Texas Instruments

2018 Annual Report

Notice of 2019 Annual Meeting and Proxy Statement

Texas Instruments

> In 2018, our business model continued to produce strong results, even as the year ended with a semiconductor market slowdown. For the year, we increased revenue 6% and grew free cash flow to $6.1 billion, or 38.4% of revenue. Long term, our strategy is to focus on the best products, analog and embedded processing; the best markets, industrial and automotive; and to develop closer relationships with our customers. We continue to invest in our unique competitive advantages of manufacturing and technology, product breadth, market channel reach, and diversity and longevity of our product, market and customer positions. As we work to strengthen our competitive advantages and make TI even stronger, we remain focused on increasing long-term free cash flow per share, while maintaining our commitment to conducting business with a focus on sustainability and adherence to the high ethical standards that are foundational to our culture.

Rich Templeton
Chairman, president and CEO

OPERATING HIGHLIGHTS

(Millions of dollars, except per-share amounts)

Income statements	2018	2017
Revenue	$ 15,784	$ 14,961
Gross profit	10,277	9,614
Operating expenses	3,243	3,202
Operating profit	6,713	6,083
Net income	5,580	3,682
Earnings per share (diluted)	$ 5.59	$ 3.61

Cash flows statements	2018	2017
Cash flow from operations (GAAP)	$ 7,189	$ 5,363
Capital expenditures	1,131	695
Free cash flow (non-GAAP)	$ 6,058	$ 4,668

Shareholder returns	2018	2017
Dividends paid	$ 2,555	$ 2,104
Stock repurchases	5,100	2,556
Total cash returned	$ 7,655	$ 4,660

Note: Free cash flow (non-GAAP) = Cash flow from operations less capital expenditures. See page 20 for reconciliation.

8%

ANALOG & EMBEDDED 5- & 10-YEAR CAGR

Driving top-line growth, now 91% of TI revenue

30%

FREE CASH FLOW GROWTH

Reflecting the ongoing strength of our business model

$7.7B

RETURNED TO SHAREHOLDERS

Demonstrating our commitment to return cash to shareholders

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
for the fiscal year ended December 31, 2018
OR
☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
for the transition period from __________ to __________
Commission File Number 1-3761

TEXAS INSTRUMENTS INCORPORATED
(Exact name of Registrant as specified in its charter)

Delaware	**75-0289970**
(State of Incorporation)	(I.R.S. Employer Identification No.)
12500 TI Boulevard, Dallas, Texas	**75243**
(Address of Principal Executive Offices)	(Zip Code)

Registrant's Telephone Number, Including Area Code: 214-479-3773
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	**The Nasdaq Global Select Market**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ☒ No ☐

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes ☐ No ☒

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 ☒ No ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) 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. ☒

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐
Emerging growth company ☐

If an emerging growth company, indicate by check mark if the Registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of voting stock held by non-affiliates of the Registrant was approximately $107,359,133,537 as of June 30, 2018.

938,484,603 (Number of shares of common stock outstanding as of February 18, 2019)

Part III hereof incorporates information by reference to the Registrant's proxy statement for the 2019 annual meeting of stockholders.

PART I

ITEM 1. Business.

We design and make semiconductors that we sell to electronics designers and manufacturers all over the world. We began operations in 1930. We are incorporated in Delaware, headquartered in Dallas, Texas, and have design, manufacturing or sales operations in more than 30 countries. We have two reportable segments: Analog and Embedded Processing. We report the results of our remaining business activities in Other. In 2018, we generated $15.78 billion of revenue.

Our business model is designed around four sustainable competitive advantages that we believe, in combination, put us in a unique class of companies. These advantages include (1) a strong foundation of manufacturing and technology, (2) a broad portfolio of differentiated analog and embedded processing products, (3) the broadest reach of market channels and (4) diversity and longevity of our products, markets and customer positions. Our strategic focus, and where we invest the majority of our resources, is on Analog and Embedded Processing, with a particular emphasis on designing and selling those products into the industrial and automotive markets, which we believe represent the best growth opportunities. Analog and embedded processing products sold into industrial and automotive markets provide long product life cycles, intrinsic diversity and less capital-intensive manufacturing, which we believe offer stability, profitability and strong cash generation. This business model is the foundation of our capital management strategy, which is based on our belief that free cash flow growth, especially on a per-share basis, is important for maximizing shareholder value over the long term. We also believe that free cash flow will be valued only if it is productively invested in the business or returned to shareholders. Free cash flow is cash flow from operations less capital expenditures.

The combined effect of these sustainable competitive advantages is that over time we have gained market share in Analog and Embedded Processing and have grown and returned free cash flow. TI's business model puts us in a unique class of companies with the ability to grow, generate cash and return that cash to shareholders.

Product information

Semiconductors are electronic components that serve as the building blocks inside modern electronic systems and equipment. Semiconductors, generally known as "chips," combine multiple transistors to form a complete electronic circuit. We have tens of thousands of products that are used to accomplish many different things, such as converting and amplifying signals, interfacing with other devices, managing and distributing power, processing data, canceling noise and improving signal resolution. This broad portfolio includes products that are integral to almost all electronic equipment.

Our segments represent groups of similar products that are combined on the basis of similar design and development requirements, product characteristics, manufacturing processes and distribution channels. Our segments also reflect how management allocates resources and measures results.

Analog

Our Analog segment generated $10.80 billion of revenue in 2018. Analog semiconductors change real-world signals, such as sound, temperature, pressure or images, by conditioning them, amplifying them and often converting them to a stream of digital data that can be processed by other semiconductors, such as embedded processors. Analog semiconductors also are used to manage power in all electronic equipment by converting, distributing, storing, discharging, isolating and measuring electrical energy, whether the equipment is plugged into a wall or running off a battery. Our Analog products are used in many markets, particularly industrial, automotive and personal electronics.

Sales of our Analog products generated about 68 percent of our revenue in 2018. According to external sources, the market for analog semiconductors was about $59 billion in 2018. Our Analog segment's revenue in 2018 was about 18 percent of this fragmented market, the leading position. We believe we are well positioned to increase our market share over time.

Our Analog segment includes the following major product lines: Power, Signal Chain and High Volume.

Power

Power includes products that help customers manage power in electronic systems. Our broad portfolio is designed to manage power requirements across different voltage levels using battery management solutions, portable components, power supply controls, point-of-load products, switches and interfaces, integrated protection devices, high-voltage products, and mobile lighting and display products.

Signal Chain

Signal Chain includes products that sense, condition and measure real-world signals to allow information to be transferred or converted for further processing and control. Our Signal Chain products, which serve a variety of end markets, include amplifiers, data converters, interface products, motor drives, clocks and sensing products.

High Volume

High Volume includes integrated analog and standard products that are primarily sold into markets such as personal electronics, industrial and automotive. These products support applications like displays and automotive safety systems.

Embedded Processing

Our Embedded Processing segment generated $3.55 billion of revenue in 2018. Embedded Processing products are the “brains” of many types of electronic equipment. Embedded processors are designed to handle specific tasks and can be optimized for various combinations of performance, power and cost, depending on the application. Our devices vary from simple, low-cost microcontrollers used in applications such as electric toothbrushes to highly specialized, complex devices used in automotive applications such as infotainment systems and advanced driver assistance systems (ADAS). Our Embedded Processing products are used in many markets, particularly industrial and automotive.

An important characteristic of our Embedded Processing products is that our customers often invest their own research and development (R&D) to write software that operates on our products. This investment tends to increase the length of our customer relationships because many customers prefer to re-use software from one product generation to the next.

Sales of Embedded Processing products generated about 23 percent of our revenue in 2018. According to external sources, the market for embedded processors was about $21 billion in 2018. Our Embedded Processing segment’s revenue in 2018 was about 18 percent of this fragmented market, among the leaders. We believe we are well positioned to increase our market share over time.

Our Embedded Processing segment includes the following major product lines: Connected Microcontrollers and Processors.

Connected Microcontrollers

Connected Microcontrollers includes microcontrollers, microcontrollers with integrated wireless capabilities and stand-alone wireless connectivity solutions. Microcontrollers are self-contained systems with a processor core, memory and peripherals that are designed to control a set of specific tasks for electronic equipment. Microcontrollers tend to have minimal requirements for memory, program length and software complexity. Our products are used in a wide range of applications and incorporate both wired and wireless communication with integrated analog functions to enable electronic equipment to sense, connect, log and transfer data.

Processors

Processors includes digital signal processors (DSPs) and applications processors. DSPs perform mathematical computations almost instantaneously to process or improve digital data. Applications processors are designed for specific computing activity.

Other

We report the results of our remaining business activities in Other, which includes operating segments that do not meet the quantitative thresholds for individually reportable segments and cannot be aggregated with other operating segments. Other generated $1.43 billion of revenue in 2018 and includes revenue from DLP® products (primarily used in projectors to create high-definition images), calculators and certain custom semiconductors known as application-specific integrated circuits (ASICs).

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In Other, we also include items that are not used in evaluating the results of or in allocating resources to our segments. Examples of these items include acquisition charges; restructuring charges; and certain corporate-level items, such as litigation expenses, environmental costs, insurance settlements, and gains and losses from other activities, including asset dispositions.

Markets for our products

The table below lists the major markets for our products in 2018 and the estimated percentage of our 2018 revenue that the market represented. The chart also lists, in declining order of our revenue, the sectors within each market.

Market	Sector
Industrial (36% of TI revenue)	Factory automation & control Building automation Grid infrastructure Medical Test & measurement Aerospace & defense Appliances Motor drives Pro audio, video & signage Power delivery Electronic point of sale (EPOS) Industrial transport Lighting
Automotive (20% of TI revenue)	Infotainment & cluster Advanced driver assistance systems (ADAS) Passive safety Hybrid, electric & powertrain systems Body electronics & lighting
Personal electronics (23% of TI revenue)	Mobile phones PC & notebooks Portable electronics Connected peripherals & printers Tablets Data storage Home theatre & entertainment TV Wearables (non-medical) Gaming
Communications equipment (11% of TI revenue)	Wireless infrastructure Wired networking Broadband fixed line access Datacom module
Enterprise systems (7% of TI revenue)	Enterprise projectors Data center & enterprise computing Enterprise machine
Other (calculators and other) (3% of TI revenue)	

Market characteristics

Competitive landscape

Despite recent consolidation, the analog and embedded processing markets remain highly fragmented. As a result, we face significant global competition from dozens of large and small companies, including both broad-based suppliers and niche suppliers. Our competitors also include emerging companies, particularly in Asia, that sell products into the same markets in which we operate.

We believe that competitive performance in the semiconductor market generally depends on several factors, including the breadth of a company's product line, the strength and depth of its channels to market, technological innovation, product development execution, technical support, customer service, quality, reliability, capacity and price. In addition, manufacturing process and package technologies that provide differentiated levels of performance are a competitive factor for our Analog products and customers' prior investments in software development is a competitive factor for our Embedded Processing products.

Product cycle

The global semiconductor market is characterized by constant, though generally incremental, advances in product designs and manufacturing processes. Semiconductor prices and manufacturing costs tend to decline over time as manufacturing processes and product life cycles mature.

Market cycle

The "semiconductor cycle" refers to the ebb and flow of supply and demand and the building and depleting of inventories. The semiconductor market historically has been characterized by periods of tight supply caused by strengthening demand and/or insufficient manufacturing capacity, followed by periods of surplus inventory caused by weakening demand and/or excess manufacturing capacity. These are typically referred to as upturns and downturns in the semiconductor cycle. The semiconductor cycle could be affected by the significant time and money required to build and maintain semiconductor manufacturing facilities.

We employ several strategies to dampen the effect of the semiconductor cycle on TI. We plan manufacturing facility and equipment expansion ahead of demand. We focus our resources on our Analog and Embedded Processing segments, which serve diverse markets and diverse customers. This diversity reduces our dependence on the performance of a single market or small group of customers. Additionally, we utilize consignment inventory programs with our customers and distributors that give us improved insight into customer demand.

Seasonality

Our revenue is subject to some seasonal variation. Historically, our sequential revenue growth rate tends to be weaker in the first and fourth quarters when compared with the second and third quarters.

Customers, sales and distribution

We sell our products to about 100,000 customers. Our customer base is diverse, with more than one-third of our revenue derived from customers outside our largest 100.

We market and sell our products through direct sales channels, including our broad sales force and our website, and through distributors. About 65 percent of our sales are fulfilled through our distributors, and they maintain inventory of our products.

In order to provide high service levels for our customers, over the last several years we have been investing to have a closer direct relationship with a large, diverse customer base. Our investments in new and improved capabilities include website and e-commerce enhancements for demand creation as well as inventory consignment programs and order fulfillment services.

Manufacturing

Semiconductor manufacturing begins with a sequence of photolithographic and chemical processing steps that fabricate a number of semiconductor devices on a thin silicon wafer. Each device on the wafer is packaged and tested. The entire process takes place in highly specialized facilities, with most products requiring 6 to 14 weeks for completion.

We own and operate semiconductor manufacturing facilities in North America, Asia, Japan and Europe. These include both wafer fabrication and assembly/test facilities. Our facilities require substantial investment to construct and are largely fixed-cost assets once in operation.

We invest in manufacturing technologies and do most of our manufacturing in-house. This strategic decision to directly control our manufacturing helps ensure a consistent supply of products for our customers and also allows us to invest in technology that differentiates the features of our products. We have focused on creating a competitive manufacturing cost advantage by investing in our advanced analog 300-millimeter capacity, which has about a 40 percent cost advantage per unpackaged chip over 200-millimeter. To strengthen this advantage, we are planning our next phase of 300-millimeter capacity expansion as 300-millimeter wafers will continue to support the majority of our Analog growth.

We expect to continue to maintain sufficient internal manufacturing capacity to meet the vast majority of our production needs, and to obtain manufacturing equipment to support new technology developments and revenue growth. To supplement our manufacturing capacity and maximize our responsiveness to customer demand, we use the capacity of outside suppliers, commonly known as foundries, and subcontractors. In 2018, we sourced about 20 percent of our total wafers from external foundries and about 40 percent of our assembly/test services from subcontractors.

Inventory

Our long-term inventory strategy is to maintain high levels of customer service and stable lead times, minimize inventory obsolescence and improve manufacturing asset utilization. To capitalize on manufacturing efficiencies, we build in advance of demand low-volume, long-lived devices with a broad customer base and a low risk of obsolescence. Additionally, we sometimes maintain product inventory in unfinished wafer form to allow greater flexibility in periods of high demand. Further, we have improved insight into demand and are better able to manage our factory loadings because over time we have increased consignment inventory programs with our customers and distributors. About 65 percent of TI revenue is fulfilled from consignment programs. Our strategy and expected customer demand will cause our inventory levels to fluctuate over time.

Longer term, we expect to carry more inventory than we have in the past as we move towards higher consignment levels and more long-lived, low-volume devices to serve industrial customers, a growing portion of our business.

Backlog

We define backlog as of a particular date as purchase orders with a customer-requested delivery date within a specified length of time. Our backlog at any particular date may not be indicative of revenue for any future period. As customer requirements and industry conditions change, orders may be subject to cancellation or modification of terms such as pricing, quantity or delivery date. Customer order placement practices continually evolve based on customers' individual business needs and capabilities, as well as industry supply and capacity considerations. Further, our consignment programs do not result in backlog because the order occurs at the same time as delivery, i.e., when the customer pulls the product from consigned inventory. Our backlog of orders was $1.45 billion at December 31, 2018, and $1.32 billion at December 31, 2017.

Raw materials

We purchase materials, parts and supplies from a number of suppliers. In some cases we purchase such items from sole-source suppliers. The materials, parts and supplies essential to our business are generally available at present, and we believe that such materials, parts and supplies will be available in the foreseeable future.

Intellectual property

We own many patents, and have many patent applications pending, in the United States and other countries in fields relating to our business. We have developed a strong, broad-based patent portfolio and continually add patents to that portfolio. We also have license agreements, which vary in duration, involving rights to our portfolio or those of other companies. We do not consider our business materially dependent upon any one patent or patent license.

We often participate in industry initiatives to set technical standards. Our competitors may participate in the same initiatives. Participation in these initiatives may require us to license certain of our patents to other companies on reasonable and non-discriminatory terms.

We own trademarks that are used in the conduct of our business. These trademarks are valuable assets, the most important of which are "Texas Instruments" and our corporate monogram.

Executive officers of the Registrant

The following is an alphabetical list of the names and ages of the executive officers of the company and the positions or offices with the company held by each person named:

Name	Age	Position
Niels Anderskouv	49	Senior Vice President
Ahmad S. Bahai	56	Senior Vice President
Ellen L. Barker	56	Senior Vice President and Chief Information Officer
R. Gregory Delagi	56	Senior Vice President
Kyle M. Flessner	48	Senior Vice President
Haviv Ilan	50	Senior Vice President
Hagop H. Kozanian	36	Senior Vice President
Rafael R. Lizardi	46	Senior Vice President, Chief Financial Officer and Chief Accounting Officer
Richard K. Templeton	60	Director, Chairman of the Board, President and Chief Executive Officer
Cynthia Hoff Trochu	55	Senior Vice President, Secretary and General Counsel
Julie M. Van Haren	50	Senior Vice President
Darla H. Whitaker	53	Senior Vice President
Bing Xie	51	Senior Vice President

The term of office of these officers is from the date of their election until their successor shall have been elected and qualified. All have been employees of the company for more than five years. Messrs. Delagi and Templeton and Ms. Whitaker have served as executive officers of the company for more than five years. Ms. Trochu and Mr. Xie became executive officers of the company in 2015. Messrs. Anderskouv, Ilan and Lizardi and Mses. Barker and Van Haren became executive officers of the company in 2017. Messrs. Bahai, Flessner and Kozanian became executive officers of the company in 2018. Mr. Anderskouv was previously an executive officer of the company from 2012 to 2014.

Employees

At December 31, 2018, we had 29,888 employees.

Available information

Our internet address is www.ti.com. Information on our website is not part of this report. We make available free of charge through our Investor Relations website our reports on Forms 10-K, 10-Q and 8-K, and amendments to those reports, as soon as reasonably practicable after they are filed with the SEC. Also available through the TI Investor Relations website are reports filed by our directors and executive officers on Forms 3, 4 and 5, and amendments to those reports.

Available on our website at www.ti.com/corporategovernance are: (i) our Corporate Governance Guidelines; (ii) charters for the Audit, Compensation, and Governance and Stockholder Relations Committees of our board of directors; (iii) our Code of Conduct; and (iv) our Code of Ethics for TI Chief Executive Officer and Senior Finance Officers. Stockholders may request copies of these documents free of charge by writing to Texas Instruments Incorporated, P.O. Box 660199, MS 8657, Dallas, Texas, 75266-0199, Attention: Investor Relations.

ITEM 1A. Risk Factors.

You should read the following risk factors in conjunction with the factors discussed elsewhere in this and other of our filings with the Securities and Exchange Commission (SEC) and in materials incorporated by reference into these filings. These risk factors are intended to highlight certain factors that may affect our financial condition and results of operations and are not meant to be an exhaustive discussion of risks that apply to TI, a company with broad international operations. Like other companies, we are susceptible to any potential downturn associated with increasing protectionism, trade tensions and macroeconomic weakness, including any potential downturn associated with the pending withdrawal of the United Kingdom from the European Union.

These may affect the general economic climate and our performance and the performance of our customers. Similarly, the price of our securities is subject to volatility due to fluctuations in general market conditions, actual financial results that do not meet our and/or the investment community's expectations, changes in our and/or the investment community's expectations for our future results, dividends or share repurchases, and other factors, many of which are beyond our control.

We face substantial competition that requires us to respond rapidly to product development and pricing pressures.

We face intense technological and pricing competition in the markets in which we operate. We expect this competition will continue to increase from large competitors and from small competitors serving niche markets, and also from emerging companies, particularly in Asia, that sell products into the same markets in which we operate. For example, we may face increased competition as a result of China actively promoting and reshaping its domestic semiconductor industry through policy changes and investment. These actions may restrict us from participating in the China market or may prevent us from competing effectively with Chinese companies. Certain competitors possess sufficient financial, technical and management resources to develop and market products that may compete favorably against our products, and consolidation among our competitors may allow them to compete more effectively. Additionally, traditional intellectual property licensors are increasingly providing functionality, designs and complete hardware or software solutions that compete with our products. The price and product development pressures that result from competition may lead to reduced profit margins and lost business opportunities in the event that we are unable to match the price declines or cost efficiencies, or meet the technological, product, support, software or manufacturing advancements of our competitors.

Changes in expected demand for our products could have a material adverse effect on our results of operations.

Our customers include companies in a wide range of end markets and sectors within those markets. If demand in one or more sectors within our end markets declines or the rate of growth slows, our results of operations may be adversely affected. The cyclical nature of the semiconductor market may lead to significant and rapid increases and decreases in product demand. Additionally, the loss or significant curtailment of purchases by one or more of our large customers, including curtailments due to a change in the design or manufacturing sourcing policies or practices of these customers, or the timing of customer or distributor inventory adjustments, may adversely affect our results of operations and financial condition.

Our results of operations also might suffer because of a general decline in customer demand resulting from, for example: uncertainty regarding the stability of global credit and financial markets; natural events or domestic or international political, social, economic or other conditions; breaches of customer information technology systems that disrupt customer operations; or a customer's inability to access credit markets and other sources of needed liquidity.

Our ability to match inventory and production with the product mix needed to fill orders may affect our ability to meet a quarter's revenue forecast. In addition, when responding to customers' requests for shorter shipment lead times, we manufacture products based on forecasts of customers' demands. These forecasts are based on multiple assumptions. If we inaccurately forecast customer demand, we may hold inadequate, excess or obsolete inventory that would reduce our profit margins and adversely affect our results of operations and financial condition.

Our global operations subject us to risks associated with domestic or international political, social, economic or other conditions.

We have facilities in more than 30 countries. About 85 percent of our revenue comes from shipments to locations outside the United States; in particular, shipments of products into China typically represent a large portion of our revenue. We are exposed to political, social and economic conditions, security risks, terrorism or other hostile acts, health conditions, labor conditions, and possible disruptions in transportation, communications and information technology networks of the various countries in which we operate. Additionally, certain countries where we operate have experienced, and other countries may experience, increasing protectionism that may impact global trade, including tariffs, import or export restrictions, trade embargoes and sanctions, restrictions on cross-border investment and other trade barriers. This could result in an adverse effect on our operations and our financial results. In addition, our global operations expose us to periods when the U.S. dollar significantly fluctuates in relation to the non-U.S. currencies in which we transact business. The remeasurement of non-U.S. dollar transactions can have an adverse effect on our results of operations and financial condition.

Our operating results and our reputation could be adversely affected by breaches or disruptions of information technology systems.

Breaches or disruptions of our information technology systems or the systems of our customers, vendors and other third parties could be caused by factors such as computer viruses, system failures, restricted network access, unauthorized access, terrorism, employee malfeasance, or human error. These events could, among other things, compromise our information technology networks; result in corrupt or lost data or the unauthorized release of our, our customers' or our suppliers' confidential or proprietary information; cause a disruption to our manufacturing and other operations; result in the release of personal data; or cause us to incur costs associated with increased protection, remediation, regulatory inquiries or penalties, any of which could adversely affect our operating results and our reputation. Cybersecurity threats are frequent and constantly evolving, thereby increasing the difficulty of defending against them.

Our results of operations could be affected by natural events in the locations in which we operate.

We have manufacturing, data and design facilities and other operations in locations subject to natural occurrences such as severe weather, geological events or health epidemics that could disrupt operations. A natural disaster that results in a prolonged disruption to our operations may adversely affect our results and financial condition.

Rapid technological change in markets we serve requires us to develop new technologies and products.

Rapid technological change in markets we serve could contribute to shortened product life cycles and a decline in average selling prices of our products. Our results of operations depend in part upon our ability to successfully develop, manufacture and market innovative products in a timely manner. We make significant investments in research and development to improve existing technology and products, develop new products to meet changing customer demands, and improve our production processes. In some cases, we might not realize a return or the expected return on our investments because they are generally made before commercial viability can be assured. Further, projects that are commercially viable may not contribute to our operating results until at least a few years after they are completed.

We face supply chain and manufacturing risks.

We rely on third parties to supply us with goods and services in a cost-effective and timely manner. Our access to needed goods and services may be adversely affected by potential disputes with suppliers or disruptions in our suppliers' operations as a result of, for example: quality excursions; uncertainty regarding the stability of global credit and financial markets; domestic or international political, social, economic and other conditions; natural events in the locations in which our suppliers operate; or limited or delayed access to key raw materials, natural resources and utilities. Additionally, a breach of our suppliers' information technology systems could result in a release of our confidential or proprietary information. If our suppliers are unable to access credit markets and other sources of needed liquidity, we may be unable to obtain needed supplies, collect accounts receivable or access needed technology.

In particular, our manufacturing processes and critical manufacturing equipment require that certain key raw materials, natural resources and utilities be available. Limited or delayed access to and high costs of these items could adversely affect our results of operations. Our products contain materials that are subject to conflict minerals reporting requirements. Our relationships with customers and suppliers may be adversely affected if we are unable to describe our products as conflict-free. Additionally, our costs may increase if one or more of our customers demand that we change the sourcing of materials we cannot identify as conflict-free.

Our inability to timely implement new manufacturing technologies or install manufacturing equipment could adversely affect our results of operations. We subcontract a portion of our wafer fabrication and assembly and testing of our products, and we depend on third parties to provide advanced logic manufacturing process technology development. We do not have long-term contracts with all of these suppliers, and the number of alternate suppliers is limited. Reliance on these suppliers involves risks, including possible shortages of capacity in periods of high demand, suppliers' inability to develop and deliver advanced logic manufacturing process technology in a timely, cost effective, and appropriate manner and the possibility of suppliers' imposition of increased costs on us.

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Our results of operations and our reputation could be affected by warranty claims, product liability claims, product recalls or legal proceedings.

Claims based on warranty, product liability, epidemic or delivery failures, or other grounds relating to our products, manufacturing, services, designs, communications or cybersecurity could lead to significant expenses as we defend the claims or pay damage awards or settlements. In the event of a claim, we may also incur costs if we decide to compensate the affected customer or end consumer. Any such claims may also cause us to write off the value of related inventory. We maintain product liability insurance, but there is no guarantee that such insurance will be available or adequate to protect against all such claims. In addition, it is possible for a customer to recall a product containing a TI part, for example, with respect to products used in automotive applications or handheld electronics, which may cause us to incur costs and expenses relating to the recall. Any of these events could adversely affect our results of operations, financial condition and reputation.

Our operations could be affected by the complex laws, rules and regulations to which our business is subject.

We are subject to complex laws, rules and regulations affecting our domestic and international operations relating to, for example, the environment, safety and health; exports and imports; bribery and corruption; tax; data privacy and protection; labor and employment; competition; market access; intellectual property ownership and infringement; and the movement of currency. Compliance with these laws, rules and regulations may be onerous and expensive and could restrict our ability to manufacture or ship our products and operate our business. If we fail to comply or if we become subject to enforcement activity, we could be subject to fines, penalties or other legal liability. Furthermore, should these laws, rules and regulations be amended or expanded, or new ones enacted, we could incur materially greater compliance costs or restrictions on our ability to manufacture our products and operate our business.

Some of these complex laws, rules and regulations – for example, those related to environmental, safety and health requirements – may particularly affect us in the jurisdictions in which we manufacture products, especially if such laws and regulations: require the use of abatement equipment beyond what we currently employ; require the addition or elimination of a raw material or process to or from our current manufacturing processes; or impose costs, fees or reporting requirements on the direct or indirect use of energy, natural resources, or materials or gases used or emitted into the environment in connection with the manufacture of our products. A substitute for a prohibited raw material or process might not be available, or might not be available at reasonable cost.

Our results of operations could be affected by changes in tax-related matters.

We have facilities in more than 30 countries and as a result are subject to taxation and audit by a number of taxing authorities. Tax rates vary among the jurisdictions in which we operate. If our tax rate increases, our results of operations could be adversely affected. A number of factors could cause our tax rate to increase, including a change in the jurisdictions in which our profits are earned and taxed; a change in the mix of profits from those jurisdictions; changes in available tax credits or deductions, including for amounts relating to stock compensation; changes in applicable tax rates; changes in tariff regulations or surcharges; changes in accounting principles; or adverse resolution of audits by taxing authorities. We have deferred tax assets on our balance sheet. Changes in applicable tax laws and regulations or in our business performance could affect our ability to realize those deferred tax assets, which could also affect our results of operations.

In addition, we are subject to laws and regulations in various jurisdictions that determine how much profit has been earned and when it is subject to taxation in that jurisdiction. These laws and regulations can be complex and subject to interpretation. Changes in these laws and regulations, including those that align with the Organisation for Economic Cooperation and Development's Base Erosion and Profit Shifting recommendations, could affect the locations where we are deemed to earn income, which could in turn affect our results of operations. Each quarter we forecast our tax expense based on our forecast of our performance for the year. If that performance forecast changes, our forecasted tax expense will change.

If in the future we repatriate any of our earnings represented by non-cash, operating assets such as inventory and fixed assets, we might incur incremental non-U.S. taxes, which could affect our results of operations.

Our results of operations and financial condition could be adversely affected if a customer or a distributor suffers a loss with respect to our inventory.

We have consignment inventory programs in place for some of our largest customers and distributors. If a customer or distributor were to experience a loss with respect to TI-consigned inventory, our results of operations and financial condition may be adversely affected if we do not recover the full value of the lost inventory from the customer, distributor or insurer, or if our recovery is delayed.

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Our results of operations could be adversely affected by our distributors' promotion of competing product lines or our distributors' financial performance.

In 2018, about 65 percent of our revenue was generated from sales of our products through distributors. Our distributors carry competing product lines, and our sales could be affected if our distributors promote competing products over our products. Moreover, our results of operations could be affected if our distributors suffer financial difficulties that result in their inability to pay amounts owed to us. Disputes with or the loss of significant distributors could be disruptive or harmful to our current business.

Our margins may vary over time.

Our profit margins may be adversely affected by a number of factors, including decreases in customer demand and shipment volume; obsolescence of our inventory; shifts in our product mix; changes in tariffs; changes in our manufacturing processes; and new accounting pronouncements or changes in existing accounting practices or standards. In addition, we operate in a highly competitive market environment that might adversely affect pricing for our products. Because we own much of our manufacturing capacity, a significant portion of our operating costs is fixed. In general, these fixed costs do not decline with reductions in customer demand or factory loadings, and can adversely affect profit margins as a result.

Our performance depends in part on our ability to enforce our intellectual property rights and to maintain freedom of operation.

Access to worldwide markets depends in part on the continued strength of our intellectual property portfolio in all jurisdictions where we conduct business. There can be no assurance that, as our business evolves, we will obtain the necessary intellectual property rights, or that we will be able to independently develop the technology, software or know-how necessary to conduct our business or that we can do so without infringing the intellectual property rights of others. To the extent that we have to rely on licensed technology from others, there can be no assurance that we will be able to obtain licenses at all or on terms we consider reasonable. We may, directly or indirectly, face infringement claims from third parties, including non-practicing entities that have acquired patents to pursue enforcement actions against other companies. We may also face infringement claims where we or our customers make, use or sell products and where the intellectual property laws may be less established or less predictable. These assertions, whether or not of any merit, could expose us to claims for damages and/or injunctions from third parties, as well as claims for indemnification by our customers in instances where we have a contractual or other legal obligation to indemnify them against damages resulting from infringement claims.

We actively enforce and protect our own intellectual property rights. However, our efforts cannot prevent all misappropriation or improper use of our protected technology and information, including, for example, third parties' use of our patented or copyrighted technology, or our trade secrets in their products without the right to do so, or third parties' sale of counterfeit products bearing our trademark. The risk of unfair copying or cloning may impede our ability to sell our products. The laws of countries where we operate may not protect our intellectual property rights to the same extent as U.S. laws.

Our debt could affect our operations and financial condition.

From time to time, we issue debt securities with various interest rates and maturities. While we believe we will have the ability to service this debt, our ability to make principal and interest payments when due depends upon our future performance, which will be subject to general economic conditions, industry cycles, and business and other factors affecting our operations, including our other risk factors, many of which are beyond our control. In addition, our obligation to make principal and interest payments could divert funds that otherwise would be invested in our operations or returned to shareholders, or could cause us to raise funds by, for example, issuing new debt or equity or selling assets.

Our results of operations and liquidity could be affected by changes in the financial markets.

We maintain bank accounts, one or more multi-year revolving credit agreements, and a portfolio of investments to support the financing needs of the company. Our ability to fund our operations, invest in our business, make strategic acquisitions, service our debt obligations and meet our cash return objectives depends upon continuous access to our bank and investment accounts, and may depend on access to our bank credit lines that support commercial paper borrowings and provide additional liquidity through short-term bank loans. If we are unable to access these accounts and credit lines (for example, due to instability in the financial markets), our results of operations and financial condition could be adversely affected and our ability to access the capital markets or redeem our investments could be restricted.

Increases in health care and pension benefit costs could affect our results of operations and financial condition.

Federal and state health care reform programs could increase our costs with regard to medical coverage of our employees, which could reduce profitability and affect our results of operations and financial condition. In addition, obligations related to our pension and other postretirement plans reflect assumptions that affect the planned funding and costs of these plans, including the actual return on plan assets, discount rates, plan participant population demographics and changes in pension regulations. Changes in these assumptions may affect plan funding, cash flow and results of operations, and our costs and funding obligations could increase significantly if our plans' actual experience differs from these assumptions.

Our continued success depends in part on our ability to retain and recruit a sufficient number of qualified employees in a competitive environment.

Our continued success depends in part on the retention and recruitment of skilled personnel, as well as the effective management of succession for key employees. Skilled and experienced personnel in our industry, including engineering, management, marketing, technical and staff personnel, are in high demand and competition for their talents is intense. There can be no assurance that we will be able to successfully retain and recruit the key engineering, management and technical personnel that we require to execute our business strategy. Our ability to recruit internationally or deploy employees to various locations may be limited by immigration laws.

Our ability to successfully implement business and organizational changes could affect our business plans and results of operations.

From time to time, we undertake business and organizational changes, including acquisitions, divestitures and restructuring actions, to support or carry out our strategic objectives. Our failure to successfully implement these changes could adversely affect our business plans and operating results. For example, we may not realize the expected benefits of an acquisition if we are unable to timely and successfully integrate acquired operations, product lines and technology, and our pre-acquisition due diligence may not identify all possible issues and risks that might arise with respect to an acquisition. Further, we may not achieve or sustain the expected growth or cost savings benefits of business and organizational changes, and restructuring charges could differ materially in amount and timing from our expectations.

Material impairments of our goodwill or intangible assets could adversely affect our results of operations.

We have a significant amount of goodwill and intangible assets on our consolidated balance sheet. Charges associated with impairments of goodwill or intangible assets could adversely affect our financial condition and results of operations.

ITEM 1B. Unresolved Staff Comments.

Not applicable.

ITEM 2. Properties.

Our principal executive offices are located at 12500 TI Boulevard, Dallas, Texas. The following table indicates the general location of our principal manufacturing and design operations and the reportable segments that make major use of them. Except as otherwise indicated, we own these facilities.

	Analog	Embedded Processing
Dallas, Texas	X	X
Houston, Texas		X
Sherman, Texas	X	
Tucson, Arizona *	X	
Santa Clara, California	X	
South Portland, Maine	X	
Chengdu, China †	X	X
Shanghai, China *	X	X
Freising, Germany	X	X
Bangalore, India †	X	X
Aizu, Japan	X	X
Miho, Japan	X	X
Kuala Lumpur, Malaysia †	X	X
Melaka, Malaysia †	X	
Aguascalientes, Mexico *	X	
Baguio, Philippines †	X	X
Pampanga (Clark), Philippines †	X	X
Greenock, Scotland #	X	
Taipei, Taiwan †	X	X

* Leased.

† Portions of the facilities are leased and owned. This may include land leases.

In February 2019, we entered into an agreement to sell our manufacturing facility in Greenock, Scotland. The sale is expected to close during the first quarter of 2019.

Our facilities in the United States contained approximately 13.0 million square feet at December 31, 2018, of which approximately 0.6 million square feet were leased. Our facilities outside the United States contained approximately 10.0 million square feet at December 31, 2018, of which approximately 1.5 million square feet were leased.

At the end of 2018, we occupied substantially all of the space in our facilities.

Leases covering our currently occupied leased facilities expire at varying dates, generally within the next five years. We believe our current properties are suitable and adequate for their intended purpose.

ITEM 3. Legal Proceedings.

We are involved in various inquiries and proceedings that arise in the ordinary course of our business. We believe that the amount of our liability, if any, will not have a material adverse effect upon our financial condition, results of operations or liquidity.

ITEM 4. Mine Safety Disclosures.

Not applicable.

PART II

ITEM 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

The information concerning the number of stockholders of record at December 31, 2018, is contained in Item 6, "Summary of Selected Financial Data."

TI common stock is quoted on The Nasdaq Global Select Market under the ticker symbol TXN. The following table contains information regarding our purchases of our common stock during the fourth quarter of 2018.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (a)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (a)
October 1, 2018 through October 31, 2018	10,869,754	$ 97.50	10,823,353	$ 17.10 billion
November 1, 2018 through November 30, 2018	5,992,830	95.44	5,992,830	16.53 billion
December 1, 2018 through December 31, 2018	4,062,116	93.96	4,062,116	16.14 billion
Total	20,924,700 (b)	$ 96.22 (b)	20,878,299	$ 16.14 billion (c)

(a) All open-market purchases during the quarter were made under the authorizations from our board of directors to purchase up to $7.5 billion and $6.0 billion of additional shares of TI common stock announced September 17, 2015 and September 21, 2017, respectively. On September 20, 2018, our board of directors authorized the purchase of an additional $12.0 billion of our common stock.

(b) In addition to open-market purchases, 46,401 shares of common stock were surrendered by employees to satisfy tax withholding obligations in connection with the vesting of restricted stock units.

(c) As of December 31, 2018, this amount consisted of the remaining portion of the $6.0 billion authorized in September 2017 and the $12.0 billion authorized in September 2018. No expiration date has been specified for these authorizations.

ITEM 6. Selected Financial Data.

(Millions of dollars, except share and per-share amounts)	For Years Ended December 31, 2018	2017	2016	2015	2014
Cash flow data:					
Cash flows from operating activities	**$ 7,189**	$ 5,363	$ 4,614	$ 4,397	$ 4,054
Capital expenditures	**1,131**	695	531	551	385
Free cash flow (a)	**6,058**	4,668	4,083	3,846	3,669
Dividends paid	**2,555**	2,104	1,646	1,444	1,323
Stock repurchases	**5,100**	2,556	2,132	2,741	2,831
Income statement data:					
Revenue by segment:					
Analog	**10,801**	9,900	8,536	8,339	8,104
Embedded Processing	**3,554**	3,498	3,023	2,787	2,740
Other	**1,429**	1,563	1,811	1,874	2,201
Revenue	**15,784**	14,961	13,370	13,000	13,045
Gross profit	**10,277**	9,614	8,257	7,575	7,447
Operating expenses (R&D and SG&A)	**3,243**	3,202	3,098	2,995	3,164
Acquisition charges	**318**	318	319	329	330
Restructuring charges/other	**3**	11	(15)	(71)	(50)
Operating profit	**6,713**	6,083	4,855	4,322	4,003
Net income	**$ 5,580**	$ 3,682	$ 3,595	$ 2,986	$ 2,821

A portion of net income is allocated to unvested restricted stock units (RSUs) on which we pay dividend equivalents. Diluted earnings per share (EPS) is calculated using the following:

	2018	2017	2016	2015	2014
Net income	**$ 5,580**	$ 3,682	$ 3,595	$ 2,986	$ 2,821
Income allocated to RSUs	**(42)**	(33)	(44)	(42)	(43)
Income allocated to common shares for diluted EPS	**$ 5,538**	$ 3,649	$ 3,551	$ 2,944	$ 2,778
Average diluted shares outstanding (millions)	**990**	1,012	1,021	1,043	1,080
Diluted EPS	**$ 5.59**	$ 3.61	$ 3.48	$ 2.82	$ 2.57
Cash dividends declared per common share	**$ 2.63**	$ 2.12	$ 1.64	$ 1.40	$ 1.24

(a) Free cash flow is a non-GAAP measure derived by subtracting capital expenditures from cash flows from operating activities.

