

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, 2020
- 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 001-03761

TEXAS INSTRUMENTS INCORPORATED

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State of Incorporation)

75-0289970
(I.R.S. Employer Identification No.)

12500 TI Boulevard, Dallas, Texas
(Address of principal executive offices)

75243
(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	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$1.00	TXN	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 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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

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 \$116,120,360,680 as of June 30, 2020.

920,239,191 (Number of shares of common stock outstanding as of January 27, 2021)

Part III hereof incorporates information by reference to the Registrant's proxy statement for the 2021 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. Our operations began in 1930, and we are incorporated in Delaware. With headquarters in Dallas, Texas, we have design, manufacturing or sales operations in more than 30 countries. Our two reportable segments are Analog and Embedded Processing, and we report the results of our remaining business activities in Other. In 2020, we generated \$14.46 billion of revenue.

For decades, we have operated with a passion to create a better world by making electronics more affordable through semiconductors. We were pioneers in the transition from vacuum tubes to transistors and then to integrated circuits. As each generation became more reliable, more affordable and lower in power, semiconductors were used by a growing number of customers and markets. This passion is alive today as we help our customers develop electronics and new applications, particularly in industrial and automotive markets.

For many years, we have run our business with three overarching ambitions in mind. First, we will act like owners who will own the company for decades. Second, we will adapt and succeed in a world that is ever changing. And third, we will be a company that we are personally proud to be a part of and that we would want as our neighbor. When we are successful in achieving these ambitions, our employees, customers, communities and shareholders all win.

As engineers, we are fortunate to work on exciting technology which helps our customers innovate to create a better world. Technology is the foundation of our company, but ultimately, our objective and the best metric to measure progress and generate long-term value for owners is the growth of free cash flow per share.

Our strategy to maximize free cash flow per share growth has three elements:

The first element of our strategy is a business model that is focused on analog and embedded processing products and built around four competitive advantages. This business model is the result of a series of strategic decisions made over the years and that continue today. The four sustainable competitive advantages are a strong foundation of manufacturing and technology, a broad portfolio of analog and embedded processing products, the reach of our market channels, and diversity and longevity of our products, markets and customer positions. In combination, these four competitive advantages provide tangible benefits, are difficult to replicate and ultimately separate us from our best peers. Together, these competitive advantages help position TI in a unique class of companies capable of generating and returning significant amounts of cash for our owners. We make our investments with an eye towards long-term strengthening and leveraging of these advantages.

The second element of our strategy to maximize free cash flow per share growth is disciplined allocation of capital. This spans how we select R&D projects, develop new capabilities like TI.com, invest in new manufacturing capacity or how we think about acquisitions and returning cash to our owners. Over a 10-year period from 2011 to 2020, we allocated \$83 billion, which reinforces the importance of discipline in capital allocation. The largest allocation over this period was to drive organic growth, which includes investments in R&D, sales and marketing, capital expenditures and working capital for inventory. Beyond that, we also allocated capital to dividends and share repurchases. Dividends are designed to appeal to a broad set of investors, and share repurchases are made with the goal of the accretive capture of future free cash flow for long-term investors. Lastly, we allocate to acquisitions for inorganic growth, which we last did in 2011 when we acquired National Semiconductor.

The third element of our strategy is efficiency, which we think of as constantly striving for more output for every dollar spent. This is about getting our investments in the most impactful areas to maximize the growth of long-term free cash flow per share; it is not just about optimizing cost-cutting to get to the last dollar of expense. We bring this philosophy of efficiency and continuous improvement to all areas of the company, and this focus on efficiency contributes to revenue growth, improved gross margins, disciplined R&D and SG&A expense, free cash flow margins and ultimately to free cash flow per share growth.

We believe that our business model with the combined effect of our four competitive advantages sets TI apart from our peers and will for a long time to come. We will invest to strengthen our competitive advantages, be disciplined in capital allocation and stay diligent in our pursuit of efficiencies. Finally, we will remain focused on the belief that long-term growth of free cash flow per share is the ultimate measure to generate value.

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 a diverse product portfolio that is 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 approximately 80,000 products that are integral to almost every type of 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 \$10.89 billion of revenue in 2020. 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 are also 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 using a battery. As the digitization of electronics continues, there is a growing need and opportunity for analog chips to provide the power to run devices and the critical interfaces with human beings, the real world and other electronic devices. Our Analog products are used in many markets, particularly industrial, automotive and personal electronics.

Sales of our Analog products generated about 75% of our revenue in 2020.

