#### SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D. C. 20549

FORM 10-K/A

AMENDMENT NO. 1 TO ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended December 31, 1998 Commission File Number 1-3761

# TEXAS INSTRUMENTS INCORPORATED

(Exact name of Registrant as specified in its charter)

Delaware (State of Incorporation)

75-0289970 -----

(I.R.S. Employer Identification No.)

8505 Forest Lane, P. O. Box 660199, Dallas, Texas 75266-0199

(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code (214) 995-3773

Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Name of each exchange on which registered

Common Stock, par value \$1.00

New York Stock Exchange The Swiss Exchange

Preferred Stock Purchase Rights

New York Stock Exchange

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes X No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [X]

The aggregate market value of voting stock held by non-affiliates of the Registrant was approximately \$33,833,000,000 as of December 31, 1998.

390,679,959

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(Number of shares of common stock outstanding as of December 31, 1998)

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#### List of Items Amended

#### Part II

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#### Text of Amendments

# Explanatory Note:

Each of the above listed Items is hereby amended by deleting the Item in its entirety and replacing it with the Items included herein.

The purpose of the amendment is to make certain changes to Management's Discussion and Analysis of Financial Condition and Results of Operations (Item 7) and to the notes to the financial statements included in the Financial Statements and Supplementary Data (Item 8), which were incorporated by reference into Part II of the Annual Report on Form 10-K for the year ended December 31, 1998 of Texas Instruments Incorporated (the "company" or "TI") that was filed on February 22, 1999 (the "Original Filing"), and to the Exhibits, Financial Statement Schedules and Reports on Form 8-K (Item 14) of Part IV of the Original Filing.

The amendment is being made to reflect certain comments received by TI from the Securities and Exchange Commission (the "SEC"). The SEC requested that TI amend the Original Filing to, among other things, (i) reorder its Management's Discussion and Analysis of Financial Condition and Results of Operations in order to place the discussion of inclusive results ahead of results without special charges and gains, (ii) provide additional disclosures, in notes to its financial statements, Management's Discussion and Analysis of Financial Condition and Results of Operations and quarterly financial data, regarding certain special charges taken by TI, and (iii) restate results of operations to reflect the shift of \$14 million of pretax manufacturing costs from second quarter to third quarter of 1998. This restatement had no impact on the company's revenues or earnings for the year.

Any items in the Original Filing not expressly changed hereby shall be as set forth in the Original Filing. All information contained in this amendment and the Original Filing is subject to updating and supplementing as provided in the company's periodic reports filed with the SEC subsequent to the date of such reports.

PART II

ITEM 7: MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Note: Throughout this report, TI total financial results are reported with the memory business. Semiconductor results are reported without memory. The memory business was divested in the third quarter of 1998.

1998 RESULTS OF OPERATIONS COMPARED WITH 1997

TI revenues for 1998 were \$8460 million, down 13 percent from 1997, due primarily to lower prices in dynamic random access memories (DRAMs), and to a lesser extent, to the absence of revenue due to the sale of the memory business. Operating margin was 4.7 percent, down from 6.3 percent in 1997, primarily due to lower DRAM prices, and to a lesser extent due about equally to the special charges associated with a worldwide restructuring of support functions and consolidation of manufacturing operations, and with the discontinuance of the memory-chip manufacturing joint venture with Hitachi, Ltd. Earnings per share were \$1.02, compared with \$0.76 for 1997.

Other income for 1998 was \$293 million, up \$101 million from 1997 primarily due to an \$83 million gain in 1998 on the sale of TI's shares in the TI-Acer joint venture to Acer Corporation. This was insufficient to offset the decline in operating margin, resulting in income before taxes of \$617 million, down \$96 million from 1997. TI orders were \$8069 million for 1998, compared with \$9796 million in 1997, primarily due to declines in memory orders.

While income before taxes declined, income after taxes for the year was \$407 million, up 35 percent from \$302 million in 1997, due to the absence of the 1997 non-deductible acquisition-related R&D charge.

During the fourth quarter, TI essentially completed the restructuring announced in June of 1998. Annualized cost savings for the company are estimated to be \$270 million.

The results for the fourth quarter include special charges of \$72 million, substantially all of which was related to the closing of an assembly/test joint venture with Samsung Electronica, Lda. in Portugal and the sale of the Aversa, Italy plant. Of the \$72 million, \$35 million was for severance, \$35 million for other cash-related costs and \$2 million for asset write-downs. Of the latter \$35 million charge, \$20 million was a cash payment required as part of an agreement with the third-party buyer of a materials & controls manufacturing operation in Europe. The balance was for previously-received government grants expected to be repaid as a result of the closing of the European semiconductor assembly operation. The year-ago quarter had a charge of \$461 million for in-process R&D associated with the acquisition of Amati Communications Corporation, along with a pretax charge of \$42 million for cost-reduction actions, primarily for severance in the materials & controls business.

In addition to the fourth-quarter charges, 1998 earnings include special charges of \$477 million, of which \$219 million was cash payments for discontinuing the memory-chip manufacturing joint venture with Hitachi, Ltd., \$25 million was for purchased in-process R&D and \$233 million was for a worldwide

restructuring of support functions and consolidation of manufacturing operations. Of the \$233 million, \$161 million was for severance, \$55 million for asset write-downs, including accelerated depreciation on fixed assets phased out during 1998, and \$17 million for vendor cancellation and lease charges. There was also an \$83 million pretax gain in the year on the sale of TI's shares in the TI-Acer joint venture to Acer Corporation. In 1997, special pretax charges, in addition to those in the fourth quarter, were \$100 million, primarily related to the sale of TI's mobile computing business and the termination of joint-venture agreements in Thailand. There also was a \$66 million special pretax gain for the sale of three businesses, the largest of which was software.

Excluding the effect of the special items for 1998, operating margin for the year was 10.9 percent, income was \$719 million and earnings per share were \$1.79. TI believes that, for analytical purposes, the effect of these items should be excluded from operating results because they are not necessarily indicative of future operating results or of future financial condition. Additional information relating to these items appears below under the heading "Special Charges and Gains."

SEMICONDUCTOR: For 1998, semiconductor revenues and operating margin were down slightly, and orders were down modestly, due to overall semiconductor market weakness.

For the year, DSP revenues increased 29 percent to a record level, driven by wireless. Analog revenues declined 4 percent for the year, as strength in wireless was insufficient to offset weakness in other markets, particularly hard disk drive (HDD). Collectively, TI's remaining semiconductor product areas saw revenues down moderately from 1997, primarily due to overall semiconductor market weakness.

In the fourth quarter, DSP and analog comprised 59 percent of TI's semiconductor revenues. TI expects modest sequential revenue growth in its semiconductor business in the first quarter of 1999, leading to moderate growth for the year, based on continuing strength in wireless and ongoing improvements in HDD and the mass markets. The HDD market represents a growing opportunity for TI, due to its market leadership and extensive portfolio across the primary HDD integrated circuits (application-specific integrated circuits (ASICs), read channels, pre-amps, and servo control).

TI expects that 1999 earnings will reflect continued improvement in semiconductor markets and the ongoing benefit of TI's strategic positioning, as well as the cost reductions realized from completion of restructuring actions. In the first quarter, these improvements may be largely offset by the transition to increased profit sharing, as the company moves to higher operating margins. Profit-sharing expenses are accrued quarterly, based on the company's full-year estimated operating profit margin.

MATERIALS & CONTROLS (M&C): For the full year, M&C revenues were down 1 percent due to weak Asian markets. Operating margin was up for the year to 15.0 percent, reflecting gains from the best-cost producer strategy. During 1998, plant closings took place in Canada and Michigan, restructuring and early retirements took place in Holland and Japan, and the Aversa, Italy plant was sold.

EDUCATIONAL & PRODUCTIVITY SOLUTIONS (E&PS): For the year, the E&PS business showed a rise in operating margin of 3.4 percentage points to 16.6 percent, as a result of cost improvements.

DIGITAL IMAGING: For 1998, the operation reduced its loss to one-half of the 1997 level and continues to make progress on product positioning and operational performance.

DIVESTED ACTIVITIES: For 1998, memory revenues were down 60 percent and orders were down 62 percent from 1997 levels, primarily due to lower DRAM prices, with the balance due to the divestiture of the memory business in the third quarter of 1998. Loss from memory operations was \$498 million, versus a loss of \$192 million in 1997.

FINANCIAL CONDITION: During 1998, cash and cash equivalents plus short-term investments decreased by \$771 million to \$2249 million. The discontinuance of the joint venture with Hitachi and the acquisition of those operating assets (which were subsequently included in the sale of the memory business) required approximately \$300 million of cash in the first quarter. In addition, \$91 million of cash was used to purchase the remaining outstanding shares of Amati Communications Corporation's common stock in the first quarter. Under the terms of the sale of TI's memory business to Micron Technology, TI provided \$550 million of cash financing to Micron in the third quarter. At closing, TI deferred an estimated pretax gain of \$127 million on the sale until the recovery of the TI-provided financing. In the fourth quarter, TI made an additional \$130 million payment to Micron as part of the contractually required working capital.

In the memory transaction, TI received approximately 28.9 million shares of Micron common stock, \$740 million face value of a 6.5 percent convertible note and \$210 million face value of a 6.5 percent subordinated note. These securities were originally valued at \$1717 million. At year-end, market value was \$2441 million. Market value changes, net of tax, are recorded as an adjustment to stockholders' equity.

Approximately \$300 million of grants from the Italian government to TI's former memory operations in Italy are being reviewed in the ordinary course by government auditors. TI understands that these auditors are questioning whether some of the grants were applied to purposes outside the scope of the grants. TI's deferred gain on the sale of its memory business may be reduced to the extent that any grants are determined to have been misapplied. Also, TI understands that an Italian prosecutor is conducting a criminal investigation concerning a portion of the grants relating to specified research and development activities. TI believes that the grants were obtained and used in compliance with applicable law and contractual obligations.

Cash flow from operating activities net of additions to property, plant and equipment was \$220 million in 1998.

Capital expenditures totaled \$1031 million for 1998 versus \$1238 million for 1997. Depreciation was \$1169 million for 1998 compared to \$1109 million for 1997. Authorizations for future capital expenditures were \$541 million at December 31, 1998. TI's capital expenditures for 1999 are forecast to be level with 1998 at \$1.0 billion. Depreciation for 1999 is expected to be \$1.0 billion. R&D is expected to be \$1.1 billion, versus \$1.2 billion in 1998.

The company maintains lines of credit to support commercial paper borrowings and to provide additional liquidity. These lines of credit totaled \$669 million at December 31, 1998. Of this amount, \$600 million exists to support commercial paper borrowings or short-term bank loans.

During 1998, TI repurchased approximately 4.5 million shares of common stock, at a cost of \$294 million, as a part of its previously stated intent to neutralize the potential dilutive effect of shares to be issued under employee stock options.

At the end of 1998, the debt-to-total-capital ratio was .17, compared to the 1997 year-end value of .19.

As previously announced, the timing of TI dividend declarations in 1998 was moved, effective March 1998, from the third month of a quarter to the first month of the following quarter. As a result of this one-time lag, 1998 contains three rather than four dividend declarations.

YEAR 2000: Since 1995, TI has been actively engaged in addressing Year 2000 (Y2K) issues. These result from the use of two-digit, rather than four-digit, year dates in software, a practice which could cause date-sensitive systems to malfunction or fail because they may not recognize or process date information correctly.

> Information Technology (computer hardware, software and electronic data interchange (EDI) interfaces);

Physical Plant (manufacturing equipment and facilities);

Products (including product development); and

Extended Enterprise (suppliers and customers).

For each of these program areas, TI is using a four-step approach:

Ownership (creating awareness, assigning tasks);

Inventory (listing items to be assessed for Y2K readiness);

Assessment (prioritizing the inventoried items, assessing their Y2K readiness, planning corrective actions, making initial contingency plans); and

Corrective Action Deployment (implementing corrective actions, verifying implementation, finalizing contingency plans).

At December 31, 1998, the Ownership, Inventory, and Assessment steps were essentially complete for priority items in Information Technology, Physical Plant and Products. TI's assessment activities for Extended Enterprise will continue into 1999. TI considers priority items to be those that could significantly disrupt TI's business operations. The target completion date for priority items for the remaining step (Corrective Action Deployment) is June 1999 for all program areas.

As of December 31, 1998, the status for each program area is as follows:

INFORMATION TECHNOLOGY: Corrective actions have been deployed for substantially all of TI's legacy business strategic information systems (manufacturing, marketing, financial and human resources). In the ordinary course of business, TI continues to install new business systems as appropriate. Verification of Year 2000 readiness is incorporated into the process of implementing these new systems. Assessment of infrastructure hardware and software that support TI's enterprise-wide networks and servers is essentially complete, and deployment of corrective actions is under way. TI has also deployed an assessment tool and corrective action process for desktop computers. The readiness of TI's EDI interfaces has been assessed, and testing continues with major customers and suppliers.

PHYSICAL PLANT: Assessment of manufacturing equipment and facilities is substantially complete and corrective actions are under way.

PRODUCTS: TI is essentially complete with the Year 2000 readiness assessment of its products and is providing product status information on its company web site. Divested product lines are not part of the assessment. This effort includes semiconductor devices sold within the past five years. TI's assessment indicates that the majority of semiconductor products either have no date logic or are programmable devices that require customer assessment of any software and firmware or other elements added by or at the request of TI's customers. TI has identified date-related issues with certain of TI's semiconductor application software development tools and is providing corrective software patches. The company believes these development tool issues are unlikely to cause significant problems for TI customers. Assessment of products of the materials & controls and educational & productivity solutions businesses indicates they are either Year 2000 ready or have no date logic.

EXTENDED ENTERPRISE: TI's Y2K supplier program attempts to assess the readiness of TI suppliers, focusing on those that could significantly disrupt TI's business operations. TI began contacting its suppliers in 1997 to assess their readiness. This effort is ongoing and is expected to be complete by June 1999. TI intends to finalize contingency plans by June 1999 on the basis of information gathered through the assessment process. TI continues to discuss Y2K status with selected strategic customers.

COSTS TO ADDRESS Y2K ISSUES: TI's estimated aggregate costs for its Y2K activities from 1995 through 2000 are expected to range from \$70 million to \$90 million. Through December 31, 1998, TI has spent approximately \$53 million.

RISKS OF Y2K ISSUES AND CONTINGENCY PLANS: TI continues to review Year 2000 issues relating to its information technology, physical plant, products, suppliers and customers, as well as legal risks that may be associated with discontinued products and divested product lines. TI's contingency planning process is intended to mitigate worst-case business disruptions. The company is preparing contingency plans to address worst-case issues such as delays in delivery of product. As noted above, the company expects its contingency plans to be complete by June 1999.

MARKET RISK SENSITIVE INSTRUMENTS: The U.S. dollar is the functional currency for financial reporting. In this regard, the company uses forward currency exchange contracts,

including lira note currency swaps, to minimize the adverse earnings impact from the effect of exchange rate fluctuations on the company's non-U.S. dollar net balance sheet exposures. For example, at year-end 1998, the company had forward currency exchange contracts outstanding of \$756 million (including \$161 million to sell yen, \$132 million to buy lira and \$105 million to buy deutsche marks). Similar hedging activities existed at year-end 1997. Because most of the aggregate non-U.S. dollar balance sheet exposure is hedged by these exchange contracts and swaps, a hypothetical 10% plus or minus fluctuation in non-U.S. currency exchange rates would not be expected to have a material earnings impact, e.g., based on year-end 1998 balances and rates, a pretax currency exchange gain or loss of \$6 million.