(Millions of dollars, except other data items)	December 31, 2018	2017	2016	2015	2014
Balance sheet data:					
Cash, cash equivalents and short-term investments	**$ 4,233**	$ 4,469	$ 3,490	$ 3,218	$ 3,541
Total assets	**17,137**	17,642	16,431	16,230	17,372
Current portion of long-term debt	**749**	500	631	1,000	1,001
Long-term debt	**4,319**	3,577	2,978	3,120	3,630
Other data – Number of:					
Employees	**29,888**	29,714	29,865	29,977	31,003
Stockholders of record	**13,825**	14,260	14,910	15,563	16,361

See Management's Discussion and Analysis of Financial Condition and Results of Operations and Financial Statements and Supplementary Data.

ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Overview

We design, make and sell semiconductors to electronics designers and manufacturers all over the world. Our business model is designed around the following four sustainable competitive advantages that we believe, in combination, put us in a unique class of companies:

- *A strong foundation of manufacturing and technology.* We invest in manufacturing technologies and do most of our manufacturing in-house. This strategic decision to directly control our manufacturing helps ensure a consistent supply of products for our customers and also allows us to invest in technology that differentiates the features of our products. We have focused on creating a competitive manufacturing cost advantage by investing in our advanced analog 300-millimeter capacity, which has about a 40 percent cost advantage per unpackaged chip over 200-millimeter. To strengthen this advantage, we are planning our next phase of 300-millimeter capacity expansion as 300-millimeter wafers will continue to support the majority of our Analog growth.
- *Broad portfolio of differentiated analog and embedded processing semiconductors.* Our customers need multiple chips for their systems. The breadth of our portfolio means we can meet more of these needs than our competitors can, which gives us access to more customers and the opportunity to sell more products and generate more revenue per customer system. We invest more than $1 billion each year to develop new products for our portfolio, which includes tens of thousands of products.
- *Broadest reach of market channels.* Customers often begin their initial product selection process and design-in journey on our website, and the breadth of our portfolio attracts more customers to our website than any of our competitors' websites. Our web presence, combined with our global sales force that is also greater in size than those of our competitors, are advantages that give us unique access to about 100,000 customers designing TI semiconductors into their end products.
- *Diversity and longevity of our products, markets and customer positions.* Together, the attributes above result in diverse and long-lived positions that deliver high terminal value to our shareholders. Because of the breadth of our portfolio, we are not dependent on any single product, customer, technology or market. Some of our products generate revenue for decades, which strengthens the return on our investments.

Our strategic focus, and where we invest the majority of our resources, is on Analog and Embedded Processing, with a particular emphasis on designing and selling those products into the industrial and automotive markets, which we believe represent the best growth opportunities. Analog and embedded processing products sold into industrial and automotive markets provide long product life cycles, intrinsic diversity and less capital-intensive manufacturing, which we believe offer stability, profitability and strong cash generation. This business model is the foundation of our capital management strategy, which is based on our belief that free cash flow growth, especially on a per-share basis, is important for maximizing shareholder value over the long term. We also believe that free cash flow will be valued only if it is productively invested in the business or returned to shareholders.

The combined effect of these sustainable competitive advantages is that over time we have gained market share in Analog and Embedded Processing and have grown free cash flow. Our business model puts us in a unique class of companies with the ability to grow, generate cash and return that cash to shareholders.

Management's discussion and analysis of financial condition and results of operations (MD&A) should be read in conjunction with the financial statements and the related notes that appear elsewhere in this document. In the following discussion of our results of operations:

- Our segments represent groups of similar products that are combined on the basis of similar design and development requirements, product characteristics, manufacturing processes and distribution channels, and how management allocates resources and measures results. See Note 1 to the financial statements for more information regarding our segments.
- When we discuss our results:
  - Unless otherwise noted, changes in our revenue are attributable to changes in customer demand, which are evidenced by fluctuations in shipment volumes.
  - New products tend not to have a significant impact on our revenue in any given period because we sell such a large number of products.
  - From time to time, our revenue and gross profit are affected by changes in demand for higher-priced or lower-priced products, which we refer to as changes in the "mix" of products shipped.

- Because we own much of our manufacturing capacity, a significant portion of our operating cost is fixed. When factory loadings decrease, our fixed costs are spread over reduced output and, absent other circumstances, our profit margins decrease. Conversely, as factory loadings increase, our fixed costs are spread over increased output and, absent other circumstances, our profit margins increase. Increases and decreases in factory loadings tend to correspond to increases and decreases in demand.
- The 2017 enactment of the U.S. Tax Cuts and Jobs Act (the Tax Act) reduces our annual operating tax rate, which does not include discrete tax items, from 31 percent in 2017 to an ongoing rate of about 16 percent starting in 2019. In 2018, our annual operating tax rate was 20 percent, 4 percentage points higher, primarily due to a transitional non-cash expense. For an explanation of the term "annual operating tax rate," see the Non-GAAP financial information section.
- After a sustained period of growth, in late 2018 the semiconductor market entered a downturn. As a result, demand for our products weakened, and we expect this weakness to continue in 2019. During this time, we will continue to be disciplined with our operating plan and expenses, while focusing on long-term investments to strengthen our competitive advantages.
- All dollar amounts in the tables are stated in millions of U.S. dollars.

Results of operations

We continued to perform well in 2018, even as the year ended with a semiconductor market slowdown. We focus on Analog and Embedded Processing, with an emphasis on the industrial and automotive markets, because these products serve highly diverse markets with thousands of applications and have long-term growth opportunities. Gross margin of 65.1 percent reflected the quality of our product portfolio, as well as the efficiency of our manufacturing strategy, including the benefit of 300-millimeter Analog production.

Our focus on Analog and Embedded Processing allows us to generate strong cash flow from operations. Our cash flow from operations of $7.19 billion underscored the strength of our business model. Free cash flow was $6.06 billion and represented 38.4 percent of revenue, up from 31.2 percent a year ago. During 2018, we returned $7.66 billion to shareholders through a combination of stock repurchases and dividends. Our strategy is to return all free cash flow to shareholders. Our dividends represented 42 percent of free cash flow, underscoring their sustainability. Free cash flow is a non-GAAP financial measure. See the Non-GAAP financial information section.

Details of financial results – 2018 compared with 2017

Revenue of $15.78 billion increased $823 million, or 6 percent, primarily due to higher revenue from Analog. Embedded Processing also grew.

Gross profit of $10.28 billion was up $663 million, or 7 percent, due to higher revenue and lower manufacturing costs. As a percentage of revenue, gross profit increased to 65.1 percent from 64.3 percent.

Operating expenses (R&D and SG&A) were $3.24 billion compared with $3.20 billion.

Acquisition charges of $318 million were non-cash. See Note 8 to the financial statements.

Operating profit was $6.71 billion, or 42.5 percent of revenue, compared with $6.08 billion, or 40.7 percent of revenue.

Other income and expense (OI&E) was $98 million of income compared with $75 million of income. See Note 13 to the financial statements.

Interest and debt expense of $125 million increased $47 million due to the issuance of additional long-term debt.

Our provision for income taxes was $1.11 billion compared with $2.40 billion, which includes a discrete tax benefit of $198 million in 2018 and a discrete tax expense of $540 million in 2017. The decrease in our tax provision was due to the enactment of the Tax Act in 2017, which included a reduction in the statutory tax rate in 2018 and the tax on indefinitely reinvested earnings recorded in 2017. The benefits of the Tax Act in 2018 were partially offset by higher income before income taxes. Our effective tax rate, which includes discrete tax items, was 17 percent in 2018 compared with 39 percent in 2017. See Note 5 to the financial statements for a reconciliation of the U.S. statutory income tax rate to our effective tax rate.

Net income was $5.58 billion compared with $3.68 billion. EPS was $5.59 compared with $3.61.

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Segment results – 2018 compared with 2017

Analog (includes Power, Signal Chain and High Volume product lines)

	2018	2017	Change
Revenue	**$ 10,801**	$ 9,900	9%
Operating profit	**5,109**	4,468	14%
Operating profit % of revenue	**47.3%**	45.1%	

Analog revenue increased due to Power and, to a lesser extent, Signal Chain, partially offset by a decline in High Volume. Operating profit increased due to higher revenue and associated gross profit.

Embedded Processing (includes Connected Microcontrollers and Processors product lines)

	2018	2017	Change
Revenue	**$ 3,554**	$ 3,498	2%
Operating profit	**1,205**	1,143	5%
Operating profit % of revenue	**33.9%**	32.7%	

Embedded Processing revenue increased due to Connected Microcontrollers. Processors revenue was about even. Operating profit increased primarily due to higher gross profit.

Other (includes DLP® products, calculators and custom ASIC products)

	2018	2017	Change
Revenue	**$ 1,429**	$ 1,563	(9)%
Operating profit *	**399**	472	(15)%
Operating profit % of revenue	**27.9%**	30.2%	

* Includes acquisition charges and restructuring charges/other

Other revenue decreased by $134 million, and operating profit decreased by $73 million.

Details of financial results – 2017 compared with 2016

Revenue of $14.96 billion was up $1.59 billion, or 12 percent, from 2016 due to higher revenue from Analog and Embedded Processing.

Gross profit of $9.61 billion was up $1.36 billion, or 16 percent, primarily due to higher revenue. As a percentage of revenue, gross profit increased to 64.3 percent from 61.8 percent.

Operating expenses were $3.20 billion compared with $3.10 billion, as we allocated resources from manufacturing support and SG&A into R&D activities.

Acquisition charges of $318 million were non-cash.

Restructuring charges/other was a charge of $11 million compared with a credit of $15 million in 2016. These amounts are included in Other for segment reporting purposes. See Note 12 to the financial statements.

Operating profit was $6.08 billion, or 40.7 percent of revenue, compared with $4.86 billion, or 36.3 percent of revenue.

OI&E was $75 million of income compared with $155 million of income in 2016.

Our provision for income taxes was $2.40 billion compared with $1.34 billion. The increase was due to the enactment of the Tax Act and, to a lesser extent, higher income before income taxes. Our effective tax rate, which includes discrete tax items, was 39 percent in 2017 compared with 27 percent in 2016.

Net income was $3.68 billion compared with $3.60 billion. EPS was $3.61 compared with $3.48.

Segment results – 2017 compared with 2016

Analog

	2017	2016	Change
Revenue	$ 9,900	$ 8,536	16%
Operating profit	4,468	3,416	31%
Operating profit % of revenue	45.1%	40.0%	

Analog revenue increased due to Power and Signal Chain. High Volume also grew, but to a lesser extent. Operating profit increased primarily due to higher revenue and associated gross profit.

Embedded Processing

	2017	2016	Change
Revenue	$ 3,498	$ 3,023	16%
Operating profit	1,143	817	40%
Operating profit % of revenue	32.7%	27.0%	

Embedded Processing revenue increased due to growth in both product lines, led by Processors. Operating profit increased primarily due to higher revenue and associated gross profit.

Other

	2017	2016	Change
Revenue	$ 1,563	$ 1,811	(14)%
Operating profit *	472	622	(24)%
Operating profit % of revenue	30.2%	34.3%	

* Includes acquisition charges and restructuring charges/other

Other revenue decreased by $248 million primarily due to custom ASIC products and the recognition of royalties in OI&E instead of revenue, which began in the first quarter of 2017. Operating profit decreased by $150 million.

Financial condition

At the end of 2018, total cash (cash and cash equivalents plus short-term investments) was $4.23 billion, a decrease of $236 million from the end of 2017.

Accounts receivable were $1.21 billion, a decrease of $71 million compared with the end of 2017. Days sales outstanding at the end of 2018 were 29 compared with 31 at the end of 2017.

Inventory was $2.22 billion, an increase of $260 million from the end of 2017. Days of inventory at the end of 2018 were 152 compared with 134 at the end of 2017.

Liquidity and capital resources

Our primary source of liquidity is cash flow from operations. Additional sources of liquidity are cash and cash equivalents, short-term investments and a variable rate, revolving credit facility. Cash flows from operating activities for 2018 were $7.19 billion, an increase of $1.83 billion from 2017. This increase was due to higher net income, which benefited from a lower effective tax rate.

Our revolving credit facility is with a consortium of investment-grade banks and allows us to borrow up to $2 billion until March 2023. This credit facility also serves as support for the issuance of commercial paper. As of December 31, 2018, our credit facility was undrawn, and we had no commercial paper outstanding.

Investing activities for 2018 used $78 million compared with $1.13 billion in 2017. Capital expenditures were $1.13 billion compared with $695 million in 2017 and were primarily for semiconductor manufacturing equipment in both periods. We had sales of short-term investments, net of purchases, that provided cash proceeds of $1.07 billion compared with purchases of short-term investments, net of sales, that used cash of $460 million in 2017. We received $9 million from asset sales compared with $40 million in 2017.

Financing activities for 2018 used $6.33 billion compared with $3.73 billion in 2017. In 2018, we received net proceeds of $1.50 billion from the issuance of fixed-rate, long-term debt and retired maturing debt of $500 million. In 2017, we received net proceeds of $1.10 billion from the issuance of fixed-rate, long-term debt and retired maturing debt of $625 million. Dividends paid in 2018 were $2.56 billion compared with $2.10 billion in 2017, reflecting an increase in the dividend rate, partially offset by fewer shares outstanding. We used $5.10 billion to repurchase 49.5 million shares of our common stock compared with $2.56 billion used in 2017 to repurchase 30.6 million shares. Employee exercises of stock options provided cash proceeds of $373 million compared with $483 million in 2017.

We had $2.44 billion of cash and cash equivalents and $1.80 billion of short-term investments as of December 31, 2018. We believe we have the necessary financial resources and operating plans to fund our working capital needs, capital expenditures, dividend and debt-related payments, and other business requirements for at least the next 12 months.

Non-GAAP financial information

This MD&A includes references to free cash flow and ratios based on that measure. These are financial measures that were not prepared in accordance with generally accepted accounting principles in the United States (GAAP). Free cash flow was calculated by subtracting capital expenditures from the most directly comparable GAAP measure, cash flows from operating activities (also referred to as cash flow from operations).

We believe that free cash flow and the associated ratios provide insight into our liquidity, our cash-generating capability and the amount of cash potentially available to return to shareholders, as well as insight into our financial performance. These non-GAAP measures are supplemental to the comparable GAAP measures.

Reconciliation to the most directly comparable GAAP-based measures is provided in the table below.

	For Years Ended December 31,		
	2018	**2017**	**2016**
Cash flow from operations (GAAP)	**$ 7,189**	$ 5,363	$ 4,614
Capital expenditures	**(1,131)**	(695)	(531)
Free cash flow (non-GAAP)	**$ 6,058**	$ 4,668	$ 4,083
Revenue	**$ 15,784**	$ 14,961	$ 13,370
Cash flow from operations as a percent of revenue (GAAP)	**45.5%**	35.8%	34.5%
Free cash flow as a percent of revenue (non-GAAP)	**38.4%**	31.2%	30.5%

This MD&A also includes references to an annual operating tax rate, a non-GAAP term we use to describe the estimated annual effective tax rate, a GAAP measure that by definition does not include discrete tax items. We believe the term annual operating tax rate helps differentiate from the effective tax rate, which includes discrete tax items.

Long-term contractual obligations

	Payments Due by Period				
Contractual Obligations	**2019**	**2020/2021**	**2022/2023**	**Thereafter**	**Total**
Long-term debt (a)	$ 886	$ 1,281	$ 1,188	$ 3,876	$ 7,231
Purchase commitments (b)	389	469	37	15	910
Tax on indefinitely reinvested earnings (c)	—	46	156	304	506
Operating leases (d)	56	82	47	39	224
Deferred compensation plans (e)	17	46	48	111	222
Total (f)	$ 1,348	$ 1,924	$ 1,476	$ 4,345	$ 9,093

(a) Principal and related interest payments for our long-term debt obligations, including amounts classified as the current portion of long-term debt.

(b) Includes payments for software licenses and contractual arrangements with suppliers when there is a fixed, non-cancellable payment schedule or when minimum payments are due with a reduced delivery schedule. Excludes cancellable arrangements.

(c) Future payments for the one-time transition tax on our indefinitely reinvested earnings related to the enactment of the Tax Act. See Note 5 to the financial statements for more details.

(d) Includes minimum payments for leased facilities and equipment and purchases of industrial gases under contracts accounted for as operating leases.

(e) Estimated payments for certain liabilities that existed as of December 31, 2018.

(f) Excludes $286 million of uncertain tax liabilities under ASC 740, as well as any planned future funding contributions to retirement benefit plans. Amounts associated with uncertain tax liabilities have been excluded because of the difficulty in making reasonably reliable estimates of the timing of cash settlements with the respective taxing authorities. Regarding future funding of retirement benefit plans, we plan to contribute about $50 million in 2019, but funding projections beyond 2019 are not practical to estimate due to the rules affecting tax-deductible contributions and the impact from the plans' asset performance, interest rates and potential U.S. and non-U.S. legislation.

Critical accounting policies

Our accounting policies are more fully described in Note 2 of the consolidated financial statements. As disclosed in Note 2, the preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions about future events that affect the amounts reported in the financial statements and accompanying notes. However, based on facts and circumstances inherent in developing estimates and assumptions, management believes it is unlikely that applying other estimates and assumptions would have a material impact on the financial statements. We consider the following accounting policies to be those that are most important to the portrayal of our financial condition and that require a higher degree of judgment.

Revenue recognition

Based on management's assessment of the revenue recognition criteria, we usually recognize revenue from sales of our products to distributors upon shipment or delivery to the distributors. For our consignment arrangements with distributors, delivery occurs when the distributor pulls product from consignment inventory that we store at designated locations. Recognition is not contingent upon resale of the products to the distributors' customers in either scenario.

Revenue is recognized net of allowances, which are management's estimates of future credits to be granted to distributors under programs common in the semiconductor industry. These allowances are not material and generally include special pricing arrangements, product returns due to quality issues, and incentives designed to maximize growth opportunities.

Allowances are based on analysis of historical data and contractual terms and are recorded when revenue is recognized. We believe we can reasonably and reliably estimate allowances for credits to distributors in a timely manner.

Income taxes

In determining net income for financial statement purposes, we must make certain estimates and judgments in the calculation of tax provisions and the resultant tax liabilities, and in the recoverability of deferred tax assets that arise from temporary differences between the tax and financial statement recognition of revenue and expense.

In the ordinary course of global business, there may be many transactions and calculations where the ultimate tax outcome is uncertain. The calculation of tax liabilities involves dealing with uncertainties in the application of complex tax laws. We recognize potential liabilities for anticipated tax audit issues in the United States and other tax jurisdictions based on an estimate of the ultimate resolution of whether, and the extent to which, additional taxes will be due. Although we believe the estimates are reasonable, no assurance can be given that the final outcome of these matters will not be different than what is reflected in the historical income tax provisions and accruals.

As part of our financial process, we must assess the likelihood that our deferred tax assets can be recovered. If recovery is not likely, the provision for taxes must be increased by recording a reserve in the form of a valuation allowance for the deferred tax assets that are estimated not to be ultimately recoverable. In this process, certain relevant criteria are evaluated including the existence of deferred tax liabilities that can be used to absorb deferred tax assets, the taxable income in prior years that can be used to absorb net operating losses and credit carrybacks, and taxable income in future years. Our judgment regarding future recoverability of our deferred tax assets based on these criteria may change due to various factors, including changes in U.S. or international tax laws and changes in market conditions and their impact on our assessment of taxable income in future periods. These changes, if any, may require material adjustments to the deferred tax assets and an accompanying reduction or increase in net income in the period when such determinations are made. Also, our plans for the permanent reinvestment or eventual repatriation of the accumulated earnings of certain non-U.S. operations could change. Such changes could have a material effect on tax expense in future years.

Inventory valuation allowances

Inventory is valued net of allowances for unsalable or obsolete raw materials, work-in-process and finished goods. Statistical allowances are determined quarterly for raw materials and work-in-process based on historical disposals of inventory for salability and obsolescence reasons. For finished goods, quarterly statistical allowances are determined by comparing inventory levels of individual parts to historical shipments, current backlog and estimated future sales in order to identify inventory judged unlikely to be sold. A specific allowance for each material type will be carried if there is a significant event not captured by the statistical allowance. Examples are an end-of-life part or demand with imminent risk of cancellation. Allowances are also calculated quarterly for instances where inventoried costs for individual products are in excess of the net realizable value for those products. Actual future write-offs of inventory for salability and obsolescence reasons may differ from estimates and calculations used to determine valuation allowances due to changes in customer demand, customer negotiations, technology shifts and other factors.

Changes in accounting standards

See Note 2 to the financial statements for information on new accounting standards.

Off-balance sheet arrangements

As of December 31, 2018, we had no significant off-balance sheet arrangements as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

Commitments and contingencies

See Note 11 to the financial statements for a discussion of our commitments and contingencies.

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk.

Foreign exchange risk

The U.S. dollar is our functional currency for financial reporting. Our non-U.S. entities own assets or liabilities denominated in U.S. dollars or other currencies. Exchange rate fluctuations impact taxable income in those jurisdictions, and consequently impact our effective tax rate.

Our balance sheet also reflects amounts remeasured from non-U.S. dollar currencies. Because most of the aggregate non-U.S. dollar balance sheet exposure is hedged by forward currency exchange contracts, based on year-end 2018 balances and currency exchange rates, a hypothetical 10 percent plus or minus fluctuation in non-U.S. currency exchange rates relative to the U.S. dollar would result in a pre-tax currency exchange gain or loss of about $3 million.

We use these forward currency exchange contracts to reduce the earnings impact that exchange rate fluctuations may have on our non-U.S. dollar net balance sheet exposures. For example, at year-end 2018, we had forward currency exchange contracts outstanding with a notional value of $525 million to hedge net balance sheet exposures (including $160 million to sell Japanese yen, $99 million to sell euros and $94 million to sell Indian rupees). Similar hedging activities existed at year-end 2017.

Interest rate risk

We have the following potential exposure to changes in interest rates: (1) the effect of changes in interest rates on the fair value of our investments in cash equivalents and short-term investments, which could produce a gain or a loss; and (2) the effect of changes in interest rates on the fair value of our debt.

As of December 31, 2018, a hypothetical 100 basis point increase in interest rates would decrease the fair value of our investments in cash equivalents and short-term investments by about $4 million and decrease the fair value of our long-term debt by $330 million. Because interest rates on our long-term debt are fixed, changes in interest rates would not affect the cash flows associated with long-term debt.

Equity risk

Long-term investments at year-end 2018 include the following:

- *Investments in mutual funds* – includes mutual funds that were selected 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.
- *Investments in venture capital funds* – includes investments in limited partnerships (accounted for under either the equity method or at cost as non-marketable equity securities).
- *Equity investments* – includes non-marketable (non-publicly traded) equity securities.

Investments in mutual funds are stated at fair value. Changes in prices of the mutual fund investments are expected to offset related changes in deferred compensation liabilities such that a 10 percent increase or decrease in the investments' fair values would not materially affect operating results. Non-marketable equity securities and certain venture capital funds are stated at cost minus impairment, if any, plus or minus changes resulting from qualifying observable price changes. Investments in the remaining venture capital funds are stated using the equity method. See Note 7 to the financial statements for details of equity and other long-term investments.

ITEM 8. Financial Statements and Supplementary Data.

List of Financial Statements (Item 15(a))

Income for each of the three years in the period ended December 31, 2018

Comprehensive income for each of the three years in the period ended December 31, 2018

Balance sheets as of December 31, 2018 and 2017

Cash flows for each of the three years in the period ended December 31, 2018

Stockholders' equity for each of the three years in the period ended December 31, 2018

Schedules have been omitted because 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.

Consolidated Statements of Income

(Millions of dollars, except share and per-share amounts)	2018	2017	2016
	For Years Ended December 31,		
Revenue	**$ 15,784**	$ 14,961	$ 13,370
Cost of revenue (COR)	**5,507**	5,347	5,113
Gross profit	**10,277**	9,614	8,257
Research and development (R&D)	**1,559**	1,508	1,356
Selling, general and administrative (SG&A)	**1,684**	1,694	1,742
Acquisition charges	**318**	318	319
Restructuring charges/other	**3**	11	(15)
Operating profit	**6,713**	6,083	4,855
Other income (expense), net (OI&E)	**98**	75	155
Interest and debt expense	**125**	78	80
Income before income taxes	**6,686**	6,080	4,930
Provision for income taxes	**1,106**	2,398	1,335
Net income	**$ 5,580**	$ 3,682	$ 3,595
Earnings per common share (EPS):			
Basic	**$ 5.71**	$ 3.68	$ 3.54
Diluted	**$ 5.59**	$ 3.61	$ 3.48
Average shares outstanding (millions):			
Basic	**970**	991	1,003
Diluted	**990**	1,012	1,021

A portion of net income is allocated to unvested restricted stock units (RSUs) on which we pay dividend equivalents. Diluted EPS is calculated using the following:

Net income	**$ 5,580**	$ 3,682	$ 3,595
Income allocated to RSUs	**(42)**	(33)	(44)
Income allocated to common stock for diluted EPS	**$ 5,538**	$ 3,649	$ 3,551

See accompanying notes.

FORM 10-K

Consolidated Statements of Comprehensive Income

(Millions of dollars)	For Years Ended December 31, 2018	2017	2016
Net income	**$ 5,580**	$ 3,682	$ 3,595
Other comprehensive income (loss)			
Net actuarial losses of defined benefit plans:			
Adjustment, net of tax effect of $35, ($26) and $6	**(98)**	92	(43)
Recognized within net income, net of tax effect of ($15), ($27) and ($25)	**50**	56	51
Prior service credit of defined benefit plans:			
Adjustment, net of tax effect of $1, $1 and $0	**(6)**	(2)	—
Recognized within net income, net of tax effect of $1, $1 and $2	**(3)**	(5)	(3)
Derivative instruments:			
Change in fair value, net of tax effect of $1, $0 and $0	**(2)**	—	—
Recognized within net income, net of tax effect of $0, $0 and $0	**—**	1	1
Other comprehensive income (loss), net of taxes	**(59)**	142	6
Total comprehensive income	**$ 5,521**	$ 3,824	$ 3,601

See accompanying notes.

Consolidated Balance Sheets

(Millions of dollars, except share amounts)	December 31, 2018	2017
Assets		
Current assets:		
Cash and cash equivalents	**$ 2,438**	$ 1,656
Short-term investments	**1,795**	2,813
Accounts receivable, net of allowances of ($19) and ($8)	**1,207**	1,278
Raw materials	**181**	126
Work in process	**1,070**	1,089
Finished goods	**966**	742
Inventories	**2,217**	1,957
Prepaid expenses and other current assets	**440**	1,030
Total current assets	**8,097**	8,734
Property, plant and equipment at cost	**5,425**	4,789
Accumulated depreciation	**(2,242)**	(2,125)
Property, plant and equipment	**3,183**	2,664
Long-term investments	**251**	268
Goodwill	**4,362**	4,362
Acquisition-related intangibles	**628**	946
Deferred tax assets	**295**	264
Capitalized software licenses	**89**	110
Overfunded retirement plans	**92**	208
Other long-term assets	**140**	86
Total assets	**$ 17,137**	$ 17,642
Liabilities and stockholders' equity		
Current liabilities:		
Current portion of long-term debt	**$ 749**	$ 500
Accounts payable	**478**	466
Accrued compensation	**724**	722
Income taxes payable	**103**	128
Accrued expenses and other liabilities	**420**	442
Total current liabilities	**2,474**	2,258
Long-term debt	**4,319**	3,577
Underfunded retirement plans	**118**	89
Deferred tax liabilities	**42**	78
Other long-term liabilities	**1,190**	1,303
Total liabilities	**8,143**	7,305
Stockholders' equity:		
Preferred stock, $25 par value. Authorized – 10,000,000 shares Participating cumulative preferred – None issued	**—**	—
Common stock, $1 par value. Authorized – 2,400,000,000 shares Shares issued – 1,740,815,939	**1,741**	1,741
Paid-in capital	**1,950**	1,776
Retained earnings	**37,906**	34,662
Treasury common stock at cost Shares: 2018 – 795,665,646; 2017 – 757,657,217	**(32,130)**	(27,458)
Accumulated other comprehensive income (loss), net of taxes (AOCI)	**(473)**	(384)
Total stockholders' equity	**8,994**	10,337
Total liabilities and stockholders' equity	**$ 17,137**	$ 17,642

See accompanying notes.

Consolidated Statements of Cash Flows

(Millions of dollars)	For Years Ended December 31, 2018	2017	2016
Cash flows from operating activities			
Net income	**$ 5,580**	$ 3,682	$ 3,595
Adjustments to net income:			
Depreciation	**590**	539	605
Amortization of acquisition-related intangibles	**318**	318	319
Amortization of capitalized software	**46**	47	31
Stock compensation	**232**	242	252
Gains on sales of assets	**(3)**	—	(40)
Deferred taxes	**(105)**	112	(202)
Increase (decrease) from changes in:			
Accounts receivable	**71**	(7)	(108)
Inventories	**(282)**	(167)	(99)
Prepaid expenses and other current assets	**669**	76	(81)
Accounts payable and accrued expenses	**(7)**	51	72
Accrued compensation	**(7)**	(3)	36
Income taxes payable	**158**	468	333
Changes in funded status of retirement plans	**36**	21	(73)
Other	**(107)**	(16)	(26)
Cash flows from operating activities	**7,189**	5,363	4,614
Cash flows from investing activities			
Capital expenditures	**(1,131)**	(695)	(531)
Proceeds from asset sales	**9**	40	—
Purchases of short-term investments	**(5,641)**	(4,555)	(3,503)
Proceeds from short-term investments	**6,708**	4,095	3,390
Other	**(23)**	(12)	(6)
Cash flows from investing activities	**(78)**	(1,127)	(650)
Cash flows from financing activities			
Proceeds from issuance of long-term debt	**1,500**	1,099	499
Repayment of debt	**(500)**	(625)	(1,000)
Dividends paid	**(2,555)**	(2,104)	(1,646)
Stock repurchases	**(5,100)**	(2,556)	(2,132)
Proceeds from common stock transactions	**373**	483	472
Other	**(47)**	(31)	(3)
Cash flows from financing activities	**(6,329)**	(3,734)	(3,810)
Net change in cash and cash equivalents	**782**	502	154
Cash and cash equivalents at beginning of period	**1,656**	1,154	1,000
Cash and cash equivalents at end of period	**$ 2,438**	$ 1,656	$ 1,154

See accompanying notes.

Consolidated Statements of Stockholders' Equity

(Millions of dollars, except per-share amounts)

	Common Stock	Paid-in Capital	Retained Earnings	Treasury Common Stock	AOCI
Balance, December 31, 2015	$ 1,741	$ 1,629	$ 31,176	$ (24,068)	$ (532)
2016					
Net income	—	—	3,595	—	—
Dividends declared and paid ($1.64 per share)	—	—	(1,646)	—	—
Common stock issued for stock-based awards	—	(204)	—	677	—
Stock repurchases	—	—	—	(2,132)	—
Stock compensation	—	252	—	—	—
Other comprehensive income (loss), net of taxes	—	—	—	—	6
Dividend equivalents paid on restricted stock units	—	—	(18)	—	—
Other	—	(3)	—	—	—
Balance, December 31, 2016	1,741	1,674	33,107	(25,523)	(526)
2017					
Net income	—	—	3,682	—	—
Dividends declared and paid ($2.12 per share)	—	—	(2,104)	—	—
Common stock issued for stock-based awards	—	(138)	—	621	—
Stock repurchases	—	—	—	(2,556)	—
Stock compensation	—	242	—	—	—
Other comprehensive income (loss), net of taxes	—	—	—	—	142
Dividend equivalents paid on restricted stock units	—	—	(17)	—	—
Other	—	(2)	(6)	—	—
Balance, December 31, 2017	1,741	1,776	34,662	(27,458)	(384)
2018					
Net income	**—**	**—**	**5,580**	**—**	**—**
Dividends declared and paid ($2.63 per share)	**—**	**—**	**(2,555)**	**—**	**—**
Common stock issued for stock-based awards	**—**	**(55)**	**—**	**428**	**—**
Stock repurchases	**—**	**—**	**—**	**(5,100)**	**—**
Stock compensation	**—**	**232**	**—**	**—**	**—**
Other comprehensive income (loss), net of taxes	**—**	**—**	**—**	**—**	**(59)**
Dividend equivalents paid on restricted stock units	**—**	**—**	**(17)**	**—**	**—**
Cumulative effect of accounting changes	**—**	**—**	**236**	**—**	**(30)**
Other	**—**	**(3)**	**—**	**—**	**—**
Balance, December 31, 2018	**$ 1,741**	**$ 1,950**	**$ 37,906**	**$ (32,130)**	**$ (473)**

See accompanying notes.

Notes to financial statements

1. Description of business, including segment and geographic area information

We design, make and sell semiconductors to electronics designers and manufacturers all over the world. We have two reportable segments, which are established along major categories of products as follows:

- *Analog* – consisting of the following product lines: Power, Signal Chain and High Volume.
- *Embedded Processing* – consisting of the following product lines: Connected Microcontrollers and Processors.

We report the results of our remaining business activities in Other. Other includes operating segments that do not meet the quantitative thresholds for individually reportable segments and cannot be aggregated with other operating segments. Other includes DLP® products, calculators and custom ASIC products.

In Other, we also include items that are not used in evaluating the results of or in allocating resources to our segments. Examples of these items include acquisition charges (see Note 8); restructuring charges (see Note 12); and certain corporate-level items, such as litigation expenses, environmental costs, insurance settlements, and gains and losses from other activities, including asset dispositions. We allocate the remainder of our expenses associated with corporate activities to our operating segments based on specific methodologies, such as percentage of operating expenses or headcount.

Our centralized manufacturing and support organizations, such as facilities, procurement and logistics, provide support to our operating segments, including those in Other. Costs incurred by these organizations, including depreciation, are charged to the segments on a per-unit basis. Consequently, depreciation expense is not an independently identifiable component within the segments' results and, therefore, is not provided.

With the exception of goodwill, we do not identify or allocate assets by operating segment, nor does the chief operating decision maker evaluate operating segments using discrete asset information. We have no material intersegment revenue. The accounting policies of the segments are consistent with those described below in the summary of significant accounting policies and practices.

Segment information

	For Years Ended December 31,		
	2018	**2017**	**2016**
Revenue:			
Analog	**$ 10,801**	$ 9,900	$ 8,536
Embedded Processing	**3,554**	3,498	3,023
Other	**1,429**	1,563	1,811
Total revenue	**$ 15,784**	$ 14,961	$ 13,370
Operating profit:			
Analog	**$ 5,109**	$ 4,468	$ 3,416
Embedded Processing	**1,205**	1,143	817
Other	**399**	472	622
Total operating profit	**$ 6,713**	$ 6,083	$ 4,855

Geographic area information

The following geographic area information includes revenue, based on product shipment destination, and property, plant and equipment, based on physical location. The revenue information is not necessarily indicative of the geographic area in which the end applications containing our products are ultimately consumed because our products tend to be shipped to the locations where our customers manufacture their products. Specifically, many of our products are shipped to our customers in China who may include these parts in the manufacture of their own end products, which they may in turn export to their customers around the world.

	For Years Ended December 31,		
	2018	**2017**	**2016**
Revenue:			
United States	**$ 2,288**	$ 1,901	$ 1,682
Asia (a)	**9,240**	8,824	8,024
Europe, Middle East and Africa	**3,047**	2,907	2,393
Japan	**869**	1,049	1,040
Rest of world	**340**	280	231
Total revenue	**$ 15,784**	$ 14,961	$ 13,370

(a) Revenue from products shipped into China was $7.0 billion, $6.6 billion and $6.0 billion in 2018, 2017 and 2016, respectively.

	December 31,	
	2018	**2017**
Property, plant and equipment:		
United States	**$ 1,812**	$ 1,469
Asia (a)	**1,116**	964
Europe, Middle East and Africa	**84**	97
Japan	**157**	118
Rest of world	**14**	16
Total property, plant and equipment	**$ 3,183**	$ 2,664

(a) Property, plant and equipment at our two sites in the Philippines was $437 million as of December 31, 2018 and 2017. Property, plant and equipment at our sites in China was $313 million and $236 million as of December 31, 2018 and 2017, respectively.

2. Basis of presentation and significant accounting policies and practices

Basis of presentation

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (GAAP). The basis of these financial statements is comparable for all periods presented herein, except for the effects of adopting a new accounting standard in 2018 related to revenue recognition.

The consolidated financial statements include the accounts of all subsidiaries. All intercompany balances and transactions have been eliminated in consolidation. All dollar amounts in the financial statements and tables in these notes, except per-share amounts, are stated in millions of U.S. dollars unless otherwise indicated. We have reclassified certain amounts in the prior periods' financial statements to conform to the 2018 presentation.

The preparation of financial statements requires the use of estimates from which final results may vary.

Significant accounting policies and practices

Revenue recognition

We generate revenue primarily from the sale of semiconductor products, either directly to a customer or to a distributor, or at the conclusion of a consignment process. We have a variety of types of contracts with our customers and distributors. In determining whether a contract exists, we evaluate the terms of the arrangement, the relationship with the customer or distributor and their ability to pay.

We recognize revenue from sales of our products, including sales to our distributors, when control is transferred. Control is considered transferred when title and risk of loss pass, when the customer becomes obligated to pay and, where required, when the customer has accepted the products. This transfer generally occurs at a point in time upon shipment or delivery to the customer or distributor, depending upon the terms of the sales order. Payment for sales to customers and distributors is generally due on our standard commercial terms. For sales to distributors, payment is not contingent upon resale of the products.

Revenue from sales of our products that are subject to inventory consignment agreements is recognized at a point in time, when the customer or distributor pulls product from consignment inventory that we store at designated locations. Transfer of control occurs at that point, when title and risk of loss transfers and the customer or distributor becomes obligated to pay for the products pulled from inventory. Until the products are pulled for use or sale by the customer or distributor, we retain control over the products' disposition, including the right to pull back or relocate the products.

The revenue recognized is adjusted based on allowances, which are prepared on a portfolio basis using a most likely amount methodology based on analysis of historical data and contractual terms. These allowances, which are not material, generally include adjustments for pricing arrangements, product returns and incentives. The length of time between invoicing and payment is not significant under any of our payment terms. In instances where the timing of revenue recognition differs from the timing of invoicing, we have determined our contracts generally do not include a significant financing component.

In addition, we record allowances for accounts receivable that we estimate may not be collected. We monitor collectability of accounts receivable primarily through review of accounts receivable aging. When collection is at risk, we assess the impact on amounts recorded for bad debts and, if necessary, record a charge in the period such determination is made.

We recognize shipping fees, if any, received from customers in revenue. We include the related shipping and handling costs in cost of revenue. The majority of our customers pay these fees directly to third parties.

Advertising costs

We expense advertising and other promotional costs as incurred. This expense was $34 million, $39 million and $44 million in 2018, 2017 and 2016, respectively.

Income taxes

We account for income taxes using an asset and liability approach. We record the amount of taxes payable or refundable for the current year and the deferred tax assets and liabilities for future tax consequences of events that have been recognized in the financial statements or tax returns. We record a valuation allowance when it is more likely than not that some or all of the deferred tax assets will not be realized.

Other assessed taxes

Some transactions require us to collect taxes such as sales, value-added and excise taxes from our customers. These transactions are presented in our Consolidated Statements of Income on a net (excluded from revenue) basis.

Earnings per share (EPS)

We use the two-class method for calculating EPS because the restricted stock units (RSUs) we grant are participating securities containing non-forfeitable rights to receive dividend equivalents. Under the two-class method, a portion of net income is allocated to RSUs and excluded from the calculation of income allocated to common stock, as shown in the table below.

Computation and reconciliation of earnings per common share are as follows (shares in millions):

	For Years Ended December 31,								
	2018			2017			2016		
	Net Income	Shares	EPS	Net Income	Shares	EPS	Net Income	Shares	EPS
Basic EPS:									
Net income	**$ 5,580**			$ 3,682			$ 3,595		
Income allocated to RSUs	**(43)**			(34)			(45)		
Income allocated to common stock	**$ 5,537**	**970**	**$ 5.71**	$ 3,648	991	$ 3.68	$ 3,550	1,003	$ 3.54
Dilutive effect of stock compensation plans		**20**			21			18	
Diluted EPS:									
Net income	**$ 5,580**			$ 3,682			$ 3,595		
Income allocated to RSUs	**(42)**			(33)			(44)		
Income allocated to common stock	**$ 5,538**	**990**	**$ 5.59**	$ 3,649	1,012	$ 3.61	$ 3,551	1,021	$ 3.48

Potentially dilutive securities representing 4 million and 6 million shares of common stock that were outstanding in 2018 and 2017, respectively, were excluded from the computation of diluted earnings per common share during these periods because their effect would have been anti-dilutive. No potentially dilutive securities were excluded from the computation of diluted earnings per common share during 2016.

Investments

We present investments on our Consolidated Balance Sheets as cash equivalents, short-term investments or long-term investments, which are detailed below. See Note 7 for additional information.