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

Power

Power includes products that help customers manage power in electronic systems in all end markets. Our broad portfolio is designed to manage power requirements across different voltage levels, including battery-management solutions, DC/DC switching regulators, AC/DC and isolated controllers and converters, power switches, linear regulators, voltage supervisors, voltage references and lighting 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, logic and sensing products.

Embedded Processing

Our Embedded Processing segment generated \$2.57 billion of revenue in 2020. Embedded Processing products are the digital “brains” of many types of electronic equipment. They 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 such as motor control. 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 reuse software from one product generation to the next.

Sales of Embedded Processing products generated about 18% of our revenue in 2020.

Our Embedded Processing segment includes microcontrollers, digital signal processors (DSPs) and applications processors. 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. 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 \$1.01 billion of revenue in 2020 and includes revenue from DLP® products (primarily used to project high-definition images), calculators and certain custom semiconductors known as application-specific integrated circuits (ASICs).

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 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 2020 and the estimated percentage of our 2020 revenue that the market represented. The chart also lists, in declining order of our revenue, the sectors within each market.

Market	Sector
Industrial (37% of TI revenue)	Factory automation & control Medical Building automation Grid infrastructure Aerospace & defense Appliances Test & measurement Motor drives Power delivery Pro audio, video & signage Retail automation & payment Industrial transport Lighting
Automotive (20% of TI revenue)	Infotainment & cluster Advanced driver assistance systems (ADAS) Hybrid, electric & powertrain systems Passive safety Body electronics & lighting
Personal electronics (27% of TI revenue)	Mobile phones PC & notebooks Portable electronics Connected peripherals & printers TV Home theater & entertainment Tablets Wearables (non-medical) Data storage Gaming
Communications equipment (8% of TI revenue)	Wireless infrastructure Wired networking Broadband fixed line access Datacom module
Enterprise systems (6% of TI revenue)	Data center & enterprise computing Enterprise projectors Enterprise machine
Other (calculators and other) (2% 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.

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 reach of its channels to market, technological innovation, product development execution, technical support, customer service, quality, reliability, price and manufacturing capacity and capabilities. In addition, manufacturing process and package technologies that provide differentiated levels of performance and a structural cost advantage are competitive factors for our analog products, and customers' prior investments in software development is a competitive factor for our embedded processing products.

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. A semiconductor cycle could be affected by the significant time and money required to build and maintain semiconductor manufacturing facilities.

We employ several strategies which have many benefits, including dampening the effect of the semiconductor cycle on TI. As an example, we are focused on building closer direct relationships with customers. When it comes to market cycles, these relationships provide improved insight into customer demand and allow us to more accurately and efficiently manage factory loadings and inventory levels, which lead to more stable lead times and higher product availability. Finally, we focus our resources on analog and embedded processing products and industrial and automotive markets. Generally, our products serve a large and diverse customer base, which reduces our dependence on the performance of any single product, market or customer. In addition, they typically have long shelf lives and low risk of obsolescence. Industrial and automotive markets also benefit from long product life cycles, with revenue often lasting 10 years or more, which help to smooth the impact of cyclicalities.

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 over 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 website and broad sales and applications team, and through distributors. Over the past several years, we have been investing in new capabilities and evolving our distribution network to better align with our strategy to establish closer direct relationships with our customers. With less business flowing through the distribution channel, we require fewer distributors. During 2020, we completed our transition to a single worldwide distributor, coupled with a few region-specific distributors, for order fulfillment. Building closer direct customer relationships strengthens our reach of market channel advantage, which gives us access to more customers and more of their design projects, leading to the opportunity to sell more of our products into each design. Additionally, broader and deeper access gives us better insight and knowledge of customer needs.

Our investments in new and improved capabilities to directly support our customers include website and e-commerce enhancements 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 that require substantial investments.

We own and operate semiconductor manufacturing facilities in North America, Asia, Japan and Europe. These include both wafer fabrication and assembly/test facilities.

We invest in manufacturing technologies and do most of our manufacturing in-house. This strategic decision to make manufacturing and technology a core competitive advantage delivers tangible benefits of lower manufacturing costs and greater control of our supply chain. We have focused on creating a competitive manufacturing structural cost advantage by investing in our advanced analog 300-millimeter capacity. An unpackaged chip built on 300-millimeter wafers costs about 40% less than an unpackaged chip built on 200-millimeter wafers. To strengthen this advantage, construction is underway on our new 300-millimeter wafer fabrication facility in Richardson, Texas, as 300-millimeter wafers will continue to support the majority of our Analog growth.

We assess and are careful to address potential health, safety, and environmental risks presented by our operations, including our manufacturing operations. We care for our environment and work to prevent pollution and the potential risks related to climate change by implementing practices such as recycling and reusing materials, controlling harmful emissions, and properly handling hazardous and restricted substances.