The company has interest rate swaps that change the characteristics of the interest payments on its \$300 million of 6.125% notes due 2006 from fixed-rate payments to short-term LIBOR-based variable rate payments in order to achieve a mix of interest rates on the company's long-term debt which, over time, is expected to moderate financing costs. The effect of these interest rate swaps was to reduce interest expense by \$3 million in 1998. The year-end 1998 effective interest rate for the \$300 million of notes due 2006, including the effect of the swaps, was approximately 4.6% (5.1% at year-end 1997). These swaps are sensitive to interest rate changes. For example, if short-term interest rates increase (decrease) by one percentage point from year-end 1998 rates, annual pretax interest expense would increase (decrease) by \$3 million.

The company's long-term debt has a fair value, based on current interest rates, of approximately \$1346 million at year-end 1998 (\$1390 million at year-end 1997). Fair value will vary as interest rates change. The following table presents the aggregate maturities and historical cost amounts of the debt principal and related weighted-average interest rates by maturity dates at year-end 1998:

# Millions of Dollars

Maturity Date	Fix	. Dollar ed-Rate Debt	Average Interest Rate	Fixe	ira ed-Rate Debt	Average Interest Rate			
1999	\$	235	6.74%	\$	32	5.25%			
2000		274	6.81%		38	5.09%			
2001		105	7.90%		30	4.95%			
2002			n/a		27	4.73%			
2003		133	8.47%		28	4.74%			
Thereafter		356	6.40%		36	4.53%			
Total	\$1	,103	6.97%	\$	191	4.89%			

 $\,$  Total long-term debt historical cost amount at year-end 1998 was \$1294 million.

The company's cash equivalents and short-term investments are debt securities with remaining maturities within three months (cash equivalents) and beyond three months and within 13 months (short-term investments). Their aggregate fair value and carrying amount was \$1771 million at year-end 1998 (\$2566 million at year-end 1997). Fair value will vary as interest rates change. The following table presents the aggregate maturities of cash equivalents and short-term investments and related weighted-average interest rates by maturity dates at year-end 1998:

Maturity Date	Millions of Dollars Cash Equivalents and Short-Term Investments	Average Interest Rate
1999	\$1,681	5.32%
2000	90	5.12%
Total	\$1,771	5.31%

The company's investments at year-end 1998 consisted of the following (amounts at year-end 1997 were not material):

- o Equity investments primarily 28,933,092 Micron common shares acquired in 1998, along with several other publicly traded investments.
- o Debt investments 6.5% Micron convertible and subordinated notes acquired in 1998. The convertible note (convertible into 12,333,358 Micron common shares at \$60 per share) and the subordinated note have face amounts of \$740 million and \$210 million. The notes, which mature 2005, have a weighted-average imputed interest rate of 8.7%.
- o TI Ventures an externally managed venture fund that invests in the development of new markets. As of year-end 1998, it had invested in 14 companies focused on next-generation applications of digital signal processors.
- Other investments consist of mutual funds that are acquired to generate returns that offset changes in certain liabilities related to deferred compensation arrangements. The mutual funds hold a variety of debt and equity investments.

The equity investments (fair value of \$1516 million) and venture fund (fair value of \$37 million) are sensitive to equity price changes. For example, if prices of the equity investments increase or decrease 10%, the company would record an increase or decrease in stockholders' equity of \$152 million. Similarly, if prices for the venture fund increase or decrease 10%, the company would record an increase or decrease in other income (expense) of \$4 million. Changes in prices of the other investments are expected to offset related changes in deferred compensation liabilities such that a 10% increase or decrease in investment prices would not affect operating results.

Fair value of the debt investments (\$978 million) will vary as interest rates change (and also for the convertible note, as the underlying equity share price changes). The following table presents the aggregate historical cost maturities of debt investments and related weighted-average interest rates by maturity dates:

# Millions of Dollars

Maturity Date	Debt Investments	Average Interest Rate
1999 - 2004	None	N/A
2005	\$ 839	8.7%

1997 RESULTS OF OPERATIONS COMPARED WITH 1996

Business	Orde	ge in ers, s. 1996		e in venues, s. 1996
Semiconductor Material & Controls Educational & Productivity Solutions	up up up	25% 9% 5%	up up up	21% 7% 6%
Total TI	up	6%	down	2%
Total TI excluding businesses sold	up	22%	up	19%

TI's orders in 1997 were \$9796 million, compared with \$9268 million in 1996. Net revenues in 1997 were \$9750 million, compared with \$9940 million in 1996. Financial results in 1997 and 1996 included revenues from TI businesses that have been sold, primarily memory, software, mobile computing and printers.

Net income for 1997 was \$1805 million, which consisted of income from continuing operations of \$302 million, income from the discontinued defense business of \$52 million, gain on the sale of the discontinued defense business of \$1473 million, and an extraordinary charge of \$22 million associated with debt retirement. On a similar basis, net income for 1996 was \$63 million, which consisted of a loss from continuing operations of \$46 million and income from the discontinued defense business of \$109 million. Earnings per share were \$0.76 for 1997, compared with a loss of \$0.12 in 1996.

Profit from operations in 1997 was \$615 million, versus a loss of \$26 million in 1996. The improvement was primarily due to higher semiconductor profits, and to a lesser degree, due to the absence of losses from the sold businesses, primarily memory, software and mobile computing. In 1996, these sold businesses lost \$229 million more than in 1997.

Results for the fourth quarter include a charge of \$461 million for in-process R&D associated with the acquisition of Amati Communications Corporation, along with a pretax charge of \$42 million for cost reduction actions, primarily in the materials & controls business. In addition to the fourth-quarter charges, the 1997 earnings include previously announced special pretax charges of \$56 million, primarily related to the sale of TI's mobile computing business, and \$44 million for the termination of joint-venture agreements in Thailand.

Results for 1997 also include a \$66 million gain for the sale of three businesses, the largest of which was software. The total of the 1997 special items is equivalent to \$1.27 per share. In 1996, special charges were \$400 million before taxes, with \$208 million being in the fourth quarter. These charges were equivalent to \$0.86 per share for the year.

Results for 1997 also included an accrual for profit sharing of \$122 million, which was 7.82 percent of eligible payroll. There was no profit sharing in 1996.

Excluding these divested activities, TI orders were up 22 percent for the year and revenues were up 19 percent, primarily due to growth in semiconductor.

Royalty revenues in 1997 were essentially steady with 1996.

Interest income for 1997 was up \$84 million from 1996, primarily as a result of investment of net proceeds from the sale of the defense business to Raytheon.

The income tax rate for 1997 was 35 percent.

TI's backlog of unfilled orders as of December 31, 1997, was \$1623 million, unchanged from year-end 1996.

R&D for 1997 was \$1075 million, excluding the \$461 million charge for in-process R&D associated with the Amati acquisition, compared with \$989 million in 1996, excluding the \$192 million charge for in-process R&D associated with the SSi acquisition.

Capital expenditures were \$1238 million in 1997, compared with \$2063 million in 1996. Depreciation for 1997 was \$1109 million compared with \$904 million in 1996.

Excluding the effect of the special items for 1997, operating margin was 12.4 percent, income was \$809 million and earnings per share were \$2.03. TI believes that, for analytical purposes, the effect of these items should be excluded from operating results because they are not necessarily indicative of future operating results or of future financial condition. Additional information relating to these items appears below under the heading "Special Charges and Gains."

SEMICONDUCTOR: Orders in semiconductor for 1997 were \$6610 million, up 25 percent from \$5267 million in 1996. The increase resulted from strong demand for digital signal processing solutions (DSPS), as DSPS orders increased over 40 percent. Semiconductor revenues were \$6514 million, up 21 percent from \$5385 million in 1996. The increase in semiconductor resulted from an increase of more than 35 percent in DSPS revenues due to increased shipments.

For the fourth quarter, semiconductor revenues, which include royalties from semiconductor patent licenses, represented about 71 percent of TI's revenues. Digital signal processors plus mixed signal/analog represented about 54 percent of semiconductor. The remainder of semiconductor consists primarily of a broad range of advanced products, including application-specific integrated circuits, reduced instruction-set microprocessors, microcontrollers and standard logic.

Revenues reached record levels for digital signal processing for both the year and the fourth quarter. Mixed-signal/analog also had a strong year, with record revenues for the year and fourth quarter, growing more than twice as fast as the market in 1997.

TI's other semiconductor products, such as microcontrollers and application-specific integrated circuits, made good progress in growth and profitability in 1997.

Semiconductor profit from operations increased from \$1012 million in 1996 to \$1546 million in 1997, and operating margin improved from 18.8 percent to 23.7 percent. Results particularly benefited from higher DSPS shipments.

MATERIALS & CONTROLS (M&C): Orders in M&C of \$972 million were up from \$896 million in 1996, primarily due to TIRIS. Revenues of \$954 million were up \$64 million from 1996 due primarily to the growing acceptance of TIRIS in automotive applications. PFO increased from \$90 million in 1996 to \$123 million in 1997, with operating margin improving from 10.1 percent to 12.9 percent. The increase was due primarily to manufacturing cost reduction.

EDUCATIONAL & PRODUCTIVITY SOLUTIONS (E&PS): Orders in E&PS were \$448 million, up \$22 million from 1996 as a result of continued growth in instructional calculators. Revenues were \$447 million, an increase of \$24 million from 1996 also as a result of growth in instructional calculators. PFO increased from \$56 million in 1996 to \$59 million in 1997, and operating margin remained flat at 13.2 percent.

DIGITAL IMAGING: TI's digital imaging business continued to make progress throughout 1997, further focusing its strategy on key market opportunities.

DIVESTED ACTIVITIES: Revenues for memory decreased \$400 million in 1997, compared to 1996, as DRAM prices continued to decline sharply.

# SPECIAL CHARGES AND GAINS

FOURTH QUARTER OF 1998: In the fourth quarter of 1998, the company took further steps to enhance manufacturing efficiency, including the announced closing of a semiconductor assembly operation and sale of a materials & controls manufacturing operation, both in Europe. The sale was completed on December 31, 1998. The primary benefit from these actions was the consolidation of manufacturing facilities, which increased efficiencies and reduced manufacturing costs. Estimated savings from such actions were approximately \$24 million annually. The benefit was expected to begin in the first quarter of 1999. The assembly operation closing, which is ongoing, affected 740 employees. As a result of these actions, the company took a fourth-quarter 1998 pretax charge of \$72 million, of which \$27 million was included in cost of revenues, \$24 million in other income (expense) net and \$21 million in marketing, general and administrative expense. Of this \$72 million charge, \$35 million was for severance, \$35 million for other cash-related costs and \$2 million for asset write-downs, primarily to adjust fixed assets in the European materials & controls operation to actual sale value. Of the \$35 million severance charge, \$19 million had been paid by year-end 1998 and \$16 million will be paid in 1999. Of the other \$35 million charge, \$20 million was a cash payment required as part of an agreement with the third-party buyer of a materials & controls manufacturing operation in Europe. The balance was for previously-received government grants expected to be repaid as a result of the closing of the European semiconductor assembly operation.

THIRD QUARTER OF 1998: In the third quarter of 1998, the company recorded a \$14 million charge for accelerated depreciation on fixed assets primarily located in a

semiconductor manufacturing facility in Singapore. This action was taken in connection with the severance/manufacturing efficiency program announced during the second quarter of 1998 (which program is more fully described below under the heading Second Quarter of 1998). This asset write-down charge was included in cost of revenues.

SECOND QUARTER OF 1998: In the second quarter of 1998, the company announced that, as a result of the various business divestitures over the past several years, the pending sale of its memory business (subsequently completed in September 1998), and weakness at that time in the semiconductor market environment, it was implementing a severance/manufacturing efficiency program in order to more closely match the size and cost of its support functions with the company's overall size and to further combine manufacturing resources for more efficient operations. The primary benefit from this severance/manufacturing efficiency program was reduced people costs; total benefits were estimated to reach \$270 million annually. The benefit was expected to begin in the third quarter of 1998.

The program, which primarily affected the company's corporate activities and semiconductor business, included the elimination of 3,441 jobs around the world through voluntary programs, attrition, outsourcing and layoffs, as well as the closing of several facilities. As a result, the company took a pretax charge of \$219 million in the second quarter of 1998, of which \$126 million was included in marketing, general and administrative expense and \$93 million in cost of revenues. Of the \$219 million charge, \$161 million was for severance, \$41 million for asset write-downs and \$17 million for vendor cancellation and lease charges.

Of the \$41 million for asset write-downs, \$25 million was for U.S. semiconductor inventories and \$16 million was for fixed assets, primarily accelerated depreciation on assets phased out during 1998 in connection with the winding down of production at a semiconductor manufacturing facility located in Singapore. The primary benefits from this consolidation action were increased efficiencies and reduced manufacturing costs. Estimated savings from such actions were approximately \$9 million annually. The benefit was expected to begin in the fourth quarter of 1998.

Of the \$17 million for vendor cancellation and lease charges, \$15 million was for required vendor fees for cancellation of purchase contracts for chemicals, supplies and equipment as a result of a U.S. facility shutdown.

At year-end 1998, the program had essentially been completed, with most severance costs paid except for \$49 million, which will primarily be paid in 1999. Of the 3,441 jobs, 3,260 had been eliminated, and 181 will be eliminated in 1999.

In the second quarter of 1998, the company sold its shares in the TI-Acer DRAM semiconductor manufacturing joint venture to Acer Corporation for \$120 million in cash. This sale resulted in a pretax gain of \$83 million, included in other income.

FIRST QUARTER OF 1998: In the first quarter of 1998, TI's U.S. DRAM semiconductor manufacturing joint venture with Hitachi, Ltd. was discontinued as a result of a combination of severe price declines and overcapacity in the DRAM market. As part of this first quarter discontinuance, TI purchased the assets of the venture for approximately \$98 million. Also as part of this first quarter discontinuance, TI and Hitachi decided to assume and share equally in the payment of the venture's obligations. TI's share of those payments was \$219 million, which was paid and charged to cost of revenues in the first quarter.

In connection with TI's acquisitions of GO DSP and Spectron, both of which occurred in the first quarter of 1998, TI recorded charges of \$10 million and \$15 million for purchased in-process R&D (purchased R&D), based upon the appraised value of the related developmental projects. The Income Approach, which included an analysis of the markets, cash flows, and risks associated with achieving such cash flows, was the primary technique utilized in valuing each purchased R&D project.

GO DSP's and Spectron's research and development related to DSP software tools. These software tools, which include real-time operating systems, allow DSP systems developers to improve productivity and reduce time-to-market. TI's goal in these acquisitions was to extend its leadership in digital signal processing solutions by offering a complete development environment, simplifying DSP development, and making TI DSP solutions even more attractive for a broad range of fast-growing markets.

Significant assumptions used in determining the value of purchased R&D for GO DSP and Spectron included projected operating cash flows and the discount rate. Projected operating cash flows were expected to begin in late 1998. The discount rate selected for GO DSP's and Spectron's in-process technologies was 30%.

At the time of the acquisitions, GO DSP and Spectron management estimated the remaining cost and time to complete the purchased R&D projects was approximately \$7 million and 540 engineer-months. The term "engineer-month" refers to the average amount of research work expected to be performed by an engineer in a month. All the in-process projects were essentially completed on schedule. TI expects to essentially meet its original return expectations.

