7.0%	0.14	76%	86,770
3Q	200,853	39%	65.0%	30,601	15.2%	32,655	16.3%	44.5%	18,124	9.0%	0.20	607%	90,006
4Q	220,552	27%	65.0%	36,064	16.4%	38,479	17.4%	43.9%	21,584	9.8%	0.23	75%	92,474
YEAR(A)	767,793	23%	63.5%	105,978	13.8%	114,482	14.9%	44.3%	63,766	8.3%	0.72	75%	88,402
1987-1QA	238,035	40%	65.8%	45,541	19.1%	48,388	20.3%	44.0%	27,097	11.4%	0.29	110%	93,586
2QA	242,368	37%	64.9%	35,293	14.6%	38,526	15.9%	41.7%	22,444	9.3%	0.23	60%	98,056
3QA	263,978	31%	64.7%	41,024	15.5%	44,958	17.0%	43.0%	25,617	9.7%	0.26	28%	99,652
4QE	282,250	28%	65.2%	35,293	12.5%	53,216	18.9%	43.0%	30,333	10.7%	0.30	29%	100,500
YEAR (E)	1,026,631	34%	65.1%	171,074	16.7%	185,088	18.0%	43.0%	105,491	10.3%	1.08	49%	97,949
1988 (E)	1,262,000	23%	66.0%	223,404	17.7%	237,404	18.8%	37.5%	148,378	11.8%	1.45	34%	103,000

BALANCE SHEET

	9/86	6/87
Assets:		
Cash & Equivalents	239,819	296,295
Accounts Receivable	197,658	232,675
Inventories	64,229	81,422
Other Current Assets	17,505	21,829
TOTAL CURRENT ASSETS	519,211	632,221
PP&E	175,022	230,763
Other Assets	10,792	20,121
TOTAL ASSETS	705,025	883,105
Liabilities & Stockholders Equity:		
Current Liabilities	133,991	174,218
Long Term Debt	6,526	7,290
Deferred	29,828	27,408
Stockholders Equity	534,680	674,189
TOTAL LIAB & S/E	705,025	883,105

QUARTERLY RATIOS

	6/86	9/86	12/86	3/87	6/87	4-QTR AVG
Return on Sales	9.0%	9.8%	11.4%	9.3%	9.7%	10.0%
Return on Assets	11.7%	12.8%	14.6%	11.1%	11.9%	12.6%
Return on Equity	15.2%	16.8%	19.6%	14.9%	15.7%	16.5%
R&D/Sales	11.1%	10.7%	10.2%	10.7%	10.4%	10.5%
Days O/S A/R	93	82	93	88	80	83
Inventory Turns	4.2	4.8	4.9	4.4	4.6	4.5
Days Sales in Inv	88	76	74	83	80	81
Book Value	$5.50	$5.78	$6.13	$6.47	$6.77	$6.09
Cash per Share	$1.97	$2.59	$2.50	$2.91	$2.97	$2.47
Current	4.2	3.9	3.4	3.6	3.6	3.9
Quick	3.4	3.3	2.9	3.0	3.0	3.2

Notes:
(f) Options are available on this issue.

Tandem, analysts

BEAR STEARNS

Computer Industry Outlook

March 13, 1987

Jonathan Fram (952-5068)
Louis Giglio, Market Research (952-6916)

We recently visited with Tandem Computers (TNDM-70), Digital Equipment (DEC-168), Apple Computer (AAPL-66), Tolerant Systems (a privately-held company) and Banyan Systems (a privately-held company). Below we have summarized our conclusions stemming from the DEC and Tandem visits.

Tandem: The Most Significant Wave of Demand Has Just Arrived

Tandem's systems are on the eve of experiencing a **third major wave** of demand in the broad commercial marketplace. More significantly, this wave of demand will be the most prolonged and the largest that the company has experienced to date. Simply put, the Tandem's architecture is propelling the company ahead of the industry in networking and distributed database technologies, which are perhaps the most significant factors in commercial data processing today.

All three waves of demand for Tandem's systems stem from the way in which the company applies multiple processors to a single job stream and single set of data. The first wave of demand stemmed from the "fault-tolerant" nature of this architecture. If one processor in a 10 processor complex failed, then the other nine processors would handle the workload uninterrupted. The second wave of demand stemmed from the fact that Tandem is the only system in which a customer can add processors and achieve linear growth in performance virtually without bound.

But, it is this third wave of demand which truly shows the visionary nature of the Tandem architecture. For Tandem is the only system with which customers can geographically distribute processors and data (much in the way user organizations are dispersed) yet the user perceives that all of the data and processing power are locally attached. This capability underlies the reason that Tandem systems have been used in the majority of intelligent, value-added networks implemented in recent years.

Tandem will build on its inherent networking advantage when its unveils a major contribution to database technology. The company is about to announce its distributed version of the SQL database language, which will enable both reading and updating of data at remote sites, with queries originating from any node in the network. In essence, a single copy of the data will exist throughout the system, and will, therefore, provide the same data integrity as would exist if a single copy of data simply resided on a single mainframe processor. Distributed database systems are transaction processing applications which naturally lend themselves to Tandem's architecture.

Tandem will also extend its architectural umbrella to the Unix world with its multiple processor "FALCON" system. Tandem has recognized the burgeoning importance of UNIX and will likely soon unveil a major parallel processor optimized for this environment.

A Mainstream Vendor

Another key market trend bodes well for Tandem. Recent major wins for the company suggest that Tandem's systems are no longer cast in the role of a "front-end" to a mainframe or the gateway to a network. Multimillion-dollar contracts in recent months at Bank of Tokyo, Chevrolet, First National Bank of Chicago and Texaco illustrate how Tandem is now appropriately chosen for the mainstream system itself. This more complete role of Tandem system is, in part, due to the increased customer sophistication with regard to computers which has resulted in an increased appreciation of and dependence on the Tandem architecture for critical applications.

Refreshing the Installed Base

An additional boost to Tandem's base revenue level is being furnished by a phenomenon not experienced by the company in the past. Because customers had the capability to grow their Tandem system by adding additional processors, the company did not churn the customer base when it announced a new product. This attribute, of course, was a major marketing advantage versus the competition which required that the customer swap out old boxes when performance upgrades were required.

Now, for the first time we are witnessing a meaningful replacement of Tandem's installed base. This replacement of the installed base is due to the dramatically improved price/performance of the VLX system when compared with earlier implementations of the Tandem architecture. For example, while TTL version of the Tandem architecture might yield systems that cost $40,000/transaction per second, the VLX costs about half that amount.

Different Competition

Because of the new applications of Tandem's systems in networking and distributed computing applications, we are seeing less direct competition with Stratus Computer (STRA-35) in strict fault-tolerant applications (where Stratus tends to win in single node environments). As a result, investments in both stocks are not mutually exclusive; in fact, we continue to recommend purchase of Tandem Computers and Stratus Computer.

Competition for Tandem is increasing from Digital Equipment's VAX cluster. The cluster is the closest thing in the industry to Tandem's networked multiple processor architecture. Today, DEC's multiple processing system is at a much more primitive level than Tandem's system. The VAX cluster does allow for the sharing of disk drives at the file level. Missing is record level sharing (record level lockout) and a transaction protection scheme to roll back a transaction to the state that these data were in prior to the initiation of the transaction. We believe that DEC is about a year away from record-level lockout in the cluster, and several years away from transaction protection.

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Tandem, finan. analysts

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
December 28, 1987

Tandem Computers - Company Report
BEAR STEARNS & COMPANY - Fram, J., et al
11-20-87 (RN=722344)

Tandem Computers (TDM - 23)
Continuing Buy Recommendation

1986 EPS (9/30):	$0.72
1987 EPS:	$1.08
1988 EPS Est.:	$1.50
P/E 1987:	21.3x
P/E 1988 Est.:	15.3x
Dividend:	Nil
Yield:	Nil
1987 Price Range:	37-19
Common Shares Out.:	100 Mil.

[Graphical Material Omitted: TDM Price Chart]

Summary
On November 11, 1987 Bear Stearns hosted a meeting for Tandem management where our strong conviction about the company's prospects was affirmed. We continue to recommend purchase of Tandem shares.

Highlights of this meeting centered on:

Tandem's business is only beginning.
* Tandem is well positioned to address one of the biggest untapped opportunities in the computer industry, namely, distributed database systems. We believe that distributed database systems will drive much of the industry's growth over the next several years. Such systems are the natural outgrowth of Tandem's 10 years of experience in peer-to-peer networking and transaction processing technology. In short, the transaction processing business is rapidly becoming the commercial computing mainstream, which is no longer being restricted to niche markets such as automatic teller machines and electronic funds transfer.

Tandem has one of the finest financial controls in the industry.
* It is mystifying that Tandem still suffers from an image of loose financial controls, reflecting events of five years ago. However, since that time the new financial management created a rigorous planning and control process that has produced strong results and ratios. Fortunately, the company is appropriately calling attention to the fact that its financial ratios are the best in the industry in terms of asset management (inventory turns at 10), gross profitability (gross profit on sales of 75% last quarter) and financial condition (more than $300 million in cash, and no debt). As well, Tandem's conservative hiring posture caused the company to implement a

replacement hiring only policy in August 1987 after increasing headcount by 23% in fiscal 1987 in order to support revenue growth. The company's expense plan has been geared for 25% revenue growth, lower than the 35% order growth experienced over the past three quarters.

Business ramains strong.

* Many investors have assumed that Tandem's business would be particularly hard hit by the recent market crash. Yet, it appears that the demand for computers optimized for accurate, high-speed transaction processing has remained strong in the weeks immediately following the crash. Specifically, we know of one major brokerage firm and one major stock exchange that have made significant commitments to Tandem in the past week. The brokerage segment of Tandem's business is 80% higher than the levels of a year ago. Tandem's presence in retailing has also remained strong, with the company having recently won contracts with the #1 and #3 retailers in Japan.

Tandem's thrust into the low-end and in open systems environments

* The company recognizes that it is a heterogeneous world and it would be too narrow-minded to assume that the broad commercial market would make exclusive commitments to Tandem's processor architecture and operating system. Rather, Tandem recognizes the need to extend its contribution in transaction processing and distributed database technology to more generic processor platforms (i.e., systems running Unix). We would expect Tandem to allow such platforms to be seamlessly integrated into its own networks and distributed database systems during 1988.

This strategy comes hand-in-hand with Tandem's thrust into low-end, namely, the desk top and the branch site where transactions originate. Only by capturing the transaction at the source will the benefit of Tandem's distributed database technology be fully appreciated. We believe that product announcements to integrate PCs into the Tandem environment will also surface early next year.

Tandem Computers: Quarterly Financial Review and Projection
($ Millions)

[Part 1 of 2.]

	Fiscal 1987 I	II	III	IV
Product Revenue	199	202	219	241
Service & Other	39	40	45	50
Revenue	238	242	264	291
Cost of Product	54	55	57	61
Cost of Service	28	30	36	37
Product development	24	26	27	31
Mktg, Gen & Admin	87	96	102	113
Net interest	(3)	(3)	(4)	(4)
Total Costs	190	204	219	238
EBIT	46	35	41	49
Pretax Income	48	38	45	53
Income Tax	21	16	19	23
Net Income	27	22	26	30
Shares Out. (Mil.)	93	98	100	100
EPS ($)	0.29	0.23	0.26	0.31
Margins (%)				
Cost of Product	27	27	26	25
Cost of Service	71	74	80	75
Product development	10	11	10	11
Mktg, Gen & Admin	36	40	39	39
EBIT	19	15	16	17
Pretax Income	20	16	17	18
Income Tax	44	42	43	43
Net Income	11	9	10	10
Growth (%)				
Product	42	38	34	25
Service	32	34	20	20
Revenue	40	37	31	32
Pretax income	131	72	37	38
Net Income	134	81	41	41
EPS	111	60	28	31

Note: For additional information, please refer to the Highlights dated May 29, 1987 and Recommendation Follow-up dated July 24, 1987.

Tandem Computers: Quarterly Financial Review and Projection
($ Millions)

[Part 2 of 2.]

	Fiscal 1988			
	I Est.	II Est.	III Est.	IV Est.
Product Revenue	248	253	276	307
Service & Other	47	48	54	63
Revenue	296	301	330	370
Cost of Product	70	71	74	81
Cost of Service	34	35	39	45
Product development	33	33	35	39
Mktg, Gen & Admin	114	113	124	139
Net interest	(4)	(4)	(4)	(4)
Total Costs	246	248	268	300
EBIT	46	49	58	66
Pretax Income	50	53	62	70
Income Tax	18	19	22	25
Net Income	32	34	40	45
Shares Out. (Mil.)	100	101	101	102
EPS ($)	0.32	0.34	0.40	0.44
Margins (%)				
Cost of Product	28	28	27	27
Cost of Service	72	72	72	72
Product development	11	11	11	11
Mktg, Gen & Admin	39	38	38	38
EBIT	15	16	18	18
Pretax Income	17	18	19	19
Income Tax	36	36	36	36
Net Income	11	11	12	12
Growth (%)				
Product	25	25	26	27
Service	20	20	20	27
Revenue	24	24	25	27
Pretax income	3	39	38	31
Net Income	18	54	56	47
EPS	10	50	53	44

Note: For additional information, please refer to the Highlights dated May 29, 1987 and Recommendation Follow-up dated July 24, 1987.

	Fiscal year ending			
	9/30/88 Est.	9/30/87	9/30/86	9/30/85
Product Revenue	1,083	861	632	515
Service & Other	213	174	135	109
Revenue	1,296	1,035	768	624
Cost of Product	296	227	175	186
Cost of Service	153	131	105	83
Product development	139	108	87	72
Mktg, Gen & Admin	489	398	295	262
Net interest	(16)	(14)	(9)	(6)
Total Costs	1,061	851	653	596
EBIT	219	171	106	22
Pretax Income	235	185	114	28
Income Tax	83	79	51	22
Net Income	151	106	64	6
Shares Out. (Mil.)	101	98	88	84
EPS ($)	1.50	1.08	0.72	0.07
Margins (%)				
Cost of Product	27	26	28	36
Cost of Service	72	75	77	76
Product development	11	10	11	11
Mktg, Gen & Admin	38	38	38	42
EBIT	17	16	14	3

Pretax Income	18	18	15	4
Income Tax	36	43	44	79
Net Income	12	10	8	1
Growth (%)				
Product	26	36	23	15
Service	22	29	24	30
Revenue	25	35	23	17
Pretax income	27	62	310	(50)
Net Income	43	66	972	(86)
EPS	35	50	950	(87)
Product Revenue ($ M)				
NS-II	30	50	50	77
TXP	440	480	460	386
EXT	56	68	68	52
VLX	360	200	55	0
CLX	120	26		
LXN	63	14		
Unit Shipments				
NS-II	120	200	200	300
TXP	1100	1200	1150	1000
EXT	375	450	450	350
VLX	360	200	50	0
CLX	2400	400		
LXN	1800	300		

Tandem, financial

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11. Copyright (c) 1987 Paine Webber Mitchell Hutchins Inc., January 27, 1987, Tandem Computers; 1/21 price $53 1/2 OTC -- TNDM 52-week range $18 7/8-56 1/8, Update; Technology Group, 2 pages, Stephen K. Smith; Georgia Fountoulakis, Research Assistant

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August 6, 1987

TANDEM COMPUTERS (TDM $27 - 8/4/87)

TYPE: Progress Report

5 pages

ANALYST: George D. Elling, CFA; Elliot S. Prince

12-Month Range	$37-$17	Dividend	Nil
1985 EPS	$0.42	Yield	Nil

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1986 EPS	$0.72	Price/EPS 1986	37.5X
1987 Est. EPS	$1.10	Price/Est. EPS 1987	24.5X
1988 Est. EPS	$1.40-$1.50	Price/Est. EPS 1988	19.3X-18.0X

Capitalization (9/30/87)

	Million	Percent		Million
Long-term Debt	$ 7.3	1.0%	Current Assets	$632.2
Deferred Taxes	27.4	3.9	Current Liabilities	174.2
Equity	674.2	95.1	Working Capital	$458.0
Total	$708.9	100.0%	Current Ratio	3.6:1

Shares Outstanding	98.6 Million
Float	98.6 Million Shares
Market Capitalization	$2,662.2 Million
Recent Average Daily Trading Volume	609,700 Shares
Fiscal Year Ends	September 30
Book Value/Share (12/31/87E)	$7.15
ROE (1987E)	17.4%

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Historical 5-Year EPS Growth Rate	12.2X
Projected 5-Year EPS Normalized Growth Rate	15%-18%
Estimated 1988 P/E Relative to S&P 400 P/E	1.05X
5-Year Historic Relative P/E Range	3.7X-0.9X

S&P 400: 370.65

SUMMARY

* Tandem reported third-fiscal-quarter results in line with our expectations. Revenues rose 31.4% to $264 million from $200.9 million last year. Earnings were $0.26 per share versus $0.20 last year and our $0.25 estimate.

* Order rates in the quarter approximated shipment levels, with particular strength in the retail market. The performance of the individual product families was somewhat mixed, with the high-end VLX series and the mid-range TXP products selling very well but with the new low-end LXN getting off to a slow start. Management is positioning the LXN as a network extender, which most likely will lengthen the sales cycle.

* Tandem maintains its leadership position in the on-line transaction

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processing market and should continue to generate strong revenues and earnings longer term. We are estimating fiscal 1987 fourth-quarter and full-year earnings at $0.30-$0.35 and $1.10 per share, respectively, and fiscal 1988 earnings at $1.40-$1.50 per share. We believe the shares are fairly valued at current levels. Nevertheless, Tandem's momentum in its niche markets should represent good longer term potential for capital appreciation, and we recommend holding the shares.

TEXT:

THIRD-FISCAL-QUARTER RESULTS

Third-quarter results were closely in line with our expectations. Total revenues increased 31.4% to $264 million from $200.9 million in fiscal 1986. Earnings were $0.26 per share compared with $0.20 a year ago and our $0.25 estimate. Line items were essentially as expected, although R&D expenditures were slightly below historical levels. Pretax margins were a healthy 17.0% in the quarter versus 16.3% a year earlier.

Order rates in the quarter closely approximated shipments, with demand in the retail market particularly strong. Management indicated that there were six new accounts in the retail sector and that major enhancements were being ordered

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from existing customers. The Communications and Securities sectors also were very strong. The VLX family of high-end processors did particularly well, with total revenues now closely approximating those from the highly successful mid-range TXP. Although the new low-end LXN has gotten off to a reasonably slow start from an order standpoint, it is primarily a network extender and thus likely to extend the selling cycle longer term. Momentum in the company's Alliance program remains quite strong.

We project fourth-quarter revenues at $275-$280 million and earnings at $0.30-$0.35 per share. The mid-point of our fiscal 1987 estimate range is $1.10 per share. We expect continued momentum in fiscal 1988, with earnings estimated at $1.40-$1.50 per share. In our opinion, Tandem is well positioned to maintain its leadership position in the on-line transaction processing market, and we would maintain current positions for potential long-term capital appreciation. We believe the stock's near-term price performance will reflect the market's willingness to extend higher multiple valuations for growth situations. However, the stock's multiple of 25X estimated fiscal 1987 earnings appears somewhat rich and could be a limiting factor in its near-term price performance.

TABLE I
TANDEM COMPUTERS
THIRD FISCAL QUARTER INCOME STATEMENT

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($ THOUSANDS)

	JUNE 30, 1987	1986	% CHANGE
PRODUCT REVENUES	218,838	163,361	34.0%
SERVICE & OTHER	45,140	37,492	20.4%
TOTAL REVENUES	263,978	200,853	31.4%
COST OF PRODUCT REVENUES	57,028	43,431	31.3%
COST OF SERVICE & OTHER	36,164	26,924	34.3%
RESEARCH & DEVELOPMENT	27,417	22,337	22.7%
MARKETING, GEN'L & ADMIN.	102,346	77,560	32.0%
TOTAL COSTS/EXPENSES	222,954	170,252	31.0%
OPERATING INCOME	41,024	30,601	34.1%
INTEREST INCOME, net	3,934	2,054	91.5%

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PRETAX INCOME	44,958	32,655	37.7%
TAXES	(19,341)	(14,531)	
TAX RATE	43.0%	44.5%	
NET INCOME	25,617	18,124	41.3%
EARNINGS PER SHARE	$0.26	$0.20	27.7%
AVG SHARES (MIL)	99.7	90.0	
AS % OF TOTAL REVENUE:			
PRODUCT REVENUES	82.9%	81.3%	
SERVICE & OTHER	17.1%	18.7%	
COST OF PRODUCT REVENUES *	26.1%	26.6%	
COST OF SERVICE & OTHER **	80.1%	71.8%	
RESEARCH & DEVELOPMENT	10.4%	11.1%	
MARKETING, GEN'L & ADMIN.	38.8%	38.6%	
TOTAL COSTS/EXPENSES	84.5%	84.8%	
OPERATING INCOME	15.5%	15.2%	
PRETAX INCOME	17.0%	16.3%	
NET INCOME	9.7%	9.0%	

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* AS A PERCENT OF PRODUCT REVENUES

** AS A PERCENT OF SERVICE AND OTHER REVENUES
Fiscal years end September 30.
Source: Company data; Oppenheimer & Co., Inc. estimates.

Note: This table may be divided, and additional information on a particular entry may appear on more than one screen.

TABLE II
TANDEM COMPUTERS INCORPORATED
EARNINGS MODEL
($ Mil.)

	1981	1982	% CHANGE
PRODUCT REVENUES	186.9	272.6	45.9%
SERVICE & OTHER	21.5	39.6	84.0%
TOTAL REVENUES	208.4	312.1	49.8%
COST OF PRODUCT	75.5	109.3	44.7%

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COST OF SERVICE & OTHER			
R&D	17.8	33.6	88.7%
MG&A	74.6	128.5	72.2%
TOTAL COSTS & EXPENSES	168.0	271.4	61.6%
OPERATING INCOME	40.4	40.7	0.8%
OTHER INCOME (NET)	10.7	6.0	-43.7%
PRETAX INCOME	51.1	46.7	-8.5%
TAXES	24.5	16.9	-31.2%
TAX RATE	48%	36%	
NET INCOME	26.5	29.9	12.5%
EARNINGS PER SHARE	$0.36	$0.38	6.2%
AVG. SHARES OUT. (MIL.)	74.1	78.4	
AS % OF REVENUES:			
PRODUCT REVENUES	89.7%	87.3%	
SERVICE & OTHER	10.3%	12.7%	
COST OF PRODUCT (A)	36.3%	35.0%	

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COST OF SERVICE & OTHER (B)		
R&D	8.6%	10.8%
MG&A	35.8%	41.2%
TOTAL COSTS & EXPENSES	80.6%	87.0%
OPERATING INCOME	19.4%	13.0%
INTEREST, net	5.1%	1.9%
PRETAX INCOME	24.5%	15.0%
NET INCOME	12.7%	9.6%

	1983	% CHANGE	1984	% CHANGE
PRODUCT REVENUES	360.1	32.1%	448.6	24.6%
SERVICE & OTHER	58.1	47.0%	84.0	44.5%
TOTAL REVENUES	418.3	34.0%	532.6	27.3%
COST OF PRODUCT	168.7	54.3%	218.8	29.7%
COST OF SERVICE & OTHER				
R&D	39.2	16.4%	52.5	34.1%
MG&A	160.6	25.0%	210.2	30.9%
TOTAL COSTS & EXPENSES	368.5	35.8%	481.5	30.7%

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OPERATING INCOME	49.8	22.3%	51.1	2.7%
OTHER INCOME (NET)	0.7	-87.9%	5.2	610.0%
PRETAX INCOME	50.5	8.0%	56.3	11.5%
TAXES	19.7	16.6%	23.1	17.2%
TAX RATE	39%		41%	
NET INCOME	30.8	3.2%	33.2	7.8%
EARNINGS PER SHARE	$0.38	-0.8%	$0.41	8.8%
AVG. SHARES OUT. (MIL.)	81.6		82.8	
AS % OF REVENUES:				
PRODUCT REVENUES	86.1%		84.2%	
SERVICE & OTHER	13.9%		15.8%	
COST OF PRODUCT (A)	40.3%		41.1%	
COST OF SERVICE & OTHER (B)				
R&D	9.4%		9.9%	
MG&A	38.4%		39.5%	
TOTAL COSTS & EXPENSES	88.1%		90.4%	
OPERATING INCOME	11.9%		9.6%	

free

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Jeffry Canin
Kathleen Charles

November 10, 1987

(NYSE-TDM)	Tandem Computers Incorporated						$21 1/2
52-Week Range	Market Value (M)	Fiscal Earnings Per Share			Calendar P/E		Trend-Line Growth Rate
		1986A	1987A	1988E	1987	1988	
$17-38	$2,140	$0.72	$1.08	$1.45	19	14	25%
Year Ends: September 30		DJIN: 1878.15		SPIN: 272.28			Note: f

Revenues (12 months):	$1,035 million	Return on Average Equity	16.8%
Shares Outstanding:	99.6 million	LT Debt/Total Capitalization:	1.2%
Annual Dividend:	nil	Current Yield	nil

- Tandem reports record fourth quarter results.
- Annual revenues top $1 billion.
- Expense controls yield best operating margins in seven years.
- We recommend long-term stock purchase based on 1988 outlook.

Company Crosses $1 Billion Annual Sales Hurdle

Tandem Computer, the leading vendor of fault-tolerant computers used for on-line transaction processing, reported record results for the fourth quarter and fiscal year 1987, ended September, in line with expectations, as highlighted in Exhibit 1. Quarterly revenues of $291 million, consisting of $241 million in product shipments and $50 million in service and other fees, increased 32% year-to-year and 10% sequentially. Compared with the comparable period last year, revenues rose 28% in the United States, 42% in Europe, and 30% in other geographic markets.

The company enjoyed particularly strong demand during the quarter in the financial, services, and communications sectors, which accounted for 33%, 18%, and 16%, respectively, of total sales. Exhibit 2 illustrates the distribution of the company's sales by market sector for each of the last two years. The fourth quarter was the best ever for Tandem in terms of new account activity, with over 50 first-time customers, including Nynex (the last of the Regional Bell Operating Companies to become a Tandem user), added to the roster. Over 280 third parties — primarily value-added resellers (VARs), OEMs, and

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application software vendors — currently participate in Tandem's Alliance program; eleven participants were added during the last quarter.

Exhibit 1

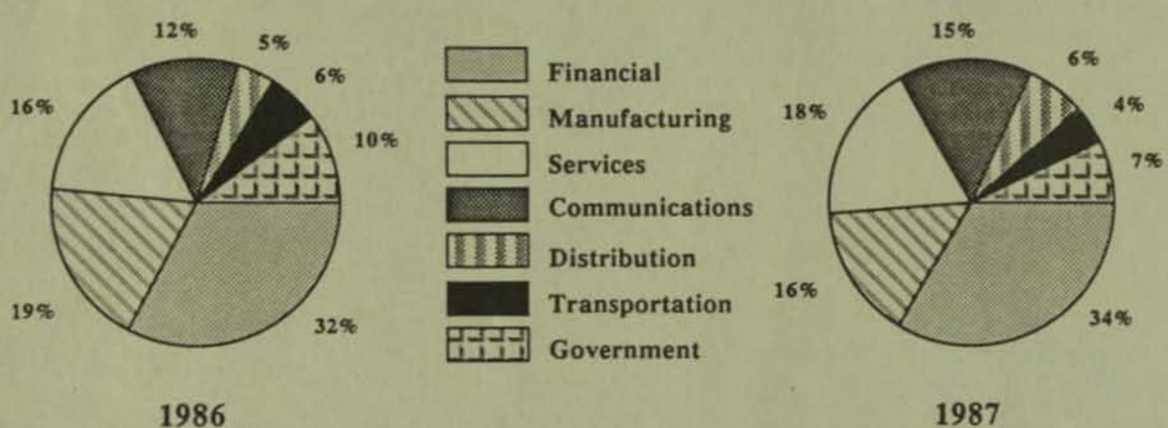
Tandem Computers

	Fourth Quarter Results				Year-to-Date: 12 Months		
	9/30/87	9/30/86	%Chg.	H&Q Est	9/30/87	9/30/86	%Chg.
Revenues	$291.1	$220.6	32	$282.3	$1,035.5	$767.8	35
Pretax income	53.0	38.5	38	53.2	184.9	114.5	62
Net income	30.4	21.6	41	30.3	105.6	63.8	66
Earnings per share	0.31	0.23	31	0.30	1.08	0.72	50
Average shares (mil)	99.6	92.5	8	100.5	97.7	88.4	11
Gross margin	66.1%	65.0%		65.2%	65.4%	63.5%	
Operating margin	16.8	16.4		17.4	16.5	13.8	
Pretax margin	18.2	17.4		18.9	17.9	14.9	
Tax rate	42.6	43.9		43.0	42.9	44.3	
Net margin	10.5	9.8		10.7	10.2	8.3	

Exhibit 2

Tandem Computers Incorporated

Revenues by Market Sector



Source: Tandem Computers

All of the company's current fault-tolerant models — the mid-range NonStop EXT and TXP and the high-end NonStop VLX — are reportedly meeting or exceeding the company's expectations. The low-end CMOS-based Nonstop CLX, currently in beta testing, has reportedly garnered significant customer interest; revenue shipments will commence shortly. The LXN, a 32-bit UNIX-based non-fault-tolerant system built to Tandem's specifications, does not appear, however, to be meeting with particularly robust acceptance among the company's customer base. The VLX is now marketed with up to 32 processor modules; during the fourth quarter, Tandem shipped one ten-processor and one twelve-processor configuration.

Gross margins of 66.1% (compared with our projected 65.2%) were up by 1.4% relative to the third quarter and over 1% year-to-year. These levels, the best achieved in the company's history, are attributable primarily to volume manufacturing efficiencies. Operating expenses, while up sharply in absolute dollars, were held steady as a percentage of sales with the preceding quarter. As a result, operating margins reached 16.8%, slightly below our projected 17.4% but above the levels achieved during the previous six months. Including net interest income of $4.2 million, pretax margins rose to 18.2%, up from 17.0% in the third quarter and 17.4% one year ago. Based on an effective tax rate of 42.6%, Tandem reported record earnings per share of $0.31 (in line with projections), up 31% over the year-ago quarter.

The company enjoys an extremely strong balance sheet. For the third consecutive quarter, Tandem was cash-flow positive, ending September with cash and equivalents totaling $317 million, or $3.19 per share. The company may spend upwards of $100 million to buy a number of its presently leased or new facilities. Receivables rose in absolute dollars to $255 million but have held steady for two quarters in terms of days outstanding at a healthy 80. Inventory levels rose by $11 million in the fourth quarter to $92 million, representing annual turns of 4.3 times. During the quarter, the company's headcount numbered 7,007, including a net addition of 327 employees, primarily in the area of direct sales and field support.

For the year, sales crossed the $1 billion hurdle, increasing 35% to $1.04 billion. Total revenues were split 83%/17% between product sales and service fees, proportions approximately equal to those of fiscal 1986. Gross margins improved by nearly 1% to 65.4%, while pretax margins rose an impressive 3% to 17.9%. Based on a tax rate of 42.9%, compared with 44.3% in fiscal 1986, earnings per share increased 50% from last year's $0.72 to $1.08.

Significant product announcements during the year included the new CLX and LXN hardware, the company's introduction of its high-performance NonStop SQL relational data base software, and the development of a high-speed SNA-compatible channel link between Tandem systems and IBM mainframes. Notable new strategic relationships established during the year include a VAR agreement with Ultimate Corporation (the leading vendor of Pick software-based systems); joint development agreements with EDS, MSA, and Boeing for the provision of integrated manufacturing automation applications; and the acqusition of privately held Atalla Coporation (a specialist in secure transaction and electronic fund transfer systems).

Outlook for 1988: Continued Growth

After five years of sequentially decreasing operating margins and relatively flat per-share earnings, the past two years represented an impressive financial turnaround for Tandem. We foresee continued top- and bottom-line growth for Tandem, albeit at a somewhat slower pace than experienced during the last year. We project sales of $1.3 billion and earnings per share of $1.45 in fiscal 1988, up 26% and 34%, respectively, over fiscal 1987. Tandem's largest industry sector will undoubtably remain the financial sector (particularly the banking segment); the company will focus increasing resources on addressing the needs of the telecommunications, manufacturing, retail, and health care sectors.

Our estimates represent a slight increase of $40 million in our single-point revenue assumption but no change in our EPS projection. Gross margins may decrease modestly in fiscal 1988 to 64.5-65.0%, while operating margins for the year are projected to equal fiscal 1987's 16.5%. We assume that the company's fiscal 1988 tax rate will be 36%, a reduction of approximately 7%.

No longer characterized as a niche player, Tandem has the product line, financial strength, and marketing momentum to become an increasingly significant factor in on-line transaction processing (OLTP), one of the fastest-growing sectors of the information processing industry. The company's biggest challenges ahead are related to (1) its ability to maintain momentum in the event of a prospective economic turndown, and (2) competition. Although numerous relatively small supermini companies are seeking OLTP market share (including, among others, Stratus, Pyramid, Sequent, and Computer Consoles), Tandem's most significant rivals for the foreseeable future will be IBM (which is marketing its own general-purpose, as well as Stratus's fault-tolerant, lines) and Digital Equipment Corporation (which is attempting to leverage its success in the scientific/engineering community with an aggressive push into the commercial arena).

We maintain our long-term purchase recommendation for Tandem shares. An undoubtably positive, full-day briefing for the financial community is scheduled for December 10, following which we will publish an update.

NOTES:

(f) Options are available on this issue.

Additional information on any security discussed is available on request.

TANDEM COMPUTERS
SALES AND EARNINGS MODEL
($ in thousands, except EPS)

JC
NOV. 10, 1987

Fiscal: September

	REV $	YR-TO-YR REVCHG %	GROSS MARGIN %	OPER INCOME $	OPER MARGIN %	PBT $	PBT MARGIN %	TAX RATE %	NET INCOME $	NET MARGIN %	EPS $	YR-TO-YR EPSCHG %	SHARES
1985-1Q	159,653	26%	57.1%	22,509	14.1%	24,397	15.3%	42.5%	14,028	8.8%	0.17	-29%	82,768
2Q	146,489	32%	56.2%	9,703	6.6%	11,276	7.7%	39.3%	6,841	4.7%	0.08	72%	84,312
3Q	144,165	2%	55.4%	540	0.4%	1,838	1.3%	-29.9%	2,388	1.7%	0.03	-87%	83,792
4Q	173,831	14%	58.7%	17,329	10.0%	18,839	10.8%	41.0%	11,117	6.4%	0.13	-54%	83,246
YEAR(A)	624,138	17%	57.0%	50,081	8.0%	56,350	9.0%	39.0%	34,374	5.5%	0.41	-49%	83,530
1986-1Q	170,061	7%	61.1%	19,315	11.4%	20,988	12.3%	44.5%	11,648	6.8%	0.14	-19%	84,354
2Q	176,327	20%	62.4%	19,998	11.3%	22,360	12.7%	44.5%	12,410	7.0%	0.14	76%	86,770
3Q	200,853	39%	65.0%	30,601	15.2%	32,655	16.3%	44.5%	18,124	9.0%	0.20	607%	90,006
4Q	220,552	27%	65.0%	36,064	16.4%	38,479	17.4%	43.9%	21,584	9.8%	0.23	75%	92,474
YEAR(A)	767,793	23%	63.5%	105,978	13.8%	114,482	14.9%	44.3%	63,766	8.3%	0.72	75%	88,402
1987-1QA	238,035	40%	65.8%	45,541	19.1%	48,388	20.3%	44.0%	27,097	11.4%	0.29	110%	93,586
2QA	242,368	37%	64.9%	35,293	14.6%	38,526	15.9%	41.7%	22,444	9.3%	0.23	60%	98,056
3QA	263,978	31%	64.7%	41,024	15.5%	44,958	17.0%	43.0%	25,617	9.7%	0.26	28%	99,652
4QA	291,114	32%	66.1%	35,293	12.1%	53,039	18.2%	42.6%	30,446	10.5%	0.31	31%	99,550
YEAR (A)	1,035,495	35%	65.4%	170,688	16.5%	184,911	17.9%	42.9%	105,604	10.2%	1.08	50%	97,711
1988-1QE	301,000	26%	64.4%	47,689	15.8%	51,289	17.0%	36.0%	32,825	10.9%	0.33	14%	99,700
2QE	307,000	27%	64.4%	46,398	15.1%	49,848	16.2%	36.0%	31,902	10.4%	0.32	40%	99,800
3QE	336,000	27%	64.7%	55,998	16.7%	59,298	17.6%	36.0%	37,951	11.3%	0.38	48%	99,900
4QE	356,000	22%	64.8%	62,312	17.5%	65,412	18.4%	36.0%	41,864	11.8%	0.42	37%	100,000
YEAR (E)	1,300,000	26%	64.6%	212,397	16.3%	225,847	17.4%	36.0%	144,542	11.1%	1.45	34%	99,850
1989-1QE	376,000	25%	64.5%	61,960	16.5%	64,660	17.2%	36.0%	41,382	11.0%	0.41	26%	100,100

BALANCE SHEET

	9/86	6/87	9/87
Assets:			
Cash & Equivalents	239,819	296,295	317,461
Accounts Receivable	197,658	232,675	254,758
Inventories	64,229	81,422	92,315
Other Current Assets	17,505	21,829	22,776
TOTAL CURRENT ASSETS	519,211	632,221	687,310
PP&E	175,022	230,763	252,801
Other Assets	10,792	20,121	27,130
TOTAL ASSETS	705,025	883,105	967,241
Liabilities & Stockholders Equity:			
Current Liabilities	133,991	174,218	191,770
Long Term Debt	6,526	7,290	9,013
Deferred	29,828	27,408	45,539
Stockholders Equity	534,680	674,189	720,919
TOTAL LIAB & S/E	705,025	883,105	967,241

QUARTERLY RATIOS

	9/86	12/86	3/87	6/87	9/87	4-QTR AVG
Return on Sales	9.8%	11.4%	9.3%	9.7%	10.5%	10.2%
Return on Assets	12.8%	14.6%	11.1%	11.9%	13.2%	12.6%
Return on Equity	16.8%	19.6%	14.9%	15.7%	17.5%	16.8%
R&D/Sales	10.7%	10.2%	10.7%	10.4%	10.6%	10.5%
Days O/S A/R	82	93	88	80	80	80
Inventory Turns	4.8	4.9	4.4	4.6	4.3	4.6
Days Sales in Inv	76	74	83	80	85	80
Book Value	$5.78	$6.13	$6.47	$6.77	$7.24	$6.43
Cash per Share	$2.59	$2.50	$2.91	$2.97	$3.19	$2.85
Current	3.9	3.4	3.6	3.6	3.6	3.7
Quick	3.3	2.9	3.0	3.0	3.0	3.1

Notes: (f) Options are available on this issue.