- *Cash equivalents and short-term investments* – We consider investments in available-for-sale debt securities with maturities of 90 days or less from the date of our investment to be cash equivalents. We consider investments in available-for-sale debt securities with maturities beyond 90 days from the date of our investment as being available for use in current operations and include them in short-term investments. The primary objectives of our cash equivalent and short-term investment activities are to preserve capital and maintain liquidity while generating appropriate returns.
- *Long-term investments* – Long-term investments consist of mutual funds, venture capital funds and non-marketable equity securities.

Inventories

Inventories are stated at the lower of cost or estimated net realizable value. Cost is generally computed on a currently adjusted standard cost basis, which approximates cost on a first-in first-out basis. Standard cost is based on the normal utilization of installed factory capacity. Cost associated with underutilization of capacity is expensed as incurred. Inventory held at consignment locations is included in our finished goods inventory. Consigned inventory was $314 million and $303 million as of December 31, 2018 and 2017, respectively.

We review inventory quarterly for salability and obsolescence. A statistical allowance is provided for inventory considered unlikely to be sold. The statistical allowance is based on an analysis of historical disposal activity, historical customer shipments, as well as estimated future sales. A specific allowance for each material type will be carried if there is a significant event not captured by the statistical allowance. We write off inventory in the period in which disposal occurs.

Property, plant and equipment; acquisition-related intangibles; and other capitalized costs

Property, plant and equipment are stated at cost and depreciated over their estimated useful lives using the straight-line method. Our cost basis includes certain assets acquired in business combinations that were initially recorded at fair value as of the date of acquisition. Leasehold improvements are amortized using the straight-line method over the shorter of the remaining lease term or the estimated useful lives of the improvements. We amortize acquisition-related intangibles on a straight-line basis over the estimated economic life of the assets. Capitalized software licenses generally are amortized on a straight-line basis over the term of the license. Fully depreciated or amortized assets are written off against accumulated depreciation or amortization.

Impairments of long-lived assets
We regularly review whether facts or circumstances exist that indicate the carrying values of property, plant and equipment or other long-lived assets, including intangible assets, are impaired. We assess the recoverability of assets by comparing the projected undiscounted net cash flows associated with those assets to their respective carrying amounts. Any impairment charge is based on the excess of the carrying amount over the fair value of those assets. Fair value is determined by available market valuations, if applicable, or by discounted cash flows.

Goodwill
Goodwill is reviewed for impairment annually or more frequently if certain impairment indicators arise. We perform our annual goodwill impairment test as of October 1 for our reporting units, which compares the fair value for each reporting unit to its associated carrying value, including goodwill. See Note 8 for additional information.

Foreign currency
The functional currency for our non-U.S. subsidiaries is the U.S. dollar. Accounts recorded in currencies other than the U.S. dollar are remeasured into the functional currency. Current assets (except inventories), deferred taxes, other assets, current liabilities and long-term liabilities are remeasured at exchange rates in effect at the end of each reporting period. Property, plant and equipment with associated depreciation and inventories are valued at historical exchange rates. Revenue and expense accounts other than depreciation for each month are remeasured at the appropriate daily rate of exchange. Currency exchange gains and losses from remeasurement are credited or charged to OI&E.

Derivatives and hedging
We use derivative financial instruments to manage exposure to foreign exchange risk. These instruments are primarily forward foreign currency exchange contracts, which are used as economic hedges to reduce the earnings impact that exchange rate fluctuations may have on our non-U.S. dollar net balance sheet exposures. Gains and losses from changes in the fair value of these forward foreign currency exchange contracts are credited or charged to OI&E. We do not apply hedge accounting to our foreign currency derivative instruments.

In connection with the issuance of long-term debt, we may use financial derivatives such as treasury-rate lock agreements that are recognized in AOCI and amortized over the life of the related debt. The results of these derivative transactions have not been material.

We do not use derivatives for speculative or trading purposes.

Changes in accounting standards – adopted standards for current period

Accounting Standard Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606)
This standard provides a single set of guidelines for revenue recognition to be used across all industries and requires additional disclosures. We adopted Accounting Standards Codification Topic 606 (ASC 606) as of January 1, 2018, using the modified retrospective transition method applied only to contracts that were not completed as of the adoption date. The reported results for 2018 reflect the application of the new accounting guidance, while the reported results for prior period amounts are not adjusted and continue to be reported in accordance with our historical accounting under ASC 605, *Revenue Recognition*.

The most significant impact from adopting the standard relates to our accounting for royalty income on licenses of intellectual property; however, the effect of such change during any individual reporting period will not materially impact our results of operations and financial position. Although royalty income is recorded within OI&E, the new revenue guidance applies to these agreements by analogy, and therefore, such agreements have been evaluated for ASC 606 transition considerations. Under ASC 606, royalty income for our fixed-rate royalty agreements is bifurcated between two performance obligations: providing a right to use our initial patent portfolio and the right to access our future patents when those patents are developed. We have determined that the value of these agreements is allocated more heavily to the initial performance obligation. As a result, income from these agreements is recognized predominately at the time of contract execution rather than ratably over the life of the agreements, accelerating the timing of when we recognize royalty income in OI&E.

The timing of revenue recognition, billings and cash collections may result in billed accounts receivable, unbilled receivables (contract assets), and customer advances and deposits (contract liabilities). These items are included in other current and non-current assets and liabilities on the Consolidated Balance Sheets. Generally, we invoice customers for payment upon shipment or when goods are pulled from consignment inventory, which results in an unconditional right to consideration. The time frame between when the customer places an order for products and when it is shipped is less than 12 months.

Occasionally, as of the end of a reporting period, some performance obligations associated with contracts are unsatisfied or only partially satisfied. In accordance with the practical expedients available in the guidance, we do not disclose the value of unsatisfied performance obligations for contracts with an original expected duration of one year or less. Additionally, sales commissions are expensed when incurred because the amortization period would have been one year or less.

We recognized an increase to opening retained earnings of $206 million, net of taxes, as of January 1, 2018, due to the cumulative impact of adopting ASC 606. A contract asset of $283 million and deferred tax liabilities of $55 million were recorded as of January 1, 2018, related to the transition period adjustments.

ASU No. 2018-02, Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income

This standard allows a reclassification of stranded tax effects as a result of the U.S. Tax Cuts and Jobs Act (the Tax Act) from AOCI to retained earnings. The provisions from this guidance are effective for interim and annual periods beginning after January 1, 2019. This standard should be applied either in the period of adoption or retrospectively to each period (or periods) in which the effects of the Tax Act are recognized.

We elected to early adopt this standard during the fourth quarter of 2018 concurrent with the completion of our accounting for the tax effects of the enactment of the Tax Act, applying the guidance to the period of adoption. As a result, we reclassified stranded tax effects of $30 million from the 2018 opening balance of AOCI into retained earnings. See Note 5 for additional information related to our accounting for the effects of the Tax Act.

Other standards

The following standards were also adopted:

ASU	Description	Adopted Date
ASU No. 2016-01	*Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*	January 1, 2018
ASU No. 2017-01	*Business Combinations (Topic 805): Clarifying the Definition of a Business*	January 1, 2018
ASU No. 2017-04	*Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*	October 1, 2018
ASU No. 2017-05	*Other Income – Gains and Losses from the Derecognition of Nonfinancial Assets (Subtopic 610-20): Clarifying the Scope of Asset Derecognition Guidance and Accounting for Partial Sales of Nonfinancial Assets*	January 1, 2018

Changes in accounting standards – standards not yet adopted

ASU No. 2016-02, Leases (Topic 842)

This standard requires all leases that have a term of over 12 months to be recognized on the balance sheet with the liability for lease payments and the corresponding right-of-use asset initially measured at the present value of amounts expected to be paid over the term. Recognition of the costs of these leases on the income statement will be dependent upon their classification as either an operating or a finance lease. This standard is effective for interim and annual periods beginning January 1, 2019.

We are adopting this standard effective January 1, 2019, using the optional transition method, applying the guidance to leases existing at, or entered into after, the beginning of the period of adoption. We are also electing certain practical expedients permitted under the transition guidance. In preparation for adoption of the standard, we have implemented system functionality to enable the preparation of financial information. The most significant impact from adopting the standard will be the recognition of right-of-use assets and lease liabilities for operating leases on our Consolidated Balance Sheets, which will increase total assets by about 2 percent.

ASU No. 2016-13, Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments

This standard requires entities to use a current lifetime expected credit loss methodology to measure impairments of certain financial assets. Using this methodology will result in earlier recognition of losses than under the current incurred loss approach, which requires waiting to recognize a loss until it is probable of having been incurred. There are other provisions within the standard that affect how impairments of other financial assets may be recorded and presented, and that expand disclosures. This standard will be effective for our interim and annual periods beginning January 1, 2020, with early adoption permitted beginning January 1, 2019, and must be applied on a modified retrospective basis. We are evaluating the potential impact of this standard, but we do not expect it to have a material impact on our financial position and results of operations.

Other standards

We are evaluating the impact of the following standards, but we do not expect them to have a material impact on our financial position and results of operations. We plan to adopt these standards as of their effective dates.

ASU	Description	Effective Date
ASU No. 2017-12	*Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities*	January 1, 2019
ASU No. 2018-13	*Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement*	January 1, 2020
ASU No. 2018-14	*Compensation – Retirement Benefits – Defined Benefit Plans – General (Subtopic 715-20): Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans*	January 1, 2020
ASU No. 2018-15	*Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*	January 1, 2020

3. Stock compensation

We have stock options outstanding to participants under long-term incentive plans. The option price per share may not be less than the fair market value of our common stock on the date of the grant. The options have a 10-year term, generally vest ratably over four years, and continue to vest after the option recipient retires.

We also have RSUs outstanding to participants under long-term incentive plans. Each RSU represents the right to receive one share of TI common stock on the vesting date, which is generally four years after the date of grant. Upon vesting, the shares are issued without payment by the grantee. RSUs continue to vest after the recipient retires. Holders of RSUs receive an annual cash payment equivalent to the dividends paid on our common stock.

We have options and RSUs outstanding to non-employee directors under director compensation plans. The plans generally provide for annual grants of stock options and RSUs, a one-time grant of RSUs to each new non-employee director and the issuance of TI common stock upon the distribution of stock units credited to deferred compensation accounts established for such directors.

We also have an employee stock purchase plan (ESPP) under which options are offered to all eligible employees in amounts based on a percentage of the employee's compensation, subject to a cap. Under the plan, the option price per share is 85 percent of the fair market value on the exercise date.

Total stock compensation expense recognized is as follows:

	For Years Ended December 31,		
	2018	**2017**	**2016**
COR	**$ 25**	$ 36	$ 40
R&D	**69**	59	60
SG&A	**138**	147	152
Total	**$ 232**	$ 242	$ 252

These amounts include expenses related to non-qualified stock options, RSUs and stock options offered under our ESPP and are net of estimated forfeitures.

We recognize compensation expense for non-qualified stock options and RSUs on a straight-line basis over the minimum service period required for vesting of the award, adjusting for estimated forfeitures based on historical activity. Awards issued to employees who are retirement eligible or nearing retirement eligibility are expensed on an accelerated basis. Options issued under our ESPP are expensed over a three-month period.

Fair-value methods and assumptions

We account for all awards granted under our various stock compensation plans at fair value. We estimate the fair values for non-qualified stock options using the Black-Scholes-Merton option-pricing model with the following weighted average assumptions:

	For Years Ended December 31,		
	2018	**2017**	**2016**
Weighted average grant date fair value, per share	**$ 23.20**	$ 16.49	$ 10.03
Weighted average assumptions used:			
Expected volatility	**23%**	24%	25%
Expected lives (in years)	**7.2**	7.2	7.3
Risk-free interest rates	**2.57%**	2.36%	1.72%
Expected dividend yields	**2.25%**	2.52%	2.87%

We determine expected volatility on all options granted using available implied volatility rates. We believe that market-based measures of implied volatility are currently the best available indicators of the expected volatility used in these estimates.

We determine expected lives of options based on the historical option exercise experience of our optionees using a rolling 10-year average. We believe the historical experience method is the best estimate of future exercise patterns currently available.

Risk-free interest rates are determined using the implied yield currently available for zero-coupon U.S. government issues with a remaining term equal to the expected life of the options.

Expected dividend yields are based on the annualized approved quarterly dividend rate and the current market price of our common stock at the time of grant. No assumption for a future dividend rate change is included unless there is an approved plan to change the dividend in the near term.

The fair value per share of RSUs is determined based on the closing price of our common stock on the date of grant.

Our ESPP is a discount-purchase plan and consequently the Black-Scholes-Merton option-pricing model is not used to determine the fair value per share of these awards. The fair value per share under this plan equals the amount of the discount.

Long-term incentive and director compensation plans

Stock option and RSU transactions under our long-term incentive and director compensation plans are as follows:

	Stock Options		RSUs	
	Shares	**Weighted Average Exercise Price per Share**	**Shares**	**Weighted Average Grant Date Fair Value per Share**
Outstanding grants, December 31, 2017	44,754,593	$ 48.49	9,225,643	$ 55.40
Granted	**4,617,486**	**110.07**	**1,247,239**	**110.05**
Stock options exercised/RSUs vested	**(8,432,458)**	**42.63**	**(2,769,994)**	**44.50**
Forfeited and expired	**(1,034,167)**	**77.30**	**(397,345)**	**70.34**
Outstanding grants, December 31, 2018	**39,905,454**	**56.10**	**7,305,543**	**66.72**

The weighted average grant date fair values per share of RSUs granted in 2018, 2017 and 2016 were $110.05, $79.52 and $53.98, respectively. In 2018, 2017 and 2016, the total grant date fair values of shares vested from RSU grants were $123 million, $149 million and $178 million, respectively.

As of December 31, 2018, the number of shares remaining available for future issuance under these plans was 50,167,414.

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Summarized information about stock options outstanding as of December 31, 2018, is as follows:

	Stock Options Outstanding			Options Exercisable	
Exercise Price Range	Number Outstanding (Shares)	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price per Share	Number Exercisable (Shares)	Weighted Average Exercise Price per Share
$ 14.47 to 20.00	573,629	0.1	$ 14.96	573,629	$ 14.96
20.01 to 40.00	9,508,056	2.9	31.21	9,508,056	31.21
40.01 to 60.00	19,883,804	6.2	50.95	12,397,285	49.53
60.01 to 80.00	5,612,386	8.1	79.21	1,143,118	79.20
80.01 to 100.00	37,917	9.3	91.16	3,714	91.54
100.01 to 113.30	4,289,662	9.1	110.15	—	—
14.47 to 113.30	39,905,454	5.9	56.10	23,625,802	42.76

In 2018, 2017 and 2016, the aggregate intrinsic values (i.e., the difference in the closing market price on the date of exercise and the exercise price paid by the optionee) of options exercised were $561 million, $632 million and $424 million, respectively.

Summarized information as of December 31, 2018, about outstanding stock options that are vested and expected to vest, as well as stock options that are currently exercisable, is as follows:

	Outstanding Stock Options (Fully Vested and Expected to Vest) (a)	Options Exercisable
Number of outstanding (shares)	39,274,492	23,625,802
Weighted average remaining contractual life (in years)	5.9	4.7
Weighted average exercise price per share	$ 55.60	$ 42.76
Intrinsic value (millions of dollars)	$ 1,591	$ 1,222

(a) Includes effects of expected forfeitures of approximately 1 million shares. Excluding the effects of expected forfeitures, the aggregate intrinsic value of stock options outstanding was $1.60 billion.

As of December 31, 2018, total future compensation related to equity awards not yet recognized in our Consolidated Statements of Income was $224 million, consisting of $97 million related to unvested stock options and $127 million related to unvested RSUs. The $224 million is expected to be recognized as follows: $110 million in 2019, $72 million in 2020, $37 million in 2021 and $5 million in 2022.

Employee stock purchase plan

Options outstanding under the ESPP as of December 31, 2018, had an exercise price equal to 85 percent of the fair market value of TI common stock on the date of automatic exercise. The automatic exercise occurred on January 2, 2019, resulting in an exercise price of $80.29 per share. Of the total outstanding options, none were exercisable as of December 31, 2018.

ESPP transactions are as follows:

	ESPP (Shares)	Exercise Price
Outstanding grants, December 31, 2017	202,179	$ 89.74
Granted	**847,535**	**87.48**
Exercised	**(819,878)**	**90.06**
Outstanding grants, December 31, 2018	**229,836**	**80.29**

The weighted average grant date fair values per share of options granted under the ESPP in 2018, 2017 and 2016 were $15.43, $12.99 and $9.79, respectively. In 2018, 2017 and 2016, the total intrinsic value of options exercised under these plans was $13 million, $13 million and $12 million, respectively.

As of December 31, 2018, the number of shares remaining available for future issuance under this plan was 34,555,101.

Effect on shares outstanding and treasury shares

Treasury shares were acquired in connection with the board-authorized stock repurchase program. As of December 31, 2018, $16.14 billion of stock repurchase authorizations remain, and no expiration date has been specified.

Our current practice is to issue shares of common stock from treasury shares upon exercise of stock options, distribution of director deferred compensation and vesting of RSUs. The following table reflects the changes in our treasury shares:

	Stock Options	RSUs	Treasury Shares
Balance, December 31, 2015			729,547,527
Repurchases			35,480,036
Shares used for:			
Stock options/RSUs	(14,516,606)	(5,639,666)	
Stock applied to taxes	—	1,336,476	
ESPP	(1,362,202)	—	
Director deferred stock units	—	—	(13,587)
Total issued	(15,878,808)	(4,303,190)	(20,181,998)
Balance, December 31, 2016			744,831,978
Repurchases			30,570,129
Shares used for:			
Stock options/RSUs	(13,313,019)	(4,419,464)	
Stock applied to taxes	—	1,058,100	
ESPP	(1,065,757)	—	
Director deferred stock units	—	—	(4,750)
Total issued	(14,378,776)	(3,361,364)	(17,740,140)
Balance, December 31, 2017			757,657,217
Repurchases			**49,482,220**
Shares used for:			
Stock options/RSUs	**(8,432,458)**	**(2,769,994)**	
Stock applied to taxes	**—**	**553,720**	
ESPP	**(819,878)**	**—**	
Director deferred stock units	**—**	**—**	**(5,181)**
Total issued	**(9,252,336)**	**(2,216,274)**	**(11,468,610)**
Balance, December 31, 2018			**795,665,646**

The effects on cash flows are as follows:

	For Years Ended December 31,		
	2018	2017	2016
Proceeds from common stock transactions (a)	**$ 373**	$ 483	$ 472
Tax benefit realized from stock compensation	**$ 179**	$ 341	$ 255
Reduction to deferred tax asset	**(43)**	(91)	(105)
Excess tax benefit for stock compensation	**$ 136**	$ 250	$ 150

(a) Net of taxes paid for employee shares withheld of $60 million, $83 million and $70 million in 2018, 2017 and 2016, respectively.

4. Profit sharing plans

Profit sharing benefits are generally formulaic and determined by one or more subsidiary or company-wide financial metrics. We pay profit sharing benefits primarily under the company-wide TI Employee Profit Sharing Plan. This plan provides for profit sharing to be paid based solely on TI's operating margin for the full calendar year. Under this plan, TI must achieve a minimum threshold of 10 percent operating margin before any profit sharing is paid. At 10 percent operating margin, profit sharing will be 2 percent of eligible payroll. The maximum amount of profit sharing available under the plan is 20 percent of eligible payroll, which is paid only if TI's operating margin is at or above 35 percent for a full calendar year.

We recognized $354 million, $355 million and $346 million of profit sharing expense under the TI Employee Profit Sharing Plan in 2018, 2017 and 2016, respectively.

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5. Income taxes

Income before income taxes is comprised of the following components:

	For Years Ended December 31, 2018	2017	2016
U.S.	**$ 5,672**	$ 5,130	$ 3,953
Non-U.S.	**1,014**	950	977
Total	**$ 6,686**	$ 6,080	$ 4,930

Provision for income taxes is comprised of the following components:

	For Years Ended December 31, 2018			2017			2016		
	Current	**Deferred**	**Total**	Current	Deferred	Total	Current	Deferred	Total
U.S. federal	**$ 979**	**$ (98)**	**$ 881**	$ 2,101	$ 51	$ 2,152	$ 1,289	$ (122)	$ 1,167
Non-U.S.	**225**	**(8)**	**217**	173	61	234	238	(80)	158
U.S. state	**7**	**1**	**8**	12	—	12	10	—	10
Total	**$ 1,211**	**$ (105)**	**$ 1,106**	$ 2,286	$ 112	$ 2,398	$ 1,537	$ (202)	$ 1,335

Principal reconciling items from the U.S. statutory income tax rate to the effective tax rate (provision for income taxes as a percentage of income before income taxes) are as follows:

	For Years Ended December 31, 2018	2017	2016
U.S. statutory income tax rate	**21.0%**	35.0%	35.0%
U.S. tax benefit for foreign derived intangible income	**(5.3)**	—	—
U.S. Tax Act transitional non-cash expense	**4.2**	—	—
U.S. Tax Act enactment-date effects and measurement period adjustments	**(0.7)**	12.7	—
U.S. tax on global intangible low-taxed income	**0.4**	—	—
U.S. tax benefit for manufacturing	**—**	(1.6)	(1.5)
U.S. excess tax benefit for stock compensation	**(2.0)**	(4.1)	(3.0)
U.S. R&D tax credit	**(1.3)**	(1.1)	(1.2)
U.S. non-deductible expenses	**0.2**	0.2	0.3
Non-U.S. effective tax rates	**0.1**	(2.5)	(3.7)
Impact of changes to uncertain tax positions	**—**	0.7	0.6
Other	**(0.1)**	0.1	0.6
Effective tax rate	**16.5%**	39.4%	27.1%

The Tax Act was enacted on December 22, 2017. The Tax Act reduces the U.S. statutory income tax rate from 35 percent to 21 percent and requires companies to pay a one-time tax on indefinitely reinvested earnings of certain non-U.S. subsidiaries that were previously tax deferred. We applied the guidance in Staff Accounting Bulletin No. 118 when accounting for the enactment-date effects of the Tax Act in 2017 and throughout 2018. As of December 31, 2017, we had not completed our accounting for the enactment-date income tax effects of the Tax Act for the following aspects: one-time tax on indefinitely reinvested earnings and the effects on our existing deferred tax balances. As of December 31, 2018, we completed our accounting for the enactment-date income tax effects of the Tax Act. We booked a provisional amount of $773 million in 2017 and reduced our provisional amount by $44 million in 2018, for a net of $729 million. The Tax Act also included the global intangible low-taxed income (GILTI) tax for years beginning in 2018. We account for the effects of GILTI as a component of income tax expense in the period in which the tax arises.

The earnings represented by non-cash operating assets, such as fixed assets and certain inventory, will continue to be permanently reinvested outside the United States. The tax on indefinitely reinvested earnings eliminates any additional U.S. taxation of these earnings upon repatriation to the United States. Consequently, no U.S. tax provision has been made for the future remittance of these earnings. However, withholding taxes in certain non-U.S. jurisdictions will be incurred upon repatriation of available cash to the United States. A provision has been made for deferred taxes on these undistributed earnings to the extent that dividend payments from these subsidiaries are expected to result in a withholding tax liability. As of December 31, 2018, we have no basis differences that would result in material unrecognized deferred tax liabilities.

Our effective tax rate is affected by U.S. tax benefits and tax rates applicable to our operations in many of the jurisdictions in which we operate, most of which were lower than the U.S. statutory income tax rate prior to enactment of the Tax Act. These non-U.S. tax rates are generally statutory in nature and without expiration.

The primary components of deferred tax assets and liabilities are as follows:

	December 31, 2018	December 31, 2017
Deferred tax assets:		
Deferred loss and tax credit carryforwards	**$ 247**	$ 256
Accrued expenses	**129**	119
Stock compensation	**122**	107
Inventories and related reserves	**107**	93
Retirement costs for defined benefit and retiree health care	**80**	38
Other	**—**	9
Total deferred tax assets, before valuation allowance	**685**	622
Valuation allowance	**(172)**	(165)
Total deferred tax assets, after valuation allowance	**513**	457
Deferred tax liabilities:		
Acquisition-related intangibles and fair-value adjustments	**(142)**	(207)
International earnings	**(43)**	(64)
Other	**(75)**	—
Total deferred tax liabilities	**(260)**	(271)
Net deferred tax asset	**$ 253**	$ 186

The deferred tax assets and liabilities based on tax jurisdictions are presented on our Consolidated Balance Sheets as follows:

	December 31, 2018	December 31, 2017
Deferred tax assets	**$ 295**	$ 264
Deferred tax liabilities	**(42)**	(78)
Net deferred tax asset	**$ 253**	$ 186

We make an ongoing assessment regarding the realization of U.S. and non-U.S. deferred tax assets. This assessment is based on our evaluation of relevant criteria, including the existence of deferred tax liabilities that can be used to absorb deferred tax assets, taxable income in prior carryback years and expectations for future taxable income. Valuation allowances increased by $7 million and $37 million in 2018 and 2017, respectively. These changes had no impact to net income in 2018 or 2017.

We have U.S. and non-U.S. tax loss carryforwards of approximately $6 million, none of which will expire before the year 2028.

Cash payments made for income taxes, net of refunds, were $705 million, $1.80 billion and $1.15 billion in 2018, 2017 and 2016, respectively.

Uncertain tax positions

We operate in a number of tax jurisdictions, and our income tax returns are subject to examination by tax authorities in those jurisdictions who may challenge any item on these tax returns. Because the matters challenged by authorities are typically complex, their ultimate outcome is uncertain. Before any benefit can be recorded in our financial statements, we must determine that it is “more likely than not” that a tax position will be sustained by the appropriate tax authorities. We recognize accrued interest related to uncertain tax positions and penalties as components of OI&E.

The changes in the total amounts of uncertain tax positions are as follows:

	2018	2017	2016
Balance, January 1	**$ 300**	$ 243	$ 84
Additions based on tax positions related to the current year	**3**	17	4
Additions for tax positions of prior years	**1**	42	189
Reductions for tax positions of prior years	**—**	(1)	(2)
Settlements with tax authorities	**(18)**	(1)	(32)
Balance, December 31	**$ 286**	$ 300	$ 243
Interest income (expense) recognized in the year ended December 31	**$ (15)**	$ (19)	$ 4
Interest receivable (payable) as of December 31	**$ (49)**	$ (38)	$ 13

The liability for uncertain tax positions is a component of other long-term liabilities on our Consolidated Balance Sheets.

All of the $286 million and $300 million liabilities for uncertain tax positions as of December 31, 2018 and 2017, respectively, are comprised of positions that, if recognized, would lower the effective tax rate. If these liabilities are ultimately realized, $30 million and $13 million of existing deferred tax assets in 2018 and 2017, respectively, would also be realized. It is reasonably possible that the $286 million liability as of December 31, 2018, could decrease by up to $223 million in 2019 for the resolution of a tax depreciation-related position.

As of December 31, 2018, the statute of limitations remains open for U.S. federal tax returns for 2013 and following years. Audit activities related to our U.S. federal tax returns through 2012 have been completed except for certain pending tax treaty procedures for relief from double taxation. The procedures for relief from double taxation pertain to U.S. federal tax returns for the years 2006 through 2012. The audit of the U.S. federal tax returns for 2013 through 2015 is underway.

In non-U.S. jurisdictions, the years open to audit represent the years still open under the statute of limitations. With respect to major jurisdictions outside the United States, our subsidiaries are no longer subject to income tax audits for years before 2007.

6. Financial instruments and risk concentration

Financial instruments

We hold derivative financial instruments such as forward foreign currency exchange contracts, the fair value of which was not material as of December 31, 2018. Our forward foreign currency exchange contracts outstanding as of December 31, 2018, had a notional value of $525 million to hedge our non-U.S. dollar net balance sheet exposures, including $160 million to sell Japanese yen, $99 million to sell euros and $94 million to sell Indian rupees.

Our investments in cash equivalents, short-term investments and certain long-term investments, as well as our deferred compensation liabilities, are carried at fair value. Our postretirement plan assets are carried at fair value or net asset value per share. The carrying values for other current financial assets and liabilities, such as accounts receivable and accounts payable, approximate fair value due to the short maturity of such instruments. The carrying value of our long-term debt approximates the fair value as measured using broker-dealer quotes, which are Level 2 inputs. See Note 7 for a description of fair value and the definition of Level 2 inputs.

Risk concentration

We are subject to counterparty risks from financial institutions, customers and issuers of debt securities. Financial instruments that could subject us to concentrations of credit risk are primarily cash deposits, cash equivalents, short-term investments and accounts receivable. To manage our credit risk exposure, we place cash investments in investment-grade debt securities and limit the amount of credit exposure to any one issuer. We also limit counterparties on cash deposits and financial derivative contracts to financial institutions with investment-grade ratings.

Concentrations of credit risk with respect to accounts receivable are limited due to our large number of customers and their dispersion across different industries and geographic areas. We maintain allowances for expected returns, disputes, adjustments, incentives and collectability. These allowances are deducted from accounts receivable on our Consolidated Balance Sheets.

Details of these accounts receivable allowances are as follows:

	2018	2017	2016
Balance, January 1	**$ 8**	$ 17	$ 7
Amounts charged (credited) to operating results	**11**	(9)	10
Recoveries and write-offs, net	**—**	—	—
Balance, December 31	**$ 19**	$ 8	$ 17

Major customer

No end customer accounted for 10 percent or more of revenue in 2018, 2017 or 2016.

7. Valuation of debt and equity investments and certain liabilities

Debt and equity investments measured at fair value

Available-for-sale debt investments and trading securities are stated at fair value, which is generally based on market prices or broker quotes. See *Fair-value considerations* below. Unrealized gains and losses from available-for-sale debt securities are recorded as an increase or decrease, net of taxes, in AOCI on our Consolidated Balance Sheets. Other-than-temporary impairments on available-for-sale debt securities are recorded in OI&E in our Consolidated Statements of Income.

We classify certain mutual funds as trading securities. These mutual funds hold a variety of debt and equity investments intended to generate returns that offset changes in certain deferred compensation liabilities. We record changes in the fair value of these mutual funds and the related deferred compensation liabilities in SG&A.

Other equity investments

Our other investments include equity-method investments and non-marketable equity investments, which are not measured at fair value. These investments consist of interests in venture capital funds and other non-marketable equity securities. Gains and losses from equity-method investments are recognized in OI&E based on our ownership share of the investee's financial results.

Non-marketable equity securities are measured at cost with adjustments for observable changes in price or impairments. Prior to our adoption of ASU 2016-01 in 2018, these securities were accounted for using the cost method of accounting, measured at cost less other-than-temporary impairment. Gains and losses on non-marketable equity investments are recognized in OI&E.

Details of our investments are as follows:

	December 31, 2018			December 31, 2017		
	Cash and Cash Equivalents	Short-Term Investments	Long-Term Investments	Cash and Cash Equivalents	Short-Term Investments	Long-Term Investments
Measured at fair value:						
Available-for-sale debt securities:						
Money market funds	**$ 747**	**$ —**	**$ —**	$ 525	$ —	$ —
Corporate obligations	**473**	**748**	**—**	172	698	—
U.S. government agency and Treasury securities	**988**	**1,047**	**—**	700	2,115	—
Trading securities:						
Mutual funds	**—**	**—**	**226**	—	—	236
Total	**2,208**	**1,795**	**226**	1,397	2,813	236
Other measurement basis:						
Equity-method investments	**—**	**—**	**21**	—	—	26
Non-marketable equity investments	**—**	**—**	**4**	—	—	6
Cash on hand	**230**	**—**	**—**	259	—	—
Total	**$ 2,438**	**$ 1,795**	**$ 251**	$ 1,656	$ 2,813	$ 268

As of December 31, 2018 and 2017, unrealized gains and losses associated with our available-for-sale investments were not material. We did not recognize any credit losses related to available-for-sale investments in 2018, 2017 or 2016.

In 2018, 2017 and 2016, the proceeds from sales, redemptions and maturities of short-term available-for-sale investments were $6.71 billion, $4.10 billion and $3.39 billion, respectively. Gross realized gains and losses from these sales were not material.

The following table presents the aggregate maturities of our available-for-sale debt investments as of December 31, 2018:

	Fair Value
One year or less	$ 3,838
One to two years	165

There were no other-than-temporary declines and impairments in the values of our debt investments in 2018, 2017 or 2016.

Fair-value considerations

We measure and report certain financial assets and liabilities at fair value on a recurring basis. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date.

The three-level hierarchy discussed below indicates the extent and level of judgment used to estimate fair-value measurements.

- *Level 1* – Uses unadjusted quoted prices that are available in active markets for identical assets or liabilities as of the reporting date.
- *Level 2* – Uses inputs other than Level 1 that are either directly or indirectly observable as of the reporting date through correlation with market data, including quoted prices for similar assets and liabilities in active markets and quoted prices in markets that are not active. Level 2 also includes assets and liabilities that are valued using models or other pricing methodologies that do not require significant judgment since the input assumptions used in the models, such as interest rates and volatility factors, are corroborated by readily observable data. We utilize a third-party data service to provide Level 2 valuations. We verify these valuations for reasonableness relative to unadjusted quotes obtained from brokers or dealers based on observable prices for similar assets in active markets.
- *Level 3* – Uses inputs that are unobservable, supported by little or no market activity and reflect the use of significant management judgment. These values are generally determined using pricing models that utilize management estimates of market participant assumptions. As of December 31, 2018 and 2017, we had no Level 3 assets or liabilities, other than certain assets held by our postretirement plans.

The following are our assets and liabilities that were accounted for at fair value on a recurring basis. These tables do not include cash on hand, assets held by our postretirement plans, or assets and liabilities that are measured at historical cost or any basis other than fair value.

	December 31, 2018			December 31, 2017		
	Level 1	**Level 2**	**Total**	**Level 1**	**Level 2**	**Total**
Assets:						
Money market funds	**$ 747**	**$ —**	**$ 747**	$ 525	$ —	$ 525
Corporate obligations	**—**	**1,221**	**1,221**	—	870	870
U.S. government agency and Treasury securities	**2,035**	**—**	**2,035**	2,765	50	2,815
Mutual funds	**226**	**—**	**226**	236	—	236
Total assets	**$ 3,008**	**$ 1,221**	**$ 4,229**	$ 3,526	$ 920	$ 4,446
Liabilities:						
Deferred compensation	**$ 246**	**$ —**	**$ 246**	$ 255	$ —	$ 255
Total liabilities	**$ 246**	**$ —**	**$ 246**	$ 255	$ —	$ 255

8. Goodwill and acquisition-related intangibles

Goodwill by segment as of December 31, 2018 and 2017, is as follows:

	Goodwill
Analog	$ 4,158
Embedded Processing	172
Other	32
Total	$ 4,362

We perform our annual goodwill impairment test as of October 1 and determine whether the fair value of each of our reporting units is in excess of its carrying value. Determination of fair value is based upon management estimates and judgment, using unobservable inputs in discounted cash flow models to calculate the fair value of each reporting unit. These unobservable inputs are considered Level 3 measurements, as described in Note 7. In 2018, 2017 and 2016, we determined no impairment was indicated.

The components of acquisition-related intangibles are as follows:

		December 31, 2018			December 31, 2017		
	Amortization Period (Years)	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Developed technology	7 - 10	**$ 2,125**	**$ 1,573**	**$ 552**	$ 2,130	$ 1,361	$ 769
Customer relationships	8	**810**	**734**	**76**	810	633	177
Total		**$ 2,935**	**$ 2,307**	**$ 628**	$ 2,940	$ 1,994	$ 946

Acquisition charges

Acquisition charges represent the ongoing amortization of intangible assets resulting from the acquisition of National Semiconductor Corporation. These amounts are included in Other for segment reporting purposes, consistent with how management measures the performance of its segments.

Amortization of acquisition-related intangibles was $318 million, $318 million and $319 million in 2018, 2017 and 2016, respectively. Fully amortized assets are written off against accumulated amortization. Remaining estimated amortization is as follows:

	Amortization of Acquisition-Related Intangibles
2019	$ 288
2020	198
2021	142

9. Postretirement benefit plans

Plan descriptions

We have various employee retirement plans, including defined contribution, defined benefit and retiree health care benefit plans. For qualifying employees, we offer deferred compensation arrangements.

U.S. retirement plans

Our principal retirement plans in the United States are a defined contribution plan; an enhanced defined contribution plan; and qualified and non-qualified defined benefit pension plans. The defined benefit plans were closed to new participants in 1997, and then current participants were allowed to make a one-time election to continue accruing a benefit in the plans, or to cease accruing a benefit and instead to participate in the enhanced defined contribution plan described below.

Both defined contribution plans offer an employer-matching savings option that allows employees to make pre-tax and post-tax contributions to various investment choices. Employees who elected to continue accruing a benefit in the qualified defined benefit pension plans may also participate in the defined contribution plan, where employer-matching contributions are provided for up to 2 percent of the employee’s annual eligible earnings. Employees who elected not to continue accruing a benefit in the defined benefit pension plans, and employees hired after November 1997 and through December 31, 2003, may participate in the enhanced defined contribution plan. This plan provides for a fixed employer contribution of 2 percent of the employee’s annual eligible earnings, plus an employer-matching contribution of up to 4 percent of the employee’s annual eligible earnings. Employees hired after December 31, 2003, do not receive the fixed employer contribution of 2 percent of the employee’s annual eligible earnings.

As of December 31, 2018 and 2017, as a result of employees' elections, TI's U.S. defined contribution plans held shares of TI common stock totaling 9 million shares and 10 million shares valued at $821 million and $1.00 billion, respectively. Dividends paid on these shares in 2018 and 2017 were $24 million and $22 million, respectively. Effective April 1, 2016, the TI common stock fund was frozen to new contributions or transfers into the fund.

Our aggregate expense for the U.S. defined contribution plans was $61 million in 2018 and 2017 and $60 million in 2016.

The defined benefit pension plans include employees still accruing benefits, as well as employees and participants who no longer accrue service-related benefits, but instead, may participate in the enhanced defined contribution plan. Benefits under the qualified defined benefit pension plan are determined using a formula based upon years of service and the highest five consecutive years of compensation. We intend to contribute amounts to this plan to meet the minimum funding requirements of applicable local laws and regulations, plus such additional amounts as we deem appropriate. The non-qualified defined benefit plans are unfunded and closed to new participants.

U.S. retiree health care benefit plan

U.S. employees who meet eligibility requirements are offered medical coverage during retirement. We make a contribution toward the cost of those retiree medical benefits for certain retirees and their dependents. The contribution rates are based upon various factors, the most important of which are an employee's date of hire, date of retirement, years of service and eligibility for Medicare benefits. The balance of the cost is borne by the plan's participants. Employees hired after January 1, 2001, are responsible for the full cost of their medical benefits during retirement.

Non-U.S. retirement plans

We provide retirement coverage for non-U.S. employees, as required by local laws or to the extent we deem appropriate, through a number of defined benefit and defined contribution plans. Retirement benefits are generally based on an employee's years of service and compensation. Funding requirements are determined on an individual country and plan basis and are subject to local country practices and market circumstances.

As of December 31, 2018 and 2017, as a result of employees' elections, TI's non-U.S. defined contribution plans held TI common stock valued at $23 million and $27 million, respectively. Dividends paid on these shares of TI common stock in 2018 and 2017 were not material.

Effects on our Consolidated Statements of Income and Balance Sheets

Expense related to defined benefit and retiree health care benefit plans is as follows:

	U.S. Defined Benefit			U.S. Retiree Health Care			Non-U.S. Defined Benefit		
	2018	**2017**	**2016**	**2018**	**2017**	**2016**	**2018**	**2017**	**2016**
Service cost	**$ 19**	$ 22	$ 22	**$ 5**	$ 5	$ 5	**$ 36**	$ 37	$ 34
Interest cost	**35**	42	42	**15**	17	20	**45**	44	52
Expected return on plan assets	**(42)**	(41)	(41)	**(15)**	(17)	(20)	**(67)**	(62)	(68)
Amortization of prior service credit	**—**	—	—	**(3)**	(4)	(3)	**(1)**	(2)	(2)
Recognized net actuarial loss	**17**	14	21	**2**	3	7	**20**	28	25
Net periodic benefit costs	**29**	37	44	**4**	4	9	**33**	45	41
Settlement losses	**23**	36	21	**—**	—	—	**3**	2	2
Total, including other postretirement losses	**$ 52**	$ 73	$ 65	**$ 4**	$ 4	$ 9	**$ 36**	$ 47	$ 43

All defined benefit and retiree health care benefit plan expense components other than service cost are recognized in OI&E in our Consolidated Statements of Income. Service cost is recognized within operating profit.