We expect to continue to maintain sufficient internal manufacturing capacity to meet the 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 selectively use the capacity of outside suppliers, commonly known as foundries, and subcontractors. In 2020, we sourced about 20% of our total wafers from external foundries and about 40% of our assembly/test services from subcontractors.

Inventory

Our objectives for inventory are to maintain high levels of customer service, maintain stable and competitive lead times, minimize inventory obsolescence and improve manufacturing asset utilization. To meet these objectives and to allow greater flexibility in periods of high demand, we build ahead of demand our broad-based products that are used across a diverse set of applications and customers and have low risk of obsolescence. Inventory levels will vary based on market conditions and seasonality.

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.

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
Ahmad S. Bahai	58	Senior Vice President
Kyle M. Flessner	50	Senior Vice President
Mark S. Gary	46	Senior Vice President
Haviv Ilan	52	Executive Vice President and Chief Operating Officer
Hagop H. Kozanian	38	Senior Vice President
Rafael R. Lizardi	48	Senior Vice President, Chief Financial Officer and Chief Accounting Officer
Amichai Ron	43	Senior Vice President
Richard K. Templeton	62	Director, Chairman of the Board, President and Chief Executive Officer
Cynthia Hoff Trochu	57	Senior Vice President, Secretary and General Counsel
Julie M. Van Haren	51	Senior Vice President
Darla H. Whitaker	55	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. Mr. Templeton and Mses. Trochu and Whitaker have served as executive officers of the company for more than five years. Messrs. Ilan and Lizardi and Ms. Van Haren became executive officers of the company in 2017. Messrs. Bahai, Flessner and Kozanian became executive officers of the company in 2018. Mr. Ron became an executive officer in 2019. Mr. Gary became an executive officer in 2020.

Human capital management

At December 31, 2020, we had about 30,000 employees worldwide. Of those, about 85% were in Sales, R&D or manufacturing. Our objective for human capital management is to recruit, develop and retain the best talent possible. As a technology and manufacturing company, our success is grounded in having strong engineering talent and a reliable factory workforce. We have a promote-from-within culture and offer training and rotation programs that provide the opportunity to quickly gain experience in different areas. In 2020, our turnover rate was 7.1%.

It is important that our employees represent a mix of experiences and backgrounds in order to make our company stronger, more innovative and more inclusive. Inclusion is one of our core values, and we have programs in place to promote diversity and inclusion. To learn more, review our Corporate Citizenship Report. Information in our Corporate Citizenship Report is not part of this report.

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: (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, Attention: Investor Relations, P.O. Box 660199, MS 8657, Dallas, Texas, 75266-0199.

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 many companies, we are susceptible to a potential downturn associated with macroeconomic weakness, which may affect 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.

Risks related to our business and industry

The extent to which the COVID-19 pandemic will adversely affect our business, results of operations and financial condition is uncertain.

The global spread of the novel coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and the coronavirus disease, COVID-19, has created significant uncertainty and economic disruption, both near-term and potentially long-term. We have modified, and might further modify, our business practices in response to the COVID-19 pandemic, related third-party responses, including from government authorities and our suppliers, customers and distributors, and the economic and social ramifications of the disease and societal responses across the markets in which TI operates. The extent to which the COVID-19 pandemic will continue to affect our business, results of operation and financial condition is difficult to predict and depends on numerous evolving factors including: the duration and scope of the pandemic; government, social, business and other actions that have been and will be taken in response to the pandemic; and the effect of the pandemic on short- and long-term general economic conditions. We might experience short- or long-term constrained supply or volatility in customer demand, which could materially and adversely affect our business and financial results in future periods.

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 90% of our revenue comes from shipments to locations outside the United States; shipments of products to China-based customers represent about 20% of our revenue. Certain countries where we operate have experienced, and other countries may experience, trade tension that affects global trade and macroeconomic conditions through the enactment of tariffs, import or export restrictions, trade embargoes and sanctions, restrictions on cross-border investment and other trade barriers. Trade tensions impact our ability to deliver products and product support into China, cause Chinese customers to seek alternate suppliers and could otherwise adversely affect our operations and financial results.

We are exposed to political, social and economic conditions, security risks, terrorism or other hostile acts, health conditions and epidemics, labor conditions, and possible disruptions in transportation, communications and information technology networks of the various countries in which we operate. 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.