TANDEM COMPUTERS INCORPORATED
Income Statement
($ in 000s, except per share data)

JC
NOV. 10, 1987

Fiscal: September

	1979	1980	1981	1982	1983	1984	1985	1986	1987A	1988E
Product Rev		98,030	186,897	272,591	360,133	448,611	523,413	632,277	861,042	1,087,000
Service & Other		10,959	21,500	39,552	58,149	84,009	100,725	135,516	174,453	213,000
Revenue	55,974	108,989	208,397	312,143	418,282	532,620	624,138	767,793	1,035,495	1,300,000
Y-T-Y % Change		95%	91%	50%	34%	27%	17%	23%	35%	26%
Costs Rev	20,786	40,831	75,547	109,305	168,708	215,692	185,565	175,239	226,804	295,209
Pct Rev	37.1%	37.5%	36.3%	35.0%	40.3%	40.5%	29.7%	22.8%	21.9%	27.2%
Costs Svc							83,024	104,685	131,424	165,075
Pct Svc Rev							44.7%	59.7%	57.9%	77.5%
Gross Profit	35,188	68,158	132,850	202,838	249,574	316,928	355,549	487,869	677,267	839,716
Pct Rev	62.9%	62.5%	63.7%	65.0%	59.7%	59.5%	57.0%	63.5%	65.4%	64.6%
Expenses										
Product Dev	4,654	8,786	17,833	33,642	39,168	52,514	73,832	87,024	108,474	135,285
Mkt. G & A	20,828	40,049	74,626	128,488	160,635	213,313	231,636	294,867	398,105	492,035
Total	25,482	48,835	92,459	162,130	199,803	265,827	305,468	381,891	506,579	627,320
Pct Rev	45.5%	44.8%	44.4%	51.9%	47.8%	49.9%	48.9%	49.7%	48.9%	48.3%
Operating Inc	9,706	19,323	40,391	40,708	49,771	51,101	50,081	105,978	170,688	212,397
Pct Rev	17.3%	17.7%	19.4%	13.0%	11.9%	9.6%	8.0%	13.8%	16.5%	16.3%
Interest Exp (Inc)	(398)	(1,759)	(10,989)	(6,033)	(730)	(5,183)	(6,269)	(8,504)	(14,223)	(13,450)
Pretax Earnings	10,104	21,082	51,380	46,741	50,501	56,284	56,350	114,482	184,911	225,847
Pct Rev	18.1%	19.3%	24.7%	15.0%	12.1%	10.6%	9.0%	14.9%	17.9%	17.4%
Taxes	5,184	10,395	24,549	16,885	19,696	23,076	21,976	50,716	79,307	81,305
Tax Rate	51.3%	49.3%	47.8%	36.1%	39.0%	41.0%	39.0%	44.3%	42.9%	36.0%
Net Earnings *	4,920	10,687	26,831	29,856	30,805	33,208	34,374	63,766	105,604	144,542
Pct Rev	8.8%	9.8%	12.9%	9.6%	7.4%	6.2%	5.5%	8.3%	10.2%	11.1%
Shares	50,140	60,482	74,050	78,442	81,568	82,798	83,530	88,402	97,711	99,850
EPS *	0.10	0.18	0.36	0.38	0.38	0.40	0.41	0.72	1.08	1.45
Y-T-Y % Change		80%	105%	5%	-1%	6%	3%	75%	50%	34%

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June 1, 1987

Tandem Computers Inc. - Company Report
DONALDSON, LUFKIN & JENRETTE, INC. - Rooney, T.T.
04-21-87 (RN=707145)

April 21, 1987
DJIA: 2270.60
SPII: 331.37

TANDEM COMPUTERS INC. (TDM - 68)

Second Quarter, $0.46 versus $0.29 In Line;
Shares Apparently Fully Valued.

	Earnings Per Share			P/E Ratio		
52-Week Range	1986	1987E	1988E	1987E	1988E	Dividend
75-27	$1.44	$2.30	$2.90	29.6	23.5	Nil

Shares outstanding: 49.0 million
Market capitalization: $3,332 million

Summary

Tandem reported that revenues for the second quarter grew 37%, which allowed net income to rise an even more impressive 81%. Despite that impressive report, those gains were generally expected and were, in fact, modestly disappointing compared with some of the more bullish expectations on the Street. Business was strong both by region as well as product. For the fiscal year ending September 1987, we continue to estimate earnings of $2.30-2.35 a share, up from the $1.44 that was reported for fiscal 1986. In fiscal 1988, earnings should expand to $2.90. Selling at nearly 30 times this year's earnings and 24 times estimated earnings for 1988, Tandem's shares are hardly inexpensive. On the basis of our various valuation models, we believe that the shares are worth only $58-60. That means that they are overvalued by more than 10%. We remain neutral to negative on Tandem, because we believe that it is is now an expectations stock with an unattractive risk/reward.

Second-Quarter Results

1. Revenues increased 37.5% from the levels in the corresponding period a year earlier and 1.9% from the preceding quarter, which is seasonally stronger. Product sales expanded 38.3% from a year ago and 1.7% from December. The most recent period, however, included $2.7 million in revenue from manufacturing contracts (which means that real product shipments were flat sequentially). The $2.7 million relates to a contract with PC Limited, a personal computer manufacturer in Austin, Texas. Service/Support rose 33.8% from a year ago and about $1 million

(or 2.8%) from December. (See Table 1.)

2. International revenue was 42.7%, or $104 million of total revenue, compared with 42.6% or $75 million in the corresponding period a year ago. Driving this 38% increase was very strong growth (+73%) in the company's Canada/Far East segment. U.S. growth matched international growth. That growth was evident in most geographic areas particularly the central region, which showed solid gains in the second quarter.

3. A trailing 12-month-basis segment growth has finance (32% of FY 1986 revenues) up more than 60%, with much new business in the securities area, manufacturing (21% of FY 1986) up more than 40%, communications (12% of FY 1986) up more than 50%, and services (18% of FY 1986) up more than 40%.

4. On the margin side, TDM's year-over-year comparison in the quarter was impressive at the gross, operating, and net levels. Note, however, that that is likely to be the last such strongly favorable comparison because it was just about one year ago that TDM introduced its highly successfully VLX processor, which has tended not only to accelerate growth but also to inflate manufacturing margins. Sequentially, margins have been relatively flat since the June quarter of last year. Thus, over the longer term, comparisons will look less positive, though, given TDM's excellent modular manufacturing strategy and management, margins should remain very healthy. Since the company's goal is to sustain a 16-18% operating margin, spending jumped in the second quarter as the company invested more in the business after its 19% operating margin in the first quarter. SG&A increased 40% in the March quarter, compared with only 34% in December, and rose to 39.7% of revenues, as compared with 36.5% in the prior quarter. Employment grew 5.8% or by 346 people in the quarter. Also contributing to first-quarter spending were increased financing of third-party software and field upgrades of demonstration equipment.

5. Tandem's cash account rose by over $50 million in the quarter, augmented by about $13 million of free cash from operations, $38 million of employee stock contributions, and a $10-million prepayment from a customer. At 15% of the latest quarter's annualized revenue, TDM's ratio of working investment to revenue (non-cash current assets minus non-debt current liabilities/revenues) remains among the lowest in the computer industry and reflects the company's continued strong asset management. Currently, cash represents 34% of total assets, up from 27% a year ago. With cash investments returning only about 6% as compared with the more than 30% that TDM earns on its basic business, this trend is clearly one that management should attempt to reverse.

Table 1
Tandem Computers Inc.
Consolidated Statement of Income
(Dollars in thousands, expect per share)
[Part 1 of 2]

	Second Quarter 3/31		
	1987	1986	% Change
Product sales	$202,010	$146,109	+38.3%
Service/support	40,358	30,218	+33.8
Total revenue	$242,368	$176,327	+37.5%
CGS	$84,973	$66,254	+28.2%
Gross profit	157,395	110,073	+43.0
R&D expense	25,867	21,287	+21.6
SG&A expense	96,235	68,788	+39.8
Total expense	$122,102	$90,075	+35.5%
Operating profit	$35,293	$19,998	+76.5%
Other inc. (exp)	3,233	2,362	+33.3
Pretax profit	38,526	22,360	+71.9
Taxes	16,082	9,950	+61.0
Net profit	$22,444	$12,410	+80.7%
Earnings per share	$0.46	$0.29	+58.6
Shares outstanding (000)	49,028	43,385	+12.9%
% of revenue			
Gross profit	64.9%	62.4%	
R&D expense	10.7	12.1	
SG&A expense	39.7	39.0	
Operating profit	14.5	11.3	
Pretax profit	15.9	12.7	
Tax rate	41.7	44.5	
Net profit	9.3%	7.0%	

[Part 2 of 2]

	1987	1986	% Change
	Six Months 3/31		
Product sales	$400,735	$286,402	+39.9%
Service/support	79,668	59,986	+32.8
Total revenue	$480,403	$346,388	+38.7%
CGS	$166,391	$132,385	+25.7%
Gross profit	314,012	214,003	+46.7
R&D expense	50,182	41,134	+22.1
SG&A expense	182,996	133,556	+37.0
Total expense	$233,178	$174,690	+33.5%
Operating profit	$80,834	$39,313	+105.6%
Other inc. (exp)	6,080	4,035	+52.5
Pretax profit	86,914	43,348	+100.7
Taxes	37,373	19,290	+93.8
Net profit	$49,541	$24,058	+105.4%
Earnings per share	$1.04	$0.56	+85.7
Shares outstanding (000)	47,910	42,781	+11.9%
% of revenue			
Gross profit	65.4%	61.8%	
R&D expense	10.5	11.9	
SG&A expense	38.0	38.6	
Operating profit	16.8	11.4	
Pretax profit	18.1	12.5	
Tax rate	43.0	44.5	
Net profit	10.3%	7.0%	

Tandem's Emergence As A True Software Company:
The Rise of NONSTOP-SQL

In mid-March, TDM introduced NONSTOP-SQL, a highly innovative database management system that took an estimated 75 man-years to develop and that includes more than 700,000 lines of code. Available in the third quarter, for an initial license fee of $4,000-8,000, NONSTOP-SQL establishes TDM at the forefront of the software industry and represents the vehicle by which the company hopes to reverse the seemingly unending downward spiral of industry price and performance. If vendors are unable to create new demand equal to or greater than the annual price/performance declines that have characterized the industry, revenue growth will decline. Driving this steady decline is the proliferation of microprocessor-based systems that use either off-the-shelf processors (like those from Motorola and Intel) or proprietary processors like those produced by TDM, DEC and NCR. With the price per transaction falling 20-25% a year, companies like Tandem will have a difficult time sustaining annual growth of 15-20%, let alone the 30% plus growth it now enjoys. To offset this steady downward trend, companies must increase the demand from current users while targeting new markets in which the levels of hardware saturation are substantially less. NON-STOP-SQL is one of TDM's responses to this challenge. In our opinion, it is likely to be very successful.

NONSTOP-SQL has three key features that differentiate it from the competition: (1) the ability to update distributed databases; (2) the ability to protect these databases from system failures; and, (3) the ability to recover aborted transactions in the distributed database. These features have eluded others, particularly IBM (**), which has been a leader in transaction processing. The key reason that Tandem has succeeded where IBM and others have failed is, in our opinion, the fact that its operating system (Guardian) is a message-based operating system, which is consistent with the message-based design of SQL. IBM, however, uses a layered approach with numerous different facilities. Such an approach is more cumbersome, resource-intensive, and centralized (as opposed to distributed). Ironically, only a few years ago, TDM was criticized for its message-based architecture, with many arguing that future benefits would accrue to vendors like Stratus because their systems architectures were better able to take advantage of declining hardware prices. While that may have been true a few years ago, the rapid evolution of semiconductor technology and design capabilities has diminished this advantage. Moreover, the key now and in the future will lie in software, an area where TDM is demonstrating its clear expertise.

With NONSTOP-SQL and expected extensions, TDM is now in a better position to sell to larger corporations, particularly in the communications, airline, and banking industries. (Those markets have traditionally been dominated by IBM, which runs its TPF, or ACP facilities on mainframes). Historically, TDM has performed well in these markets, but its success has been in automating "islands" like cash management rather than entire corporations. We believe that the combination of VLX and NONSTOP-SQL could well start to change that tendency in 1988. By various estimates, TDM's competing VLX and NONSTOP-SQL cost only 30-40% of the price of the comparable IBM 3090 with DB2. Furthermore, TDM offers a distributed solution with a number of unique features, including fault tolerance.

With respect to DEC, the question is whether TDM can overcome DEC's current momentum with a better mousetrap? DEC is expected to introduce improved versions of its VMS operating system as well as new cluster technology, both designed to improve its presence in on-line transaction processing (OCTP). In the end, DEC may prove to be a greater challenge than IBM. In any case, NONSTOP is a major positive for TDM and should provide a solid vehicle for new market penetration, which is critical if the company is to sustain revenue growth of 15-20% over the next five years despite steady 20-25% declines in hardware price/performance.

Investment Conclusion

Selling at 25 times our projection for earnings over the next four quarters (an average ROE of 18%), the shares of TDM appear to be fully valued. Our valuation models indicate that the shares should be trading

TABLE 2

TANDEM COMPUTERS INC. (TDM)

[Part 1 of 5]

FY SEP.	SALES	PRETAX INCOME	NET INCOME	EPS (P) EXCL. ADJUSTED	STOCK-HOLDERS' EQUITY	BK. VALUE PER SHARE ADJUSTED
77	7.7	0.3	0.2	0.01	2.7	0.73
78	24.3	4.4	2.2	0.10	15.5	0.70
79	56.0	10.1	4.9	0.20	31.5	1.26
80	109.0	21.1	10.7	0.35	70.3	2.34
81	208.4	51.1	26.5	0.72	204.8	5.63
82	312.1	46.7	29.9	0.76	251.0	6.67
83	418.3	50.5	30.8	0.76	311.0	7.86
84	532.6	56.3	33.2	0.81	375.1	9.24
85	624.1	56.4	34.4	0.82	420.4	10.16
86	767.8	114.5	63.8	1.44	534.7	12.17
87E	995.0	198.0	111.0	2.27	645.7	13.18
88E	1,195.0	222.0	140.0	2.90	785.7	16.03

[Part 2 of 5]

FY SEP.	COMMON SHARES ADJUSTED	PRICE DEC. 31st ADJUSTED	REVENUE GROWTH %YA	PRETAX MARGIN %	AFTERTAX MARGIN %
77	3.8	2.625	-	4.3%	2.1%
78	22.1	4.125	216.0%	18.1%	8.9%
79	25.0	7.083	130.3%	18.1%	8.8%
80	30.1	25.333	94.7%	19.3%	9.8%
81	36.4	27.750	91.2%	24.5%	12.7%
82	37.6	25.375	49.8%	15.0%	9.6%
83	39.6	35.125	34.0%	12.1%	7.4%
84	40.6	19.500	27.3%	10.6%	6.2%
85	41.4	22.250	17.2%	9.0%	5.5%
86	43.9	34.250	23.0%	14.9%	8.3%
87E	49.0	67.500	29.6%	19.9%	11.2%
88E	49.0	67.500	20.1%	18.6%	11.7%

closer to $60 than $70. The difference can be attributed to TDM's strong current momentum. Therefore, while we commend management for their job in putting TDM in as good a position as it is in today, we see little opportunity for investors to make money in the shares over the next 6-12 months. We remain neutral to negative on this stock because we believe that the company will have to run fast just to meet expectations over the next year. Our fiscal 1987 estimate remains at $2.30-2.35 per share, and our estimate for fiscal-year 1988 is $2.90.

[Part 3 of 5]

FY SEP	EPS GROWTH %YA	P/E X	P/B X	P/S X	ROE %	ROE/(P/B) %
77	-	262.5	3.6	1.3	5.8%	1.6%
78	900.0%	41.3	5.9	3.7	23.6%	4.0%
79	96.7%	36.0	5.6	3.2	20.9%	3.7%
80	79.7%	71.7	10.8	7.0	21.0%	1.9%
81	103.8%	38.5	4.9	4.8	19.3%	3.9%
82	5.6%	33.4	3.8	3.1	13.1%	3.4%
83	0.0%	46.2	4.5	3.3	11.0%	2.5%
84	6.6%	24.1	2.1	1.5	9.7%	4.6%
85	1.2%	27.1	2.2	1.5	8.6%	3.9%
86	75.6%	23.8	2.8	2.0	13.4%	4.7%
87E	57.3%	29.8	5.1	3.3	18.8%	3.7%
88E	28.0%	23.3	4.2	2.8	19.6%	4.6%

(*) Dollars in millions except per share amounts.
(*) Data restated. Fiscal 1984 excludes DISC benefit of $9.7 million or $0.23 per share.
(*) Adjusted for stock splits.
(*) F87e & F88e stock price as of 04/19/87.

[Part 4 of 5]
RELATIVE ANALYSIS

	P/E	P/B	ROE	ROE/(P/B)	RVA
FY	TDM/SPIN	TDM/SPIN	TDM/SPIN	TDM/SPIN	TDM/SPIN
77	NM	282.6%	40.0%	14.1%	NM
78	501.7%	487.9%	155.0%	31.8%	323.7%
79	484.8%	458.5%	120.7%	26.3%	401.8%
80	748.3%	760.2%	134.8%	17.7%	555.1%
81	470.5%	417.6%	129.4%	31.0%	363.7%
82	279.6%	286.3%	116.4%	40.7%	240.1%
83	366.5%	293.4%	89.4%	30.5%	409.9%
84	233.9%	140.5%	65.8%	46.9%	355.4%
85	177.5%	117.8%	70.5%	59.8%	251.8%
86	133.9%	141.7%	115.2%	81.3%	116.3%
87E	159.4%	222.5%	148.2%	66.6%	107.5%
88E	144.1%	196.6%	142.4%	72.4%	101.2%

RVA = (REL. P/E) / (REL. ROE)

[Part 5 of 5]

EARNINGS PERSPECTIVE

EARNINGS PER SHARE

FY	1	2	3(*)	4	YEAR
1984	$0.24	$0.05	$0.23	$0.29	$0.81
1985	$0.34	$0.16	$0.06	$0.27	$0.82
%YA	41.7%	220.0%	-73.9%	-6.9%	1.8%
1986	$0.28	$0.29	$0.40	$0.47	$1.44
%YA	-17.6%	81.3%	566.7%	74.1%	74.7%
1987E	$0.58(A)	$0.46(A)	$0.62	$0.68	$2.34
%YA	107.1%	58.6%	55.0%	44.7%	62.5%
1988E	$0.72	$0.60	$0.75	$0.80	$2.87
%YA	24.1%	30.4%	21.0%	17.6%	22.6%

(*) Current quarter
(A) = Actual

TABLE 3
ANALYSIS OF OPERATIONS

[Part 1 of 2]

TANDEM COMPUTERS (SEP) ($ Thousands)	1981	1982	1983	1984
Revenues	208,397	312,143	418,282	532,620
Operating income	40,391	40,708	49,771	51,101
Other income	10,707	6,033	730	5,183
Pretax income	51,098	46,741	50,501	56,284
Taxes (+)	24,549	16,885	19,696	23,076
Net income	26,549	29,856	30,805	33,208

(+) F84 excludes DISC benefit ($9.7 million).

Cash	89,806	24,816	93,501	106,862
Accounts receivable	70,671	98,810	119,558	146,342
Inventory	54,543	101,335	85,920	92,375
Gross plant	44,339	107,466	132,772	191,755
Depreciation	8,434	18,080	33,991	50,253
Net plant	35,905	89,386	98,781	141,502
Other	5,046	23,019	17,765	14,792
Total operating assets	161,119	289,531	304,259	380,219
Total assets	255,971	337,366	415,525	501,873
Short term debt (*)	682	2,060	3,335	15,025
Long term debt (#)	2,054	21,102	23,957	17,155
Deferred taxes	8,143	18,063	23,966	20,422
Total debt	10,879	41,225	51,258	52,602
Stockholders' equity	204,810	250,988	310,993	375,122
Employees	2,730	3,821	4,396	5,223

	1981	1982	1983	1984
Operating Margin	19.4%	13.0%	11.9%	9.6%
Pretax Margin	24.5%	15.0%	12.1%	10.6%
Operating asset turn	1.75	1.39	1.41	1.56
Net asset turn	1.19	1.05	1.11	1.16
Return on operating assets	33.9%	18.1%	16.8%	14.9%
Return on net assets	29.1%	15.8%	13.4%	12.3%
Receivable turnover	3.68	3.68	3.83	4.01
Inventory turnover	5.52	4.00	4.47	5.97
Net plant turns	8.35	4.98	4.45	4.43
Depreciation/ Gross plant	19.0%	16.8%	25.6%	26.2%
Tax rate	48.0%	36.1%	39.0%	41.0%

Debt/Equity	5.9%	11.4%	16.5%	15.1%
Operating assets/ Equity	0.87	0.99	1.06	1.00
Net assets/Equity	1.28	1.30	1.34	1.34
Return on equity	19.3%	13.1%	11.0%	9.7%
Revenue/Employee	101.24	95.30	101.81	110.74
Operating profit/ Employee	19.62	12.43	12.11	10.63
Total assets/Employee	124.35	103.00	101.14	104.35

TABLE 3
ANALYSIS OF OPERATIONS

[Part 2 of 2]

TANDEM COMPUTERS (SEP) ($ Thousands)	1985	1986
Revenues	624,138	767,793
Operating income	50,081	105,978
Other income	6,269	8,504
Pretax income	56,350	114,482
Taxes (+)	21,976	50,716
Net income	34,374	63,766

(+) F84 excludes DISC benefit ($9.7 million).

Cash	128,676	239,819
Accounts receivable	163,378	197,658
Inventory	78,962	64,229
Gross plant	241,344	282,125
Depreciation	80,746	107,103
Net plant	160,598	175,022
Other	20,730	28,297
Total operating assets	402,938	436,909
Total assets	552,344	705,025
Short term debt (*)	7,049	5,969
Long term debt (#)	12,412	6,526
Deferred taxes	32,718	29,828
Total debt	52,179	42,323
Stockholders' equity	420,408	534,680
Employees	5,494	5,719

	1985	1986	3-YR MOVING AVERAGE '84-'86	TDM 4-QTR. MOVING AVERAGE
Operating Margin	8.0%	13.8%	10.47%	16.36%
Pretax Margin	9.0%	14.9%	11.50%	17.53%
Operating asset turn	1.59	1.83	1.66	1.89
Net asset turn	1.18	1.22	1.19	1.21
Return on operating assets	12.8%	25.2%	17.65%	30.98%
Return on net assets	10.7%	18.2%	13.72%	21.25%
Receivable turnover	4.03	4.25	4.10	4.10
Inventory turnover	7.29	10.72	7.99	13.09
Net plant turns	4.13	4.58	4.38	4.82
Depreciation/ Gross plant	33.5%	38.0%	32.54%	37.68%
Tax rate	39.0%	44.3%	41.43%	43.53%

Debt/Equity	13.2%	9.9%	12.73%	7.63%
Operating assets/ Equity	0.98	0.88	0.95	0.85
Net assets/Equity	1.33	1.32	1.33	1.33
Return on equity	8.6%	13.4%	10.56%	15.95%
Revenue/Employee	116.48	136.95	121.39	Incl. Mar. Qtr.
Operating profit/ Employee	9.35	18.90	12.96	
Total assets/Employee	103.08	125.75	111.06	

(**) DONALDSON, LUFKIN & JENRETTE SECURITIES CORPORATION MAKES A MARKET IN THIS SECURITY, HAS PERIODIC POSITIONS IN THIS SECURITY IN CONNECTION WITH THIS ACTIVITY AND MAY BE ON THE OPPOSITE SIDE OF PUBLIC ORDERS EXECUTED ON THE P.S.E. IN THE STOCK.

Tandem, financial

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
May 11, 1987

Tandem Computers, Inc.

Tandem is a leading supplier of minicomputers for transaction processing. David Rynne, chief financial officer; Jerry Dusa, director of marketing; and Dennis McEvoy, vice president of software development; made presentations to our group.

Revenue in fiscal 1986 was $768 million and the pretax margin improved to 15%. For fiscal 1987 the company expects strong revenue and earnings growth. Management's goal is to achieve 16-18% operating profit margins (higher pretax) and if the year continues to be as strong as it has started, the company may reach such goals this year. Tandem has $240 million of cash with almost be debt; management believes that if the company grows faster than 25% per year it will need cash. The present cash position means the company has no need to limit its growth rate in any way.

Gross margins are benefiting from higher percentage of new products (both processor and peripherals) in the mix. In terms of products, the VLX high end continues to do well while the EXT 10 and 25 are doing better than expected. Geographically international continues strong; it has moved from 30% of total revenues to 40% over a 15-month period. The sales reorganization is now well settled but a sequentially slightly down March quarter can be expected.

The current cash position, its should be noted, is after buying two buildings for $15 million.

Approximately 45% of Tandem's revenues are from international markets; the company has 160 locations throughout the world for sales. While finance remains the largest market for the company (banking was about 27% of revenues in the first quarter and other financial accounted for 10% of revenues), manufacturing has been increasing significantly as a revenue contributor (19% in the first quarter). Telecommunications is a relatively new market for Tandem and accounted for about 11% of revenues in the first quarter. GTE is one of the company's largest single accounts.

Government, particularly state and local governments, is coming on as important customers for on-line applications. The company views insurance and brokerage firms as important potential markets for its products with their transaction orientation.

According to Tandem, it is increasingly important to be viewed by customers as a provider of solutions. Tandem's Alliance program to encourage existing third-party software developers to write for Tandem computers has been very successful. Future partnerships in products and technology and perhaps in marketing are envisioned by management. The company's goal is to reinforce its leadership position in on-line transaction processing.

Tandem computer architecture is the framework for on-line transaction processing. It provides modular expandability, linear performance, geographic independence, data integrity and continuous availability. Tandem's NonStop VLX system is designed for high-volume transaction processing; the base system provides 40 ET1 transactions per second. Developments in the VLX line can be expected to use VLSI technology, high-speed fiber optics and a high-speed interprocessor bus.

The Non Stop EXT 10/25 is a compact, low-cost system. Plans call for this system to be extended downward. In the future, 90% of the components are intended to be user serviceable and the equipment is expected to have dramatic improvements in reliability.

New products expected this year include new low-end systems in hardware and SQL query language software for data bases. The low-end systems will have more power, dramatically fewer circuit boards and floor space, lower cost and fit in an office environment. The idea is to populate nodes for the network and true distributed processing. Industry-standard SQL similarly will make distributed data bases much more effective.

In sum, the outlook for Tandem is strong. The company recognizes that in this industry it is a small company and it is imperative to get big. Trailing 12 month revenues are up 32%, but we feel this is coming off a depressed period and is not a growth rate. The DBL estimates for fiscal (September) 1987 are $2.30 per share and for fiscal 1988 $3.00 per share.

Securities mentioned in this Report

Company	Symbol	Exchange	Contest Price 3/6/87	Current Price 3/19/87	DBL Rating
Amdahl (N)	AMH	ASE	39	37 3/4	N-1
National Semiconductor (N)	NSM	NYSE	15 1/4	16 3/8	N-1
Comdisco, Inc. (N,U,B,W,C)	CDO	NYSE	27	26 5/8	NR
Cray Research (N)	CYR	NYSE	127	122 5/8	N-1
Convergent Technologies (N,M)	CVGT	OTC	10 3/8	10	N-1
MAI Basic Four (U,V)	MBF	NYSE	17	17 1/4	NR
Sun Microsystems (N)	SUNW	OTC	29 1/8	30 1/2	NR
Tandem Computers (N,M)	TNDM	OTC	67 1/8	70 1/2	N-1
Atari Corporation	ATC	ASE	25 1/2	27 1/4	N-1
CMS Enhancements	ACMS	OTC	1 1/4	1 5/8	NR
Tandon Corporation (M)	TCOR	OTC	3 3/4	4	N-2
Wyse Technology	WYSE	OTC	28 7/8	25 1/4	NR
Network Systems Corporation (N)	NSCO	OTC	16 5/8	15 7/8	N-1
Novell, Inc.	NOVL	OTC	41 1/2	40	NR
Maxtor Corporation	MXTR	OTC	29 1/8	29	NR
Quantum Corporation	QNTM	OTC	33	31 1/2	N-1
Seagate Technology (N,*)	SGAT	OTC	35 1/4	34 3/4	NR
Alloy Computer Products (M,U)	ALOY	OTC	8 1/2	8	NR
Cipher Data Products (N)	CIFR	OTC	15 5/8	14 1/8	B/H
S & P 500			290.66	294.08	

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
May 25, 1987

Tandem Corporation - Company Report
DREXEL BURNHAM LAMBERT INCORPORATED - Orr, J.W.
04-21-87 (RN=707023)

TANDEM COMPUTERS, INC.
(TDM - $64)
Second Quarter Earnings:
A Little Less Than Expected

Rating:	Neutral-1	Shares outstanding:	49.0 million
52-Week Range:	75 1/4-27 1/4	Dividend: None	Yield: None
EPS 1986A:	$1.44	P/E 1986A: 44.4x	
1987E:	$2.30	1987E: 28.8x	
1988E:	$3.00	1988E: 21.3x	
Projected 5-year growth rate:	17.0%	Operating return on tangible assets:	21.4%
Market proxy ROR1:	2.5%	Total debt/equity:	1.2%
Company ROR1:	(15.5)%	Return on equity:	11.9%
Market cycle beta:	1.71	Reinvestment rate:	11.9%

Fiscal year ends September.

POINT OF VIEW

Tandem's earnings for the second quarter of fiscal 1987 were a little less than we had expected even though revenues were higher than our projection. However, the increase in expenses appears to us to be controlled and we believe the margins will show modest improvement in the remainder of the year. We are making no change in our fiscal 1987 and 1988 estimates at this time and continue to rate the stock Neutral-1 based on its current valuations.

Discussion

In the second quarter of fiscal 1987 Tandem revenues increased 37.5% to $242.4 million compared with $176.3 million a year ago. Product revenues showed the biggest gain, up 41.5% from $142.8 million to $202.0 million this year as service and other revenues increased 20.2% from $33.6 million to $40.4 million. Net income was $22.4 million, or $0.46 per share, up 57.8% from $12.4 million, or $0.29 per share, in the second quarter of fiscal 1986. Although revenues were higher than we had anticipated, net income was less than our expectation due to higher costs related to services revenues and higher marketing, general and administrative expenses. Business continues to be strong, however, and we are making no changes in our estimates for Tandem at this time.

Product revenues benefited from strong processor demand in the second quarter. International accounted for 42% of Tandem's revenues with international revenues up over 47% from a year ago while domestic revenues increased more than 30% in the quarter. Domestic business has shown some firming in the most recent quarter while the rate of growth in Europe has declined somewhat. Tandem has cut some prices overseas reflecting the change in the value of the dollar to foreign currencies. Japan and the other foreign markets have been strong for the company. Communications revenues grew 50.3%, securities revenues 63.4% and banking revenues 64.7% in the most recent quarter.

The gross margin on services declined in the quarter largely due to building the service organization particularly overseas. Since the margin is somewhat volume related, it is expected that the gross margin on services should increase during the remainder of the year. Marketing, general and administrative expenses increased more than revenues as the company invested in some new projects, upgraded some of its demo equipment and funded more software developers.

Tandem's balance sheet remains extremely strong with cash at $286 million, long-term debt and capitalized leases at $8.4 million and shareholders' equity of $634.5 million ($12.94 per share). In the second quarter capital expenditures were $22.4 million; the budget for the year is $70 million excluding the possible purchase of buildings which the company is currently negotiating. Employees increased by 5.8% in the quarter to 6,296 from 5,950 at the end of December. Most of the increase was in the service, marketing and R & D organizations; the company expects to increase the employee count by 18-20% in fiscal 1987.

Outlook

With demand continuing to be strong, the gross margin on services increasing and more moderate gains in M G & A expenses for the rest of fiscal 1987 we are maintaining our earnings estimate of $2.30 for the year. Our preliminary estimate for fiscal 1988 is $3.00 which assumes another strong revenue gain but, more importantly, a lower tax rate by about five points. We continue to believe our outlook for the company is reflected in the current stock price and we are maintaining our Neutral-1 rating on the stock at this time.

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Tandem Computers : Buy

Second Quarter and Full-Year Estimated Earnings Per Share Changes (1)

	From	To	Change	Versus
Second quarter 1987	$0.47	$0.49	$0.02	$0.29
1987	2.35	-	-	1.44
1988	2.95	-	-	2.35

(1) Expected to report: April 13th.

Comment - Second fiscal quarter estimate $0.49 versus $0.29, up 62%. The Street is clustering around estimates of $0.47, so we believe it would take earnings above $0.50 to move the stock. Anything below $0.45 would disappoint, but the company is fastidious about avoiding downside surprises, so we don't look for one.

We recently boosted our fiscal 1987 estimate by a dime and our fiscal 1988 outlook by 45 cents. This recognizes the momentum of Tandem's new products, new sales staff, and new markets, which are growing TNDM's revenue line at a clip closer to 30% than 20%. In particular, the company's new networking products, workstations, and replacements sales with its $1 million VLX are hot. Tandem sells computers that deliver real productivity gains with good cost controls and without a lot of competition, and analysts keep moving up their estimates to reflect that success. Given the leverage in Tandem's cost structure and its small revenue base, several large contracts could make earnings exceed even our new estimates. F1986 $1.44, up 75.6%; F1987E $2.35, up 63.2%, F1988E $2.95, up 25.5%.

Tandem, financial

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
May 18, 1987

Minicomputer Monthly Review
(continued)

Table 2
Possible Results By Fiscal Quarter for Tandem in F1987
$ in millions, except per share data

[Part 2 of 3]

	Q1E F1987 ($)	Q2E F1987 ($)	Q3E F1987 ($)	Q4E F1987 ($)
Equipment Sales	198.7	193.0	218.0	237.5
Service Revenues	39.3	40.0	41.0	42.5
Net Sales	238.0	233.0	259.0	280.0
Less:				
Cost of equipment	53.6	53.6	61.2	66.7
Cost of service	27.8	28.8	29.5	30.4
Marketing, general & administrative	86.8	88.0	97.5	104.5
Research & development	24.3	24.4	26.0	27.4
Interest income (net)	2.8	3.0	3.2	3.4
Pretax income	48.3	41.2	48.0	54.4
Income tax	21.3	18.1	21.1	20.7
Effective tax rate	44.0	44.0	44.0	38.0
Net income	27.0	23.1	26.9	33.7
Earnings per share	0.58	0.49	0.56	0.70
Average shares outstanding	46.8	47.4	47.8	48.2
Percent of Sales				
Equipment sales	83.5	82.8	84.2	84.8
Service revenues	16.5	17.2	15.8	15.2
Cost of equipment	27.0	27.8	28.1	28.1
Cost of service	70.7	72.0	72.0	71.5
Marketing, general & administrative	36.5	37.8	37.6	37.3
Research & development	10.2	10.5	10.0	9.8
Interest	1.2	1.3	1.2	1.2
Pretax income	20.3	17.7	18.5	19.4
After-tax income	11.3	9.9	10.4	12.0

[Part 3 of 3]

	% Change			
	Q1 versus Q1 (%)	Q2 versus Q2 (%)	Q3 versus Q3 (%)	Q4 versus Q4 (%)
Equipment Sales	41.6	32.0	33.5	30.1
Service Revenues	32.1	32.7	9.2	12.0
Net Sales	39.9	32.1	29.0	27.0
Less:				
Cost of equipment	23.8	29.2	40.9	41.9
Cost of service	21.8	16.3	9.6	0.7
Marketing, general & administrative	34.0	28.0	25.8	24.7
Research & development	22.4	14.4	16.6	16.1
Interest income (net)	67.4	27.0	55.8	40.8
Pretax income	130.1	84.3	47.0	41.4
Income tax	-328.1	-282.2	-245.3	-222.4
Effective tax rate				
Net income	131.8	85.9	48.3	56.3
Earnings per share	106.0	67.9	40.6	48.8
Average shares outstanding	12.5	10.7	5.5	5.0
Percent of Sales				
Equipment sales	0.5	-1.9	0.5	-1.9
Service revenues	-2.3	9.4	-2.3	9.4
Cost of equipment	-8.0	-6.3		
Cost of service	7.1	-12.7		
Marketing, general & administrative	2.4	-1.0		
Research & development	3.7	-8.3		
Interest	36.2	-23.7		
Pretax income	2.8	28.2		
After-tax income	2.8	28.2		

Note: Fiscal Year Ends Sept. 30.

Tandem, Financial Analyst

BEAR STEARNS

Computer Industry Outlook

March 13, 1987

Jonathan Fram (952-5068)
Louis Giglio, Market Research (952-6916)

We recently visited with Tandem Computers (TNDM-70), Digital Equipment (DEC-168), Apple Computer (AAPL-66), Tolerant Systems (a privately-held company) and Banyan Systems (a privately-held company). Below we have summarized our conclusions stemming from the DEC and Tandem visits.

Tandem: The Most Significant Wave of Demand Has Just Arrived

Tandem's systems are on the eve of experiencing a **third major wave** of demand in the broad commercial marketplace. More significantly, this wave of demand will be the most prolonged and the largest that the company has experienced to date. Simply put, the Tandem's architecture is propelling the company ahead of the industry in networking and distributed database technologies, which are perhaps the most significant factors in commercial data processing today.

All three waves of demand for Tandem's systems stem from the way in which the company applies multiple processors to a single job stream and single set of data. The first wave of demand stemmed from the "fault-tolerant" nature of this architecture. If one processor in a 10 processor complex failed, then the other nine processors would handle the workload uninterrupted. The second wave of demand stemmed from the fact that Tandem is the only system in which a customer can add processors and achieve linear growth in performance virtually without bound.

But, it is this third wave of demand which truly shows the visionary nature of the Tandem architecture. For Tandem is the only system with which customers can geographically distribute processors and data (much in the way user organizations are dispersed) yet the user perceives that all of the data and processing power are locally attached. This capability underlies the reason that Tandem systems have been used in the majority of intelligent, value-added networks implemented in recent years.

Tandem will build on its inherent networking advantage when its unveils a major contribution to database technology. The company is about to announce its distributed version of the SQL database language, which will enable both reading and updating of data at remote sites, with queries originating from any node in the network. In essence, a single copy of the data will exist throughout the system, and will, therefore, provide the same data integrity as would exist if a single copy of data simply resided on a single mainframe processor. Distributed database systems are transaction processing applications which naturally lend themselves to Tandem's architecture.

Tandem will also extend its architectural umbrella to the Unix world with its multiple processor "FALCON" system. Tandem has recognized the burgeoning importance of UNIX and will likely soon unveil a major parallel processor optimized for this environment.

A Mainstream Vendor

Another key market trend bodes well for Tandem. Recent major wins for the company suggest that Tandem's systems are no longer cast in the role of a "front-end" to a mainframe or the gateway to a network. Multimillion-dollar contracts in recent months at Bank of Tokyo, Chevrolet, First National Bank of Chicago and Texaco illustrate how Tandem is now appropriately chosen for the mainstream system itself. This more complete role of Tandem system is, in part, due to the increased customer sophistication with regard to computers which has resulted in an increased appreciation of and dependence on the Tandem architecture for critical applications.

Refreshing the Installed Base

An additional boost to Tandem's base revenue level is being furnished by a phenomenon not experienced by the company in the past. Because customers had the capability to grow their Tandem system by adding additional processors, the company did not churn the customer base when it announced a new product. This attribute, of course, was a major marketing advantage versus the competition which required that the customer swap out old boxes when performance upgrades were required.

Now, for the first time we are witnessing a meaningful replacement of Tandem's installed base. This replacement of the installed base is due to the dramatically improved price/performance of the VLX system when compared with earlier implementations of the Tandem architecture. For example, while TTL version of the Tandem architecture might yield systems that cost $40,000/transaction per second, the VLX costs about half that amount.