For the U.S. qualified pension and retiree health care plans, the expected return on plan assets component of net periodic benefit cost is based upon a market-related value of assets. In accordance with U.S. GAAP, the market-related value of assets is the fair value adjusted by a smoothing technique whereby certain gains and losses are phased in over a period of three years.

Changes in the benefit obligations and plan assets for defined benefit and retiree health care benefit plans are as follows:

	U.S. Defined Benefit		U.S. Retiree Health Care		Non-U.S. Defined Benefit	
	2018	**2017**	**2018**	**2017**	**2018**	**2017**
Change in plan benefit obligation						
Benefit obligation at beginning of year:	**$ 998**	$ 1,030	**$ 414**	$ 434	**$ 2,469**	$ 2,361
Service cost	**19**	22	**5**	5	**36**	37
Interest cost	**35**	42	**15**	17	**45**	44
Participant contributions	**—**	—	**11**	9	**7**	6
Benefits paid	**(10)**	(9)	**(41)**	(39)	**(87)**	(90)
Settlements	**(100)**	(196)	**—**	—	**(16)**	(13)
Actuarial loss (gain)	**(68)**	109	**(43)**	(15)	**6**	(52)
Plan amendments	**—**	—	**—**	3	**7**	—
Effects of exchange rate changes	**—**	—	**—**	—	**(56)**	176
Benefit obligation at end of year	**$ 874**	$ 998	**$ 361**	$ 414	**$ 2,411**	$ 2,469
Change in plan assets						
Fair value of plan assets at beginning of year:	**$ 995**	$ 1,034	**$ 394**	$ 434	**$ 2,593**	$ 2,309
Actual return on plan assets	**(56)**	123	**(12)**	44	**(52)**	148
Employer contributions (qualified plans)	**20**	25	**1**	1	**19**	56
Employer contributions (non-qualified plans)	**20**	18	**—**	—	**—**	—
Participant contributions	**—**	—	**11**	9	**7**	6
Benefits paid	**(10)**	(9)	**(41)**	(39)	**(87)**	(90)
Settlements	**(100)**	(196)	**—**	—	**(16)**	(13)
Effects of exchange rate changes	**—**	—	**—**	—	**(54)**	177
Other	**—**	—	**(23)**	(55)	**—**	—
Fair value of plan assets at end of year	**$ 869**	$ 995	**$ 330**	$ 394	**$ 2,410**	$ 2,593
Funded status at end of year	**$ (5)**	$ (3)	**$ (31)**	$ (20)	**$ (1)**	$ 124

Amounts recognized on our Consolidated Balance Sheets as of December 31, are as follows:

	U.S. Defined Benefit	U.S. Retiree Health Care	Non-U.S. Defined Benefit	Total
2018				
Overfunded retirement plans	**$ 40**	**$ —**	**$ 52**	**$ 92**
Accrued expenses and other liabilities & other long-term liabilities	**(8)**	**—**	**(3)**	**(11)**
Underfunded retirement plans	**(37)**	**(31)**	**(50)**	**(118)**
Funded status at end of 2018	**$ (5)**	**$ (31)**	**$ (1)**	**$ (37)**
2017				
Overfunded retirement plans	$ 58	$ —	$ 150	$ 208
Accrued expenses and other liabilities & other long-term liabilities	(13)	—	(5)	(18)
Underfunded retirement plans	(48)	(20)	(21)	(89)
Funded status at end of 2017	$ (3)	$ (20)	$ 124	$ 101

Contributions to the plans meet or exceed all minimum funding requirements. We expect to contribute about $50 million to our retirement benefit plans in 2019. The amounts shown for underfunded U.S. defined benefit plans were for non-qualified pension plans, which we do not fund because contributions to them are not tax deductible.

Accumulated benefit obligations, which are generally less than the projected benefit obligations as they exclude the impact of future salary increases, were $793 million and $899 million as of December 31, 2018 and 2017, respectively, for the U.S. defined benefit plans, and $2.29 billion and $2.33 billion as of December 31, 2018 and 2017, respectively, for the non-U.S. defined benefit plans.

The change in AOCI is as follows:

	U.S. Defined Benefit	U.S. Retiree Health Care		Non-U.S. Defined Benefit		Total	
	Net Actuarial Loss	Net Actuarial Loss	Prior Service Credit	Net Actuarial Loss	Prior Service Credit	Net Actuarial Loss	Prior Service Credit
AOCI balance, net of taxes, December 31, 2017	$ 118	$ 29	$ (6)	$ 247	$ (4)	$ 394	$ (10)
Changes in AOCI by category:							
Adjustments	**29**	**(16)**	**—**	**120**	**7**	**133**	**7**
Recognized within net income	**(39)**	**(2)**	**3**	**(24)**	**1**	**(65)**	**4**
Tax effect	**2**	**4**	**(1)**	**(26)**	**(1)**	**(20)**	**(2)**
Cumulative effect of accounting changes (a)	**25**	**6**	**(1)**	**—**	**—**	**31**	**(1)**
Total change to AOCI	**17**	**(8)**	**1**	**70**	**7**	**79**	**8**
AOCI balance, net of taxes, December 31, 2018	**$ 135**	**$ 21**	**$ (5)**	**$ 317**	**$ 3**	**$ 473**	**$ (2)**

(a) Reflects the adoption of ASU 2018-02. See Note 2 for additional information.

The estimated amounts of net actuarial loss and unrecognized prior service cost (credit) included in AOCI as of December 31, 2018, that are expected to be amortized into net periodic benefit cost over the next fiscal year are: $10 million and none for the U.S. defined benefit plans; none and ($2) million for the U.S. retiree health care benefit plan; and $29 million and $1 million for the non-U.S. defined benefit plans.

Information on plan assets

We report and measure the plan assets of our defined benefit pension and other postretirement plans at fair value. The tables below set forth the fair value of our plan assets using the same three-level hierarchy of fair-value inputs described in Note 7.

	December 31, 2018				
	Level 1	Level 2	Level 3	Other (a)	Total
Assets of U.S. defined benefit plan:					
Fixed income securities and cash equivalents	**$ —**	**$ —**	**$ —**	**$ 563**	**$ 563**
Equity securities	**—**	**—**	**—**	**306**	**306**
Total	**$ —**	**$ —**	**$ —**	**$ 869**	**$ 869**
Assets of U.S. retiree health care plan:					
Fixed income securities and cash equivalents	**$ 59**	**$ —**	**$ —**	**$ 155**	**$ 214**
Equity securities	**—**	**—**	**—**	**116**	**116**
Total	**$ 59**	**$ —**	**$ —**	**$ 271**	**$ 330**
Assets of non-U.S. defined benefit plans:					
Fixed income securities and cash equivalents	**$ 47**	**$ 139**	**$ —**	**$ 1,602**	**$ 1,788**
Equity securities	**33**	**1**	**—**	**588**	**622**
Total	**$ 80**	**$ 140**	**$ —**	**$ 2,190**	**$ 2,410**

(a) Consists of bond index and equity index funds, measured at net asset value per share, as well as cash equivalents.

	December 31, 2017				
	Level 1	Level 2	Level 3	Other (a)	Total
Assets of U.S. defined benefit plan:					
Fixed income securities and cash equivalents	$ —	$ —	$ —	$ 654	$ 654
Equity securities	—	—	—	341	341
Total	$ —	$ —	$ —	$ 995	$ 995
Assets of U.S. retiree health care plan:					
Fixed income securities and cash equivalents	$ 132	$ 2	$ —	$ 111	$ 245
Equity securities	—	—	—	149	149
Total	$ 132	$ 2	$ —	$ 260	$ 394
Assets of non-U.S. defined benefit plans:					
Fixed income securities and cash equivalents	$ 16	$ 183	$ —	$ 1,646	$ 1,845
Equity securities	7	23	—	717	747
Other	—	—	1	—	1
Total	$ 23	$ 206	$ 1	$ 2,363	$ 2,593

(a) Consists of bond index and equity index funds, measured at net asset value per share, as well as cash equivalents.

The investments in our major benefit plans largely consist of low-cost, broad-market index funds to mitigate risks of concentration within market sectors. Our investment policy is designed to better match the interest rate sensitivity of the plan assets and liabilities. The appropriate mix of equity and bond investments is determined primarily through the use of detailed asset-liability modeling studies that look to balance the impact of changes in the discount rate against the need to provide asset growth to cover future service cost. Most of our plans around the world have a greater proportion of fixed income securities with return characteristics that are more closely aligned with changes in the liabilities caused by discount rate volatility. For the U.S. plans, we utilize an option collar strategy to reduce the volatility of returns on certain investments in U.S. equity funds.

The only Level 3 asset in our worldwide benefit plans for the periods presented is a diversified property fund in a non-U.S. pension plan. These investments are valued using inputs from the fund managers and internal models. Changes to the fair value of this fund since December 31, 2016, have not been material, and are due to redemptions.

Assumptions and investment policies

	U.S. Defined Benefit		U.S. Retiree Health Care		Non-U.S. Defined Benefit	
	2018	2017	2018	2017	2018	2017
Weighted average assumptions used to determine benefit obligations:						
Discount rate	**4.37%**	3.75%	**4.30%**	3.63%	**1.85%**	1.84%
Long-term pay progression	**3.30%**	3.30%	**n/a**	n/a	**2.96%**	2.96%
Weighted average assumptions used to determine net periodic benefit cost:						
Discount rate	**3.77%**	4.21%	**3.63%**	4.08%	**1.84%**	1.76%
Long-term rate of return on plan assets	**4.80%**	4.30%	**4.10%**	4.10%	**2.58%**	2.60%
Long-term pay progression	**3.30%**	3.30%	**n/a**	n/a	**2.96%**	3.11%

We utilize a variety of methods to select an appropriate discount rate depending on the depth of the corporate bond market in the country in which the benefit plan operates. In the United States, we use a settlement approach whereby a portfolio of bonds is selected from the universe of actively traded high-quality U.S. corporate bonds. The selected portfolio is designed to provide cash flows sufficient to pay the plan's expected benefit payments when due. The resulting discount rate reflects the rate of return of the selected portfolio of bonds. For our non-U.S. locations with a sufficient number of actively traded high-quality bonds, an analysis is performed in which the projected cash flows from the defined benefit plans are discounted against a yield curve constructed with an appropriate universe of high-quality corporate bonds available in each country. In this manner, a present value is developed. The discount rate selected is the single equivalent rate that produces the same present value. For countries that lack a sufficient corporate bond market, a government bond index adjusted for an appropriate risk premium is used to establish the discount rate.

Assumptions for the expected long-term rate of return on plan assets are based on future expectations for returns for each asset class and the effect of periodic target asset allocation rebalancing. We adjust the results for the payment of reasonable expenses of the plan from plan assets. We believe our assumptions are appropriate based on the investment mix and long-term nature of the plans' investments. Assumptions used for the non-U.S. defined benefit plans reflect the different economic environments within the various countries.

The target allocation ranges for the plans that hold a substantial majority of the defined benefit assets are as follows:

	U.S. Defined Benefit	U.S. Retiree Health Care	Non-U.S. Defined Benefit
Fixed income securities and cash equivalents	65%	55% – 65%	60% – 100%
Equity securities	35%	35% – 45%	0% – 40%

We rebalance the plans' investments when they are not within the target allocation ranges.

Weighted average asset allocations as of December 31 are as follows:

	U.S. Defined Benefit		U.S. Retiree Health Care		Non-U.S. Defined Benefit	
	2018	2017	2018	2017	2018	2017
Fixed income securities and cash equivalents	**65%**	66%	**65%**	62%	**74%**	71%
Equity securities	**35%**	34%	**35%**	38%	**26%**	29%

None of the plan assets related to the defined benefit pension plans and retiree health care benefit plan are directly invested in TI common stock. As of December 31, 2018, we do not expect to return any of the defined benefit pension plans' assets to TI in the next 12 months.

The following assumed future benefit payments to plan participants in the next 10 years are used to measure our benefit obligations. Almost all of the payments, which may vary significantly from these assumptions, will be made from plan assets and not from company assets.

	U.S. Defined Benefit	U.S. Retiree Health Care	Non-U.S. Defined Benefit
2019	$ 78	$ 32	$ 88
2020	105	31	90
2021	77	30	92
2022	79	29	95
2023	85	28	95
2024 – 2028	428	124	510

Assumed health care cost trend rates for the U.S. retiree health care benefit plan as of December 31 are as follows:

	2018	2017
Assumed health care cost trend rate for next year	**7.25%**	7.50%
Ultimate trend rate	**5.00%**	5.00%
Year in which ultimate trend rate is reached	**2028**	2028

A one percentage point increase or decrease in health care cost trend rates over all future periods would have increased or decreased the accumulated postretirement benefit obligation for the U.S. retiree health care benefit plan as of December 31, 2018, by $1 million. The service cost and interest cost components of 2018 plan expense would have increased or decreased by less than $1 million.

Deferred compensation arrangements

We have a deferred compensation plan that allows U.S. employees whose base salary and management responsibility exceed a certain level to defer receipt of a portion of their cash compensation. Payments under this plan are made based on the participant's distribution election and plan balance. Participants can earn a return on their deferred compensation based on notional investments in the same investment funds that are offered in our defined contribution plans.

As of December 31, 2018, our liability to participants of the deferred compensation plans was $246 million and is recorded in other long-term liabilities on our Consolidated Balance Sheets. This amount reflects the accumulated participant deferrals and earnings thereon as of that date. As of December 31, 2018, we held $226 million in mutual funds related to these plans that are recorded in long-term investments on our Consolidated Balance Sheets, and serve as an economic hedge against changes in fair values of our other deferred compensation liabilities. We record changes in the fair value of the liability and the related investment in SG&A as discussed in Note 7.

10. Debt and lines of credit

Short-term borrowings

We maintain a line of credit to support commercial paper borrowings, if any, and to provide additional liquidity through bank loans. As of December 31, 2018, we had a variable-rate revolving credit facility from a consortium of investment-grade banks that allows us to borrow up to $2 billion until March 2023. The interest rate on borrowings under this credit facility, if drawn, is indexed to the applicable London Interbank Offered Rate (LIBOR). As of December 31, 2018, our credit facility was undrawn, and we had no commercial paper outstanding.

Long-term debt

We retired $500 million of maturing debt in May 2018.

In the second quarter of 2018, we issued an aggregate principal amount of $1.5 billion of fixed-rate, long-term debt due in 2048, comprised of the issuance of $1.3 billion in May 2018 and an additional $200 million in June 2018. We incurred $16 million of issuance and other related costs. The proceeds of the offering were $1.5 billion, net of the original issuance discount and premium, and were used for general corporate purposes.

We retired $250 million of maturing debt in March 2017 and another $375 million in June 2017.

In May 2017, we issued an aggregate principal amount of $600 million of fixed-rate, long-term debt. The offering consisted of the reissuance of $300 million of 2.75% notes due in 2021 at a premium and the issuance of $300 million of 2.625% notes due in 2024 at a discount. We incurred $3 million of issuance and other related costs. The proceeds of the offerings were $605 million, net of the original issuance discount and premium, and were used for the repayment of maturing debt and general corporate purposes.

In November 2017, we issued a principal amount of $500 million of fixed-rate, long-term debt due in 2027. We incurred $3 million of issuance and other related costs. The proceeds of the offering were $494 million, net of the original issuance discount, and were used for general corporate purposes.

In May 2016, we issued a principal amount of $500 million of fixed-rate, long-term debt due in 2022. We incurred $3 million of issuance and other related costs. The proceeds of the offering were $499 million, net of the original issuance discount, and were used toward the repayment of a portion of $1.0 billion of maturing debt retired in May 2016.

Long-term debt outstanding is as follows:

	December 31, 2018	December 31, 2017
Notes due 2018 at 1.00%	**$ —**	$ 500
Notes due 2019 at 1.65%	**750**	750
Notes due 2020 at 1.75%	**500**	500
Notes due 2021 at 2.75%	**550**	550
Notes due 2022 at 1.85%	**500**	500
Notes due 2023 at 2.25%	**500**	500
Notes due 2024 at 2.625%	**300**	300
Notes due 2027 at 2.90%	**500**	500
Notes due 2048 at 4.15%	**1,500**	—
Total debt	**5,100**	4,100
Net unamortized discounts, premiums and issuance costs	**(32)**	(23)
Total debt, including net unamortized discounts, premiums and issuance costs	**5,068**	4,077
Current portion of long-term debt	**(749)**	(500)
Long-term debt	**$ 4,319**	$ 3,577

Interest and debt expense was $125 million, $78 million and $80 million in 2018, 2017 and 2016, respectively. This was net of the amortized discounts, premiums and issuance costs. Cash payments for interest on long-term debt were $114 million, $75 million and $88 million in 2018, 2017 and 2016, respectively. Capitalized interest was not material.

11. Commitments and contingencies

Purchase commitments

Some of our purchase commitments include payments for software licenses and contractual agreements with suppliers where there is a fixed, non-cancellable payment schedule or minimum payments due with a reduced delivery schedule.

Operating leases

We conduct certain operations in leased facilities and also lease a portion of our data processing and other equipment. In addition, certain long-term supply agreements to purchase industrial gases are accounted for as operating leases. Lease agreements frequently include purchase and renewal provisions and require us to pay taxes, insurance and maintenance costs. Rental and lease expense incurred was $79 million, $81 million and $86 million in 2018, 2017 and 2016, respectively.

As of December 31, 2018, we had committed to make the following minimum payments under our purchase commitments and non-cancellable operating leases:

	Purchase Commitments	Operating Leases
2019	$ 389	$ 56
2020	339	46
2021	130	36
2022	22	29
2023	15	18
Thereafter	15	39

Indemnification guarantees

We routinely sell products with an intellectual property indemnification included in the terms of sale. Historically, we have had only minimal, infrequent losses associated with these indemnities. Consequently, we cannot reasonably estimate any future liabilities that may result.

Warranty costs/product liabilities

We accrue for known product-related claims if a loss is probable and can be reasonably estimated. During the periods presented, there have been no material accruals or payments regarding product warranty or product liability. Historically, we have experienced a low rate of payments on product claims. Although we cannot predict the likelihood or amount of any future claims, we do not believe they will have a material adverse effect on our financial condition, results of operations or liquidity. Our stated warranties for semiconductor products obligate us to repair, replace or credit the purchase price of a covered product back to the buyer. Product claim consideration may exceed the price of our products.

General

We are subject to various legal and administrative proceedings. Although it is not possible to predict the outcome of these matters, we believe that the results of these proceedings will not have a material adverse effect on our financial condition, results of operations or liquidity.

12. Restructuring charges/other

Restructuring charges/other are included in Other for segment reporting purposes and are comprised of the following components:

	For Years Ended December 31,		
	2018	**2017**	**2016**
Restructuring charges (a)	**$ 6**	$ 11	$ 25
Gains on sales of assets	**(3)**	—	(40)
Restructuring charges/other	**$ 3**	$ 11	$ (15)

(a) Includes severance and benefits, accelerated depreciation, changes in estimates or other exit costs.

Changes in accrued restructuring balances

	2018	**2017**	**2016**
Balance, January 1	**$ 29**	$ 40	$ 32
Restructuring charges	**6**	11	25
Non-cash items (a)	**(3)**	(1)	(6)
Payments	**(4)**	(21)	(11)
Balance, December 31	**$ 28**	$ 29	$ 40

(a) Reflects charges for impacts of accelerated depreciation and changes in exchange rates.

The restructuring accrual balances are reported as a component of either accrued expenses and other liabilities or other long-term liabilities on our Consolidated Balance Sheets, depending on the expected timing of payment.

In February 2019, we entered into an agreement to sell our manufacturing facility in Greenock, Scotland. The sale is expected to close during the first quarter of 2019.

13. Supplemental financial information

Other income (expense), net (OI&E)

	For Years Ended December 31,		
	2018	**2017**	**2016**
Other income (a)	**$ 150**	$ 163	$ 219
Other expense (b)	**(52)**	(88)	(64)
Total	**$ 98**	$ 75	$ 155

(a) Other income includes interest, royalty and lease income; investment gains and losses; and other miscellaneous items. As of January 1, 2017, royalties are recorded in OI&E instead of revenue.

(b) Other expense includes a portion of pension and other retiree benefit costs. It also includes currency gains and losses and tax interest expense.

Prepaid expenses and other current assets

	December 31, 2018	December 31, 2017
Prepaid taxes on intercompany inventory profits, net	**$ 132**	$ 768
Other	**308**	262
Total	**$ 440**	$ 1,030

Property, plant and equipment at cost

	Depreciable Lives (Years)	December 31, 2018	December 31, 2017
Land	n/a	**$ 128**	$ 127
Buildings and improvements	5 - 40	**2,497**	2,467
Machinery and equipment	2 - 10	**2,800**	2,195
Total		**$ 5,425**	$ 4,789

Other long-term liabilities

	December 31, 2018	December 31, 2017
Long-term portion of tax on indefinitely reinvested earnings	**$ 506**	$ 635
Other	**684**	668
Total	**$ 1,190**	$ 1,303

Accumulated other comprehensive income (loss), net of taxes (AOCI)

	December 31, 2018	December 31, 2017
Postretirement benefit plans (a):		
Net actuarial loss	**$ (473)**	$ (394)
Prior service credit	**2**	10
Cash flow hedge derivative instruments	**(2)**	—
Total	**$ (473)**	$ (384)

(a) Includes $30 million for the adoption of ASU 2018-02. See Note 2 for additional information.

Details on amounts reclassified out of accumulated other comprehensive income (loss), net of taxes, to net income

Our Consolidated Statements of Comprehensive Income include items that have been recognized within net income in 2018, 2017 and 2016. The table below details where these transactions are recorded in our Consolidated Statements of Income.

	For Years Ended December 31, 2018	2017	2016	Impact to Related Statement of Income Lines
Net actuarial losses of defined benefit plans:				
Recognized net actuarial loss and settlement losses (a)	**$ 65**	$ 83	$ 76	Decrease to OI&E
Tax effect	**(15)**	(27)	(25)	Decrease to provision for income taxes
Recognized within net income, net of taxes	**$ 50**	$ 56	$ 51	Decrease to net income
Prior service credit of defined benefit plans:				
Amortization of prior service credit (a)	**$ (4)**	$ (6)	$ (5)	Increase to OI&E
Tax effect	**1**	1	2	Increase to provision for income taxes
Recognized within net income, net of taxes	**$ (3)**	$ (5)	$ (3)	Increase to net income
Derivative instruments:				
Amortization of treasury-rate locks	**$ —**	$ 1	$ 1	Increase to interest and debt expense
Tax effect	**—**	—	—	Decrease to provision for income taxes
Recognized within net income, net of taxes	**$ —**	$ 1	$ 1	Decrease to net income

(a) Detailed in Note 9.

14. Quarterly financial data (unaudited)

	2018 Quarters				2017 Quarters			
	4th	**3rd**	**2nd**	**1st**	**4th**	**3rd**	**2nd**	**1st**
Revenue	**$ 3,717**	**$ 4,261**	**$ 4,017**	**$ 3,789**	$ 3,750	$ 4,116	$ 3,693	$ 3,402
Gross profit	**2,407**	**2,804**	**2,619**	**2,447**	2,440	2,656	2,374	2,144
Included in operating profit:								
Acquisition charges	**79**	**80**	**79**	**80**	79	80	79	80
Restructuring charges/other	**(2)**	**1**	**3**	**1**	3	1	3	4
Operating profit	**1,516**	**1,937**	**1,712**	**1,548**	1,563	1,788	1,480	1,252
Net income	**1,239**	**1,570**	**1,405**	**1,366**	344	1,285	1,056	997
Basic EPS	**$ 1.29**	**$ 1.61**	**$ 1.43**	**$ 1.38**	$ 0.35	$ 1.29	$ 1.05	$ 0.99
Diluted EPS	**$ 1.27**	**$ 1.58**	**$ 1.40**	**$ 1.35**	$ 0.34	$ 1.26	$ 1.03	$ 0.97

Report of independent registered public accounting firm

To the Shareholders and the Board of Directors of Texas Instruments Incorporated

Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of Texas Instruments Incorporated (the Company) as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 22, 2019 expressed an unqualified opinion thereon.

Basis for opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Ernst & Young LLP

We have served as the Company's auditor since 1952.
Dallas, Texas
February 22, 2019

ITEM 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

Not applicable.

ITEM 9A. Controls and Procedures.

Disclosure controls and procedures

An evaluation as of the end of the period covered by this report was carried out under the supervision and with the participation of TI's management, including its chief executive officer and chief financial officer, of the effectiveness of the design and operation of TI's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934). Based upon that evaluation, the chief executive officer and chief financial officer concluded that those disclosure controls and procedures were effective.

Internal control over financial reporting

Report by management on internal control over financial reporting

The management of TI is responsible for establishing and maintaining effective internal control over financial reporting. TI's internal control system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation and fair presentation of financial statements issued for external purposes in accordance with generally accepted accounting principles. There has been no change in our internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934) that occurred during the fourth quarter of 2018 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

All internal control systems, no matter how well designed, have inherent limitations and may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

TI management assessed the effectiveness of internal control over financial reporting as of December 31, 2018. In making this assessment, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria) in Internal Control – Integrated Framework. Based on our assessment, we believe that, as of December 31, 2018, our internal control over financial reporting is effective based on the COSO criteria.

TI's independent registered public accounting firm, Ernst & Young LLP, has issued an audit report on the effectiveness of our internal control over financial reporting, which immediately follows this report.

Report of independent registered public accounting firm on internal control over financial reporting

To the Shareholders and the Board of Directors of Texas Instruments Incorporated

Opinion on internal control over financial reporting

We have audited Texas Instruments Incorporated's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Texas Instruments Incorporated (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of Texas Instruments Incorporated as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes, and our report dated February 22, 2019 expressed an unqualified opinion thereon.

Basis for opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying report by management on internal control over financial reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and limitations of internal control over financial reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Ernst & Young LLP

Dallas, Texas
February 22, 2019

ITEM 9B. Other Information.

Not applicable.

PART III

ITEM 10. Directors, Executive Officers and Corporate Governance.

The information with respect to directors' names, ages, positions, term of office, periods of service and business experience, which is contained under the caption "Election of directors" in our proxy statement for the 2019 annual meeting of stockholders, is incorporated herein by reference to such proxy statement.

The information with respect to Section 16(a) beneficial ownership reporting compliance contained under the caption of the same name in our proxy statement for the 2019 annual meeting of stockholders is incorporated herein by reference to such proxy statement.

A list of our executive officers and their biographical information appears in Part I, Item 1 of this report.

Code of Ethics

We have adopted the Code of Ethics for TI Chief Executive Officer and Senior Finance Officers. A copy of the Code can be found on our website at www.ti.com/corporategovernance. We intend to satisfy the disclosure requirements of the SEC regarding amendments to, or waivers from, the Code by posting such information on the same website.

Audit Committee

The information contained under the caption "Committees of the board" with respect to the audit committee and the audit committee financial expert in our proxy statement for the 2019 annual meeting of stockholders is incorporated herein by reference to such proxy statement.

ITEM 11. Executive Compensation.

The information contained under the captions "Director compensation" and "Executive compensation" in our proxy statement for the 2019 annual meeting of stockholders is incorporated herein by reference to such proxy statement, provided that the Compensation Committee report shall not be deemed filed with this Form 10-K.

The information contained under the caption "Compensation committee interlocks and insider participation" in our proxy statement for the 2019 annual meeting of stockholders is incorporated herein by reference to such proxy statement.

ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Equity compensation plan information

The following table sets forth information about the company's equity compensation plans as of December 31, 2018.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (1)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (2)	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (excluding securities reflected in column (1)) (3)
Equity compensation plans approved by security holders	47,037,697 (a)	$ 56.24 (b)	84,722,515 (c)
Equity compensation plans not approved by security holders	558,052 (d)	$ 56.10 (b)	—
Total	47,595,749 (e)	$ 56.24	84,722,515

(a) Includes shares of TI common stock to be issued under the Texas Instruments 2003 Director Compensation Plan (the "2003 Director Plan"), the Texas Instruments 2009 Long-Term Incentive Plan (the "2009 LTIP") and predecessor stockholder-approved plans, the Texas Instruments 2009 Director Compensation Plan (the "2009 Director Plan"), the TI Employees 2014 Stock Purchase Plan (the "2014 ESPP") and the Texas Instruments 2018 Director Compensation Plan (the "2018 Director Plan").

(b) Restricted stock units and stock units credited to directors' deferred compensation accounts are settled in shares of TI common stock on a one-for-one basis. Accordingly, such units have been excluded for purposes of computing the weighted-average exercise price.

(c) Shares of TI common stock available for future issuance under the 2009 LTIP, the 2014 ESPP and the 2018 Director Plan. 48,175,749 shares remain available for future issuance under the 2009 LTIP and 1,991,665 shares remain available for future issuance under the 2018 Director Plan. Under the 2009 LTIP and the 2018 Director Plan, awards may be granted in the form of restricted stock units, options or other stock-based awards such as restricted stock.

(d) Includes shares to be issued under the Texas Instruments 2003 Long-Term Incentive Plan (the "2003 LTIP"). The 2003 LTIP was replaced by the 2009 LTIP, which was approved by stockholders. No further grants may be made under the 2003 LTIP. Only non-management employees were eligible to receive awards under the 2003 LTIP. The 2003 LTIP authorized the grant of shares in the form of restricted stock units, options or other stock-based awards such as restricted stock. The plan is administered by a committee of independent directors (the Committee). The Committee had the sole discretion to grant to eligible participants one or more equity awards and to determine the number or amount of any award. Except in the case of awards made through assumption of, or in substitution for, outstanding awards previously granted by an acquired company, and except as a result of an adjustment event such as a stock split, the exercise price under any stock option, the grant price of any stock appreciation right, and the purchase price of any security that could be purchased under any other stock-based award under the 2003 LTIP could not be less than 100 percent of the fair market value of the stock or other security on the effective date of the grant of the option, right or award.

Also includes shares to be issued under the Texas Instruments Directors Deferred Compensation Plan and the Texas Instruments Restricted Stock Unit Plan for Directors. These plans were replaced by the stockholder-approved 2003 Director Plan (which was replaced by the 2009 Director Plan), and no further grants may be made under them.

(e) Includes 39,905,454 shares for issuance upon exercise of outstanding grants of options, 7,305,543 shares for issuance upon vesting of outstanding grants of restricted stock units, 229,836 shares for issuance under the 2014 ESPP and 154,916 shares for issuance in settlement of directors' deferred compensation accounts.

Security ownership of certain beneficial owners and management

The information that is contained under the captions "Security ownership of certain beneficial owners" and "Security ownership of directors and management" in our proxy statement for the 2019 annual meeting of stockholders is incorporated herein by reference to such proxy statement.

ITEM 13. Certain Relationships and Related Transactions, and Director Independence.

The information contained under the captions "Related person transactions" and "Director independence" in our proxy statement for the 2019 annual meeting of stockholders is incorporated herein by reference to such proxy statement.

ITEM 14. Principal Accountant Fees and Services.

The information with respect to principal accountant fees and services contained under the caption "Proposal to ratify appointment of independent registered public accounting firm" in our proxy statement for the 2019 annual meeting of stockholders is incorporated herein by reference to such proxy statement.

PART IV

ITEM 15. Exhibits, Financial Statement Schedules.

The financial statements are listed in the index included in Item 8, "Financial Statements and Supplementary Data."

Designation of Exhibit	Description of Exhibit	Incorporated by Reference				Filed or Furnished Herewith
		Form	File Number	Date of Filing	Exhibit Number	
3(a)	Restated Certificate of Incorporation of the Registrant, dated April 18, 1985, as amended	10-K	001-3761	February 24, 2015	3(a)	
3(b)	By-Laws of the Registrant	8-K	001-3761	December 12, 2016	3	
4(a)	Indenture	8-K	001-3761	May 23, 2011	4.2	
4(b)	Officer's Certificate	8-K	001-3761	May 8, 2013	4.2	
4(c)	Officer's Certificate	8-K	001-3761	March 12, 2014	4.2	
4(d)	Officer's Certificate	8-K	001-3761	May 6, 2015	4.1	
4(e)	Officer's Certificate	8-K	001-3761	May 6, 2016	4.1	
4(f)	Officer's Certificate	8-K	001-3761	May 4, 2017	4.1	
4(g)	Officer's Certificate	8-K	001-3761	November 3, 2017	4.1	
4(h)	Officer's Certificate	8-K	001-3761	May 7, 2018	4.1	
4(i)	Officer's Certificate	8-K	001-3761	June 8, 2018	4.1	
10(a)	TI Deferred Compensation Plan, as amended *	10-K	001-3761	February 24, 2016	10(a)	
10(b)	TI Employees Non-Qualified Pension Plan, effective January 1, 2009, as amended *	10-K	001-3761	February 24, 2016	10(b)	
10(c)	TI Employees Non-Qualified Pension Plan II *	10-K	001-3761	February 24, 2016	10(c)	
10(d)	Texas Instruments Long-Term Incentive Plan, adopted April 15, 1993 *	10-K	001-3761	February 24, 2012	10(c)	
10(e)	Texas Instruments 2000 Long-Term Incentive Plan as amended October 16, 2008 *	10-K	001-3761	February 24, 2015	10(e)	
10(f)	Texas Instruments 2003 Long-Term Incentive Plan as amended October 16, 2008	10-K	001-3761	February 24, 2015	10(f)	
10(g)	Texas Instruments Restricted Stock Unit Plan for Directors, as amended, dated April 16, 1998	10-K	001-3761	February 24, 2012	10(h)	
10(h)	Texas Instruments Directors Deferred Compensation Plan, as amended, dated April 16, 1998	10-K	001-3761	February 24, 2012	10(i)	
10(i)	Texas Instruments 2003 Director Compensation Plan as amended January 19, 2012	10-K	001-3761	February 24, 2015	10(j)	
10(j)	Form of Non-Qualified Stock Option Agreement for Executive Officers under the Texas Instruments 2009 Long-Term Incentive Plan *	10-K	001-3761	February 23, 2017	10(k)	

Designation of Exhibit	Description of Exhibit	Incorporated by Reference				Filed or Furnished Herewith
		Form	File Number	Date of Filing	Exhibit Number	
10(k)	Form of Restricted Stock Unit Award Agreement for Executive Officers under the Texas Instruments 2009 Long-Term Incentive Plan *	10-K	001-3761	February 23, 2017	10(l)	
10(l)	Texas Instruments 2009 Long-Term Incentive Plan as amended April 21, 2016 *	DEF 14A	001-3761	March 9, 2016	Appendix B	
10(m)	Texas Instruments 2009 Director Compensation Plan as amended January 19, 2012	10-K	001-3761	February 23, 2017	10(n)	
10(n)	Texas Instruments 2018 Director Compensation Plan	10-Q	001-3761	August 2, 2018	10(a)	
21	List of Subsidiaries of the Registrant					X
23	Consent of Independent Registered Public Accounting Firm					X
31(a)	Rule 13a-14(a)/15(d)-14(a) Certification of Chief Executive Officer					X
31(b)	Rule 13a-14(a)/15(d)-14(a) Certification of Chief Financial Officer					X
32(a)	Section 1350 Certification of Chief Executive Officer					X
32(b)	Section 1350 Certification of Chief Financial Officer					X
101.ins	Instance Document					X
101.sch	XBRL Taxonomy Schema					X
101.cal	XBRL Taxonomy Calculation Linkbase					X
101.Def	XBRL Taxonomy Definitions Document					X
101.lab	XBRL Taxonomy Labels Linkbase					X
101.pre	XBRL Taxonomy Presentation Linkbase					X

* Management compensation plans and arrangements

Notice regarding forward-looking statements

This report 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, 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 TI or our management:

- Market demand for semiconductors, particularly in our end markets;
- Our ability to compete in products and prices in an intensely competitive industry;
- Customer demand that differs from forecasts and the financial impact of inadequate or excess company inventory that results from demand that differs from projections;
- Economic, social and political conditions in the countries in which we, our customers or our suppliers operate, including security risks; global trade policies; political and social instability; health conditions; possible disruptions in transportation, communications and information technology networks; and fluctuations in foreign currency exchange rates;
- Evolving cybersecurity threats to our information technology systems or those of our customers or suppliers;
- Natural events such as severe weather, geological events or health epidemics in the locations in which we, our customers or our suppliers operate;
- Our ability to develop, manufacture and market innovative products in a rapidly changing technological environment;
- Timely implementation of new manufacturing technologies and installation of manufacturing equipment, and the ability to obtain needed third-party foundry and assembly/test subcontract services;
- Availability and cost of raw materials, utilities, manufacturing equipment, third-party manufacturing services and manufacturing technology;
- Product liability or warranty claims, claims based on epidemic or delivery failure, or other claims relating to our products, manufacturing, services, design or communications, or recalls by our customers for a product containing one of our parts;
- Compliance with or changes in the complex laws, rules and regulations to which we are or may become subject, or actions of enforcement authorities, that restrict our ability to manufacture or ship our products or operate our business, or subject us to fines, penalties or other legal liability;
- Changes in tax law and accounting standards that can impact the tax rate applicable to us, the jurisdictions in which profits are determined to be earned and taxed, adverse resolution of tax audits, increases in tariff rates, and the ability to realize deferred tax assets;
- A loss suffered by one of our customers or distributors with respect to TI-consigned inventory;
- Financial difficulties of our distributors or their promotion of competing product lines to our detriment, or the loss of significant distributors;
- Losses or curtailments of purchases from key customers or the timing and amount of distributor and other customer inventory adjustments;
- Our ability to maintain or improve profit margins, including our ability to utilize our manufacturing facilities at sufficient levels to cover our fixed operating costs, in an intensely competitive and cyclical industry and despite changes in the regulatory environment;
- Our ability to maintain and enforce a strong intellectual property portfolio and maintain freedom of operation in all jurisdictions where we conduct business; or our exposure to infringement claims;
- Instability in the global credit and financial markets that affects our ability to fund our daily operations, invest in the business, make strategic acquisitions, or make principal and interest payments on our debt;
- Increases in health care and pension benefit costs;
- Our ability to recruit and retain skilled engineering, management and technical personnel, and effectively manage key employee succession;
- Our ability to successfully integrate and realize opportunities for growth from acquisitions, or our ability to realize our expectations regarding the amount and timing of restructuring charges and associated cost savings; and
- Impairments of our non-financial assets.

For a more detailed discussion of these factors see the Risk Factors discussion in Item 1A of this report. The forward-looking statements included in this report are made only as of the date of this report, and we undertake no obligation to update the forward-looking statements to reflect subsequent events or circumstances.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

TEXAS INSTRUMENTS INCORPORATED

By: /s/ Rafael R. Lizardi

Rafael R. Lizardi
Senior Vice President,
Chief Financial Officer
and Chief Accounting Officer

Date: February 22, 2019

Each person whose signature appears below constitutes and appoints each of Richard K. Templeton, Rafael R. Lizardi, and Cynthia Hoff Trochu, or any of them, each acting alone, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for such person and in his or her name, place and stead, in any and all capacities in connection with the annual report on Form 10-K of Texas Instruments Incorporated for the year ended December 31, 2018, to sign any and all amendments to the Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, each acting alone, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated as of the 22nd day of February 2019.

Signature	Title
/s/ Ralph W. Babb, Jr. **Ralph W. Babb, Jr.**	Director
/s/ Mark A. Blinn **Mark A. Blinn**	Director
/s/ Todd M. Bluedorn **Todd M. Bluedorn**	Director
/s/ Daniel A. Carp **Daniel A. Carp**	Director
/s/ Janet F. Clark **Janet F. Clark**	Director
/s/ Carrie S. Cox **Carrie S. Cox**	Director
/s/ Martin S. Craighead **Martin S. Craighead**	Director
/s/ Jean M. Hobby **Jean M. Hobby**	Director
/s/ Ronald Kirk **Ronald Kirk**	Director

Signature	Title
/s/ Pamela H. Patsley **Pamela H. Patsley**	Director
/s/ Robert E. Sanchez **Robert E. Sanchez**	Director
/s/ Richard K. Templeton **Richard K. Templeton**	Director, Chairman of the Board, President and Chief Executive Officer
/s/ Rafael R. Lizardi **Rafael R. Lizardi**	Senior Vice President, Chief Financial Officer and Chief Accounting Officer

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

April 25, 2019

TEXAS INSTRUMENTS

Dear Stockholder:

You are cordially invited to attend the 2019 annual meeting of stockholders on Thursday, April 25, 2019, in the auditorium on our property at 12500 TI Boulevard, Dallas, Texas, at 8:30 a.m. (Central time). See "Attendance requirements" for important information about attending the annual meeting. At the meeting we will consider and act upon the following matters:

- the election of directors for the next year,
- advisory approval of the company's executive compensation,
- ratification of the appointment of Ernst & Young LLP as the company's independent registered public accounting firm for 2019, and
- such other matters as may properly come before the meeting.