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, in conjunction with trade tensions, may restrict us from participating in the China market or may prevent us from competing effectively. 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. 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 occasionally leads 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, the timing of customer or distributor inventory adjustments, changes in demand for customer products, or trade restrictions, 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, epidemics 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. We manufacture products based on forecasts of customers' demands. These forecasts are based on multiple assumptions, and if inaccurate, could cause us to hold inadequate, excess or obsolete inventory that would reduce our profit margins and adversely affect our results of operations and financial condition.

Our operating results and our reputation could be adversely affected by breaches, disruptions or other incidents relating to our information technology systems.

Breaches, disruptions or other incidents relating to 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, or claims for damages, any of which could adversely affect our operating results and our reputation. Cybersecurity or other threats to our information technology systems or the systems of our customers, vendors and other third parties are frequent and constantly evolving, thereby increasing the difficulty of defending against them.

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

From time to time, we undertake strategic, business and organizational changes, including acquisitions, divestitures and restructuring actions, to support or carry out our objectives. If we do not successfully implement these changes, our business plans and operating results could be adversely affected. We may not achieve or sustain the expected growth, cost savings or other benefits of strategic, business and organizational changes, and charges associated with these actions could differ materially in amount and timing from our expectations.

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 epidemics that could disrupt operations. A natural disaster that results in a prolonged disruption, particularly where we have principal manufacturing and design operations, as listed in the Properties section in Item 2, 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 and cost-effective 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 or epidemics in the locations in which our suppliers operate; or limited or delayed access to key raw materials, natural resources and utilities. Additionally, a breach or other incident relating to our suppliers' information technology systems could result in a release of 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, the possibility of suppliers' imposition of increased costs on us and the unauthorized disclosure or use of our intellectual property.

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 would 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 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 would 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.

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

In 2020, about half 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 semiconductor 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 current or former distributors could be disruptive or harmful to our business.

Our margins vary.

Our profit margins vary due to a number of factors, which may include customer demand and shipment volume; our manufacturing processes; product mix; inventory levels; tariffs; freight costs; 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 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.

Legal and regulatory risks

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 and climate change, safety and health; trade; bribery and corruption; financial reporting; tax; data privacy and protection; labor and employment; competition; market access; epidemics; 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 do not 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.

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 technology from others for which a license is required, there can be no assurance that we will be able to obtain such a license at all or on terms we consider reasonable. We, directly and indirectly, face infringement claims from third parties, including non-practicing entities that have acquired patents to pursue enforcement actions against other companies. We 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, 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.

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.

Risks related to our financing activities and other risks

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 might 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 multiyear 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.

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
North Texas (Dallas, Richardson and Sherman)	X	X
Houston, 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
Taipei, Taiwan †	X	X

* Leased.

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

Our facilities in the United States contained approximately 12.9 million square feet at December 31, 2020, of which approximately 0.4 million square feet were leased. Our facilities outside the United States contained approximately 9.7 million square feet at December 31, 2020, of which approximately 1.6 million square feet were leased.

At the end of 2020, 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

TI common stock is quoted on The Nasdaq Global Select Market under the ticker symbol TXN. At December 31, 2020, we had 12,624 stockholders of record.

The following table contains information regarding our purchases of our common stock during the fourth quarter of 2020.

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, 2020 through October 31, 2020	1,323	\$ 146.19	—	\$ 10.65 billion
November 1, 2020 through November 30, 2020	91,680	156.59	91,680	10.63 billion
December 1, 2020 through December 31, 2020	4,513	159.96	4,513	10.63 billion
Total	<u>97,516 (b)</u>	\$ 156.61 (b)	<u>96,193</u>	\$ 10.63 billion (c)

- (a) All open-market purchases during the quarter were made under the authorization from our board of directors to purchase up to \$12.0 billion of additional shares of TI common stock announced September 20, 2018.
- (b) In addition to open-market purchases, 1,323 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, 2020, this amount consisted of the remaining portion of the \$12.0 billion authorized in September 2018. No expiration date has been specified for this authorization.

ITEM 6. Selected financial data

(Millions of dollars, except share and per-share amounts)	For Years Ended December 31,				
	2020	2019	2018	2017	2016
Cash flow data:					
Cash flows from operating activities	\$ 6,139	\$ 6,649	\$ 7,189	\$ 5,363	\$ 4,614
Capital expenditures	649	847	1,131	695	531
Free cash flow (a)	5,490	5,802	6,058	4,668	4,083
Dividends paid	3,426	3,008	2,555	2,104	1,646
Stock repurchases	2,553	2,960	5,100	2,556	2,132
Income statement data:					
Revenue by segment:					
Analog	10,886	10,223	10,801	9,900	8,536
Embedded Processing	2,570	2,943	3,554	3,498	3,023
Other	1,005	1,217	1,429	1,563	1,811
Revenue	14,461	14,383	15,784	14,961	13,370
Gross profit	9,269	9,164	10,277	9,614	8,257
Operating expenses (R&D and SG&A)	3,153	3,189	3,243	3,202	3,098
Acquisition charges	198	288	318	318	319
Restructuring charges/other	24	(36)	3	11	(15)
Operating profit	5,894	5,723	6,713	6,083	4,855
Net income	\$ 5,595	\$ 5,017	\$ 5,580	\$ 3,682	\$ 3,595