Different Competition

Because of the new applications of Tandem's systems in networking and distributed computing applications, we are seeing less direct competition with Stratus Computer (STRA-35) in strict fault-tolerant applications (where Stratus tends to win in single node environments). As a result, investments in both stocks are not mutually exclusive; in fact, we continue to recommend purchase of Tandem Computers and Stratus Computer.

Competition for Tandem is increasing from Digital Equipment's VAX cluster. The cluster is the closest thing in the industry to Tandem's networked multiple processor architecture. Today, DEC's multiple processing system is at a much more primitive level than Tandem's system. The VAX cluster does allow for the sharing of disk drives at the file level. Missing is record level sharing (record level lockout) and a transaction protection scheme to roll back a transaction to the state that these data were in prior to the initiation of the transaction. We believe that DEC is about a year away from record-level lockout in the cluster, and several years away from transaction protection.

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April 21, 1987

TANDEM COMPUTERS INCORPORATED (NYSE-TDM) $64

52-Week Range	Market Val. (mil.)	Fiscal EPS 1986A	1987E	1988E	Calendar P/E 1987	1988	Trend-Line Growth Rate
$22-73	$3,138	$1.44	$2.25	$3.00	26	21	25%

Year Ends: September 31 **DJIN:** 2337.07 **SPIN:** 340.13 **Note:** f

Revenues (12 mos):	$901.8 million	**Return on Avg Equity:**	16.4%
Shares Outstanding:	49.0 million	**LT Debt/Total Capitalization:**	1.3%
Annual Dividend:	nil	**Current Yield:**	nil

- o Second quarter revenues in line with expectations; EPS slightly below.
- o Proprietary SQL-compatible database management system announced.
- o Significant low-end hardware systems introduced.
- o 1987 EPS projection reduced due to higher anticipated expenses.

Second Quarter Results

Tandem Computers, the leading vendor of fault-tolerant distributed transaction processing systems, reported fiscal 1987 second quarter results as shown in Exhibit 1. Revenues of $242.4 million increased 2% sequentially and 37% year-to-year. Gross margins of 64.9% decreased slightly from 65.8% in the first quarter owing in part to a buildup of the company's service organization; product gross margins remained sequentially flat. Operating expenses grew 10% relative to first quarter levels due to accelerated hiring. Headcount now numbers 6,296, up from 5,959 at the end of December; an increase of 18-20% in the work force is planned for 1987, compared with 4% in fiscal 1986. Owing primarily to the sharper than expected increase in MG&A expenses, reported EPS of $0.46 were slightly shy of our projected $0.50; however, these results represented a dramatic improvement relative to the $0.29 reported for the year-ago second quarter.

Demand remained strong across the company's product line, particularly for the high-end NonStop VLX system. Domestic revenues, 31% above year-ago levels, represented 57% of total second quarter sales--a proportion in line with recent quarters. However, the composition of international business shifted relative to the first quarter, as increased demand from the Pacific Basin (14% of second quarter revenues) compensated for slightly weaker European sales (29% of revenues). Overall, international business grew 48% year-to-year. Management reported significant new-account activity in both the United States and Japan; 53 new-name accounts were signed during the quarter.

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The information contained herein is based on sources believed to be reliable, but is neither all-inclusive nor guaranteed by our firm. Opinions reflect our judgment at this time and are subject to change. In the course of our regular business, we may be long or short in the securities mentioned, and may make purchases and/or sales of them from time to time in the open market or otherwise.

Exhibit 1

	SECOND QUARTER RESULTS				YR-TO-DATE: 6 MONTHS		
	3/31/87	3/31/86	% CHG	H&Q EST	3/31/87	3/31/86	% CHG
Revenues (Mill)	$242.4	$176.3	37%	$238.0	$480.4	$346.4	39%
Pretax Income (Mil	38.5	22.4	72	48.4	86.9	43.3	101
Net Income (Mill)	22.4	12.4	81	23.5	49.5	24.1	106
Earnings per Share	0.46	0.29	60	0.50	1.03	0.56	84
Average Shares(Mil	49.0	43.4	13	47.0	47.9	42.8	12
Gross Margin	64.9%	62.4%		65.8%	65.4%	61.8%	
Operating Margin	14.6	11.3		19.1	16.8	11.3	
Pretax Margin	15.9	12.7		20.3	18.1	12.5	
Tax Rate	41.7	44.5		44.0	43.0	44.5	
Net Margin	9.3	7.0		11.4	10.3	6.9	

Sales in the banking, telecommunications, and brokerage markets were particularly strong, representing 22%, 14%, and 9% of the quarter's revenues, respectively. Year-to-year, banking revenues grew 65%; telecommunications, 50%; brokerage, 53%; and manufacturing, 40%. Major contracts announced during the quarter include Bank of Tokyo ($16.5 million over two years), J.C. Penney, Colonial Penn Group, and the U.S. Air Force (the last through primary contractor Litton.) Tandem also announced an agreement with Boeing for joint marketing and support of systems used for certain manufacturing and communications applications.

New-Product Introductions

In March, Tandem announced NonStop SQL, a proprietary SQL-compatible relational database management system (DBMS) promising significant on-line performance advantages relative to other currently marketed SQL-compatible DBMS offerings. Fully integrated into Tandem's proprietary GUARDIAN operating system, NonStop SQL will run on all Tandem NonStop hardware systems and is scheduled for general availability in the third calendar quarter of 1987. Tandem will continue to offer updated versions of its ENCOMPASS DBMS.

Earlier this week, Tandem unveiled significant new additions to its hardware product line that are aimed at extending the company's low-cost offerings for distributed processing networks. Based on proprietary CMOS technology and fully compatible with Tandem's existing NonStop processors and GUARDIAN operating system, the new NonStop CLXs are targeted for use as network nodes in distributed processing applications. The CLX features a high degree of user serviceability (processor boards and disks are removable), as well as a much smaller footprint than the NonStop EXT—attained in part through the use of smaller form factor peripherals and the consolidation of Tandem's NonStop processor system onto two boards (achieved through advanced CMOS silicon compilation). The fault-tolerant two-, four-, and six-processor CLX models (excluding software) range in price from $85,000 to $240,000; an entry-level, non-fault-tolerant, single-processor configuration (excluding software) lists for $39,900 in quantities of 25-39 units or $57,000 for single units. The minimum price for a bundled fault-tolerant CLX system is approximately $85,000.

Exhibit 2
TANDEM COMPUTERS INCORPORATED
NonStop Processor Line

	CLX/610	CLX/620	CLX/640	CLX/660	EXT	TXP	VLX
Technology	CMOS	CMOS	CMOS	CMOS	TTL	TTL	ECL/TTL
First shipment	2Q88	4Q87	1Q88	2Q88	3Q86	4Q83	2Q86
Processors/system	1	2	4	6	2-4	2-16	4-16
Entry price ($000)*	65.3	101.5	194.0	289.5	98.5	330	1,000
Main memory (mb)	4-12	8-24	16-48	24-72	4-16	4-16	32-64
Disk storage (mb)	290	290	580	870	256	256	2,700

* Represents single-unit quantities; includes GUARDIAN software

Tandem also introduced its non-fault-tolerant, 32-bit LXN multiuser system, the company's first system running the UNIX V.2 operating system. Based on hardware supplied by Altos, the LXN incorporates Tandem-added high-integrity features, including mirrored disks, an automatic restart capability, and an optional uninterruptable power supply. The LXN systems will serve to address those customers interested in distributed computing and the emerging UNIX software standard. (Offering significantly fewer proprietary features compared with Tandem's NonStop line, the LXN, we believe, will play less important a role than the CLX in Tandem's near-term low-end marketing strategy.) Pricing starts at $18,012 per system for purchases of 25-39 systems; single units are available for $23,700. The LXN system is available for immediate shipment; Tandem is expected to announce the first large LXN order next week.

Outlook and Recommendation

Management reports sustained healthy product demand in both domestic and international markets. Significant new software introductions, particularly in the networking and application-enabling area, are expected later this year. Tandem's share price dropped upon the release of second quarter results despite the company's having achieved or moderately exceeded its stated financial objectives; consensus Street expectations had anticipated an upside "surprise" similar to that of recent quarters. Based on the company's stated intention to hold operating margins at 16-18% owing to additional hiring and investment in new-product programs, we have revised our fiscal 1987 EPS estimate to $2.25 from $2.40 on an unchanged revenue projection of $1.017 billion. Without management guidance, we have maintained our preliminary fiscal 1988 projections at revenues of $1.25 billion and EPS of $3.00. Tandem stock may be held for long-term gain.

Note: Tandem stock is now listed on the New York Stock Exchange under the symbol TDM.

NOTE (f) Options are available on this issue.

TANDEM COMPUTERS
SALES AND EARNINGS MODEL
($ in thousands, except EPS)

JC
04/16/87

Fiscal: September

	REV $	YR-TO-YR REV CHG %	GROSS MARGIN %	OPER INCOME $	OPER MARGIN %	PBT $	PBT MARGIN %	TAX RATE %	NET INCOME $	NET MARGIN %	EPS $	YR-TO-YR EPS CHG %	SHARES
1984-1Q	126,369	34%	60.1%	16,878	13.4%	17,954	14.2%	44.0%	10,054	8.0%	0.24	36%	41,841
2Q	111,236	16%	57.5%	2,006	1.8%	3,148	2.8%	37.3%	1,974	1.8%	0.05	-70%	41,794
3Q	141,924	29%	59.3%	14,342	10.1%	15,585	11.0%	40.6%	9,250	6.5%	0.23	10%	41,039
4Q	153,090	30%	58.6%	11,111	11.7%	19,597	12.8%	39.1%	11,930	7.8%	0.29	36%	40,923
YEAR(A)	532,620	27%	58.9%	51,101	9.6%	56,284	10.6%	41.0%	33,208	6.2%	0.80	6%	41,399
1985-1Q	159,653	26%	57.1%	22,509	14.1%	24,397	15.3%	42.5%	14,028	8.8%	0.34	41%	41,384
2Q	146,489	32%	56.2%	9,703	6.6%	11,276	7.7%	39.3%	6,841	4.7%	0.16	244%	42,156
3Q	144,165	2%	55.4%	540	0.4%	1,838	1.3%	-29.9%	2,388	1.7%	0.06	-75%	41,896
4Q	173,831	14%	58.7%	17,329	10.0%	18,839	10.8%	41.0%	11,117	6.4%	0.27	-8%	41,623
YEAR(A)	624,138	17%	57.0%	50,081	8.0%	56,350	9.0%	39.0%	34,374	5.5%	0.82	3%	41,765
1986-1Q	170,061	7%	61.1%	19,315	11.4%	20,988	12.3%	44.5%	11,648	6.8%	0.28	-19%	42,177
2Q	176,327	20%	62.4%	19,998	11.3%	22,360	12.7%	44.5%	12,410	7.0%	0.29	76%	43,385
3Q	200,853	39%	65.0%	30,601	15.2%	32,655	16.3%	44.5%	18,124	9.0%	0.40	607%	45,003
4Q	220,552	27%	65.0%	36,064	16.4%	38,479	17.4%	43.9%	21,584	9.8%	0.47	75%	46,237
YEAR(A)	767,793	23%	63.5%	105,978	13.8%	114,482	14.9%	44.3%	63,766	8.3%	1.44	75%	44,201
1987-1QA	238,035	40%	65.8%	45,541	19.1%	48,388	20.3%	44.0%	27,097	11.4%	0.58	110%	46,793
2QA	242,368	37%	64.9%	35,293	14.6%	38,526	15.9%	41.7%	22,444	9.3%	0.46	60%	49,028
3QE	264,000	31%	66.3%	47,118	17.8%	50,618	19.2%	43.0%	28,852	10.9%	0.58	43%	50,000
4QE	287,500	30%	66.9%	35,293	12.3%	56,463	19.6%	43.0%	32,184	11.2%	0.64	37%	50,500
YEAR (E)	1,031,903	34%	66.0%	180,914	17.5%	193,994	18.8%	43.0%	110,577	10.7%	2.25	56%	49,080
1988 (E)	1,250,000	21%	66.4%	234,306	18.7%	248,306	19.9%	37.5%	155,191	12.4%	3.00	418%	51,750

BALANCE SHEET

	9/86	3/87
Assets:		
Cash & Equivalents	239,819	285,529
Accounts Receivable	197,658	234,751
Inventories	64,229	77,248
Other Current Assets	17,505	22,476
TOTAL CURRENT ASSETS	519,211	620,004
PP&E	175,022	209,643
Other Assets	10,792	14,942
TOTAL ASSETS	705,025	844,589
Liabilities & Stockholders Equity:		
Current Liabilities	133,991	171,515
Long Term Debt	6,526	8,449
Deferred	29,828	30,088
Stockholders Equity	534,680	634,537
TOTAL LIAB & S/E	705,025	844,589

QUARTERLY RATIOS

	3/86	6/86	9/86	12/86	3/87	4-QTR AVG
Return on Sales	7.0%	9.0%	9.8%	11.4%	9.3%	9.9%
Return on Assets	8.5%	11.7%	12.8%	14.6%	11.1%	12.4%
Return on Equity	11.1%	15.2%	16.8%	19.6%	14.9%	16.4%
R&D/Sales	12.1%	11.1%	10.7%	10.2%	10.7%	10.7%
Days O/S A/R	94	93	82	93	88	84
Inventory Turns	3.8	4.2	4.8	4.9	4.4	4.3
Days Sales in Inv	96	88	76	74	83	86
Book Value	$10.52	$11.01	$11.56	$12.26	$12.94	$11.66
Cash per Share	$3.71	$3.94	$5.19	$5.00	$5.82	$4.77
Current	4.6	4.2	3.9	3.4	3.6	4.0
Quick	3.6	3.4	3.3	2.9	3.0	3.2

Notes:
(f) Options are available on this issue.

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
March 16, 1987

Computer Industry Report
(continued)

Tandem Computers (#)

Recent Price	Price Range 52 Weeks	Earnings Per Share (9/30) 1985	1986	1987E
$41 1/8	$41 1/8-$19 7/8	$0.82	$1.44	$2.00

Recent P/E 1987E	Indicated Div.	Yield
20.6x	Nil	None

Tandem Computers has regained upward momentum after three disappointing years. The secret was attention to basics; but the lack of success by all other fault-tolerant firms, except for Stratus Computer, was certainly a help. Tandem was thrust into competitive bids much earlier than it wanted and consequently was unprepared for this -- even though it still had a differentiated product. To some extent we believe that certain major customers simply sat back and did not buy, waiting to see what emanated from Stratus Computer and then Stratus/IBM. Tandem has had to be less aloof in its dealings with customers as well as develop more applications software (or find third party developers). The company still retains a unique product line that could carry it somewhat longer. However, we believe it will either encounter another growing pain hurdle or run into the general industry softness. Near term, earnings recovery and then margin expansion is being nicely orchestrated.

Tandem, financial analysts

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
March 9, 1987

Tandem Computers Inc. - Company Report
FIRST BOSTON CORPORATION (THE) - Peterson, M.S.
01-21-87 (RN=701414)

Tandem Computers Inc. TNDM

Tandem Reports Quarter; Raising 1987 and 1988 Numbers; Opinion: BUY

Price (1) 1/19/87		Earnings (2) Per Share	P/E Ratios	Div'd Yield	52-Week Price Range
50	1988E	$2.45	20.4X	-	50-21 1/4
	1987E	2.15	23.3	-	
	1986A	1.44			

Common Shares	46.2 mil.	L.T Debt as % Total Capital	4.9%
Market Value	$2.3 bil.	Return on Avg. Equity	8.2%
Book Value/Share	$10.10	Est. Future EPS 5 Yr. Growth Rate	17%

(1) On 1/19/87 the DJIA closed at 2102.5 and the S&P 400 at 302.2
(2) Fiscal year ends September 30. Previous estimates: 1988 = $2.35; 1987 = $2.00.

On January 19, TNDM announced a DEC-like quarter: $238 million in revenues, up 40% over last year's $170 million, with $0.58 in earnings per share, up 107% over $0.28. The numbers told the story:

* Unlike DEC, which had year-over-year operating efficiencies that delivered a gross-margin extravaganza, TNDM found its earnings mainly from above-expectation revenues. All the line items - COGS, R&D and SG&A - were down proportionately. Both equipment and service sales were strong, up 42% and 32%, respectively.

* Domestic sales were up 33%, and international was up 50%. This underlines the power of TNDM's sales reorganization and strong product cycle at a time when IBM's European story suffers.

* The company signed a $7 million order on December 31 to supply General Motors with a Chevy dealer network. This was the largest single deal in TNDM's history. Given TNDM's leverage, this order, if seen as pure contribution, probably added $0.12-0.14 per share to the bottom line. Without it, TNDM's quarter would have been more like $0.44-0.46 - still above expectations, but not so overpowering.

Looking forward, the company refuses to admit to an upturn in domestic orders. Even without the GM order, however, domestic sales would have been up 30%. Therefore, we view management's caution as largely a legacy of their 1983 revenue-recognition problem. We agree that TNDM's emphasis on bigger-ticket orders leaves it vulnerable to more volatility quarter-to-quarter.

However, the TNDM story still has several quarters of visibility, so we are not prepared to stop buying in here in a bull market. We are raising our fiscal 1987 number from $2.00 to $2.15 and our fiscal 1988 number from $2.35 to $2.45. We look for a target price around $55. We would not be surprised if some analysts moved higher but we think that the fact that the gross margin didn't improve even more given the sales boost could mean a mix shift toward smaller, less-profitable systems. This is what we'll be monitoring over the next two quarters.

January 19, 1987 closing prices:
Digital Equipment (DEC) : 143
IBM (IBM) : 125 1/4
General Motors (GM) : 70

N.B.: The First Boston Corporation has, within the last three years, served as a manager or co-manager of a public offering of securities for General Motors and IBM. The firm makes a primary market in issues of Tandem Computers.

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March 9, 1987

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July 14, 1986

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Tandem Business
Information Center

Tandem Computers, Inc. - Company Report
BEAR STEARNS & COMPANY - Fram, J., et al
06-11-86 (RN=607398)

Tandem Computers, Inc. (*) (TNDM - 32)

1985 EPS (9/30):	$0.82
1986 EPS Est.:	$1.33
1987 EPB Est.:	$1.75
P/E 1986 Est.:	24.1x
P/E 1987 Est.:	18.3x
Dividend:	Nil
Yield:	Nil
1986 Price Range:	34-13
Common Shares Out.:	43 Mil.

[Graphical Material Omitted: Chart]

Summary and Recommendation

We recommend purchase of Tandem Computers.

We believe that Tandem will displace many traditional computer vendors and become one of the major, surviving computer companies. Although Tandem has historically been associated with a limited market niche -- fault-tolerant systems -- we think that Tandem's unique computer architecture makes it better suited for the broad, mainstream commercial market. In short, investors will think of Tandem along side of other mainstream, successful companies such as Digital Equipment (DEC - 86) and IBM (IBM - 148).

Although we describe Tandem and the superiority of its computer systems in this report, we have not stressed fault-tolerance as have other reports on the company. While fault-tolerance is certainly a key feature of Tandem's machines, it is only one of many architectural advantages that makes Tandem's systems more suitable than traditional mainframes and minicomputers in the commercial marketplace.

Reasons to purchase shares of Tandem Computers are:

* Tandem's computer architecture should enable the company to steadily gain market share at the expense of traditional computer vendors. This architecture enables users to: 1) physically and geographically distribute processors and data throughout their organization, yet perceive a single system image; 2) expand the performance of their systems in a much wider range than found in traditional computer designs; and 3) experience 100% up-time, a feature that has become a requirement as computers become a part of customers' own product offerings, rather than the historical overnight data processing use of computers.

* The advantages of Tandem's architecture should attract more third-party software; the availability of third-party software can make or break a computer hardware vendor.

* Tandem has more earnings leverage potential due to margin improvement than practically any other vendor in the industry. Such margin improvement would come from a reduction in Tandem's high SG&A/Revenue ratio (42%) as the average selling price of its systems rise from $250,000 to more than $500,000. Sales, general & admin.

Valuation

We believe that Tandem's market share gains coupled with long-term margin improvement will result in 20%-25% annual earnings growth for the next several years. Tandem's P/E appears to be too low; we believe that this growth justifies a P/E with a substantial premium to the market. Furthermore, as investors recognize that Tandem will break away from the traditional minicomputer crowd, its P/E should be decoupled from others in the group. That is, while the shares of Data General (DGN - 39), Prime (PRM - 19) and Wang (WANB - 17) will trade relative to their individual product cycles and the overall capital spending environment, Tandem should continue to grow at a steadier and faster pace due to its impending market share gains. Investors should reward consistent growth in Tandem, much as they have embraced the stocks of Digital Equipment and Cray Research (CYR - 90).

Risks

There are several risks to investing in Tandem:

* IBM has recognized the gravity of Tandem's market share inroads to date and has sought to plug the hole in its product line by aggressively marketing a computer produced by Stratus, a fault-tolerant vendor.

* Tandem has historically ignored start-up competitors until they have made a meaningful inroad into its marketplace. This was the case with Stratus and it appears to be repeating itself with one significant start-up, Tolerant Systems. Such overconfidence has also led to several earnings disappointments.

* Capital spending for computers remains soft with industry-wide domestic orders about 15% below 1985's depressed levels. In addition, the stock has experienced a run-up over the past few months due to a good second-quarter fiscal 1986.

Market Environment: Consolidation

The current period of computer industry consolidation is the basis of yet another reason to own stock in Tandem. With the competitive position of many mature computer companies challenged by substantial industry-wide overcapacity and a slowdown in industry growth, many such vendors are seeking new ways to rejuvenate their businesses. As well, Tandem possesses an off-balance sheet asset, namely, the lock-in of its

customer base. We believe that an acquisition-rich environment will emerge as mature vendors whose competitive position has been eclipsed will seek to acquire those companies which own or are gaining market share. Since we believe that Tandem will emerge as one of those few surviving and thriving computer companies due to the advantages inherent in its computer architecture, Tandem represents one of the most desirable properties.

Tandem's Architecture: The Commercial Mainstream

Ultimately, it will be Tandem's computer architecture (*) that will enable it to grow while others in the computer industry stagnate. In short, we believe that Tandem should be a core holding for investors wishing to have exposure to the computer industry. Tandem will likely gain market share at the expense of some of these established vendors because its unique product architecture will enable it to perform commercial applications substantially better than traditional computers.

(*) Computer architecture refers to the machine's design, particularly its instruction set (add, subtract, multiply, divide, etc), memory organization and inter-processor communication. Strictly speaking, a machine's Functional Architecture is defined to be the programmer's view of the machine (instruction set, register layout, addressing modes, etc.). The Design Architecture, also referred to as machine organization refers to how the vendor implements its programming, or functional architecture. For example, IBM's 3090 and 4300 both incorporate the System/370 Functional Architecture. However the implementations are very different, both in terms of materials technology (semiconductors and packaging) as well as in the incorporation of machine resources (i.e., cache memory, pipelining, etc.).

We believe that most great computer companies can trace their success to their advantages in computer architecture. Such architectural successes include IBM's mainframes, Digital Equipment's minicomputers and Cray Research's supercomputers. For example, IBM's decision in the early 1960s to offer a single mainframe architecture (the System/360) eliminated the need for customers to re-write their programs each time they moved to a more powerful machine. This architectural concept was so appealing that IBM soon dominated the mainframe market. In the case of Digital Equipment, its single, focused architecture enabled it to sustain its recent margin improvement as well as extend its product line to a performance range beyond traditional minicomputers. Finally, Cray Research's key advantage is how it organized its machine to achieve the highest performance, without developing its own fast semiconductors.

A Long-Term Proprietary Advantage

Tandem's architectural innovations (described below) represent a long-term proprietary advantage for the company -- it is virtually impossible for other vendors to incorporate Tandem's architecture into their systems without departing from their own locked-in installed base

(the only company that has been able to incorporate a Tandem-like architecture while maintaining compatibility with their installed base has been NCR). Because Tandem conceived its architecture at least 10 years later than most mainstream players in the industry, it could make a clean break with the past, something that established vendors could not contemplate. Thus, advantages in computer architecture actually represent as significant a proprietary advantage as advanced semiconductor technology. In fact, all vendors ultimately gain access to the latest semiconductor technology when it reaches the merchant market. However, mature companies will not be able to incorporate architectural innovations while preserving their installed customer base.

Tandem's Architecture

Distributing Programs and Data

Simply put, Tandem's architecture enables customers to do things that cannot be done effectively on other vendors' systems -- with Tandem computers users can physically distribute data and programs throughout their organization. Yet, the user perceives the image of a single system -- transparent to the user, the operating system fetches and stores data at remote sites if needed. The user perceives the data to be local. It is Tandem's underlying operating system, and special machine-to-machine "messaging" instructions (not found on conventional machines) that provide this capability.

Note, it is possible to tie together geographically dispersed on-line users with conventional computers. Typically, this is done by connecting each computer terminal via its own telephone line to a centrally-located computer. In an era of rising telecommunications costs, such arrangements are becoming more impractical.

The importance of being able to physically distribute processors and data becomes apparent when one realizes that businesses and their employees are geographically dispersed, yet it is desirable to maintain only a single copy of important data. Consider the problem of allocating airline seats from any of 20,000 travel agent locations. While it is imperative not to allocate the same seat at different locations, it is desirable to alter the data from any location. In older systems, each travel agent and ticket counter was tied into where the data resides (at the airline's central computer). We think that the airline industry represents one of the biggest opportunities for Tandem over the next few years (in fact, sources suggest that Tandem is on the eve of announcing a major airline reservation contract).

Expandability Without Degradation

The second competitive advantage afforded to Tandem because of its unique architecture is the ability to construct high-end systems without the kind of capital requirements of traditional mainframe development. That is, Tandem can achieve higher performance levels than

conventional mainframes, yet use off-the-shelf semiconductors. In Tandem's latest machine, the VLX, the company uses the latest ECL gate array available in the merchant market, but achieves performance levels greater than mainframes using proprietary technology (see below).

Unlike today's mainframes, Tandem's machines do not experience performance degradation when multiple processors are strung together. In traditional mainframes, the only way multiple processors can be linked together (while maintaining an image of a single machine) is for the processors to share main memory. A problem arises with shared memory design because only one processor can access memory at the same time, leaving other processors idle. This memory contention (or "bottleneck") problem results in severe performance degradation for conventional multiprocessor mainframes. In contrast, Tandem's computers have no such bottleneck. Since each CPU has its own memory, a Tandem user can achieve a linear growth in performance by adding processor modules to the system. If data residing in another machine's memory is desired, special "message instructions" (transparent to the user) fetches the data from the other processor (Chart I). The other processor and data can be located a long distance from the requesting processor.

[Graphical Material Omitted: Chart I - Conventional System/Tandem System]

For example, in IBM's largest system, the four-processor 3090 Model 400, the user does not get the full performance of each 15 MIPS engine -- instead of obtaining 60 MIPS in performance, the total system delivers computing power closer to 50 MIPS. Tandem's VLX system, in contrast can string together 16 of its 4 MIPS VLX machines and achieve 64 MIPS with no degradation. Because transaction processing systems typically involve the many small jobs they each run for a short period of time on its own processor, numerous small processors do the job as well as fewer large ones. In a sense, Tandem's systems are really a form of parallel processing for the commercial world.

The importance of linear performance expandability is better understood by realizing that on-line transaction processing systems tend to grow as the customers' business grows. This stems from the fact that interactive/transaction processing systems generally form the core of the customers' own product offering -- the computer becomes part of the customers' competitive repertoire. For example, major stock exchanges use Tandem systems for order execution and reconciliation (SIAC has over 100 Tandem processors in a single site). With the burgeoning transaction volumes of recent years, such expandability was a necessary requirement for the system.

Finally, the President of the Tandem Users Group, an independent association, informed us that customers are now purchasing Tandem systems more for their expandability than for fault-tolerance. Ironically, IBM's fault-tolerant system is manufactured by Stratus Computers and does not have the expandability of Tandem's system. IBM may have misperceived customers' attraction to Tandem systems.

Fault-Tolerance

While the fault-tolerant feature was responsible for Tandem's early growth (driven by ATM networks where Tandem now controls 60% of the market), we contend that fault-tolerance is really a by-product of Tandem's design. Because Tandem's systems are comprised of multiple processors running in parallel, the failure of a single engine does not interrupt the entire workload. Moreover, before each disk read or write, the transaction is "check pointed," or recorded such that if a failure does occur, the transaction can be rolled back and resumed on another processor. Our survey suggests that more than half of Tandem's sales today are driven by factors other than fault-tolerance. While Tandem's product technology and market acceptance have been recognized by IBM as a real threat leading it to incorporate Stratus' fault-tolerant system in order to fill a hole in its product line, IBM appears to have missed the true significance of Tandem's architectural advantages.

Products and Shipments

To date, there have been four implementations of the Tandem architecture (Table I).

Table I. 1986 Shipments of Tandem Products

Model	ASP $	Revenue %	Units %
TXP	450,000	75	50
NS	250,000	15	20
EFT	150,000	10	30
VLX	1,000,000	20	10

Tandem's newest and fastest machine, the VLX (introduced in April 1986), has met with strong acceptance. We believe that the company is sold out of VLX's for the year and will be pressed to increase production volumes leading to a strong fiscal fourth quarter (ending September 30, 1986).

Yet, only a small fraction of the existing customer base surveyed by Bear Stearns indicated that they would migrate to the VLX immediately. For existing customers, the performance expandability of their current TXP and Non Stop systems dampens their need to migrate to Tandem's newest machine (yet nearly three-fourths of customers interviewed noted that they would undergo some form of performance increment over the next 12 months). Interestingly, the customers for the $1 million VLX are in new accounts, such as Federal Express' ZapMail and Chrysler's communication network. We believe that the demand at new accounts for the VLX systems, with performance starting at 50 transactions/second (on par with IBM's 3090 mainframe at three times the cost), will supply 25% of Tandem's revenue in fiscal 1987.

One final important aspect of the VLX -- we believe that this product has a yet-to-be-revealed performance upgrade already built into

the initial product. That is, despite the fact the VLX uses the ECL chip technology, which is faster than the TTL used in the older TXP, Tandem announced the product with the same cycle time (83 nanoseconds) as its predecessor. The reason for this was that the VLX uses the same I/O controller circuitry and memory as the TXP. Should Tandem cast these peripheral logic cards into ECL as well, we believe that the machine could operate at nearly half the cycle time (or twice the MIPS rate). This built-in upgrade will enable Tandem to introduce faster, field upgradable models down the road. The gross margin of the system will likely improve as Tandem will price its product in relation to the higher terms of performance, yet its costs will remain the same.

Customer Profile and Survey of Users and Software Developers

We recently interviewed 15 Tandem end users and six Tandem software houses. Half of the customers noted that they chose Tandem not because of its fault-tolerance, but rather that the particular software application they were seeking happened to be available on Tandem. When we queried the software houses as to why they chose Tandem, they said that Tandem's architecture allowed the software houses to develop an application that could not be conceived on a conventional mainframe. Over time we believe that Tandem will be able to attract more third-party software vendors than other computer companies because of this unique architecture (Tandem currently has nearly 200 software houses that it works with). Attracting third-party software vendors who add value to a vendor's machine has become the key to success in the computer industry. Simply put, customers do not want to develop their own software as they did for so many years.

We also note that Tandem's customers, which were once dominated by financial services industry, have substantially diversified (Chart II).

[Graphical Material Omitted: Chart II - Tandem Users]

The following is a sample of the applications that have been able to take advantage of Tandem's architecture:

Chrysler Corporation

Chrysler's communications operation will use a Tandem system to control their data communications activities. The company had compared Stratus' and Tandem's units and chose Tandem. Chrysler will likely order the VLX. The major attraction to Tandem was an application package that runs only on Tandem. Stratus is developing a similar package but it is not ready.

Cincinnati Enquirer

This daily has a TXP operation and plans to increase performance next year. The major attraction to the Tandem system was the ability to have one system handle all its editorial and classified functions. Obviously, fault-tolerance is important here since a daily has to be produced without down time.

Mead Corporation

Mead chose Tandem for its fault-tolerance; the company runs a mill 24 hours a day, seven days a week. Mead plans to add more TXP processors next year -- it currently has three TXPs and two Non-Stop-IIs.

J. C. Penney

The company is creating a credit authorization system to replace TRW.

System Integrators Inc. (SINT - 14)

This software house markets a newspaper publishing system. It has installed about 100 Tandem systems. Besides the non-stop nature of newspaper publishing, it is imperative to have a system that can be geographically dispersed (since the reporters and printers are), yet there must be a single version of the copy.

PBL Associates

This software house offers a complete distributed accounting system that runs on Tandem computers. In addition to offering standard General Ledger, the company has finished goods distribution/ purchasing/order entry/invoicing/air cargo/personnel modules. PBL was attracted to Tandem because of the technical capabilities and the unique platform that Tandem offers. The company's distribution software package takes advantage of the distributed data processing capabilities of the Tandem system.

Competition

We have noted that Tandem does not participate exclusively in the fault-tolerant market niche. However, this line of thinking has led some to believe that success for both Stratus and Tandem is simultaneously impossible. We have characterized Tandem's fault-tolerance as a by-product of its multiprocessor architecture. This contrasts with the Stratus approach in which the arithmetic logic is replicated four times. Indeed, for strict reliability the Stratus approach has some advantages. However, being a shared-memory design, Stratus has limited multiprocessing and performance expandability, and cannot geographically distribute processors and data.

Thus, while much of Tandem's early growth stemmed from the fault-tolerant arena, today it participates in the computer mainstream for reasons beyond its non-stop capabilities. In some ATM and brokerage environments, Stratus' systems have challenged Tandem's position; we believe that the market for Tandem's systems are much larger. That is, while the market for fault-tolerant computers might be in the order of $3 billion, the general on-line transaction processors market is about 10 times that.

Fortunately for both Tandem and Stratus, the fault-tolerant competition has thinned out considerably. Many of the start-ups that entered the fault-tolerant market have foundered due to cash shortfalls and lack of market acceptance. One start-up that is succeeding is Tolerant Systems in San Jose, CA. Tolerant has built a Tandem-like system using standard microprocessors (National 32000). By choosing an OEM strategy, Tolerant has avoided the heavy SG&A costs incurred by Tandem.

Potential Earnings Leverage

We believe that long term, Tandem is well positioned to sustain margin improvement through a lower SG&A/revenue ratio. Currently, Tandem's 42% SG&A/revenue is just about the highest in the industry. This high ratio has been responsible for some of the company's past earnings disappointments.

Yet, we believe that such high historical SG&A spending levels will ultimately hold Tandem in good stead. The reason Tandem's SG&A expenses are so high stems from the company's efforts to sell products right on IBM's own turf. Such an effort entails a long sell cycle and a lot of hand-holding. In a sense, Tandem attempted to out-IBM IBM. However, with a historical average selling price of $250,000, versus IBM's $4 million mainframes, Tandem was in no position to effectively leverage its sales force. Only now that Tandem offers the $1+ million VLX processor complex will the company effectively achieve a meaningful reduction in SG&A/revenue. While this improvement will not likely occur in fiscal 1986, we believe that this margin improvement will occur in the following year. Within three years such margin improvement should enable the company to achieve 16% operating margin.

Financial Condition and Recent Performance

Tandem has a very clean balance sheet. Debt as a percentage of total capitalization is only 3% and the company has more than $100 million in cash.

We project that sales growth this year will be about 12%, with service growing 25% (Table II).

Tandem's earnings in second-quarter fiscal 1986 (ended March 31, 1986) exceeded our expectations, and caused the stock's recent run-up. Earnings grew 83% on revenue growth of 20%. Gross margin improvement from 61% to 67% accounts for the rest of the gain. In the current quarter we estimate earnings of $0.30 per share, compared with $0.06 in third quarter fiscal 1985. We believe that revenues will grow 24% to $180 million this quarter.

Table II. Projected Revenues/Earnings
($ Millions)

	9/30/87 Est.	9/30/86 Est.	9/30/85

Product Revenue	693	598	515
Service & Other	166	138	109
Revenue	859	736	624
Cost of Revenue	283	245	240
Product Development	94	85	72
Marketing, General & Admin.	353	311	262
Net Interest	-8	-8	-6
Total Costs	722	633	568
EBIT	128	94	50
Pretax Income	136	102	56
Income Tax	60	45	22
Net Income	76	57	34
Shares Outstanding (Mil.)	43	43	42
Earnings Per Share ($)	1.75	1.33	0.82
Margins (%)			
Cost of Revenue	33	33	38
Product Development	11	12	11
Marketing, General & Admin.	41	42	42
EBIT	15	13	8
Pretax Income	16	14	9
Income Tax	44	44	39
Net Income	9	8	6
Growth (%)			
Product	20	16	15
Service	20	27	30
Pretax Income	33	81	0
Net Income	33	66	-20
Product Revenue ($M)			
NS-II	50	63	77
TXP	440	440	386
EXT	53	53	52
VLX	150	50	0
Percent of Sales (%)			
NS-II	7	10	15
TXP	64	74	75
EXT	8	9	10
VLX	22	8	0
Unit Shipments			
NS-II	200	250	300
TXP	1,100	1,100	1,000
EXT	350	350	350
VLX	150	50	0

Table III. Tandem's Results By Quarters
($ Millions)

[Part 1 of 2]

	1985 I	1985 II	1985 III	1985 IV
Product Revenue	134	120	117	144
Service & Other	26	26	27	30
Revenue	160	147	144	174
Cost of Revenue	62	58	56	64
Product Development	15	17	18	21
Marketing, General & Admin.	60	62	70	71
Net Interest	-2	-2	-1	-2
Total Costs	135	135	142	155
EBIT	23	10	0	17
Pretax Income	24	11	2	19
Income Tax	10	4	-1	8
Net Income	14	7	2	11
Shares Outstanding (Mil.)	41	42	42	42
Earnings Per Share ($)	0.34	0.16	0.06	0.27
Margins (%)				
Cost of Revenue	39	39	39	37
Product Development	9	12	12	12
Marketing, General & Admin.	38	42	48	41
EBIT	14	7	0	10
Pretax Income	15	8	1	11
Income Tax	43	39	-31	41
Net Income	9	5	2	6
Growth (%)				
Product	24	32	-2	11
Service	42	32	19	28
Pretax Income	35	253	-89	-2
Net Income	37	241	-75	-48

[Part 2 of 2]

	1986			
	I	II	III(*)	IV(*)
Product Revenue	137	143	145	173
Service & Other	33	34	35	37
Revenue	170	176	180	210
Cost of Revenue	59	58	59	69
Product Development	20	21	21	23
Marketing, General & Admin.	72	77	78	84
Net Interest	-2	-2	-2	-2
Total Costs	149	154	156	174
EBIT	19	20	21	34
Pretax Income	21	23	23	36
Income Tax	9	10	10	16
Net Income	12	13	13	20
Shares Outstanding (Mil.)	42	43	43	43
Earnings Per Share ($)	0.28	0.29	0.30	0.46
Margins (%)				
Cost of Revenue	35	33	33	33
Product Development	12	12	12	11
Marketing, General & Admin.	42	44	44	40
EBIT	11	11	12	16
Pretax Income	12	13	13	17
Income Tax	45	44	44	44
Net Income	7	7	7	9
Growth (%)				
Product	2	19	24	20
Service	29	27	27	25
Pretax Income	-14	100	1,220	87
Net Income	-17	83	464	77

(*) Estimated

Prices of other public companies mentioned in this report:

Chrysler Corp. (C - 35)
J.C. Penney (JCP - 79)
Mead Corp. (MEA - 49)
TRW (TRW - 101)

(*) At the time of this report, Bear, Stearns & Co. Inc. was a market maker in this security.