The relative stage of completion and projected operating cash flows of the underlying in-process projects acquired were the most significant and uncertain assumptions utilized in the valuation analysis of the in-process research and development. Uncertainties regarding projected operating cash flows could give rise to unforeseen budget over-runs and/or revenue shortfalls in the event that TI is unable to successfully commercialize the projects. TI management is primarily responsible for estimating the value of the purchased R&D in all acquisitions accounted for under the purchase method.

FOURTH QUARTER OF 1997: In connection with TI's acquisition of Amati Communications Corporations (Amati) in the fourth quarter of 1997, TI recorded a charge of \$461 million for the value of purchased in-process R&D (purchased R&D) at the acquisition date, based upon the appraised value of the related developmental projects. The Income Approach, which included an analysis of the markets, cash flows, and risks associated with achieving such cash flows, was the primary technique utilized in valuing each purchased R&D project.

Amati's research and development related to Digital Subscriber Line (DSL) system designs for the Internet and other uses. DSL technology targets the local exchange carrier market since the technology permits the transmission of data at high speeds over the existing copper lines of the local exchange carriers. Currently, analog modems are noted as being slow in

their transmission speed, and ADSL digital processing technology is expected to fill the need for additional bandwidth requirements. VDSL transmits high-speed data over short reaches of twisted-pair copper telephone wire, with a range of speeds that depends on actual line length.

Significant assumptions used in determining the value of purchased R&D for Amati included projected operating cash flows and the discount rate. Projected operating cash flows were expected to begin in 1999. The discount rate selected for Amati's in-process technologies was 30%.

At the time of the acquisition, Amati management estimated the remaining cost to complete the purchased R&D projects to be approximately \$13 million with a remaining time requirement of approximately 1,300 engineer-months. The term "engineer-month" refers to the average amount of research work to be performed by an engineer in a month. All the in-process projects were essentially completed on schedule. Several products have been released, and although the DSL market has developed more slowly than expected, TI expects improvements in the near term in Internet-related demand. As this occurs, TI will be one of a very few suppliers who have demonstrated interoperability and standards compliance. Thus, TI expects to essentially meet its original return expectations.

The relative stage of completion and projected operating cash flows of the underlying in-process projects acquired were the most significant and uncertain assumptions utilized in the valuation analysis of the in-process research and development. Uncertainties regarding projected operating cash flows could give rise to unforeseen budget over-runs and/or revenue shortfalls in the event that TI is unable to successfully commercialize the projects. TI management is primarily responsible for estimating the value of the purchased R&D in all acquisitions accounted for under the purchase method.

In the fourth quarter of 1997, the company took a pretax charge of \$42 million, of which \$30 million was included in cost of revenues and \$12 million in marketing, general and administrative expense, primarily for severance costs related to cost-reduction actions by the materials & controls business. These actions, which are expected to be completed in first-quarter 1999, affected approximately 260 employees. The terminated employees were in plants located in Holland, Italy, Canada and Michigan. The primary benefit from this materials & controls action was reduced people costs, which were estimated to reach \$20 million annually. The benefit was expected to begin in the first quarter of 1998.

SECOND QUARTER OF 1997: In the second quarter of 1997, TI sold several activities, principally software, for a pre-tax gain of \$66 million, after transaction costs. These transaction costs totaled \$54 million and included severance of \$17 million for 372 employees, who left TI within three months of the related divestitures, \$24 million for vendor and warranty obligations, \$4 million for professional fees, and \$9 million for various other costs. The primary benefit from the related divestitures was the cessation of the software business, which was operating at a loss of approximately \$28 million in the first half of 1997.

FIRST QUARTER OF 1997: In the first quarter of 1997, the company sold its mobile computing business and terminated its digital imaging printing development program. The primary benefits from these actions were the divestiture of a business operating at a loss and the termination of the research and development program. The divested

business had a \$180 million loss in 1996. The cost of the research and development program in 1996 was \$32 million. As a result of these actions, the company took a first-quarter pretax charge of \$56 million, of which \$28 million was included in cost of revenues and \$28 million in marketing, general and administrative expense. Of this \$56 million charge, \$27 million was for severance for involuntary reductions worldwide. These severance actions were essentially completed by the end of the quarter and affected approximately 1,045 employees. The balance of \$29 million was for other costs associated with the business sale and program termination, including vendor cancellation and lease charges. Essentially all costs were paid in 1998.

FOURTH QUARTER OF 1996: In the fourth quarter of 1996, the company took a pretax charge of \$208 million, of which \$169 million was included in cost of revenues and \$39 million was included in marketing, general and administrative expense. Of the \$208 million, \$91 million was for severance for employment reduction actions in the United States and selected reductions worldwide. The primary benefit from these actions was reduced people costs, which were estimated to reach \$195 million annually. The benefit was expected to begin in the first quarter of 1997. These actions, which primarily involved the semiconductor business as well as divested activities, were essentially completed by year-end 1996 and affected approximately 2,600 employees. Of the severance cost of \$91 million, \$34 million was paid in 1996 and \$57 million was paid in 1997.

The balance of this charge, \$117 million, was for vendor cancellation and other cash-related costs of \$47 million and asset write-downs of \$70 million on several product lines, primarily mobile computing, an operation divested in first-quarter 1997. The asset write-downs were to adjust inventory and fixed assets to actual sale value. Of the \$70 million asset write-downs charges, \$54 million was for mobile computing.

With respect to this \$54 million charge, \$47 million was for inventory and \$7 million was for fixed assets. The balance of \$16 million included a \$6 million charge against operating assets for the impact of the expected first quarter 1997 termination of TI's digital imaging printing development program. The benefit of this action is described above under the heading First Quarter of 1997. The remainder, \$10 million, was to write down the operating assets of TI's Telecom business, which was held for sale, and sold in the second quarter of 1997 for a nominal gain. The primary benefit from this action was the divestiture of a business operating at a loss (\$14 million in 1996).

THIRD QUARTER OF 1996: In connection with TI's acquisitions of Silicon Systems, Inc. (SSi) in the third quarter of 1996, TI recorded a charge of \$192 million for the value of purchased in-process R&D (purchased R&D) at the acquisition date, based upon the appraised value of the related developmental projects. The Income Approach, which included an analysis of the markets, cash flows, and risks associated with achieving such cash flows, was the primary technique utilized in valuing each purchased R&D project.

SSi's research and development related to analog technology for hard disk drives and removable storage devices. Historically, SSi had primarily emphasized producing integrated circuits for the hard disk drive market. As of the acquisition date, SSi's product development activities for this market had been expanded to include other magnetic optical storage devices that require advanced technology and performance.

Significant assumptions used in determining the value of purchased R&D for SSi included projected operating cash flows and the discount rate. Projected operating cash flows were expected to commence in late 1996. The discount rate selected for SSi's in-process technologies was 22%.

At the time of the acquisition SSi management estimated the remaining cost to complete the purchased R&D projects to be approximately \$16 million, over a 9-month period. All the in-process projects were essentially completed on schedule. TI expects to essentially meet its original return expectations.

The relative stage of completion and projected operating cash flows of the underlying in-process projects were the most significant and uncertain assumptions utilized in the valuation analysis of the in-process research and development. Uncertainties regarding projected operating cash flows could give rise to unforeseen budget over-runs and/or revenue shortfalls in the event that TI is unable to successfully commercialize the projects. TI management is primarily responsible for estimating the value of the purchased R&D in all acquisitions accounted for under the purchase method.

Consolidated Financial Statements (millions of dollars, except per-share amounts)

Income

For the Years Ended December 31,	1998	1997	1996
Net Revenues	\$ 8,460	\$ 9,750	\$ 9,940
Operating costs and expenses: Cost of revenues Research and development Marketing, general and administrative	5,394 1,206	6,067 1,536 1,532	7,146 1,181
Total	8,061	9,135	9,966
Profit (loss) from operations Other income (expense) net Interest on loans	399 293 75	615 192 94	(26) 76 73
Income (loss) from continuing operations before provision for income taxes and extraordinary item Provision for income taxes	617 210	713 411	(23)
Income (loss) from continuing operations before extraordinary item Discontinued operations: Income from operations	407	302 52	(46) 109
Gain on sale  Income before extraordinary item	 407	1,827	63
Extraordinary item: extinguishment of debt  Net income		(22) \$ 1,805 ======	\$ 63
Diluted earnings (loss) per common share:    Continuing operations before extraordinary    item    Discontinued operations:        Income from operations        Gain on sale    Extraordinary item	\$ 1.02   	\$ .76 .13 3.70 (.05)	\$ (.12) .29 
Net income	\$ 1.02	\$ 4.54	\$ .17
Basic earnings (loss) per common share: Continuing operations before extraordinary item Discontinued operations: Income from operations Gain on sale Extraordinary item	\$ 1.04  	\$ .78 .14 3.82 (.05)	\$ (.12)
Net income	\$ 1.04 =====	\$ 4.69 ======	\$ .17 ======

See accompanying notes.

Consolidated Financial Statements (millions of dollars, except per-share amounts)

Balance Sheet

As of December 31,	1998	1997
Assets Current assets: Cash and cash equivalents Short-term investments	\$ 540 1,709	\$ 1,015 2,005
Accounts receivable, less allowance for losses of \$97 million in 1998 and \$73 million in 1997 Inventories Prepaid expenses Deferred income taxes	1,343 596 75 583	1,705 742 59 577
Total current assets	4,846	6,103
Property, plant and equipment at cost Less accumulated depreciation	6,379 (3,006)	7,414 (3,234)
Property, plant and equipment (net)	3,373	4,180
Investments Deferred income taxes Other assets	2,564 23 444	69 134 363
Total assets	\$ 11,250 ======	\$ 10,849 ======
Liabilities and Stockholders' Equity		
Current liabilities:		
Loans payable and current portion long-term debt Accounts payable and accrued expenses Income taxes payable Accrued retirement and profit sharing contributions	\$ 267 1,582 193 154	\$ 71 2,082 154 189
Total current liabilities	2,196	2,496
Long-term debt Accrued retirement costs Deferred income taxes Deferred credits and other liabilities	1,027 895 381 224	1,286 731 288 134
Stockholders' equity: Preferred stock, \$25 par value. Authorized - 10,000,000 shares. Participating cumulative preferred. None issued. Common stock, \$1 par value. Authorized - 1,200,000,000		
snares. Shares issued: 1998 - 392,395,997; 1997 - 390,359,317 Paid-in capital Retained earnings Less treasury common stock at cost.	392 1,178 4,795	390 1,183 4,488
Shares: 1998 - 1,716,038; 1997 - 860,765 Accumulated other comprehensive income	(134) 296	(94) (53)
Total stockholders' equity	6,527	5,914
Total liabilities and stockholders' equity	\$ 11,250 ======	\$ 10,849 ======

See accompanying notes.

Consolidated Financial Statements (millions of dollars, except per-share amounts)

# Cash Flows

For the Years Ended December 31,	1998	1997	1996
Continuing operations: Cash flows from operating activities: Income (loss) from continuing operations before extraordinary item Depreciation Acquired in-process research and development Deferred income taxes Net currency exchange (gains) losses (Increase) decrease in working capital (excluding cash and cash equivalents, short-term investments, deferred income taxes, and loans payable and current	\$ 407 1,169 25 (50) (4)		904
portion long-term debt): Accounts receivable Inventories Prepaid expenses Accounts payable and accrued expenses Income taxes payable Accrued retirement and profit sharing contributions Extraordinary item: extinguishment of debt Increase in noncurrent accrued retirement costs Other	(427) 24 (24)  42	128 (22)	245 9 (404) (3) (283)  79
Purchases of short-term investments	1,251 (1,031) (2,244) 2,537 (152) (680) 100	1,843 (1,238) (2,457)	798 (2,063) (27) 202 (313)
Net cash used in investing activities		(1,205)	(2,051)

Consolidated Financial Statements (millions of dollars, except per-share amounts)

Cash Flows (continued)			
For the Years Ended December 31,	1998	1997	1996
Cash flows from financing activities:			
Additions to loans payable		(04.4)	288
Payments on loans payable		(314)	(2)
Additions to long-term debt		28 (256)	871
Payments on long-term debt			
Dividends paid on common stock		(131)	
Sales and other common stock transactions		140	
Common stock repurchase program	(253)	(86)	
0ther	` ´		(1)
Net cash provided by (used in) financing	()	()	
activities		(621)	
Effect of exchange rate changes on cash		(23)	(16)
Cash used in continuing operations		(6)	(406)
cash used in continuing operations	(475)	(6)	(400)
Discontinued operations:			
Operating activities		73	86
		(16)	(80)
Financing activities			
. Industry decivious			
Cash provided by discontinued operations		57	6
Net increase (decrease) in cash and			
cash equivalents	(475)	51	(400)
54011 544114151155	( 5 )	0_	(100)
Cash and cash equivalents at beginning of year	1,015	964	1,364
Cash and cash equivalents at end of year	\$ 540	\$ 1,015	\$ 964
•	======	======	======

See accompanying notes.

Consolidated Financial Statements (millions of dollars, except per-share amounts)

Stockholders' Equity

	Common Stock	Paid-in Capital	Retained Earnings	Treasury Common Stock	Accumulated Other Comprehensive Income*
Balance, December 31, 1995	\$ 190	\$ 1,081	\$ 2,881	\$ (12)	\$ (45)
1996					
Net income Dividends declared on common			63		
stock (\$.34 per share) Common stock issued on			(130)		
exercise of stock options		28			
Other stock transactions, net		7			
Pension liability adjustment Equity and cash investments					6
adjustment					28
Balance, December 31, 1996	190		2,814		
1997					
Net income			1,805		
Dividends declared on common stock (\$.34 per share)			(131)		
Two-for-one common stock split	195	(195)			
Common stock issued: On exercise of stock options	3	95		5	
On conversion of debentures	2	101			
Stock repurchase program				(86)	
Other stock transactions, net		66		(1)	
Pension liability adjustment				1	(24)
Equity and cash investments adjustment					(18)
Balance, December 31, 1997	390		4,488	(94)	(53)
,	000	2,200	.,	(0.)	(33)
1998					
Net income			407		
Dividends declared on common stock (\$.255 per share)			(100)		
Common stock issued	2	(111)		254	
on exercise of stock options Stock repurchase program	2	(111)		(294)	
Other stock transactions, net				(294)	
Pension liability adjustment					(117)
Equity, debt and cash investments adjustment					466
Threstments aujustment					400
Balance, December 31, 1998	\$ 392 ======	. ,	\$ 4,795 =====	\$ (134) ======	\$ 296 ======

Comprehensive income, i.e., net income plus other comprehensive income, totaled \$756 million in 1998, \$1,763 million in 1997 and \$97 million in 1996.

See accompanying notes.

#### Notes to Financial Statements

# ACCOUNTING POLICIES AND PRACTICES

The company adopted SFAS No. 130 in the first quarter of 1998. It required disclosure of comprehensive income, i.e., net income plus direct adjustments to stockholders' equity such as equity, debt and cash investment adjustments and pension liability adjustments. Also in 1998, the company adopted SFAS No. 132, which mandated changes in disclosures for pension and retiree health care plans. In 1997, the company adopted SFAS No. 128, which required disclosure of two new earnings per share amounts (diluted and basic) and elimination of prior earnings per share amounts. Also in 1997, the company adopted SFAS No. 131, which required a new basis of determining reportable business segments, i.e., the management approach. Disclosures under these 1997 and 1998 standards were provided on a retroactive basis. None affected reported net income.