Stockholders of record at the close of business on February 25, 2019, are entitled to vote at the annual meeting.

We urge you to vote your shares as promptly as possible by: (1) accessing the voting website, (2) calling the toll-free number or (3) signing, dating and mailing the enclosed proxy.

Sincerely,

Cynthia Hoff Trochu
Senior Vice President,
Secretary and
General Counsel

Dallas, Texas
March 12, 2019

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PROXY STATEMENT – MARCH 12, 2019

EXECUTIVE OFFICES
12500 TI BOULEVARD, DALLAS, TX 75243
MAILING ADDRESS: P.O. BOX 660199, DALLAS, TX 75266-0199

Voting procedures, quorum and attendance requirements

TI's board of directors requests your proxy for the annual meeting of stockholders on April 25, 2019. If you sign and return the enclosed proxy, or vote by telephone or on the internet, you authorize the persons named in the proxy to represent you and vote your shares for the purposes mentioned in the notice of annual meeting. This proxy statement and related proxy are being distributed on or about March 12, 2019. If you come to the meeting, you can vote in person. If you do not come to the meeting, your shares can be voted only if you have returned a properly signed proxy or followed the telephone or internet voting instructions, which can be found on the enclosed proxy. If you sign and return your proxy but do not give voting instructions, the shares represented by that proxy will be voted as recommended by the board of directors. You can revoke your authorization at any time before the shares are voted at the meeting.

A quorum of stockholders is necessary to hold a valid meeting. If at least a majority of the shares of TI common stock issued and outstanding and entitled to vote are present in person or by proxy, a quorum will exist. Abstentions and broker non-votes are counted as present for purposes of establishing a quorum. Broker non-votes occur when a beneficial owner who holds company stock through a broker does not provide the broker with voting instructions as to any matter on which the broker is not permitted to exercise its discretion and vote without specific instruction.

Shown below is a list of the matters to be considered at the meeting (each of which is discussed elsewhere in this proxy statement), and the vote required for election or approval, as the case may be.

Matter	Required Vote for Election or Approval	Impact of Abstentions or Broker Non-Votes
Election of directors.	Majority of votes present in person or by proxy at the meeting and entitled to be cast in the election with respect to a nominee must be cast for that nominee.	Abstentions have the same effect as votes against. Broker non-votes are not counted as votes for or against.
Advisory vote to approve named executive officer compensation.	Majority of votes present in person or by proxy at the meeting must be cast for the proposal.	Abstentions and broker non-votes have the same effect as votes against.
Proposal to ratify appointment of independent registered public accounting firm.	Majority of votes present in person or by proxy at the meeting must be cast for the proposal.	Abstentions have the same effect as votes against. (Brokers are permitted to exercise their discretion and vote without specific instruction on this matter. Accordingly, there are no broker non-votes.)
Any other matter that may properly be submitted at the meeting.	Majority of votes present in person or by proxy at the meeting must be cast for the proposal.	Abstentions and broker non-votes have the same effect as votes against.

Attendance requirements

Attendance at the meeting is limited to stockholders or their legal proxy holders. Each attendee must present a government-issued photo ID and an advance registration form.

If you plan to attend the annual meeting in person, you must print your own advance registration form and bring it to the meeting to gain access.

- Advance registration forms can be printed by clicking on the “Register for Meeting” button found at www.proxyvote.com and following the instructions provided. You will need the 16-digit control number included on your notice, proxy card or voting instruction form. You must request your advance registration form by 11:59 p.m. April 24, 2019.
- If you are unable to print your advance registration form, please call Stockholder Meeting Registration Phone Support (toll free) at 1-844-318-0137 or (international toll call) at 1-925-331-6070 for assistance.
- On the day of the meeting, you will be required to present valid government-issued photo ID, such as a driver’s license or passport, with your advance registration form. You may be denied entrance if the required identification and form are not presented.

Guest advance registration forms are not available. Exceptions may be granted to stockholders who require a companion in order to facilitate their own attendance (for example, due to a physical disability) by contacting Investor Relations.

Additionally, if you plan to attend as proxy for a stockholder of record, you must present a valid legal proxy from the stockholder of record to you. If you plan to attend as proxy for a street name stockholder, you must present a valid legal proxy from the stockholder of record (i.e., the bank, broker or other holder of record) to the street name stockholder that is assignable and a valid legal proxy from the street name stockholder to you. Stockholders may appoint only one proxy holder to attend on their behalf.

Election of directors

Directors are elected at the annual meeting to hold office until the next annual meeting and until their successors are elected and qualified. The board of directors has designated the following persons as nominees: Mark A. Blinn, Todd M. Bluedorn, Janet F. Clark, Carrie S. Cox, Martin S. Craighead, Jean M. Hobby, Ronald Kirk, Pamela H. Patsley, Robert E. Sanchez and Richard K. Templeton.

If you return a proxy that is not otherwise marked, your shares will be voted FOR each of the nominees.

Director nominees, qualifications and experience

All of the nominees for directorship are current directors of the company. If any nominee becomes unable to serve before the meeting, the persons named as proxies may vote for a substitute or the number of directors will be reduced accordingly.

Summary

This table provides a summary view of the qualifications, experience and demographics of each director nominee as of the proxy statement filing date.

Qualifications and experience	Mark A. Blinn	Todd M. Bluedorn	Janet F. Clark	Carrie S. Cox	Martin S. Craighead	Jean M. Hobby	Ronald Kirk	Pamela H. Patsley	Robert E. Sanchez	Richard K. Templeton
Independence	●	●	●	●	●	●	●	●	●	
Multinational experience	●	●	●	●	●	●	●	●	●	●
Executive leadership (public or private)	●	●	●	●	●	●	●	●	●	●
Technology, research and development	●	●	●	●	●	●		●	●	●
Manufacturing	●	●		●	●					●
End-market knowledge	●	●	●	●	●	●	●		●	●
Regulatory, public policy or legal	●			●		●	●	●		
Other public board service	●	●	●	●	●	●	●	●	●	
Financial acumen	●	●	●	●	●	●	●	●	●	●
Auditing/accounting	●		●			●		●	●	
Demographic background										
Tenure (Years)	6	2	4	15	1	3	6	15	8	16
Age (Years)	57	55	64	61	59	58	64	62	53	60
Gender	M	M	F	F	M	F	M	F	M	M
Race/Ethnicity *	C	C	C	C	C	C	A	C	H	C

* A = African American/Black; C = Caucasian/White; H = Hispanic/Latino

The board prefers a mix of background and experience among its members. The board does not follow any ratio or formula to determine the appropriate mix. Rather, it uses its judgment to identify nominees whose backgrounds, attributes and experiences, taken as a whole, will contribute to the high standards of board service at the company. The board actively seeks women and minority candidates for the pool from which board candidates are chosen. Maintaining a balance of tenure among the directors is also part of the board's consideration. Longer-serving directors bring valuable experience with the company and familiarity with the strategic and operational challenges it has faced over the years, while newer directors bring fresh perspectives and ideas. To help maintain this balance, the company has a mandatory retirement policy, pursuant to which directors cannot stand for election after reaching age 70. The effectiveness of the board's approach to board composition decisions is evidenced by the directors' participation in the insightful and robust, yet respectful, deliberation that occurs at board and committee meetings, and in shaping the agendas for those meetings.

Nominee criteria

In evaluating prospective nominees and as stated in our corporate governance guidelines, the Governance and Stockholder Relations (GSR) Committee considers the following criteria:

- Outstanding achievement in the individual's personal career.
- Relevant commercial expertise.
- International operations experience.
- Financial acumen.
- Government experience.
- Standards of integrity and soundness of judgment.
- Ability to make independent, analytical inquiries.
- Ability to represent the total corporate interests of TI (a director will not be selected to, nor be expected to, represent the interests of any particular group).
- Board diversity (viewpoints, gender, ethnicity).
- Willingness and ability to devote the time required to perform board activities adequately. Directors should not serve on the boards of more than four other public companies.

Nominee assessment

As it considered director nominees for the 2019 annual meeting, the board kept in mind that the most important issues it considers typically relate to the company's strategic direction; succession planning for senior executive positions; the company's financial performance; the challenges of running a large, complex enterprise, including the management of its risks; major acquisitions and divestitures; and significant research and development (R&D) and capital investment decisions. These issues arise in the context of the company's operations, which primarily involve the manufacture and sale of semiconductors all over the world into industrial, automotive, personal electronics, communications equipment and enterprise systems markets.

As described below, each of our director nominees has achieved an extremely high level of success in his or her career, whether at multi-billion dollar, multinational corporate enterprises or significant governmental organizations. In these positions, each has been directly involved in the challenges relating to setting the strategic direction and managing the financial performance, personnel and processes of large, complex organizations. Each has had exposure to effective leaders and has developed the ability to judge leadership qualities. Nine of the director nominees have experience in serving on the board of directors of at least one other major corporation, and one has served in high political office, all of which provides additional relevant experience on which each nominee can draw.

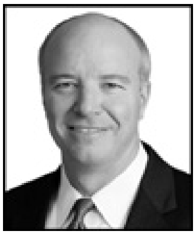
In concluding that each nominee should serve as a director, the board relied on the specific experiences and attributes listed below and on the direct personal knowledge, born of previous service on the board, that each of the nominees brings insight to board deliberations as well as a willingness to ask challenging questions.

All nominees for directorship are currently directors of the company, including Mr. Craighead, who was elected to the board effective July 1, 2018. He is the only director nominee at the 2019 annual meeting of stockholders who is standing for election by the stockholders for the first time. A search firm retained by the company to assist the GSR Committee in identifying and evaluating potential nominees initially identified Mr. Craighead as a potential director candidate. The search firm conducted research to identify a number of potential candidates, based on the qualifications and skills the GSR Committee determined that candidates should possess. It then conducted further research on the candidates in whom the GSR Committee had the most interest. Following this process, Mr. Craighead was unanimously elected to the company's board of directors.

The board believes its current size is within the desired range as stated in the board's corporate governance guidelines.

Director nominees

Mark A. Blinn



- Mr. Blinn was CEO and a director of Flowserve Corporation (2009-2017), where he gained first-hand experience managing a large, multinational corporation operating in global industrial markets, with ultimate management responsibility for the organization's financial performance and significant capital and R&D investments.
- Mr. Blinn has developed a keen appreciation for audit- and financial control-related matters as Audit Committee chair at the company (April 21, 2017-present), chief financial officer of Flowserve Corporation (2004-2009), chief financial officer of FedEx Kinko's Office and Print Services Inc. (2003-2004) and vice president and controller of Centex Corporation (2000-2002). Additionally, as an attorney, he formerly represented large financial institutions, foreign corporations and insurance companies.
- Mr. Blinn is also a director of Kraton Corporation (2017-present) and Westinghouse Electric Company LLC (2018-present).

Todd M. Bluedorn

- Mr. Bluedorn is chairman (2012-present), CEO and a director (2007-present) of Lennox International Inc., where he has gained first-hand experience managing a large, multinational corporation operating in global industrial markets, with ultimate management responsibility for the organization's financial performance and significant capital and R&D investments.
- Mr. Bluedorn is also a director of Eaton Corporation plc (2010-present).

Janet F. Clark

- Ms. Clark was executive vice president (2007-2013) and chief financial officer (2004-2013) of Marathon Oil Corporation, where she developed a keen appreciation for audit- and financial control-related matters.
- Ms. Clark has helped oversee the strategy and operations of other large, multinational corporations, including one with a focus on technology, as a director of Goldman Sachs Private Middle Market Credit LLC (2016-2018), Goldman Sachs BDC, Inc. (2015-2018), EOG Resources, Inc. (2014-present), Exterran Holdings, Inc. and its predecessor company Universal Compression Holdings, Inc. (2003-2011) and Dell Inc. (2011-2013).

Carrie S. Cox

- Ms. Cox has gained first-hand experience managing large, multinational organizations focused on medical-related markets, with responsibility for those organizations' financial performance and significant capital and R&D investments, as chairman (2013-present), CEO (2010-2018) and a director (2010-present) of Humacyte, Inc., executive vice president and president of Global Pharmaceuticals at Schering-Plough Corporation (2003-2009) and executive vice president and president of Global Prescription Business at Pharmacia Corporation (1997-2003).
- Ms. Cox is also a chairman of the board of Array BioPharma, Inc. (2018-present) and ElectroCore, Inc. (2018-present) and a director of Cardinal Health, Inc. (2009-present) and Celgene Corporation (2009-present).

Martin S. Craighead

- Mr. Craighead has gained first-hand experience in managing a large multinational corporation, with ultimate management responsibility for the organization's financial performance and significant capital investments, as vice chairman and director (2017-present) of Baker Hughes, a GE company and as chairman (2013-2017), director (2011-2017) and CEO (2012-2017) of Baker Hughes, Inc.
- Mr. Craighead is also a director of PQ Corporation (2017-present).

Jean M. Hobby

- Ms. Hobby was global strategy officer (2013-2015), technology, media and telecom sector leader (2008-2013) and chief financial officer (2005-2008) at PricewaterhouseCoopers LLP, where she gained extensive audit knowledge and experience in audit- and financial control-related matters and technology.
- Ms. Hobby has helped oversee the strategy and operations of other multinational corporations as a director of Hewlett Packard Enterprise Company (2019-present), Integer Holdings Corporation and its predecessor company Greatbatch, Inc. (2015-present), and CA, Inc. (February 1, 2018-November 5, 2018).

Ronald Kirk

- Mr. Kirk was U.S. Trade Representative (2009-2013), where he gained first-hand experience in managing a complex organization that operates on an international scale and developed insight into issues bearing on global economic activity, international trade policies and strategies and the workings of foreign governments.
- Mr. Kirk has gained first-hand experience as an advisor to numerous multinational companies as Senior Of Counsel of Gibson, Dunn & Crutcher LLP (2013-present), and as a partner of Vinson & Elkins, LLP (2005-2009).
- Mr. Kirk has helped oversee the strategy and operations of other large corporations as a director of Brinker International, Inc. (1997-2009), Dean Foods Company (1997-2009), and Macquarie Infrastructure Corporation (2016-present).

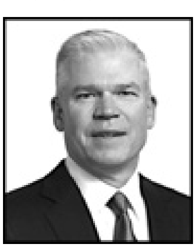
Pamela H. Patsley

- Ms. Patsley was executive chairman (2016-2018) and chairman and CEO (2009-2015) of MoneyGram International, Inc., senior executive vice president of First Data Corporation (2000-2007) and president and CEO of Paymentech, Inc. (1991-2000), where she gained first-hand experience managing large, multinational organizations, including the application of technology in the financial services sector, with ultimate management responsibility for financial performance and significant capital investments.
- Ms. Patsley has developed a keen appreciation for audit- and financial control-related matters as Audit Committee chair at the company (2006-2013), a member of the audit committee at Dr Pepper Snapple Group, Inc., chief financial officer of First USA, Inc. (1987-1994) and an auditor at KPMG Peat Marwick for almost six years before joining First USA.
- Ms. Patsley has helped oversee the strategy and operations of other major multinational corporations as a director of ACI Worldwide, Inc. (2018-present), Keurig Dr Pepper, Inc. (2018-present), Dr Pepper Snapple Group, Inc. (2008- 2018), Hilton Grand Vacations, Inc. (January 2017-present) and Molson Coors Brewing Company (2005-2009).

Robert E. Sanchez

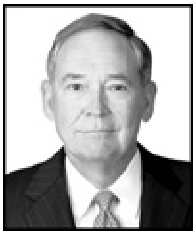
- Mr. Sanchez has gained first-hand experience in managing a large multinational, transportation-related organization, with responsibility for the organization’s financial performance and significant capital investments, as chairman and CEO (2013-present), president (2012-2014) and chief operating officer (2012) of Ryder System, Inc. and as president of its Global Fleet Management Solutions business segment (2010-2012).
- Mr. Sanchez has developed a keen appreciation for audit- and financial control-related issues and gained first-hand experience with all technology-related functions of a large, multinational corporation focused on transportation and logistics as executive vice president and chief financial officer (2007-2010) and as senior vice president and chief information officer (2003-2005) of Ryder System, Inc.

Richard K. Templeton



- Mr. Templeton has developed a deep knowledge of all aspects of the company and of the semiconductor industry. He is a 38-year veteran of the industry and has served the last 23 years at a senior level at the company, including as chairman since 2008, CEO (2004-June 1, 2018 and July 17, 2018-present), president (2004-June 1, 2018 and July 17, 2018-present) and director since 2003.

Directors not standing for re-election



Ralph W. Babb, Jr.
Age 70
Member, Governance and Stockholder Relations Committee

Daniel A. Carp
Age 70
Member, Compensation Committee

Messrs. Babb and Carp, highly valued directors since 2010 and 1997 respectively, have attained the age of 70 and are therefore ineligible under the company's by-laws to stand for re-election at the 2019 annual meeting.

Outside board memberships

In evaluating prospective nominees, the GSR Committee considers the number of other boards on which the individual serves as director, and in particular the board's policy that directors should not serve on the boards of more than four other public companies.

The board is sensitive to the fact that a director's service in an executive role at another company can be time consuming. In this regard, the board reviewed Mr. Bluedorn's outside directorships at Lennox International, Inc. and Eaton Corporation plc, and determined that they enhance the breadth and depth of experience on the board. Because of these directorships, Mr. Bluedorn brings to the company a unique combination of specialized knowledge and experience in the industrial market, an area in which the company has publicly disclosed its intent to focus R&D investments. He also brings a familiarity with the challenges posed by complex international manufacturers. Additionally, Mr. Bluedorn has held senior management positions at United Technologies, such as leading its Otis Elevator and Carrier (HVAC) business, that provide the board with important perspective on the industrial market.

There is a strong consensus among the directors that Mr. Bluedorn is willing and able to devote the time required to perform board activities, and that his service with Lennox and Eaton will not interfere with his duties to the company and its shareholders. Mr. Bluedorn has served on the boards of Lennox and Eaton since 2007 and 2010, respectively, so his familiarity with his roles and responsibilities at those organizations enables him to devote the balance of his time to his service on the board. Also, two of Mr. Bluedorn's directorships (Lennox and TI) are located within ten miles of each other in the Dallas, Texas area, and Mr. Bluedorn's exemplary attendance record at both Lennox and Eaton, as well as at the company, indicate his commitment to devoting sufficient time to board duties.

Director nomination process

The board is responsible for approving nominees for election as directors. To assist in this task, the board has designated a standing committee, the GSR Committee, that is responsible for reviewing and recommending nominees to the board. The GSR Committee is comprised solely of independent directors as defined by the rules of the Nasdaq Stock Market (Nasdaq) and the board's corporate governance guidelines. Our board of directors has adopted a written charter for the GSR Committee. It can be found on our website at www.ti.com/corporategovernance.

It is a long-standing policy of the board to consider prospective board nominees recommended by stockholders. A stockholder who wishes to recommend a prospective board nominee for the GSR Committee's consideration can write to the Secretary of the GSR Committee, Texas Instruments Incorporated, P.O. Box 655936, MS 8658, Dallas, TX 75265-5936. The GSR Committee will evaluate the stockholder's prospective board nominee in the same manner as it evaluates other nominees.

Under the company's by-laws, a stockholder, or a group of up to 20 stockholders, owning at least 3 percent of the company's outstanding common stock continuously for at least three years, may nominate and include in the company's proxy materials director nominees constituting up to the greater of two individuals or 20 percent of the board of directors, provided that the stockholder(s) and the nominee(s) satisfy the requirements specified in the by-laws, which can be found on our website at www.ti.com/corporategovernance.

The company's by-laws also allow stockholders to nominate directors without involving the GSR Committee or including the nominee in the company's proxy materials. To do so, stockholders must comply with the requirements set forth in the by-laws.

Communications with the board

Stockholders and others who wish to communicate with the board, a board committee or an individual director may write to them at: P.O. Box 655936, MS 8658, Dallas, TX 75265-5936. All communications sent to this address will be shared with the board, committee or individual director as applicable.

Corporate governance

The board has a long-standing commitment to responsible and effective corporate governance. We annually conduct extensive governance reviews and engage in investor outreach specific to governance and executive compensation matters. The board's corporate governance guidelines (which include the director independence standards), the charters of each of the board's committees, TI's code of conduct, our code of ethics for our CEO and senior financial officers and our by-laws are available on our website at www.ti.com/corporategovernance. Stockholders may request copies of these documents free of charge by writing to Texas Instruments Incorporated, P.O. Box 660199, MS 8657, Dallas, TX 75266-0199, Attn: Investor Relations.

Annual meeting attendance

It is a policy of the board to encourage directors to attend each annual meeting of stockholders. Such attendance allows for direct interaction between stockholders and board members. In 2018, all directors then in office and standing for re-election attended TI's annual meeting of stockholders.

Director independence

The board has determined that each of our directors is independent except for Mr. Templeton. In connection with this determination, information was reviewed regarding directors' business and charitable affiliations, directors' immediate family members and their employers, and any transactions or arrangements between the company and such persons or entities. The board has adopted the following standards for determining independence.

A. In no event will a director be considered independent if:
   1. He or she is a current partner of or is employed by the company's independent auditors;
   2. A family member of the director is (a) a current partner of the company's independent auditors or (b) currently employed by the company's independent auditors and personally works on the company's audit;
   3. Within the current or preceding three fiscal years he or she was, and remains at the time of the determination, a partner in or a controlling shareholder, an executive officer or an employee of an organization that in the current year or any of the past three fiscal years (a) made payments to, or received payments from, the company for property or services, (b) extended loans to or received loans from, the company, or (c) received charitable contributions from the company, in an amount or amounts which, in the aggregate in such fiscal year, exceeded the greater of $200,000 or 2 percent of the recipient's consolidated gross revenues for that year (for purposes of this standard, "payments" excludes payments arising solely from investments in the company's securities and payments under non-discretionary charitable contribution matching programs); or
   4. Within the current or preceding three fiscal years a family member of the director was, and remains at the time of the determination, a partner in or a controlling shareholder or an executive officer of an organization that in the current year or any of the past three fiscal years (a) made payments to, or received payments from, the company for property or services, (b) extended loans to or received loans from the company, or (c) received charitable contributions from the company, in an amount or amounts which, in the aggregate in such fiscal year, exceeded the greater of $200,000 or 2 percent of the recipient's consolidated gross revenues for that year (for purposes of this standard, "payments" excludes payments arising solely from investments in the company's securities and payments under non-discretionary charitable contribution matching programs).

B. In no event will a director be considered independent if, within the preceding three years:
   1. He or she was employed by the company (except in the capacity of interim chairman of the board, chief executive officer or other executive officer, provided the interim employment did not last longer than one year);
   2. He or she received more than $120,000 during any twelve-month period in compensation from the company (other than (a) compensation for board or board committee service, (b) compensation received for former service lasting no longer than one year as an interim chairman of the board, chief executive officer or other executive officer and (c) benefits under a tax-qualified retirement plan, or non-discretionary compensation);
   3. A family member of the director was employed as an executive officer by the company;

4. A family member of the director received more than $120,000 during any twelve-month period in compensation from the company (excluding compensation as a non-executive officer employee of the company);
5. He or she was (but is no longer) a partner or employee of the company's independent auditors and worked on the company's audit within that time;
6. A family member of the director was (but is no longer) a partner or employee of the company's independent auditors and worked on the company's audit within that time;
7. He or she was an executive officer of another entity at which any of the company's current executive officers at any time during the past three years served on that entity's compensation committee; or
8. A family member of the director was an executive officer of another entity at which any of the company's current executive officers at any time during the past three years served on that entity's compensation committee.

C. No member of the Audit Committee may accept directly or indirectly any consulting, advisory or other compensatory fee from the company, other than in his or her capacity as a member of the board or any board committee. Compensatory fees do not include the receipt of fixed amounts of compensation under a retirement plan (including deferred compensation) for prior service with the company (provided that such compensation is not contingent in any way on continued service). In addition, no member of the Audit Committee may be an affiliated person of the company except in his or her capacity as a director.

D. With respect to service on the Compensation Committee, the board will consider all factors that it deems relevant to determining whether a director has a relationship to the company that is material to that director's ability to be independent from management in connection with the duties of a Compensation Committee member, including but not limited to:
1. The source of compensation of the director, including any consulting, advisory or compensatory fee paid by the company to the director; and
2. Whether the director is affiliated with the company, a subsidiary of the company or an affiliate of a subsidiary of the company.

E. For any other relationship, the determination of whether it would interfere with the director's exercise of independent judgment in carrying out his or her responsibilities, and consequently whether the director involved is independent, will be made by directors who satisfy the independence criteria set forth in this section.

For purposes of these independence determinations, "company" and "family member" will have the same meaning as under Nasdaq rules.

Board organization

Board and committee meetings

During 2018, the board held ten meetings. The board has three standing committees described below. The standing committees of the board collectively held 21 meetings in 2018. Each director attended at least 89 percent of the board and relevant committee meetings combined. Overall attendance at board and committee meetings was approximately 97 percent.

Director	Audit Committee	Compensation Committee	Governance and Stockholder Relations Committee
R. W. Babb, Jr.			•
M. A. Blinn *	Chair		
T. M. Bluedorn	•		
D. A. Carp		•	
J. F. Clark			•
C. S. Cox		•	
M. S. Craighead	•		
J. M. Hobby	•		
R. Kirk			Chair
P. H. Patsley		Chair	
R. E. Sanchez			•
R. K. Templeton			

* Lead director

Committees of the board

Audit Committee

The Audit Committee is a separately designated standing committee established in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended. All members of the Audit Committee are independent under Nasdaq rules and the board's corporate governance guidelines. From April 21, 2017, to April 25, 2018, the committee members were Mr. Blinn (chair), Mr. Bluedorn, Ms. Clark and Ms. Hobby. Since April 26, 2018, the committee members have been Mr. Blinn (chair), Mr. Bluedorn and Ms. Hobby, with Mr. Craighead joining the committee on July 1, 2018. The Audit Committee is generally responsible for:

- Reviewing:
  - The annual report of TI's independent registered public accounting firm related to quality control.
  - TI's annual and quarterly reports to the SEC, including the financial statements and the "Management's Discussion and Analysis" portion of those reports, and recommending appropriate action to the board.
  - TI's audit plans.
  - Before issuance TI's news releases regarding annual and interim financial results and discussing with management any related earnings guidance that may be provided to analysts and rating agencies.
  - Relationships between the independent registered public accounting firm and TI.
  - The adequacy of TI's internal accounting controls and other factors affecting the integrity of TI's financial reports, and discussing with management and with the independent registered public accounting firm.
  - TI's risk assessment and risk management policies.
  - TI's compliance and ethics program.
  - A report of compliance of management and operating personnel with TI's code of conduct, including TI's conflict of interest policy.
  - TI's non-employee-related insurance programs.
  - Changes, if any, in major accounting policies of the company.
  - Trends in accounting policy changes that are relevant to the company.
  - The company's policy regarding investments and financial derivative products.
- Discussing TI's audited financial statements with management and the independent registered public accounting firm, including a discussion with the firm regarding the matters required to be reviewed under applicable legal or regulatory requirements.
- Creating and periodically reviewing TI's whistleblower policy.
- Appointing, compensating, retaining and overseeing TI's independent registered public accounting firm.

The board has determined that all members of the Audit Committee are financially sophisticated, as the board has interpreted such qualifications in its business judgment. In addition, the board has designated Mr. Blinn as the audit committee financial expert as defined in the Securities Exchange Act of 1934, as amended.

The Audit Committee met eight times in 2018. The Audit Committee holds regularly scheduled meetings and reports its activities to the board. The committee also continued its long-standing practice of meeting directly with our internal audit staff to discuss the audit plan and to allow for direct interaction between Audit Committee members and our internal auditors. See page 44 for a report of the committee.

Compensation Committee

All members of the Compensation Committee are independent. From April 21, 2017, to April 25, 2018, the committee members were Mr. Sanchez (chair), Mr. Carp and Ms. Patsley. Since April 26, 2018, the committee members have been Ms. Patsley (chair), Mr. Carp and Ms. Cox. The committee is responsible for:

- Reviewing the performance of the CEO and determining his compensation.
- Setting the compensation of the company's other executive officers.
- Overseeing administration of employee benefit plans.
- Making recommendations to the board regarding:
  - Institution and termination of, revisions in and actions under employee benefit plans that (i) increase benefits only for officers of the company or disproportionately increase benefits for officers of the company more than other employees of the company, (ii) require or permit the issuance of the company's stock or (iii) require board approval.

- Reservation of company stock for use as awards of grants under plans or as contributions or sales to any trustee of any employee benefit plan.

- Taking action as appropriate regarding the institution and termination of, revisions in and actions under employee benefit plans that are not required to be approved by the board.
- Appointing, setting the compensation of, overseeing and considering the independence of any compensation consultant or other advisor.

The Compensation Committee met six times in 2018. The Compensation Committee holds regularly scheduled meetings, reports its activities to the board, and consults with the board before setting annual executive compensation. See page 31 for a report of the committee.

In performing its functions, the committee is supported by the company's Human Resources organization. The committee has the authority to retain any advisors it deems appropriate to carry out its responsibilities. The committee retained Pearl Meyer & Partners as its compensation consultant for the 2018 compensation cycle. The committee instructed the consultant to advise it directly on executive compensation philosophy, strategies, pay levels, decision-making processes and other matters within the scope of the committee's charter. Additionally, the committee instructed the consultant to assist the company's Human Resources organization in its support of the committee in these matters with such items as peer-group assessment, analysis of the executive compensation market, and compensation recommendations.

The Compensation Committee considers it important that its compensation consultant's objectivity not be compromised by other engagements with the company or its management. In support of this belief, the committee has a policy on compensation consultants, a copy of which may be found on www.ti.com/corporategovernance. During 2018, the committee determined that its compensation consultant was independent of the company and had no conflict of interest.

The Compensation Committee considers executive compensation in a multistep process that involves the review of market information, performance data and possible compensation levels over several meetings leading to the annual determinations in January. Before setting executive compensation, the committee reviews the total compensation and benefits of the executive officers and considers the impact that their retirement, or termination under various other scenarios, would have on their compensation and benefits.

The CEO and the senior vice president responsible for Human Resources, who is an executive officer, are regularly invited to attend meetings of the committee. The CEO is excused from the meeting during any deliberations or vote on his compensation. No executive officer determines his or her own compensation or the compensation of any other executive officer. As members of the board, the members of the committee receive information concerning the performance of the company during the year and interact with our management. The CEO gives the committee and the board an assessment of his own performance during the year just ended. He also reviews the performance of the other executive officers with the committee and makes recommendations regarding their compensation. The senior vice president responsible for Human Resources assists in the preparation of and reviews the compensation recommendations made to the committee other than for her compensation.

The Compensation Committee's charter provides that it may delegate its power, authority and rights with respect to TI's long-term incentive plans, employee stock purchase plan and employee benefit plans to (i) one or more committees of the board established or delegated authority for that purpose; or (ii) employees or committees of employees except that no such delegation may be made with respect to compensation of the company's executive officers.

Pursuant to that authority, the Compensation Committee has delegated to a special committee established by the board the authority to, among other things, grant a limited number of stock options and restricted stock units (RSUs) under the company's long-term incentive plans. The sole member of the special committee is Mr. Templeton. The special committee has no authority to grant, amend or terminate any form of compensation for TI's executive officers. The Compensation Committee reviews all activity of the special committee.

Governance and Stockholder Relations Committee

All members of the GSR Committee are independent. From April 21, 2017, to April 25, 2018, the committee members were Mr. Wayne R. Sanders (chair) (who retired from the board in April 2018), Mr. Babb, Ms. Cox and Mr. Kirk. Since April 26, 2018, the committee members have been Mr. Kirk (Chair), Mr. Babb, Ms. Clark and Mr. Sanchez. The GSR Committee is generally responsible for:

- Making recommendations to the board regarding:
  - The development and revision of our corporate governance principles.
  - The size, composition and functioning of the board and board committees.
  - Candidates to fill board positions.
  - Nominees to be designated for election as directors.
  - Compensation of board members.
  - Organization and responsibilities of board committees.
  - Succession planning by the company.
  - Issues of potential conflicts of interest involving a board member raised under TI's conflict of interest policy.
  - Election of executive officers of the company.
  - Topics affecting the relationship between the company and stockholders.
  - Public issues likely to affect the company.
  - Responses to proposals submitted by stockholders.
- Reviewing:
  - Contribution policies of the company and the TI Foundation.
  - Scope of activities of the company's political action committee.
  - Revisions to TI's code of conduct.
- Electing officers of the company other than the executive officers.
- Overseeing an annual evaluation of the board and the committee.

The GSR Committee met seven times in 2018. The GSR Committee holds regularly scheduled meetings and reports its activities to the board. See "Director nomination process" for a discussion of stockholder nominations and recommendations and "Communications with the board" for details on how to contact the board.

Board evaluation process

The board recognizes that a robust and constructive evaluation process is an essential part of good corporate governance and board effectiveness. The board and committee annual evaluation processes are designed to assess board and committee effectiveness, as well as individual director performance and contribution levels. The results of the evaluations are part of the GSR Committee's and the board's consideration in connection with their review of director nominees to ensure the board continues to operate effectively.

Annually, each of our directors completes comprehensive board and committee questionnaires. Each committee oversees its own evaluation process, and the GSR Committee also oversees the board evaluation process. The questionnaires, and ongoing feedback from individual directors, facilitate a candid assessment of: (i) the board and committees' oversight of risk, strategy, and operations; (ii) the board's culture, leadership structure, and mix of director skills, qualifications and experiences; and (iii) board and committee meeting mechanics. Our directors are willing to have honest and difficult conversations as needed during the evaluation and nomination process.

Board leadership structure

The board's current leadership structure combines the positions of chairman and CEO, and includes a lead director who presides at executive sessions and performs the duties listed below. The board believes that this structure, combined with its other practices (such as (a) including on each board agenda an opportunity for the independent directors to comment on and influence the proposed strategic agenda for future meetings and (b) holding an executive session of the independent directors at each board meeting), allows it to maintain the active engagement of independent directors and appropriate oversight of management.

The lead director is elected by the independent directors annually. The independent directors have elected Mr. Blinn to serve as lead director. The duties of the lead director are to:

- Preside at all meetings of the board at which the chairman is not present, including executive sessions of the independent directors;
- Serve as liaison between the chairman and the independent directors;
- Approve information sent to the board;
- Approve meeting agendas for the board;
- Approve meeting schedules to assure that there is sufficient time for discussion of all agenda items; and
- If requested by major shareholders, ensure that he or she is available for consultation and direct communication.

In addition, the lead director has authority to call meetings of the independent directors.

The board, led by its GSR Committee, regularly reviews the board's leadership structure. The board's consideration is guided by two questions: would stockholders be better served and would the board be more effective with a different structure. The board's views are informed by a review of the practices of other companies and insight into the preferences of top stockholders, as gathered from face-to-face dialogue and review of published guidelines. The board also considers how board roles and interactions would change if its leadership structure changed. The board's goal is for each director to have an equal stake in the board's actions and equal accountability to the corporation and its stockholders.

The board continues to believe that there is no uniform solution for a board leadership structure. Indeed, the company has had varying board leadership models over its history, at times separating the positions of chairman and CEO and at times combining the two, and now utilizing a lead director.

Risk oversight by the board

It is management's responsibility to assess and manage the various risks TI faces. It is the board's responsibility to oversee management in this effort. In exercising its oversight, the board has allocated some areas of focus to its committees and has retained areas of focus for itself, as more fully described below.

Management generally views the risks TI faces as falling into the following categories: strategic, operational, financial and compliance. The board as a whole has oversight responsibility for the company's strategic and operational risks (e.g., major initiatives, competitive markets and products, sales and marketing, R&D and cybersecurity). Throughout the year the CEO discusses these risks with the board. Additionally, at least once each year, the company's chief information officer reviews cybersecurity risks and the company's approach to protecting the company's data and systems infrastructure with the board. In the event of a material cybersecurity event, management would notify the board and, in compliance with our procedures, determine the timing and extent of the response and public disclosure, and whether and any future vulnerabilities are expected.

TI's Audit Committee has oversight responsibility for financial risk (such as accounting, finance, internal controls and tax strategy). Oversight responsibility for compliance risk is shared by the board committees. For example, the Audit Committee oversees compliance with the company's code of conduct and finance- and accounting-related laws and policies, as well as the company's compliance program itself; the Compensation Committee oversees compliance with the company's executive compensation plans and related laws and policies; and the GSR Committee oversees compliance with governance-related laws and policies, including the company's corporate governance guidelines.

The Audit Committee oversees the company's approach to risk management as a whole. The company's CFO reviews the company's risk management process with the Audit Committee at least annually. In addition, the company's chief information officer reviews the company's information technology systems with the Audit Committee periodically and includes a discussion of key cybersecurity risks as appropriate.

The board's leadership structure is consistent with the board and committees' roles in risk oversight. As discussed above, the board has found that its current structure and practices are effective in fully engaging the independent directors. Allocating various aspects of risk oversight among the committees provides for similar engagement. Having the chairman and CEO review strategic and operational risks with the board ensures that the director most knowledgeable about the company, the industry in which it operates and the competition and other challenges it faces shares those insights with the board, providing for a thorough and efficient process.

Director compensation

The GSR Committee has responsibility for reviewing and making recommendations to the board on compensation for non-employee directors, with the board making the final determination. The committee has no authority to delegate its responsibility regarding director compensation. In carrying out this responsibility, it is supported by TI's Human Resources organization. The CEO, the senior vice president responsible for Human Resources and the Secretary review the recommendations made to the committee. The CEO also votes, as a member of the board, on the compensation of non-employee directors.

The compensation arrangements in 2018 for the non-employee directors were:

- Annual retainer of $85,000 for board and committee service.
- Additional annual retainer of $25,000 for service as the lead director.
- Additional annual retainer of $30,000 for service as chair of the Audit Committee; $20,000 for service as chair of the Compensation Committee; and $15,000 for service as chair of the GSR Committee.
- Annual grant of a 10-year option to purchase TI common stock pursuant to the terms of the Texas Instruments 2009 Director Compensation Plan (Director Plan), which was approved by stockholders in April 2009. The grant date value is $100,000, determined using a Black-Scholes option-pricing model (subject to the board's ability to adjust the grant downward). These non-qualified options become exercisable in four equal annual installments beginning on the first anniversary of the grant and also will become fully exercisable in the event of termination of service following a change in control (as defined in the Director Plan) of TI. If a director's service terminates due to death, disability or ineligibility to stand for re-election under the company's by-laws, or after the director has completed eight years of service, then all outstanding options held by the director shall continue to become exercisable in accordance with their terms. If a director's service terminates for any other reason, all outstanding options held by the director shall be exercisable for 30 days after the date of termination, but only to the extent such options were exercisable on the date of termination.
- Annual grant of restricted stock units pursuant to the Director Plan with a grant date value of $100,000 (subject to the board's ability to adjust the grant downward). The restricted stock units vest on the fourth anniversary of their date of grant and upon a change in control as defined in the Director Plan. If a director is not a member of the board on the fourth anniversary of the grant, restricted stock units will nonetheless settle (i.e., the shares will issue) on such anniversary date if the director has completed eight years of service prior to termination or the director's termination was due to death, disability or ineligibility to stand for re-election under the company's by-laws. The director may defer settlement of the restricted stock units at his or her election. Upon settlement, the director will receive one share of TI common stock for each restricted stock unit. Dividend equivalents are paid on the restricted stock units at the same rate as dividends on TI common stock. The director may defer receipt of dividend equivalents.
- $1,000 per day compensation for other activities designated by the chairman.
- A one-time grant of 2,000 restricted stock units upon a director's initial election to the board.
- A one-time payment of $5,000 for service on a special committee.

The board has determined that annual grants of equity compensation to non-employee directors will be timed to occur in January when grants are made to our U.S. employees in connection with the annual compensation review process. See "Process for equity grants" for a discussion regarding the timing of equity compensation grants.

Directors are not paid a fee for meeting attendance, but we reimburse non-employee directors for their travel, lodging and related expenses incurred in connection with attending board, committee and stockholders meetings and other designated events. In addition, non-employee directors may travel on company aircraft to and from these meetings and other designated events.

Under the Director Plan, some directors have chosen to defer all or part of their cash compensation until they leave the board (or certain other specified times). These deferred amounts are credited to either a cash account or stock unit account. Cash accounts earn interest from TI at a rate currently based on Moody's Seasoned Aaa Corporate Bonds. For 2018, that rate was 3.62 percent. Stock unit accounts fluctuate in value with the underlying shares of TI common stock, which will be issued after the deferral period. Dividend equivalents are paid on these stock units. Directors may also defer settlement of the restricted stock units they receive.

We have arrangements with certain customers whereby our employees may purchase consumer products containing TI components at discounted pricing. In addition, the TI Foundation has an educational and cultural matching gift program. In both cases, directors are entitled to participate on the same terms and conditions available to employees.