Tandem Business Information Center

HAMBRECHT & QUIST
INCORPORATED

TANDEM COMPUTER INCORPORATED (OTC-TNDM) $53 1/2

52-Week Range	Market Val. (mil.)	Fiscal EPS 1985A	1986A	1987E	Calendar P/E 1986	1987	Trend-Line Growth Rate
$21-54	$2,503	$2.25	$1.44	$2.40	31	21	25%

Year Ends: September 30 **DJIN:** 2107.28 **SPIN:** 302.47 **Notes:** a & f

Tandem is the leading vendor of fault-tolerant computer systems designed for on-line transaction processing (OLTP) applications. The company reported first quarter results significantly above expectations. Record revenues of $238 million (compared with our projected $215 million) increased 8% sequentially and 40% year-to-year. The higher-than-expected revenues resulted from a strong quarter-end surge of domestic business, which represented 58% of total revenues in the quarter. Demand was reportedly strong across the company's product line; sales of the mid-range NonStop TXP in particular picked up during the period.

Record gross margins of 65.8% rose 0.8% sequentially and 4.7% relative to last year. (Tandem has reclassified certain expense items previously reported as operating costs into cost of goods sold. Consequently, the restated historical gross margins as now reported are lower than under the previous accounting system, with compensatingly lower operating expenses.) Operating margins in the first quarter reached 19%, up from 16.4% in the fourth quarter of 1986 and 11.4% in the first quarter of 1986. Earnings per share of $0.58 increased 110% over year-ago levels and 23% sequentially. The company continued to be cash flow positive from operations. Cash levels decreased $6 million to $234 million owing to a $15 million outlay made during the quarter for the purchase of two previously used buildings.

Despite a continuation in the second quarter of the bookings strength demonstrated in the first quarter, management expects the traditionally weak March quarter to yield sequentially lower revenues and earnings (but with significantly positive comparisons to last year's results). Headcount as of quarter-end numbered 5,950; we anticipate that Tandem will begin hiring more aggressively in the second half of the year. Based on the strong first quarter results and the positive demand outlook cited by management, we have raised our fiscal 1987 revenue projection to $1.02 billion from $940 million and our 1987 EPS estimate to $2.40 from $1.85. In fiscal 1986 Tandem earned $1.44 per share on revenues of $768 million.

Tandem's share price has appreciated significantly in response to its first quarter report. The company has benefited from continued expansion in demand for on-line transaction processing equipment and from its successful product transition cycle: both the new high- and low-end extensions to the NonStop product line have been well received. Further additions at the low end (with both fault-tolerant and non-fault-tolerant offerings) are expected this year. Considering Tandem management's tendency during the last three quarters to provide overly conservative guidance, the Street may now err on the high side in anticipating future results. Despite this possibility, given the company's present business momentum, and assuming a continued buoyant technology equity market, we do not consider Tandem stock overpriced.

January 26, 1987 (Other recent reports: 11/4/86, 7/29/86) Jeffry Canin
Susan Nishimoto

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Fiscal: September

TANDEM COMPUTERS
SALES AND EARNINGS MODEL
($ in thousands, except EPS)

JC
01/19/87

	REV $	YR-TO-YR REV CHG %	GROSS MARGIN %	OPER INCOME $	OPER MARGIN %	PBT $	PBT MARGIN %	TAX RATE %	NET INCOME $	NET MARGIN %	EPS $	YR-TO-YR EPS CHG %	SHARES
1984-1Q	126,369	34%	60.1%	16,878	13.4%	17,954	14.2%	44.0%	10,054	8.0%	0.24	36%	41,841
2Q	111,236	16%	57.5%	2,006	1.8%	3,148	2.8%	37.3%	1,974	1.8%	0.05	-70%	41,794
3Q	141,924	29%	59.3%	14,342	10.1%	15,585	11.0%	40.6%	9,250	6.5%	0.23	10%	41,039
4Q	153,090	30%	58.6%	11,111	11.7%	19,597	12.8%	39.1%	11,930	7.8%	0.29	36%	40,923
YEAR(A)	532,620	27%	58.9%	51,101	9.6%	56,284	10.6%	41.0%	33,208	6.2%	0.80	6%	41,399
1985-1Q	159,653	26%	69.1%	37,673	23.6%	39,561	24.8%	26.2%	29,192	18.3%	0.71	194%	41,384
2Q	146,489	32%	70.1%	23,365	16.0%	24,938	17.0%	17.8%	20,503	14.0%	0.49	930%	42,156
3Q	144,165	2%	70.9%	17,512	12.1%	18,810	13.0%	-2.9%	19,360	13.4%	0.46	105%	41,896
4Q	173,831	14%	70.9%	31,058	17.9%	32,568	18.7%	23.7%	24,846	14.3%	0.60	105%	41,623
YEAR(A)	624,138	17%	70.3%	109,608	17.6%	115,877	18.6%	19.0%	93,901	15.0%	2.25	180%	41,765
1986-1Q	170,061	7%	61.1%	19,315	11.4%	20,988	12.3%	44.5%	11,648	6.8%	0.28	-61%	42,177
2Q	176,327	20%	62.4%	19,998	11.3%	22,360	12.7%	44.5%	12,410	7.0%	0.29	-41%	43,385
3Q	200,853	39%	65.0%	30,601	15.2%	32,655	16.3%	44.5%	18,124	9.0%	0.40	-13%	45,003
4Q	220,552	27%	65.0%	36,064	16.4%	38,479	17.4%	43.9%	21,584	9.8%	0.47	-22%	46,237
YEAR(A)	767,793	23%	63.5%	105,978	13.8%	114,482	14.9%	44.3%	63,766	8.3%	1.44	-36%	44,201
1987-1QA	238,035	40%	65.8%	45,541	19.1%	48,388	20.3%	44.0%	27,097	11.4%	0.58	110%	46,793
2QE	235,500	34%	65.3%	38,969	16.5%	42,031	17.8%	44.0%	23,537	10.0%	0.50	75%	47,000
3QE	261,500	30%	66.4%	50,100	19.2%	52,900	20.2%	44.0%	29,624	11.3%	0.62	55%	47,500
4QE	282,500	28%	66.7%	38,969	13.8%	59,103	20.9%	44.0%	33,097	11.7%	0.69	48%	48,000
YEAR (E)	1,017,535	33%	66.1%	190,912	18.8%	202,421	19.9%	44.0%	113,355	11.1%	2.40	66%	47,323

BALANCE SHEET

	9/86	12/86
Assets:		
Cash & Equivalents	239,819	234,056
Accounts Receivable	197,658	243,326
Inventories	64,229	66,455
Other Current Assets	17,505	24,365
TOTAL CURRENT ASSETS	519,211	568,202
PP&E	175,022	195,438
Other Assets	10,792	12,914
TOTAL ASSETS	705,025	776,554
Liabilities & Stockholders Equity:		
Current Liabilities	133,991	164,773
Long Term Debt	6,526	8,327
Deferred	29,828	29,916
Stockholders Equity	534,680	573,538
TOTAL LIAB & S/E	705,025	776,554

QUARTERLY RATIOS

	12/85	3/86	6/86	9/86	12/86	4-QTR AVG
Return on Sales	6.8%	7.0%	9.0%	9.8%	11.4%	9.5%
Return on Assets	8.3%	8.5%	11.7%	12.8%	14.6%	11.8%
Return on Equity	10.9%	11.1%	15.2%	16.8%	19.6%	15.7%
R&D/Sales	11.7%	12.1%	11.1%	10.7%	10.2%	10.9%
Days O/S A/R	96	94	93	82	93	92
Inventory Turns	2.3	2.4	2.6	2.9	3.2	4.2
Days Sales in Inv	158	154	142	125	113	88
Book Value	$10.31	$10.52	$11.01	$11.56	$12.26	$11.12
Cash per Share	$3.18	$3.71	$3.94	$5.19	$5.00	$4.06
Current	4.5	4.6	4.2	3.9	3.4	3.8
Quick	3.5	3.6	3.4	3.3	2.9	3.1

Notes:

(a) Hambrecht & Quist Incorporated maintains a market in this stock.

(f) Options are available on this issue.

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Jeffry Canin
Susan Nishimoto
November 4, 1986

TANDEM COMPUTERS INCORPORATED (OTC-TNDM) $37

52-Week Range	Market Val. (mil.)	Fiscal EPS 1985A	Fiscal EPS 1986A	Fiscal EPS 1987E	Calendar P/E 1986	Calendar P/E 1987	Trend-Line Growth Rate
$16-40	$1,711	$0.82	$1.44	$1.85	24	19	25%

Year Ends: September 31 **DJIN:** 1892.43 **SPIN:** 273.32 **Notes:** a & f

Revenues (12 mos):	$767.8 million	**Return on Avg Equity:**	13.4%
Shares Outstanding:	44.2 million	**LT Debt/Total Capitalization:**	1.2%
Annual Dividend:	nil	**Current Yield:**	nil

Strong Fourth Quarter Highlights Record Fiscal Year

Tandem is the originator and leading vendor of fault-tolerant on-line transaction processing (OLTP) systems, with over 10,000 systems installed and 1,100 customers worldwide. The company reported a strong fourth quarter, in line with expectations, to close out a record fiscal year for 1986.

Exhibit 1
TANDEM COMPUTERS INCORPORATED
Fourth Quarter Results
($ in millions, except per share data)

	Fourth Quarter Results				Year-to-Date: 12 Months		
	9/30/86	9/30/85	% Chg	H&Q Est	9/30/86	9/30/85	% Chg
Revenues (mil)	220.6	173.8	27	215.0	767.8	624.1	23
Pretax income (mil)	38.5	18.8	104	35.6	114.5	56.4	103
Net income (mil)	21.6	11.1	94	19.6	63.8	34.4	86
Earnings per share	0.47	0.27	75	0.44	1.44	0.82	75
Average shares (mil)	46.2	41.6	11	45.1	44.2	41.8	6
Gross margin	68.3	63.0		69.3	67.7	61.5	
Operating margin	16.4	10.0		15.4	13.8	8.0	
Pretax margin	17.4	10.8		16.6	14.9	9.0	
Tax rate	43.9	41.0		44.8	44.3	39.0	
Net margin	9.8	6.4		9.1	8.3	5.3	

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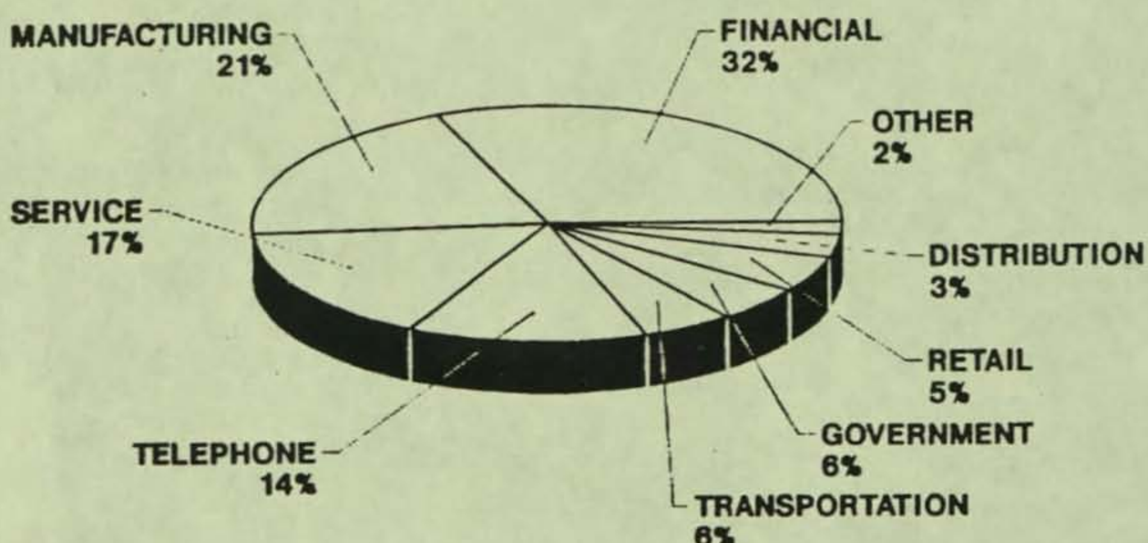
Quarterly revenues of $220.6 million represented a 10% sequential and 27% year-to-year improvement. As in recent quarters, sales of the mid-range-performance NonStop TXP accounted for the majority of product revenues. The company's high-end NonStop VLX system contributed approximately 25% of revenues, and NonStop EXT systems (both the older and the recently announced models) represented 5-10% of sales—both of the new machines experiencing demand above internal plans. International business—at 41% of total fourth quarter sales—displayed strong growth, up 55.6% over the year-ago quarter. Gross margins decreased to 68.3% in the fourth quarter from the record 69.6% reported last quarter—the unusually strong third quarter margins were due primarily to the significant contribution from high-margin software consulting and disk drives revenues—but were well above the 63.0% of the year-ago fourth quarter. Operating expenses rose $5 million to $114.5 million during the quarter but fell 2.5% as a percentage of revenues. Pretax margins improved 1.1% from third quarter levels to 17.4%—the best since 1Q82—yielding EPS of $0.47, up 75% year-to-year and 16% sequentially.

Cash increased by $62.6 million from June levels to a record $240 million at the end of September. Asset management improved significantly; days outstanding in accounts receivable decreased to 82 from 93 last quarter and days sales in inventory were reduced to 84 from 101.

Record annual revenues of $768 million were 23% above fiscal 1985 levels, representing a trend reversal after six consecutive years of decelerating top-line growth. International revenues represented 39.6% of the total, up from 33.1% in fiscal 1985. The telecommunications, manufacturing, government, and non-bank financial industry sectors exhibited particularly strong growth in fiscal 1986 (see Exhibit 2).

Exhibit 2

TANDEM COMPUTERS INCORPORATED
Fiscal 1986 Revenues by Industry Sector



Major customers added to Tandem's base over the year include Safeway, Kentucky Fried Chicken, First Nationwide Savings, and Audi. Full-year gross margins of 67.7%, the best in company history, improved from 61.5% last year as a result of higher sales volume, greater manufacturing efficiencies, and better inventory control. Higher fiscal 1986 operating margins of 13.8% relative to fiscal 1985's 8.0% yielded a 75% improvement in EPS to $1.44 despite a higher tax rate. Tandem added $111 million to its cash levels over the last twelve months owing to the strong bottom-line performance, improved asset management, and contributions from employee stock plans of approximately $50 million.

New EXT Models Introduced; Additional Low-End Models Expected in 1987

Following its successful TXP introduction in April, Tandem enhanced its low-end offerings during the fourth quarter with the announcement of the EXT10 and EXT25—the former reducing the entry-level price point for the NonStop processor line by over 30% to under $100,000 (see Exhibit 3).

Exhibit 3
TANDEM COMPUTERS INCORPORATED
Nonstop Processor Line

	EXT	TXP	VLX
Technology*	TTL	TTL	ECL/TTL
First shipment	3Q86	4Q83	2Q86
Processors per system	2-4	2-16	4-16
Transactions per second	4-11	10	40-50
Entry price	$98,500	$330,000	$1,000,000
Main memory (mb)	4-16	4-16	32-64
Virtual memory (gb)	1	1	1
Disk storage (mb)	256	256	2,700

* TTL = transistor-transistor logic.
ECL = emitter-coupled logic.
** Includes GUARDIAN operating system software.

Benchmarked at over four transactions per second, the EXT10 is priced at $82,500 (the unbundled GUARDIAN 90X operating system software costs an additional $16,000), which represents about a 30% price reduction relative to a comparably configured NonStop II. The EXT25, benchmarked at eleven transactions per second, is priced at $325,000 (with an incremental $22,000 for software) and represents about a 20% price decrease over a comparable TXP model. The new EXT models, compatible with Tandem's existing product line, are targeted at distributed networking and software development markets as well as the market for smaller OLTP applications (the latter to be addressed primarily by third-party vendors participating in the Tandem Alliance program). Both new EXT models will be available in volume this quarter.

In fiscal 1987 we expect Tandem to introduce two new low-end systems. In the first half of 1987, Tandem is expected to expand its networking product line with the announcement of a UNIX multiuser system (the result of Tandem's joint development program with Altos). More significantly, we expect a second half introduction of a low-end departmental system based on CMOS gate-array technology and priced below the EXT10. Fully compatible with Tandem's current processors, the CMOS-based system is expected to reduce the floor space required by 50% and to feature greater user serviceability (including removable processor boards and disk drives). We expect it to be positioned (like the EXT10) as a low-cost system for distributed networks and—through the company's VADs and VARs—for relatively small OLTP applications.

Market and Industry Segments

Tandem has targeted four primary application sectors—banking, manufacturing, telecommunications, and retail—as major growth markets for fiscal 1987. Banking, one of the initial and largest markets for OLTP systems, represented 20% of Tandem's revenues in fiscal 1987; manufacturing, considered one of the fastest growing application sectors in OLTP, represented 21% of Tandem's fiscal 1986 revenues. Although exhibiting significant growth of over 20%, the manufacturing segment has proved to be somewhat disappointing owing principally to general economic conditions impacting prospective industrial customers.

Only 5% of fiscal 1986 revenues, the retail segment is expected to grow at a 25% annual rate. A key feature of the company's retail strategy is the penetration of accounts currently using NCR point-of-sale (POS) terminals with Tandem's STORELINK communications software, which integrates non-NCR equipment with installed NCR terminals.

The telephone/telecommunications sector, representing 14% of fiscal 1986 revenues, is the fastest-growing market segment for Tandem. The company has aggressively pursued business with the regional Bell operating companies (RBOCs); present customers include Pacific Bell (with which Tandem has formed a joint venture), Southwest Bell, and Atlantic Bell.

In an effort to strengthen its market position as well as its coverage of these various application sectors and to attract larger numbers of quality resellers for its new low-end products, Tandem has been aggressively recruiting new third-party firms and strengthening ties with current Alliance participants through increased incentive programs and greater field support. Tandem Alliance members—fitting into five separate categories—now number over 225.

Competitive Environment

Based on its current business momentum and what appear to be compelling new soon-to-be-introduced products, Tandem is likely for the foreseeable future—to retain its dominant share of the OLTP market addressed by fault-tolerant systems. Stratus and IBM (marketing the System/88) remain the only significant fault-tolerant competitors to Tandem (Tolerant Systems, the only other fault-tolerant OLTP start-up, could become a greater factor in 1987, its greatest current obstacle being financing). The Stratus/IBM combination may increase market share over the next year owing to reduced conflict between the two companies' sales forces (Stratus recently decided to compensate its salespeople fully for IBM System/88 sales). In addition, we expect Stratus (and IBM) to be marketing a broadened product offering in 1987 once it introduces its anticipated 68020-based high-end compatible systems.

The principal OLTP competitor overall remains IBM, selling its non-fault-tolerant 43XX and 3090 series. Competition from other vendors is typically sector-specific. In the retail market, Tandem often encounters NCR as a strong incumbent due to its large installed base of POS terminals. Despite a fault-tolerant offering (the new 9800), NCR may have limited its ability to capitalize on its current presence in the retail market given the incompatibility of its 9800 with its earlier offerings. In the case of the RBOCs, a key target market for Tandem, primary competitors include DEC (with its strong RBOC installed base), Sperry/Computer Consoles, and AT&T (the last two also offering fault-tolerant configurations).

In addition to its traditional competitive focus on IBM, Tandem has begun to address the presence of DEC in planning its recent marketing moves. DEC markets its VAX cluster for OLTP applications, offering some degree of fault tolerance (pale by comparison with Tandem), significant communications and network facilities, and a wide range of single-architecture performance through its VAX supermini family. In addition to concentrating development and marketing efforts on its broadening product line and communications facilities (a focus similar to DEC's), Tandem is mounting an aggressive direct-mail campaign aimed at DEC's third-party vendors, some of whom reportedly have become disgruntled as a result of DEC's recent cuts in the margins it offers to these vendors. Initial responses to this campaign, according to Tandem management, have reportedly been enthusiastic. In a recent analysts review, Burroughs and NCR were among the other manufacturers cited by management whose installed customer base is targeted by Tandem in 1987.

Projections and Recommendations

Despite the generally weak domestic demand environment being experienced by many major computer systems vendors, Tandem has enjoyed impressive revenue growth owing to its well-received high- and low-end product line extensions and the overall growth of the OLTP market. For fiscal 1987, management assumes no significant improvement in the current capital spending environment, with little positive impact from the dollar and a tax rate of 43-43.5% (which is likely to drop further in fiscal 1988). Owing to the strength of fourth quarter 1986 results, the December quarter top line is likely to be flat or slightly down sequentially; we project revenues of $215 million and EPS of $0.35-0.40. We have recently increased our fiscal 1987 projections to revenues of $940 million (previously $910 million) and EPS of $1.85 (previously $1.80), representing 22% and 28% year-to-year increases, respectively.

Tandem management has done an excellent job over the last year in both increasing profitability significantly (after four years of flat bottom-line performance), improving employee productivity and asset management, and alleviating widely held investor concerns that the Tandem NonStop architecture was approaching its technology limits. The company has broadened its reputation from a niche vendor of fault-tolerant machines suitable for specialized applications to a mainstream supplier of distributed computing for OLTP, with a compelling strategic marketing plan backed by an impressive software and hardware product line. Although the easiest money has probably already been made in Tandem stock, with the share price increasing nearly 150% over the last year, we continue to recommend the stock for long-term appreciation.

NOTES (a) Hambrecht & Quist Incorporated maintains a market in this stock.

(f) Options are available on this issue.

TANDEM COMPUTERS
SALES AND EARNINGS MODEL
($ in thousands, except EPS)

JC
10/29/86

Fiscal: September

	REV	YR-TO-YR REV CHG	GROSS MARGIN	OPER INCOME	OPER MARGIN	PBT	PBT MARGIN	TAX RATE	NET INCOME	NET MARGIN	EPS	YR-TO-YR EPS CHG	SHARES
	$	%	%	$	%	$	%	%	$	%	$	%	
1984-1Q	126,369	34%	60.1%	16,878	13.4%	17,954	14.2%	44.0%	10,054	8.0%	0.24	36%	41,841
2Q	111,236	16%	57.5%	2,006	1.8%	3,148	2.8%	37.3%	1,974	1.8%	0.05	-70%	41,794
3Q	141,924	29%	59.3%	14,342	10.1%	15,585	11.0%	40.6%	9,250	6.5%	0.23	10%	41,039
4Q	153,090	30%	58.6%	11,111	11.7%	19,597	12.8%	39.1%	11,930	7.8%	0.29	36%	40,923
YEAR (A)	532,620	27%	58.9%	51,101	9.6%	56,284	10.6%	41.0%	33,208	6.2%	0.80	6%	41,399
1985-1Q	159,653	26%	61.2%	22,509	14.1%	24,397	15.3%	42.5%	14,028	8.8%	0.34	41%	41,384
2Q	146,489	32%	60.6%	9,703	6.6%	11,276	7.7%	39.3%	6,841	4.7%	0.16	244%	42,156
3Q	144,165	2%	61.1%	540	0.4%	1,838	1.3%	-29.9%	2,388	1.7%	0.06	-75%	41,896
4Q	173,831	14%	63.0%	17,329	10.0%	18,839	10.8%	41.0%	11,117	6.4%	0.27	-8%	41,623
YEAR(A)	624,138	17%	61.5%	50,081	8.0%	56,350	9.0%	39.0%	34,374	5.5%	0.82	3%	41,765
1986-1Q	170,061	7%	65.4%	19,315	11.4%	20,988	12.3%	44.5%	11,648	6.8%	0.28	-19%	42,177
2Q	176,327	20%	67.1%	19,998	11.3%	22,360	12.7%	44.5%	12,410	7.0%	0.29	76%	43,385
3Q	200,853	39%	69.6%	30,601	15.2%	32,655	16.3%	44.5%	18,124	9.0%	0.40	607%	45,003
4Q	220,552	27%	68.3%	36,064	16.4%	38,479	17.4%	43.9%	21,584	9.8%	0.47	75%	46,237
YEAR(A)	767,793	23%	67.7%	105,978	13.8%	114,482	14.9%	44.3%	63,766	8.3%	1.44	75%	44,201
1987-1QE	214,500	26%	68.0%	27,885	13.0%	30,335	14.1%	43.5%	17,139	8.0%	0.37	33%	46,500
2QE	225,500	28%	68.0%	32,021	14.2%	34,471	15.3%	43.5%	19,476	8.6%	0.42	46%	46,600
3QE	239,000	19%	68.0%	36,328	15.2%	38,778	16.2%	43.5%	21,910	9.2%	0.47	16%	46,700
4QE	261,000	18%	68.0%	32,021	12.3%	48,908	18.7%	43.5%	27,633	10.6%	0.59	26%	46,800
YEAR (E)	940,000	22%	68.0%	142,692	15.2%	152,492	16.2%	43.5%	86,158	9.2%	1.85	28%	46,650

BALANCE SHEET

	9/85	9/86
Assets:		
Cash & Equivalents	128,676	239,819
Accounts Receivable	163,378	197,658
Inventories	78,962	64,229
Other Current Assets	14,401	17,505
TOTAL CURRENT ASSETS	385,417	519,211
PP&E	160,598	175,022
Other Assets	6,329	10,792
TOTAL ASSETS	552,344	705,025
Liabilities & Stockholders Equity:		
Current Liabilities	86,806	133,991
Long Term Debt	12,412	6,526
Deferred	32,718	29,828
Stockholders Equity	420,408	534,680
TOTAL LIAB & S/E	552,344	705,025

QUARTERLY RATIOS

	9/85	12/85	3/86	6/86	9/86	12-MO AVG
Return on Sales	6.4%	6.8%	7.0%	9.0%	9.8%	8.3%
Return on Assets	8.1%	8.3%	8.5%	11.7%	12.8%	10.1%
Return on Equity	10.7%	10.9%	11.1%	15.2%	16.8%	13.4%
R&D/Sales	12.3%	11.7%	12.1%	11.1%	10.5%	11.3%
Days O/S A/R	86	96	94	93	82	86
Inventory Turns	3.3	3.1	3.3	3.6	4.4	3.5
Days Sales in Inv	112	117	110	101	84	105
Book Value	$10.10	$10.31	$10.52	$11.01	$11.56	$10.87
Cash per Share	$3.09	$3.18	$3.71	$3.94	$5.19	$4.03
Current	4.4	4.5	4.6	4.2	3.9	4.3
Quick	3.4	3.5	3.6	3.4	3.3	3.4

Notes:

(a) Hambrecht & Quist Incorporated maintains a market in this stock.

(f) Options are available on this issue.

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Computers | David Wu, C.F.A.

TANDEM COMPUTERS, INC. (TNDM - OTC)*

Recommendation : HOLD
Price : $37.25
October 31, 1986

Fiscal Year End	EPS	P/E	Revs.	Net Margin	Shs. O/S	Ret.on Av.Equ.	Bk. Val. P/Sh	Net Div.	Net Yield
9/88E	**$2.35**	**15.9x**	**$1.2B**	**9.8%**	**49.0M**	**17.0%**	**$16.19**	**-0-**	**0%**
9/87E	**$1.75**	**21.3x**	**$940M**	**8.7%**	**47.0M**	**14.3%**	**$13.84**	**-0-**	**0%**
9/86A	**$1.44**	**25.9x**	**$767M**	**8.3%**	**44.2M**	**13.3%**	**$12.09**	**-0-**	**0%**

Market Capitalization :	$1.7B	Projected Secular Growth Rate:	20%
52-week Price Range :	$39-13	Current Mkt.Cap./1987 Revenues:	1.8x
Institutional Ownership:	74%	Price/Current Book Value :	3.4x
Insider Ownership: :	8%	1987 P/E/Proj.Growth Rate:	1.1x
Average Monthly Volume:	10.2M shs.	Long-Term Debt/Total Capital:	2%
S&P 500:	243.98		

Summary
Tandem is well positioned to gain market share in the on-line transaction processing market. The company has reorganized its marketing operation and has initiated a new VAR program. We believe TNDM is capable of generating operating margins of 15% in fiscal 1987; however, on a valuation basis, the stock is rated a HOLD.

Tandem had an all-day analysts' meeting on October 24, followed by attendance at the AEA conference at Monterey.

After extensive efforts over the past two to three years, the company has put its own house in order with respect to product line, marketing and financial controls; it currently appears very much on the offensive to gain share in the on-line transaction processing market. The stock already reflects the positive fundamentals and discounts fiscal 1987 prospects. We estimate revenues of $940 million and EPS of $1.75 on a 43% tax rate for fiscal 1987. The longer term case for the stock is that there is substantial upside to fiscal 1988 revenue and EPS from a successful VAR program launched during the fourth quarter of fiscal 1986. Our preliminary projections for fiscal 1988 call for revenue of $1,175 million and EPS of $2.35 on a tax rate of 35%. Hence, the stock could be viewed as having an upside potential of around $50 over the next 18 months. It is currently rated a HOLD.

Fiscal 1987 Outlook

Management plans on a faster U.S. growth rate, particularly in the second half, offsetting a slower growth internationally in U.S. dollar terms (but the same in local currencies). This will result in about a 22% revenue increase. Head count grew by 4% during fiscal 1986, and will grow at a somewhat higher rate in fiscal 1987. Gross margins are expected to be slightly lower, due to a move toward the low end in its product mix as well as increased VAR business. Key to maintaining pretax operating margins around the 15% level of the third quarter principally involves a lowering of marketing expense as a percentage of revenue; management is dedicated to achieving this goal. All new additions to the U.S. staff will be systems analysts; no new salespeople will be hired.

Marketing Review

Tandem completed its U.S. field reorganization in fiscal 1986 by consolidating eight regions into six and eliminating several layers of sales management. A separate group was set up to handle third-party programs within the Alliance program, which has grown over the past three years from under 40 software packages to 240 today. A small headquarters staff has also been set up to handle international marketing coordination, since overseas activities account for over 40% of the total. Significant new marketing programs for fiscal 1987 involve: (1) specialization of the sales force by industry in the major regions; (2) emphasis on solution selling and closer third-party ties; and (3) a new VAR thrust to address smaller customers within targeted applications. An example of Tandem's newfound aggressiveness is its taking advantage of NCR's tardiness in offering hardware/software to link its point-of-sales terminals to mainframes by offering its line of processors as a controller to NCR's mainframes with "StoreLink", a third-party software package. Another example is with Tandem's new VAR program to sell EXT 10 and 25s by targeting dissatisfied DEC VARs with better discount schedules and without cross channel competition from Tandem's direct salesforce. While financial and manufacturing are still the two largest customers, the telephone industry is expected to be the fastest growing, with 14% of fiscal 1986 revenue.

Competition

IBM continues to be the prime competitor. However, the System 88 (OEM from Stratus Computer) has been less aggressively marketed than in the past. DEC is a strong competitor only in manufacturing applications. Stratus is quite active in smaller bids.

Technology

Tandem intends to spend around $100 million in R&D to key its leadership in high-end transaction processing as well as extend that capability to lower end systems. Tandem's current size allows it to develop three to four processors at once for different segments of the market, as opposed to one at a time several years ago. Fiscal 1986 was the year of high-end processor introduction (the VLX). Fiscal 1987 will be the year of low-end departmental level processor introduction, using CMOS gate arrays, followed by another high-end in fiscal 1988. Tandem is positioning itself similarly to DEC to provide the intelligence backbone network for Fortune 500 companies. Hence there is the need for a whole range of system performance tools and the ability to network in a heterogeneous environment, including PCs. Tandem offers a wider range of device connectivity than DEC, since it will support any local area network that supports NETBIOS interface, which means it supports Ethernet, Token Ring and others.

* **We are currently a registered market maker in this security.**

INVESTMENT RESEARCH

AN INVESTMENT RESEARCH DEPARTMENT PUBLICATION

THOMSON McKINNON SECURITIES INC. EST 1885 — MORE THAN A CENTURY OF SERVICE TO INVESTORS

October 20, 1986

Tandem Computers Incorporated

(TNDM-OTC)

Recent Price	36 1/2-36 5/8	Est. 1987 Earns.*	$1.85	1987 P/E:	19.7x
12-Month Price Range	40-20	Est. 1986 Earns.*	$1.40	1986 P/E:	26.1x
Indicated Dividend	Nil	1985 Earns.*	$0.82		
Yield:	Nil	1984 Earns.*	$0.80		

* Fiscal year ends September 30.

Capitalization ($MM) (June 30, 1986)

Long-Term Debt	$ 4.4
Deferred Taxes & Capitalized Leases	37.9
Stockholders' Equity	495.3
Total Capitalization (43.1 million shares)	$537.6

Summary and Recommendation

TNDM is by far the leading supplier of modular (expandable) fault-tolerant computer systems for on-line transaction processing (OLTP). TNDM's systems are structured to provide a high degree of data integrity by incorporating a redundant architecture which minimizes system downtime. Broadly defined, the OLTP market is $39 billion in size and growing an average 16% per year. TNDM's new non-stop VLX multiple processor system is double the size of its predecessor machines, and should permit further market penetration.

After five years of flat operating results, earnings broke out in fiscal 1986. Our projected 70% gain in TNDM's earnings substantially outperformed the vast majority of computer hardware companies. Since VLX deliveries only began in the third quarter, we believe earnings should show more restrained gains of 30-35% in fiscal 1987 and 20-25% in fiscal 1988. However, these results are well above industry expectations and should ultimately lead to a higher multiple valuation versus other mainframe/minicomputer stocks. TNDM's proprietary fault-tolerant architecture sets it apart from

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST.

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traditional vendors and should facilitate increased market share. This product position--combined with a cash-rich, debt-free balance sheet--reinforces our recommendation of growth-oriented TNDM for potential appreciation. The stock is being added to the Supervised List.

Highlights

-- The OLTP market is $39 billion in size and expected to grow an average 16% per year throughout the decade. We feel this projection is too conservative. The fault-tolerant submarket is an important and growing segment. TNDM is becoming increasingly recognized for an architecture which is truly general purpose and not just confined to non-stop applications. TNDM has already penetrated manufacturing, distribution, banking, medical, airline, utility distribution and financial markets. It is now gearing up to enter retailing/grocery, telecommunications, publishing, factory automation and aerospace as well.

-- TNDM's proprietary software-oriented architecture allows users to: (1) distribute programs and data throughout their internal systems; (2) expand both size and performance of their systems in a linear fashion; and (3) provide 100% redundancy of their applications. Founded just 12 years ago, TNDM will be generating revenues at a running rate of $1 billion next year, encountering only minimal competition from others. Stratus Computers ($125 million revenues) employs a shared-memory, hardware-redundant system which is also marketed by IBM. OEM sales to IBM are below plan. NCR will ship its 9800 redundant system in November, 1986, primarily to its V8500 installed base.

-- In April 1986, TNDM introduced the VLX--which utilizes VLSI ECL circuitry, processes 10 transactions a second per processor, is rated at 4 MIPS, and costs about $1 million. VLX is an essential (strategic) product because it has an average selling price more than twice the smaller TXP, and therefore has little impact on TNDM's existing revenue stream. Gross margins exceed those of all other systems. Tandem can string together 16 of its 4MIPS VLX processors for 64 MIPS. The result is penetration of the dynamic large-scale, on-line network market. TNDM shipped 22 VLX units (8% of revenues) in the third quarter and about 50 units (20% of revenues) in the fourth quarter. VLX could represent close to 50% of revenues in fiscal 1987.

-- Theoretically, VLX provides greater price/performance than the IBM 3090 main frame series. A 16 processor system could process 160 transactions per second, is rated at 64 MIPS, and costs $4 million ($625,000 per MIPS). IBM 3090M200 can process 80-100 transactions per second, is rated at 28 MIPS, and costs $5.5 million ($196,000 per MIPS). By contrast, a dual processor TXP is rated at 10 transactions per second and costs $400,000. These calculations must be considered theoretical at this time since the largest VLX at a customer site is a 10 processor system. IBM 3090 is a true general-purpose computer. Still, VLX has been installed at diverse customers like Merrill Lynch, Wells Fargo, Transamerica, First Nationwide Savings, and Elder Beerman. In addition, TXP at its peak represented 80% of revenues. Thus, high-margin VLX could provide an increasing percentage of Tandem's sales in fiscal 1987/1988.

-- TNDM's product thrust in fiscal 1987 will be toward penetrating the low-end of the OLTP market, initially with the low-priced EXT model (starting at $82,000). It will then follow with new lower-priced CMOS systems in 1987. TNDM will continue to roll out systems and networking software to augment its growth rate, add new customers, and put pressure on the offerings of Stratus and NCR.

-- VLX carries a fully-paid-up (one time) monthly license fee for Guardian 90 operating software--marking the first time Tandem has charged for operating system software. This is a very profitable and strategic move, following the new pricing philosophy of IBM and Digital Equipment. TNDM has always charged for software and hardware maintenance, which represents

20% of revenues. We estimate its software products will constitute 30-35% of revenues by the end of this decade.

-- TNDM relies heavily on third party software developers who write application software for non-stop machines. They are an integral part of the sales/distribution strategy. These software developers increased from over 130 a year ago to 175 four months ago and 225 today. We believe TNDM will continue signing up these VARs at a high pace, partly as a concerted effort to capture distributors from Digital Equipment, who are unhappy over recent reductions in discounts.

-- TNDM has a worldwide direct selling force of 546, up 20 from last year. The company reorganized its U.S. sales force last year--eliminating management overhead, placing more supervisors in the field, and weeding out under-quota salesmen. TNDM will continue expanding its international selling force in fiscal 1987, but is likely to keep the domestic force constant unless orders rise at a faster rate than 20%.

Financial Review

While five-year revenues have compounded at 42% per year from $109 million to $624 million, share earnings have plateaued between $0.72-0.82. Given the gross margin contribution of VLX, projected revenue growth of 22%, closer attention to expenses than ever before, and favorable currency effect, we believe earnings should rise to an estimated $1.40 per share this year. Fiscal 1987 should be another excellent growth period as VLX reaches more than 40% of revenue mix, marketing and G&A are leveraged by higher ASP products, and the U.S. market picks up. We expect earnings to increase 32% to $1.85 per share on a similar revenue increase as this year, together with a two percentage point gain in operating and pretax margins. Aided by a 7-8 percentage point drop in the tax rate under the proposed new tax bill, earnings could advance to $2.25-2.30 a share in fiscal 1988 on a projected $1.1 billion revenues.

Although TNDM will have higher capital outlays next year, cash flow should be modestly positive. TNDM has a very strong balance sheet (end of June), consisting of $173 million cash ($4.00 per share) net of long-term debt. Stockholders' equity stands at $495 million ($11.45 per share). Although Tandem has made investments in software concerns, all its growth has been internally-generated.

We believe the only corporate risk for TNDM is if earnings fall short of expectations due to slower growth of domestic revenues and a smaller currency benefit (should the dollar strengthen appreciably). We see no major threat to the company's preeminent position in products and market share.