Accounting standard SFAS No. 133 was issued in 1998 and is effective in 2000. It requires that all derivatives be marked-to-market on an ongoing basis. This applies whether the derivatives are stand-alone instruments, such as forward currency exchange contracts and interest rate swaps, or embedded derivatives, such as call options contained in convertible debt investments. Along with the derivatives, the underlying hedged items are also to be marked-to-market on an ongoing basis. These market value adjustments are to be included either in the income statement or stockholders' equity, depending on the nature of the transaction. The company expects to adopt the standard in the first quarter of 2000 on a cumulative basis. Based on analysis to date, the company expects the most significant impact of this standard will be the cumulative, as well as ongoing mark-to-market, adjustment through the income statement of the embedded call option on Micron Technology, Inc. (Micron) common shares contained in the convertible note received from Micron in connection with TI's 1998 sale of its memory business. The value of this option can be volatile given its sensitivity to changes in the value of Micron common shares. For example, at September 30, 1998, the estimated value of the option was \$82 million; at December 31, 1998, it was \$192 million. Under SFAS No. 133, this change in value of \$110 million would be included in the income statement. Under current accounting principles, the change in value of the Micron convertible note, including the embedded call, is an adjustment to stockholders' equity.

Accounting standard SOP 98-1 was issued in 1998 and is effective in 1999. It requires capitalization of the development costs of software to be used internally, e.g., for manufacturing or administrative processes. The company, which currently capitalizes significant development costs for internal-use software, expects to adopt the standard in the first quarter of 1999 for developmental costs incurred in that quarter and thereafter. The effect is not expected to be material. Accounting standard SOP 98-5 was issued in 1998 and is effective in 1999. It requires expensing, rather than capitalizing, the cost of start-up activities. The company currently expenses such amounts as incurred and therefore expects no material effect from adoption of this standard.

The consolidated financial statements include the accounts of all subsidiaries. The preparation of financial statements requires the use of estimates from which final results may vary. Intercompany balances and transactions have been eliminated. Certain amounts in prior

years' financial statements and related notes have been reclassified to conform to the 1998 presentation. The U.S. dollar is the functional currency for financial reporting. With regard to accounts recorded in currencies other than U.S. dollars, current assets (except inventories), deferred income taxes, other assets, current liabilities and long-term liabilities are remeasured at exchange rates in effect at year-end. Inventories, property, plant and equipment and depreciation thereon are remeasured at historic exchange rates. Revenue and expense accounts other than depreciation for each month are remeasured at the appropriate month-end rate of exchange. Net currency exchange gains and losses from remeasurement and forward currency exchange contracts to hedge net balance sheet exposures are charged or credited on a current basis to other income (expense) net. Gains and losses from forward currency exchange contracts to hedge specific transactions are deferred and included in the measurement of the related transactions. Gains and losses from interest rate swaps are included on the accrual basis in interest expense. Gains and losses from terminated forward currency exchange contracts and interest rate swaps are deferred and recognized consistent with the terms of the underlying transaction.

As discussed in the Divestitures note, the consolidated financial statements include the effect of two significant divestitures: the sale of the company's memory business and related joint venture interests to Micron in September 1998, which was accounted for as a sale of a business, and the sale of the defense business to Raytheon Company in July 1997, which was accounted for as a discontinued operation.

The description "accounted for as a sale of a business" means the sale of TI's memory business, which was a portion of the company's Semiconductor segment, was not accounted for as a discontinued operation under APB No. 30, but as a part of continuing operations, as discussed in paragraph 13 of that opinion.

The description "accounted for as a discontinued operation" means the sale of TI's Defense Systems and Electronics segment was accounted for under APB No. 30, paragraph 8, as the disposal of a segment of a business. Accordingly, the operating results and gain on the sale of this business were presented in TI's financial statements as discontinued operations, separate from TI's continuing operations.

Inventories are stated at the lower of cost or estimated realizable value. Cost is generally computed on a currently adjusted standard (which approximates current average costs) or average basis.

Revenues are generally recognized as products are shipped. Royalty revenue is recognized by the company upon fulfillment of its contractual obligations and determination of a fixed royalty amount or, in the case of ongoing royalties, upon sale by the licensee of royalty-bearing products, as estimated by the company.

Depreciation is computed by either the declining-balance method (primarily 150 percent declining method) or the sum-of-the-years-digits method. Fully depreciated assets are written off against accumulated depreciation. Advertising costs are expensed as incurred. Advertising expense was \$100 million in 1998, \$128 million in 1997 and \$124 million in 1996.

Computation of earnings per common share (EPS) amounts for income (loss) from continuing operations before extraordinary item is as follows (millions, except per-share amounts):

#### Millions of Dollars

		1998			1997			1996	
	Income	Shares	EPS	Income	Shares	EPS	Loss	Shares	EPS
Basic EPS Dilutives: Stock options/	\$ 407	390.5	\$1.04	\$ 302	385.1	\$ .78	\$(46)	379.4	\$ (.12)
compensation plans Convertible debentures		10.4			9.3 3.3				
Diluted EPS	\$ 407 =====	400.9	\$1.02 =====	\$ 302 =====	397.7	\$ .76 =====	\$(46) ====	379.4	\$ (.12) ======

The EPS computation for 1996 excludes 4.8 million shares for stock options/compensation plans and 5.0 million shares for convertible debentures because their effect would have been antidilutive.

#### CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS

Debt securities with original maturities within three months are considered cash equivalents. Debt securities with original maturities beyond three months have remaining maturities within 13 months and are considered short-term investments. These cash equivalent and short-term investment debt securities are available for sale and stated at fair value, which approximates their specific amortized cost. As of December 31, 1998, these debt securities consisted primarily of the following types: corporate (\$1092 million) and asset-backed commercial paper (\$679 million). At December 31, 1997, these debt securities consisted primarily of the following types: corporate (\$1943 million) and asset-backed commercial paper (\$623 million). Gross realized and unrealized gains and losses for each of these security types were immaterial in 1998, 1997 and 1996. Proceeds from sales of these cash equivalent and short-term investment debt securities in 1998, 1997 and 1996 were \$647 million, \$859 million and \$10 million.

### INVENTORIES

	ollars
.998	1997
3 77 354 165	\$105 364 273
596	\$742
	77 354 165

Prior to the sale of its memory business to Micron in 1998, TI participated in DRAM manufacturing joint ventures. TI held minority interests in, and had long-term inventory purchase commitments with, each joint venture. Under the agreements, TI purchased the output of the ventures at prices based upon percentage discounts from TI's average selling prices.

Inventory purchases from the ventures aggregated \$416 million in 1998, \$977 million in 1997 and \$1176 million in 1996. Receivables from and payables to the ventures were \$135 million and \$69 million at December 31, 1997. TI amortized its cost of the ventures over the expected initial output period of three to five years, and recognized its share of any cumulative venture net losses in excess of amortization. The related expense charged to operations was \$40 million in 1998, \$88 million in 1997 and \$33 million in 1996.

# PROPERTY, PLANT AND EQUIPMENT AT COST

		Millions	of Dollars
	Depreciable Lives	1998	1997
Land Buildings and improvements Machinery and equipment		\$ 88	\$ 94
	5-40 years	2,297	2,583
	3-10 years	3,994	4,737
Total		\$6,379	\$7,414
Total		=====	=====

Authorizations for property, plant and equipment expenditures in future years were approximately \$541 million at December 31, 1998, and \$1105 million at December 31, 1997.

# **INVESTMENTS**

At year-end 1998, equity investments primarily consisted of 28,933,092 Micron common shares, along with several other publicly traded investments. Debt investments consisted of 6.5% Micron convertible and subordinated notes. The convertible note (convertible into 12,333,358 Micron common shares at \$60 per share) and the subordinated note have face amounts of \$740 million and \$210 million. The notes, which mature in 2005, have a weighted-average imputed interest rate of 8.7%. The Micron securities were received in 1998 in connection with TI's sale of its memory business.

TI Ventures is an externally managed venture fund which invests in the development of new markets. As of year-end 1998, it had invested in 14 companies focused on next-generation applications of digital signal processors.

Other investments consist of mutual funds that are acquired to generate returns that offset changes in certain liabilities related to deferred compensation arrangements. The mutual funds hold a variety of debt and equity investments.

Following is information on the investments:

	F.	air	Unrealized							
		Lue	Ga	ins	(Lo	sses)		Net	С	ost
1998										
Equity investments	\$1,	516	\$	643	\$	(51)	\$	592	\$	924
Debt investments	. ,	978		139		`		139		839
TI Ventures		37		5				5		32
Other investments		33		5		(5)				33
Total	\$2,	564	\$	792	\$	(56)	\$	736	\$1	, 828
	===	====	=====		======		=====		==	====
1997										
Equity investments	\$	53	\$	50	\$	(36)	\$	14	\$	39
TI Ventures		10				`				10
Other investments		6		5				5		1
Total	\$	69	\$	55	\$	(36)	\$	19	\$	50
	===	====	======		==	====== ===		=====		

Investments are stated at fair value, which is based on market quotes, current interest rates or management estimates, as appropriate. Adjustments to fair value of the equity and debt investments, which are classified as available-for-sale, are recorded as an increase or decrease in stockholders' equity. Adjustments to fair value of the venture fund are recorded in other income (expense) net. Adjustments to fair value of the other investments, which are classified as trading, are recorded in operating expense. Cost or amortized cost, as appropriate, was determined on a specific identification basis. Proceeds from sales of equity and debt investments were zero in 1998, \$26 million in 1997 and zero in 1996. There were no gross realized gains or losses from sales of equity and debt investments in 1998 and 1996, and there was a \$16 million gain in 1997.

# NON-CASH INVESTING ACTIVITIES

Following are descriptions of those divestitures and acquisitions by TI which involved significant non-cash amounts. In September, 1998, TI sold its memory business to Micron Technology, Inc. (Micron). As a result, TI received Micron common shares and notes with values of \$881 million and \$836 million, respectively. In addition to TI's memory assets, Micron received \$550 million in cash from TI to facilitate the deployment of Micron's technology throughout the acquired business. In the fourth quarter of 1998, TI made an additional \$130 million payment to Micron as part of the contractually required working capital. TI deferred the estimated pretax gain of \$127 million on the sale of the memory business until the recovery of the TI-provided financing.

In July 1996, TI acquired Silicon Systems, Inc. by means of a stock purchase agreement for \$340 million in cash plus the assumption of \$217 million of 5-year installment notes and \$61 million of current liabilities. Of the aggregate purchase price of \$618 million, TI recorded \$426 million for the value of assets acquired, \$192 million for the value of acquired in-process research and development, and \$278 million for the value of liabilities assumed.

# ACCOUNTS PAYABLE AND ACCRUED EXPENSES

	Mi	llions	of Dol	lars
	1998		1	997
Accounts payable Accrued salaries, wages, severance	\$	510	\$	698
and vacation pay		320		405
Other accrued expenses and liabilities		752 		979 
Total	\$1 ==	, 582 ====	\$2 ==	,082 ====

# DEBT AND LINES OF CREDIT

	Millions o	of Dollars
Long-Term Debt	1998	1997
6.75% notes due 1999 6.875% notes due 2000 9.0% notes due 2001 6.65% notes, due in installments through 2001 9.25% notes due 2003 6.125% notes due 2006 8.75% notes due 2007	\$ 200 200 55 159 104 300 43	\$ 200 200 55 204 104 300 43
3.80% to 6.10% lira notes (9% swapped for 1.60% U.S. dollar obligation) Other	184 49	190 57
Less current portion long-term debt	1,294 267	1,353
Total	\$1,027 =====	\$1,286 =====

The coupon rates for the notes due 2006 have been swapped for LIBOR-based variable rates through 2006, for an effective interest rate of approximately 4.6% and 5.1% as of December 31, 1998 and 1997. The lira notes, and related swaps, are due in installments through 2005.

As a result of a 1997 tender offer for any or all of the company's 9.0%, 9.25% and 8.75% notes, an aggregate of \$248 million of debt principal was tendered at a cash price of \$280 million. This resulted in an extraordinary charge of \$22 million in the fourth quarter of 1997, after elimination of deferred issuance costs and recognition of an income tax effect of \$12 million.

Interest incurred on loans in 1998, 1997 and 1996 was \$85 million, \$114 million and \$108 million. Of these amounts, \$10 million in 1998, \$20 million in 1997 and \$35 million in 1996 were capitalized as a component of capital asset construction costs. Interest paid on loans (net of amounts capitalized) was \$75 million in 1998, \$94 million in 1997 and \$54 million in 1996.

Aggregate maturities of long-term debt due during the four years subsequent to December 31, 1999, are as follows:

# Millions of Dollars

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2000	\$ 312
2001	136
2002	27
2003	161

The company maintains lines of credit to support commercial paper borrowings and to provide additional liquidity. These lines of credit totaled \$669 million at December 31, 1998, and \$651 million at December 31, 1997. Of these amounts, at December 31, 1998 and 1997, \$600 million existed to support outstanding commercial paper borrowings or short-term bank loans.

#### FINANCIAL INSTRUMENTS AND RISK CONCENTRATION

FINANCIAL INSTRUMENTS: In addition to the swaps discussed in the preceding note, as of December 31, 1998, the company had forward currency exchange contracts outstanding of \$756 million to hedge net balance sheet exposures (including \$161 million to sell yen, \$132 million to buy lira and \$105 million to buy deutsche marks). At December 31, 1997, the company had forward currency exchange contracts outstanding of \$275 million to hedge net balance sheet exposures (including \$101 million to buy lira, \$73 million to buy deutsche marks and \$24 million to buy Singapore dollars). As of December 31, 1998 and 1997, the carrying amounts and current market settlement values of these swaps and forward contracts were not significant. The company uses forward currency exchange contracts, including the lira note currency swaps, to minimize the adverse earnings impact from the effect of exchange rate fluctuations on the company's non-U.S. dollar net balance sheet exposures. The interest rate swaps for the company's notes due 2006 are used to change the characteristics of the interest rate stream on the debt from fixed rates to short-term variable rates in order to achieve a mix of interest rates that, over time, is expected to moderate financing costs. The effect of these interest rate swaps was to reduce interest expense by \$3 million and \$2 million in 1998 and 1997, and increase interest expense by \$2 million in 1996.

In order to minimize its exposure to credit risk, the company limits its counterparties on the forward currency exchange contracts and interest rate swaps to investment-grade rated financial institutions.

As of December 31, 1998 and 1997, the fair value of long-term debt, based on current interest rates, was approximately \$1346 million and \$1390 million, compared with the historical cost amount of \$1294 million and \$1353 million.

RISK CONCENTRATION: Financial instruments that potentially subject the company to concentrations of credit risk are primarily cash investments, accounts receivable and noncurrent investments. The company places its cash investments in investment-grade, short-term debt securities and limits the amount of credit exposure to any one commercial issuer. Concentrations

of credit risk with respect to the receivables are limited due to the large number of customers in the company's customer base and their dispersion across different industries and geographic areas. The company maintains an allowance for losses based upon the expected collectibility of accounts receivable. The company's noncurrent investments at year-end 1998 have an aggregate fair value of \$2564 million. The investments are in high-technology companies and are subject to price volatility and other uncertainties. They include a significant concentration of Micron debt (fair value of \$978 million) and equity instruments (fair value of \$1463 million). The company adjusts the carrying amounts of the investments to fair value each quarter.

# STOCKHOLDERS' EQUITY

The company is authorized to issue 10,000,000 shares of preferred stock. None is currently outstanding.

Each outstanding share of the company's common stock carries a stock purchase right. Under certain circumstances, each right may be exercised to purchase one one-thousandth of a share of the company's participating cumulative preferred stock for \$200. Under certain circumstances following the acquisition of 20% or more of the company's outstanding common stock by an acquiring person (as defined in the rights agreement), each right (other than rights held by an acquiring person) may be exercised to purchase common stock of the company or a successor company with a market value of twice the \$200 exercise price. The rights, which are redeemable by the company at 1 cent per right, expire in June 2008.