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:

Net income	\$ 5,595	\$ 5,017	\$ 5,580	\$ 3,682	\$ 3,595
Income allocated to RSUs	(27)	(31)	(42)	(33)	(44)
Income allocated to common shares for diluted EPS	\$ 5,568	\$ 4,986	\$ 5,538	\$ 3,649	\$ 3,551
Average diluted shares outstanding (millions)	933	952	990	1,012	1,021
Diluted EPS	\$ 5.97	\$ 5.24	\$ 5.59	\$ 3.61	\$ 3.48
Cash dividends declared per common share	\$ 3.72	\$ 3.21	\$ 2.63	\$ 2.12	\$ 1.64

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

(Millions of dollars)	December 31,				
	2020	2019	2018	2017	2016
Balance sheet data:					
Cash, cash equivalents and short-term investments	\$ 6,568	\$ 5,387	\$ 4,233	\$ 4,469	\$ 3,490
Total assets	19,351	18,018	17,137	17,642	16,431
Current portion of long-term debt	550	500	749	500	631
Long-term debt	6,248	5,303	4,319	3,577	2,978

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. Technology is the foundation of our company, but ultimately, our objective and the best metric to measure progress and generate long-term value for owners is the growth of free cash flow per share.

Our strategy to maximize free cash flow per share growth has three elements:

1. A great business model that is focused on analog and embedded processing products and built around four sustainable competitive advantages. The four sustainable competitive advantages are powerful in combination and provide tangible benefits:
 - i. A strong foundation of manufacturing and technology that provides lower costs and greater control of our supply chain.
 - ii. A broad portfolio of analog and embedded processing products that offers more opportunity per customer and more value for our investments.
 - iii. The reach of our market channels that gives access to more customers and more of their design projects, leading to the opportunity to sell more of our products into each design and gives us better insight and knowledge of customer needs.
 - iv. Diversity and longevity of our products, markets and customer positions that provide less single point dependency and longer returns on our investments.

Together, these competitive advantages help position TI in a unique class of companies capable of generating and returning significant amounts of cash for our owners. We make our investments with an eye towards long-term strengthening and leveraging of these advantages.

2. Discipline in allocating capital to the best opportunities. This spans how we select R&D projects, develop new capabilities like TI.com, invest in new manufacturing capacity or how we think about acquisitions and returning cash to our owners.
3. Efficiency, which means constantly striving for more output for every dollar spent.

We believe that our business model with the combined effect of our four competitive advantages sets TI apart from our peers and will for a long time to come. We will invest to strengthen our competitive advantages, be disciplined in capital allocation and stay diligent in our pursuit of efficiencies. Finally, we will remain focused on the belief that long-term growth of free cash flow per share is the ultimate measure to generate value.

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. During 2020, we reorganized the product lines within our Analog segment to simplify our business structure into our Power and Signal Chain product lines. These changes had no impact on our previously reported consolidated financial statements or on our reportable segment 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 do not tend 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.
- For an explanation of free cash flow and the term “annual operating tax rate,” see the Non-GAAP financial information section.
- All dollar amounts in the tables are stated in millions of U.S. dollars.

Our results of operations provides details of our financial results for 2020 and 2019 and year-to-year comparisons between 2020 and 2019. Discussion of 2018 items and year-to-year comparisons between 2019 and 2018 that are not included in this Form 10-K can be found in “Management’s discussion and analysis of financial condition and results of operations” in Part II, Item 7 of the Company’s Annual Report on Form 10-K for the year ended December 31, 2019.

Impact of COVID-19

The coronavirus (COVID-19) pandemic and its follow-on effects are impacting and will likely continue to impact business activity across industries worldwide, including TI. Therefore, we remain cautious about how the economy might behave for the next few years.

The impact to our lead times and ability to fulfill orders was minimal in 2020. However, depending on pandemic-related factors like the potential of local manufacturing restrictions on our factories, we could experience constraints in fulfilling customer orders in future periods. The coronavirus pandemic remains dynamic with uncertainty around its duration and broader impact. We continue to monitor and assess the situation and address implications to our business, supply chain and customer demand.