Quarterly Earnings Comparisons (Per Share)

	1Q	2Q	3Q	4Q	Year**
1987E	$0.42	$0.41	$0.48	$0.54	$1.85
1986E	0.28*	0.29*	0.40*	0.43	1.40
1985	0.34	0.16	0.06	0.26	0.82

* Actual. ** Fiscal year ends September.

(over, please)

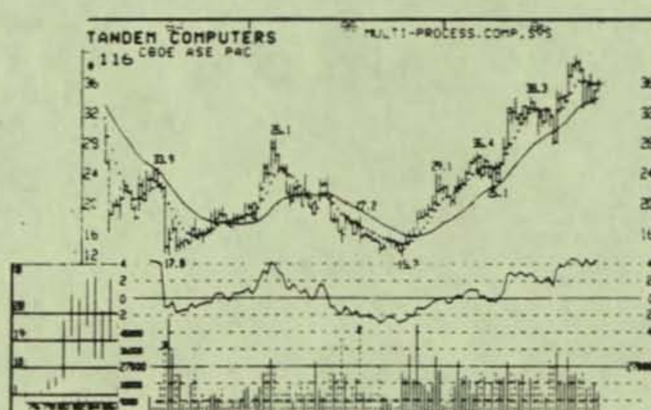
Operating Record

Year Ending Sept	Revenues ($MM)	Pretax Income ($MM)	Pretax Margin	Net Income ($MM)	Net Margin	Per Share: Earns.*	Per Share: Div.	Per Share: Price Range	Per Share: P/E Range
1987E	$925.0	$153.9	16.6%	$86.9	9.4%	$1.85	---	---	---
1986E	760.0	111.2	14.6	61.7	8.1	1.40	---	39-19*	28-14*
1985	624.1	56.4	9.0	34.4	5.5	0.82	---	29-13	35-16
1984	532.6	56.3	10.6	33.2	6.2	0.80	---	40-13	49-16
1983	418.3	50.5	12.0	30.8	7.4	0.76	---	40-24	52-31
1982	312.1	46.7	15.0	29.9	9.6	0.76	---	33-14	43-19
1981	208.4	51.0	24.5	26.5	12.7	0.72	---	35-20	48-28

* To date.

Technical

Technically, TNDM has spent the past ten months in a strong recovery uptrend and is now challenging an all-time-high area surrounding 40. Uptrend support is now at 32-33 near-term. A rally above the 39-40 high points could reach 46-47 initially and continue higher over the intermediate-to-long term. Additional support exists at 28-29.



(Chart courtesy of R.W. Mansfield)

JOHN J. McMANUS
Investment Research Department

Thomson McKinnon Securities Inc. makes a principal market in Tandem Computers Incorporated and, for this purpose, may buy from or sell to its clients these shares.

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October 6, 1986

Tandem Computers, Inc. - Company Report
ALEX. BROWN & SONS - De Santis, M.
08-01-86 (RN=610229)

August 1, 1986
DJIA: 1763.64

TANDEM COMPUTERS, INC.
(OTC: TNDM)

Price 8/1/86	1986 Price Range	Earnings Per Share 1985A	1986E	1987E	Cal. Yr. P/E 1986E	1987E
34	35 - 19	$0.82	$1.40	$1.95	21.9X	16.2X

Indicated Dividend	Yield
$0.00	Nil

Approximate Market Value of Common: $1,581 million
Approximate Shares Outstanding: 46.5 million
Fiscal Year Ends: September

Summary Comment
SUMMARY COMMENT

After several years of no growth, earnings at Tandem are once again moving ahead strongly. Third quarter results exceeded our expectations with both revenues and margins above what we had assumed. The strength in revenues reflects the positive impact of new products, particularly the high-end VLX, as well as the reorganization of field operations earlier this year and expanded relations with third party software houses. We look for earnings to remain strong in 4Q and, despite an uncertain economic outlook, we expect momentum to continue in FY 1987. Given the likelihood that earnings will remain on a positive trend, we continue to recommend purchase of the stock.

Third Quarter Results

Third quarter earnings of $0.40 per share were well above our estimate ($0.35 per share) with both revenues and margins exceeding what we had assumed. The results are outlined below.

TANDEM COMPUTERS, INC.
Fiscal Third Quarter Comparison
(In millions, except per share data)
Fiscal Year: September

	3Q:FY85	2Q:FY86	3Q:FY86	% Change 3Q/3Q
Revenues	$144.2	$176.3	$200.9	39.3%
Gross Margin	61.1%	67.1%	69.6%.	
Expenses	87.5	98.3	109.2	24.8%
Operating Income	.5	20.0	30.6	NM
% of Sales	0.4%	11.3%	15.2%	
Interest Income	1.3	2.4	2.1	61.5%
Pre-Tax Income	$1.8	$22.4	$32.7	NM
% of Sales	1.3%	12.7%	16.3%	
Eff. Tax Rate	NM	44.5%	44.5%	
Net Income	$2.4	$12.4	$18.1	NM
Per Share	$0.06	$0.29	$0.40	NM

The pickup in revenues from $176 million in 2Q to $200 million in 3Q reflected a sharp 16% sequential gain in domestic shipments as well as continuing strong growth overseas. The principal impetus to demand resulted from initial shipments of the new high-performance VLX processors introduced at the beginning of the quarter, with approximately 20 units delivered in the third quarter at an average price in excess of $1 million. While demand for the VLX has exceeded expectations, orders for the low-end EXT processor, which were strong in the first two months of the quarter, fell off sharply in June and were below plan for the entire quarter probably owing to the impending release of a new low-end machine.

Business conditions in the U.S. computer market clearly remain difficult, and the recent improvement in Tandem's domestic orders (+28% year-to-year) attests to the strength of new products introduced over the past year including the VLX processor, the Guardian 90 operating system, as well as the V8 and XL disk drives. Guardian 90 XF has enabled both an expansion in program size as well as increased throughput with applications running TMF (transaction monitoring facility) greatly reducing the need for checkpointing without sacrificing processor performance. This new software has most likely helped sales of the mainstay TXP processor. In addition to the recent strengthening of the product line, orders are clearly benefitting from expanded relations with third party software houses, which are contributing significantly to the addition of new customers.

Orders outside the U.S. remain on a sharp uptrend, increasing 62% year-to-year in 2Q in part as a result of weakness in the dollar but also due to strength in the U.K. where deregulation is stimulating demand. Domestically, orders derived from the banking and other financial sectors were up as a percentage of total business (30+%) as were bookings from manufacturing customers (20+%) where, ex-autos, demand has strengthened. Federal and state government markets are both strong while telecomm and transportation declined on a relative basis in the third quarter.

Operating margins improved substantially in 3Q to 15.2% from 11.3% the prior quarter, and are now much closer to the long-term targeted range of 16-18%. Gross margins came in just under 70% reflecting the impact of the weakened dollar as well as a sizable infusion of high-margin software revenue. The headcount increased 2.3% to 5,564 on board while the sales force remained flat at 546 worldwide.

The pace of incoming orders thus far in the 4Q points to a continuation of recent positive trends in the final period of FY 1986. Accordingly, we have hiked our estimate of 4Q revenues to a range of $215-225 million and look for earnings of $0.43-0.48 per share bringing our full year 1986 estimate to $1.40-1.45 per share. Looking ahead, we are leaving our estimate for next year unchanged at $1.95 per share given our current reservations regarding economic trends here and abroad. Our quarterly model for this year and next is outlined on the next page. We continue to recommend purchase of the stock.

TANDEM COMPUTERS, INC.
Quarterly Earnings Outlook
(In thousands, except per share data)
Fiscal Year Ends: September

[Part 1 of 2]

SEP FY	REVENUE	OPERATING INCOME	OPERATING MARGIN	INTEREST INCOME
FY 1985				
1Q	159,653	22,509	14.1	1,888
2Q	146,489	9,703	6.6	1,573
3Q	144,165	540	0.4	1,298
4Q	173,831	17,329	10.0	1,510
YEAR	624,138	50,081	8.0	6,269
FY 1986E				
1QA	170,061	19,315	11.4	1,673
2QA	176,327	19,998	11.3	2,362
3QA	200,853	30,601	15.2	2,054
4QE	215,000	32,895	15.3	2,000
YEAR	762,241	102,809	13.5	8,089
FY 1987E				
1QE	220,000	34,200	15.5	2,000
2QE	220,000	32,200	14.6	2,000
3QE	235,000	37,500	16.0	2,000
4QE	260,000	44,100	17.0	2,000
YEAR	935,000	148,000	15.8	8,000

[Part 2 of 2]

SEP FY	PRETAX INCOME	PRETAX MARGIN	TAX RATE	NET INCOME	SHARES OUTST.	EPS
FY 1985						
1Q	24,397	15.3	42.5%	14,028	41,384	0.34
2Q	11,276	7.7	39.3%	6,841	42,156	0.16
3Q	1,838	1.3	(550)	2,388	41,896	0.06
4Q	18,839	10.8	41.0%	11,117	41,623	0.27
YEAR	56,350	9.0	39.0%	34,374	41,765	0.82
FY 1986E						
1QA	20,988	12.3	44.5%	11,648	42,177	0.28
2QA	22,360	12.7	44.5%	12,410	43,385	0.29
3QA	32,655	16.3	44.5%	18,124	45,003	0.40
4QE	34,895	16.2	44.5%	19,367	45,500	0.43
YEAR	110,898	14.5	44.5%	61,549	44,016	1.40
FY 1987E						
1QE	36,200	16.5	41.5%	21,177	46,000	0.46
2QE	34,200	15.5	41.5%	20,007	46,500	0.43

3QE	39,500	16.8	41.5%	23,108	47,000	0.49
4QE	46,100	17.7	41.5%	26,969	47,000	0.57
YEAR	156,000	16.7	41.5%	91,260	46,625	1.95

(*) 4Q:84 excludes $0.24/share from change in accounting for DISC benefits.

Alex. Brown & Sons Incorporated currently maintains a market in the common shares of Tandem Computers, Inc.

The author of this report has a beneficial interest in the common shares of Tandem Computers, Inc.

Drexel Burnham Lambert Inc
Sept 29, 1986

Tandem Computers, Inc.
1984-1986E
(Data in $000)
(Years to 9/30)

[Part 1 of 5]

	1QF84 12/31/83	2QF84 3/31/84	3QF84 6/30/84	4QF84 9/30/84	FY 84
Product Revenues	$108,474	$91,223	$119,064	$129,850	$448,611
Service & Other	17,895	20,013	22,861	23,240	84,009
Total Revenues	$126,369	$111,236	$141,925	$153,090	$532,620
Cost of Revenues	50,437	47,245	57,787	63,341	218,810
% of Revenues	46.5%	51.8%	48.5%	48.8%	48.8%
R & D	10,849	12,853	13,514	15,298	52,514
% of Revenues	8.6%	11.6%	9.5%	10.0%	9.9%
S G & A	48,205	49,132	56,282	56,576	210,195
% of Revenues	38.1%	44.2%	39.7%	37.0%	39.5%
Operating Costs	$109,491	$109,230	$127,583	$135,215	$481,519
Operating Profit	16,878	2,006	14,342	17,875	51,101
Operating Profit Margin	13.4%	1.8%	10.1%	11.7%	9.6%
Other Income, Net	1,076	1,142	1,243	1,722	5,183
Pretax Income	17,954	3,148	15,585	19,597	56,284
Pretax Margin	14.2%	2.8%	11.0%	12.8%	10.6%
Income Taxes	7,900	1,174	6,335	7,667	23,076
Effective Tax Rate	44.0%	37.3%	40.6%	39.1%	41.0%
Net Income	$10,054	$1,974	$9,250	$11,930	$33,208
Average Shares-000	41,841	41,794	41,039	40,923	41,399
E.P.S.	$0.24	$0.05	$0.23	$0.29	$0.80

[Part 2 of 5]

	Q1F85 12/31/84	2QF85 3/31/85	3QF85 6/30/85
Product Revenues	$134,135	$120,088	$116,868
Service & Other	25,518	26,401	27,297
Total Revenues	$159,653	$146,489	$144,165
Cost of Revenues	62,021	57,713	56,116
% of Revenues	46.2%	39.4%	38.9%
R & D	15,127	17,075	18,027
% of Revenues	9.5%	11.7%	12.5%
S G & A	59,996	61,988	69,482
% of Revenues	37.6%	42.3%	48.2%
Operating Costs	$137,144	$136,786	$143,625
Operating Profit	22,509	9,703	540
Operating Profit Margin	14.1%	6.6%	0.4%
Other Income, Net	1,888	1,573	1,298
Pretax Income	24,397	11,276	1,838
Pretax Margin	15.3%	7.7%	1.3%
Income Taxes	10,369	4,435	(550)
Effective Tax Rate	42.5%	39.3%	(29.9%)
Net Income	$14,028	$6,841	$2,388
Average Shares-000	41,384	42,156	41,896
E.P.S.	$0.34	$0.16	$0.06

[Part 3 of 5]

	4QF85 9/30/85	FY 85	% Change 85 vs 84
Product Revenues	$144,018	$515,109	14.8%
Service & Other	29,813	109,029	29.8%
Total Revenues	$173,831	$624,138	17.2%
Cost of Revenues	64,298	240,148	9.8%
% of Revenues	37.0%	38.5%	
R & D	21,348	71,577	36.3%
% of Revenues	12.3%	11.5%	
S G & A	70,856	262,332	24.8%
% of Revenues	40.8%	42.0%	
Operating Costs	$156,502	$574,057	19.2%
Operating Profit	17,329	50,081	(2.0%)
Operating Profit Margin	10.0%	8.0%	
Other Income, Net	1,510	6,269	21.0%
Pretax Income	18,839	56,350	0.1%
Pretax Margin	10.8%	9.0%	
Income Taxes	7,722	21,976	(4.8%)
Effective Tax Rate	41.0%	39.0%	
Net Income	$11,117	$34,374	3.5%
Average Shares-000	41,623	41,765	0.9%
E.P.S.	$0.27	$0.82	2.6%

[Part 4 of 5]

	1QF86 12/31/85	2QF86 3/31/86	3QF86 6/30/86	4QF86E 9/30/86
Product Revenues	$137,228	$142,754	$159,237	$170,000
Service & Other	32,833	33,573	41,616	42,500
Total Revenues	$170,061	$176,327	$200,853	$212,500
Cost of Revenues	58,844	58,025	61,030	65,875
% of Revenues	34.6%	32.9%	30.4%	31.0%
R & D	19,817	21,318	22,299	24,650
% of Revenues	11.7%	12.1%	11.1%	11.6%
S G & A	72,085	76,986	86,923	90,738
% of Revenues	42.4%	43.7%	43.3%	42.7%
Operating Costs	$150,746	$156,329	$170,252	$181,263
Operating Profit	19,315	19,998	30,601	31,238
Operating Profit Margin	11.4%	11.3%	15.2%	14.7%
Other Income, Net	1,673	2,362	2,054	2,400
Pretax Income	20,988	22,360	32,655	33,638
Pretax Margin	12.3%	12.7%	16.3%	15.8%
Income Taxes	9,340	9,950	14,531	14,868
Effective Tax Rate	44.5%	44.5%	44.5%	44.2%
Net Income	$11,648	$12,410	$18,124	$18,770
Average Shares-000	42,177	43,385	45,003	45,500
E.P.S.	$0.28	$0.29	$0.40	$0.41

[Part 5 of 5]

	FY 86E 9/30/86	% Change 86 vs 85	FY 87E	% Change 87 vs 86 9/30/87
Product Revenues	$609,219	18.3%	$735,000	20.6%
Service & Other	150,522	38.1%	185,000	22.9%
Total Revenues	$759,741	21.7%	$920,000	21.1%
Cost of Revenues	243,774	1.5%	292,560	20.0%
% of Revenues	32.1%		31.8%	
R & D	88,084	23.1%	105,340	19.6%
% of Revenues	11.6%		11.5%	
S G & A	326,732	24.5%	380,420	16.4%
% of Revenues	43.0%		41.4%	
Operating Costs	$658,590	14.7%	$778,320	18.2%
Operating Profit	101,152	102.0%	141,680	40.1%
Operating Profit Margin	13.3%		15.4%	
Other Income, Net	8,489	35.4%	9,000	6.0%
Pretax Income	109,641	94.6%	150,680	37.4%
Pretax Margin	14.4%		16.4%	
Income Taxes	48,869	121.6%	64,792	33.1%
Effective Tax Rate	44.4%		43.0%	
Net Income	$60,951	77.3%	$85,888	40.9%
Average Shares-000	44,016	5.4%	46,500	5.6%
E.P.S.	$1.38	68.2%	$1.85	33.4%

(C) - DBL makes a market in certain converts &/or warrants of this company.

(M) - DBL makes a market in this security.

Stock Highlight: TANDEM COMPUTERS (36—OTC)

Tandem Computers is one of the few computer companies that are thriving in today's sluggish technology markets. Whereas most computer makers followed by Value Line have reported lower earnings in the first half of 1986, Tandem's share net roared ahead by 200%. We estimate a 70% year-to-year advance in fiscal 1986 (ends Sept. 30th) and a further 30% gain in fiscal 1987.

Although this equity has earned our highest rank for Timeliness, investors should note with caution the stock's Safety Rank of 4. The below-average ranking is based, in part, on the stock's Price Stability rating, which, at 5 out of 100, is our lowest score. Indeed, the stock has rallied, declined, and rallied again, all in the past two years. The Beta score (1.55) is also high.

Despite the risks, we still believe that strong earnings gains will enable this stock to outperform the market averages over the next year.

Fail Safe

Tandem produces computer systems and networks for on-line transaction processing (OLTP). Its products automate routine business functions such as bank drafts, airline reservations, securities trades, and inventory control. Tandem pioneered OLTP technology some 12 years ago. Although IBM and other major computer makers now dominate the $30 billion market, Tandem holds a commanding lead in the fastest growing niche. The company produces "fault tolerant" (or fail-safe) systems. This refers to a computer that continues to operate even if some of its components fail. Sophisticated software systems enable the computer to be reconfigured in the event of component failure by automatically shifting functions to alternate components. Meanwhile, the system architecture is designed to protect the database from loss or alteration. Theoretically at least, fail-safe systems can eliminate the possibility of computer downtime. Because system failure can be extremely costly, corporate users are willing to pay premium prices for this feature.

Tandem has an estimated 85%-90% share of the fault-tolerant OLTP systems market. Although currently small, this niche market is expected to grow at a more than 30% average annual rate into the 1990s. What's more, two other performance characteristics have kept Tandem ahead of the OLTP competition. They are (in computer jargon) "modular expandability with linear growth in processing power", and "distribution of functions to all nodes of a network".

The phrases mean several things. For one, customers can easily upgrade their systems in a way that fully protects the value of their existing investment. Users simply increase capacity by adding new components that are fully compatible with existing hardware (modular expandability). Secondly, processing power, as measured in transactions per second, rises in proportion to growth in capacity, as measured by the number of processors (linear growth). Finally, Tandem's OLTP computers can assign to geographically dispersed work stations different computer capabilities (distribution of functions). Recently, Tandem has intensified its emphasis on this "network" niche, which is the most lucrative segment of the OLTP market.

In sum, when the broad OLTP market is restricted to products with these three performance traits, Tandem holds a unique position.

Big Blue Miscue

Until November, 1984, many computer industry observers remained unimpressed with the market potential for fault-tolerant computers. But in that month, an unprecedented event occurred. IBM, which had long prided itself on an ability to supply its own products to all important segments of the data processing market, signed its first agreement to remarket another company's entire product line. Big Blue's partner was tiny Stratus Computers, Tandem's leading fault-tolerant competitor.

IBM's decision to sell Stratus's model as its *System 88* was widely interpreted as an admission that it had neglected the growing demand for fault-tolerant computers. An increasing number of IBM's customers had come to demand fail-safe computers, and apparently IBM was forced to ally itself with Stratus in order to satisfy them. Tandem's successful bid for an $8 million J.P. Penney contract in head-to-head competition with IBM may also have been a deciding factor.

Initially perceived as a threat to Tandem, the IBM-Stratus partnership may have been a short-term blessing in disguise. Big Blue's endorsement of the fault-tolerant concept has stimulated greater interest in the market. Meanwhile, Tandem enjoys a clear performance lead over Stratus. Although the prospect is not imminent, in the long run IBM may develop its own fault-tolerant technology, which could permit it to claim a larger share of Tandem's market.

Artful Dodger

Tandem has managed to dodge the computer slump for several reasons.

- Demand for OLTP systems has been rising rapidly as customers in manufacturing, communications, and publishing discover new applications for the technology.
- Tandem's new high-volume system, the *VLX*, has been an overwhelming success since its introduction last April. The new system is setting industry standards for price/performance, reliability, and operating and maintenance costs.
- The weaker dollar has boosted Tandem's overseas business considerably. Foreign sales contribute over one-third of the company's total. (The overvalued dollar was a key factor in Tandem's sluggish profit performance in the early 1980s.) Value Line's forecast for a steady relation-

Factual material is obtained from sources believed to be reliable but the statistics and comments published herein cannot be guaranteed as to accuracy or completeness.

ship between the dollar and most major foreign currencies through 1987 augurs well for Tandem.

- A cost containment plan has helped control expenses, long a thorn in the company's side. In the fall of 1985, management implemented a salary freeze and other measures. Although the salary freeze has been lifted, we think that in the future Tandem will be more adept at keeping costs under control.
- Finally, Tandem restructured its marketing organization early this year, eliminating an entire layer of administrative personnel. It currently has a larger sales force in the field while spending less on marketing overall than one year ago. Moreover, the company is successfully targeting the largest blue-chip accounts.

We think the five conditions above will continue to power Tandem's impressive profit momentum in 1987 and beyond. Moreover, a full-scale turnaround in the data processing industry next year—which our estimates do not assume—could accelerate the company's profit growth even further. We note, too, that despite the loss of investment tax credits, Tandem stands to gain from the pending tax bill, due to its high reported tax rates.

Investment Considerations

We expect continued rapid earnings growth to fuel above-average share price gains both over the coming year and to 1989-91. We caution, however, that this equity does have risks. Although the P/E is not historically out of line, the stock is selling at a considerable premium to the market. This could make it particularly vulnerable to earnings disappointments or other unwelcome developments. SO

TANDEM COMP'T'RS

OTC-TNDM | RECENT PRICE 36 | P/E RATIO 22.6 (Trailing: 27.8; Median: NMF) | RELATIVE P/E RATIO 1.54 | DIV'D YLD Nil | VALUE LINE

	1978	1979	1980	1981	1982	1983	1984	1985	1986
High	6.1	7.1	25.3	34.6	32.8	39.5	40.3	28.6	39.5
Low	2.2	3.8	6.2	20.4	14.3	23.6	13.0	12.9	19.5

CAPITAL STRUCTURE as of 6/30/86
Total Debt $13.0 mill. Due in 5 Yrs $11.5 mill.
LT Debt $7.1 mill. LT Interest $1.3 mill.
Incl. $2.7 mill. capitalized leases.
(LT int. earned: 75x)
(1% of Cap'l)

Leases, Uncapitalized Annual rentals $29.9 mill.

Pension Liability None in '85 vs. None in '84

Pfd Stock None

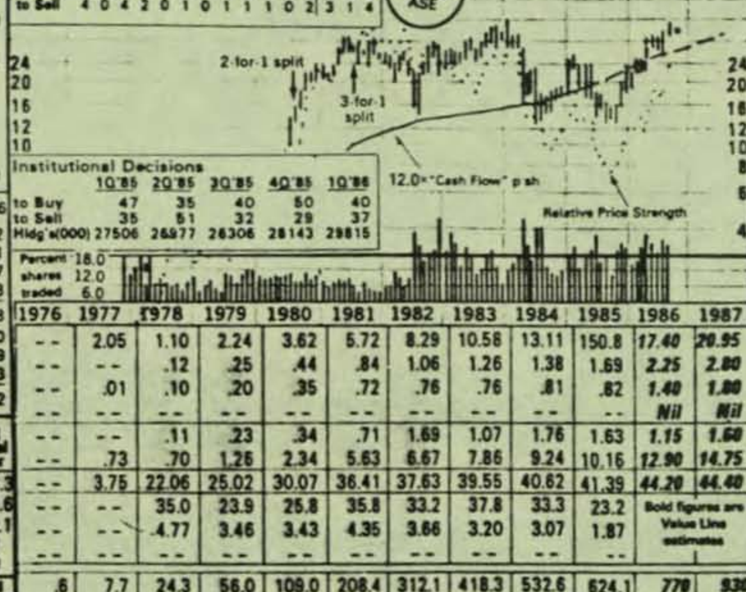
Common Stock 43,149,995 shs. (99% of Cap'l)

CURRENT POSITION ($MILL.)	1984	1985	6/30/86
Cash Assets	106.9	128.7	177.2
Receivables	146.3	163.4	205.1
Inventory(FIFO)	92.4	79.0	67.7
Other	7.0	14.3	20.8
Current Assets	352.6	385.4	470.8
Accts Payable	36.4	33.4	40.0
Debt Due	15.0	7.1	5.9
Other	37.8	46.3	65.3
Current Liab.	89.2	86.8	111.2

Insider Decisions	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
	1985														
to Buy	2	1	0	0	0	0	1	0	0	1	0	0	2	0	0
to Sell	4	0	4	2	0	1	0	1	1	1	0	2	3	1	4

Options Trade On ASE

Institutional Decisions	1Q'85	2Q'85	3Q'85	4Q'85	1Q'86
to Buy	47	35	40	50	40
to Sell	35	51	32	29	37
Hldg's(000)	27506	26977	26306	28143	29815



September 19, 1986 Value Line

TIMELINESS (Relative Price Performance Next 12 Mos) 1 Highest

SAFETY (Scale: 1 Highest to 5 Lowest) 4 Below Average

BETA 1.55 (1.00 = Market)

1989-91 PROJECTIONS	Price	Gain	Ann'l Total Return
High	85	(+135%)	24%
Low	50	(+40%)	9%

1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	© Value Line, Inc.	89-91E
--	2.05	1.10	2.24	3.62	5.72	8.29	10.58	13.11	150.8	17.40	20.95	Sales per sh (A)	32.20
--	--	.12	.25	.44	.84	1.06	1.26	1.38	1.69	2.25	2.80	"Cash Flow" per sh	4.60
--	.01	.10	.20	.35	.72	.76	.76	.81	.82	1.40	1.80	Earnings per sh (B)	3.00
--	--	--	--	--	--	--	--	--	--	Nil	Nil	Div'ds Decl'd per sh	Nil
--	--	.11	.23	.34	.71	1.69	1.07	1.76	1.63	1.15	1.60	Cap'l Spending per sh	2.35
--	.73	.70	1.26	2.34	5.63	6.67	7.86	9.24	10.16	12.90	14.75	Book Value per sh	22.45
--	3.75	22.06	25.02	30.07	36.41	37.63	39.55	40.62	41.39	44.20	44.40	Common Shs Outst'g (C)	45.00
--	--	35.0	23.9	25.8	35.8	33.2	37.8	33.3	23.2	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	23.0
--	--	4.77	3.46	3.43	4.35	3.66	3.20	3.07	1.87			Relative P/E Ratio	1.90
--	--	--	--	--	--	--	--	--	--			Avg Ann'l Div'd Yield	Nil
.6	7.7	24.3	56.0	109.0	208.4	312.1	418.3	532.6	624.1	770	930	Sales ($mill) (A)	1450
NMF	4.8%	19.3%	19.8%	20.1%	21.4%	16.3%	16.4%	13.9%	13.7%	18.0%	19.0%	Operating Margin	20.5%
.2	--	.5	1.4	2.6	4.1	10.2	18.8	22.7	35.6	38.0	44.0	Depreciation ($mill)	72.0
d2.2	.2	2.2	4.9	10.7	26.6	29.9	30.8	33.2	34.4	61.0	80.0	Net Profit ($mill)	135
--	51.5%	52.1%	51.3%	49.3%	48.0%	36.1%	39.0%	41.0%	39.0%	44.5%	43.5%	Income Tax Rate	43.0%
NMF	2.1%	8.8%	8.8%	9.8%	12.7%	9.6%	7.4%	6.2%	5.5%	7.9%	8.6%	Net Profit Margin	9.3%
--	2.4	13.7	27.1	61.3	179.1	194.8	254.2	263.4	298.6	430	480	Working Cap'l ($mill)	800
--	.3	.7	1.1	1.7	2.1	21.1	24.0	17.2	12.4	10.0	5.0	Long-Term Debt ($mill)	Nil
--	2.7	15.5	31.5	70.3	204.8	251.0	311.0	375.1	420.4	570	655	Net Worth ($mill)	1010
--	5.3%	13.5%	15.2%	15.1%	12.9%	11.2%	9.6%	8.7%	8.3%	10.5%	12.0%	% Earned Total Cap'l	13.5%
--	5.9%	13.8%	15.6%	15.2%	13.0%	11.9%	9.9%	8.9%	8.2%	10.5%	12.0%	% Earned Net Worth	13.5%
--	5.9%	13.8%	15.6%	15.2%	13.0%	11.9%	9.9%	8.9%	8.2%	10.5%	12.0%	% Retained to Comm Eq	13.5%
--	--	--	--	--	--	--	--	--	--	Nil	Nil	% All Div'ds to Net Prof	Nil

Fiscal Year Ends	QUARTERLY SALES ($ mill.) (A) Dec. 31	Mar. 31	June 30	Sept. 30	Full Fiscal Year
1983	94.1	96.0	110.3	117.9	418.3
1984	126.4	111.2	141.9	153.1	532.6
1985	159.6	146.5	144.2	173.8	624.1
1986	170.1	176.3	200.9	222.7	770
1987	220	215	240	255	930

Fiscal Year Ends	EARNINGS PER SHARE (A) Dec. 31	Mar. 31	June 30	Sept. 30	Full Fiscal Year
1983	.18	.16	.21	.21	.76
1984	.24	.05	.23	.29	.81
1985	.34	.16	.06	.26	.82
1986	.27	.29	.40	.44	1.40
1987	.46	.38	.46	.50	1.80

Calendar	QUARTERLY DIVIDENDS PAID Mar. 31	June 30	Sept. 30	Dec. 31	Full Year
1982	NO CASH DIVIDENDS BEING PAID				
1983					
1984					
1985					
1986					

(A) Fiscal year ends September 30th of calendar year. (B) Based on average common and common equivalent shares outstanding. Excludes extraordinary gains: '77, 1¢; '78, 6¢. Excludes gain from reversal of DISC taxes: '84, 23¢. Next earnings report due mid-Nov. (C) In millions, adjusted for stock splits and dividends.

Company's Financial Strength	B+
Stock's Price Stability	5
Price Growth Persistence	80
Earnings Predictability	80

(For a full-page report including company statistics, see page 1116 of *Ratings & Reports* dated 8-8-86)

Factual material is obtained from sources believed to be reliable but the statistics and comments published herein cannot be guaranteed as to accuracy or completeness.

TANDEM COMP'T'RS OTC-TNDM

RECENT PRICE 33 | P/E RATIO 20.9 (Trailing: 27.8; Median: NMF) | RELATIVE P/E RATIO 1.49 | DIV'D YLD Nil | VALUE LINE 1116

Tandem Computers, incorporated in November 1974, is a leading producer of modular, expandable multiple processor computer systems designed so that failure of no one module can substantially affect system operations. Key applications are in businesses in which computer "down time" can have serious consequences: back office transaction processing for financial institutions, verification of credit information, on-line order entry and inventory control, electric power monitoring, and emergency vehicle dispatching. Company produces its systems from components manufactured by others. Has major production facilities in Cupertino, Santa Clara, and Watsonville, CA; Reston, VA; Neufahrn, West Germany.

Tandem went public on December 14, 1977, with an initial offering of 4.6 million shares (adjusted for subsequent splits) at $1.92 (adjusted) through L.F. Rothschild, Unterberg, Towbin and Robertson, Colman, Siebel & Weisel. First shipments of NonStop 1 systems were in May 1976.

	1978	1979	1980	1981	1982	1983	1984	1985	1986
High	6.1	7.1	26.3	34.6	32.8	39.5	40.3	28.6	35.0
Low	2.2	3.8	6.2	20.4	14.3	23.6	13.0	12.9	19.5

Insider Decisions 1985

	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
to Buy	2	1	0	0	0	0	1	0	0	1	0	0	2	0	0
to Sell	4	0	4	2	0	1	0	1	1	1	0	2	3	1	4

Institutional Decisions

	1Q'85	2Q'85	3Q'85	4Q'85	1Q'86
to Buy	47	35	40	50	40
to Sell	35	51	32	29	37
Hldg's(000)	27506	26977	26306	28143	29815

August 8, 1986 - Value Line

TIMELINESS (Relative Price Performance Next 12 Mos.) **1** Highest

SAFETY (Scale: 1 Highest to 5 Lowest) **4** Below Average

BETA 1.55 (1.00 = Market)

1989-91 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	85	(+160%)	26%
Low	50	(+ 50%)	11%

1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	© Value Line, Inc.	89-91E
--	2.05	1.10	2.24	3.62	5.72	8.29	10.58	13.11	150.8	17.85	21.30	Sales per sh (A)	33.35
--	--	.12	.25	.44	.84	1.06	1.26	1.38	1.69	2.30	2.80	"Cash Flow" per sh	4.65
--	.01	.10	.20	.35	.72	.76	.76	.81	.82	1.40	1.80	Earnings per sh (B)	3.00
--	--	--	--	--	--	--	--	--	--	Nil	Nil	Div'ds Decl'd per sh	Nil
--	--	.11	.23	.34	.71	1.69	1.07	1.76	1.63	1.05	1.50	Cap'l Spending per sh	2.30
--	.73	.70	1.26	2.34	5.63	6.67	7.86	9.24	10.16	12.40	14.25	Book Value per sh	22.05
--	3.75	22.06	25.02	30.07	36.41	37.63	39.55	40.62	41.39	43.15	43.20	Common Shs Outst'g (C)	43.50
--	--	35.0	23.9	25.8	35.8	33.2	37.8	33.3	23.2	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	23.0
--	--	4.77	3.46	3.43	4.35	3.66	3.20	3.07	1.87			Relative P/E Ratio	1.90
--	--	--	--	--	--	--	--	--	--			Avg Ann'l Div'd Yield	Nil
6	7.7	24.3	56.0	109.0	208.4	312.1	418.3	532.6	624.1	770	920	Sales ($mill) (A)	1450
NMF	4.8%	19.3%	19.8%	20.1%	21.4%	18.3%	16.4%	13.9%	13.7%	18.0%	18.5%	Operating Margin	20.0%
2	--	.5	1.4	2.6	4.1	10.2	18.8	22.7	35.6	38.0	44.0	Depreciation ($mill)	72.0
d2.2	.2	2.2	4.9	10.7	26.6	29.9	30.8	33.2	34.4	61.0	78.0	Net Profit ($mill)	130
--	51.5%	52.1%	51.3%	49.3%	48.0%	36.1%	39.0%	41.0%	39.0%	43.0%	43.0%	Income Tax Rate	43.0%
NMF	2.1%	8.8%	8.8%	9.8%	12.7%	9.6%	7.4%	6.2%	5.5%	7.9%	8.5%	Net Profit Margin	9.0%
--	2.4	13.7	27.1	61.3	179.1	194.8	254.2	263.4	298.6	395	440	Working Cap'l ($mill)	670
--	.3	.7	1.1	1.7	2.1	21.1	24.0	17.2	12.4	10.0	5.0	Long-Term Debt ($mill)	Nil
--	2.7	15.5	31.5	70.3	204.8	251.0	311.0	375.1	420.4	535	615	Net Worth ($mill)	960
--	5.3%	13.5%	15.2%	15.1%	12.9%	11.2%	9.6%	8.7%	8.3%	11.5%	12.5%	% Earned Total Cap'l	13.5%
--	5.9%	13.8%	15.6%	15.2%	13.0%	11.9%	9.9%	8.9%	8.2%	11.5%	12.5%	% Earned Net Worth	13.5%
--	5.9%	13.8%	15.6%	15.2%	13.0%	11.9%	9.9%	8.9%	8.2%	11.5%	12.5%	% Retained to Comm Eq	13.5%
--	--	--	--	--	--	--	--	--	--	Nil	Nil	% All Div'ds to Net Prof	Nil

CAPITAL STRUCTURE as of 3/31/86
Total Debt $18.1 mill. **Due in 5 Yrs** $17.5 mill.
LT Debt $10.4 mill. **LT Interest** $1.0 mill.
Incl. $7.0 mill. capitalized leases.
(LT int. earned: 66x)
(3% of Cap'l)

Leases, Uncapitalized Annual rentals $29.9 mill.

Pension Liability None in '86 vs. None in '84

Pfd Stock None

Common Stock 42,139,637 shs. (97% of Cap'l)

CURRENT POSITION ($MILL.)	1984	1985	3/31/86
Cash Assets	106.9	128.7	160.8
Receivables	146.3	163.4	182.6
Inventory(FIFO)	92.4	79.0	69.9
Other	7.0	14.3	16.7
Current Assets	352.6	385.4	430.0
Accts Payable	36.4	33.4	36.7
Debt Due	15.0	7.1	7.7
Other	37.8	46.3	49.8
Current Liab.	89.2	86.8	94.2

ANNUAL RATES of change (per sh)	Past 10 Yrs	Past 5 Yrs	Est'd '83-'85 to '89-'91
Sales	—	43.0%	17.0%
"Cash Flow"	—	46.0%	21.5%
Earnings	—	50.0%	24.5%
Dividends	—	—	Nil
Book Value	—	54.5%	16.0%

Fiscal Year Ends	QUARTERLY SALES ($ mill.) (A) Dec. 31	Mar. 31	June 30	Sept. 30	Full Fiscal Year
1983	94.1	96.0	110.3	117.9	418.3
1984	126.4	111.2	141.9	153.1	532.6
1985	159.6	146.5	144.2	173.8	624.1
1986	170.1	176.3	200.9	222.7	770
1987	220	215	235	250	920

Fiscal Year Ends	EARNINGS PER SHARE (A) Dec. 31	Mar. 31	June 30	Sept. 30	Full Fiscal Year
1983	.18	.16	.21	.21	.76
1984	.24	.05	.23	.29	.81
1985	.34	.16	.06	.26	.82
1986	.27	.29	.40	.44	1.40
1987	.45	.40	.45	.50	1.80

Cal-endar	QUARTERLY DIVIDENDS PAID Mar. 31	June 30	Sept. 30	Dec. 31	Full Year
1982	NO CASH DIVIDENDS BEING PAID				
1983					
1984					
1985					
1986					

BUSINESS: Tandem Computers, Inc. designs, assembles, and sells fail-safe computer systems under the trademark *NonStop*. Also designs and sells terminal and communications controller products. About 89% of sales are to end-users; 11% to software and systems developers and original equipment manufacturers. Foreign sales, 34% of total. R&D, 11.5% of sales; payroll costs, estimated 25%. '85 depreciation rate: 14.8%. Estimated plant age: 2 years. Has 5,500 employees; 9,000 shareholders. Insiders control 5.0% of stock. Chairman: T.J. Perkins. President: James G. Treybig. Incorporated: Delaware. Address: 19333 Vallco Parkway, Cupertino, California 95014. Tel.: 408-725-6000.