Changes in other comprehensive income are as follows:

#### Millions of Dollars

	Pension Liability Adjustment		Total
Balance, December 31, 1995	\$ (45)	\$	\$ (45)
Annual adjustments	6	43	49
Tax effect of above		(15)	(15)
Balance, December 31, 1996 Annual adjustments Tax effect of above Reclassification of	(39)	28	(11)
	(24)	(12)	(36)
		4	4
realized transactions, net of tax of \$6 million		(10)	(10)
Balance, December 31, 1997	(63)	10	(53)
Annual adjustments	(117)	717	600
Tax effect of above		(251)	(251)
Balance, December 31, 1998	\$(180) =====	\$ 476 =====	\$ 296

# RESEARCH AND DEVELOPMENT EXPENSE

Research and development expense, which totaled \$1206 million in 1998, \$1536 million in 1997 and \$1181 million in 1996, included a charge in 1998 of \$25 million for the value of acquired in-process research and development from two business acquisitions, GO DSP and Spectron. Research and development expense for 1997 included a charge of \$461 million for the

value of acquired in-process research and development as a result of the acquisition of Amati Communications Corporation (Amati). The company acquired Amati as a result of an all-cash tender offer in fourth quarter 1997 through which approximately 78% of Amati's outstanding common shares were acquired for an aggregate of \$306 million. As contractually required, the company then acquired the balance of the Amati shares through a second-step merger transaction for an aggregate of \$91 million. In addition to these stock purchase costs, the company incurred approximately \$117 million of additional acquisition costs, which included \$50 million for the value of TI common stock options contractually required to be issued to replace outstanding Amati employee stock options. Research and development expense for 1996 included a charge of \$192 million for the value of acquired in-process research and development in connection with the 1996 acquisition of Silicon Systems, Inc. (SSi) for \$618 million. There was essentially no tax offset associated with these acquired in-process research and development charges.

In connection with TI's acquisitions of GO DSP and Spectron, both of which occurred in the first quarter of 1998, TI recorded charges of \$10 million and \$15 million for purchased in-process R&D (purchased R&D), based upon the appraised value of the related developmental projects. The Income Approach, which included an analysis of the markets, cash flows, and risks associated with achieving such cash flows, was the primary technique utilized in valuing each purchased R&D project.

GO DSP's and Spectron's research and development related to DSP software tools. These software tools, which include real-time operating systems, allow DSP systems developers to improve productivity and reduce time-to-market. TI's goal in these acquisitions was to extend its leadership in digital signal processing solutions by offering a complete development environment, simplifying DSP development, and making TI DSP solutions even more attractive for a broad range of fast-growing markets.

Significant assumptions used in determining the value of purchased R&D for GO DSP and Spectron included projected operating cash flows and the discount rate. Projected operating cash flows were expected to begin in late 1998. The discount rate selected for GO DSP's and Spectron's in-process technologies was 30%

At the time of the acquisitions, GO DSP and Spectron management estimated the remaining cost and time to complete the purchased R&D projects was approximately \$7 million and 540 engineer-months. The term "engineer-month" refers to the average amount of research work expected to be performed by an engineer in a month. All the in-process projects were essentially completed on schedule. TI expects to essentially meet its original return expectations.

The relative stage of completion and projected operating cash flows of the underlying in-process projects acquired were the most significant and uncertain assumptions utilized in the valuation analysis of the in-process research and development. Uncertainties regarding projected operating cash flows could give rise to unforeseen budget over-runs and/or revenue shortfalls in the event that TI is unable to successfully commercialize the projects. TI management is primarily responsible for estimating the value of the purchased R&D in all acquisitions accounted for under the purchase method.

In connection with TI's acquisition of Amati Communications Corporations (Amati) in the fourth quarter of 1997, TI recorded a charge of \$461 million for the value of purchased in-process R&D (purchased R&D) at the acquisition date, based upon the appraised value of the related developmental projects. The Income Approach, which included an analysis of the markets, cash flows, and risks associated with achieving such cash flows, was the primary technique utilized in valuing each purchased R&D project.

Amati's research and development related to Digital Subscriber Line (DSL) system designs for the Internet and other uses. DSL technology targets the local exchange carrier market since the technology permits the transmission of data at high speeds over the existing copper lines of the local exchange carriers. Currently, analog modems are noted as being slow in their transmission speed, and ADSL digital processing technology is expected to fill the need for additional bandwidth requirements. VDSL transmits high-speed data over short reaches of twisted-pair copper telephone wire, with a range of speeds that depends on actual line length.

Significant assumptions used in determining the value of purchased R&D for Amati included projected operating cash flows and the discount rate. Projected operating cash flows were expected to begin in 1999. The discount rate selected for Amati's in-process technologies was 30%.

At the time of the acquisition, Amati management estimated the remaining cost to complete the purchased R&D projects to be approximately \$13 million with a remaining time requirement of approximately 1,300 engineer-months. The term "engineer-month" refers to the average amount of research work to be performed by an engineer in a month. All the in-process projects were essentially completed on schedule. Several products have been released, and although the DSL market has developed more slowly than expected, TI expects improvements in the near term in Internet-related demand. As this occurs, TI will be one of a very few suppliers who have demonstrated interoperability and standards compliance. Thus, TI expects to essentially meet its original return expectations.

The relative stage of completion and projected operating cash flows of the underlying in-process projects acquired were the most significant and uncertain assumptions utilized in the valuation analysis of the in-process research and development. Uncertainties regarding projected operating cash flows could give rise to unforeseen budget over-runs and/or revenue shortfalls in the event that TI is unable to successfully commercialize the projects. TI management is primarily responsible for estimating the value of the purchased R&D in all acquisitions accounted for under the purchase method.

In connection with TI's acquisitions of Silicon Systems, Inc. (SSi) in the third quarter of 1996, TI recorded a charge of \$192 million for the value of purchased in-process R&D (purchased R&D) at the acquisition date, based upon the appraised value of the related developmental projects. The Income Approach, which included an analysis of the markets, cash flows, and risks associated with achieving such cash flows, was the primary technique utilized in valuing each purchased R&D project.

SSi's research and development related to analog technology for hard disk drives and removable storage devices. Historically, SSi had primarily emphasized producing integrated circuits for the hard disk drive market. As of the acquisition date, SSi's product development

activities for this market had been expanded to include other magnetic optical storage devices that require advanced technology and performance.

Significant assumptions used in determining the value of purchased R&D for SSi included projected operating cash flows and the discount rate. Projected operating cash flows were expected to commence in late 1996. The discount rate selected for SSi's in-process technologies was 22%.

At the time of the acquisition SSi management estimated the remaining cost to complete the purchased R&D projects to be approximately \$16 million, over a 9-month period. All the in-process projects were essentially completed on schedule. TI expects to essentially meet its original return expectations.

The relative stage of completion and projected operating cash flows of the underlying in-process projects were the most significant and uncertain assumptions utilized in the valuation analysis of the in-process research and development. Uncertainties regarding projected operating cash flows could give rise to unforeseen budget over-runs and/or revenue shortfalls in the event that TI is unable to successfully commercialize the projects. TI management is primarily responsible for estimating the value of the purchased R&D in all acquisitions accounted for under the purchase method.

OTHER INCOME (EXPENSE) NET

	Millions of Dollars				
	1998	1997	1996		
Interest income Other income (expense) net	\$ 166 127	\$ 146 46	\$ 62 14		
Total	\$ 293 =====	\$ 192 =====	\$ 76 =====		

Other income included gains of \$83 million in 1998 from the sale of TI's interest in the TI-Acer joint venture to Acer Corporation and \$66 million in 1997 from the sale of three divested activities, primarily software.

# STOCK OPTIONS

The company has stock options outstanding to participants under the Texas Instruments 1996 Long-Term Incentive Plan, approved by stockholders on April 18, 1996. Options are also outstanding under the 1988 Stock Option Plan and the Texas Instruments Long-Term Incentive Plan; however, no further options may be granted under these plans. Under all these stockholder-approved plans, unless the options are acquisition-related replacement options, the option price per share may not be less than 100 percent of the fair market value on the date of the grant. Substantially all the options have a 10-year term. Options granted subsequent to 1996 generally vest ratably over four years. Options granted prior to that are fully vested.

Under the 1996 Long-Term Incentive Plan, the company may grant stock options, including incentive stock options; restricted stock and restricted stock units; performance units;

and other stock-based awards. The plan provides for the issuance of 37,000,000 shares of the company's common stock (plus shares subject to acquisition-related replacement options); in addition, if any award under the 1988 Stock Option Plan or the Long-Term Incentive Plan terminates, then any unissued shares subject to the terminated award become available for granting awards under the 1996 Long-Term Incentive Plan. No more than 4,000,000 shares of common stock may be awarded as restricted stock, restricted stock units or other stock-based awards under the plan. In 1998, 1997 and 1996, 117,000, 201,500 and 110,028 shares of restricted stock units, which vest over one to five years, were granted (weighted-average award-date value of \$51.80, \$37.78 and \$22.65 per share). In addition, in 1998, 1997 and 1996, zero, 5,700 and 69,812 previously unissued shares were issued as Annual Incentive Plan stock awards (weighted-average award-date value of zero, \$22.94 and \$23.28 per share). Compensation expense for restricted stock units and annual stock awards totaled \$3.9 million, \$3.5 million and \$1.6 million in 1998, 1997 and 1996.

The company also has stock options outstanding under the Employee Stock Purchase Plan approved by stockholders in 1997. The plan provides for options to be offered semiannually to all eligible employees in amounts based on a percentage of the employee's compensation. The option price per share may not be less than 85 percent of the fair market value on the date of grant. If the optionee authorizes and does not cancel payroll deductions that will be equal to or greater than the purchase price, options granted become exercisable seven months, and expire not more than 13 months, from date of grant. There are no options outstanding under the 1988 Employee Stock Option Purchase Plan, the predecessor to the Employee Stock Purchase Plan.

Under the Stock Option Plan for Non-Employee Directors adopted in April 1998, the company will grant stock options to each non-employee director, once a year, in the period beginning January 1999 and extending through 2003. Each grant will be an option to purchase 5,000 shares with an option price equal to fair market value on the date of grant. The option will vest ratably over four years. Stock option transactions during 1998, 1997 and 1996 were as follows:

	Long-Term Incentive and Stock Option Plans		•	Exercise
Balance, Dec. 31, 1995 Granted Forfeited Expired Exercised**	15,765,144 5,326,750 (397,478)  (869,320)	13.08	2,267,418 1,697,092* (799,818)  (772,324)	\$28.07 28.13 29.22  25.18
Balance, Dec. 31, 1996 Granted Forfeited Expired Exercised**	19,825,096 10,237,160 (2,365,382)  (3,874,438)	36.45 28.79 	2,392,368 1,187,887* (763,335)  (1,487,181)	30.02
Balance, Dec. 31, 1997	23,822,436	24.64	1,329,739	44.71
Granted Granted, acquisition-related* Forfeited Expired Exercised**	8,064,060 **1,232,189 (1,313,987)  (4,076,607)	47.87 22.13 40.74  17.86	1,633,095*  (243,489)  (1,570,521)	45.86  48.01  45.50
Balance, Dec. 31, 1998	27,728,091 ======	\$31.51 =====	1,148,824 ======	\$44.57 =====

- \* Excludes options offered but not accepted.
- \*\* Includes previously unissued shares and treasury shares of 2,039,118 and 3,608,010; 5,324,348 and 37,271; and 1,641,644 and zero for 1998, 1997 and 1996.
- \*\* Aggregate value of \$52 million for two acquisitions.

In accordance with the terms of APB No. 25, the company records no compensation expense for its stock option awards. As required by SFAS No. 123, the company provides the following disclosure of hypothetical values for these non-acquisition-related awards. The weighted-average grant-date value of options granted during 1998, 1997 and 1996 was estimated to be \$22.15, \$15.72 and \$9.24 under the Long-Term Incentive Plans and the 1988 Stock Option Plan (Long-Term Plans) and \$13.34, \$13.47 and \$6.05 under the Employee Stock and Stock Option Purchase Plans (Employee Plans). These values were estimated using the Black-Scholes option-pricing model with the following weighted-average assumptions for 1998, 1997 and 1996: expected dividend yields of .71%, .93% and 1.48% (Long-Term Plans) and .74%, .70% and 1.21% (Employee Plans); expected volatility of 43%, 39% and 39%; risk-free interest rates of 5.47%, 5.76% and 5.42% (Long-Term Plans) and 5.32%, 5.69% and 6.15% (Employee Plans); and expected lives of 6 years (Long-Term Plans) and .8 years, .8 years and 1.5 years (Employee Plans). Had compensation expense been recorded based on these hypothetical values, the company's 1998 net income would have been \$328 million, or diluted earnings per share of \$0.81. A similar computation for 1997 and 1996 would have resulted in net income of \$1764 million and \$40 million, or diluted earnings per share of \$4.43 and \$0.11. Because options vest over several years and additional option grants are expected, the effects of these hypothetical calculations are not likely to be representative of similar future calculations.

Summarized information about stock options outstanding under the Long-Term Plans at December 31, 1998, is as follows:

	Options Outsta	nding	Options Exercisable			
Range of Exercise Prices	Number Outstanding at Dec. 31, 1998	Weighted- Average Remaining Contractual Life	Weighted- Average Exercise Price	Number Exercisable at Dec. 31, 1998	Weighted- Average Exercise Price	
\$ .09 to 27.24 30.22 to 49.79 50.36 to 81.07	11,916,423 13,851,417 1,960,251	5.5 years 8.5 9.3	\$ 17.52 39.83 57.81	10,694,986 1,837,430 128,507	\$ 17.04 35.00 66.21	
\$ .09 to 81.07	27,728,091 =======	7.3 =======	\$ 31.51 ======	12,660,923 =======	\$ 20.15 ======	

At December 31, 1998, the stock options outstanding under the Employee Plans have exercise prices of \$43.04 and \$49.30, depending on the date of grant, and a remaining contractual life of three or nine months. Of the total outstanding options, 280,229 are exercisable at year-end 1998.

At year-end 1998, 21,861,771 shares were available for future grants under the 1996 Long-Term Incentive Plan and 7,518,268 shares under the Employees Stock Purchase Plan. As of year-end 1998, 50,047,468 shares were reserved for issuance under the company's stock

option and incentive plans and 8,667,092 shares were reserved for issuance under the Employee Stock Purchase Plan.

In 1997, the company began a stock repurchase program with the goal of neutralizing the dilutive effect of shares to be issued upon the exercise of stock options under the Employee Stock Purchase Plan and Long-Term Plans. Treasury shares acquired in connection with this repurchase program and other stock transactions in 1998, 1997 and 1996 were 4,463,283 shares, 754,511 shares and 7,730 shares. Previously unissued common shares issued under the Long-Term Plans and the Annual Incentive Plan in 1998, 1997 and 1996 were 33,848 shares, 30,174 shares and 98,072 shares. Treasury shares issued under the Texas Instruments Restricted Stock Unit Plan for Directors in 1998, 1997 and 1996 were zero shares, zero shares and 2,334 shares.

#### RETIREMENT AND INCENTIVE PLANS

The company provides various retirement plans for employees including pension, savings and deferred profit sharing plans. Incentive plans include profit sharing payments and annual performance awards.