We have long had a business continuity plan in place for unforeseeable situations, like we have seen with COVID-19. Additionally, over the past several years, we have invested in building inventory and expanding our global internally owned manufacturing footprint. Investing in these capabilities has given us flexibility, such as the ability to build products across multiple manufacturing sites. These investments have helped to minimize disruptions, but may not be sufficient to eliminate them.

Results of operations

Our strategic focus is on analog and embedded processing products sold into six end markets: industrial, automotive, personal electronics, communications equipment, enterprise systems and other. While all end markets represent good opportunities, we place additional strategic emphasis on designing and selling those products into the industrial and automotive markets, which we believe represent the best growth opportunities. Gross margin of 64.1% 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 \$6.14 billion underscored the strength of our business model. Free cash flow was \$5.49 billion and represented 38.0% of revenue. During 2020, consistent with our commitment to return free cash flow to owners, we returned \$5.98 billion to shareholders through a combination of dividends and stock repurchases. Our dividend represented 62% of free cash flow, underscoring its sustainability.

Details of financial results – 2020 compared with 2019

Revenue of \$14.46 billion increased \$78 million, or 1%, primarily due to higher revenue from Analog, partially offset by lower revenue from Embedded Processing.

Gross profit of \$9.27 billion was up \$105 million, or 1%, due to higher revenue and increased factory loadings. As a percentage of revenue, gross profit increased to 64.1% from 63.7%.

Operating expenses (R&D and SG&A) were \$3.15 billion compared with \$3.19 billion.

Acquisition charges were \$198 million compared with \$288 million and were non-cash. See Note 7 to the financial statements.

Restructuring charges/other was a charge of \$24 million due to an Embedded Processing action, compared with a credit of \$36 million due to the sale of our manufacturing facility in Greenock, Scotland in 2019.

Operating profit was \$5.89 billion, or 40.8% of revenue, compared with \$5.72 billion, or 39.8% of revenue.

Other income and expense (OI&E) was \$313 million of income compared with \$175 million of income, which increased primarily due to higher royalty income. See Note 12 to the financial statements.

Interest and debt expense of \$190 million increased \$20 million due to the issuance of additional long-term debt.

Our provision for income taxes was \$422 million compared with \$711 million. The decrease was due to higher discrete tax benefits, which included a \$249 million benefit from the settlement of a depreciation-related uncertain tax position and, to a lesser extent, higher U.S. tax benefits, partially offset by higher income before income taxes.

Our annual operating tax rate, which does not include discrete tax items, was 14% compared with 16% in 2019. We use “annual operating tax rate” to describe the estimated annual effective tax rate. Our effective tax rate, which includes discrete tax items, was 7% in 2020 compared with 12% in 2019. See Note 4 to the financial statements for a reconciliation of the U.S. statutory corporate tax rate to our effective tax rate.

Net income was \$5.60 billion compared with \$5.02 billion. EPS was \$5.97 compared with \$5.24.

Segment results – 2020 compared with 2019

Analog (includes Power and Signal Chain product lines)

	2020	2019	Change
Revenue	\$ 10,886	\$ 10,223	6 %
Operating profit	4,912	4,477	10 %
Operating profit % of revenue	45.1 %	43.8 %	

Analog revenue increased in both product lines about evenly. Operating profit increased due to higher revenue and associated gross profit.

Embedded Processing (includes microcontrollers and processors)

	2020	2019	Change
Revenue	\$ 2,570	\$ 2,943	(13)%
Operating profit	743	907	(18)%
Operating profit % of revenue	28.9 %	30.8 %	

Embedded Processing revenue decreased. Operating profit decreased due to lower revenue and associated gross profit.

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

	2020	2019	Change
Revenue	\$ 1,005	\$ 1,217	(17)%
Operating profit *	239	339	(29)%
Operating profit % of revenue	23.8 %	27.9 %	

* Includes acquisition charges and restructuring charges/other

Other revenue decreased \$212 million, and operating profit decreased \$100 million.

Financial condition

At the end of 2020, total cash (cash and cash equivalents plus short-term investments) was \$6.57 billion, an increase of \$1.18 billion from the end of 2019.

Accounts receivable were \$1.41 billion, an increase of \$340 million compared with the end of 2019. Days sales outstanding at the end of 2020 were 31 compared with 29 at the end of 2019.

Inventory was \$1.96 billion, a decrease of \$46 million from the end of 2019. Days of inventory at the end of 2020 were 123 compared with 144 at the end of 2019.

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 2020 were \$6.14 billion, a decrease of \$510 million primarily due to an increase in cash used for working capital, partially offset by higher net income.