Tandem is one of the healthiest players in the slump-ridden technology sector. While many other computer companies are experiencing a second year of stagnant earnings, Tandem will probably record a 70% year-to-year earnings gain in fiscal 1986 (ends Sept. 30th). And we estimate a 30% rise the following year. Moreover, in the event of a full-scale industry turnaround, our fiscal 1987 forecast would probably prove conservative.

The company's success is attributable to its leading position in a fast-growing niche market . . . Tandem innovated the use of fault-tolerant computers for transaction-processing applications in the financial services sector. Recently, the use of on-line transaction processing (OLTP) systems has begun to spread rapidly in a host of other industries, including manufacturing, transportation, communications, medical services, retailing, and publishing. As a result, shipments of fault-tolerant systems may well triple by 1990. This growth in Tandem's market is easily offsetting the impact of the emergence of a number of competitors over the past few years. (In particular, the OEM agreement signed last year between IBM and Stratus, Tandem's biggest rival, appears to be receding as a potential threat.) Hence, we think the company will easily be able to sustain a 15% annual rate of revenue growth into the 1990s.

. . . and to a favorable stage in its product cycle. Last April Tandem introduced a new generation of its high-volume system, the VLX. Despite a less-than-optimal operating environment, sales of the new system have surpassed expectations. Moreover, the VLX's unique performance features make it a highly profitable product: Earnings from the new system helped to raise Tandem's June-quarter gross margin (after depreciation) to an eye-opening 70%, from 61% in the year-prior period. And Tandem continues to upgrade its software and accessories lines.

These shares carry our highest rank for relative price performance in the year ahead. Due to Tandem's expanding market and strong competitive position we consider the equity a sound choice for 3- to 5-year capital gains as well. (Note, too, that Tandem's relatively high effective tax rates make it a potential beneficiary of pending tax legislation.) *Blaine Snyder/R. C. Carryl*

(A) Fiscal year ends September 30th of calendar year. (B) Based on average common and common equivalent shares outstanding. Excludes extraordinary gains: '77, 1¢; '78, 6¢. Excludes gain from reversal of DISC taxes: '84, 23¢. Next earnings report due mid-Nov. (C) In millions, adjusted for stock splits and dividends.

Company's Financial Strength	B+
Stock's Price Stability	5
Price Growth Persistence	80
Earnings Predictability	80

Factual material is obtained from sources believed to be reliable but the statistics and comments published herein cannot be guaranteed as to accuracy or completeness.

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
AUGUST 18, 1986

Communications and Information Systems - Industry Report
ALEX. BROWN & SONS - De Santis, M.P., et al
07-02-86 (RN=608715)

RECOMMENDED STOCKS

[Part 1 of 2]

Company	Fiscal Year	Price 7/02/86	FY Earnings Per Share 1985A	1986E	1987E
Autodesk, Inc. (OTC: ACAD)	1	$38.25	$0.30	$1.03	$1.55
Cray Research (NYSE: CYR)	12	$97.38	$2.49	$4.00	$5.00
Daisy Systems (OTC: DAZY)	9	$11.00	$1.18	$0.00	$1.25
Digital Equipment Corp. (NYSE: DEC)	6	$89.50	$3.19	$4.65	$6.25
Floating Point Systems (NYSE: FLP)	10	$37.88	$1.75	$2.05	$2.75
Hewlett-Packard (NYSE: HWP)	10	$42.25	$1.91	$2.02	$2.65
Mentor Graphics (OTC: MENT)	12	$15.50	$0.52	$0.70	$1.40
Novell, Inc. (OTC: NOVL)	10	$20.00	$0.41	$0.92	$1.50
Stratus Computer (OTC: STRA)	12	$21.50	$0.45	$0.72	$1.15
Sun Microsystems (OTC: SUNW)	6	$15.50	$0.38	$0.45	$1.00
Tandem Computers (OTC: TNDM)	9	$32.38	$0.82	$1.30	$1.85
Tellabs, Inc. (OTC: TLAB)	12	$12.38	$0.52	$0.72	$1.00
Ungermann-Bass, Inc. (OTC: UNGR)	12	$11.50	$0.22	$0.38	$0.80

[Part 2 of 2]

Company	% Change in FY Earnings Per Share 85-86E	86-87E	Calendarized P/E Ratio (x) 1986E	1987E
Autodesk, Inc. (OTC: ACAD)	243.3%	50.5%	37.1	24.7
Cray Research (NYSE: CYR)	60.6%	25.0%	24.3	19.5
Daisy Systems (OTC: DAZY)	NM	NM	NM	8.1
Digital Equipment Corp. (NYSE: DEC)	45.8%	34.4%	16.6	12.8
Floating Point Systems (NYSE: FLP)	17.1%	34.2%	17.0	13.0
Hewlett-Packard (NYSE: HWP)	5.8%	31.2%	21.1	15.6
Mentor Graphics (OTC: MENT)	34.6%	100.0%	22.1	11.1
Novell, Inc. (OTC: NOVL)	124.4%	63.0%	20.0	12.5
Stratus Computer (OTC: STRA)	60.0%	59.7%	29.9	18.7
Sun Microsystems (OTC: SUNW)	18.4%	122.2%	19.4	12.9
Tandem Computers (OTC: TNDM)	58.5%	42.3%	20.9	15.4
Tellabs, Inc. (OTC: TLAB)	38.5%	38.9%	17.2	12.4
Ungermann-Bass, Inc. (OTC: UNGR)	72.7%	110.5%	30.3	15.3

INVESTMENT STRATEGY:

Short term - still highly selective; longer term - begin to accumulate.

Recent economic data on factory orders, industrial production, employment, and capacity utilization has reinforced our view that capital spending will provide no impetus to the economy this year. This outlook is increasingly being factored into economic forecasts for 1986, and clearly the majority view has become more tentative regarding an acceleration in business during the second half. Accordingly, earnings expectations are diminishing for technology companies (e.g. semiconductors), and we are becoming more positive on the stocks as valuations decline.

While economic growth in general, and capital spending in particular, remain very important factors influencing the demand for information processing systems, they are not the whole story. Demand has been restrained during the last two years by factors other than the economy and we foresee the impact of these factors waning during the next 6-12 months. Indeed, the current sluggish order environment reflects in part the excessive addtions to data processing capacity made during the 1983/1984 time frame (particularly PCs), the lack of complete systems integration, and an increasingly complex sales cycle attendant to the growing strategic importance of technology spending. Furthermore, looking ahead, the odds remain favorable that an acceleration in economic growth will occur in early 1987 which should set the stage for a pickup in capital spending. We forsee this recovery developing as a function of recent monetary expansion, lower real interest rates, and the favorable impact of the declining dollar on the balance of trade, all of which should lead to a resurgence in aggregate demand and expanded production.

Information Systems

Given the uncertain timing of a recovery, our recommendations for short-term momentum accounts continue to be highly selective and focused on companies whose near-term earnings prospects remain positive despite the absence of impetus from the domestic economy. These recommendations include Digital Equipment Corp., Novell, and Tandem Computers with a combination of the following characteristics: (1) favorable new product dynamics, (2) a sizeable overseas component, (3) a specific niche that is growing irrespective of the economy, or (4) a tight rein on costs and expenses with significant operating leverage when business improves. For those with a longer time horizon, given our increasingly positive view of the group, we suggest accumulating positions in Ungermann-Bass, Hewlett-Packard, Stratus, Sun Microsystems, and Floating Point Systems.

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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT
AUGUST 18, 1986

Tandem Computers - Company Report
BEAR STEARNS & COMPANY - Fram, J., et al
07-25-86 (RN=609471)
Tandem Computers (*) (TNDM - 35)

Continuing Buy Recommendation

1985 EPS (9/30):	$0.82
1986 EPS Est.:	$1.41
P/E 1986 Est.:	24.8x
P/E 1987 Est.:	19.3x
Dividend:	Nil
Yield:	Nil
1986 Price Range:	35-20
Common Shares Out.:	43 Mil.

Summary and Investment Conclusion

Tandem continued its market share gains and margin improvement during third-quarter fiscal 1986. As a result, earnings in the quarter exceeded our $0.33 estimate, rising to $0.40 compared with $0.06 in the prior year. Revenues grew 39% to $200.8 million, substantially higher than a year ago in both domestic (up 28%) and international (up 62%) markets. The U.S. showed strength for the first time in more than a year. We continue to recommend purchase of Tandem.

Increased EPS Estimates

We have increased our fiscal 1986 and 1987 earnings per share estimates to $1.41 and $1.81, respectively. Revenue growth of 21% is projected for the year.

Fiscal 1986 Third-Quarter Results

Tandem experienced growth in both higher-priced segments of its product line, the $400,000 TXP and $1,000,000 VLX. As a result, gross margins improved to an all-time high of nearly 70%. As well, the company was able to better leverage its sales force, seeing SG&A/revenue decline by one percentage point versus second-quarter 1986 to 43%. Tandem's low-end EXT system was somewhat behind plan, a situation which ironically aided gross margins. We believe that Tandem will soon introduce two low-end systems, the EXT-10 and EXT-25, which, for the first time, will break below the $100,000 price point.

We are encouraged by the fact that some of the company's long sell cycle efforts are bearing fruit, justifying its extensive marketing efforts. For example, contracts are believed to have been closed with Safeway (SA - 60), Wells Fargo Bank (WFC - 103), Merril Lynch (MER - 34) and Nabisco during the quarter. Furthermore, third-party software vendors are generating an ever increasing portion of the company's revenues, (believed to be as high as 20%).

Financial Condition

Tandem continues to have one of the healthiest balance sheets in the industry. Cash rose to $177 million during the quarter, while debt remained at $35 million (representing less than 5% of total capital). The number of shares outstanding rose to 45 million due to dilution arising from employees exercising stock options. Such conversions also added about $20 million in cash.

A Mainstream Player

We continue to believe that Tandem will become one of the main industry vendors. While its initial growth wave came from its fault-tolerant features, its unique computer architecture has enabled it to address the broad commercial on-line transaction processing (OLTP) market in a more effective way than traditional mainframe suppliers. That is, instead of competing in the $1 billion fault-tolerant market, Tandem competes in the $30 billion OLTP market.

The Advantages of Tandem's Multiprocessor Computer Architecture

Tandem's architectural advantages stem from the multiprocessor nature of its architecture which permits many processing units to be connected together within a single cabinet. This contrasts with the typical mainframe approach which involves building large, single processor engines. This latter approach requires fast semiconductors and advanced circuit packaging, both of which are capital intensive. On the other hand, Tandem can build higher performance processing complexes than can IBM by using off-the-shelf components (thereby achieving a better gross margin).

Tandem's architecture is more effective in "transaction processing" environments. A transaction is essentially a small program. For example, consider a bank with 100 automatic teller machines (ATM) controlled by a computer. If a customer wants to withdraw money from his checking account, the computer must look up the customer's balance, compare it with the withdrawal amount, subtract that amount from the balance if it is sufficient, send a message to the ATM to dispense the money and finally, log the transaction in a record file. This transaction might involve 10-12 accesses to disk drives and the execution of 100,000 machine instructions. Typically a stream of these independent transactions come in from the ATMs to the bank's computer. If the computer is a mainframe, the transactions will get queued-up and then executed in succession. If it is a Tandem computer, the operating system will assign the next available processor to the transaction. Up to 16 processors can be contained in one cabinet, and up to 14 cabinets can be connected together to end up with significant parallelism in the execution of these transaction. As a result, Tandem's architecture has enabled it to capture about two-thirds of the ATM market.

Other segments of industry, such as travel reservations, financial markets and manufacturing are becoming increasingly dependent on on-line transaction processing systems.

Table I. Rejected Revenue/Earnings
($ Millions)

	9/30/87 Est.	9/30/86 Est.	9/30/85
Product Revenue	693	615	515
Service & Other	174	145	109
Revenue	867	760	624
Cost of Revenue	277	245	240
Product Development	95	87	72
Mktg, General & Admin	356	325	262
Net Interest	-8	-8	-6
Total Costs	721	649	565
EBIT	138	103	50
Pretax Income	146	111	56
Income Tax	64	49	22
Net Income	82	62	34
Shares Outstanding (Mil.)	45	45	42
Earnings Per Share ($)	1.81	1.41	0.82
Margins (%)			
Cost of Revenue	32	32	38
Product Development	11	11	11
Mktg, General & Admin.	41	43	42
EBIT	16	14	8
Pretax Income	17	15	9
Income Tax	44	44	39
Net Income	9	8	6
Growth (%)			
Product	20	19	15
Service	20	33	30
Pretax income	31	97	0
Net Income	32	79	-20
Product Revenue ($ Mil.)			
NS-II	50	63	77
TXP	440	440	386
EXT	53	53	52
VLX	150	50	0
Percent of Sales (%)			
NS-II	7	10	15
TXP	64	72	75
EXT	8	9	10
VLX	22	8	0
Unit Shipments			
NS-II	200	250	300
TXP	1,100	1,100	1,000

EXT	350	350	350
VLX	150	50	0

Table II. Results by Quarters
($ Millions)

	1985				1986			
	I	II	III	IV	I	II	III	IV (E)
Product Revenue	134	120	117	144	137	143	159	176
Service & Other	26	26	27	30	33	34	42	37
Revenue	160	147	144	174	170	176	201	213
Cost of Revenue	62	58	56	64	59	58	61	67
Product Development	15	17	18	21	20	21	22	23
Marketing, General & Admin	60	62	70	71	72	77	87	89
Net Interest	-2	-2	-1	-2	-2	-2	-2	-2
Total Costs	135	135	142	155	149	154	168	178
EBIT	23	10	0	17	19	20	31	33
Pretax Income	24	11	2	19	21	23	33	35
Income Tax	10	4	-1	8	9	10	15	15
Net Income	14	7	2	11	12	13	18	20
Shares Outstanding	41	42	42	42	42	43	45	45
Earnings per Share ($)	0.34	0.16	0.06	0.27	0.28	0.29	0.40	0.44
Margins (%)								
Cost of Revenue	39	39	39	37	35	33	30	32
Product Development	9	12	12	12	12	12	11	11
Marketing, General & Admin	38	42	48	41	42	44	43	42
EBIT	14	7	0	10	11	11	15	15
Pretax Income	15	8	1	11	12	13	16	16
Income Tax	43	39	-31	41	45	44	44	44
Net Income	9	5	2	6	7	7	9	9
Growth (%)								
Product	24	32	-2	11	2	19	36	22
Service	42	32	19	28	29	27	52	25
Pretax Income	35	253	-89	-2	-14	100	1,745	84
Net Income	37	241	-75	-48	-17	83	652	74

(E) = Estimate

Note: For additional information please refer to the Highlights dated June 6, 1986 and New Purchase Recommendation dated June 11, 1986.

(*) At the time of this report, Bear, Stearns & Co. Inc. was a market maker in this security.

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July 14, 1986

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Tandem Business
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Tandem Computers, Inc. - Company Report
BEAR STEARNS & COMPANY - Fram, J., et al
06-11-86 (RN=607398)

Tandem Computers, Inc. (*) (TNDM - 32)

1985 EPS (9/30):	$0.82
1986 EPS Est.:	$1.33
1987 EPB Est.:	$1.75
P/E 1986 Est.:	24.1x
P/E 1987 Est.:	18.3x
Dividend:	Nil
Yield:	Nil
1986 Price Range:	34-13
Common Shares Out.:	43 Mil.

[Graphical Material Omitted: Chart]

Summary and Recommendation

We recommend purchase of Tandem Computers.

We believe that Tandem will displace many traditional computer vendors and become one of the major, surviving computer companies. Although Tandem has historically been associated with a limited market niche -- fault-tolerant systems -- we think that Tandem's unique computer architecture makes it better suited for the broad, mainstream commercial market. In short, investors will think of Tandem along side of other mainstream, successful companies such as Digital Equipment (DEC - 86) and IBM (IBM - 148).

Although we describe Tandem and the superiority of its computer systems in this report, we have not stressed fault-tolerance as have other reports on the company. While fault-tolerance is certainly a key feature of Tandem's machines, it is only one of many architectural advantages that makes Tandem's systems more suitable than traditional mainframes and minicomputers in the commercial marketplace.

Reasons to purchase shares of Tandem Computers are:

* Tandem's computer architecture should enable the company to steadily gain market share at the expense of traditional computer vendors. This architecture enables users to: 1) physically and geographically distribute processors and data throughout their organization, yet perceive a single system image; 2) expand the performance of their systems in a much wider range than found in traditional computer designs; and 3) experience 100% up-time, a feature that has become a requirement as computers become a part of customers' own product offerings, rather than the historical overnight data processing use of computers.

* The advantages of Tandem's architecture should attract more third-party software; the availability of third-party software can make or break a computer hardware vendor.

* Tandem has more earnings leverage potential due to margin improvement than practically any other vendor in the industry. Such margin improvement would come from a reduction in Tandem's high SG&A/Revenue ratio (42%) as the average selling price of its systems rise from $250,000 to more than $500,000.

Valuation

We believe that Tandem's market share gains coupled with long-term margin improvement will result in 20%-25% annual earnings growth for the next several years. Tandem's P/E appears to be too low; we believe that this growth justifies a P/E with a substantial premium to the market. Furthermore, as investors recognize that Tandem will break away from the traditional minicomputer crowd, its P/E should be decoupled from others in the group. That is, while the shares of Data General (DGN - 39), Prime (PRM - 19) and Wang (WANB - 17) will trade relative to their individual product cycles and the overall capital spending environment, Tandem should continue to grow at a steadier and faster pace due to its impending market share gains. Investors should reward consistent growth in Tandem, much as they have embraced the stocks of Digital Equipment and Cray Research (CYR - 90).

Risks

There are several risks to investing in Tandem:

* IBM has recognized the gravity of Tandem's market share inroads to date and has sought to plug the hole in its product line by aggressively marketing a computer produced by Stratus, a fault-tolerant vendor.

* Tandem has historically ignored start-up competitors until they have made a meaningful inroad into its marketplace. This was the case with Stratus and it appears to be repeating itself with one significant start-up, Tolerant Systems. Such overconfidence has also led to several earnings disappointments.

* Capital spending for computers remains soft with industry-wide domestic orders about 15% below 1985's depressed levels. In addition, the stock has experienced a run-up over the past few months due to a good second-quarter fiscal 1986.

Market Environment: Consolidation

The current period of computer industry consolidation is the basis of yet another reason to own stock in Tandem. With the competitive position of many mature computer companies challenged by substantial industry-wide overcapacity and a slowdown in industry growth, many such vendors are seeking new ways to rejuvenate their businesses. As well, Tandem possesses an off-balance sheet asset, namely, the lock-in of its

customer base. We believe that an acquisition-rich environment will emerge as mature vendors whose competitive position has been eclipsed will seek to acquire those companies which own or are gaining market share. Since we believe that Tandem will emerge as one of those few surviving and thriving computer companies due to the advantages inherent in its computer architecture, Tandem represents one of the most desirable properties.

Tandem's Architecture: The Commercial Mainstream

Ultimately, it will be Tandem's computer architecture (*) that will enable it to grow while others in the computer industry stagnate. In short, we believe that Tandem should be a core holding for investors wishing to have exposure to the computer industry. Tandem will likely gain market share at the expense of some of these established vendors because its unique product architecture will enable it to perform commercial applications substantially better than traditional computers.

(*) Computer architecture refers to the machine's design, particularly its instruction set (add, subtract, multiply, divide, etc), memory organization and inter-processor communication. Strictly speaking, a machine's Functional Architecture is defined to be the programmer's view of the machine (instruction set, register layout, addressing modes, etc.). The Design Architecture, also referred to as machine organization refers to how the vendor implements its programming, or functional architecture. For example, IBM's 3090 and 4300 both incorporate the System/370 Functional Architecture. However the implementations are very different, both in terms of materials technology (semiconductors and packaging) as well as in the incorporation of machine resources (i.e., cache memory, pipelining, etc.).

We believe that most great computer companies can trace their success to their advantages in computer architecture. Such architectural successes include IBM's mainframes, Digital Equipment's minicomputers and Cray Research's supercomputers. For example, IBM's decision in the early 1960s to offer a single mainframe architecture (the System/360) eliminated the need for customers to re-write their programs each time they moved to a more powerful machine. This architectural concept was so appealing that IBM soon dominated the mainframe market. In the case of Digital Equipment, its single, focused architecture enabled it to sustain its recent margin improvement as well as extend its product line to a performance range beyond traditional minicomputers. Finally, Cray Research's key advantage is how it organized its machine to achieve the highest performance, without developing its own fast semiconductors.

A Long-Term Proprietary Advantage

Tandem's architectural innovations (described below) represent a long-term proprietary advantage for the company -- it is virtually impossible for other vendors to incorporate Tandem's architecture into their systems without departing from their own locked-in installed base

(the only company that has been able to incorporate a Tandem-like architecture while maintaining compatibility with their installed base has been NCR). Because Tandem conceived its architecture at least 10 years later than most mainstream players in the industry, it could make a clean break with the past, something that established vendors could not contemplate. Thus, advantages in computer architecture actually represent as significant a proprietary advantage as advanced semiconductor technology. In fact, all vendors ultimately gain access to the latest semiconductor technology when it reaches the merchant market. However, mature companies will not be able to incorporate architectural innovations while preserving their installed customer base.

Tandem's Architecture

Distributing Programs and Data

Simply put, Tandem's architecture enables customers to do things that cannot be done effectively on other vendors' systems -- with Tandem computers users can physically distribute data and programs throughout their organization. Yet, the user perceives the image of a single system -- transparent to the user, the operating system fetches and stores data at remote sites if needed. The user perceives the data to be local. It is Tandem's underlying operating system, and special machine-to-machine "messaging" instructions (not found on conventional machines) that provide this capability.

Note, it is possible to tie together geographically dispersed on-line users with conventional computers. Typically, this is done by connecting each computer terminal via its own telephone line to a centrally-located computer. In an era of rising telecommunications costs, such arrangements are becoming more impractical.

The importance of being able to physically distribute processors and data becomes apparent when one realizes that businesses and their employees are geographically dispersed, yet it is desirable to maintain only a single copy of important data. Consider the problem of allocating airline seats from any of 20,000 travel agent locations. While it is imperative not to allocate the same seat at different locations, it is desirable to alter the data from any location. In older systems, each travel agent and ticket counter was tied into where the data resides (at the airline's central computer). We think that the airline industry represents one of the biggest opportunities for Tandem over the next few years (in fact, sources suggest that Tandem is on the eve of announcing a major airline reservation contract).

Expandability Without Degradation

The second competitive advantage afforded to Tandem because of its unique architecture is the ability to construct high-end systems without the kind of capital requirements of traditional mainframe development. That is, Tandem can achieve higher performance levels than

conventional mainframes, yet use off-the-shelf semiconductors. In Tandem's latest machine, the VLX, the company uses the latest ECL gate array available in the merchant market, but achieves performance levels greater than mainframes using proprietary technology (see below).

Unlike today's mainframes, Tandem's machines do not experience performance degradation when multiple processors are strung together. In traditional mainframes, the only way multiple processors can be linked together (while maintaining an image of a single machine) is for the processors to share main memory. A problem arises with shared memory design because only one processor can access memory at the same time, leaving other processors idle. This memory contention (or "bottleneck") problem results in severe performance degradation for conventional multiprocessor mainframes. In contrast, Tandem's computers have no such bottleneck. Since each CPU has its own memory, a Tandem user can achieve a linear growth in performance by adding processor modules to the system. If data residing in another machine's memory is desired, special "message instructions" (transparent to the user) fetches the data from the other processor (Chart I). The other processor and data can be located a long distance from the requesting processor.

[Graphical Material Omitted: Chart I - Conventional System/Tandem System]

For example, in IBM's largest system, the four-processor 3090 Model 400, the user does not get the full performance of each 15 MIPS engine -- instead of obtaining 60 MIPS in performance, the total system delivers computing power closer to 50 MIPS. Tandem's VLX system, in contrast can string together 16 of its 4 MIPS VLX machines and achieve 64 MIPS with no degradation. Because transaction processing systems typically involve the many small jobs they each run for a short period of time on its own processor, numerous small processors do the job as well as fewer large ones. In a sense, Tandem's systems are really a form of parallel processing for the commercial world.

The importance of linear performance expandability is better understood by realizing that on-line transaction processing systems tend to grow as the customers' business grows. This stems from the fact that interactive/transaction processing systems generally form the core of the customers' own product offering -- the computer becomes part of the customers' competitive repertoire. For example, major stock exchanges use Tandem systems for order execution and reconciliation (SIAC has over 100 Tandem processors in a single site). With the burgeoning transaction volumes of recent years, such expandability was a necessary requirement for the system.

Finally, the President of the Tandem Users Group, an independent association, informed us that customers are now purchasing Tandem systems more for their expandability than for fault-tolerance. Ironically, IBM's fault-tolerant system is manufactured by Stratus Computers and does not have the expandability of Tandem's system. IBM may have misperceived customers' attraction to Tandem systems.

Fault-Tolerance

While the fault-tolerant feature was responsible for Tandem's early growth (driven by ATM networks where Tandem now controls 60% of the market), we contend that fault-tolerance is really a by-product of Tandem's design. Because Tandem's systems are comprised of multiple processors running in parallel, the failure of a single engine does not interrupt the entire workload. Moreover, before each disk read or write, the transaction is "check pointed," or recorded such that if a failure does occur, the transaction can be rolled back and resumed on another processor. Our survey suggests that more than half of Tandem's sales today are driven by factors other than fault-tolerance. While Tandem's product technology and market acceptance have been recognized by IBM as a real threat leading it to incorporate Stratus' fault-tolerant system in order to fill a hole in its product line, IBM appears to have missed the true significance of Tandem's architectural advantages.

Products and Shipments

To date, there have been four implementations of the Tandem architecture (Table I).

Table I. 1986 Shipments of Tandem Products

Model	ASP	Revenue	Units
	$	%	%
TXP	450,000	75	50
NS	250,000	15	20
EFT	150,000	10	30
VLX	1,000,000	20	10

Tandem's newest and fastest machine, the VLX (introduced in April 1986), has met with strong acceptance. We believe that the company is sold out of VLX's for the year and will be pressed to increase production volumes leading to a strong fiscal fourth quarter (ending September 30, 1986).

Yet, only a small fraction of the existing customer base surveyed by Bear Stearns indicated that they would migrate to the VLX immediately. For existing customers, the performance expandability of their current TXP and Non Stop systems dampens their need to migrate to Tandem's newest machine (yet nearly three-fourths of customers interviewed noted that they would undergo some form of performance increment over the next 12 months). Interestingly, the customers for the $1 million VLX are in new accounts, such as Federal Express' ZapMail and Chrysler's communication network. We believe that the demand at new accounts for the VLX systems, with performance starting at 50 transactions/second (on par with IBM's 3090 mainframe at three times the cost), will supply 25% of Tandem's revenue in fiscal 1987.

One final important aspect of the VLX -- we believe that this product has a yet-to-be-revealed performance upgrade already built into

the initial product. That is, despite the fact the VLX uses the ECL chip technology, which is faster than the TTL used in the older TXP, Tandem announced the product with the same cycle time (83 nanoseconds) as its predecessor. The reason for this was that the VLX uses the same I/O controller circuitry and memory as the TXP. Should Tandem cast these peripheral logic cards into ECL as well, we believe that the machine could operate at nearly half the cycle time (or twice the MIPS rate). This built-in upgrade will enable Tandem to introduce faster, field upgradable models down the road. The gross margin of the system will likely improve as Tandem will price its product in relation to the higher terms of performance, yet its costs will remain the same.

Customer Profile and Survey of Users and Software Developers

We recently interviewed 15 Tandem end users and six Tandem software houses. Half of the customers noted that they chose Tandem not because of its fault-tolerance, but rather that the particular software application they were seeking happened to be available on Tandem. When we queried the software houses as to why they chose Tandem, they said that Tandem's architecture allowed the software houses to develop an application that could not be conceived on a conventional mainframe. Over time we believe that Tandem will be able to attract more third-party software vendors than other computer companies because of this unique architecture (Tandem currently has nearly 200 software houses that it works with). Attracting third-party software vendors who add value to a vendor's machine has become the key to success in the computer industry. Simply put, customers do not want to develop their own software as they did for so many years.

We also note that Tandem's customers, which were once dominated by financial services industry, have substantially diversified (Chart II).

[Graphical Material Omitted: Chart II - Tandem Users]

The following is a sample of the applications that have been able to take advantage of Tandem's architecture:

Chrysler Corporation

Chrysler's communications operation will use a Tandem system to control their data communications activities. The company had compared Stratus' and Tandem's units and chose Tandem. Chrysler will likely order the VLX. The major attraction to Tandem was an application package that runs only on Tandem. Stratus is developing a similar package but it is not ready.

Cincinnati Enquirer

This daily has a TXP operation and plans to increase performance next year. The major attraction to the Tandem system was the ability to have one system handle all its editorial and classified functions. Obviously, fault-tolerance is important here since a daily has to be produced without down time.

Mead Corporation

Mead chose Tandem for its fault-tolerance; the company runs a mill 24 hours a day, seven days a week. Mead plans to add more TXP processors next year -- it currently has three TXPs and two Non-Stop-IIs.

J. C. Penney

The company is creating a credit authorization system to replace TRW.

System Integrators Inc. (SINT - 14)

This software house markets a newspaper publishing system. It has installed about 100 Tandem systems. Besides the non-stop nature of newspaper publishing, it is imperative to have a system that can be geographically dispersed (since the reporters and printers are), yet there must be a single version of the copy.

PBL Associates

This software house offers a complete distributed accounting system that runs on Tandem computers. In addition to offering standard General Ledger, the company has finished goods distribution/ purchasing/order entry/invoicing/air cargo/personnel modules. PBL was attracted to Tandem because of the technical capabilities and the unique platform that Tandem offers. The company's distribution software package takes advantage of the distributed data processing capabilities of the Tandem system.

Competition

We have noted that Tandem does not participate exclusively in the fault-tolerant market niche. However, this line of thinking has led some to believe that success for both Stratus and Tandem is simultaneously impossible. We have characterized Tandem's fault-tolerance as a by-product of its multiprocessor architecture. This contrasts with the Stratus approach in which the arithmetic logic is replicated four times. Indeed, for strict reliability the Stratus approach has some advantages. However, being a shared-memory design, Stratus has limited multiprocessing and performance expandability, and cannot geographically distribute processors and data.

Thus, while much of Tandem's early growth stemmed from the fault-tolerant arena, today it participates in the computer mainstream for reasons beyond its non-stop capabilities. In some ATM and brokerage environments, Stratus' systems have challenged Tandem's position; we believe that the market for Tandem's systems are much larger. That is, while the market for fault-tolerant computers might be in the order of \$3 billion, the general on-line transaction processors market is about 10 times that.

Fortunately for both Tandem and Stratus, the fault-tolerant competition has thinned out considerably. Many of the start-ups that entered the fault-tolerant market have foundered due to cash shortfalls and lack of market acceptance. One start-up that is succeeding is Tolerant Systems in San Jose, CA. Tolerant has built a Tandem-like system using standard microprocessors (National 32000). By choosing an OEM strategy, Tolerant has avoided the heavy SG&A costs incurred by Tandem.

Potential Earnings Leverage

We believe that long term, Tandem is well positioned to sustain margin improvement through a lower SG&A/revenue ratio. Currently, Tandem's 42% SG&A/revenue is just about the highest in the industry. This high ratio has been responsible for some of the company's past earnings disappointments.

Yet, we believe that such high historical SG&A spending levels will ultimately hold Tandem in good stead. The reason Tandem's SG&A expenses are so high stems from the company's efforts to sell products right on IBM's own turf. Such an effort entails a long sell cycle and a lot of hand-holding. In a sense, Tandem attempted to out-IBM IBM. However, with a historical average selling price of $250,000, versus IBM's $4 million mainframes, Tandem was in no position to effectively leverage its sales force. Only now that Tandem offers the $1+ million VLX processor complex will the company effectively achieve a meaningful reduction in SG&A/revenue. While this improvement will not likely occur in fiscal 1986, we believe that this margin improvement will occur in the following year. Within three years such margin improvement should enable the company to achieve 16% operating margin.

Financial Condition and Recent Performance

Tandem has a very clean balance sheet. Debt as a percentage of total capitalization is only 3% and the company has more than $100 million in cash.

We project that sales growth this year will be about 12%, with service growing 25% (Table II).

Tandem's earnings in second-quarter fiscal 1986 (ended March 31, 1986) exceeded our expectations, and caused the stock's recent run-up. Earnings grew 83% on revenue growth of 20%. Gross margin improvement from 61% to 67% accounts for the rest of the gain. In the current quarter we estimate earnings of $0.30 per share, compared with $0.06 in third quarter fiscal 1985. We believe that revenues will grow 24% to $180 million this quarter.

Table II. Projected Revenues/Earnings
($ Millions)

	9/30/87 Est.	9/30/86 Est.	9/30/85

Product Revenue	693	598	515
Service & Other	166	138	109
Revenue	859	736	624
Cost of Revenue	283	245	240
Product Development	94	85	72
Marketing, General & Admin.	353	311	262
Net Interest	-8	-8	-6
Total Costs	722	633	568
EBIT	128	94	50
Pretax Income	136	102	56
Income Tax	60	45	22
Net Income	76	57	34
Shares Outstanding (Mil.)	43	43	42
Earnings Per Share ($)	1.75	1.33	0.82
Margins (%)			
Cost of Revenue	33	33	38
Product Development	11	12	11
Marketing, General & Admin.	41	42	42
EBIT	15	13	8
Pretax Income	16	14	9
Income Tax	44	44	39
Net Income	9	8	6
Growth (%)			
Product	20	16	15
Service	20	27	30
Pretax Income	33	81	0
Net Income	33	66	-20
Product Revenue ($M)			
NS-II	50	63	77
TXP	440	440	386
EXT	53	53	52
VLX	150	50	0
Percent of Sales (%)			
NS-II	7	10	15
TXP	64	74	75
EXT	8	9	10
VLX	22	8	0
Unit Shipments			
NS-II	200	250	300
TXP	1,100	1,100	1,000
EXT	350	350	350
VLX	150	50	0

Table III. Tandem's Results By Quarters
($ Millions)

[Part 1 of 2]

	1985 I	II	III	IV
Product Revenue	134	120	117	144
Service & Other	26	26	27	30
Revenue	160	147	144	174
Cost of Revenue	62	58	56	64
Product Development	15	17	18	21
Marketing, General & Admin.	60	62	70	71
Net Interest	-2	-2	-1	-2
Total Costs	135	135	142	155
EBIT	23	10	0	17
Pretax Income	24	11	2	19
Income Tax	10	4	-1	8
Net Income	14	7	2	11
Shares Outstanding (Mil.)	41	42	42	42
Earnings Per Share ($)	0.34	0.16	0.06	0.27
Margins (%)				
Cost of Revenue	39	39	39	37
Product Development	9	12	12	12
Marketing, General & Admin.	38	42	48	41
EBIT	14	7	0	10
Pretax Income	15	8	1	11
Income Tax	43	39	-31	41
Net Income	9	5	2	6
Growth (%)				
Product	24	32	-2	11
Service	42	32	19	28
Pretax Income	35	253	-89	-2
Net Income	37	241	-75	-48

[Part 2 of 2]

	1986 I	II	III(*)	IV(*)
Product Revenue	137	143	145	173
Service & Other	33	34	35	37
Revenue	170	176	180	210
Cost of Revenue	59	58	59	69
Product Development	20	21	21	23
Marketing, General & Admin.	72	77	78	84
Net Interest	-2	-2	-2	-2
Total Costs	149	154	156	174
EBIT	19	20	21	34
Pretax Income	21	23	23	36
Income Tax	9	10	10	16
Net Income	12	13	13	20
Shares Outstanding (Mil.)	42	43	43	43
Earnings Per Share ($)	0.28	0.29	0.30	0.46
Margins (%)				
Cost of Revenue	35	33	33	33
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Net Income	7	7	7	9
Growth (%)				
Product	2	19	24	20
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Prices of other public companies mentioned in this report:

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July 14, 1986

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Tandem Computers, Inc. - Company Report
BEAR STEARNS & COMPANY - Fram, J., et al
06-11-86 (RN=607398)

Tandem Computers, Inc. (*) (TNDM - 32)

1985 EPS (9/30):	$0.82
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P/E 1986 Est.:	24.1x
P/E 1987 Est.:	18.3x
Dividend:	Nil
Yield:	Nil
1986 Price Range:	34-13
Common Shares Out.:	43 Mil.

[Graphical Material Omitted: Chart]

Summary and Recommendation

We recommend purchase of Tandem Computers.

We believe that Tandem will displace many traditional computer vendors and become one of the major, surviving computer companies. Although Tandem has historically been associated with a limited market niche -- fault-tolerant systems -- we think that Tandem's unique computer architecture makes it better suited for the broad, mainstream commercial market. In short, investors will think of Tandem along side of other mainstream, successful companies such as Digital Equipment (DEC - 86) and IBM (IBM - 148).

Although we describe Tandem and the superiority of its computer systems in this report, we have not stressed fault-tolerance as have other reports on the company. While fault-tolerance is certainly a key feature of Tandem's machines, it is only one of many architectural advantages that makes Tandem's systems more suitable than traditional mainframes and minicomputers in the commercial marketplace.

Reasons to purchase shares of Tandem Computers are:

* Tandem's computer architecture should enable the company to steadily gain market share at the expense of traditional computer vendors. This architecture enables users to: 1) physically and geographically distribute processors and data throughout their organization, yet perceive a single system image; 2) expand the performance of their systems in a much wider range than found in traditional computer designs; and 3) experience 100% up-time, a feature that has become a requirement as computers become a part of customers' own product offerings, rather than the historical overnight data processing use of computers.

* The advantages of Tandem's architecture should attract more third-party software; the availability of third-party software can make or break a computer hardware vendor.

* Tandem has more earnings leverage potential due to margin improvement than practically any other vendor in the industry. Such margin improvement would come from a reduction in Tandem's high SG&A/Revenue ratio (42%) as the average selling price of its systems rise from $250,000 to more than $500,000.

Valuation

We believe that Tandem's market share gains coupled with long-term margin improvement will result in 20%-25% annual earnings growth for the next several years. Tandem's P/E appears to be too low; we believe that this growth justifies a P/E with a substantial premium to the market. Furthermore, as investors recognize that Tandem will break away from the traditional minicomputer crowd, its P/E should be decoupled from others in the group. That is, while the shares of Data General (DGN - 39), Prime (PRM - 19) and Wang (WANB - 17) will trade relative to their individual product cycles and the overall capital spending environment, Tandem should continue to grow at a steadier and faster pace due to its impending market share gains. Investors should reward consistent growth in Tandem, much as they have embraced the stocks of Digital Equipment and Cray Research (CYR - 90).

Risks

There are several risks to investing in Tandem:

* IBM has recognized the gravity of Tandem's market share inroads to date and has sought to plug the hole in its product line by aggressively marketing a computer produced by Stratus, a fault-tolerant vendor.

* Tandem has historically ignored start-up competitors until they have made a meaningful inroad into its marketplace. This was the case with Stratus and it appears to be repeating itself with one significant start-up, Tolerant Systems. Such overconfidence has also led to several earnings disappointments.

* Capital spending for computers remains soft with industry-wide domestic orders about 15% below 1985's depressed levels. In addition, the stock has experienced a run-up over the past few months due to a good second-quarter fiscal 1986.