U.S. RETIREMENT PLANS: Effective January 1, 1998, for U.S. employees hired on or after December 1, 1997, the company provides a defined contribution plan whereby the company contributes 2% of an employee's earnings, and a matched savings program whereby an employee's contribution, up to 4% of the employee's earnings, is matched by the company at a dollar-per-dollar rate. The contributions may be invested in several investment funds including TI common stock. During a selection period in 1997, employees employed prior to December 1, 1997, irrevocably elected whether to choose this plan or remain in the savings and defined benefit programs described below. Approximately 36% chose this plan.

For U.S. employees hired prior to December 1, 1997, the company provides a matched savings program whereby an employee's contribution, up to 4% of the employee's earnings (subject to statutory limitations), is matched by the company at the rate of 50 cents per dollar. Available investments are the same as above. Also provided is a defined benefit plan with benefits based on years of service and employee's compensation. The plan is a career-average-pay plan which has been amended periodically in the past to produce approximately the same results as a final-pay type plan. The board of directors of the company has expressed an intent to make such amendments in the future, circumstances permitting, and the expected effects of such amendments have been considered in calculating U.S. pension expense.

Certain of the profit sharing plans worldwide provide that, depending on the individual plan, a portion of the profit sharing earned by employees is contributed to a deferred plan. For U.S. employees, 50% of profit sharing amounts are deferred. Several investment options are available, including TI common stock. While the board of directors of the company has authorized the issuance of 9,233,836 shares of previously unissued TI common shares for deferred profit sharing and savings plans worldwide, none have been issued in the three years ended December 31, 1998. Instead, the trustees of these plans worldwide have purchased outstanding TI common shares: 3,753,084 shares in 1998, 3,535,471 shares in 1997 and 3,123,905 shares in 1996.

The company's aggregate expense for U.S. employees under the defined contribution, deferred profit sharing and matched savings plans was \$56 million in 1998, \$55 million in 1997 and \$17 million in 1996.

The company's U.S. employees are currently eligible to receive, during retirement, specified company-paid medical benefits. The plan is contributory and premiums are adjusted annually. For employees retiring on or after January 5, 1993, the company has specified a maximum annual amount per retiree, based on years of service, that it will pay toward retiree medical premiums. For employees who retired prior to that date, the company maintains a consistent level of cost sharing between the company and the retiree. Effective January 1, 1998, new employees are eligible for this benefit when they reach 20 years of service, regardless of age. For a 15-year transition period, current employees qualify for eligibility under either the 20-year rule or the previous requirement, which was based upon retirement eligibility under the defined benefit pension plan. Coverage eligibility under the 20-year rule is only available at termination, i.e., no subsequent election to participate is allowable.

		Mi	llions	of Dolla	rs	
	Defi	ned Be	nefit 		tiree alth C	are
	1998	1997	1996	1998	1997	1996
Service cost	\$ 36	\$ 36	\$ 40		\$ 3	\$ 4
Interest cost Expected return on plan assets	48 (38)	48 (33)	51 (41)	21	20 	22
Amortization of prior service cost Amortization of transition obligation Recognized net actuarial loss	2 (5) 1	3 (5) 2	3 (8) 3			
Total	 \$ 44	\$ 51	\$ 48	\$ 24	\$ 23	\$ 26
TOTAL	====	====	====	====	====	====

Settlement and curtailment gains (losses) of the U.S. defined benefit plan recognized in 1998, 1997 and 1996 were zero and \$(6) million; \$3 million and \$18 million; and \$5 million and zero. For the retiree health care benefit plan they were zero and \$1 million; zero and \$1 million; and zero and zero.

Obligation data for the U.S. defined benefit and retiree health care benefit plans and asset data for the U.S. defined benefit plan at December 31 were as follows:

	Millions of Dollars				
		Benefit 1997	Retiree Health Care 1998 1997		
Change in benefit obligation					
Benefit obligation at beginning of year Service cost Interest cost Plan participant's contributions Benefits paid Actuarial loss Settlements Curtailments Special termination benefit Divestiture  Benefit obligation at end of year	36 48  (38) 50 (84) 9 (11)	\$ 819 36 48  (202) 36 (28) (24) 3	\$ 319 \$ 312 3 3 21 20 6 5 (25) (22) 22 6 1   		
· ·					
Change in plan assets					
Fair value of plan assets at beginning of year Actual return on plan assets Employer contribution Benefits paid Settlements Divestiture	88 26 (28) (84)				
Fair value of plan assets at end of year		543			
Funded status Unrecognized net actuarial (gain)			(352) (319) (5) (33)		

Unrecognized prior service cost	6	8	(2)	(2)
Unrecognized transition obligation	(10)	(16)	-	
Accrued retirement at December 31	(209)	(182)	(359)	(354)
Less current portion	27	40	23	19
Accrued U.S. retirement costs	\$(182)	\$(142)	\$(336)	\$(335)
	=====	=====	=====	=====

The U.S. defined benefit and retiree health care obligations for 1998 and 1997 were determined using assumed discount rates of 6.75% and 7.0%. The assumed average long-term pay progression rate was 4.25%. The assumed long-term rate of return on plan assets was 9.0%. The retiree health care benefit obligation was determined using health care cost trend rates of 6.0% for 1999 decreasing to 5.0% by 2000. Increasing (decreasing) the health care cost trend rates by 1% would have increased (decreased) the retiree health care benefit obligation at December 31, 1998, by \$15 million/\$(15) million and 1998 plan expense by \$1 million/ \$(1) million.

NON-U.S. RETIREMENT PLANS: Retirement coverage for non-U.S. employees of the company is provided, to the extent deemed appropriate, through separate plans. Defined retirement benefits are based on years of service and employee's compensation, generally during a fixed number of years immediately prior to retirement.

Certain non-U.S. locations provide for deferral of profit sharing amounts with contributions generally invested in TI common stock. The related expense for these contributions was \$3 million in 1998, \$6 million in 1997 and zero in 1996.

Expense of the non-U.S. defined benefit plans was as follows:

	Millions of Dollars			
	1998	1997	1996	
Service cost Interest cost Expected return on plan assets Amortization of prior service cost Amortization of transition obligation Recognized net actuarial loss Total	\$ 53 31 (40) (1) 2 12	\$ 59 35 (38) 1 2 9	\$ 64 34 (35) 1 2 10	
	=====	=====	=====	

Settlement and curtailment gains (losses) of the non-U.S. defined benefit plans recognized in 1998 and 1997 were \$(5) million and zero; and \$(3) million and zero. There were no such items in 1996.

Obligation and asset data for the non-U.S. defined benefit plans at September 30 were as follows:

	Millions of Dollars		
	1998	1997	
Change in benefit obligation			
Benefit obligation at beginning of year Service cost Interest cost Benefits paid Actuarial gain	\$ 999 53 31 (20) (83)	\$ 940 59 35 (19) (16)	
Benefit obligation at end of year	980	999	
Change in plan assets			
Fair value of plan assets at beginning of year Actual return on plan assets Employer contribution Benefits paid Actuarial gain	543 21 36 (20) (40)	500 59 38 (19) (35)	
Fair value of plan assets at end of year	540	543	
Funded status Unrecognized net actuarial loss Unrecognized prior service cost Unrecognized transition obligation Adjustments from Sept. 30 to Dec. 31	(440) 250 8 9 (4)	(456) 252 9 13	
Net non-U.S. amount recognized	\$(177)	\$(178)	
Amounts recognized in the balance sheet consist of:	====	====	
Accrued retirement, current Accrued retirement, noncurrent Prepaid benefit cost Intangible asset Accumulated other comprehensive income	\$ (2) (377) 14 8 180	\$ (3) (254) 10 6 63	
Total	\$(177) =====	\$(178) =====	

The range of assumptions used for the non-U.S. defined benefit plans reflects the different economic environments within the various countries.

The defined benefit obligations were determined as of September 30 using a range of assumed discount rates of 2.5% to 7.0% and a range of assumed average long-term pay progression rates of 3.0% to 6.0%. The range of assumed long-term rates of return on plan assets was 7.0% to 8.0%. Accrued retirement at September 30, 1998 and 1997 includes projected benefit obligations of \$841 million and \$883 million and accumulated benefit obligations of

\$630 million and \$636 million, versus plan assets of \$395 million and \$408 million, for three plans whose obligations exceed their assets.

#### RESTRUCTURING ACTIONS

In the second quarter of 1998, the company announced that, as a result of the various business divestitures over the past several years, the pending sale of its memory business and weakness in the current semiconductor market environment, it was implementing a severance/manufacturing efficiency program in order to more closely match the size and cost of its support functions with the company's overall size and to further combine manufacturing resources for more efficient operations. The program, which primarily affected the company's corporate activities and semiconductor business, included the elimination of 3,441 jobs around the world through voluntary programs, attrition, outsourcing and layoffs, as well as the closing of several facilities. As a result, the company took a pretax charge of \$219 million in the second quarter, of which \$126 million was included in marketing, general and administrative expense and \$93 million in cost of revenues. Of the \$219 million charge, \$161 million was for severance, \$41 million for asset write-downs and \$17 million for vendor cancellation and lease charges. Of the \$41 million for asset write-downs, \$25 million was for U.S. semiconductor inventories and \$16 million was for fixed assets, primarily accelerated depreciation on assets phased out during 1998 in connection with the winding down of production at a semiconductor manufacturing facility in Singapore. The fixed assets were subsequently sold for scrap at a nominal value. Of the \$17 million for vendor cancellation and lease charges, \$15 million was for required vendor fees for cancellation of purchase contracts for chemicals, supplies and equipment as a result of a U.S. facility shutdown. At year-end 1998, the program had essentially been completed, with most severance costs paid except for \$49 million, which will primarily be paid in 1999. Of the 3,441 jobs, 3,260 had been eliminated, and 181 will be eliminated in 1999.

In the third quarter of 1998, the company recorded a \$14 million charge for additional depreciation on fixed assets primarily located in the semiconductor manufacturing facility in Singapore. This action was taken in connection with the severance/manufacturing efficiency program announced during the second quarter of 1998. This asset write down charge was included in cost of revenues.

In the fourth quarter of 1998, the company took further steps to enhance manufacturing efficiency, including the announced closing of a semiconductor assembly operation and sale of a materials & controls manufacturing operation, both in Europe. The sale was completed on December 31, 1998. The assembly operation closing, which is ongoing, affected 740 employees. As a result of these actions, the company took a fourth-quarter 1998 pretax charge of \$72 million, of which \$27 million was included in cost of revenues, \$24 million in other income (expense) net and \$21 million in marketing, general and administrative expense. Of this \$72 million charge, \$35 million was for severance, \$35 million for other cash-related costs and \$2 million for asset write-downs, primarily to adjust fixed assets in the European materials & controls operation to actual sale value. Of the \$35 million severance charge, \$19 million had been paid by year-end 1998 and \$16 million will be paid in 1999. Of the other \$35 million charge, \$20 million was a cash payment required as part of an agreement with the third-party buyer of a materials & controls manufacturing operation in Europe. The balance was for

previously-received government grants expected to be repaid as a result of the closing of the European semiconductor assembly operation.

In the first quarter of 1997, the company sold its mobile computing business and terminated its digital imaging printing development program. As a result of these divestitures, the company took a first-quarter pretax charge of \$56 million, of which \$28 million was included in cost of revenues and \$28 million in marketing, general and administrative expense. Of this \$56 million charge, \$27 million was for severance for involuntary reductions worldwide. These severance actions were essentially completed by the end of the quarter and affected approximately 1,045 employees. The balance of \$29 million was for other costs associated with the business sale and program termination, including vendor cancellation and lease charges. Essentially all costs were paid in 1998. In the second quarter of 1997, TI sold several activities, principally software, for a pre-tax gain of \$66 million, after transaction costs. These transaction costs totaled \$54 million and included severance of \$17 million for 372employees, who left TI within three months of the related divestitures, \$24 million for vendor and warranty obligations, which extend through 2002, \$4 million for professional fees, and \$9 million for various other costs. In the fourth quarter of 1997, the company took a pretax charge of \$42 million, of which \$30 million was included in cost of revenues and \$12 million in marketing, general and administrative expense, primarily for severance costs related to cost-reduction actions by the materials & controls business. These actions, which are expected to be completed in first-quarter 1999, affected approximately 260 employees. The terminated employees were in plants located in Holland, Italy, Canada and Michigan. Costs of \$5 million were paid by year-end 1998. Remaining severance is to be paid in installments through 2002.

In the fourth quarter of 1996, the company took a pretax charge of \$208 million, of which \$169 million was included in cost of revenues and \$39 million was included in marketing, general and administrative expense. Of the \$208 million, \$91 million was for severance for employment reduction actions in the United States and selected reductions worldwide. These actions, which primarily involved the semiconductor business as well as divested activities, were essentially completed by year-end 1996 and affected approximately 2,600 employees. Of the severance cost of \$91 million, \$34 million was paid in 1996 and \$57 million was paid in 1997. The balance of this charge, \$117 million, was for vendor cancellation and other cash-related costs of \$47 million and asset write-downs of \$70 million on several product lines, primarily mobile computing, an operation divested in first-quarter 1997. The asset write-downs were to adjust inventory and fixed assets to actual sale value. Of the \$70 million asset write-down charge, \$54 million was for mobile computing.

With respect to this \$54 million charge, \$47 million was for inventory and \$7 million was for fixed assets. The balance of \$16 million included a \$6 million charge against operating assets for the impact of the expected first quarter 1997 termination of TI's digital imaging printing development program. The remainder, \$10 million, was to write down the operating assets of TI's Telecom business, which was held for sale.

Set forth below is a reconciliation of individual restructuring accruals (in millions of dollars).