Our revolving credit facility is with a consortium of investment-grade banks and allows us to borrow up to \$2 billion until March 2024. This credit facility also serves as support for the issuance of commercial paper. As of December 31, 2020, our credit facility was undrawn, and we had no commercial paper outstanding.

Investing activities for 2020 used \$922 million compared with \$1.92 billion in 2019. Capital expenditures were \$649 million compared with \$847 million in 2019 and were primarily for semiconductor manufacturing equipment and facilities in both periods. Short-term investments used cash of \$241 million in 2020 compared with \$1.14 billion in 2019.

Financing activities for 2020 used \$4.55 billion compared with \$4.73 billion in 2019. In 2020, 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 2019, we received net proceeds of \$1.49 billion from the issuance of fixed-rate, long-term debt and retired maturing debt of \$750 million. Dividends paid in 2020 were \$3.43 billion compared with \$3.01 billion in 2019, reflecting an increase in the dividend rate, partially offset by fewer shares outstanding. We used \$2.55 billion to repurchase 23.4 million shares of our common stock compared with \$2.96 billion used in 2019 to repurchase 27.4 million shares. Employee exercises of stock options provided cash proceeds of \$470 million compared with \$539 million in 2019.

We had \$3.11 billion of cash and cash equivalents and \$3.46 billion of short-term investments as of December 31, 2020. 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 measures is provided in the table below.

	For Years Ended December 31,	
	2020	2019
Cash flow from operations (GAAP)	\$ 6,139	\$ 6,649
Capital expenditures	(649)	(847)
Free cash flow (non-GAAP)	\$ 5,490	\$ 5,802
Revenue	\$ 14,461	\$ 14,383
Cash flow from operations as a percentage of revenue (GAAP)	42.5 %	46.2 %
Free cash flow as a percentage of revenue (non-GAAP)	38.0 %	40.3 %

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

Contractual Obligations	Payments Due by Period				
	2021	2022/2023	2024/2025	Thereafter	Total
Long-term debt (a)	\$ 726	\$ 1,326	\$ 1,337	\$ 6,172	\$ 9,561
Purchase commitments (b)	400	196	55	96	747
Transition tax on indefinitely reinvested earnings (c)	44	155	302	—	501
Operating leases (d)	76	98	59	138	371
Deferred compensation plans (e)	25	68	66	154	313
Total (f)	\$ 1,271	\$ 1,843	\$ 1,819	\$ 6,560	\$ 11,493

- (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. See Note 11 to the financial statements.
- (c) Includes payments for the one-time transition tax on our indefinitely reinvested earnings related to the 2017 enactment of the U.S. Tax Cuts and Jobs Act.
- (d) Includes minimum payments for leased facilities and equipment and purchases of industrial gases under contracts accounted for as operating leases. See Note 10 to the financial statements.
- (e) Estimated payments for certain liabilities that existed as of December 31, 2020.
- (f) Excludes \$89 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 \$10 million in 2021, but funding projections beyond 2021 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 U.S. GAAP 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.

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 interpretation and application of complex tax laws, and significant judgment is necessary to (i) determine whether, based on the technical merits, a tax position is more likely than not to be sustained and (ii) measure the amount of tax benefit that qualifies for recognition. 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 from 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. Our judgment regarding future recoverability of our deferred tax assets 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 adjustments to the deferred tax assets and an accompanying reduction or increase in net income in the period when such determinations are made.

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 considered 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, such as 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 regarding the status of new accounting and reporting standards.

Off-balance sheet arrangements

As of December 31, 2020, 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, which are based on year-end 2020 balances and currency exchange rates, a hypothetical 10% plus or minus fluctuation in non-U.S. currency exchange rates relative to the U.S. dollar would result in a pretax currency exchange gain or loss of approximately \$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. As of December 31, 2020, we had forward currency exchange contracts outstanding with a notional value of \$416 million to hedge net balance sheet exposures (including \$147 million to sell Japanese yen, \$85 million to sell euros and \$82 million to sell British pounds). Similar hedging activities existed at year-end 2019.

Interest rate risk

We have the following potential exposure to changes in interest rates: (i) 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 (ii) the effect of changes in interest rates on the fair value of our debt.

As of December 31, 2020, 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 \$9 million and decrease the fair value of our long-term debt by \$650 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 2020 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 certain deferred compensation liabilities. 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 6 to the financial statements for details of equity and other long-term investments.

We also utilize total return swaps to economically hedge exposure to changes in liabilities related to the equity market risks of certain deferred compensation arrangements with employees. Gains or losses from changes in the fair value of these total return swaps generally offset the related losses or gains on the deferred compensation liabilities.