Market Environment: Consolidation

The current period of computer industry consolidation is the basis of yet another reason to own stock in Tandem. With the competitive position of many mature computer companies challenged by substantial industry-wide overcapacity and a slowdown in industry growth, many such vendors are seeking new ways to rejuvenate their businesses. As well, Tandem possesses an off-balance sheet asset, namely, the lock-in of its

customer base. We believe that an acquisition-rich environment will emerge as mature vendors whose competitive position has been eclipsed will seek to acquire those companies which own or are gaining market share. Since we believe that Tandem will emerge as one of those few surviving and thriving computer companies due to the advantages inherent in its computer architecture, Tandem represents one of the most desirable properties.

Tandem's Architecture: The Commercial Mainstream

Ultimately, it will be Tandem's computer architecture (*) that will enable it to grow while others in the computer industry stagnate. In short, we believe that Tandem should be a core holding for investors wishing to have exposure to the computer industry. Tandem will likely gain market share at the expense of some of these established vendors because its unique product architecture will enable it to perform commercial applications substantially better than traditional computers.

(*) Computer architecture refers to the machine's design, particularly its instruction set (add, subtract, multiply, divide, etc), memory organization and inter-processor communication. Strictly speaking, a machine's Functional Architecture is defined to be the programmer's view of the machine (instruction set, register layout, addressing modes, etc.). The Design Architecture, also referred to as machine organization refers to how the vendor implements its programming, or functional architecture. For example, IBM's 3090 and 4300 both incorporate the System/370 Functional Architecture. However the implementations are very different, both in terms of materials technology (semiconductors and packaging) as well as in the incorporation of machine resources (i.e., cache memory, pipelining, etc.).

We believe that most great computer companies can trace their success to their advantages in computer architecture. Such architectural successes include IBM's mainframes, Digital Equipment's minicomputers and Cray Research's supercomputers. For example, IBM's decision in the early 1960s to offer a single mainframe architecture (the System/360) eliminated the need for customers to re-write their programs each time they moved to a more powerful machine. This architectural concept was so appealing that IBM soon dominated the mainframe market. In the case of Digital Equipment, its single, focused architecture enabled it to sustain its recent margin improvement as well as extend its product line to a performance range beyond traditional minicomputers. Finally, Cray Research's key advantage is how it organized its machine to achieve the highest performance, without developing its own fast semiconductors.

A Long-Term Proprietary Advantage

Tandem's architectural innovations (described below) represent a long-term proprietary advantage for the company -- it is virtually impossible for other vendors to incorporate Tandem's architecture into their systems without departing from their own locked-in installed base

(the only company that has been able to incorporate a Tandem-like architecture while maintaining compatibility with their installed base has been NCR). Because Tandem conceived its architecture at least 10 years later than most mainstream players in the industry, it could make a clean break with the past, something that established vendors could not contemplate. Thus, advantages in computer architecture actually represent as significant a proprietary advantage as advanced semiconductor technology. In fact, all vendors ultimately gain access to the latest semiconductor technology when it reaches the merchant market. However, mature companies will not be able to incorporate architectural innovations while preserving their installed customer base.

Tandem's Architecture

Distributing Programs and Data

Simply put, Tandem's architecture enables customers to do things that cannot be done effectively on other vendors' systems -- with Tandem computers users can physically distribute data and programs throughout their organization. Yet, the user perceives the image of a single system -- transparent to the user, the operating system fetches and stores data at remote sites if needed. The user perceives the data to be local. It is Tandem's underlying operating system, and special machine-to-machine "messaging" instructions (not found on conventional machines) that provide this capability.

Note, it is possible to tie together geographically dispersed on-line users with conventional computers. Typically, this is done by connecting each computer terminal via its own telephone line to a centrally-located computer. In an era of rising telecommunications costs, such arrangements are becoming more impractical.

The importance of being able to physically distribute processors and data becomes apparent when one realizes that businesses and their employees are geographically dispersed, yet it is desirable to maintain only a single copy of important data. Consider the problem of allocating airline seats from any of 20,000 travel agent locations. While it is imperative not to allocate the same seat at different locations, it is desirable to alter the data from any location. In older systems, each travel agent and ticket counter was tied into where the data resides (at the airline's central computer). We think that the airline industry represents one of the biggest opportunities for Tandem over the next few years (in fact, sources suggest that Tandem is on the eve of announcing a major airline reservation contract).

Expandability Without Degradation

The second competitive advantage afforded to Tandem because of its unique architecture is the ability to construct high-end systems without the kind of capital requirements of traditional mainframe development. That is, Tandem can achieve higher performance levels than

conventional mainframes, yet use off-the-shelf semiconductors. In Tandem's latest machine, the VLX, the company uses the latest ECL gate array available in the merchant market, but achieves performance levels greater than mainframes using proprietary technology (see below).

Unlike today's mainframes, Tandem's machines do not experience performance degradation when multiple processors are strung together. In traditional mainframes, the only way multiple processors can be linked together (while maintaining an image of a single machine) is for the processors to share main memory. A problem arises with shared memory design because only one processor can access memory at the same time, leaving other processors idle. This memory contention (or "bottleneck") problem results in severe performance degradation for conventional multiprocessor mainframes. In contrast, Tandem's computers have no such bottleneck. Since each CPU has its own memory, a Tandem user can achieve a linear growth in performance by adding processor modules to the system. If data residing in another machine's memory is desired, special "message instructions" (transparent to the user) fetches the data from the other processor (Chart I). The other processor and data can be located a long distance from the requesting processor.

[Graphical Material Omitted: Chart I - Conventional System/Tandem System]

For example, in IBM's largest system, the four-processor 3090 Model 400, the user does not get the full performance of each 15 MIPS engine -- instead of obtaining 60 MIPS in performance, the total system delivers computing power closer to 50 MIPS. Tandem's VLX system, in contrast can string together 16 of its 4 MIPS VLX machines and achieve 64 MIPS with no degradation. Because transaction processing systems typically involve the many small jobs they each run for a short period of time on its own processor, numerous small processors do the job as well as fewer large ones. In a sense, Tandem's systems are really a form of parallel processing for the commercial world.

The importance of linear performance expandability is better understood by realizing that on-line transaction processing systems tend to grow as the customers' business grows. This stems from the fact that interactive/transaction processing systems generally form the core of the customers' own product offering -- the computer becomes part of the customers' competitive repertoire. For example, major stock exchanges use Tandem systems for order execution and reconciliation (SIAC has over 100 Tandem processors in a single site). With the burgeoning transaction volumes of recent years, such expandability was a necessary requirement for the system.

Finally, the President of the Tandem Users Group, an independent association, informed us that customers are now purchasing Tandem systems more for their expandability than for fault-tolerance. Ironically, IBM's fault-tolerant system is manufactured by Stratus Computers and does not have the expandability of Tandem's system. IBM may have misperceived customers' attraction to Tandem systems.

Fault-Tolerance

While the fault-tolerant feature was responsible for Tandem's early growth (driven by ATM networks where Tandem now controls 60% of the market), we contend that fault-tolerance is really a by-product of Tandem's design. Because Tandem's systems are comprised of multiple processors running in parallel, the failure of a single engine does not interrupt the entire workload. Moreover, before each disk read or write, the transaction is "check pointed," or recorded such that if a failure does occur, the transaction can be rolled back and resumed on another processor. Our survey suggests that more than half of Tandem's sales today are driven by factors other than fault-tolerance. While Tandem's product technology and market acceptance have been recognized by IBM as a real threat leading it to incorporate Stratus' fault-tolerant system in order to fill a hole in its product line, IBM appears to have missed the true significance of Tandem's architectural advantages.

Products and Shipments

To date, there have been four implementations of the Tandem architecture (Table I).

Table I. 1986 Shipments of Tandem Products

Model	ASP	Revenue	Units
	$	%	%
TXP	450,000	75	50
NS	250,000	15	20
EFT	150,000	10	30
VLX	1,000,000	20	10

Tandem's newest and fastest machine, the VLX (introduced in April 1986), has met with strong acceptance. We believe that the company is sold out of VLX's for the year and will be pressed to increase production volumes leading to a strong fiscal fourth quarter (ending September 30, 1986).

Yet, only a small fraction of the existing customer base surveyed by Bear Stearns indicated that they would migrate to the VLX immediately. For existing customers, the performance expandability of their current TXP and Non Stop systems dampens their need to migrate to Tandem's newest machine (yet nearly three-fourths of customers interviewed noted that they would undergo some form of performance increment over the next 12 months). Interestingly, the customers for the $1 million VLX are in new accounts, such as Federal Express' ZapMail and Chrysler's communication network. We believe that the demand at new accounts for the VLX systems, with performance starting at 50 transactions/second (on par with IBM's 3090 mainframe at three times the cost), will supply 25% of Tandem's revenue in fiscal 1987.

One final important aspect of the VLX -- we believe that this product has a yet-to-be-revealed performance upgrade already built into

the initial product. That is, despite the fact the VLX uses the ECL chip technology, which is faster than the TTL used in the older TXP, Tandem announced the product with the same cycle time (83 nanoseconds) as its predecessor. The reason for this was that the VLX uses the same I/O controller circuitry and memory as the TXP. Should Tandem cast these peripheral logic cards into ECL as well, we believe that the machine could operate at nearly half the cycle time (or twice the MIPS rate). This built-in upgrade will enable Tandem to introduce faster, field upgradable models down the road. The gross margin of the system will likely improve as Tandem will price its product in relation to the higher terms of performance, yet its costs will remain the same.

Customer Profile and Survey of Users and Software Developers

We recently interviewed 15 Tandem end users and six Tandem software houses. Half of the customers noted that they chose Tandem not because of its fault-tolerance, but rather that the particular software application they were seeking happened to be available on Tandem. When we queried the software houses as to why they chose Tandem, they said that Tandem's architecture allowed the software houses to develop an application that could not be conceived on a conventional mainframe. Over time we believe that Tandem will be able to attract more third-party software vendors than other computer companies because of this unique architecture (Tandem currently has nearly 200 software houses that it works with). Attracting third-party software vendors who add value to a vendor's machine has become the key to success in the computer industry. Simply put, customers do not want to develop their own software as they did for so many years.

We also note that Tandem's customers, which were once dominated by financial services industry, have substantially diversified (Chart II).

[Graphical Material Omitted: Chart II - Tandem Users]

The following is a sample of the applications that have been able to take advantage of Tandem's architecture:

Chrysler Corporation

Chrysler's communications operation will use a Tandem system to control their data communications activities. The company had compared Stratus' and Tandem's units and chose Tandem. Chrysler will likely order the VLX. The major attraction to Tandem was an application package that runs only on Tandem. Stratus is developing a similar package but it is not ready.

Cincinnati Enquirer

This daily has a TXP operation and plans to increase performance next year. The major attraction to the Tandem system was the ability to have one system handle all its editorial and classified functions. Obviously, fault-tolerance is important here since a daily has to be produced without down time.

Mead Corporation

Mead chose Tandem for its fault-tolerance; the company runs a mill 24 hours a day, seven days a week. Mead plans to add more TXP processors next year -- it currently has three TXPs and two Non-Stop-IIs.

J. C. Penney

The company is creating a credit authorization system to replace TRW.

System Integrators Inc. (SINT - 14)

This software house markets a newspaper publishing system. It has installed about 100 Tandem systems. Besides the non-stop nature of newspaper publishing, it is imperative to have a system that can be geographically dispersed (since the reporters and printers are), yet there must be a single version of the copy.

PBL Associates

This software house offers a complete distributed accounting system that runs on Tandem computers. In addition to offering standard General Ledger, the company has finished goods distribution/purchasing/order entry/invoicing/air cargo/personnel modules. PBL was attracted to Tandem because of the technical capabilities and the unique platform that Tandem offers. The company's distribution software package takes advantage of the distributed data processing capabilities of the Tandem system.

Competition

We have noted that Tandem does not participate exclusively in the fault-tolerant market niche. However, this line of thinking has led some to believe that success for both Stratus and Tandem is simultaneously impossible. We have characterized Tandem's fault-tolerance as a by-product of its multiprocessor architecture. This contrasts with the Stratus approach in which the arithmetic logic is replicated four times. Indeed, for strict reliability the Stratus approach has some advantages. However, being a shared-memory design, Stratus has limited multiprocessing and performance expandability, and cannot geographically distribute processors and data.

Thus, while much of Tandem's early growth stemmed from the fault-tolerant arena, today it participates in the computer mainstream for reasons beyond its non-stop capabilities. In some ATM and brokerage environments, Stratus' systems have challenged Tandem's position; we believe that the market for Tandem's systems are much larger. That is, while the market for fault-tolerant computers might be in the order of $3 billion, the general on-line transaction processors market is about 10 times that.

Fortunately for both Tandem and Stratus, the fault-tolerant competition has thinned out considerably. Many of the start-ups that entered the fault-tolerant market have foundered due to cash shortfalls and lack of market acceptance. One start-up that is succeeding is Tolerant Systems in San Jose, CA. Tolerant has built a Tandem-like system using standard microprocessors (National 32000). By choosing an OEM strategy, Tolerant has avoided the heavy SG&A costs incurred by Tandem.

Potential Earnings Leverage

We believe that long term, Tandem is well positioned to sustain margin improvement through a lower SG&A/revenue ratio. Currently, Tandem's 42% SG&A/revenue is just about the highest in the industry. This high ratio has been responsible for some of the company's past earnings disappointments.

Yet, we believe that such high historical SG&A spending levels will ultimately hold Tandem in good stead. The reason Tandem's SG&A expenses are so high stems from the company's efforts to sell products right on IBM's own turf. Such an effort entails a long sell cycle and a lot of hand-holding. In a sense, Tandem attempted to out-IBM IBM. However, with a historical average selling price of $250,000, versus IBM's $4 million mainframes, Tandem was in no position to effectively leverage its sales force. Only now that Tandem offers the $1+ million VLX processor complex will the company effectively achieve a meaningful reduction in SG&A/revenue. While this improvement will not likely occur in fiscal 1986, we believe that this margin improvement will occur in the following year. Within three years such margin improvement should enable the company to achieve 16% operating margin.

Financial Condition and Recent Performance

Tandem has a very clean balance sheet. Debt as a percentage of total capitalization is only 3% and the company has more than $100 million in cash.

We project that sales growth this year will be about 12%, with service growing 25% (Table II).

Tandem's earnings in second-quarter fiscal 1986 (ended March 31, 1986) exceeded our expectations, and caused the stock's recent run-up. Earnings grew 83% on revenue growth of 20%. Gross margin improvement from 61% to 67% accounts for the rest of the gain. In the current quarter we estimate earnings of $0.30 per share, compared with $0.06 in third quarter fiscal 1985. We believe that revenues will grow 24% to $180 million this quarter.

Table II. Projected Revenues/Earnings
($ Millions)

	9/30/87 Est.	9/30/86 Est.	9/30/85

Product Revenue	693	598	515
Service & Other	166	138	109
Revenue	859	736	624
Cost of Revenue	283	245	240
Product Development	94	85	72
Marketing, General & Admin.	353	311	262
Net Interest	-8	-8	-6
Total Costs	722	633	568
EBIT	128	94	50
Pretax Income	136	102	56
Income Tax	60	45	22
Net Income	76	57	34
Shares Outstanding (Mil.)	43	43	42
Earnings Per Share ($)	1.75	1.33	0.82
Margins (%)			
Cost of Revenue	33	33	38
Product Development	11	12	11
Marketing, General & Admin.	41	42	42
EBIT	15	13	8
Pretax Income	16	14	9
Income Tax	44	44	39
Net Income	9	8	6
Growth (%)			
Product	20	16	15
Service	20	27	30
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* Tandem has more earnings leverage potential due to margin improvement than practically any other vendor in the industry. Such margin improvement would come from a reduction in Tandem's high SG&A/Revenue ratio (42%) as the average selling price of its systems rise from $250,000 to more than $500,000.

Valuation

We believe that Tandem's market share gains coupled with long-term margin improvement will result in 20%-25% annual earnings growth for the next several years. Tandem's P/E appears to be too low; we believe that this growth justifies a P/E with a substantial premium to the market. Furthermore, as investors recognize that Tandem will break away from the traditional minicomputer crowd, its P/E should be decoupled from others in the group. That is, while the shares of Data General (DGN - 39), Prime (PRM - 19) and Wang (WANB - 17) will trade relative to their individual product cycles and the overall capital spending environment, Tandem should continue to grow at a steadier and faster pace due to its impending market share gains. Investors should reward consistent growth in Tandem, much as they have embraced the stocks of Digital Equipment and Cray Research (CYR - 90).

Risks

There are several risks to investing in Tandem:

* IBM has recognized the gravity of Tandem's market share inroads to date and has sought to plug the hole in its product line by aggressively marketing a computer produced by Stratus, a fault-tolerant vendor.

* Tandem has historically ignored start-up competitors until they have made a meaningful inroad into its marketplace. This was the case with Stratus and it appears to be repeating itself with one significant start-up, Tolerant Systems. Such overconfidence has also led to several earnings disappointments.

* Capital spending for computers remains soft with industry-wide domestic orders about 15% below 1985's depressed levels. In addition, the stock has experienced a run-up over the past few months due to a good second-quarter fiscal 1986.

Market Environment: Consolidation

The current period of computer industry consolidation is the basis of yet another reason to own stock in Tandem. With the competitive position of many mature computer companies challenged by substantial industry-wide overcapacity and a slowdown in industry growth, many such vendors are seeking new ways to rejuvenate their businesses. As well, Tandem possesses an off-balance sheet asset, namely, the lock-in of its

customer base. We believe that an acquisition-rich environment will emerge as mature vendors whose competitive position has been eclipsed will seek to acquire those companies which own or are gaining market share. Since we believe that Tandem will emerge as one of those few surviving and thriving computer companies due to the advantages inherent in its computer architecture, Tandem represents one of the most desirable properties.

Tandem's Architecture: The Commercial Mainstream

Ultimately, it will be Tandem's computer architecture (*) that will enable it to grow while others in the computer industry stagnate. In short, we believe that Tandem should be a core holding for investors wishing to have exposure to the computer industry. Tandem will likely gain market share at the expense of some of these established vendors because its unique product architecture will enable it to perform commercial applications substantially better than traditional computers.

(*) Computer architecture refers to the machine's design, particularly its instruction set (add, subtract, multiply, divide, etc), memory organization and inter-processor communication. Strictly speaking, a machine's Functional Architecture is defined to be the programmer's view of the machine (instruction set, register layout, addressing modes, etc.). The Design Architecture, also referred to as machine organization refers to how the vendor implements its programming, or functional architecture. For example, IBM's 3090 and 4300 both incorporate the System/370 Functional Architecture. However the implementations are very different, both in terms of materials technology (semiconductors and packaging) as well as in the incorporation of machine resources (i.e., cache memory, pipelining, etc.).

We believe that most great computer companies can trace their success to their advantages in computer architecture. Such architectural successes include IBM's mainframes, Digital Equipment's minicomputers and Cray Research's supercomputers. For example, IBM's decision in the early 1960s to offer a single mainframe architecture (the System/360) eliminated the need for customers to re-write their programs each time they moved to a more powerful machine. This architectural concept was so appealing that IBM soon dominated the mainframe market. In the case of Digital Equipment, its single, focused architecture enabled it to sustain its recent margin improvement as well as extend its product line to a performance range beyond traditional minicomputers. Finally, Cray Research's key advantage is how it organized its machine to achieve the highest performance, without developing its own fast semiconductors.

A Long-Term Proprietary Advantage

Tandem's architectural innovations (described below) represent a long-term proprietary advantage for the company -- it is virtually impossible for other vendors to incorporate Tandem's architecture into their systems without departing from their own locked-in installed base

(the only company that has been able to incorporate a Tandem-like architecture while maintaining compatibility with their installed base has been NCR). Because Tandem conceived its architecture at least 10 years later than most mainstream players in the industry, it could make a clean break with the past, something that established vendors could not contemplate. Thus, advantages in computer architecture actually represent as significant a proprietary advantage as advanced semiconductor technology. In fact, all vendors ultimately gain access to the latest semiconductor technology when it reaches the merchant market. However, mature companies will not be able to incorporate architectural innovations while preserving their installed customer base.

Tandem's Architecture

Distributing Programs and Data

Simply put, Tandem's architecture enables customers to do things that cannot be done effectively on other vendors' systems -- with Tandem computers users can physically distribute data and programs throughout their organization. Yet, the user perceives the image of a single system -- transparent to the user, the operating system fetches and stores data at remote sites if needed. The user perceives the data to be local. It is Tandem's underlying operating system, and special machine-to-machine "messaging" instructions (not found on conventional machines) that provide this capability.

Note, it is possible to tie together geographically dispersed on-line users with conventional computers. Typically, this is done by connecting each computer terminal via its own telephone line to a centrally-located computer. In an era of rising telecommunications costs, such arrangements are becoming more impractical.

The importance of being able to physically distribute processors and data becomes apparent when one realizes that businesses and their employees are geographically dispersed, yet it is desirable to maintain only a single copy of important data. Consider the problem of allocating airline seats from any of 20,000 travel agent locations. While it is imperative not to allocate the same seat at different locations, it is desirable to alter the data from any location. In older systems, each travel agent and ticket counter was tied into where the data resides (at the airline's central computer). We think that the airline industry represents one of the biggest opportunities for Tandem over the next few years (in fact, sources suggest that Tandem is on the eve of announcing a major airline reservation contract).

Expandability Without Degradation

The second competitive advantage afforded to Tandem because of its unique architecture is the ability to construct high-end systems without the kind of capital requirements of traditional mainframe development. That is, Tandem can achieve higher performance levels than

conventional mainframes, yet use off-the-shelf semiconductors. In Tandem's latest machine, the VLX, the company uses the latest ECL gate array available in the merchant market, but achieves performance levels greater than mainframes using proprietary technology (see below).

Unlike today's mainframes, Tandem's machines do not experience performance degradation when multiple processors are strung together. In traditional mainframes, the only way multiple processors can be linked together (while maintaining an image of a single machine) is for the processors to share main memory. A problem arises with shared memory design because only one processor can access memory at the same time, leaving other processors idle. This memory contention (or "bottleneck") problem results in severe performance degradation for conventional multiprocessor mainframes. In contrast, Tandem's computers have no such bottleneck. Since each CPU has its own memory, a Tandem user can achieve a linear growth in performance by adding processor modules to the system. If data residing in another machine's memory is desired, special "message instructions" (transparent to the user) fetches the data from the other processor (Chart I). The other processor and data can be located a long distance from the requesting processor.

[Graphical Material Omitted: Chart I - Conventional System/Tandem System]

For example, in IBM's largest system, the four-processor 3090 Model 400, the user does not get the full performance of each 15 MIPS engine -- instead of obtaining 60 MIPS in performance, the total system delivers computing power closer to 50 MIPS. Tandem's VLX system, in contrast can string together 16 of its 4 MIPS VLX machines and achieve 64 MIPS with no degradation. Because transaction processing systems typically involve the many small jobs they each run for a short period of time on its own processor, numerous small processors do the job as well as fewer large ones. In a sense, Tandem's systems are really a form of parallel processing for the commercial world.

The importance of linear performance expandability is better understood by realizing that on-line transaction processing systems tend to grow as the customers' business grows. This stems from the fact that interactive/transaction processing systems generally form the core of the customers' own product offering -- the computer becomes part of the customers' competitive repertoire. For example, major stock exchanges use Tandem systems for order execution and reconciliation (SIAC has over 100 Tandem processors in a single site). With the burgeoning transaction volumes of recent years, such expandability was a necessary requirement for the system.

Finally, the President of the Tandem Users Group, an independent association, informed us that customers are now purchasing Tandem systems more for their expandability than for fault-tolerance. Ironically, IBM's fault-tolerant system is manufactured by Stratus Computers and does not have the expandability of Tandem's system. IBM may have misperceived customers' attraction to Tandem systems.

Fault-Tolerance

While the fault-tolerant feature was responsible for Tandem's early growth (driven by ATM networks where Tandem now controls 60% of the market), we contend that fault-tolerance is really a by-product of Tandem's design. Because Tandem's systems are comprised of multiple processors running in parallel, the failure of a single engine does not interrupt the entire workload. Moreover, before each disk read or write, the transaction is "check pointed," or recorded such that if a failure does occur, the transaction can be rolled back and resumed on another processor. Our survey suggests that more than half of Tandem's sales today are driven by factors other than fault-tolerance. While Tandem's product technology and market acceptance have been recognized by IBM as a real threat leading it to incorporate Stratus' fault-tolerant system in order to fill a hole in its product line, IBM appears to have missed the true significance of Tandem's architectural advantages.

Products and Shipments

To date, there have been four implementations of the Tandem architecture (Table I).

Table I. 1986 Shipments of Tandem Products

Model	ASP	Revenue	Units
	$	%	%
TXP	450,000	75	50
NS	250,000	15	20
EFT	150,000	10	30
VLX	1,000,000	20	10

Tandem's newest and fastest machine, the VLX (introduced in April 1986), has met with strong acceptance. We believe that the company is sold out of VLX's for the year and will be pressed to increase production volumes leading to a strong fiscal fourth quarter (ending September 30, 1986).

Yet, only a small fraction of the existing customer base surveyed by Bear Stearns indicated that they would migrate to the VLX immediately. For existing customers, the performance expandability of their current TXP and Non Stop systems dampens their need to migrate to Tandem's newest machine (yet nearly three-fourths of customers interviewed noted that they would undergo some form of performance increment over the next 12 months). Interestingly, the customers for the $1 million VLX are in new accounts, such as Federal Express' ZapMail and Chrysler's communication network. We believe that the demand at new accounts for the VLX systems, with performance starting at 50 transactions/second (on par with IBM's 3090 mainframe at three times the cost), will supply 25% of Tandem's revenue in fiscal 1987.

One final important aspect of the VLX -- we believe that this product has a yet-to-be-revealed performance upgrade already built into

the initial product. That is, despite the fact the VLX uses the ECL chip technology, which is faster than the TTL used in the older TXP, Tandem announced the product with the same cycle time (83 nanoseconds) as its predecessor. The reason for this was that the VLX uses the same I/O controller circuitry and memory as the TXP. Should Tandem cast these peripheral logic cards into ECL as well, we believe that the machine could operate at nearly half the cycle time (or twice the MIPS rate). This built-in upgrade will enable Tandem to introduce faster, field upgradable models down the road. The gross margin of the system will likely improve as Tandem will price its product in relation to the higher terms of performance, yet its costs will remain the same.

Customer Profile and Survey of Users and Software Developers

We recently interviewed 15 Tandem end users and six Tandem software houses. Half of the customers noted that they chose Tandem not because of its fault-tolerance, but rather that the particular software application they were seeking happened to be available on Tandem. When we queried the software houses as to why they chose Tandem, they said that Tandem's architecture allowed the software houses to develop an application that could not be conceived on a conventional mainframe. Over time we believe that Tandem will be able to attract more third-party software vendors than other computer companies because of this unique architecture (Tandem currently has nearly 200 software houses that it works with). Attracting third-party software vendors who add value to a vendor's machine has become the key to success in the computer industry. Simply put, customers do not want to develop their own software as they did for so many years.

We also note that Tandem's customers, which were once dominated by financial services industry, have substantially diversified (Chart II).

[Graphical Material Omitted: Chart II - Tandem Users]

The following is a sample of the applications that have been able to take advantage of Tandem's architecture:

Chrysler Corporation

Chrysler's communications operation will use a Tandem system to control their data communications activities. The company had compared Stratus' and Tandem's units and chose Tandem. Chrysler will likely order the VLX. The major attraction to Tandem was an application package that runs only on Tandem. Stratus is developing a similar package but it is not ready.

Cincinnati Enquirer

This daily has a TXP operation and plans to increase performance next year. The major attraction to the Tandem system was the ability to have one system handle all its editorial and classified functions. Obviously, fault-tolerance is important here since a daily has to be produced without down time.

Mead Corporation

Mead chose Tandem for its fault-tolerance; the company runs a mill 24 hours a day, seven days a week. Mead plans to add more TXP processors next year -- it currently has three TXPs and two Non-Stop-IIs.

J. C. Penney

The company is creating a credit authorization system to replace TRW.

System Integrators Inc. (SINT - 14)

This software house markets a newspaper publishing system. It has installed about 100 Tandem systems. Besides the non-stop nature of newspaper publishing, it is imperative to have a system that can be geographically dispersed (since the reporters and printers are), yet there must be a single version of the copy.

PBL Associates

This software house offers a complete distributed accounting system that runs on Tandem computers. In addition to offering standard General Ledger, the company has finished goods distribution/ purchasing/order entry/invoicing/air cargo/personnel modules. PBL was attracted to Tandem because of the technical capabilities and the unique platform that Tandem offers. The company's distribution software package takes advantage of the distributed data processing capabilities of the Tandem system.

Competition

We have noted that Tandem does not participate exclusively in the fault-tolerant market niche. However, this line of thinking has led some to believe that success for both Stratus and Tandem is simultaneously impossible. We have characterized Tandem's fault-tolerance as a by-product of its multiprocessor architecture. This contrasts with the Stratus approach in which the arithmetic logic is replicated four times. Indeed, for strict reliability the Stratus approach has some advantages. However, being a shared-memory design, Stratus has limited multiprocessing and performance expandability, and cannot geographically distribute processors and data.

Thus, while much of Tandem's early growth stemmed from the fault-tolerant arena, today it participates in the computer mainstream for reasons beyond its non-stop capabilities. In some ATM and brokerage environments, Stratus' systems have challenged Tandem's position; we believe that the market for Tandem's systems are much larger. That is, while the market for fault-tolerant computers might be in the order of $3 billion, the general on-line transaction processors market is about 10 times that.

Fortunately for both Tandem and Stratus, the fault-tolerant competition has thinned out considerably. Many of the start-ups that entered the fault-tolerant market have foundered due to cash shortfalls and lack of market acceptance. One start-up that is succeeding is Tolerant Systems in San Jose, CA. Tolerant has built a Tandem-like system using standard microprocessors (National 32000). By choosing an OEM strategy, Tolerant has avoided the heavy SG&A costs incurred by Tandem.

Potential Earnings Leverage

We believe that long term, Tandem is well positioned to sustain margin improvement through a lower SG&A/revenue ratio. Currently, Tandem's 42% SG&A/revenue is just about the highest in the industry. This high ratio has been responsible for some of the company's past earnings disappointments.

Yet, we believe that such high historical SG&A spending levels will ultimately hold Tandem in good stead. The reason Tandem's SG&A expenses are so high stems from the company's efforts to sell products right on IBM's own turf. Such an effort entails a long sell cycle and a lot of hand-holding. In a sense, Tandem attempted to out-IBM IBM. However, with a historical average selling price of $250,000, versus IBM's $4 million mainframes, Tandem was in no position to effectively leverage its sales force. Only now that Tandem offers the $1+ million VLX processor complex will the company effectively achieve a meaningful reduction in SG&A/revenue. While this improvement will not likely occur in fiscal 1986, we believe that this margin improvement will occur in the following year. Within three years such margin improvement should enable the company to achieve 16% operating margin.

Financial Condition and Recent Performance

Tandem has a very clean balance sheet. Debt as a percentage of total capitalization is only 3% and the company has more than $100 million in cash.

We project that sales growth this year will be about 12%, with service growing 25% (Table II).

Tandem's earnings in second-quarter fiscal 1986 (ended March 31, 1986) exceeded our expectations, and caused the stock's recent run-up. Earnings grew 83% on revenue growth of 20%. Gross margin improvement from 61% to 67% accounts for the rest of the gain. In the current quarter we estimate earnings of $0.30 per share, compared with $0.06 in third quarter fiscal 1985. We believe that revenues will grow 24% to $180 million this quarter.

Table II. Projected Revenues/Earnings
($ Millions)

	9/30/87 Est.	9/30/86 Est.	9/30/85

Product Revenue	693	598	515
Service & Other	166	138	109
Revenue	859	736	624
Cost of Revenue	283	245	240
Product Development	94	85	72
Marketing, General & Admin.	353	311	262
Net Interest	-8	-8	-6
Total Costs	722	633	568
EBIT	128	94	50
Pretax Income	136	102	56
Income Tax	60	45	22
Net Income	76	57	34
Shares Outstanding (Mil.)	43	43	42
Earnings Per Share ($)	1.75	1.33	0.82
Margins (%)			
Cost of Revenue	33	33	38
Product Development	11	12	11
Marketing, General & Admin.	41	42	42
EBIT	15	13	8
Pretax Income	16	14	9
Income Tax	44	44	39
Net Income	9	8	6
Growth (%)			
Product	20	16	15
Service	20	27	30
Pretax Income	33	81	0
Net Income	33	66	-20
Product Revenue ($M)			
NS-II	50	63	77
TXP	440	440	386
EXT	53	53	52
VLX	150	50	0
Percent of Sales (%)			
NS-II	7	10	15
TXP	64	74	75
EXT	8	9	10
VLX	22	8	0
Unit Shipments			
NS-II	200	250	300
TXP	1,100	1,100	1,000
EXT	350	350	350
VLX	150	50	0

Table III. Tandem's Results By Quarters
($ Millions)

[Part 1 of 2]

	1985 I	II	III	IV
Product Revenue	134	120	117	144
Service & Other	26	26	27	30
Revenue	160	147	144	174
Cost of Revenue	62	58	56	64
Product Development	15	17	18	21
Marketing, General & Admin.	60	62	70	71
Net Interest	-2	-2	-1	-2
Total Costs	135	135	142	155
EBIT	23	10	0	17
Pretax Income	24	11	2	19
Income Tax	10	4	-1	8
Net Income	14	7	2	11
Shares Outstanding (Mil.)	41	42	42	42
Earnings Per Share ($)	0.34	0.16	0.06	0.27
Margins (%)				
Cost of Revenue	39	39	39	37
Product Development	9	12	12	12
Marketing, General & Admin.	38	42	48	41
EBIT	14	7	0	10
Pretax Income	15	8	1	11
Income Tax	43	39	-31	41
Net Income	9	5	2	6
Growth (%)				
Product	24	32	-2	11
Service	42	32	19	28
Pretax Income	35	253	-89	-2
Net Income	37	241	-75	-48

[Part 2 of 2]

	1986			
	I	II	III(*)	IV(*)
Product Revenue	137	143	145	173
Service & Other	33	34	35	37
Revenue	170	176	180	210
Cost of Revenue	59	58	59	69
Product Development	20	21	21	23
Marketing, General & Admin.	72	77	78	84
Net Interest	-2	-2	-2	-2
Total Costs	149	154	156	174
EBIT	19	20	21	34
Pretax Income	21	23	23	36
Income Tax	9	10	10	16
Net Income	12	13	13	20
Shares Outstanding (Mil.)	42	43	43	43
Earnings Per Share ($)	0.28	0.29	0.30	0.46
Margins (%)				
Cost of Revenue	35	33	33	33
Product Development	12	12	12	11
Marketing, General & Admin.	42	44	44	40
EBIT	11	11	12	16
Pretax Income	12	13	13	17
Income Tax	45	44	44	44
Net Income	7	7	7	9
Growth (%)				
Product	2	19	24	20
Service	29	27	27	25
Pretax Income	-14	100	1,220	87
Net Income	-17	83	464	77

(*) Estimated

Prices of other public companies mentioned in this report:

Chrysler Corp. (C - 35)
J.C. Penney (JCP - 79)
Mead Corp. (MEA - 49)
TRW (TRW - 101)

(*) At the time of this report, Bear, Stearns & Co. Inc. was a market maker in this security.

'86

Financial Analysts Look at Tandem: Recommend Purchase

Bear, Stearns & Co. Inc.

We recommend purchase of Tandem Computers.

We believe that Tandem will displace many traditional vendors and become one of the major, surviving computer companies. Although Tandem has historically been associated with a limited market niche—fault-tolerant systems—we think that Tandem's unique computer architecture makes it better suited for the broad, mainstream commercial market. In short, investors will think of Tandem alongside of other mainstream, successful companies such as Digital Equipment (DEC-86) and IBM (IBM-148).

Ultimately, it will be Tandem's computer architecture that will enable it to grow while others in the computer industry stagnate. In short, we believe that Tandem should be a core holding for investors wishing to have exposure to the computer industry. Tandem will likely gain market share at the expense of some of these established vendors because its unique product architecture will enable it to perform commercial applications substantially better than traditional computers.

Because Tandem conceived its architecture at least 10 years later than most mainstream players in the industry, it could make a clean break with the past, something that established vendors could not contemplate. Thus, advantages in computer architecture actually represent as significant a proprietary advantage as advanced semiconductor technology. In fact, all vendors ultimately gain access to the latest semiconductor technology when it reaches the merchant market. However, mature companies will not be able to incorporate architectural innovations while preserving their installed customer base.

Simply put, Tandem's architecture enables customers to do things that cannot be done effectively on other vendors' systems—with Tandem computers users can physically distribute data and programs throughout their organization. Yet, the user perceives the image of a single system—transparent to the user, the operating system fetches and stores data at remote sites if needed. The user perceives the data to be local. It is Tandem's underlying operating system, and special machine-to-machine "messaging" instructions (not found on conventional machines) that provide this capability.

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The importance of linear performance expandability is better understood by realizing that on-line transaction processing systems tend to grow as the customers' business grows. This stems from the fact that interactive/transaction processing systems generally form the core of the customers' own product offering—the computer becomes part of the customers' competitive repertoire. For example, major stock exchanges use Tandem systems for order execution and reconciliation (SIAC has over 100 Tandem processors in a single site). With the burgeoning transaction volumes of recent years, such expandability was a necessary requirement for the system.

Finally, the President of the Tandem Users' Group, an independent association, informed us that customers are now purchasing Tandem systems more for their expandability than for fault-tolerance. Ironically, IBM's fault-tolerant system is manufactured by Stratus Computers and does not have the expandability of Tandem's system. IBM may have misperceived customers' attraction to Tandem systems.

When we queried the software houses as to why they chose Tandem, they said that Tandem's architecture allowed the software houses to develop an application that could not be conceived on a conventional mainframe. Over time, we believe that Tandem will be able to attract more third-party software vendors than other computer companies because of this unique architecture.

Tandem has a very clean balance sheet. Debt as a percentage of total capitalization is only 3%, and the company has more than $100 million in cash.

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Merrill Lynch Capital Markets

Tandem's capabilities in data communications and computer networking have gained substantially, positioning the company as a major contender for large-scale transaction processing and electronic messaging networks.

Tandem's success in fault-tolerant systems has also resulted in a strong competitive position in computer networking. The company's emphasis on communications has intensified in recent years, with Tandem scoring significant competitive wins of large-scale networks in banking, retail point of sale and electronic mail.

Bidding against IBM, Tandem has been successful in emphasizing the combination of fault-tolerance and effective computer networking in a series of modularly expandable systems. The flexibility and ease of expansion are being highlighted by Tandem as contrasted to IBM's more rigid hierarchical approach to computer networking.

Competition in the fault-tolerant marketplace is concentrating increasingly on high-end price/performance. The Tandem VLX establishes a new standard, providing 50 transaction per second performance in a $1 million system, expandable with linear price/performance to the 200 transaction level. It is backed up by networking and database software, as well as an effective group of third-party systems integrators, making Tandem a serious contender for major networks.

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continued

Prudential-Bache Securities Inc.

Tandem needs to create a forceful marketing and sales program to deliver its product message more effectively. This is the major unmet challenge of 1986.

The company is repositioning for better profitability; we would purchase aggressively near-term.