			1996	Year of		997	
Description*	Total	Balance, prior actions grant repayment and lease obligation costs	Employment reductions SC & divested activities	MCB/DIPD/TELE write-downs	Divestiture of MCB/termination of DIPD	M&C cost reduction action	Reserves against gains on business sales
BALANCE, DECEMBER 31, 1995	\$ 15	\$ 15					
CHARGES: Severance	91		\$ 91				
Vendor and warranty obligations	47			\$ 47			
Various charges	7			7			
Asset write-downs	70			70			
DISPOSITIONS:							
Severance payments	(34)		(34)				
Various payments	(7)			(7)			
Non-cash write-downs of assets	(70)			(70)			
Adjustments-net reversal to income	(3)	(3)					
BALANCE, DECEMBER 31, 1996	116	12	57	47 			
CHARGES: Severance	73				\$ 27	\$ 29	\$ 17
Vendor and warranty obligations	42				18		24
Transaction costs, including professional fees	. 4						4
Various charges	33				11	13	9
DISPOSITIONS:							
Severance payments	(88)		(57)		(24)		(7)
Vendor and warranty obligations	(16)				(16)		
Transaction cost payments	(2)						(2)
Various payments	(10)				(10)		
Adjustments-net reversal to income					4		(4)
BALANCE, DECEMBER 31, 1997	152	12		47 	10	42 	41
CHARGES:							
Severance Vendor and warranty	196						
obligations	17						
Grant Repayment	15						
Cash payment owed to buyer	20						
Various charges	7						
Asset write-downs	57						
DISPOSITIONS:							

Severance payments	(140)				(1)	(5)	(5)
Vendor and warranty obligations	(66)			(47)	(1)		(1)
Cash payment to buyer	(20)						
Transaction cost payments	(2)						(2)
Non-cash write-down of assets	(57)						
Adjustments-net reversal to income	(16)	(12)			8	(16)	(9)
BALANCE DECEMBER 31, 1998	\$ 163 =====	\$ ====	\$ ====	\$ ====	\$ 16 =====	\$ 21 ====	\$ 24 ====

payments

			1998	
Description*		C and Corp. ctions	Singapore and U.S. write-downs	SC operation closing & M&C sale of operation
BALANCE, DECEMBER 31, 19	995			
CHARGES: Severance				
Vendor and warranty obligations				
Various charges				
Asset write-downs				
DISPOSITIONS:				
Severance payments				
Various payments				
Non-cash write-downs of assets				
Adjustments-net reversal to income				
BALANCE, DECEMBER 31, 19	996			
CHARGES: Severance				
Vendor and warranty obligations				
Transaction costs, including professional fees				
Various charges				
DISPOSITIONS:				
Severance payments				
Vendor and warranty obligations				
Transaction cost payments				
Various payments				
Adjustments-net reversal to income				
BALANCE, DECEMBER 31, 19	997			
CHARGES: Severance	\$	161		\$ 35
Vendor and warranty obligations		17		
Grant Repayment				15
Cash payment owed to buyer				20
Various charges				7
Asset write-downs			\$ 55	2
DISPOSITIONS:				
Severance payments	(	110)		(19)
Vendor and warranty obligations		(17)		
Cash payment to buyer				(20)
Transaction cost				

Non-cash write-down of assets (55) (2) Adjustments-net 15\*\* reversal to income (2) BALANCE, DECEMBER 31, 1998 \$ 49 \$ --\$ 53 ===== ==== ====

### \*Abbreviations

SC = Semiconductor Business MCB

DIPD

= Mobile Computing Business
= Digital Imaging Printing Development Program
= Telecommunications Business TELE M&C = Materials and Controls Business

Corp. = Corporate Division

 $\ensuremath{^{**}}\textsc{Includes}$  the effect of an \$8 million reclassification of semiconductor-related grant repayment obligations from the "Balance, prior actions" column and an \$8 million reclassification of M&C-related liabilities, primarily for grant repayment obligations, from the "1997 M&C cost reduction action" column. These reclassifications did not affect  $\hbox{income.}\\$ 

#### BUSINESS SEGMENT AND GEOGRAPHIC AREA DATA

Texas Instruments develops, manufactures and sells a variety of products used in the commercial electronic and electrical equipment industry, primarily for industrial and consumer markets. The company's principal businesses are based on TI's broad semiconductor technology and application of this technology to digital solutions for the networked society.

TI HAS THREE PRINCIPAL BUSINESSES: Semiconductor, Materials & Controls and Educational & Productivity Solutions. Each of these is a business segment, with its respective financial performance detailed in this report.

Semiconductor consists of digital signal processors, analog chips, standard logic, application-specific integrated circuits, reduced instruction-set computing microprocessors and microcontrollers. These semiconductors are sold primarily to original-equipment manufacturers and through distributors.

Materials & Controls consists primarily of electrical and electronic control devices, electronic connectors and clad metals. They are sold primarily to original-equipment manufacturers and through distributors.

Educational & Productivity Solutions, which includes educational and graphing calculators, are marketed primarily through retailers and to schools through instructional dealers.

Operating profits of the three principal businesses include the effects of profit sharing and exclude the effects of special charges and gains. The results for semiconductor include the effects of all royalty revenues from semiconductor-related cross-license agreements. Business assets are the owned or allocated assets used by each business.

Included in corporate activities are general corporate expenses, elimination of intersegment transactions (which are generally intended to approximate market prices), results for TI's emerging digital imaging operation and royalty revenues from computer-related cross-license agreements. Assets of corporate activities include unallocated cash, short-term investments, noncurrent investments and deferred income taxes.

Divested activities include the historical operating results and assets of memory (sold in 1998), mobile computing and software (both sold in 1997), custom manufacturing services and printers (both sold in 1996) and other smaller divestitures.

# BUSINESS SEGMENT NET REVENUES

	Millions of Dollars			
	1998	1997	1996	
Semiconductor				
Trade	\$ 6,267	\$ 6,490	\$ 5,340	
Intersegment	23	24	45	
	6,290	6,514	5,385	
Materials & Controls				
Trade	943	950	887	
Intersegment	1	4	3	
	944	954	890	
Educational & Productivity Solutions				
Trade	456	447	422	
Corporate activities	140	154	91	
Divested activities	630	1,681	3,152	
Total	\$ 8,460	\$ 9,750	\$ 9,940	
	======	======	======	

# BUSINESS SEGMENT PROFIT (LOSS)

	Millions of Dollars			
	1998	1997	1996	
Semiconductor	\$1,439	\$1,546	\$1,012	
Materials & Controls	142	123	90	
Educational & Productivity Solutions	76	59	56	
Corporate activities	(235)	(273)	(312)	
Special charges and gains	(466)	(532)	(400)	
Interest on loans/other income (expense) net, excluding 1998 and 1997 net gains of	, ,	, ,	, ,	
\$59 million and \$66 million included above	159	32	3	
Divested activities	(498)	(242)	(472)	
<pre>Income (loss) from continuing operations before provision for income taxes</pre>				
and extraordinary item	\$ 617	\$ 713	\$ (23)	
	=====	=====	======	

# Details of special charges and gains are as follows:

	Mil	llions of Dol	llars
	1998	1997	1996
Severance/manufacturing efficiency program Closing of a semiconductor operation and sale of a materials & controls operation, of which \$(24) million was included in other	\$ (233)	\$	\$
income (expense) net	(72)		
Discontinuance of TI-Hitachi joint venture	(219)		
Sale of interest in TI-Acer joint venture	83		
Acquired in-process R&D charge Severance and other costs, primarily from the divestiture of mobile	(25)	(461)	(192)
<pre>computing Other income: gain on sale of three divested activities, primarily</pre>		(56)	
software Termination of Thailand joint venture		66	
agreements Severance and other costs, primarily for materials & controls cost		(44)	
reductions Asset write-downs and other costs,		(42)	
primarily mobile computing Severance costs for employment reductions, primarily for semiconductor and			(117)
divested activities			(91)
Other		5	'
Total	\$ (466) =====	\$ (532) =====	\$ (400) =====

# BUSINESS SEGMENT ASSETS

	Mi	llions of Do	llars
	1998	1997	1996
Semiconductor	\$ 4,710	\$ 4,798	\$ 4,763
Materials & Controls	397	391	380
Educational & Productivity Solutions	117	151	141
Corporate activities	5,932	4,309	2,197
Divested activities	94	1,200	1,350
Net assets of discontinued operations			529
Total	\$11,250	\$10,849	\$ 9,360
	======	======	======

# BUSINESS SEGMENT PROPERTY, PLANT AND EQUIPMENT

	Millions of Dollars					
Depreciation	1	998	1	L997	1	1996
Semiconductor	\$	913	\$	853	\$	655
Materials & Controls Educational & Productivity Solutions		47 1		46 1		41 
Corporate and other activities Divested activities		74 134		58 151		56 152
Total	\$ 1	,169	\$ 1	L,109	\$	904
	===	====	===	-====	===	====

	Millions of Dollars				
Additions	1998	1997	1996		
Semiconductor	\$ 731	\$ 858	\$ 1,633		
Materials & Controls	49	49	53		
Educational & Productivity Solutions	1	1			
Corporate activities	32	147	225		
Divested activities	218	183	152		
Total	\$ 1,031	\$ 1,238	\$ 2,063		
	======	======	======		

The following geographic area data include trade revenues, based on product shipment destination and royalty payor location, and property, plant and equipment based on physical location:

## GEOGRAPHIC AREA NET TRADE REVENUES

	Millions of Dollars			
	1998	1997	1996	
United States	\$ 2,722	\$ 3,216	\$ 3,548	
Japan	1,619	1,971	1,832	
Singapore	798	1,110	866	
Rest of world	3,321	3,453	3,694	
Total	\$ 8,460	\$ 9,750	\$ 9,940	
	======	======	======	

# GEOGRAPHIC AREA PROPERTY, PLANT AND EQUIPMENT (NET)

	Millions of Dollars			
	1998	1997	1996	
United States Japan	\$ 2,440 417	\$ 2,640 478	\$ 2,619 519	
Rest of world	516	1,062	1,024	
Total	\$ 3,373	\$ 4,180	\$ 4,162	

# INCOME TAXES

Income (Loss) from Continuing Operations before Provision for Income Taxes and Extraordinary Item  $\,$ 

	Millions of Dollars					
	U.S.	Non-U.S.	Total			
1998	\$ 201	\$ 416	\$ 617			
1997	93	620	713			
1996	(529)	506	(23)			

Mil	lions	٥f	Dol'	larc

	U.S. Federal	Non-U.S.	U.S. State	Total
1998 Current	\$ 4	\$ 263	\$ (7)	\$ 260
Deferred	(13)	(36)	(1)	(50)
Total	\$ (9)	\$ 227	\$ (8)	\$ 210
1997 Current	\$ 112	\$ 286	\$ 4	\$ 402
Deferred	51	(44)	2	9
Total	\$ 163	\$ 242	\$ 6	\$ 411
1996 Current	\$(125)	\$ 202	\$ (3)	\$ 74
Deferred	(44)	(6)	(1)	(51)
Total	\$(169)	\$ 196	\$ (4)	\$ 23
	=====	=====	=====	=====

 $\hbox{ Principal reconciling items from income tax computed at the statutory federal rate follow. } \\$ 

	Millions	of	Dol	lars
2	-	007		-

	1998	1997	1996
Computed tax at statutory rate	\$ 216	\$ 249	\$ (8)
Effect of acquired in-process R&D	4	161	67
Effect of non-U.S. rates	76	(11)	(3)
Research and experimentation tax credits	(20)	(30)	(11)
Effect of U.S. state income taxes	(14)	4	(3)
Effect of joint venture costs	(48)	31	12
0ther	(4)	7	(31)
Total provision for income taxes	\$ 210	\$ 411	\$ 23
	======	======	======

Included in the effect of non-U.S. rates for 1996 is a \$4 million benefit from tax loss carryforward utilization reduced by certain non-U.S. taxes and losses for which no benefit was recognized. Provision has been made for deferred taxes on undistributed earnings of non-U.S. subsidiaries to the extent that dividend payments from such companies are expected to result in additional tax liability. The remaining undistributed earnings (approximately \$620 million at December 31, 1998) have been indefinitely reinvested; therefore, no provision has been made for taxes due upon remittance of these earnings. Determination of the amount of unrecognized deferred tax liability on these unremitted earnings is not practicable.

The primary components of deferred income tax assets and liabilities at December 31 were as follows:

	Millions of	F Dollars
	1998	
Deferred income tax assets: Accrued retirement costs (pension and		
retiree health care) Inventories and related reserves Accrued expenses Loss and credit carryforwards	\$ 322 242 251 49	216
Other .	59  923	
Less valuation allowance		(121)
Deferred income tax liabilities:		
Investments Property, plant and equipment International earnings Other	(104) (19)	(5) (165) (38) (170)
	(525)	(378)
Net deferred income tax asset	\$ 225 =====	

As of December 31, 1998 and 1997, the net deferred income tax asset of \$225 million and \$423 million was presented in the balance sheet, based on tax jurisdiction, as deferred income tax assets of \$606 million and \$711 million and deferred income tax liabilities of \$381 million and \$288 million. The valuation allowance shown above reflects the company's ongoing assessment regarding the realizability of certain non-U.S. deferred income tax assets. The balance of the deferred income tax assets is considered realizable based on carryback potential, existing taxable temporary differences and expectation of future income levels comparable to recent results. Such future income levels are not assured because of the nature of the company's businesses, which are generally characterized by rapidly changing technology and intense competition.

The company has aggregate U.S. and non-U.S. tax loss carryforwards of approximately \$125 million. Of this amount, \$117 million expires through the year 2013, and \$8 million of the loss carryforwards has no expiration.

Income taxes paid were  $$162\ \text{million}$ ,  $$1145\ \text{million}$  and  $$240\ \text{million}$  for 1998, 1997 and 1996.

### RENTAL EXPENSE AND LEASE COMMITMENTS

Rental and lease expense was \$153 million in 1998, \$168 million in 1997 and \$175 million in 1996. The company conducts certain operations in leased facilities and also leases a portion of its data processing and other equipment. The lease agreements

frequently include purchase and renewal provisions and require the company to pay taxes, insurance and maintenance costs.

At December 31, 1998, the company was committed under noncancelable leases with minimum rentals in succeeding years as follows:

	Millions of Dollars
1999	\$ 86
2000	61
2001	34
2002	27
2003	26
Thereafter	129

#### **DIVESTITURES**

In the first quarter of 1998, TI's U.S. DRAM semiconductor manufacturing joint venture with Hitachi, Ltd. was discontinued as a result of a combination of severe price declines and overcapacity in the DRAM market. As part of this first quarter discontinuance, TI purchased the assets of the venture for approximately \$98 million. Also as part of this first quarter discontinuance, TI and Hitachi decided to assume and share equally in the payment of the venture's obligations. TI's share of those payments was \$219 million, which was paid and charged to cost of revenues in the first quarter.

In the second quarter of 1998, the company sold its interest in the TI-Acer DRAM manufacturing joint venture to Acer Corporation for \$120 million in cash. This sale resulted in a pretax gain of \$83 million. On September 30, 1998, TI sold its memory business, including its remaining DRAM manufacturing joint venture interests in TECH Semiconductor Singapore (TECH) and KTI Semiconductor in Japan to Micron Technology, Inc. (Micron). As a result, TI received 28,933,092 Micron common shares, a \$740 million note convertible into an additional 12,333,358 Micron common shares and a \$210 million subordinated note. The \$740 million face amount Micron convertible note contains an embedded call option that allows TI to convert the note, at any time prior to its 2005 maturity, into 12,333,358 Micron common shares, at an effective conversion price equal to \$60 per common share. The market value of the seven year, 6.5% convertible and subordinated notes was approximately \$836 million at closing, with an average imputed interest rate of 8.7%. In addition to TI's memory assets, Micron received \$550 million in cash from TI to facilitate the deployment of Micron's technology throughout the acquired business. In the fourth quarter of 1998, TI made an additional \$130 million payment to Micron as part of the contractually required working capital. TI deferred the estimated pretax gain of \$127 million on the sale until the recovery of the TI-provided financing. The deferred gain is subject to change to the extent actual transaction costs vary from estimates. In connection with the sale, TI agreed to guarantee the payment obligations of TECH under a newly syndicated \$450 million principal amount credit facility for debt maturing 2002. As of year-end 1998, TECH had borrowed \$240 million under the facility. As a result of the guarantee, TI was granted a security interest in TECH's assets. In addition, the guarantee is partially offset by certain contingent funding obligations of TECH's shareholders. In another matter, approximately \$300 million of grants from the Italian government to TI's former memory operations in Italy are being reviewed in the ordinary course by government auditors. TI understands that these auditors are questioning whether some of the grants were applied to purposes outside the scope of the grants. TI's deferred gain on the sale may be reduced to the extent that any grants are determined to have been misapplied. Also, TI understands that an Italian prosecutor is conducting a

criminal investigation concerning a portion of the grants relating to specified research and development activities. TI believes that the grants were obtained and used in compliance with applicable law and contractual obligations.