Non-employee directors are not eligible to participate in any TI-sponsored pension plan.

2018 director compensation

The following table shows the compensation of all persons who were non-employee members of the board during 2018 for services in all capacities to TI in 2018.

Name (1)	Fees Earned or Paid in Cash ($) (2)	Stock Awards ($) (3)	Option Awards ($) (4)	Non-Equity Incentive Plan Compensation ($)	Change in Pension Value and Nonqualified Deferred Compensation Earnings (5)	All Other Compensation ($) (6)	Total ($)
R. W. Babb, Jr. . . .	$ 85,000	$ 99,906	$ 99,984	—	—	$ 30,040	$ 314,930
M. A. Blinn	$ 136,667	$ 99,906	$ 99,984	—	—	$ 40	$ 336,597
T. M. Bluedorn . . .	$ 85,000	$ 99,906	$ 99,984	—	—	$ 40	$ 284,930
D. A. Carp	$ 85,000	$ 99,906	$ 99,984	—	—	$ 915	$ 285,805
J. F. Clark	$ 85,000	$ 99,906	$ 99,984	—	—	$ 30,040	$ 314,930
C. S. Cox	$ 85,000	$ 99,906	$ 99,984	—	$ 2,850	$ 12,540	$ 300,280
M. S. Craighead . .	$ 42,500	$ 220,500	—	—	—	$ 2,540	$ 265,540
J. M. Hobby	$ 85,000	$ 99,906	$ 99,984	—	—	$ 20,040	$ 304,930
R. Kirk	$ 100,000	$ 99,906	$ 99,984	—	—	$ 4,499	$ 304,389
P. H. Patsley	$ 103,333	$ 99,906	$ 99,984	—	—	$ 27,540	$ 330,763
R. E. Sanchez	$ 91,667	$ 99,906	$ 99,984	—	—	$ 10,040	$ 301,597
W. R. Sanders	$ 41,668	$ 99,906	$ 99,984	—	—	$ 915	$ 242,473

(1) Mr. Craighead was elected to the board effective July 1, 2018. Mr. Sanders, an independent director, reached the age of 70 by the date of the 2018 annual meeting and therefore was ineligible under the company's by-laws to stand for re-election at the meeting.

(2) Includes amounts deferred at the director's election. The amounts shown for Messrs. Blinn and Kirk and Ms. Patsley include a one-time fee for service on a special committee.

(3) Shown is the aggregate grant date fair value of restricted stock units granted in 2018 calculated in accordance with Financial Accounting Standards Board Accounting Standards Codification™ Topic 718, Compensation-Stock Compensation (ASC 718). The discussion of the assumptions used for purposes of calculating the grant date fair value appears in Note 3 to the financial statements contained in Item 8 ("Note 3 to the 2018 financial statements") in TI's annual report on Form 10-K for the year ended December 31, 2018. Each restricted stock unit represents the right to receive one share of TI common stock. For restricted stock units granted prior to 2007, shares are issued at the time of mandatory retirement from the board (age 70) or upon the earlier of termination of service from the board after completing eight years of service or death or disability. For information regarding share issuances under restricted stock units granted after 2006, see the discussion on pages 35-36.

The table below shows the aggregate number of shares underlying outstanding restricted stock units held by the named individuals as of December 31, 2018. The value shown for Mr. Craighead represents the one-time restricted stock unit grant he received upon his initial election to the board.

Name	Restricted Stock Units (in Shares)
R. W. Babb, Jr.	19,203
M. A. Blinn	10,178
T. M. Bluedorn	2,907
D. A. Carp	35,867
J. F. Clark	6,057
C. S. Cox	29,203
M. S. Craighead	2,000
J. M. Hobby	4,168
R. Kirk	5,910
P. H. Patsley	7,910
R. E. Sanchez	5,910
W. R. Sanders	5,910

(4) Shown is the aggregate grant date fair value of options granted in 2018 calculated in accordance with ASC 718. The discussion of the assumptions used for purposes of calculating the grant date fair value appears in Note 3 to the 2018 financial statements. The terms of these options are as set forth on page 35. The table below shows the aggregate number of shares underlying outstanding stock options held by the named individuals as of December 31, 2018.

Name	Options (in Shares)
R. W. Babb, Jr.	30,900
M. A. Blinn	16,485
T. M. Bluedorn	4,306
D. A. Carp	57,948
J. F. Clark	20,361
C. S. Cox	87,106
M. S. Craighead	—
J. M. Hobby	10,371
R. Kirk	43,199
P. H. Patsley	87,106
R. E. Sanchez	43,199
W. R. Sanders	43,199

(5) SEC rules require the disclosure of earnings on deferred compensation to the extent that the interest rate exceeds a specified rate (Federal Rate), which is 120 percent of the applicable federal long-term interest rate with compounding. Under the terms of the Director Plan, deferred compensation cash amounts earn interest at a rate based on Moody's Seasoned Aaa Corporate Bonds. For 2018, this interest rate exceeded the Federal Rate by 0.54 percentage points. Shown is the amount of interest earned on the directors' deferred compensation accounts that was in excess of the Federal Rate.

(6) Consists of (a) the annual cost ($40 per director) of premiums for travel and accident insurance policies, (b) contributions under the TI Foundation matching gift program of $30,000 for Mr. Babb, $30,000 for Ms. Clark, $12,500 for Ms. Cox, $2,500 for Mr. Craighead, $20,000 for Ms. Hobby, $4,459 for Mr. Kirk, $27,500 for Ms. Patsley and $10,000 for Mr. Sanchez and (c) for Messrs. Carp and Sanders, third-party administration fees for the Director Award Program. Each director whose service commenced prior to June 20, 2002, is eligible to participate in the Director Award Program, a charitable donation program under which we will contribute a total of $500,000 per eligible director to as many as three educational institutions recommended by the director and approved by us. The contributions are made following the director's death. Directors receive no financial benefit from the program, and all charitable deductions belong to the company. In accordance with SEC rules, we have included the company's annual costs under the program in All Other Compensation of the directors who participate. The cost attributable to each of Messrs. Carp and Sanders for their participation in this program was $875.

Executive compensation

We are providing shareholders the opportunity to cast advisory votes on named executive officer compensation as required by Section 14A of the Securities Exchange Act.

Proposal regarding advisory approval of the company's executive compensation

The "named executive officers" are each person who served as the chief executive officer during 2018, the chief financial officer and the three other most highly compensated executive officers, as named in the compensation tables on pages 31-43.

We ask shareholders to approve the following resolution:

> RESOLVED, that the compensation paid to the company's named executive officers, as disclosed in this proxy statement pursuant to the Securities and Exchange Commission's compensation disclosure rules, including the Compensation Discussion and Analysis, compensation tables and narrative discussion on pages 19-43 of this proxy statement, is hereby approved.

We encourage shareholders to review the Compensation Discussion and Analysis section of the proxy statement, which follows. It discusses our executive compensation policies and programs and explains the compensation decisions relating to the named executive officers for 2018. We believe that the policies and programs serve the interests of our shareholders and that the compensation received by the named executive officers is commensurate with the performance and strategic position of the company.

Although the outcome of this annual vote is not binding on the company or the board, the Compensation Committee of the board will consider it when setting future compensation for the executive officers.

The board of directors recommends a vote FOR the annual resolution approving the named executive officer compensation for 2018, as disclosed in this proxy statement.

Compensation Discussion and Analysis

This section describes TI's compensation program for executive officers. It will provide insight into the following:

- The elements of the 2018 compensation program, why we selected them and how they relate to one another; and
- How we determined the amount of compensation for 2018.

The executive officers of TI have the broadest job responsibilities and policy-making authority in the company. We hold them accountable for the company's performance and for maintaining a culture of strong ethics and compliance. Details of compensation for both individuals who served as our CEO during 2018, our CFO and the three other highest paid individuals who were executive officers in 2018 (collectively called the "named executive officers") can be found in the tables following the Compensation Committee report.

Executive summary

- **TI's compensation program is structured to pay for performance and deliver rewards that encourage executives to think and act in both the short- and long-term interests of our shareholders. The majority of total compensation for our executives each year comes in the form of variable cash and equity compensation. Variable cash is tied to the short-term performance of the company, and the value of equity is tied to the long-term performance of the company. We believe our compensation program holds our executive officers accountable for the financial and competitive performance of TI.**
- **2018 compensation decisions for Mr. Templeton, the current CEO:**
  - Base salary was increased by 5.0 percent over 2017.
  - The grant date fair value of equity compensation awarded in 2018 increased by 9 percent from 2017, reflecting an effort to align with the projected market range for similarly situated CEOs in our comparator group.
  - The bonus decision was based primarily on the following performance results in 2018:

	2018 Absolute Performance	2018 Relative Performance *
Revenue Growth: Total TI	5.5%	Below median
Profit from Operations as a % of Revenue (PFO%)	42.5%	Above median
Total Shareholder Return (TSR)	-7.2%	Above median

Year-on-Year Change in CEO Bonus (2018 bonus compared with 2017)	5% change

* Relative to semiconductor competitors as outlined under "Comparator group;" includes estimates and projections of certain competitors' financial results. See "Analysis of compensation determinations – Bonus – Assessment of 2018 performance" for details of the Compensation Committee's assessment of TI's performance. (It is important to note that the median growth rate of competitor companies includes the effect of acquisitions, whereas TI's growth rate is entirely organic.)

- Our executive compensation program is designed to encourage executive officers to pursue strategies that serve the interests of the company and shareholders, and not to promote excessive risk-taking by our executives. It is built on a foundation of sound corporate governance and includes:
  - Executive officers do not have employment contracts and are not guaranteed salary increases, bonus amounts or awards of equity compensation.

- We have never repriced stock options. We do not grant reload options. We grant equity compensation with double-trigger change-in-control terms, which accelerate the vesting of grants only if the grantee has been terminated involuntarily within a limited time after a change in control of the company.
- Bonus and equity compensation awards are subject to clawback as described under "Recoupment policy" below.
- We do not provide excessive perquisites. We provide no tax gross-ups for perquisites.
- We do not guarantee a return or provide above-market returns on compensation that has been deferred.
- Pension benefits are calculated on salary and bonus only; the proceeds earned on equity or other performance awards are not part of the pension calculation.

Detailed discussion

Compensation philosophy and elements

The Compensation Committee of TI's board of directors is responsible for setting the compensation of all TI executive officers. The committee consults with the other independent directors and its compensation consultant, Pearl Meyer & Partners, before setting annual compensation for the executives. The committee chair regularly reports on committee actions at board meetings.

The primary elements of our executive compensation program are as follows:

Near-term compensation, paid in cash

Base Salary

Purpose	Basic, least variable form of compensation, designed to provide a stable source of income.
Strategy	Generally, target market median, giving appropriate consideration to job scope and tenure, to attract and retain highly qualified executives.
Terms	Paid twice monthly.

Profit Sharing

Purpose	Broad-based program designed to emphasize that each employee contributes to the company's profitability and can share in it.
Strategy	Pay according to a formula that focuses employees on a company goal, and at a level that will affect behavior. Profit sharing is paid in addition to any performance bonus awarded for the year. For the last 14 years, the formula has been based on company-level annual operating profit margin. The formula was set by the TI board. The committee's practice has been not to adjust amounts earned under the formula.
Terms	Payable in a single cash payment shortly after the end of the performance year. As in recent years, the formula for 2018 was: • Below 10% company-level annual operating profit as a percentage of revenue ("Margin"): no profit sharing • At 10% Margin: profit sharing = 2% of base salary • At Margin above 10%: profit sharing increases by 0.5% of base salary for each percentage point of Margin between 10% and 24%, and 1% of base salary for each percentage point of Margin above 24%. The maximum profit sharing is 20% of base salary. In 2018, TI delivered Margin of 42.5 percent. As a result, all eligible employees, including executive officers, received profit sharing of 20 percent of base salary.

Performance Bonus

Purpose	To motivate executives and reward them according to the company's relative and absolute performance and the executive's individual performance.
Strategy	Determined primarily on the basis of one-year and three-year company performance on certain measures (revenue growth percent, operating margin and total shareholder return[1]) as compared with competitors and on our strategic progress in key markets and with customers. These factors have been chosen to reflect our near-term financial performance as well as our progress in building long-term shareholder value. The committee aims to pay total cash compensation (base salary, profit sharing and bonus) appropriately above median if company performance is above that of competitors, and pay total cash compensation appropriately below the median if company performance is below competitors. The committee does not rely on formulas or performance targets or thresholds. Instead, it uses its judgment based on its assessment of the factors described above.
Terms	Determined by the committee and paid in a single payment after the performance year.

Long-term compensation, awarded in equity

Stock Options and Restricted Stock Units

Purpose	Alignment with shareholders; long-term focus; balance retention, particularly with respect to restricted stock units, and performance.
Strategy	We grant a combination of non-qualified stock options and restricted stock units, generally targeted at the median level of equity compensation awarded to executives in similar positions within the Comparator Group.
Terms	The terms and conditions of stock options and restricted stock units are summarized under "Outstanding equity awards at fiscal year-end 2018." The committee's grant procedures are described under "Process for equity grants."

Comparator group

The Compensation Committee considers the market level of compensation when setting the salary, bonuses and equity compensation of the executive officers. To estimate the market level of pay, the committee uses information provided by its compensation consultant and TI's Compensation and Benefits organization about compensation paid to executives in similar positions at a peer group of companies (the "Comparator Group").

The committee sets the Comparator Group and reviews it annually. In general, the Comparator Group companies (i) are U.S.-based, (ii) engage in the semiconductor business, other electronics or information technology activities or use sophisticated manufacturing processes, (iii) have executive positions comparable in complexity to those of TI and (iv) use forms of executive compensation comparable to TI's.

Shown in the table below is the Comparator Group used for the compensation decisions for 2018.

3M Company	Honeywell International Inc.
Accenture plc	Intel Corporation
Analog Devices, Inc.	Medtronic Public Limited Company
Applied Materials, Inc.	Motorola Solutions, Inc.
Broadcom Inc.*	QUALCOMM Incorporated
Cisco Systems, Inc.	TE Connectivity Ltd.
Corning Incorporated	Thermo Fisher Scientific Inc.
DXC Technology Company	Western Digital Corporation
Emerson Electric Co.	

* formerly Broadcom Limited

[1] Total shareholder return refers to the percentage change in the value of a shareholder's investment in a company over the relevant time period, as determined by dividends paid and the change in the company's share price during the period. See notes to the performance summary table under "Analysis of compensation determinations – Bonus."

The committee set the Comparator Group in July 2017 for the base salary and equity compensation decisions it made in 2018. For a discussion of the factors considered by the committee in setting the Comparator Group in July 2017, please see “Comparator group” on pages 20-21 of the company’s 2018 proxy statement.

In July 2018, the committee conducted its regular review of the Comparator Group in terms of industry, revenue and market capitalization. With the advice of its compensation consultant and to increase the group’s overall comparability to TI, the committee added Nvidia Corporation to the group. The committee used the new Comparator Group for the bonus decisions in January 2019 relating to 2018 performance. The table below compares the current Comparator Group to TI in terms of revenue and market capitalization.

Company	Revenue ($ Billion) *	Market Cap ($ Billion) *
Intel Corporation	69.2	214.2
Cisco Systems, Inc.	50.3	194.8
Honeywell International Inc.	42.9	98.1
Accenture plc	40.7	93.9
3M Company	32.8	110.9
Medtronic Public Limited Company	30.4	122.2
Thermo Fisher Scientific Inc.	23.9	90.1
DXC Technology Company	22.8	14.9
QUALCOMM Incorporated	22.7	69.0
Broadcom Inc.	20.8	103.6
Western Digital Corporation	20.5	10.7
Emerson Electric Co.	17.4	37.4
Applied Materials, Inc.	17.3	31.4
TE Connectivity Ltd.	14.0	25.9
Nvidia Corporation	12.4	81.4
Corning Incorporated	10.9	24.2
Motorola Solutions, Inc.	7.0	18.8
Analog Devices, Inc.	6.2	31.8
Median	21.8	75.2
Texas Instruments Incorporated	15.8	90.8

* Trailing four-quarter revenue and market capitalization is as reported by Thomson Reuters on January 2, 2019.

Analysis of compensation determinations

Total compensation

Before finalizing the compensation of the executive officers, the committee reviewed all elements of compensation. The information included total cash compensation (salary, profit sharing and projected bonus), the grant date fair value of equity compensation, the impact that proposed compensation would have on other compensation elements such as pension, and a summary of benefits that the executives would receive under various termination scenarios. The review enabled the committee to see how various compensation elements relate to one another and what impact its decisions would have on the total earnings opportunity of the executives. In assessing the information, the committee did not target a specific level of total compensation or use a formula to allocate compensation among the various elements. Instead, it used its judgment in assessing whether the total was consistent with the objectives of the program. Based on this review, the committee determined that the level of compensation was appropriate.

Base salary

The committee set the 2018 rate of base salary for the following named executive officers as follows:

Officer	2018 Annual Rate	Change from 2017 Annual Rate
R. K. Templeton	$ 1,250,000	5.0%
R. R. Lizardi	$ 600,000	20.0%
N. Anderskouv	$ 675,000	12.5%
R. G. Delagi	$ 715,000	2.1%
H. Ilan	$ 675,000	12.5%
B. T. Crutcher	$ 905,000	3.4%

For each of these executive officers except Mr. Templeton, the committee set the 2018 base-salary rate listed above in January 2018. At that time, in connection with Mr. Templeton's planned transition to executive chair, the committee scheduled a reduction in his base salary to $500,000, which became effective June 1. However, the committee increased Mr. Templeton's base salary to the amount listed above when he resumed the role of CEO in July 2018. In keeping with its strategy, the committee targeted the annual base-salary rates to be at the estimated median level of salaries expected to be paid to similarly situated executives (considering job scope and tenure) of companies within the Comparator Group in January 2018.

The salary differences between the named executive officers were driven primarily by the market rate of pay for each officer and not the application of a formula designed to maintain a differential between the officers.

Equity compensation

In 2018, the committee awarded equity compensation to each of the named executive officers listed below. The grants are shown in the table under "Grants of plan-based awards in 2018." The grant date fair value of the awards is reflected in that table and in the "Stock Awards" and "Option Awards" columns of the 2018 summary compensation table. The table below is provided to assist the reader in comparing the grant date fair values and number of shares for each of the years shown in the summary compensation table.

Officer	Year	Grant Date Fair Value *	Stock Options (In Shares)	Restricted Stock Units (In Shares)
R. K. Templeton	2018	$ 12,000,110	258,403	54,472
	2017	$ 11,000,014	333,615	69,392
	2016	$ 9,800,055	489,557	92,576
R. R. Lizardi	2018	$ 2,400,097	51,681	10,895
	2017	$ 2,000,037	60,658	12,617
		$ 1,000,023**		12,617**
N. Anderskouv	2018	$ 3,800,103	81,828	17,250
R. G. Delagi	2018	$ 3,600,079	77,521	16,342
	2017	3,600,090	109,184	22,711
H. Ilan	2018	$ 3,800,103	81,828	17,250
B. T. Crutcher	2018	$ 10,000,059	215,336	45,393
	2017	$ 7,500,034	227,465	47,313
	2016	$ 5,500,031	274,751	51,956

* See Notes 2 and 3 to the summary compensation table for information on how grant date fair value was calculated.

** Retention grant made in January 2017 in recognition of Mr. Lizardi's new responsibilities as CFO.

In January 2018, the committee awarded equity compensation to each of the named executive officers listed above. The committee's general objective was to award to those officers equity compensation that had a grant date fair value at approximately the median market level of the most recently disclosed equity compensation granted by the Comparator Group.

In assessing the market level, the committee considered information presented by TI's Compensation and Benefits organization (prepared using data provided by the committee's compensation consultant) on the estimated value of the awards expected to be granted to similarly situated executives (considering job scope and tenure) of companies within the Comparator Group. The award value was estimated using the same methodology used for financial accounting.

For each officer, the committee set the desired grant value. The committee decided to allocate the value equally between restricted stock units and options for each officer, to give equal emphasis to promoting retention and performance, motivating the executive and aligning interests with those of shareholders.

Before approving the grants, the committee reviewed the amount of unvested equity compensation held by the officers to assess its retention value. In making this assessment, the committee used its judgment and did not apply any formula, threshold or maximum. This review did not result in an increase or decrease of the awards.

The exercise price of the options was the closing price of TI stock on January 25, 2018, the second trading day after the company released its annual and fourth-quarter financial results for 2017. All grants were made under the Texas Instruments 2009 Long-Term Incentive Plan, which shareholders approved in April 2009 and amended in 2016.

All grants have the terms described under "Outstanding equity awards at fiscal year-end 2018." The differences in the equity awards between the named executive officers were primarily the result of differences in the applicable estimated market level of equity compensation for their positions, and not the application of any formula designed to maintain differentials between the officers.

Bonus

In January 2019, the committee set the 2018 bonus compensation for executive officers based on its assessment of 2018 performance. In setting the bonuses, the committee used the following performance measures to assess the company:

- The relative one-year and three-year performance of TI as compared with competitor companies, as measured by
  - revenue growth,
  - operating profit as a percentage of revenue,
  - total shareholder return, and
- The absolute one-year and three-year performance of TI on the above measures.

In addition, the committee considered strategic progress by reviewing TI competitiveness in key markets with core products and technologies, as well as the strength of relationships with customers.

In assessing performance, the committee did not use formulas, thresholds or multiples. Because market conditions can quickly change in our industry, thresholds established at the beginning of a year could prove irrelevant by year-end. The committee believes its approach, which assesses the company's relative performance in hindsight after year-end, gives it the insight to most effectively and critically judge results and encourages executives to pursue strategies that serve the long-term interests of the company and its shareholders.

In the comparison of relative performance, the committee used the following companies (the "competitor companies"):

Advanced Micro Devices, Inc.
Analog Devices, Inc.
Broadcom Inc.
Infineon Technologies AG
Intel Corporation
Marvell Technology Group Ltd.
Maxim Integrated Products, Inc.
Microchip Technology Incorporated
NVIDIA Corporation
NXP Semiconductors N.V.
ON Semiconductor Corporation
QUALCOMM Incorporated
Skyworks Solutions, Inc.
STMicroelectronics N.V.
Xilinx, Inc.

To the extent the companies had not released financial results for the year or the most recent quarter, the committee based its evaluation on estimates and projections of the companies' financial results for 2018.

This list includes both broad-based and niche suppliers that operate in our key markets or offer technology that competes with our products. The committee considers annually whether the list is still appropriate in terms of revenue, market capitalization and changes in business activities of the companies. The committee made no changes to the list of competitor companies in 2018.

Assessment of 2018 performance

The committee spent extensive time in December and January assessing TI's results and strategic progress for 2018. In setting bonuses, the committee considered quantitative and qualitative measures on both an absolute and relative basis and made certain that resulting decisions were founded on both solid data and sound judgment. On an absolute basis, revenue and operating profit margin were both positive, with operating profit being better than the median relative to competitors and revenue falling below median. TSR was down on an absolute basis but still better than median relative to competitors. In aggregate, the committee determined that performance in 2018 was strong, both on an absolute and relative basis. Therefore, the committee targeted a 5 percent bonus increase for 2018 for named executive officers. However, three of the named executive officers are newer to their roles and received higher bonus increases in an effort to more closely align their total cash with the competitive market for their roles and the company's performance. Details on the committee's assessment are below.

Revenue and margin

- *Annual performance*
  - TI's revenue growth rate of 5.5 percent was lower in 2018 than in the prior year. Compared with competitor companies, TI's growth rate was below the median. It is important to note that the median growth rate of competitor companies includes the effect of acquisitions, whereas TI's growth rate is entirely organic.
  - Revenues for the company's core businesses of Analog and Embedded Processing were up 9.1 percent and 1.6 percent, respectively.
  - Operating profit margin was 42.5 percent, which was above both the prior year's margin and the median comparison with competitors.
- *Three-year performance*
  - Compound annual revenue growth for 2016-2018 was 6.7 percent, which was below the median competitor comparison.
  - Average operating profit for 2016-2018 was 40.0 percent, which was above the median competitor comparison.

Total shareholder return (TSR)

- TSR was down 7.2 percent, better than the median TSR as compared with competitor companies.
- The company again generated strong cash, with free cash flow at 38.4 percent of revenue.[2] Approximately 126 percent of free cash flow was returned to shareholders in 2018 through share repurchases and dividends. Share repurchases of $5.1 billion reduced outstanding shares by 3.9 percent (net of stock issuances during the year). The quarterly dividend rate increased 24.2 percent (the 17th increase in the last 15 years). Share repurchases and dividend increases are important elements of TI's capital management strategy.
- The balance sheet remained robust, ending the year with cash and short-term investments of $4.2 billion.
- The three-year compound annual growth rate for TSR was 23.0 percent, which was above the median competitor comparison.

Strategic progress

- The company's business model is designed around four sustainable competitive advantages that in combination put us in a unique class of companies. These advantages include (i) manufacturing and technology, (ii) breadth of differentiated product portfolio, (iii) channel reach of sales force and TI.com and (iv) diversity and longevity of product, market and customer positions. In 2018, the company continued to strengthen and leverage these advantages.

[2] Free cash flow was calculated by subtracting Capital expenditures from the GAAP-based Cash flows from operating activities. For a reconciliation to GAAP, see Appendix A to this proxy statement.

- The company's strategic focus is on analog and embedded processing, with a particular emphasis on designing and selling those products into the industrial and automotive markets, which we believe represent the best growth opportunities. Focused investments in these areas continue to provide the foundation for strong results in the near and long terms.
  - TI's broad analog and embedded processing product portfolio includes tens of thousands of products, with more products added each year, offering strong differentiation and longevity. In 2018, 91 percent of TI's revenue came from Analog and Embedded Processing semiconductors, up from 90 percent in 2017.
  - We believe the industrial and automotive markets represent the best growth opportunity for the industry for the foreseeable future because of the increasing semiconductor content in these markets. In 2018, approximately 56 percent of TI's revenue came from industrial and automotive markets, up from approximately 54 percent in 2017.
- TI's revenue continues to come from a diverse base of thousands of applications. This is an intentional strategy that prevents dependence on a single market, customer or product.
- In 2018, the company again increased production of 300-millimeter wafers. TI's in-house capability to manufacture high volumes of Analog semiconductors on 300-millimeter wafers remains a competitive advantage due to the inherent cost advantage associated with 300-millimeter technology versus prior generation. This cost advantage is the result of more chips being produced per wafer, thereby improving margins and cash generation.
- In total, the committee determined that TI's strategic position was strengthened by management's decisions and actions in 2018.

Performance summary

	1-Year	3-Year
Revenue growth: total TI	5.5%	6.7% CAGR
Operating margin	42.5%	40.0% average
Free cash flow as % of revenue	38.4%	33.6% average
% of free cash flow returned to shareholders	126.4%	108.7% average
Increase in quarterly dividend rate	24.2%	102.6%
Total shareholder return (TSR)	-7.2%	23.0%

CAGR (compound annual growth rate) is calculated using the formula (Ending Value/Beginning Value)$^{1/\text{number of years}}$ minus 1.

One-year and three-year TSR percentages are obtained from a report generated using a subscription service to Equilar, an executive compensation and corporate governance data firm.

Before setting the bonuses for the named executive officers, the committee considered the officers' individual performance. The performance of Mr. Templeton was judged according to the performance of the company. For the other officers, the committee considered the factors described below in assessing individual performance. In making this assessment, the committee did not apply any formula or performance targets.

Mr. Lizardi is the chief financial officer. The committee noted the financial management of the company.

Mr. Anderskouv is responsible for our power product line within our analog business. The committee noted the financial performance and strategic position of this product line.

Mr. Delagi is responsible for our embedded processing business. The committee noted the financial performance and strategic position of these product lines.

Mr. Ilan is responsible for our signal chain product line within our analog business. The committee noted the financial performance and strategic position of this product line.

The bonuses awarded for 2018 performance are shown in the table below. The differences in the amounts awarded to the named executive officers were primarily the result of differences in the officers' level of responsibility and the applicable market level of total cash compensation expected to be paid to similarly situated officers at companies within the Comparator Group.

Results of the compensation decisions

Results of the compensation decisions made by the committee relating to the named executive officers are summarized in the following table. This table is provided as a supplement to the summary compensation table for investors who may find it useful to see the data presented in this form. Although the committee does not target a specific level of total compensation, it considers information similar to that in the table to ensure that the sum of these elements is, in its judgment, in a reasonable range.

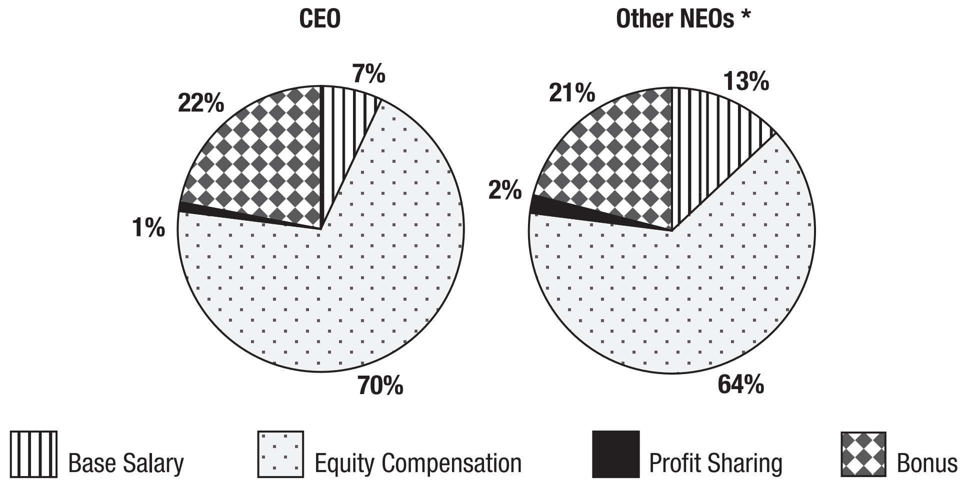
Officer	Year	Salary (Annual Rate)	Profit Sharing	Bonus	Equity Compensation (Grant Date Fair Value)	Total
R. K. Templeton	2018	$ 1,250,000	$ 226,250	$ 3,800,000	$ 12,000,110	$ 17,276,360
	2017	$ 1,190,000	$ 237,601	$ 3,625,000	$ 11,000,014	$ 16,052,615
	2016	$ 1,166,000	$ 232,817	$ 3,450,000	$ 9,800,055	$ 14,648,872
R. R. Lizardi	2018	$ 600,000	$ 118,333	$ 1,000,000	$ 2,400,097	$ 4,118,430
	2017	$ 500,000	$ 97,667	$ 850,000	$ 3,000,060	$ 4,447,727
N. Anderskouv	2018	$ 675,000	$ 133,750	$ 1,200,000	$ 3,800,103	$ 5,808,853
R. G. Delagi	2018	$ 715,000	$ 142,750	$ 1,150,000	$ 3,600,079	$ 5,607,829
	2017	$ 700,000	$ 139,750	$ 1,100,000	$ 3,600,090	$ 5,539,840
H. Ilan	2018	$ 675,000	$ 133,750	$ 1,200,000	$ 3,800,103	$ 5,808,853
B. T. Crutcher	2018	$ 905,000[3]	$ 0	$ 0	$ 10,000,059[3]	$ 10,905,059[3]
	2017	$ 875,000	$ 174,167	$ 2,350,000	$ 7,500,034	$ 10,899,201
	2016	$ 825,000	$ 164,583	$ 2,000,000	$ 5,500,031	$ 8,489,614

This table shows the annual rate of base salary for each named executive officer. In the summary compensation table, the “Salary” column shows the actual salary paid in the year. This table has separate columns for profit sharing and bonus. In the summary compensation table, profit sharing and bonus are aggregated in the column for “Non-Equity Incentive Plan Compensation,” in accordance with SEC requirements. Please see Notes 2 and 3 to the summary compensation table for information about how grant date fair value was calculated.

For Mr. Templeton, the “Total” for 2018 was higher than for 2017 primarily due to the higher equity awards in 2018, reflecting an effort to align with the projected market range for similarly situated executives in our comparator group. For Mr. Lizardi, the “Total” for 2018 was lower than for 2017 because of the lower value of his equity compensation as compared to 2017, when he received a retention grant in recognition of his new responsibilities as CFO, in addition to his annual equity grant.

3 Mr. Crutcher’s salary increased to $1,000,000 effective when he assumed the role of CEO on June 1, 2018. However, he subsequently resigned from the company, effective July 17, 2018. Following his resignation, Mr. Crutcher received no further compensation, and all of his equity compensation granted in 2018, along with all unvested equity compensation from prior years, was cancelled, resulting in 2018 compensation for Mr. Crutcher from salary of $506,528, with no additional compensation from 2018 profit sharing, bonus or equity grants.

The compensation decisions shown above resulted in the following 2018 compensation mix for the named executive officers:



* Average data for the named executive officers other than Mr. Templeton

Equity dilution

The Compensation Committee's goal is to keep net annual dilution from equity compensation under 2 percent. "Net annual dilution" means the number of shares under equity awards granted by the committee each year to all employees (net of award forfeitures) as a percentage of the shares of the company's outstanding common stock. Equity awards granted in 2018 resulted in 0.5 percent net annual dilution.

Process for equity grants

The Compensation Committee makes grant decisions for equity compensation at its January meeting each year. The dates on which these meetings occur are generally set three years in advance. The January meetings of the board and the committee generally occur in the week or two before we announce our financial results for the previous quarter and year.

On occasion, the committee may grant stock options or restricted stock units to executives at times other than January. For example, it has done so in connection with job promotions and for purposes of retention.

We do not back-date stock options or restricted stock units. We do not accelerate or delay the release of information due to plans for making equity grants.

If the committee meeting falls in the same month as the release of the company's financial results, the committee's practice is to make grants effective (i) on the second trading day after the results have been released or (ii) on the meeting day if later. In other months, its practice is to make them effective on the day of committee action. The exercise price of stock options is the closing price of TI stock on the effective date of the grant.

Recoupment policy

The committee has a policy concerning recoupment ("clawback") of executive bonuses and equity compensation. Under the policy, in the event of a material restatement of TI's financial results due to misconduct, the committee will review the facts and circumstances and take the actions it considers appropriate with respect to the compensation of any executive officer whose fraud or willful misconduct contributed to the need for such restatement. Such action may include (a) seeking reimbursement of any bonus paid to such officer exceeding the amount that, in the judgment of the committee, would have been paid had the financial results been properly reported and (b) seeking to recover profits received by such officer during the 12 months after the restated period under equity compensation awards. All determinations by the committee with respect to this policy are final and binding on all interested parties.

Most recent stockholder advisory vote on executive compensation

In April 2018, our shareholders cast an advisory vote on the company's executive compensation decisions and policies as disclosed in the proxy statement issued by the company in March 2018. Approximately 94 percent of the shares voted on the matter were cast in support of the compensation decisions and policies as disclosed. The committee considered this result and determined that it was not necessary at this time to make any material changes to the company's compensation policies and practices in response to the advisory vote.

Benefits

Retirement plans

The executive officers participate in our retirement plans under the same rules that apply to other U.S. employees. We maintain these plans to have a competitive benefits program and for retention.

Like other established U.S. manufacturers, we have had a U.S. qualified defined benefit pension plan for many years. At its origin, the plan was designed to be consistent with those offered by other employers in the diverse markets in which we operated, which at the time included consumer and defense electronics, as well as semiconductors and materials products. In order to limit the cost of the plan, we closed the plan to new participants in 1997. We gave U.S. employees as of November 1997 the choice to continue participating in the plan, or to have their plan benefits frozen (i.e., no benefit increase attributable to years of service or change in eligible earnings) and begin participating in an enhanced defined contribution plan. Mr. Templeton chose not to continue participating in the defined benefit plan. As a result, his benefits under that plan were frozen in 1997, and he participates in the enhanced defined contribution plan described below. Mr. Delagi continued his participation in the defined benefit pension plan. Messrs. Lizardi, Anderskouv and Ilan joined the company after 1997 and are not eligible to participate in the defined benefit plan. Prior to his resignation, Mr. Crutcher participated in the defined benefit pension plan, but his benefits were frozen in 1997, and he participated in the enhanced defined contribution plan.

The Internal Revenue Code (IRC) imposes certain limits on the retirement benefits that may be provided under a qualified plan. To maintain the desired level of benefits, we have non-qualified defined benefit pension plans for participants in the qualified pension plan. Under the non-qualified plans, participants receive benefits that would ordinarily be paid under the qualified pension plan but for the limitations under the IRC. For additional information about the defined benefit plans, please see "2018 pension benefits."

Employees accruing benefits in the qualified pension plan, including Mr. Delagi, also are eligible to participate in a qualified defined contribution plan that provides employer matching contributions. All other employees are eligible to participate in the enhanced defined contribution plan, in which Messrs. Templeton, Lizardi, Anderskouv and Ilan participate. This plan provides for (i) a fixed employer contribution plus an employer matching contribution for employees hired on or before December 31, 2003 or (ii) an employer matching contribution for employees hired after December 31, 2003.

In general, if an employee who participates in the pension plan (including an employee whose benefits are frozen as described above) dies after having met the requirements for normal or early retirement, his or her beneficiary will receive a benefit equal to the lump-sum amount that the participant would have received if he or she had retired before death. Having already reached the age of 55 and at least 20 years of employment, Mr. Templeton and Mr. Delagi are eligible for early retirement under the pension plans.

Because benefits under the qualified and non-qualified defined benefit pension plans are calculated on the basis of eligible earnings (salary and bonus), an increase in salary or bonus may result in an increase in benefits under the plans. Salary or bonus increases for Mr. Templeton do not result in greater benefits for him under the company's defined benefit pension plans because his benefits under those plans were frozen in 1997. Messrs. Lizardi, Anderskouv and Ilan do not participate in the company's defined benefit pension plans. The committee considers the potential effect on the executives' retirement benefits when it sets salary and performance bonus levels.

Deferred compensation

Any U.S. employee whose base salary and management responsibility exceed a certain level may defer the receipt of a portion of his or her salary, bonus and profit sharing. Rules of the U.S. Department of Labor require that this plan be limited to a select group of management or highly compensated employees. The plan allows employees to defer the receipt of their compensation in a tax-efficient manner. Eligible employees include, but are not limited to, the executive officers. We have the plan to be competitive with the benefits packages offered by other companies.

The executive officers' deferred compensation account balances are unsecured and all amounts remain part of the company's operating assets. The value of the deferred amounts tracks the performance of investment alternatives selected by the participant. These alternatives are identical to those offered to participants in the defined contribution plans described above. The company does not guarantee any minimum return on the amounts deferred. In accordance with SEC rules, no earnings on deferred compensation are shown in the summary compensation table for 2018 because no "above market" rates were earned on deferred amounts in that year.

Employee stock purchase plan

We have an employee stock purchase plan. Under the plan, which our shareholders approved, all employees in the U.S. and certain other countries may purchase a limited number of shares of the company's common stock at a 15 percent discount. The plan is designed to offer the broad-based employee population an opportunity to acquire an equity interest in the company and thereby align their interests with those of shareholders. Consistent with our general approach to benefit programs, executive officers are also eligible to participate.

Health-related benefits

Executive officers are eligible under the same plans as all other U.S. employees for medical, dental, vision, disability and life insurance. These benefits are intended to be competitive with benefits offered in the semiconductor industry.

Other benefits

Executive officers receive only a few benefits that are not available to all other U.S. employees. They are eligible for a company-paid physical and financial counseling. In addition, the board of directors has determined that for security reasons, it is in the company's interest to allow Mr. Templeton, at his option, to use company aircraft for personal air travel. Please see Footnote 6 of the summary compensation table for 2018 and "Potential payments upon termination or change in control – Termination – Perquisites" for further details. The company provides no tax gross-ups for perquisites to any of the executive officers.

Compensation following employment termination or change in control

None of the executive officers has an employment contract. Executive officers are eligible for benefits on the same terms as other U.S. employees upon termination of employment or a change in control of the company. The current programs are described under "Potential payments upon termination or change in control." None of the few additional benefits that the executive officers receive continue after termination of employment, except that financial counseling is provided for a transition period following retirement. The committee reviews the potential impact of these programs before finalizing the annual compensation for the named executive officers. The committee did not raise or lower compensation for 2018 based on this review.

The Texas Instruments 2009 Long-Term Incentive Plan generally establishes double-trigger change-in-control terms for grants made in 2010 and later years. Under those terms, options become fully exercisable and shares are issued under restricted stock unit awards (to the extent permitted by Section 409A of the IRC) if the grantee is involuntarily terminated within 24 months after a change in control of TI. These terms are intended to encourage employees to remain with the company through a transaction while reducing employee uncertainty and distraction in the period leading up to any such event.