The internal dynamics for improved profitability at Tandem are in place. After three years of repositioning to achieve a more competitive environment, this manufacturer of multiprocessor computer systems is about to emerge in a strong product position and with a more effective marketing and sales strategy to maximize its unique capabilities.

Tandem is our strongest short-term purchase recommendation, along with Digital Equipment Corporation (DEC-159 1/4). Tandem's is the most exciting product cycle and repositioned company since Digital, and we believe it's about to bloom.

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Montgomery Securities

We are currently projecting fiscal 1986 revenues of $748 million (+20%) and earnings per share of $1.37 (+67%). This positive trend should continue in fiscal 1987 with revenues increasing to $927 million (+24%) and earnings per share increasing to $1.77 (+29%). We believe Tandem will continue to demonstrate significantly higher performance than the overall computer industry and believe its stock represents a substantial value at current levels. We are aggressively recommending purchase.

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Text has been excerpted from longer reports.

TANDEMCOMPUTERS

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July 7, 1986

Tandem Computers, Inc. - Company Report
BEAR STEARNS & COMPANY - Fram, J.
06-06-86 (RN=607097)

Tandem Computers, Inc. (*)(TNDM - 33)
New Purchase Recommendation

1985 EPS: (9/30)	$0.82
1986 EPS Est.:	$1.33
1987 EPS Est.:	$1.75
P/E 1986 Est.:	25.0x
P/E 1987 Est.:	19.0x
Dividend:	Nil
Yield:	Nil
1986 Price Range:	34-13
Common Shares Out.:	43 Mil.

Tandem is not registered in Rhode Island. We can only accept unsolicited orders from Rhode Island residents.

[Graphical Material Omitted: Stock Chart]

Summary and Recommendation
We recommend purchase of Tandem Computers.

We believe that Tandem will displace many traditional computer vendors and become one of the major, surviving computer companies. Although Tandem has historically been associated with a limited market niche - fault-tolerant systems - we think that Tandem's unique computer architecture makes it better suited for the broad, mainstream commercial market. In short, investors will think of Tandem along side of other mainstream, successful companies such as Digital Equipment (DEC - 89) and IBM (IBM - 151).

Although we describe Tandem and the superiority of its computer systems in this report, we have not stressed fault-tolerance as have other reports on the company. While fault-tolerance is certainly a key feature of Tandem's machines, it is only one of many architectural advantages that makes Tandem's systems more suitable than traditional mainframes and minicomputers in the commercial marketplace.

Reasons to purchase shares of Tandem Computers are:

* Tandem's computer architecture should enable the company to steadily gain market share at the expense of traditional computer vendors. This architecture enables users to: 1) physically and geographically distribute processors and data throughout their organization, yet perceive a single system image; 2) expand the performance of their systems in a much wider range than found in traditional computer designs; and 3) experience 100% up-time, a feature that has become a requirement as computers become a part of customers'

own product offerings, rather than the historical overnight data processing use of computers.

* The advantages of Tandem's architecture should attract more third-party software; the availability of third-party software can make or break a computer hardware vendor.

* Tandem has more earnings leverage potential due to margin improvement than practically any other vendor in the industry. Such margin improvement would come from a reduction in Tandem's high SG&A/Revenue ratio (42%) as the average selling price of its systems rise from $250,000 to more than $500,000.

Valuation

We believe that Tandem's market share gains coupled with long term margin improvement will result in 20-25% annual earnings growth for the next several years. Tandem's P/E appears to be too low; we believe that this growth justifies a P/E with substantial premium to the market. Furthermore, as investors recognize that Tandem will break away from the traditional minicomputer crowd, its P/E should be decoupled from others in the group. That is, while the shares of Data General (DGN - 41), Prime (PRM - 20), and Wang (WANB - 17) will trade relative to their individual product cycles and the overall capital spending environment, Tandem should continue to grow at a steadier and faster pace due to its impending market share gains. Investors should reward consistent growth in Tandem, much as they have embraced the stocks of Digital Equipment and Cray Research (CYR - 94).

Risk

There are several risks to investing in Tandem:

* IBM has recognized the gravity of Tandem's market share inroads to date and has sought to plug a hole in its product line by aggressively marketing a computer produced by Stratus, a fault-tolerant vendor.

* Tandem has historically ignored start-up competitors until they have made a meaningful inroad into the marketplace. This was the case with Stratus and it appears to be repeating itself with one significant start-up, Tolerant Systems. Such overconfidence has also led to several earnings disappointments.

* Capital spending for computers remains soft with industry wide domestic orders about 15% below 1985's depressed levels. In addition, the stock has experienced a run-up over the past few months due to a good second-quarter fiscal 1986.

Market Environment: Consolidation

The current period of computer industry consolidation is the basis of yet another reason to own stock in Tandem. With the competitive position of many mature computer companies challenged by substantial industry-wide overcapacity and a slowdown in industry growth, many such vendors are seeking new ways to rejuvenate their businesses. As well, Tandem possesses an off-balance sheet asset, namely, the lock-in of its customer base. We believe that an acquisition-rich environment will emerge as mature vendors whose competitive position has been eclipsed will seek to acquire those companies owning or gaining market share. Since we believe that Tandem will emerge as one of those few surviving and thriving computer companies due to the advantages inherent in its computer architecture, Tandem represents one of the most desirable properties, in our opinion.

(*) At the time of this report, Bear, Stearns & Co. Inc. was a market maker in this security.

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July 14, 1986

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Tandem Business
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Tandem Computers, Inc. - Company Report
BEAR STEARNS & COMPANY - Fram, J., et al
06-11-86 (RN=607398)

Tandem Computers, Inc. (*) (TNDM - 32)

1985 EPS (9/30):	$0.82
1986 EPS Est.:	$1.33
1987 EPB Est.:	$1.75
P/E 1986 Est.:	24.1x
P/E 1987 Est.:	18.3x
Dividend:	Nil
Yield:	Nil
1986 Price Range:	34-13
Common Shares Out.:	43 Mil.

[Graphical Material Omitted: Chart]

Summary and Recommendation

We recommend purchase of Tandem Computers.

We believe that Tandem will displace many traditional computer vendors and become one of the major, surviving computer companies. Although Tandem has historically been associated with a limited market niche -- fault-tolerant systems -- we think that Tandem's unique computer architecture makes it better suited for the broad, mainstream commercial market. In short, investors will think of Tandem along side of other mainstream, successful companies such as Digital Equipment (DEC - 86) and IBM (IBM - 148).

Although we describe Tandem and the superiority of its computer systems in this report, we have not stressed fault-tolerance as have other reports on the company. While fault-tolerance is certainly a key feature of Tandem's machines, it is only one of many architectural advantages that makes Tandem's systems more suitable than traditional mainframes and minicomputers in the commercial marketplace.

Reasons to purchase shares of Tandem Computers are:

* Tandem's computer architecture should enable the company to steadily gain market share at the expense of traditional computer vendors. This architecture enables users to: 1) physically and geographically distribute processors and data throughout their organization, yet perceive a single system image; 2) expand the performance of their systems in a much wider range than found in traditional computer designs; and 3) experience 100% up-time, a feature that has become a requirement as computers become a part of customers' own product offerings, rather than the historical overnight data processing use of computers.

* The advantages of Tandem's architecture should attract more third-party software; the availability of third-party software can make or break a computer hardware vendor.

* Tandem has more earnings leverage potential due to margin improvement than practically any other vendor in the industry. Such margin improvement would come from a reduction in Tandem's high SG&A/Revenue ratio (42%) as the average selling price of its systems rise from $250,000 to more than $500,000.

Valuation

We believe that Tandem's market share gains coupled with long-term margin improvement will result in 20%-25% annual earnings growth for the next several years. Tandem's P/E appears to be too low; we believe that this growth justifies a P/E with a substantial premium to the market. Furthermore, as investors recognize that Tandem will break away from the traditional minicomputer crowd, its P/E should be decoupled from others in the group. That is, while the shares of Data General (DGN - 39), Prime (PRM - 19) and Wang (WANB - 17) will trade relative to their individual product cycles and the overall capital spending environment, Tandem should continue to grow at a steadier and faster pace due to its impending market share gains. Investors should reward consistent growth in Tandem, much as they have embraced the stocks of Digital Equipment and Cray Research (CYR - 90).

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customer base. We believe that an acquisition-rich environment will emerge as mature vendors whose competitive position has been eclipsed will seek to acquire those companies which own or are gaining market share. Since we believe that Tandem will emerge as one of those few surviving and thriving computer companies due to the advantages inherent in its computer architecture, Tandem represents one of the most desirable properties.

Tandem's Architecture: The Commercial Mainstream

Ultimately, it will be Tandem's computer architecture (*) that will enable it to grow while others in the computer industry stagnate. In short, we believe that Tandem should be a core holding for investors wishing to have exposure to the computer industry. Tandem will likely gain market share at the expense of some of these established vendors because its unique product architecture will enable it to perform commercial applications substantially better than traditional computers.

(*) Computer architecture refers to the machine's design, particularly its instruction set (add, subtract, multiply, divide, etc), memory organization and inter-processor communication. Strictly speaking, a machine's Functional Architecture is defined to be the programmer's view of the machine (instruction set, register layout, addressing modes, etc.). The Design Architecture, also referred to as machine organization refers to how the vendor implements its programming, or functional architecture. For example, IBM's 3090 and 4300 both incorporate the System/370 Functional Architecture. However the implementations are very different, both in terms of materials technology (semiconductors and packaging) as well as in the incorporation of machine resources (i.e., cache memory, pipelining, etc.).

We believe that most great computer companies can trace their success to their advantages in computer architecture. Such architectural successes include IBM's mainframes, Digital Equipment's minicomputers and Cray Research's supercomputers. For example, IBM's decision in the early 1960s to offer a single mainframe architecture (the System/360) eliminated the need for customers to re-write their programs each time they moved to a more powerful machine. This architectural concept was so appealing that IBM soon dominated the mainframe market. In the case of Digital Equipment, its single, focused architecture enabled it to sustain its recent margin improvement as well as extend its product line to a performance range beyond traditional minicomputers. Finally, Cray Research's key advantage is how it organized its machine to achieve the highest performance, without developing its own fast semiconductors.

A Long-Term Proprietary Advantage

Tandem's architectural innovations (described below) represent a long-term proprietary advantage for the company -- it is virtually impossible for other vendors to incorporate Tandem's architecture into their systems without departing from their own locked-in installed base

(the only company that has been able to incorporate a Tandem-like architecture while maintaining compatibility with their installed base has been NCR). Because Tandem conceived its architecture at least 10 years later than most mainstream players in the industry, it could make a clean break with the past, something that established vendors could not contemplate. Thus, advantages in computer architecture actually represent as significant a proprietary advantage as advanced semiconductor technology. In fact, all vendors ultimately gain access to the latest semiconductor technology when it reaches the merchant market. However, mature companies will not be able to incorporate architectural innovations while preserving their installed customer base.

Tandem's Architecture

Distributing Programs and Data

Simply put, Tandem's architecture enables customers to do things that cannot be done effectively on other vendors' systems -- with Tandem computers users can physically distribute data and programs throughout their organization. Yet, the user perceives the image of a single system -- transparent to the user, the operating system fetches and stores data at remote sites if needed. The user perceives the data to be local. It is Tandem's underlying operating system, and special machine-to-machine "messaging" instructions (not found on conventional machines) that provide this capability.

Note, it is possible to tie together geographically dispersed on-line users with conventional computers. Typically, this is done by connecting each computer terminal via its own telephone line to a centrally-located computer. In an era of rising telecommunications costs, such arrangements are becoming more impractical.

The importance of being able to physically distribute processors and data becomes apparent when one realizes that businesses and their employees are geographically dispersed, yet it is desirable to maintain only a single copy of important data. Consider the problem of allocating airline seats from any of 20,000 travel agent locations. While it is imperative not to allocate the same seat at different locations, it is desirable to alter the data from any location. In older systems, each travel agent and ticket counter was tied into where the data resides (at the airline's central computer). We think that the airline industry represents one of the biggest opportunities for Tandem over the next few years (in fact, sources suggest that Tandem is on the eve of announcing a major airline reservation contract).

Expandability Without Degradation

The second competitive advantage afforded to Tandem because of its unique architecture is the ability to construct high-end systems without the kind of capital requirements of traditional mainframe development. That is, Tandem can achieve higher performance levels than

conventional mainframes, yet use off-the-shelf semiconductors. In Tandem's latest machine, the VLX, the company uses the latest ECL gate array available in the merchant market, but achieves performance levels greater than mainframes using proprietary technology (see below).

Unlike today's mainframes, Tandem's machines do not experience performance degradation when multiple processors are strung together. In traditional mainframes, the only way multiple processors can be linked together (while maintaining an image of a single machine) is for the processors to share main memory. A problem arises with shared memory design because only one processor can access memory at the same time, leaving other processors idle. This memory contention (or "bottleneck") problem results in severe performance degradation for conventional multiprocessor mainframes. In contrast, Tandem's computers have no such bottleneck. Since each CPU has its own memory, a Tandem user can achieve a linear growth in performance by adding processor modules to the system. If data residing in another machine's memory is desired, special "message instructions" (transparent to the user) fetches the data from the other processor (Chart I). The other processor and data can be located a long distance from the requesting processor.

[Graphical Material Omitted: Chart I - Conventional System/Tandem System]

For example, in IBM's largest system, the four-processor 3090 Model 400, the user does not get the full performance of each 15 MIPS engine -- instead of obtaining 60 MIPS in performance, the total system delivers computing power closer to 50 MIPS. Tandem's VLX system, in contrast can string together 16 of its 4 MIPS VLX machines and achieve 64 MIPS with no degradation. Because transaction processing systems typically involve the many small jobs they each run for a short period of time on its own processor, numerous small processors do the job as well as fewer large ones. In a sense, Tandem's systems are really a form of parallel processing for the commercial world.

The importance of linear performance expandability is better understood by realizing that on-line transaction processing systems tend to grow as the customers' business grows. This stems from the fact that interactive/transaction processing systems generally form the core of the customers' own product offering -- the computer becomes part of the customers' competitive repertoire. For example, major stock exchanges use Tandem systems for order execution and reconciliation (SIAC has over 100 Tandem processors in a single site). With the burgeoning transaction volumes of recent years, such expandability was a necessary requirement for the system.

Finally, the President of the Tandem Users Group, an independent association, informed us that customers are now purchasing Tandem systems more for their expandability than for fault-tolerance. Ironically, IBM's fault-tolerant system is manufactured by Stratus Computers and does not have the expandability of Tandem's system. IBM may have misperceived customers' attraction to Tandem systems.

Fault-Tolerance

While the fault-tolerant feature was responsible for Tandem's early growth (driven by ATM networks where Tandem now controls 60% of the market), we contend that fault-tolerance is really a by-product of Tandem's design. Because Tandem's systems are comprised of multiple processors running in parallel, the failure of a single engine does not interrupt the entire workload. Moreover, before each disk read or write, the transaction is "check pointed," or recorded such that if a failure does occur, the transaction can be rolled back and resumed on another processor. Our survey suggests that more than half of Tandem's sales today are driven by factors other than fault-tolerance. While Tandem's product technology and market acceptance have been recognized by IBM as a real threat leading it to incorporate Stratus' fault-tolerant system in order to fill a hole in its product line, IBM appears to have missed the true significance of Tandem's architectural advantages.

Products and Shipments

To date, there have been four implementations of the Tandem architecture (Table I).

Table I. 1986 Shipments of Tandem Products

Model	ASP	Revenue	Units
	$	%	%
TXP	450,000	75	50
NS	250,000	15	20
EFT	150,000	10	30
VLX	1,000,000	20	10

Tandem's newest and fastest machine, the VLX (introduced in April 1986), has met with strong acceptance. We believe that the company is sold out of VLX's for the year and will be pressed to increase production volumes leading to a strong fiscal fourth quarter (ending September 30, 1986).

Yet, only a small fraction of the existing customer base surveyed by Bear Stearns indicated that they would migrate to the VLX immediately. For existing customers, the performance expandability of their current TXP and Non Stop systems dampens their need to migrate to Tandem's newest machine (yet nearly three-fourths of customers interviewed noted that they would undergo some form of performance increment over the next 12 months). Interestingly, the customers for the $1 million VLX are in new accounts, such as Federal Express' ZapMail and Chrysler's communication network. We believe that the demand at new accounts for the VLX systems, with performance starting at 50 transactions/second (on par with IBM's 3090 mainframe at three times the cost), will supply 25% of Tandem's revenue in fiscal 1987.

One final important aspect of the VLX -- we believe that this product has a yet-to-be-revealed performance upgrade already built into

the initial product. That is, despite the fact the VLX uses the ECL chip technology, which is faster than the TTL used in the older TXP, Tandem announced the product with the same cycle time (83 nanoseconds) as its predecessor. The reason for this was that the VLX uses the same I/O controller circuitry and memory as the TXP. Should Tandem cast these peripheral logic cards into ECL as well, we believe that the machine could operate at nearly half the cycle time (or twice the MIPS rate). This built-in upgrade will enable Tandem to introduce faster, field upgradable models down the road. The gross margin of the system will likely improve as Tandem will price its product in relation to the higher terms of performance, yet its costs will remain the same.

Customer Profile and Survey of Users and Software Developers

We recently interviewed 15 Tandem end users and six Tandem software houses. Half of the customers noted that they chose Tandem not because of its fault-tolerance, but rather that the particular software application they were seeking happened to be available on Tandem. When we queried the software houses as to why they chose Tandem, they said that Tandem's architecture allowed the software houses to develop an application that could not be conceived on a conventional mainframe. Over time we believe that Tandem will be able to attract more third-party software vendors than other computer companies because of this unique architecture (Tandem currently has nearly 200 software houses that it works with). Attracting third-party software vendors who add value to a vendor's machine has become the key to success in the computer industry. Simply put, customers do not want to develop their own software as they did for so many years.

We also note that Tandem's customers, which were once dominated by financial services industry, have substantially diversified (Chart II).

[Graphical Material Omitted: Chart II - Tandem Users]

The following is a sample of the applications that have been able to take advantage of Tandem's architecture:

Chrysler Corporation

Chrysler's communications operation will use a Tandem system to control their data communications activities. The company had compared Stratus' and Tandem's units and chose Tandem. Chrysler will likely order the VLX. The major attraction to Tandem was an application package that runs only on Tandem. Stratus is developing a similar package but it is not ready.

Cincinnati Enquirer

This daily has a TXP operation and plans to increase performance next year. The major attraction to the Tandem system was the ability to have one system handle all its editorial and classified functions. Obviously, fault-tolerance is important here since a daily has to be produced without down time.

Mead Corporation

Mead chose Tandem for its fault-tolerance; the company runs a mill 24 hours a day, seven days a week. Mead plans to add more TXP processors next year -- it currently has three TXPs and two Non-Stop-IIs.

J. C. Penney

The company is creating a credit authorization system to replace TRW.

System Integrators Inc. (SINT - 14)

This software house markets a newspaper publishing system. It has installed about 100 Tandem systems. Besides the non-stop nature of newspaper publishing, it is imperative to have a system that can be geographically dispersed (since the reporters and printers are), yet there must be a single version of the copy.

PBL Associates

This software house offers a complete distributed accounting system that runs on Tandem computers. In addition to offering standard General Ledger, the company has finished goods distribution/ purchasing/order entry/invoicing/air cargo/personnel modules. PBL was attracted to Tandem because of the technical capabilities and the unique platform that Tandem offers. The company's distribution software package takes advantage of the distributed data processing capabilities of the Tandem system.

Competition

We have noted that Tandem does not participate exclusively in the fault-tolerant market niche. However, this line of thinking has led some to believe that success for both Stratus and Tandem is simultaneously impossible. We have characterized Tandem's fault-tolerance as a by-product of its multiprocessor architecture. This contrasts with the Stratus approach in which the arithmetic logic is replicated four times. Indeed, for strict reliability the Stratus approach has some advantages. However, being a shared-memory design, Stratus has limited multiprocessing and performance expandability, and cannot geographically distribute processors and data.

Thus, while much of Tandem's early growth stemmed from the fault-tolerant arena, today it participates in the computer mainstream for reasons beyond its non-stop capabilities. In some ATM and brokerage environments, Stratus' systems have challenged Tandem's position; we believe that the market for Tandem's systems are much larger. That is, while the market for fault-tolerant computers might be in the order of $3 billion, the general on-line transaction processors market is about 10 times that.

Fortunately for both Tandem and Stratus, the fault-tolerant competition has thinned out considerably. Many of the start-ups that entered the fault-tolerant market have foundered due to cash shortfalls and lack of market acceptance. One start-up that is succeeding is Tolerant Systems in San Jose, CA. Tolerant has built a Tandem-like system using standard microprocessors (National 32000). By choosing an OEM strategy, Tolerant has avoided the heavy SG&A costs incurred by Tandem.

Potential Earnings Leverage

We believe that long term, Tandem is well positioned to sustain margin improvement through a lower SG&A/revenue ratio. Currently, Tandem's 42% SG&A/revenue is just about the highest in the industry. This high ratio has been responsible for some of the company's past earnings disappointments.

Yet, we believe that such high historical SG&A spending levels will ultimately hold Tandem in good stead. The reason Tandem's SG&A expenses are so high stems from the company's efforts to sell products right on IBM's own turf. Such an effort entails a long sell cycle and a lot of hand-holding. In a sense, Tandem attempted to out-IBM IBM. However, with a historical average selling price of $250,000, versus IBM's $4 million mainframes, Tandem was in no position to effectively leverage its sales force. Only now that Tandem offers the $1+ million VLX processor complex will the company effectively achieve a meaningful reduction in SG&A/revenue. While this improvement will not likely occur in fiscal 1986, we believe that this margin improvement will occur in the following year. Within three years such margin improvement should enable the company to achieve 16% operating margin.

Financial Condition and Recent Performance

Tandem has a very clean balance sheet. Debt as a percentage of total capitalization is only 3% and the company has more than $100 million in cash.

We project that sales growth this year will be about 12%, with service growing 25% (Table II).

Tandem's earnings in second-quarter fiscal 1986 (ended March 31, 1986) exceeded our expectations, and caused the stock's recent run-up. Earnings grew 83% on revenue growth of 20%. Gross margin improvement from 61% to 67% accounts for the rest of the gain. In the current quarter we estimate earnings of $0.30 per share, compared with $0.06 in third quarter fiscal 1985. We believe that revenues will grow 24% to $180 million this quarter.

Table II. Projected Revenues/Earnings
($ Millions)

	9/30/87 Est.	9/30/86 Est.	9/30/85

Product Revenue	693	598	515
Service & Other	166	138	109
Revenue	859	736	624
Cost of Revenue	283	245	240
Product Development	94	85	72
Marketing, General & Admin.	353	311	262
Net Interest	-8	-8	-6
Total Costs	722	633	568
EBIT	128	94	50
Pretax Income	136	102	56
Income Tax	60	45	22
Net Income	76	57	34
Shares Outstanding (Mil.)	43	43	42
Earnings Per Share ($)	1.75	1.33	0.82
Margins (%)			
Cost of Revenue	33	33	38
Product Development	11	12	11
Marketing, General & Admin.	41	42	42
EBIT	15	13	8
Pretax Income	16	14	9
Income Tax	44	44	39
Net Income	9	8	6
Growth (%)			
Product	20	16	15
Service	20	27	30
Pretax Income	33	81	0
Net Income	33	66	-20
Product Revenue ($M)			
NS-II	50	63	77
TXP	440	440	386
EXT	53	53	52
VLX	150	50	0
Percent of Sales (%)			
NS-II	7	10	15
TXP	64	74	75
EXT	8	9	10
VLX	22	8	0
Unit Shipments			
NS-II	200	250	300
TXP	1,100	1,100	1,000
EXT	350	350	350
VLX	150	50	0

Table III. Tandem's Results By Quarters
($ Millions)

[Part 1 of 2]

	1985 I	II	III	IV
Product Revenue	134	120	117	144
Service & Other	26	26	27	30
Revenue	160	147	144	174
Cost of Revenue	62	58	56	64
Product Development	15	17	18	21
Marketing, General & Admin.	60	62	70	71
Net Interest	-2	-2	-1	-2
Total Costs	135	135	142	155
EBIT	23	10	0	17
Pretax Income	24	11	2	19
Income Tax	10	4	-1	8
Net Income	14	7	2	11
Shares Outstanding (Mil.)	41	42	42	42
Earnings Per Share ($)	0.34	0.16	0.06	0.27
Margins (%)				
Cost of Revenue	39	39	39	37
Product Development	9	12	12	12
Marketing, General & Admin.	38	42	48	41
EBIT	14	7	0	10
Pretax Income	15	8	1	11
Income Tax	43	39	-31	41
Net Income	9	5	2	6
Growth (%)				
Product	24	32	-2	11
Service	42	32	19	28
Pretax Income	35	253	-89	-2
Net Income	37	241	-75	-48

[Part 2 of 2]

	1986 I	II	III(*)	IV(*)
Product Revenue	137	143	145	173
Service & Other	33	34	35	37
Revenue	170	176	180	210
Cost of Revenue	59	58	59	69
Product Development	20	21	21	23
Marketing, General & Admin.	72	77	78	84
Net Interest	-2	-2	-2	-2
Total Costs	149	154	156	174
EBIT	19	20	21	34
Pretax Income	21	23	23	36
Income Tax	9	10	10	16
Net Income	12	13	13	20
Shares Outstanding (Mil.)	42	43	43	43
Earnings Per Share ($)	0.28	0.29	0.30	0.46
Margins (%)				
Cost of Revenue	35	33	33	33
Product Development	12	12	12	11
Marketing, General & Admin.	42	44	44	40
EBIT	11	11	12	16
Pretax Income	12	13	13	17
Income Tax	45	44	44	44
Net Income	7	7	7	9
Growth (%)				
Product	2	19	24	20
Service	29	27	27	25
Pretax Income	-14	100	1,220	87
Net Income	-17	83	464	77

(*) Estimated

Prices of other public companies mentioned in this report:

Chrysler Corp. (C - 35)
J.C. Penney (JCP - 79)
Mead Corp. (MEA - 49)
TRW (TRW - 101)

(*) At the time of this report, Bear, Stearns & Co. Inc. was a market maker in this security.

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TANDEM COMPUTERS
(OTC: TNDM)

Price 6/4/86	1986 Price Range	EPS (FY: Sept.) 1985A	1986E	1987E
33 1/2	34-12	$0.82	$1.30	$1.85

P/E Ratio 1986E	1987E	Indicated Dividend	Yield
25.8X	18.1X	$0.00	nil

After four years of no growth, earnings have begun to accelerate reflecting management's more conservative stance regarding near-term growth prospects. Accordingly, expenses have come more into balance with revenues, and manufacturing margins have improved. Tandem remains the leader within the on-line transaction processing market, a sizeable niche that continues to expand at a rate significantly above the overall computer industry. The near-term outlook for earnings continues to be positive based on (1) a recently reorganized and more efficient sales force, (2) leverage from expanded third party software relationships, (3) a sizeable mix of overseas business (40% of revenues) where business is strong, and (4) the prospect of additional revenues $15-20 million in 3Q and $35-40 million in 4Q from the new high-performance VLX system. Our estimates call for earnings of $1.30 per share in the current fiscal year and $1.85 per share in FY 1987. Based on this outlook, and a relative multiple in expected calendar 1987 earnings that shows little premium to the market, we continue to recommend purchase of the stock.

Tandem
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July 7, 1986

Tandem Computers - Company Report
OPPENHEIMER & CO., INC. - Elling, G.D., et al
05-14-86 (RN=606208)

TANDEM COMPUTERS (TNDM $31 Bid - 5/13/86)

SUMMARY

* Tandem's second-fiscal-quarter earnings of $0.29 per share, up 81% from the $0.19 reported in the comparable 1985 period, exceeded our $0.15-$0.20 estimate. Quarterly revenues rose 20.4% to $176.3 million from $146.5 million.

* The better than expected earnings reflected a positive cycle of new hardware and software products, increased marketing effectiveness, improved manufacturing efficiency and the weaker dollar. Among the company's new products, both the TXP system and the XL8 disc system performed ahead of plan, benefiting earnings.

* Successful cost controls led to an improved gross margin, which rose to 67.1% from 60.6% in the year-ago quarter. The net income margin was also up dramatically, to 7.0% from 4.7%. There was some improvement in the balance sheet as cash levels rose 49.2% to $160.8 million, or approximately $3.82 per share, and inventories declined 23.5%. The current ratio improved to 4.6:1 from 4.0:1.

* Based on the strong second-quarter earnings, the positive product cycle and management's optimism regarding the second half of the fiscal year, we are raising our fiscal 1986 earnings estimate to $1.30-$1.35 per share from $1.00-$1.25. We are maintaining our fiscal 1987 estimate of $1.75-$2.00 per share. Given the continued uncertainty regarding the computer industry, the recent introduction of competing products and the stock's high price multiple based on our estimates, we would not initiate new positions at this time. The stock is not on our Recommended List.

TANDEM COMPUTERS (TNDM $31 Bid - 5/13/86)

12-Month Range	$34-$12 7/8	Dividend	Nil
1985 EPS	$0.82	Yield	Nil
(*) 1986 Est. EPS	$1.30-$1.35	Price/EPS 1985	37.8X
1987 Est. EPS	$1.75-$2.00	Price/Est. EPS 1986	23.8X-23.0X
		Price/Est. EPS 1987	17.7X-15.5X

Capitalization (3/31/86)

	Thous.	Percent		Thous.
Long-term Debt	$4,445	0.9%	Current Assets	$429,955
Cap. Lease Oblig.	5,982	1.2	Current Liabilities	94,233
Deferred Inc. Taxes	34,324	6.8	Working Capital	$335,722
Equity	456,433	91.1		
Total	$501,184	100.0%	Current Ratio	4.6:1

Shares Outstanding	41.4 Million
Float	38.5 Million Shares
Market Capitalization	$1.3 Billion
Recent Average Daily Trading Volume	439,400 Shares
Fiscal Year Ends	September 30
Book Value/Share (9/30/86E)	$11.35
ROE (1986E)	12.5%
Historical 5-Year EPS Growth Rate	16.4%
Projected 5-Year EPS Normalized Growth Rate	18%-22%
Estimated 1986 P/E Relative to S&P 400 P/E	1.3X
5-Year Historic Relative P/E Range	5.1x-1.5X

S&P 400: 265.61

(*) Upward revision - see text.

Tandem's second-fiscal-quarter earnings of $0.29 per share were up 81% from the $0.19 reported in the year-earlier quarter and above our estimate of $0.15-$0.20. Revenues for the quarter increased 20.4% to $176.3 million from $146.5 million. The stronger than expected earnings reflected a positive cycle of new hardware and software products introduced in the past year, a more effective marketing organization, improved efficiency in manufacturing and the weaker dollar. Management is encouraged by the company's strong performance, despite the sluggishness in the domestic computer market, and remains optimistic about the second half of the fiscal year. Consequently, we are raising our fiscal 1986 earnings estimate to $1.30-$1.35 per share from $1.00-$1.25. We are maintaining our fiscal 1987 projection at $1.75-$2.00 per share for the present. However, earnings will depend on the impact of Tandem's new nonstop VLX computer as well as the extent to which the recently introduced NCR 9800 series will affect Tandem's supremacy in the on-line transaction processing market. Given the continued uncertainty regarding the domestic computer market, as well as the stock's high multiple based on our estimates, we do not recommend accumulation at this time. Nevertheless, Tandem is well-positioned to benefit from a pickup in domestic capital spending, and we believe the shares represent good longer term value.

The company was effective in improving its gross margins, which rose to 67.1% from 60.6% in the March quarter of 1985. Net margins also rose dramatically to 7.0% from 4.7%. On the balance sheet, the cash level rose 49.2% to $160.8 million, or approximately $3.82 per share, accounts receivables were up 12.1% and inventories were reduced by 23.5%. The current ratio also improved to 4.6:1 from 4.0:1 a year earlier. U.S. order levels rose 7% year-over-year and only 3% sequentially but, nevertheless, appear to be heading in the right direction. The company indicated that both the TXP system and the new XL8 disc system are performing ahead of plan. However, increased competition will pose a serious test for Tandem, and it will be interesting to see how the company reacts to the recent introductions by other vendors in the on-line transaction processing market.

Second-fiscal-quarter and full-year earnings are shown in the following tables.

TANDEM COMPUTERS

SECOND FISCAL QUARTER INCOME STATEMENT ($ THOUSANDS)

	March 1986	31, 1985	CHANGE
PRODUCT REVENUES	142,754	120,088	18.9%
SERVICE	33,573	26,401	27.2%
TOTAL REVENUES	176,327	146,489	20.4%
COST OF REVENUES	58,025	57,713	0.5%
R&D	21,318	17,075	24.8%
SG&A	76,986	61,998	24.2%
TOTAL COSTS/EXPENSES	156,329	136,786	14.3%
OPERATING INCOME	19,998	9,703	106.1%
INTEREST INCOME, net	2,362	1,573	50.2%
PRETAX INCOME	22,360	11,276	98.3%
TAXES	9,950	4,435	124.4%
TAX RATE	44.5%	39.3%	13.1%
NET INCOME	12,410	6,841	81.4%
EPS	$0.29	$0.16	76.3%
AVG SHARES (MIL)	43.4	42.2	
AS % OF TOTAL REVENUE:			
PRODUCT REVENUES	81.0%	82.0%	
SERVICE	19.0%	18.0%	
COST OF SALES	32.9%	39.4%	
R&D	12.1%	11.7%	
SG&A	43.7%	42.3%	
TOTAL COSTS/EXPENSES	88.7%	93.4%	
OPERATING INCOME	11.3%	6.6%	
PRETAX INCOME	12.7%	7.7%	
NET INCOME	7.0%	4.7%	

Fiscal years end September 20.

Source: Company data.

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July 7, 1986

Tandem Computers - Company Report
(continued)

TANDEM COMPUTERS INCORPORATED
EARNINGS MODEL ($ Mil.)

[Part 1 of 3]

FY SEPTEMBER	1981	1982	% CHANGE	1983	% CHANGE
EQUIPMENT SALES	186.9	272.6	45.9%	360.1	32.1%
SERVICE & OTHER	21.5	39.6	84.0%	58.1	47.0%
TOTAL REVENUES	208.4	312.1	49.8%	418.3	34.0%
COST OF REVENUES	75.5	109.3	44.7%	168.7	54.3%
R&D	17.8	33.6	88.7%	39.2	16.4%
SG&A	74.6	128.5	72.2%	160.6	25.0%
TOTAL COSTS & EXPENSES	168.0	271.4	61.6%	368.5	35.8%
OPERATING INCOME	40.4	40.7	0.8%	49.8	22.3%
OTHER INCOME (NET)	10.7	6.0	-43.7%	0.7	-87.9%
PRETAX INCOME	51.1	46.7	-8.5%	50.5	8.0%
TAXES	24.5	16.9	-31.2%	19.7	16.6%
TAX RATE	48%	36%		39%	
NET INCOME	26.5	29.9	12.5%	30.8	3.2%
EARNINGS PER SHARE (*)	$0.72	$0.76	6.2%	$0.76	-0.8%
AVG. SHARES OUT. (MIL.)	37.0	39.2		40.8	
AS % OF REVENUES:					
EQUIPMENT SALES	89.7%	87.3%		86.1%	
SERVICE & OTHER	10.3%	12.7%		13.9%	
COST OF REVENUES	36.3%	35.0%		40.3%	
R&D	8.6%	10.8%		9.4%	
SG&A	35.8%	41.2%		38.4%	
TOTAL COSTS & EXPENSES	80.6%	87.0%		88.1%	
OPERATING INCOME	19.4%	13.0%		11.9%	
INTEREST% net	5.1%	1.9%		0.2%	
PRETAX INCOME	24.5%	15.0%		12.1%	
NET INCOME	12.7%	9.6%		7.4%	

[Part 2 of 3]

FY SEPTEMBER	1984	% CHANGE	1985	% CHANGE
EQUIPMENT SALES	448.6	24.6%	515.1	14.8%
SERVICE & OTHER	84.0	44.5%	109.0	29.8%
TOTAL REVENUES	532.6	27.3%	624.1	17.2%
COST OF REVENUES	218.8	29.7%	240.1	9.8%
R&D	52.5	34.1%	71.6	36.3%
SG&A	210.2	30.9%	262.3	24.8%
TOTAL COSTS & EXPENSES	481.5	30.7%	574.1	19.2%
OPERATING INCOME	51.1	2.7%	50.1	-2.0%
OTHER INCOME (NET)	5.2	610.0%	6.3	21.0%
PRETAX INCOME	56.3	11.5%	56.4	0.1%
TAXES	23.1	17.2%	22.0	-4.8%
TAX RATE	41%		39%	
NET INCOME	33.2	7.8%	34.4	3.5%
EARNINGS PER SHARE (*)	$0.81	7.5%	$0.82	1.3%
AVG. SHARES OUT. (MIL.)	41.4		41.8	
AS % OF REVENUES:				
EQUIPMENT SALES	84.2%		82.5%	
SERVICE & OTHER	15.8%		17.5%	
COST OF REVENUES	41.1%		38.5%	
R&D	9.9%		11.5%	
SG&A	39.5%		42.0%	
TOTAL COSTS & EXPENSES	90.4%		92.0	
OPERATING INCOME	9.6%		8.0%	
INTEREST, net	1.0%		1.0%	
PRETAX INCOME	10.6%		9.0%	
NET INCOME	6.2%		5.5%	

[Part 3 of 3]

FY SEPTEMBER	1986E	% CHANGE	1987E	% CHANGE
EQUIPMENT SALES	600.0	16.5%	725.0	20.8%
SERVICE & OTHER	140.0	28.4%	170.0	21.4%
TOTAL REVENUES	740.0	18.6%	895.0	20.9%
COST OF REVENUES	260.0	8.3%	310.0	19.2%
R&D	84.0	17.4%	100.0	19.0%

SG&A	310.0	18.2%	360.0	16.1%
TOTAL COSTS & EXPENSES	654.0	13.9%	770.0	17.7%
OPERATING INCOME	86.0	71.7%	125.0	45.3%
OTHER INCOME (NET)	7.0	11.7%	7.0	0.0%
PRETAX INCOME	93.0	65.0%	132.0	41.9%
TAXES	37.0	68.4%	53.0	43.2%
TAX RATE	40%		40%	
NET INCOME	56.0	62.9%	79.0	41.1%
EARNINGS PER SHARE (*)	$1.33	62.0%	$1.88	41.1%
AVG. SHARES OUT. (MIL.)	42.0		42.0	
AS % OF REVENUES:				
EQUIPMENT SALES	81.1%		81.0%	
SERVICE & OTHER	18.9%		19.0%	
COST OF REVENUES	35.1%		34.6%	
R&D	11.4%		11.2%	
SG&A	41.9%		40.2%	
TOTAL COSTS & EXPENSES	88.4%		86.0%	
OPERATING INCOME	11.6%		14.0%	
INTEREST, net	0.9%		0.8%	
PRETAX INCOME	12.6%		14.7%	
NET INCOME	7.6%		8.8%	

OTHER INCOME = INTEREST INCOME - INTEREST EXPENSE

(*) 1984 EPS EXCLUDES $0.23 FROM DISC BENEFITS
Fiscal years end September 30.
Source: Company data; Oppenheimer & Co., Inc. estimates