In July, 1997 the company sold its Defense Systems and Electronics business (DSE) to Raytheon Company for \$2.95 billion in cash. The net gain on sale of this discontinued operation, after income taxes of \$876 million, was \$1473 million. The consolidated financial statements of TI present the DSE operations as discontinued operations. Summarized results of discontinued operations prior to the close were as follows:

	Millions of Dollars		
	1997	1996	
Net revenues	\$ 812	\$1,773	
Income before provision for income taxes	84	175	
Provision for income taxes	32	66	
Income from discontinued operations	52	109	

TI provided various ongoing services to DSE including, but not limited to, facilities management, data processing, security, payroll and employee benefits administration, insurance administration and duplicating and telecommunications services. Their inclusion in discontinued operations was based upon TI's intercorporate allocation procedures for such services. The allocation basis of these expenses and all other central operating costs was first on the basis of direct usage when identifiable, with the remainder allocated among DSE and other TI businesses on the basis of their respective revenues, head count or other measures. These expenses allocated to DSE totaled \$76 million in 1997 and \$163 million in 1996. TI has agreements to receive payments from Raytheon for continuing to provide certain of these services on an ongoing basis and others on a transition basis to DSE.

Report of Ernst & Young LLP, Independent Auditors

The Board of Directors Texas Instruments Incorporated

We have audited the accompanying consolidated balance sheets of Texas Instruments Incorporated and subsidiaries (the Company) at December 31, 1998 and 1997, and the related consolidated statements of income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 1998. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Texas Instruments Incorporated and subsidiaries at December 31, 1998 and 1997, and the results of its operations and cash flows for each of the three years in the period ended December 31, 1998, in conformity with generally accepted accounting principles.

Ernst & Young LLP

Dallas, Texas January 19, 1999

# Summary of Selected Financial Data

Years Ended December 31,	1998		llions of 1996	1995	1994
Millions of Dollars Net revenues Operating costs and expenses	\$ 8,460 8,061	9,135	\$ 9,940 9,966	9,970	7,682
Profit (loss) from operations Other income (expense) net Interest on loans	399 293 75	615 192 94	(26)	1,439 79 48	926 6 45
Income (loss) from continuing operations before provision for income taxes and extraordinary					
item Provision for income taxes	210	411	(23) 23	474	295
Income (loss) from continuing operations before extraordinary item					
			\$ (46) ======		
Diluted earnings (loss) per common share from continuing operations	Ф 1 00	Ф 70	¢ ( 12)	ф 2.50	<b>.</b> 4 F.C
before extraordinary item			\$ (.12) ======		
Basic earnings (loss) per common share from continuing operations					
before extraordinary item			\$ (.12) ======		
Dividends declared per common share			\$ .34		\$ .235
Average common and dilutive potential common shares outstanding during year,					
in thousands	400,929		379,388		
As of December 31,	1998	1997	1996	1995	1994
Millions of Dollars					
Working capital Property, plant and	•	•	\$1,968	·	•
equipment (net)	3,373	4,180	4,162	2,894	2,277
Total assets Long-term debt	1,027	1,286	4,162 9,360 1,697 4,097	8,748 804	808
Stockholders' equity	6,527	5,914	4,097	4,095	3,039
Employees Stockholders of record		44,140 29,550	59,927	59,574 30,034	56,333 28,740

Quarterly Financial Data

	Millions of	Dollars,	Except Per-sha	re Amounts
1998	1st	2nd	3rd	4th
Net revenues	\$2,187	\$2,167	\$2,113	\$1,993
Gross profit	670	725	791	880
Profit (loss) from operations	(22)	(38)	189	270
Net income	\$ 11	\$ 52	\$ 155	\$ 189
Diluted earnings per common share	\$ .03	\$ .13	\$ .39	\$ .47
	=====	=====	=====	=====
Basic earnings per	\$ .03	\$ .13	\$ .40	\$ .48
common share	=====	=====	=====	=====

	Millions of	Dollars, Ex	cept Per-Sha	re Amounts
1997	1st	2nd	3rd	4th
Net revenues	\$2,263	\$2,559	\$2,500	\$2,428
Gross profit	791	962	982	948
Profit (loss) from operations	171	287	358	(201)
Income (loss) from continuing				,
operations before extraordinary				
item	102	224	239	(263)
Discontinued operations:				
Income from operations	27	25		
Gain on sale			1,473	
Extraordinary item				(22)
Net income (loss)	\$ 129	\$ 249	\$1,712	\$ (285)
	=====	=====	=====	=====
Diluted earnings (loss) per				
common share:				
Continuing operations	Φ 00	Φ 50	Φ 00	Φ ( 07)
before extraordinary item	\$ .26	\$ .56	\$ .60	\$ (.67)
Discontinued operations:	. 07	. 07		
Income from operations Gain on sale	.07	.07	3.68	
Extraordinary item			3.00	(.06)
Extraorumary Item				(.00)
Net income (loss)	\$ .33	\$ .63	\$ 4.28	\$ (.73)
Net income (1033)	=====	Ψ .00	======	Ψ (.75) ======
Basic earnings (loss) per common				
Continuing operations	Silai Ci			
before extraordinary item	\$ .27	\$ .58	\$ .62	\$ (.67)
Discontinued operations:	· ·-·	,		+ ()
Income from operations	.07	. 07		
Gain on sale			3.81	
Extraordinary item				(.06)
•				
Net income (loss)	\$ .34	\$ .65	\$ 4.43	\$ (.73)
• •	=====	=====	=====	======

At the request of the Securities and Exchange Commission, the results of operations for the second and third quarters of 1998 have been restated to reflect the shift of \$14 million of pretax manufacturing costs from the second quarter to the third quarter. The \$14 million, which was previously recorded as part of a \$55 million asset write-down in the second quarter, is now reflected as

accelerated depreciation in the third quarter for assets phased out in that quarter in connection with the winding down of production at a semiconductor manufacturing facility located in Singapore. This restatement increased net income and diluted earnings per share by \$9 million and \$0.02 in the second quarter, and decreased these items by the same amounts in the third quarter. The restatement had no impact on the Company's revenues or earnings for the year.

Results for the first quarter of 1998 include a pretax charge of \$219 million, included in cost of revenues, for discontinuance of the TI-Hitachi joint venture and a charge of \$25 million for the value of acquired research and development from two business acquisitions. The second quarter of 1998 includes a pretax operating charge of \$219 million for a severance/manufacturing efficiency program and a pretax gain of \$83 million for the company's sale of its interest in the TI-Acer joint venture. The third quarter of 1998 includes a pretax operating charge of \$14 million relating to the severance/manufacturing efficiency program implemented during the second quarter of 1998. Fourth-quarter 1998 results include a pretax operating charge of \$72 million, essentially all of which is for the disposition of two European operations. In the first quarter of 1997, the company took a pretax charge of \$56 million related to the sale of its mobile computing business and termination of its digital imaging printing development program. Results for the second quarter of 1997 include a pretax operating charge of \$44 million for the termination of agreements related to proposed Thailand joint ventures and a \$66 million pretax gain from the sale of three divested activities, principally software. Results for the third quarter of 1997 reflect the sale of TI's defense business, which was closed with Raytheon Company on July 11 for \$2.95 billion in cash. The net gain from this sale, after income taxes of \$876 million, was \$1473 million and was included in discontinued operations. As a result of the 1997 acquisition of Amati Communications Corporation, the company took a charge of \$461 million in the fourth quarter for the value of acquired in-process research and development. Also in the fourth quarter, the company took a pretax charge of \$42 million, primarily for severance costs related to cost-reduction actions by the materials & controls business. Diluted earnings (loss) per common share are based on average common and dilutive potential common shares outstanding (402,230,699 shares and 389,695,136 shares for the fourth quarters of 1998 and 1997).

#### PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K.

(a) 1 and 2. Financial Statements and Financial Statement Schedules:

The financial statements and financial statement schedules are listed in the index on page  $62\ hereof.$ 

3. Exhibits:

3(i)

## Designation Exhibit in this Report Description of Exhibit Restated Certificate of Incorporation of the Registrant 3(a) (incorporated by reference to Exhibit 3(a) to the Registrant's Annual Report on Form 10-K for the year 1993). Certificate of Amendment to Restated Certificate of 3(b) Incorporation of the Registrant (incorporated by reference to Exhibit 3(b) to the Registrant's Annual Report on Form 10-K for the year 1993). Certificate of Amendment to Restated Certificate of 3(c) Incorporation of the Registrant (incorporated by reference to Exhibit 3(c) to the Registrant's Annual Report on Form 10-K for the year 1993). 3(d) Certificate of Amendment to Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 1996). 3(e) Certificate of Ownership Merging Texas Instruments Automation Controls, Inc. into the Registrant (incorporated by reference to Exhibit 3(e) to the Registrant's Annual Report on Form 10-K for the year 1993). Certificate of Elimination of Designations of Preferred Stock 3(f) of the Registrant (incorporated by reference to Exhibit 3(f) to the Registrant's Annual Report on Form 10-K for the year 1993). 3(g) Certificate of Ownership and Merger Merging Tiburon Systems, Inc. into the Registrant (incorporated by reference to Exhibit 4(g) to the Registrant's Registration Statement No. 333-41919 on Form S-8). 3(h) Certificate of Ownership and Merger Merging Tartan, Inc. into the Registrant (incorporated by reference to Exhibit 4(h) to the Registrant's Registration Statement No. 333-41919 on Form S-8).

Certificate of Designation relating to the Registrant's

Participating Cumulative Preferred Stock (incorporated by reference to Exhibit 4(a) to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1998).

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Texas Instruments Executive Officer Performance Plan (incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 1997).

### (b) Reports on Form 8-K:

The Registrant filed the following reports on Form 8-K with the Securities and Exchange Commission during the quarter ended December 31, 1998: Form 8-K dated September 30, 1998, which included pro forma financial statements relating to the Registrant's sale of the memory business to Micron Technology, Inc.; Form 8-K dated October 1, 1998, relating to completion of the sale of the Registrant's memory business.

"Safe Harbor" Statement under the Private Securities Litigation Reform Act of 1995:

This Form 10-K/A includes "forward-looking statements" intended to qualify for the safe harbor from liability established by the Private Securities Litigation Reform Act of

1995. These forward-looking statements generally can be identified by phrases such as TI or its management "believes," "expects," "anticipates," "foresees," "forecasts," "estimates" or other words or phrases of similar import. Similarly, such statements herein that describe TI's business strategy, outlook, objectives, plans, intentions or goals also are forward-looking statements. All such forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those in forward-looking statements.

We urge you to carefully consider the following important factors that could cause actual results to differ materially from the expectations of  ${\tt TI}$  or its management:

- - Market demand for semiconductors, particularly for digital signal processors and analog integrated circuits in key markets, such as telecommunications and computers.
- - TI's ability to develop, manufacture and market innovative products in a rapidly changing technological environment.
- - TI's ability to compete in products and prices in an intensely competitive industry.
- - TI's ability to maintain and enforce a strong intellectual property portfolio and obtain needed licenses from third parties.
- Timely completion by customers and suppliers of their Year 2000 programs, as well as accurate assessment of TI's Year 2000 readiness and effective implementation of corrective actions.
- - Timely completion of announced acquisitions.
- Global economic, social and political conditions in the countries in which TI and its customers and suppliers operate, including fluctuations in foreign currency exchange rates.
- - Losses or curtailments of purchases from key customers or the timing of customer inventory corrections.
- - TI's ability to recruit and retain skilled personnel.
- - Availability of raw materials and critical manufacturing equipment.
- - Realization of savings from announced worldwide corporate restructuring efforts and consolidation of manufacturing operations.

For a more detailed discussion of these factors see the text under the heading "Cautionary Statements Regarding Future Operations" in Item 1 of this Form 10-K as originally filed. The forward-looking statements included in this Form 10-K/A are made only as of the date of this Form 10-K/A and TI undertakes no obligation to publicly update the forward-looking statements to reflect subsequent events or circumstances.

Pursuant to the requirements of Rule 12b-15 of the Securities Exchange Act of 1934, the registrant has duly caused this amendment to be signed on its behalf by the undersigned, thereunto duly authorized, on August 6, 1999.

TEXAS INSTRUMENTS INCORPORATED

By: /s/ WILLIAM A. AYLESWORTH

William A. Aylesworth Senior Vice President Treasurer and Chief Financial Officer

### TEXAS INSTRUMENTS INCORPORATED AND SUBSIDIARIES

### INDEX TO FINANCIAL STATEMENTS AND FINANCIAL STATEMENT SCHEDULES

(Item 14(a))

## Page Reference

	rage Reference	
	Form 10-K	Annual Report to Stockholders
mation incorporated by reference e Registrant's 1998 Annual Report ockholders:		
lidated Financial Statements:		
Income for each of the three years in the period ended December 31, 1998	18	
Balance sheet at December 31, 1998 and 1997	19	
Cash flows for each of the three years in the period ended December 31, 1998	20-21	
Stockholders' equity for each of the three years in the period ended December 31, 1998	22	
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Consolidated Schedule for each of the three years in the period ended December 31, 1998:

Information incorporated by reference to the Registrant's 1998 Annual Report

Consolidated Financial Statements:

to Stockholders:

II. Allowance for Losses and Cash-Related Special Charges 63

All other schedules have been omitted since the required information is not present or not present in amounts sufficient to require submission of the schedule, or because the information required is included in the consolidated financial statements or the notes thereto.

# TEXAS INSTRUMENTS INCORPORATED AND SUBSIDIARIES ALLOWANCE FOR LOSSES AND CASH-RELATED SPECIAL CHARGES (IN MILLIONS OF DOLLARS) Years Ended December 31, 1998, 1997, 1996

Description	Balance at Beginning of Year	Additions Charged to Costs and Expenses	Usage	Adjustments	Balance at End of Year
Allowance for losses:					
1998	\$ 73	\$101	\$ (77)		\$ 97
1997	\$ 90	\$133	\$(150)		\$ 73
1996	\$ 45	\$163	\$(118)		\$ 90

Note: Allowance for losses from uncollectible accounts, returns, etc., are deducted from accounts receivable in the balance sheet.

Cash-related special charges:

1998	\$148	\$255	\$(228)	\$(20)	\$155
1997	\$116	\$152	\$(116)	\$ (4)	\$148
1996	\$15	\$145	\$ (41)	\$ (3)	\$116

Note: Adjustments are to reflect changes in estimated costs and are either reversals to income or increases in expense.

Cash-related activity for special charges is included in the above schedule. See analysis in the Restructuring Actions note to the financial statements for non-cash, as well as cash-related, activities for special charges.

# EXHIBIT INDEX

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Texas Instruments Executive Officer Performance Plan (incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 1997).

#### CONSENT OF INDEPENDENT AUDITORS

We consent to the use of our report dated January 19, 1999, with respect to the consolidated financial statements of Texas Instruments Incorporated included in the 1998 Annual Report on Form 10-K/A (Amendment No. 1) for the year ended December 31, 1998.

Our audit also included the financial statement schedule of Texas Instruments Incorporated listed in Item 14(a). This schedule is the responsibility of the Registrant's management. Our responsibility is to express an opinion based on our audit. In our opinion, the financial statement schedule referred to above, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

We also consent to the incorporation by reference in the following registration statements, and in the related prospectuses thereto, of our report dated January 19, 1999 with respect to the consolidated financial statements and schedule of Texas Instruments Incorporated, included in the Annual Report (Form 10-K, as amended by Form 10-K/A (Amendment No. 1)) for the year ended December 31, 1998: Registration Statements (Form S-8) No. 33-61154, No. 33-21407 (as amended), No. 33-42172, No. 33-54615, No. 333-07127, No. 333-41913, No. 333-41919, No. 333-31319, No. 333-31321, No. 333-31323 and No. 333-48389, and Registration Statement (Form S-3) No. 333-03571.

ERNST & YOUNG LLP

Dallas, Texas August 5, 1999