Stock ownership guidelines and policy against hedging

Our board of directors has established stock ownership guidelines for executive officers. The guideline for the CEO is four times base salary or 125,000 shares, whichever is less. The guideline for other executive officers is three times base salary or 25,000 shares, whichever is less. Executive officers have five years from their election as executive officers to reach these targets. Directly owned shares and restricted stock units count toward satisfying the guidelines.

Short sales of TI stock by our executive officers are prohibited. It is against TI policy for any employee, including an executive officer, to engage in trading in "puts" (options to sell at a fixed price), "calls" (similar options to buy), or other options or hedging techniques on TI stock.

Consideration of tax and accounting treatment of compensation

Section 162(m) of the IRC historically limited the tax deductibility of annual compensation paid to any publicly held corporation's CEO and three other highest compensated officers excluding the CFO, to the extent that the officer's compensation (other than qualified performance-based compensation) exceeded $1 million. Recent changes in the tax laws eliminated the "performance-based" exception beginning in 2018, unless the compensation qualifies for transition relief. Also, the $1 million corporate tax deduction limit now applies to all "covered employees," which includes all of our named executive officers. The Compensation Committee considers the impact of this deductibility limit as one factor in its determination of compensation.

When setting equity compensation, the committee considers the cost for financial reporting purposes of equity compensation it intends to grant. Its consideration of the cost of grants made in 2018 is discussed under "Analysis of compensation determination for 2018 – Equity compensation."

Compensation Committee report

The Compensation Committee of the board of directors has furnished the following report:

The committee has reviewed and discussed the Compensation Discussion and Analysis (CD&A) with the company's management. Based on that review and discussion, the committee has recommended to the board of directors that the CD&A be included in the company's annual report on Form 10-K for 2018 and the company's proxy statement for the 2019 annual meeting of stockholders.

Pamela H. Patsley, Chair　　Daniel A. Carp　　Carrie S. Cox

2018 summary compensation table

The table below shows the compensation of each person who served as the company's CEO during 2018, the CFO and each of the other three most highly compensated individuals who were executive officers during 2018 (collectively called the "named executive officers" (NEOs)) for services in all capacities to the company in 2018.

Name and Principal Position (1)	Year	Salary ($)	Stock Awards ($) (2)	Option Awards ($) (3)	Non-Equity Incentive Plan Compensation ($) (4)	Change in Pension Value and Nonqualified Deferred Compensation Earnings ($) (5)	All Other Compensation ($) (6)	Total ($)
Richard K. Templeton	2018	$ 1,131,252	$ 6,000,091	$ 6,000,019	$ 4,026,250	—	$ 418,612	$ 17,576,224
Chairman, President &	2017	$ 1,188,004	$ 5,500,010	$ 5,500,004	$ 3,862,601	$ 166,278	$ 329,825	$ 16,546,722
Chief Executive Officer	2016	$ 1,164,083	$ 4,900,048	$ 4,900,007	$ 3,682,817	$ 107,604	$ 325,510	$ 15,080,069
Rafael R. Lizardi	2018	$ 591,667	$ 1,200,084	$ 1,200,013	$ 1,118,333	—	$ 77,072	$ 4,187,169
Senior Vice President &	2017	$ 488,333	$ 2,000,047	$ 1,000,013	$ 947,667	—	$ 60,814	$ 4,496,874
Chief Financial Officer								
Niels Anderskouv	2018	$ 668,750	$ 1,900,088	$ 1,900,015	$ 1,333,750	—	$ 89,458	$ 5,892,061
Senior Vice President								
R. Gregory Delagi	2018	$ 713,750	$ 1,800,071	$ 1,800,008	$ 1,292,750	$ 1,877	$ 5,500	$ 5,613,956
Senior Vice President	2017	$ 698,750	$ 1,800,074	$ 1,800,016	$ 1,239,750	$ 1,491,494	$ 16,492	$ 7,046,576
Haviv Ilan	2018	$ 668,750	$ 1,900,088	$ 1,900,015	$ 1,333,750	—	$ 51,813	$ 5,854,416
Senior Vice President								
Brian T. Crutcher (7)	2018	$ 506,528	$ 5,000,039	$ 5,000,020	—	—	$ 220,012	$ 10,726,599
Former Chief Executive	2017	$ 870,833	$ 3,750,028	$ 3,750,006	$ 2,524,167	$ 1,173	$ 160,804	$ 11,057,011
Officer	2016	$ 822,917	$ 2,750,031	$ 2,750,000	$ 2,164,583	$ 577	$ 155,079	$ 8,643,187

(1) Mr. Templeton was chairman for all of 2018. He was the company's president and chief executive officer in 2018 except from June 1, 2018, through July 17, 2018, when Mr. Crutcher was chief executive officer and president. Mr. Crutcher resigned from the company effective July 17, 2018.

(2) Shown is the aggregate grant date fair value of restricted stock unit (RSU) awards calculated in accordance with ASC 718. The discussion of the assumptions used for purposes of the valuation of the awards granted in 2018 appears in Note 3 to the 2018 financial statements. For a description of the grant terms, see the discussion following the outstanding equity awards at fiscal year-end 2018 table. The discussion of the assumptions used for purposes of the valuation of the awards granted in 2017 and 2016 appears in Note 4 to the financial statements in TI's annual report on Form 10-K for the year ended December 31, 2017 (2017 financial statements), and the financial statements in TI's annual report on Form 10-K for the year ended December 31, 2016 (2016 financial statements), respectively.

(3) Shown is the aggregate grant date fair value of options calculated in accordance with ASC 718. The discussion of the assumptions used for purposes of the valuation of options granted in 2018 appears in Note 3 to the 2018 financial statements. For a description of the grant terms, see the discussion following the outstanding equity awards at fiscal year-end 2018 table. The discussion of the assumptions used for purposes of the valuation of the awards granted in 2017 and 2016 appears in Note 4 to the 2017 and 2016 financial statements, respectively.

(4) Consists of performance bonuses and profit sharing for 2018. See "Analysis of compensation determinations for 2018 – Results of the compensation decisions" for the amounts of bonus and profit sharing paid to each of the named executive officers for 2018.

(5) The company does not pay above-market earnings on deferred compensation. Therefore, no amounts are reported in this column for deferred compensation. The amounts in this column represent the change in the actuarial value of the named executive officers' benefits under the qualified defined benefit pension plan (TI Employees Pension Plan) and the non-qualified defined benefit pension plans (TI Employees Non-Qualified Pension Plan and TI Employees Non-Qualified Pension Plan II) from December 31, 2017, through December 31, 2018. This "change in the actuarial value" is the difference between the 2017 and 2018 present value of the pension benefit accumulated as of year-end by the named executive officer, assuming that benefit is not paid until age 65. Mr. Templeton's benefits under the company's pension plans were frozen as of December 31, 1997. The value of Mr. Templeton's account decreased by $60,463. In accordance with SEC rules, this amount has not been included in his total 2018 compensation shown in this table. Messrs. Lizardi, Anderskouv and Ilan do not participate in any of the company's defined benefit pension plans. Prior to his resignation, Mr. Crutcher participated in the defined benefit pension plan, but his benefit was frozen in 1997. As a result of his resignation, Mr. Crutcher received his pension payment on November 1, 2018. See the 2018 pension benefits table for additional information.

(6) Consists of (i) the amounts in the table below, which result from programs available to all eligible U.S. employees, and (ii) perquisites and personal benefits that meet the disclosure thresholds established by the SEC and are detailed in the paragraph below.

Name	401(k) Contribution	Defined Contribution Retirement Plan (a)	Unused Vacation Time (b)
R. K. Templeton	$ 11,000	$ 270,057	$ 20,253
R. R. Lizardi	$ 11,000	$ 54,270	—
N. Anderskouv	$ 11,000	$ 78,458	—
R. G. Delagi	$ 5,500	—	—
H. Ilan	$ 11,000	$ 40,813	—
B. T. Crutcher	$ 11,000	$ 163,844	$ 45,000

(a) Consists of (i) contributions under the company's enhanced defined contribution retirement plan of $5,500 for Messrs. Templeton, Lizardi, Anderskouv and Crutcher and (ii) an additional amount of $264,557 for Mr. Templeton, $48,770 for Mr. Lizardi, $72,958 for Mr. Anderskouv, $40,813 for Mr. Ilan, and $158,344 for Mr. Crutcher applied by TI to offset IRC limitations on amounts that could be contributed to the enhanced defined contribution retirement plan, which amount is also shown in the 2018 non-qualified deferred compensation table.

(b) For Mr. Templeton, represents payment for unused vacation time that could not be carried forward. For Mr. Crutcher, represents payment of accrued unused vacation time at the time of his resignation.

The perquisites and personal benefits are as follows: $117,302 for Mr. Templeton, consisting of financial counseling, an executive physical, payment of a regulatory filing fee ($45,000) and personal use of company aircraft ($61,387), and $11,802 for Mr. Lizardi, consisting of financial counseling and an executive physical. Financial counseling and an executive physical were made available to the other named executive officers, but the amounts attributable to those officers were below the disclosure thresholds. Additionally, we paid $168 of FICA taxes on behalf of Mr. Crutcher, which related to imputed income calculated after Mr. Crutcher's resignation.

(7) Following his resignation, Mr. Crutcher received no further compensation, and all of his equity compensation granted in 2018, along with all unvested equity compensation from prior years, was cancelled, resulting in actual total compensation for Mr. Crutcher in 2018 of $726,540, which includes amounts described as all other compensation in Footnote 6.

Grants of plan-based awards in 2018

The following table shows the grants of plan-based awards to the named executive officers in 2018.

Name	Grant Date	Date of Committee Action	All Other Stock Awards: Number of Shares of Stock or Units (#) (2)	All Other Option Awards: Number of Securities Underlying Options (#) (3)	Exercise or Base Price of Option Awards ($/Sh) (4)	Grant Date Fair Value of Stock and Option Awards (5)
R. K. Templeton	1/25/18 (1)	1/18/18		258,403	$ 110.15	$ 6,000,019
	1/25/18 (1)	1/18/18	54,472			$ 6,000,091
R. R. Lizardi	1/25/18 (1)	1/18/18		51,681	$ 110.15	$ 1,200,013
	1/25/18 (1)	1/18/18	10,895			$ 1,200,084
N. Anderskouv	1/25/18 (1)	1/18/18		81,828	$ 110.15	$ 1,900,015
	1/25/18 (1)	1/18/18	17,250			$ 1,900,088
R. G. Delagi	1/25/18 (1)	1/18/18		77,521	$ 110.15	$ 1,800,008
	1/25/18 (1)	1/18/18	16,342			$ 1,800,071
H. Ilan	1/25/18 (1)	1/18/18		81,828	$ 110.15	$ 1,900,015
	1/25/18 (1)	1/18/18	17,250			$ 1,900,088
B. T. Crutcher (6)	1/25/18 (1)	1/18/18		215,336	$ 110.15	$ 5,000,020
	1/25/18 (1)	1/18/18	45,393			$ 5,000,039

(1) In accordance with the grant policy of the Compensation Committee of the board (described under "Process for equity grants"), the grants became effective on the second trading day after the company released its financial results for the fourth-quarter and year 2017. The company released these results on January 23, 2018.

(2) The stock awards granted to the named executive officers in 2018 were RSU awards. These awards were made under the company's 2009 Long-Term Incentive Plan. For information on the terms and conditions of these RSU awards, see the discussion following the outstanding equity awards at fiscal year-end 2018 table.

(3) The options were granted under the company's 2009 Long-Term Incentive Plan. For information on the terms and conditions of these options, see the discussion following the outstanding equity awards at fiscal year-end 2018 table.

(4) The exercise price of the options is the closing price of TI common stock on January 25, 2018.

(5) Shown is the aggregate grant date fair value computed in accordance with ASC 718 for stock and option awards in 2018. The discussion of the assumptions used for purposes of the valuation appears in Note 3 to the 2018 financial statements.

(6) As a result of his resignation, all of Mr. Crutcher's equity compensation for 2018 was cancelled.

None of the options or other equity awards granted to the named executive officers was repriced or modified by the company.

For additional information regarding TI's equity compensation grant practices, see the Compensation Discussion and Analysis.

Outstanding equity awards at fiscal year-end 2018

The following table shows the outstanding equity awards for each of the named executive officers as of December 31, 2018.

	Option Awards				Stock Awards	
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($) (1)
R. K. Templeton	—	258,403 (2)	$ 110.15	1/25/2028	54,472 (6)	$ 5,147,604
	83,403	250,212 (3)	$ 79.26	1/26/2027	69,392 (7)	$ 6,557,544
	244,778	244,779 (4)	$ 52.93	1/29/2026	92,576 (8)	$ 8,748,432
	387,330	129,110 (5)	$ 53.94	1/28/2025	90,842 (9)	$ 8,584,569
	602,692	—	$ 44.09	1/23/2024	—	—
	525,000	—	$ 32.80	1/25/2023	—	—
	475,000	—	$ 32.36	1/26/2022	—	—
R. R. Lizardi	—	51,681 (2)	$ 110.15	1/25/2028	10,895 (6)	$ 1,029,578
	15,164	45,494 (2)	$ 79.26	1/26/2027	25,234 (7)	$ 2,384,613
	14,986	14,987 (4)	$ 52.93	1/29/2026	5,668 (8)	$ 535,626
	17,786	5,929 (5)	$ 53.94	1/28/2025	4,172 (9)	$ 394,254
	27,675	—	$ 44.09	1/23/2024	—	—
N. Anderskouv	—	81,828 (2)	$ 110.15	1/25/2028	17,250 (6)	$ 1,630,125
	26,537	79,614 (3)	$ 79.26	1/26/2027	22,080 (7)	$ 2,086,560
	—	62,444 (4)	$ 52.93	1/29/2026	23,617 (8)	$ 2,231,807
	—	32,937 (5)	$ 53.94	1/28/2025	23,174 (9)	$ 2,189,943
R. G. Delagi	—	77,521 (2)	$ 110.15	1/25/2028	16,342 (6)	$ 1,544,319
	27,296	81,888 (3)	$ 79.26	1/26/2027	22,711 (7)	$ 2,146,190
	89,919	89,919 (4)	$ 52.93	1/29/2026	34,008 (8)	$ 3,213,756
	142,284	47,429 (5)	$ 53.94	1/28/2025	33,371 (9)	$ 3,153,560
	221,397	—	$ 44.09	1/23/2024	—	—
	200,000	—	$ 32.80	1/25/2023	—	—
	175,000	—	$ 32.36	1/26/2022	—	—
	162,500	—	$ 34.63	1/27/2021	—	—
H. Ilan	—	81,828 (2)	$ 110.15	1/25/2028	17,250 (6)	$ 1,630,125
	26,537	79,614 (3)	$ 79.26	1/26/2027	22,080 (7)	$ 2,086,560
	—	62,444 (4)	$ 52.93	1/29/2026	23,617 (8)	$ 2,231,807
	—	32,937 (5)	$ 53.94	1/28/2025	23,174 (9)	$ 2,189,943
B. T. Crutcher (10)	—	—	—	—	—	—

(1) Calculated by multiplying the number of RSUs by the closing price of TI common stock on December 31, 2018 ($94.50).

(2) One-quarter of the shares became exercisable on January 25, 2019, and one-third of the remaining shares become exercisable on each of January 25, 2020, January 25, 2021, and January 25, 2022.

(3) One-third of the shares became exercisable on January 26, 2019, and one-half of the remaining shares become exercisable on each of January 26, 2020, and January 26, 2021.

(4) One-half of the shares became exercisable on January 29, 2019, and the remaining one-half become exercisable on January 29, 2020.

(5) Became fully exercisable on January 28, 2019.

(6) Vesting date is January 31, 2022.

(7) Vesting date is February 1, 2021.

(8) Vesting date is January 31, 2020.

(9) Vested on January 31, 2019.

(10) As a result of his resignation, all of Mr. Crutcher's unvested equity awards were cancelled.

The "Option Awards" shown in the table above are non-qualified stock options, each of which represents the right to purchase shares of TI common stock at the stated exercise price. The exercise price is the closing price of TI common stock on the grant date. The term of each option is 10 years unless the option is terminated earlier pursuant to provisions summarized in the chart below and in the paragraph following the chart. Options vest (become exercisable) in increments of 25 percent per year beginning on the first anniversary of the date of the grant. The chart below shows the termination provisions relating to stock options outstanding as of December 31, 2018. The Compensation Committee of the board of directors established these termination provisions to promote employee retention while offering competitive terms.

	Employment Termination due to Death or Permanent Disability or at Least 6 Months after Grant When Retirement Eligible *	Employment Termination (at Least 6 Months after Grant) with 20 Years of Credited Service, but Not Retirement Eligible **	Employment Termination for Cause	Other Circumstances of Employment Termination
Unvested portion of option	Vesting continues	Vesting stops	Vesting stops	Vesting stops
Vested portion of option	Remains exercisable to end of term	Remains exercisable to end of term	Terminates	Remains exercisable for 30 days

* Retirement eligibility is defined for purposes of equity awards made after 2012 as at least age 55 with 10 or more years of TI service or at least age 65. For awards made before 2013, the definition of normal or early retirement eligibility in the relevant pension plan applies (see "2018 pension benefits").

** This provision is not applicable to grants made after 2012.

Options may be cancelled if, during the two years after employment termination, the grantee competes with TI or solicits TI employees to work for another company, or if the grantee discloses TI trade secrets. In addition, for options received while the grantee was an executive officer, the company may reclaim (or "claw back") profits earned under grants if the officer engages in such conduct. These provisions are intended to strengthen retention and provide a reasonable remedy to TI in case of competition, solicitation of our employees or disclosure of our confidential information.

Options granted after 2009 become fully vested if the grantee is involuntarily terminated from employment with TI (other than for cause) within 24 months after a change in control of TI. "Change in control" is defined as provided in the Texas Instruments 2009 Long-Term Incentive Plan and occurs upon (i) acquisition of more than 50 percent of the voting stock or at least 80 percent of the assets of TI or (ii) change of a majority of the board of directors in a 12-month period unless a majority of the directors then in office endorsed the appointment or election of the new directors ("Plan definition"). These terms are intended to reduce employee uncertainty and distraction in the period leading up to a change in control, if such an event were to occur. For options granted before 2010, the stock option terms provide that upon a change in control of TI, the option becomes fully vested to the extent it is then outstanding; and if employment termination (except for cause) has occurred within 30 days before the change in control, the change in control is deemed to have occurred first. "Change in control" is defined in these pre-2010 options as (i) acquisition of 20 percent of TI common stock other than through a transaction approved by the board of directors, or (ii) change of a majority of the board of directors in a 24-month period unless a majority of the directors then in office have elected or nominated the new directors (together, the "pre-2010 definition").

The "Stock Awards" column in the table of outstanding equity awards at fiscal year-end 2018 are RSU awards. Each RSU represents the right to receive one share of TI common stock on a stated date (the "vesting date") unless the award is terminated earlier under terms summarized below. In general, the vesting date is approximately four years after the grant date. Each RSU includes the right to receive dividend equivalents, which are paid annually in cash at a rate equal to the amount paid to stockholders in dividends.

The table below shows the termination provisions of RSUs outstanding as of December 31, 2018.

Employment Termination Due to Death or Permanent Disability or at Least 6 Months after Grant When Retirement Eligible	Employment Termination For Cause	Other Circumstances of Employment Termination
Vesting continues; shares are paid at the scheduled vesting date	Grant cancels; no shares are issued	Grant cancels; no shares are issued

These termination provisions are intended to promote retention. All RSU awards contain cancellation and clawback provisions like those described above for stock options. The terms provide that, to the extent permitted by Section 409A of the IRC, the award vests upon involuntary termination of TI employment within 24 months after a change in control. Change in control is the Plan definition. These cancellation, clawback and change-in-control terms are intended to conform RSU terms with those of stock options (to the extent permitted by the IRC) and to achieve the objectives described above in the discussion of stock options.

In addition to the "Stock Awards" shown in the outstanding equity awards at fiscal year-end 2018 table, Mr. Templeton holds an award of RSUs that was granted in 1995. The award, for 120,000 shares of TI common stock, vested in 2000. Under the award terms, the shares will be issued to Mr. Templeton in March of the year after his termination of employment for any reason. These terms were designed to provide a tax benefit to the company by postponing the related compensation expense until it was likely to be fully deductible. In accordance with SEC requirements, this award is reflected in the 2018 non-qualified deferred compensation table.

2018 option exercises and stock vested

The following table lists the number of shares acquired and the value realized as a result of option exercises by the named executive officers in 2018 and the value of any RSUs that vested in 2018. For option exercises, the value realized is calculated by multiplying the number of shares acquired by the difference between the exercise price and the market price of TI common stock on the exercise date. For RSUs, the value realized is calculated by multiplying the number of RSUs that vested by the market price of TI common stock on the vesting date.

	Option Awards		Stock Awards	
Name	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise ($)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting ($)
R. K. Templeton	—	—	111,137	$ 12,212,845
R. R. Lizardi	—	—	5,104	$ 560,879
N. Anderskouv	102,595	$ 6,171,898	28,352	$ 3,115,601
R. G. Delagi	—	—	40,826	$ 4,486,369
H. Ilan	87,989	$ 5,178,096	38,451	$ 4,246,671
B. T. Crutcher	267,201	$ 14,578,711	51,032	$ 5,607,906

2018 pension benefits

The following table shows the present value as of December 31, 2018, of the benefit of the named executive officers under our qualified defined benefit pension plan (TI Employees Pension Plan) and non-qualified defined benefit pension plans (TI Employees Non-Qualified Pension Plan (which governs amounts earned before 2005) and TI Employees Non-Qualified Pension Plan II (which governs amounts earned after 2004)). In accordance with SEC requirements, the amounts shown in the table do not reflect any named executive officer's retirement eligibility or any increase in benefits that may result from the named executive officer's continued employment after December 31, 2018.

Name (1)	Plan Name	Number of Years Credited Service (#)	Present Value of Accumulated Benefit ($)	Payments During Last Fiscal Year ($)
R. K. Templeton (2)	TI Employees Pension Plan	16 (3)	$ 784,938 (6)	—
	TI Employees Non-Qualified Pension Plan	16 (3)	$ 384,185 (6)	—
	TI Employees Non-Qualified Pension Plan II	16 (5)	$ 195,003 (6)	—
R. G. Delagi	TI Employees Pension Plan	33 (3)	$ 1,121,295 (6)	—
	TI Employees Non-Qualified Pension Plan	19 (4)	$ 237,319 (6)	—
	TI Employees Non-Qualified Pension Plan II	33 (5)	$ 6,168,126 (6)	—
B. T. Crutcher (2)	TI Employees Pension Plan	0.9 (3)	—	$ 4,696 (7)

(1) Messrs. Lizardi, Anderskouv and Ilan do not participate in any of the company's defined benefit pension plans because they joined TI after these plans were closed to new participants.

(2) In 1997, TI's U.S. employees were given the choice between continuing to participate in the defined benefit pension plans or participating in a new enhanced defined contribution retirement plan. Messrs. Templeton and Crutcher chose to participate in the defined contribution plan. Accordingly, their accrued pension benefits under the qualified and non-qualified plans were frozen (i.e., they will experience no increase attributable to years of service or change in eligible earnings) as of December 31, 1997. Contributions to the defined contribution plan for Mr. Templeton's and Mr. Crutcher's benefits are included in the 2018 summary compensation table.

(3) For Messrs. Templeton, Delagi and Crutcher, credited service began on the date the officer became eligible to participate in the plan. For Mr. Crutcher, eligibility to participate began on the first day of the month following completion of one year of employment. For Messrs. Templeton and Delagi, eligibility to participate began on the earlier of 18 months of employment, or January 1 following the completion of one year of employment. Accordingly, Mr. Templeton and Mr. Delagi have been and Mr. Crutcher was employed by TI for longer than the years of credited service shown above.

(4) Credited service began on the date the named executive officer became eligible to participate in the TI Employees Pension Plan as described in Note 3 and ceased at December 31, 2004.

(5) Credited service began on the date the named executive officer became eligible to participate in the TI Employees Pension Plan as described in Note 3.

(6) The assumptions and valuation methods used to calculate the present value of the accumulated pension benefits shown are the same as those used by TI for financial reporting purposes and are described in Note 9 to the 2018 financial statements, except that a named executive officer's retirement is assumed (in accordance with SEC rules) for purposes of this table to occur at age 65 and no assumption for termination prior to that date is used. The amount of the lump-sum benefit earned as of December 31, 2018, is determined using either (i) the Pension Benefit Guaranty Corporation (PBGC) interest assumption of 1.25 percent or (ii) the Pension Protection Act of 2006 (PPA) corporate bond yield interest assumption of 4.37 percent for the TI Employees Pension Plan and 4.40 percent for the TI Employees Non-Qualified Pension Plans, whichever rate produces the higher lump-sum amount. A discount rate assumption of 4.37 percent for the TI Employees Pension Plan and 4.40 percent for the non-qualified pension plans was used to determine the present value of each lump sum.

(7) Mr. Crutcher resigned from the company effective July 17, 2018. As required by the terms of the Plan, his TI Employees Pension Plan benefit was paid to him on November 1, 2018. The benefit was calculated in accordance with the terms of the Plan.

TI Employees Pension Plan

The TI Employees Pension Plan is a qualified defined benefit pension plan. See "Benefits – Retirement plans" for a discussion of the origin and purpose of the plan. Employees who joined the U.S. payroll after November 30, 1997, are not eligible to participate in this plan.

Plan participants are eligible for normal retirement under the terms of the plan at 65 years of age with one year of credited service. Participants are eligible for early retirement at 55 years of age with 20 years of employment or 60 years of age with five years of employment. As of December 31, 2018, Mr. Templeton and Mr. Delagi were eligible for early or normal retirement.

Participants may request payment of accrued benefits at termination or any time thereafter. Participants may choose a lump-sum payment or one of six forms of annuity. In order of largest to smallest periodic payment, the forms of annuity are: (i) single life annuity, (ii) 5-year certain and life annuity, (iii) 10-year certain and life annuity, (iv) joint and 50 percent survivor annuity, (v) joint and 75 percent survivor annuity, and (vi) joint and 100 percent survivor annuity. Participants who do not request payment will begin to receive benefits in April of the year after reaching the age of $70^1/_2$ in the form of annuity required under the IRC.

The pension formula for the qualified plan is intended to provide a participant with an annual retirement benefit equal to 1.5 percent multiplied by the product of (i) years of credited service and (ii) the average of the five highest consecutive years of the participant's base salary plus bonus up to a limit imposed by the IRS, less a percentage (based on the participant's year of birth, when the participant elects to retire and the participant's years of service with TI) of the amount of compensation on which the participant's Social Security benefit is based.

If an individual takes early retirement and chooses to begin receiving an annual retirement benefit at that time, such benefit is reduced by an early retirement factor. As a result, the annual benefit is lower than the one the participant would have received at age 65.

Participants whose employment terminates due to disability may choose to receive their accrued benefits at any time prior to age 65. Alternatively, the participant may choose to defer receipt of the accrued benefit until reaching age 65 and then take a disability benefit. The disability benefit paid at age 65 is based on salary and bonus, years of credited service the participant would have accrued to age 65 had the participant not become disabled, and disabled status.

The benefit payable in the event of death is based on salary and bonus, years of credited service and age at the time of death, and may be in the form of a lump sum or annuity at the election of the beneficiary. The earliest date of payment is the first day of the second calendar month following the month of death.

Leaves of absence, including a bridge to retirement, are credited to years of service under the qualified pension plan. See the discussion of leaves of absence under "Potential payments upon termination or change in control – Termination – Perquisites."

TI employees non-qualified pension plans

TI has two non-qualified pension plans: the TI Employees Non-Qualified Pension Plan (Plan I), which governs amounts earned before 2005; and the TI Employees Non-Qualified Pension Plan II (Plan II), which governs amounts earned after 2004. Each is a non-qualified defined benefit pension plan. See "Benefits – Retirement plans" for a discussion of the purpose of the plans. As with the qualified defined benefit pension plan, employees who joined the U.S. payroll after November 30, 1997, are not eligible to participate in Plan I or Plan II. Eligibility for normal and early retirement under these plans is the same as under the qualified plan (see above). Benefits are paid in a lump sum.

A participant's benefits under Plan I and Plan II are calculated using the same formula as described above for the TI Employees Pension Plan. However, the IRS limit on the amount of compensation on which a qualified pension benefit may be calculated does not apply. Additionally, the IRS limit on the amount of qualified benefit the participant may receive does not apply to these plans. Once this non-qualified benefit amount has been determined using the formula described above, the individual's qualified benefit is subtracted from it. The resulting difference is multiplied by an age-based factor to obtain the amount of the lump-sum benefit payable to an individual under the non-qualified plans.

Amounts under Plan I will be distributed when payment of the participant's benefit under the qualified pension plan commences. Amounts under Plan II will be distributed subject to the requirements of Section 409A of the IRC. Because the named executive officers are among the 50 most highly compensated officers of the company, Section 409A of the IRC requires that they not receive any lump-sum distribution payment under Plan II before the first day of the seventh month following termination of employment.

If a participant terminates due to disability, amounts under Plan I will be distributed when payment of the participant's benefit under the qualified plan commences. For amounts under Plan II, distribution is governed by Section 409A of the IRC, and the disability benefit is reduced to reflect the payment of the benefit prior to age 65.

In the event of death, payment under both plans is based on salary and bonus, years of credited service and age at the time of death and will be in the form of a lump sum. The earliest date of payment is the first day of the second calendar month following the month of death.

Balances in the plans are unsecured obligations of the company. For amounts under Plan I, in the event of a change in control, the present value of the individual's benefit would be paid not later than the month following the month in which the change in control occurred. For such amounts, the pre-2010 definition of a change in control (see the discussion following the Outstanding equity awards at fiscal year-end 2018 table) applies. For all amounts accrued under this plan, if a sale of substantially all of the assets of the company occurred, the present value of the individual's benefit would be distributed in a lump sum as soon as reasonably practicable following the sale of assets. For amounts under Plan II, no distribution of benefits is triggered by a change in control.

Leaves of absence, including a bridge to retirement, are credited to years of service under the non-qualified pension plans. For a discussion of leaves of absence, see "Potential payments upon termination or change in control – Termination – Perquisites."

TI Employees Survivor Benefit Plan

TI's qualified and non-qualified pension plans provide that upon the death of a retirement-eligible employee, the employee's beneficiary receives a payment equal to half of the benefit to which the employee would have been entitled under the pension plans had the employee retired instead of died. We have a survivor benefit plan that pays the beneficiary a lump sum that, when added to the reduced amounts the beneficiary receives under the pension plans, equals the benefit the employee would have been entitled to receive had the employee retired instead of died. Because Messrs. Templeton and Delagi were eligible for early retirement in 2018, their beneficiaries would be eligible for benefits under the survivor benefit plan if they were to die.

2018 non-qualified deferred compensation

The following table shows contributions to each named executive officer's deferred compensation account in 2018 and the aggregate amount of his deferred compensation as of December 31, 2018.

Name	Executive Contributions in Last FY ($) (1)	Registrant Contributions in Last FY ($) (2)	Aggregate Earnings in Last FY ($)	Aggregate Withdrawals/ Distributions ($)	Aggregate Balance at Last FYE ($) (5)
R. K. Templeton	$ 178,938	$ 264,557	$ (949,627) (3)	$ 619,359 (4)	$ 13,451,257 (6)
R. R. Lizardi	$ 41,417	$ 48,770	$ (47,984)	—	$ 410,678
N. Anderskouv	$ 46,813	$ 72,958	$ (11,609)	$ 13,883	$ 341,952
R. G. Delagi	—	—	—	—	—
H. Ilan	$ 133,438	$ 40,813	$ (30,852)	$ 41,443	$ 675,041
B. T. Crutcher (7)	$ 251,583	$ 158,344	$ (39,328)	$ 1,052,132	$ 1,251,301

(1) Amount shown for Mr. Templeton includes a portion of his salary and bonus paid in 2018; for Messrs. Lizardi, Anderskouv and Ilan includes a portion of their salary paid in 2018; and for Mr. Crutcher includes a portion of his profit sharing and bonus paid in 2018.

(2) Company matching contributions pursuant to the defined contribution plan. These amounts are included in the "All Other Compensation" column of the 2018 summary compensation table.

(3) Consists of: (a) $315,600 in dividend equivalents paid under the 120,000-share 1995 RSU award previously discussed, settlement of which has been deferred until after termination of employment; (b) a $1,192,800 decrease in the value of the RSU award (calculated by subtracting the value of the award at year-end 2017 from the value of the award at year-end 2018 (in both cases, the number of RSUs is multiplied by the closing price of TI common stock on the last trading date of the year)); and (c) a $72,427 loss in Mr. Templeton's deferred compensation account in 2018. Dividend equivalents are paid at the same rate as dividends on TI common stock.

(4) Consists of dividend equivalents paid on the RSU award discussed in Note 3 and a $303,759 deferred compensation plan account distribution.

(5) All amounts contributed by a named executive officer and by the company in prior years have been reported in the summary compensation table in previously filed proxy statements in the year earned to the extent he was a named executive officer for purposes of the SEC's executive compensation disclosure.

(6) Of this amount, $11,340,000 is attributable to Mr. Templeton's 1995 RSU award, calculated as described in Note 3. The remainder is the balance of his deferred compensation account.

(7) Prior to his resignation in July 2018, Mr. Crutcher contributed to his deferred compensation account, and the company made matching contributions in accordance with the terms of the defined contribution plan. The balance of Mr. Crutcher's deferred compensation account will be paid to him in accordance with the distribution elections he made at the time of his deferral election.

See "Benefits – Retirement plans" for a discussion of the purpose of the plan. An employee's deferred compensation account contains eligible compensation the employee has elected to defer and contributions by the company that are in excess of the IRS limits on (i) contributions the company may make to the enhanced defined contribution plan and (ii) matching contributions the company may make related to compensation the executive officer deferred into his deferred compensation account.

Participants in the deferred compensation plan may choose to defer up to (i) 25 percent of their base salary, (ii) 90 percent of their performance bonus, and (iii) 90 percent of profit sharing. Elections to defer compensation must be made in the calendar year prior to the year in which the compensation will be earned.

During 2018, participants could choose to have their deferred compensation mirror the performance of one or more of the following mutual funds, each of which is managed by a third party (these alternatives, which may be changed at any time, are the same as those offered to participants in the defined contribution plans): BlackRock MSCI ACWI ex-U.S. IMI Index Lendable Fund F, Northern Trust Short Term Investment Fund, Northern Trust Aggregate Bond Index Fund-Lending, Northern Trust Russell 1000 Value Index Fund-Lending, Northern Trust Russell 1000 Growth Index Fund-Lending, Northern Trust Russell 2000 Index Fund-Lending, Northern Trust MidCap 400 Index Fund-Lending, Fidelity Puritan Fund, BlackRock Equity Index Fund F, BlackRock (EAFE) (Europe, Australia, Far East) Equity Index Fund F, BlackRock Lifepath Index 2020 Fund F, BlackRock Lifepath Index 2030 Fund F, BlackRock Lifepath Index 2040 Fund F, BlackRock Lifepath Index 2050 Fund F and BlackRock Lifepath Index Retirement Fund F.

From among the available investment alternatives, participants may change their instructions relating to their deferred compensation daily. Earnings on a participant's balance are determined solely by the performance of the investments that the participant has chosen. The company does not guarantee any minimum return on investments. A third party administers the company's deferred compensation program.

A participant may request distribution from the plan in the case of an unforeseeable emergency. To obtain an unforeseeable emergency withdrawal, a participant must meet the requirements of Section 409A of the IRC. Otherwise, balances are paid to participants pursuant to their distribution elections and are subject to applicable IRC limitations.

Amounts contributed by the company, and amounts earned and deferred by the participant for which there is a valid distribution election on file, will be distributed in accordance with the participant's election. Annually participants may elect separate distribution dates for deferred compensation attributable to a participant's (i) bonus and profit sharing and (ii) salary. Participants may elect that these distributions be in the form of a lump sum or annual installments to be paid out over a period of five or ten consecutive years. Amounts for which no valid distribution election is on file will be distributed three years from the date of deferral.

In the event of the participant's death, payment will be in the form of a lump sum and the earliest date of payment is the first day of the second calendar month following the month of death. For any other circumstance resulting in termination of employment, payments are distributed in accordance with the participant's valid distribution election.

Like the balances under the non-qualified defined benefit pension plans, deferred compensation balances are unsecured obligations of the company. For amounts earned and deferred prior to 2010, a change in control does not trigger a distribution under the plan. For amounts earned and deferred after 2009, distribution occurs, to the extent permitted by Section 409A of the IRC, if the participant is involuntarily terminated within 24 months after a change in control. Change in control is the Plan definition.

Potential payments upon termination or change in control

None of the named executive officers has an employment contract with the company. They are eligible for benefits on generally the same terms as other U.S. employees upon termination of employment or change in control of the company. TI does not reimburse executive officers for any income or excise taxes that are payable by the executive as a result of payments relating to termination or change in control. For a discussion of the impact of these programs on the compensation decisions for 2018, see "Analysis of compensation determinations for 2018 – Total compensation" and "Compensation following employment termination or change in control."

Termination

The following programs may result in payments to a named executive officer whose employment terminates. Most of these programs have been discussed above.

Bonus

Our policies concerning bonus and the timing of payments are described under "Compensation philosophy and elements." Whether a bonus would be awarded under other circumstances and in what amount would depend on the facts and circumstances of termination and is subject to the Compensation Committee's discretion. If awarded, bonuses are paid by the company.

Qualified and non-qualified defined benefit pension plans

The purposes of these plans are described under "Benefits – Retirement plans." The formula for determining benefits, the forms of benefit and the timing of payments are described under "2018 pension benefits." The amounts disbursed under the qualified and non-qualified plans are paid, respectively, by the TI Employees Pension Trust and the company.

Survivor benefit plan

The purpose of this plan, along with the formula for determining the amount of benefit, the form of benefit and the timing of payments, are described under "2018 pension benefits – TI Employees Survivor Benefit Plan." Amounts distributed are paid by the TI Employees Health Benefit Trust.

Deferred compensation plan

The purpose of this plan is described under “Benefits – Deferred Compensation.” The amounts payable under this program depend solely on the performance of investments that the participant has chosen. The timing of payments is discussed under “2018 non-qualified deferred compensation” and except in the case of death, payments are made according to the participant’s distribution election. Amounts distributed are paid by the company.

Equity compensation

Depending on the circumstances of termination, grantees whose employment terminates may retain the right to exercise previously granted stock options and receive shares under outstanding RSU awards as described in the discussion following the outstanding equity awards at fiscal year-end 2018 table. RSU awards include a right to receive dividend equivalents. The dividend equivalents are paid annually by the company in a single cash payment after the last dividend payment of the year.

Perquisites

Financial counseling is provided to executive officers for a transition period following retirement. Otherwise, no perquisites continue after termination of employment.

In the case of a resignation pursuant to a separation agreement, employees above a certain job grade level, including executive officers, might be offered a 12-month paid leave of absence before termination, in exchange for a non-compete and non-solicitation commitment and a release of claims against the company. The leave period will be credited to years of service under the pension plans described above. During the leave, the executive officer’s stock options will continue to become exercisable and his or her RSUs will continue to vest. Amounts paid to an individual during a paid leave of absence are not counted when calculating benefits under the qualified and non-qualified pension plans.

In the case of a separation agreement in which the executive officer will be at least 50 years old and have at least 10 years of employment with the company on his or her last day of active employment before beginning the paid leave of absence, the separation agreement will typically include an unpaid leave of absence, to commence at the end of the paid leave and end when the executive officer has reached age 55 (bridge to retirement). During the bridge to retirement, the executive officer will continue to accrue years of service under the qualified and non-qualified pension plans described above. Stock options will continue to become exercisable and RSUs will remain in effect.

Change in control

Our only program, plan or arrangement providing benefits triggered by a change in control is the TI Employees Non-Qualified Pension Plan. A change in control at December 31, 2018, would have accelerated payment of the balance under that plan. See “2018 pension benefits – TI employees non-qualified pension plans” for a discussion of the purpose of change in control provisions of that plan as well as the circumstances and the timing of payment.

Upon a change in control there is no acceleration of vesting of stock options and RSUs granted after 2009. Only upon an involuntary termination (not for cause) within 24 months after a change in control of TI will the vesting of such stock options and RSUs accelerate. See the discussion following the outstanding equity awards at fiscal year-end 2018 table for further information concerning change in control provisions relating to stock options and RSUs.

The table below shows the potential payments upon termination or change in control for each of the named executive officers.

Form of Compensation	Disability	Death	Involuntary Termination for Cause	Resignation; Involuntary Termination (not for Cause)	Retirement	Change in Control
R. K. Templeton (1)						
Qualified Defined Benefit Pension Plan	$ 969,593 (2)	$ 477,937 (3)	$ 945,262 (4)	$ 945,262 (4)	$ 945,262 (4)	—
Non-Qual. Defined Benefit Pension Plan	$ 609,677 (5)	$ 231,880 (3)	$ 458,831 (4)	$ 458,831 (4)	$ 458,831 (4)	$ 458,831 (4)
Non-Qual. Defined Benefit Pension Plan II	$ 183,587 (5)	$ 117,864 (3)	$ 232,893 (4)	$ 232,893 (4)	$ 232,893 (4)	—
Survivor Benefit Plan	—	$ 809,305 (6)	—	—	—	—
Deferred Compensation (7)	—	$ 2,111,257	—	—	—	—
RSUs	$ 40,378,149 (8)	$ 40,378,149 (8)	$11,340,000 (9)	$ 40,378,149 (10)	$ 40,378,149 (10)	$11,340,000 (9)
Stock Options	$138,672,687 (11)	$138,672,687 (11)	—	$138,672,687 (11)	$138,672,687 (11)	—
R. K. Templeton Total	**$180,813,693**	**$182,799,079**	**$12,976,986**	**$180,687,822**	**$180,687,822**	**$11,798,831**
R. R. Lizardi						
Qualified Defined Benefit Pension Plan	—	—	—	—	—	—
Non-Qual. Defined Benefit Pension Plan	—	—	—	—	—	—
Non-Qual. Defined Benefit Pension Plan II	—	—	—	—	—	—
Survivor Benefit Plan	—	—	—	—	—	—
Deferred Compensation (7)	—	$ 410,678	—	—	—	—
RSUs	$ 4,344,071 (8)	$ 4,344,071 (8)	—	—	—	—
Stock Options	$ 4,527,383 (11)	$ 4,527,383 (11)	—	$ 2,970,564 (12)	—	—
R. R. Lizardi Total	**$ 8,871,454**	**$ 9,282,132**	**—**	**$ 2,970,564**	**—**	**—**
N. Anderskouv						
Qualified Defined Benefit Pension Plan	—	—	—	—	—	—
Non-Qual. Defined Benefit Pension Plan	—	—	—	—	—	—
Non-Qual. Defined Benefit Pension Plan II	—	—	—	—	—	—
Survivor Benefit Plan	—	—	—	—	—	—
Deferred Compensation (7)	—	$ 341,952	—	—	—	—
RSUs	$ 8,138,435 (8)	$ 8,138,435 (8)	—	—	—	—
Stock Options	$ 5,549,463 (11)	$ 5,549,463 (11)	—	$ 404,424 (12)	—	—
N. Anderskouv Total	**$ 13,687,898**	**$ 14,029,850**	**—**	**$ 404,424**	**—**	**—**
R. G. Delagi (1)						
Qualified Defined Benefit Pension Plan	$ 2,125,327 (2)	$ 812,270 (3)	$ 1,544,816 (4)	$ 1,544,816 (4)	$ 1,544,816 (4)	—
Non-Qual. Defined Benefit Pension Plan	$ 522,241 (5)	$ 166,995 (3)	$ 318,025 (4)	$ 318,025 (4)	$ 318,025 (4)	$ 318,025 (4)
Non-Qual. Defined Benefit Pension Plan II	$ 9,228,073 (5)	$ 4,346,377 (3)	$ 8,265,752 (4)	$ 8,265,752 (4)	$ 8,265,752 (4)	—
Survivor Benefit Plan		$ 4,802,951 (6)			—	—
Deferred Compensation (7)	—	—	—	—	—	—
RSUs	$ 10,057,824 (8)	$ 10,057,824 (8)	—	$ 10,057,824 (10)	$ 10,057,824 (10)	—
Stock Options	$ 60,938,587 (11)	$ 60,938,587 (11)	—	$ 60,938,587 (11)	$ 60,938,587 (11)	—
R. G. Delagi	**$ 82,872,052**	**$ 81,125,004**	**$10,128,593**	**$ 81,125,004**	**$ 81,125,004**	**$ 318,025**
H. Ilan						
Qualified Defined Benefit Pension Plan	—	—	—	—	—	—
Non-Qual. Defined Benefit Pension Plan	—	—	—	—	—	—
Non-Qual. Defined Benefit Pension Plan II	—	—	—	—	—	—
Survivor Benefit Plan	—	—	—	—	—	—
Deferred Compensation (7)	—	$ 675,041	—	—	—	—
RSUs	$ 8,138,435 (8)	$ 8,138,435 (8)	—	—	—	—
Stock Options	$ 5,549,463 (11)	$ 5,549,463 (11)	—	$ 404,424 (12)	—	—
H. Ilan Total	**$ 13,687,898**	**$ 14,362,939**	**—**	**$ 404,424**	**—**	**—**
B. T. Crutcher (13)						
Qualified Defined Benefit Pension Plan	—	—	—	$ 4,696 (14)	—	—
Non-Qual. Defined Benefit Pension Plan	—	—	—	—	—	—
Non-Qual. Defined Benefit Pension Plan II	—	—	—	—	—	—
Survivor Benefit Plan	—	—	—	—	—	—
Deferred Compensation	—	—	—	—	—	—
RSUs	—	—	—	—	—	—
Stock Options	—	—	—	—	—	—
B. T. Crutcher Total	**—**	**—**	**—**	**$ 4,696**	**—**	**—**

(1) Messrs. Templeton and Delagi were retirement eligible for purposes of TI's defined benefit pension plans and under the terms of their equity compensation awards as of December 31, 2018.

(2) The amount shown is the lump-sum benefit payable at age 65 to the named executive officer in the event of termination as of December 31, 2018, due to disability, assuming the named executive officer does not request payment of his disability benefit until age 65. The assumptions used in calculating these amounts are the same as the age-65 lump-sum assumptions used for financial reporting purposes for the company's audited financial statements for 2018 and are described in Note 6 to the 2018 pension benefits table.

(3) Value of the benefit payable in a lump sum to the executive officer's beneficiary calculated as required by the terms of the plan assuming the earliest possible payment date. The plan provides that in the event of death, the beneficiary receives 50 percent of the participant's accrued benefit, reduced by the age-applicable joint and 50 percent survivor factor.

(4) Lump-sum value of the accrued benefit as of December 31, 2018, calculated as required by the terms of the plans assuming the earliest possible payment date.

(5) The amount shown is the lump-sum benefit payable at age 65, in the case of the Non-Qualified Defined Benefit Pension Plan, or separation from service in the case of Plan II. The assumptions used are the same as those described in Note 2.

(6) Calculated as required by the terms of the plan assuming the earliest possible payment date.

(7) In the event of death, a participant's deferred compensation balance becomes payable immediately. The amount shown in the column titled "Death" is the balance as of December 31, 2018, under the non-qualified deferred compensation plan. For all separation events other than death, balances are distributed in accordance with the participant's distribution election as discussed in the narrative following the 2018 non-qualified deferred compensation table.

(8) Calculated by multiplying the number of outstanding RSUs by the closing price of TI common stock as of December 31, 2018 ($94.50). In the event of termination due to disability or death, all outstanding awards will continue to vest according to their terms. See the first table under "Outstanding equity awards at fiscal year-end 2018" for the number of unvested RSUs as of December 31, 2018, and the related discussion following that table of an additional outstanding RSU award held by Mr. Templeton.

(9) Calculated by multiplying the previously discussed 120,000 vested RSUs by the closing price of TI common stock as of December 31, 2018 ($94.50).

(10) Due to retirement eligibility, calculated by multiplying the number of outstanding RSUs held at such termination by the closing price of TI common stock as of December 31, 2018 ($94.50). RSU awards stay in effect and pay out shares according to the vesting schedule.

(11) Calculated as the difference between the grant price of all outstanding in-the-money options and the closing price of TI common stock as of December 31, 2018 ($94.50), multiplied by the number of shares under such options as of December 31, 2018.

(12) Calculated as the difference between the grant price of all exercisable in-the-money options and the closing price of TI common stock as of December 31, 2018 ($94.50), multiplied by the number of shares under such options as of December 31, 2018.

(13) Mr. Crutcher resigned from the company effective July 17, 2018.

(14) Benefit paid to Mr. Crutcher on November 1, 2018, as required by the terms of the Plan.

Pay ratio

For 2018, the median of annual total compensation of all employees of our company (other than our CEO), was $83,905. The annual total compensation of our CEO was $17,596,997. Based on this information, the ratio of the annual total compensation of our CEO to the median of the annual total compensation of all employees was approximately 210 to 1.

There has been no change in the company's employee population or employee compensation arrangements that would result in a significant change in the pay ratio disclosure. Further, there has been no change in the circumstances of the employee identified as the median employee in 2017. Accordingly, the pay ratio calculation has been made using the 2018 compensation for the median employee identified in 2017.

To identify the median of the annual total compensation of all our employees, as well as to determine the annual total compensation of the "median employee," we used the following methodology and material assumptions, adjustments and estimates to identify the median employee in 2017:

- We selected October 5, 2017, as the date upon which we would identify the "median employee."
- As of this date, our employee population consisted of approximately 29,973 individuals working at the company and consolidated subsidiaries, excluding employees on leaves of absence who are not expected to return to work.
- To identify the "median employee," we used base salary and profit sharing information, each of which is paid to all employees. Salaries were annualized for all permanent employees who were employees for less than the full fiscal year or who were on an unpaid leave of absence during a portion of the year.
- We identified and calculated the elements of the median employee's compensation for 2017 in accordance with the requirements of Item 402(c)(2)(x) of Regulation S-K, including the value of the employee's health and welfare benefits (estimated for the employee and the employee's eligible dependents) and retirement-related benefits.
- We applied the exchange rate that we utilize in our payroll system, as of the identification date, to convert foreign currency to U.S. dollars.

The annual total compensation of our CEO is the amount reported in the "Total" column of our 2018 summary compensation table, adding in the value of health and welfare benefits (estimated for our CEO and his eligible dependents) and retirement-related benefits. This resulted in annual total compensation for purposes of determining the ratio in the amount of $17,596,997.

Audit Committee report

The Audit Committee of the board of directors has furnished the following report:

As noted in the committee's charter, TI management is responsible for preparing the company's financial statements. The company's independent registered public accounting firm is responsible for auditing the financial statements. The activities of the committee are in no way designed to supersede or alter those traditional responsibilities. The committee's role does not provide any special assurances with regard to TI's financial statements, nor does it involve a professional evaluation of the quality of the audits performed by the independent registered public accounting firm.

The committee has reviewed and discussed with management and the independent accounting firm, as appropriate, (1) the audited financial statements and (2) management's report on internal control over financial reporting and the independent accounting firm's related opinions.

The committee has discussed with the independent registered public accounting firm, Ernst & Young, the required communications specified by auditing standards together with guidelines established by the SEC and the Sarbanes-Oxley Act.

The committee has received the written disclosures and the letter from the independent registered public accounting firm required by the applicable requirements of the Public Company Accounting Oversight Board, regarding the independent registered public accounting firm's communications with the Audit Committee concerning independence, and has discussed with Ernst & Young the firm's independence.

Based on the review and discussions referred to above, the committee recommended to the board of directors that the audited financial statements be included in the company's annual report on Form 10-K for 2018 for filing with the SEC.

Mark A. Blinn, Chair Todd M. Bluedorn Martin S. Craighead Jean M. Hobby

Proposal to ratify appointment of independent registered public accounting firm

The Audit Committee of the board has the authority and responsibility for the appointment, compensation, retention and oversight of the work of TI's independent registered public accounting firm. The Audit Committee has appointed Ernst & Young LLP to be TI's independent registered public accounting firm for 2019.

TI has engaged Ernst & Young or a predecessor firm to serve as the company's independent registered public accounting firm for over 60 years. In order to assure continuing auditor independence, the Audit Committee periodically considers whether the annual audit of TI's financial statements should be conducted by another firm.

The lead audit partner on the TI engagement serves no more than five consecutive years in that role, in accordance with SEC rules. The Audit Committee Chair and management have direct input into the selection of the lead audit partner.

The members of the Audit Committee and the board believe that the continued retention of Ernst & Young to serve as the company's independent registered public accounting firm is in the best interest of the company and its investors. Consequently, the board asks the stockholders to ratify the appointment of Ernst & Young. If the stockholders do not ratify the appointment, the Audit Committee will consider whether it should appoint another independent registered public accounting firm.

Representatives of Ernst & Young are expected to be present and available to respond to appropriate questions at the annual meeting. They have the opportunity to make a statement if they desire to do so; they have indicated that, as of this date, they do not.

The fees for services provided by Ernst & Young to the company are described below:

	2018	2017
Audit	$ 10,166,000	$ 9,774,000
Audit-Related	$ 811,000	$ 722,000
Tax	$ 3,313,000	$ 3,088,000
All Other	$ 24,000	$ 23,000

The services provided were as follows:

Audit: our annual audit, including the audit of internal control over financial reporting, reports on Form 10-Q, assistance with public debt offerings, statutory audits required internationally and accounting consultations.

Audit-related: including employee benefit plan audits and certification procedures relating to compliance with local-government or other regulatory standards for various non-U.S. subsidiaries.

Tax: professional services for tax compliance (preparation and review of income tax returns and other tax-related filings) and tax advice on U.S. and foreign tax matters.

All Other: TI Foundation audit and training.

Pre-approval policy. The Audit Committee is required to pre-approve the audit and non-audit services to be performed by the independent registered public accounting firm to assure that the provision of such services does not impair the firm's independence.

Annually the independent registered public accounting firm and the director of internal audits present to the Audit Committee services expected to be performed by the firm over the next 12 months. The Audit Committee reviews and, as it deems appropriate, pre-approves those services. The services and estimated fees are presented to the Audit Committee for consideration in the following categories: Audit, Audit-related, Tax and All Other (each as defined in Schedule 14A of the Securities Exchange Act). For each service listed in those categories, the committee receives detailed documentation indicating the specific services to be provided. The term of any pre-approval is 12 months from the date of pre-approval, unless the Audit Committee specifically provides for a different period. The Audit Committee reviews on at least a quarterly basis the services provided to date by the firm and the fees incurred for those services. The Audit Committee may revise the list of pre-approved services and related fees from time to time, based on subsequent determinations.

In order to respond to time-sensitive requests for services that may arise between regularly scheduled meetings of the Audit Committee, the committee has delegated pre-approval authority to its Chair (the Audit Committee does not delegate to management its responsibilities to pre-approve services). The Chair reports pre-approval decisions to the Audit Committee and seeks ratification of such decisions at the Audit Committee's next scheduled meeting.

The Audit Committee or its Chair pre-approved all services provided by Ernst & Young during 2018.

The board of directors recommends a vote FOR ratification of the appointment of Ernst & Young LLP as the company's independent registered public accounting firm for 2019.

Additional information

Voting securities

As stated in the notice of annual meeting, holders of record of the common stock at the close of business on February 25, 2019, may vote at the meeting or any adjournment of the meeting. As of February 25, 2019, 938,617,664 shares of TI common stock were outstanding. This is the only class of capital stock entitled to vote at the meeting. Each holder of common stock has one vote for each share held.

Security ownership of certain beneficial owners

The following table shows the only persons who have reported beneficial ownership of more than 5 percent of the common stock of the company by virtue of filing a schedule 13G with the SEC. Persons generally "beneficially own" shares if they have the right to either vote those shares or dispose of them. More than one person may be considered to beneficially own the same shares.

Name and Address	Shares Owned at December 31, 2018	Percent of Class
The Vanguard Group 100 Vanguard Blvd. Malvern, PA 19355	86,707,861 (1)	9.17%
BlackRock, Inc. 55 East 52nd Street New York, NY 10055	65,177,834 (2)	6.9%

(1) According to its Form 13G filing, The Vanguard Group has sole voting power for 1,197,221, shared voting power for 229,036, sole dispositive power for 85,313,858 and shared dispositive power for 1,394,003 of these shares.

(2) According to its Form 13G filing, BlackRock, Inc. has sole voting power for 55,435,118 shares, and sole dispositive power for 65,177,834 shares.

Security ownership of directors and management

The following table shows the beneficial ownership of TI common stock by directors, the named executive officers and all executive officers and directors as a group. Each director and named executive officer has sole voting power (except for shares obtainable within 60 days, shares subject to RSUs and shares credited to deferred compensation accounts as detailed in the footnotes to the table) and sole investment power with respect to the shares owned. The table excludes shares held by a family member if a director or executive officer has disclaimed beneficial ownership. No director or executive officer has pledged shares of TI common stock.

Name	Shares Owned at December 31, 2018	Percent of Class
Directors (1)		
R. W. Babb, Jr.	64,554	*
M. A. Blinn	26,040	*
T. M. Bluedorn	3,983	*
D. A. Carp	129,996	*
J. F. Clark	21,796	*
C. S. Cox	112,893	*
M. S. Craighead	13,100	*
J. M. Hobby	8,276	*
R. Kirk	46,604	*
P. H. Patsley	154,878	*
R. E. Sanchez	59,819	*
R. K. Templeton	4,447,398 (2)	*
Management (3)		
R. R. Lizardi	174,855	*
N. Anderskouv	227,852	*
R. G. Delagi	1,279,546	*
H. Ilan	236,471	*
B. T. Crutcher	402 (4)	*
All executive officers and directors as a group (5)	8,392,065	*

* less than 1 percent.

(1) Included in the shares owned shown above are:

Directors	Shares Obtainable within 60 Days	RSUs (in Shares) (a)	Shares Credited to Deferred Compensation Accounts (b)
R. W. Babb, Jr.	22,139	19,203	22,212
M. A. Blinn	7,724	10,178	8,138
T. M. Bluedorn	1,076	2,907	—
D. A. Carp	49,187	35,867	44,942
J. F. Clark	11,600	6,057	4,139
C. S. Cox	78,345	29,203	2,206
M. S. Craighead	—	2,000	—
J. M. Hobby	4,108	4,168	—
R. Kirk	34,438	5,910	1,988
P. H. Patsley	78,345	7,910	47,330
R. E. Sanchez	34,438	5,910	9,065
R. K. Templeton	2,717,706	427,282	—

(a) The non-employee directors' RSUs granted before 2007 are settled in TI common stock generally upon the director's termination of service provided he or she has served at least eight years or has reached the company's retirement age for directors. RSUs granted after 2006 are settled in TI common stock generally upon the fourth anniversary of the grant date.

(b) The shares in deferred compensation accounts are issued following the director's termination of service.

(2) Includes 13,117 shares credited to Mr. Templeton's 401(k) account and 917,701 shares held by the Richard and Mary Templeton Foundation, a charitable foundation. Mr. Templeton has no pecuniary interest in the Foundation's shares.

(3) Included in the shares owned shown above are:

Executive Officer	Shares Obtainable within 60 Days	Shares Credited to 401(k) Account	RSUs (in Shares)
R. R. Lizardi	117,173	—	45,969
N. Anderskouv	137,746	—	86,121
R. G. Delagi	1,157,478	12,241	106,432
H. Ilan	137,691	—	86,121
B. T. Crutcher	—	—	—

(4) As of the date of his resignation from the company.

(5) Includes:

(a) 5,526,373 shares obtainable within 60 days;

(b) 26,070 shares credited to 401(k) accounts;

(c) 1,204,347 shares subject to RSU awards; for the terms of these RSUs, see pages 16 and 35-36; and

(d) 140,020 shares credited to certain non-employee directors' deferred compensation accounts; shares in deferred compensation accounts are issued following a director's termination of service.

Related person transactions

Because we believe that company transactions with directors and executive officers of TI or with persons related to TI directors and executive officers present a heightened risk of creating or appearing to create a conflict of interest, we have a written related person transaction policy that has been approved by the board of directors. The policy states that TI directors and executive officers should obtain the approvals or ratifications specified below in connection with any related person transaction. The policy applies to transactions in which:

1. TI or any TI subsidiary is or will be a participant;
2. The amount involved exceeds or is expected to exceed $120,000 in a fiscal year; and
3. Any of the following (a "related person") has or will have a direct or indirect interest:

(a) A TI director or executive officer, or an Immediate Family Member of a director or executive officer;

(b) A stockholder owning more than 5 percent of the common stock of TI or an Immediate Family Member of such stockholder, or, if the 5 percent stockholder is not a natural person, any person or entity designated in the Form 13G or 13D filed under the SEC rules and regulations by the 5 percent stockholder as having an ownership interest in TI stock (individually or collectively, a "5 percent holder"); or

(c) An entity in which someone listed in (a) above has a 5 percent or greater ownership interest, by which someone listed in (a) is employed, or of which someone listed in (a) is a director, principal or partner.

For purposes of the policy, an "Immediate Family Member" is any child, stepchild, parent, stepparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, sister-in-law or any person (other than a tenant or employee) sharing the household of a TI director, executive officer or 5 percent holder.

The policy specifies that a related person transaction includes, but is not limited to, any financial transaction, arrangement or relationship (including any indebtedness or guarantee of indebtedness) or any series of similar transactions or arrangements.

The required approvals are as follows:

Arrangement Involving:	Approval Required by:
Executive officer who is also a member of the TI board, an Immediate Family Member of such person, or an entity in which any of the foregoing has a 5 percent or greater ownership interest	GSR Committee
Chair of the GSR Committee, chief compliance officer, any of his or her Immediate Family Members, or an entity in which any of the foregoing has a 5 percent or greater ownership interest	GSR Committee
Any other director or executive officer, an Immediate Family Member of such person, or an entity in which any of the foregoing has a 5 percent or greater ownership interest	Chief Compliance Officer in consultation with the Chair of the GSR Committee
A 5 percent holder	GSR Committee

No member of the GSR Committee will participate in the consideration of a related person arrangement in which such member or any of his or her Immediate Family Members is the related person.

The approving body or persons will consider all of the relevant facts and circumstances available to them, including (if applicable) but not limited to: the benefits to the company of the arrangement; the impact on a director's independence; the availability of other sources for comparable products or services; the terms of the arrangement; and the terms available to unrelated third parties or to employees generally. The primary consideration is whether the transaction between TI and the related person (a) was the result of undue influence from the related person or (b) could adversely influence or appear to adversely influence the judgment, decisions or actions of the director or executive officer in meeting TI responsibilities or create obligations to other organizations that may come in conflict with responsibilities to TI.

No related person arrangement will be approved unless it is determined to be in, or not inconsistent with, the best interests of the company and its stockholders, as the approving body or persons shall determine in good faith.

The chief compliance officer will provide periodic reports to the committee on related person transactions. Any related person transaction brought to the attention of the chief compliance officer or of which the chief compliance officer becomes aware that is not approved pursuant to the process set forth above shall be terminated as soon as practicable.

The board has determined that the following types of transactions pose little risk of a conflict of interest and therefore has deemed them approved:

- Compensation paid to a TI director or executive officer for services as such, or where the sole interest in a related person transaction of a TI director, executive officer or 5 percent holder is their position as such;
- Transactions where the rates or charges involved are determined by competitive bids, involve the rendering of services as a common or contract carrier, or public utility, at rates or charges fixed in conformity with law or governmental authority;
- Transactions involving services as a bank depository of funds, transfer agent, registrar, trustee under a trust indenture or similar services;
- Interests of a related person arising only from:
    - the direct or indirect ownership in another party to the transaction and that ownership, when combined with the ownership of all the other individuals specified in 3(a)-(c) above, is less than 5 percent of the outstanding equity of such party;
    - an interest as a limited partner in a partnership, and that ownership interest, when combined with all the other ownership interests of the other individuals specified in 3(a)-(c) above, is less than 5 percent of the total ownership interest of the limited partnership;
    - their position as a director of another corporation or organization;
    - the ownership of TI stock and all holders of that class of stock receive the same benefit on a pro-rata basis;
- Transactions in the ordinary course of business where the only relationship of a TI director or executive officer, or their Immediate Family Member, is as an employee (other than an executive officer) and/or less than a 10 percent beneficial

owner of the other entity if (i) the TI director or executive officer is not involved in negotiating the terms of the transaction and (ii) amounts involved for the fiscal year do not exceed the greater of $200,000 or 2 percent of the entity's consolidated gross revenues for that year;

- Charitable contributions, grants or endowments by TI or the TI Foundation to an entity where the only relationship of the TI director or executive officer, or their Immediate Family Member, is as a trustee or employee (other than as an executive officer) if the aggregate payments for the fiscal year do not exceed the greater of $200,000 or 2 percent of the recipient's consolidated gross revenues for that year. "Payments" exclude payments arising solely from investments in TI stock, payments under the TI Director Award Program and payments under non-discretionary charitable contribution matching programs; and
- Transactions involving the employment of an Immediate Family Member of a TI director or executive officer if such director or executive officer does not participate in the decisions regarding the hiring, performance evaluation or compensation of the Immediate Family Member and such hiring, performance evaluation or compensation is determined on a basis consistent with TI's human resources policies.

During 2018, two sons of R. Gregory Delagi (Senior Vice President) were employed in our facilities and manufacturing organizations. Mr. Delagi was not involved in any decisions regarding his sons' employment at TI, and their compensation was consistent with that of similarly situated employees and was determined on a basis consistent with the company's human resources policies.

Compensation committee interlocks and insider participation

During 2018, Messrs. Carp and Sanchez and Mses. Cox and Patsley served on the Compensation Committee. No committee member (i) was an officer or employee of TI, (ii) was formerly an officer of TI or (iii) had any relationship requiring disclosure under the SEC's rules governing disclosure of related person transactions (Item 404 of Regulation S-K). No executive officer of TI served as a director or member of the compensation committee of another entity, one of whose directors or executive officers served as a member of our board of directors or a member of the Compensation Committee.

Cost of solicitation

The solicitation is made on behalf of our board of directors. TI will pay the cost of soliciting these proxies. We will reimburse brokerage houses and other custodians, nominees and fiduciaries for reasonable expenses they incur in sending these proxy materials to you if you are a beneficial holder of our shares.

Without receiving additional compensation, directors, officers and employees of TI may solicit proxies personally, by telephone, fax or email, from some stockholders if proxies are not promptly received. We have also hired Georgeson Inc. to assist in the solicitation of proxies at a cost of $12,000 plus out-of-pocket expenses.

Stockholder proposals and nominations for 2020

The table below shows the deadlines for stockholders to submit proposals or director nominations for next year's annual meeting.

	Proposals for Inclusion in 2020 Proxy Materials	Director Nominees for Inclusion in 2020 Proxy Materials (Proxy Access)	Other Proposals/Nominees to be Presented at 2020 Annual Meeting (and Not for Inclusion in Proxy Materials)
When proposal must be received by Texas Instruments	On or before November 13, 2019	No earlier than October 14, 2019, and no later than November 13, 2019	No earlier than December 27, 2019, and no later than January 26, 2020

Proposals are to be sent to: Texas Instruments Incorporated, 12500 TI Boulevard, MS 8658, Dallas, TX 75243, Attn: Secretary.

We reserve the right to reject, rule out of order, or take any other appropriate action with respect to any proposal or nomination that does not comply with these and other applicable requirements.

In addition, all suggestions from stockholders concerning the company's business are welcome and will be carefully considered by TI's management. To ensure that your suggestions receive appropriate review, the GSR Committee reviews correspondence from stockholders and management's responses. Stockholders are thereby given access at the board level without having to resort to formal stockholder proposals. Generally, the board prefers you present your views in this manner rather than through the process of formal stockholder proposals. See "Communications with the board" for information on contacting the board.

Benefit plan voting

If you are a participant in the TI Contribution and 401(k) Savings Plan, or the TI 401(k) Savings Plan, you are a "named fiduciary" under the plans and are entitled to direct the voting of shares allocable to your accounts under these plans. The trustee administering your plan will vote your shares in accordance with your instructions. If you wish to instruct the trustee on the voting of shares held for your accounts, you should do so by April 22, 2019, in the manner described in the notice of annual meeting.

Additionally, participants under the plans are designated as "named fiduciaries" for the purpose of voting TI stock held under the plans for which no voting direction is received. TI shares held by the TI 401(k) savings plans for which no voting instructions are received by April 22, 2019, will be voted in the same proportions as the shares in the plans for which voting instructions have been received by that date unless otherwise required by law.

Section 16(a) beneficial ownership reporting compliance

Section 16(a) of the Securities Exchange Act requires certain persons, including the company's directors and executive officers, to file reports with the SEC regarding beneficial ownership of certain equity securities of the company. The company believes that all reports during 2018 were timely filed by its directors and executive officers.

Telephone and internet voting

Registered stockholders and benefit plan participants. Stockholders with shares registered directly with Computershare (TI's transfer agent) and participants who beneficially own shares in a TI benefit plan may vote telephonically by calling (800) 690-6903 (within the U.S. and Canada only, toll-free) or via the internet at www.proxyvote.com.

The telephone and internet voting procedures are designed to authenticate stockholders' identities, to allow stockholders to give their voting instructions and to confirm that stockholders' instructions have been recorded properly.

Stockholders with shares registered in the name of a brokerage firm or bank. A number of brokerage firms and banks offer telephone and internet voting options. These programs may differ from the program provided to registered stockholders and benefit plan participants. Check the information forwarded by your bank, broker or other holder of record to see which options are available to you.

Stockholders voting via the internet should understand that there may be costs associated with electronic access, such as usage charges from telephone companies and internet access providers, that must be borne by the stockholder.

Stockholders sharing the same address

To reduce the expenses of delivering duplicate materials, we take advantage of the SEC's "householding" rules that permit us to deliver only one set of proxy materials (or one Notice of Internet Availability of Proxy Materials) to stockholders who share an address unless otherwise requested. If you share an address with another stockholder and have received only one set of these materials, you may request a separate copy at no cost to you by calling Investor Relations at (214) 479-3773 or by writing to Texas Instruments Incorporated, P.O. Box 660199, MS 8657, Dallas, TX 75266-0199, Attn: Investor Relations. For future annual meetings, you may request separate materials, or request that we send only one set of materials to you if you are receiving multiple copies, by calling (866) 540-7095 or writing to Investor Relations at the address given above.

Electronic delivery of proxy materials and copies of our Form 10-K

As an alternative to receiving printed copies of these materials in future years, we are pleased to offer stockholders the opportunity to receive proxy mailings electronically. To request electronic delivery, vote via the internet at www.proxyvote.com and, when prompted, enroll to receive or access proxy materials electronically in future years. After the meeting date, stockholders holding shares through a broker or bank may request electronic delivery by visiting www.icsdelivery.com/ti and entering information for each account held by a bank or broker. If you are a registered stockholder and would like to request electronic delivery, visit www-us.computershare.com/investor or call TI Investor Relations at (214) 479-3773 for more information. If you are a participant in a TI benefit plan and would like to request electronic delivery, call TI Investor Relations for more information.

Important Notice Regarding the Availability of Proxy Materials for the Stockholder Meeting to be held on April 25, 2019. This 2019 proxy statement and the company's 2018 annual report are accessible at: www.proxyvote.com.

The company's annual report to stockholders, which contains consolidated financial statements for the year ended December 31, 2018, accompanies this proxy statement. **You may also obtain a copy of the company's annual report on Form 10-K for the year ended December 31, 2018, that was filed with the SEC without charge by writing to Investor Relations, P.O. Box 660199, MS 8657, Dallas, TX 75266-0199.** Our Form 10-K is also available in the "Investor Relations" section of our website at www.ti.com.

Sincerely,

Cynthia Hoff Trochu
Senior Vice President,
Secretary and General Counsel

March 12, 2019
Dallas, Texas

Notice regarding forward-looking statements

This proxy statement includes forward-looking statements intended to qualify for the safe harbor from liability established by the Private Securities Litigation Reform Act of 1995. Statements herein that describe TI's business strategy, plans, goals, future capital spending levels and potential for growth, improved profit margins and cash generation are forward-looking statements. All such forward-looking statements are subject to certain risks and uncertainties that could cause actual results and amounts to differ materially from those in forward-looking statements. For a detailed discussion of the risks and uncertainties, see the Risk factors discussion in Item 1A of our annual report on Form 10-K for the year ended December 31, 2018. The forward-looking statements included in this proxy statement are made only as of the date of this proxy statement, and we undertake no obligation to update the forward-looking statements to reflect subsequent events or circumstances.

Directions and other annual meeting information

Directions

From DFW airport: Take the North Airport exit to IH-635E. Take IH-635E to the Greenville Avenue exit. Turn right (South) on Greenville. Turn right (West) on Forest Lane. Texas Instruments will be on your right at the second traffic light.

From Love Field airport: Take Mockingbird Lane East to US-75N (Central Expressway). Travel North on 75N to the Forest Lane exit. Turn right (East) on Forest Lane. You will pass two traffic lights. At the third light, the entrance to Texas Instruments will be on your left.

Parking

All visitors should park at the South Lobby, where reserved parking will be available.

Security

Be advised that TI's security policy forbids weapons, cameras and audio/video recording devices inside TI buildings. All bags will be subject to search upon entry into the building.

Attendance

For additional information about attending the annual meeting see the discussion under "Attendance requirements" on page 4.

Appendix A

Non-GAAP reconciliations

This proxy statement refers to ratios based on free cash flow. These are financial measures that were not prepared in accordance with generally accepted accounting principles in the U.S. (GAAP). Free cash flow is a non-GAAP measure calculated by subtracting capital expenditures from the most directly comparable GAAP measure, cash flows from operating activities (also referred to as cash flow from operations). We believe free cash flow and these ratios based on it provide insight into our liquidity, our cash-generating capability and the amount of cash potentially available to return to shareholders, as well as insight into our financial performance. These non-GAAP measures are supplemental to the comparable GAAP measures and are reconciled in the table below to the most directly comparable GAAP measures.

	For Years Ended December 31,				Percentage of Revenue For Years Ended December 31,			
Free Cash Flow as a Percentage of Revenue	**2018**	**2017**	**2016**	**Total**	**2018**	**2017**	**2016**	**Total**
(Millions of dollars)								
Revenue	**$ 15,784**	$ 14,961	$ 13,370	**$ 44,115**				
Cash flow from operations (GAAP)	**$ 7,189**	$ 5,363	$ 4,614	**$ 17,166**	**45.5%**	35.8%	34.5%	**38.9%**
Capital expenditures	**(1,131)**	(695)	(531)	**(2,357)**				
Free cash flow (non-GAAP)	**$ 6,058**	$ 4,668	$ 4,083	**$ 14,809**	**38.4%**	31.2%	30.5%	**33.6%**

PROXY STATEMENT

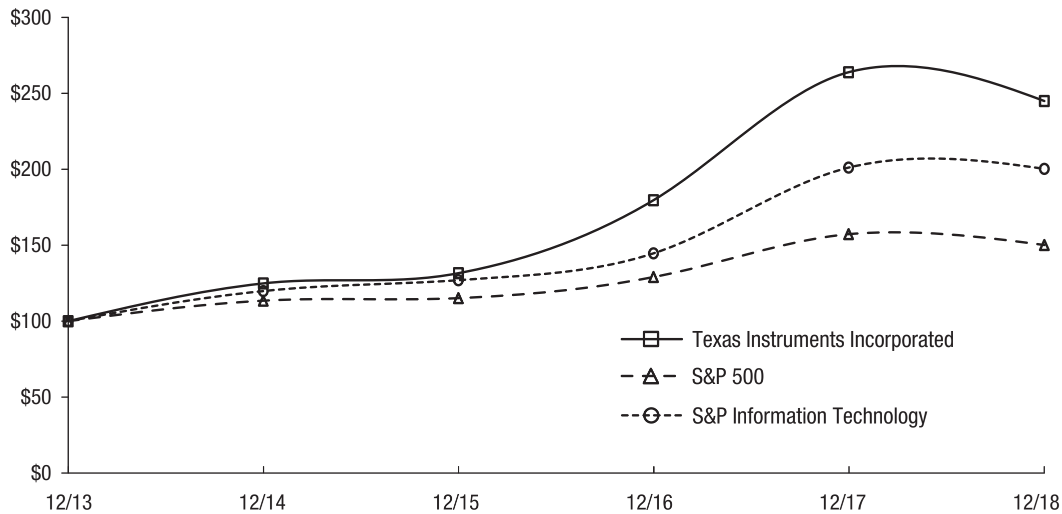
OTHER INFORMATION

Comparison of total shareholder return

This graph compares TI's total shareholder return with the S&P 500 Index and the S&P Information Technology Index over a five-year period, beginning December 31, 2013, and ending December 31, 2018. The total shareholder return assumes $100 invested at the beginning of the period in TI common stock, the S&P 500 Index and the S&P Information Technology Index. It also assumes reinvestment of all dividends.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN

Among Texas Instruments Incorporated, the S&P 500 Index and the S&P Information Technology Index



	12/13	12/14	12/15	12/16	12/17	12/18
Texas Instruments Incorporated	**100.00**	**125.10**	**131.58**	**179.90**	**264.04**	**245.04**
S&P 500	**100.00**	**113.69**	**115.26**	**129.05**	**157.22**	**150.33**
S&P Information Technology	**100.00**	**120.12**	**127.23**	**144.85**	**201.10**	**200.52**

Notice regarding forward-looking statements

This Annual Report 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, statements herein that describe TI's business strategy, ability to generate free cash flow in the future, 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. For a more detailed discussion of these factors see the risk factors discussion that begins on page 7 of this report. Forward-looking statements in this report are made only as of the date of this report and we undertake no obligation to update them to reflect subsequent events or circumstances.

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BOARD OF DIRECTORS, EXECUTIVE OFFICERS

Directors

Richard K. Templeton
Chairman of the Board,
President and
Chief Executive Officer,
Texas Instruments Incorporated

Ralph W. Babb, Jr.
Chairman of the Board and
Chief Executive Officer,
Comerica Incorporated
and Comerica Bank

Mark A. Blinn
Retired President and
Chief Executive Officer,
Flowserve Corporation

Todd M. Bluedorn
Chairman of the Board and
Chief Executive Officer,
Lennox International Inc.

Daniel A. Carp
Retired Chairman of the Board
and Chief Executive Officer,
Eastman Kodak Company

Janet F. Clark
Retired Executive Vice President
and Chief Financial Officer,
Marathon Oil Corporation

Carrie S. Cox
Chairman of the Board and
Retired Chief Executive Officer,
Humacyte, Inc.

Martin S. Craighead
Vice Chairman of the Board,
Baker Hughes, a GE company

Jean M. Hobby
Retired Partner,
PricewaterhouseCoopers LLP

Ronald Kirk
Senior Of Counsel,
Gibson, Dunn & Crutcher LLP

Pamela H. Patsley
Retired Chairman of the Board
and Chief Executive Officer,
MoneyGram International, Inc.

Robert E. Sanchez
Chairman of the Board and
Chief Executive Officer,
Ryder System, Inc.

Executive officers

Richard K. Templeton
Chairman of the Board,
President and
Chief Executive Officer

Niels Anderskouv
Senior Vice President

Ahmad S. Bahai
Senior Vice President
and Chief Technology Officer

Ellen L. Barker
Senior Vice President
and Chief Information Officer

R. Gregory Delagi
Senior Vice President

Kyle M. Flessner
Senior Vice President

Haviv Ilan
Senior Vice President

Hagop H. Kozanian
Senior Vice President

Rafael R. Lizardi
Senior Vice President
and Chief Financial Officer

Cynthia Hoff Trochu
Senior Vice President,
Secretary and
General Counsel

Julie M. Van Haren
Senior Vice President

Darla H. Whitaker
Senior Vice President

Bing Xie
Senior Vice President

TI Fellows

TI Fellows are engineers, scientists or technologists who are recognized by peers and TI management for outstanding performance. Fellows are elected or re-elected every five years based on their exceptional leadership in driving deeper levels of innovation that make TI stronger.

Announced in 2018: Sameer Pendharkar named Senior Fellow; Paul Brohlin, Krishnaswamy Nagaraj and Scott Summerfelt named Fellows.

Stockholder and other information

Stockholder records information

Stockholder correspondence:
Computershare
P.O. Box 505000
Louisville, KY 40233-5000

Overnight correspondence:
Computershare
462 South 4th Street, Suite 1600
Louisville, KY 40202

Toll free: 800-981-8676

Phone: 312-360-5151

Website: www.computershare.com/investor

Online inquiries: https://www-us.computershare.com/investor/contact

SEC Form 10-K

A copy of the company's annual report to the Securities and Exchange Commission on Form 10-K is available on the Investor Relations website at www.ti.com/ir.

Copies of the Form 10-K, including a list of exhibits and any exhibit specifically requested, are available without charge by writing to:

Texas Instruments Investor Relations
P.O. Box 660199, MS 8657
Dallas, TX 75266-0199

Texas Instruments Incorporated
P.O. Box 660199
Dallas, TX 75266-0199

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