ITEM 8. Financial statements and supplementary data

List of financial statements:

- Income for each of the three years in the period ended December 31, 2020
- Comprehensive income for each of the three years in the period ended December 31, 2020
- Balance sheets as of December 31, 2020 and 2019
- Cash flows for each of the three years in the period ended December 31, 2020
- Stockholders' equity for each of the three years in the period ended December 31, 2020

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**For Years Ended December 31,****(Millions of dollars, except share and per-share amounts)**

	2020	2019	2018
Revenue	\$ 14,461	\$ 14,383	\$ 15,784
Cost of revenue (COR)	5,192	5,219	5,507
Gross profit	9,269	9,164	10,277
Research and development (R&D)	1,530	1,544	1,559
Selling, general and administrative (SG&A)	1,623	1,645	1,684
Acquisition charges	198	288	318
Restructuring charges/other	24	(36)	3
Operating profit	5,894	5,723	6,713
Other income (expense), net (OI&E)	313	175	98
Interest and debt expense	190	170	125
Income before income taxes	6,017	5,728	6,686
Provision for income taxes	422	711	1,106
Net income	\$ 5,595	\$ 5,017	\$ 5,580

Earnings per common share (EPS):

Basic	\$ 6.05	\$ 5.33	\$ 5.71
Diluted	\$ 5.97	\$ 5.24	\$ 5.59

Average shares outstanding (millions):

Basic	921	936	970
Diluted	933	952	990

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	\$ 5,595	\$ 5,017	\$ 5,580
Income allocated to RSUs	(27)	(31)	(42)
Income allocated to common stock for diluted EPS	\$ 5,568	\$ 4,986	\$ 5,538

See accompanying notes.

Consolidated Statements of Comprehensive Income (Millions of dollars)	For Years Ended December 31,		
	2020	2019	2018
Net income	\$ 5,595	\$ 5,017	\$ 5,580
Other comprehensive income (loss)			
Net actuarial losses of defined benefit plans:			
Adjustments, net of tax effect of \$3, (\$37) and \$35	(41)	88	(98)
Recognized within net income, net of tax effect of (\$9), (\$13) and (\$15)	29	38	50
Prior service credit of defined benefit plans:			
Adjustments, net of tax effect of \$0, \$0 and \$1	—	—	(6)
Recognized within net income, net of tax effect of \$0, \$0 and \$1	(1)	—	(3)
Derivative instruments:			
Change in fair value, net of tax effect of \$0, \$0 and \$1	—	—	(2)
Other comprehensive income (loss), net of taxes	(13)	126	(59)
Total comprehensive income	\$ 5,582	\$ 5,143	\$ 5,521

See accompanying notes.

Consolidated Balance Sheets (Millions of dollars, except share amounts)	December 31,	
	2020	2019
Assets		
Current assets:		
Cash and cash equivalents	\$ 3,107	\$ 2,437
Short-term investments	3,461	2,950
Accounts receivable, net of allowances of (\$11) and (\$8)	1,414	1,074
Raw materials	180	176
Work in process	964	916
Finished goods	811	909
Inventories	1,955	2,001
Prepaid expenses and other current assets	302	299
Total current assets	10,239	8,761
Property, plant and equipment at cost	5,781	5,740
Accumulated depreciation	(2,512)	(2,437)
Property, plant and equipment	3,269	3,303
Long-term investments	49	300
Goodwill	4,362	4,362
Acquisition-related intangibles	152	340
Deferred tax assets	343	197
Capitalized software licenses	122	69
Overfunded retirement plans	246	218
Other long-term assets	569	468
Total assets	\$ 19,351	\$ 18,018
Liabilities and stockholders' equity		
Current liabilities:		
Current portion of long-term debt	\$ 550	\$ 500
Accounts payable	415	388
Accrued compensation	767	714
Income taxes payable	134	46
Accrued expenses and other liabilities	524	475
Total current liabilities	2,390	2,123
Long-term debt	6,248	5,303
Underfunded retirement plans	131	93
Deferred tax liabilities	90	78
Other long-term liabilities	1,305	1,514
Total liabilities	10,164	9,111
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	2,333	2,110
Retained earnings	42,051	39,898
Treasury common stock at cost		
Shares: 2020 – 821,461,787; 2019 – 808,784,381	(36,578)	(34,495)
Accumulated other comprehensive income (loss), net of taxes (AOCI)	(360)	(347)
Total stockholders' equity	9,187	8,907
Total liabilities and stockholders' equity	\$ 19,351	\$ 18,018

See accompanying notes.

Consolidated Statements of Cash Flows (Millions of dollars)	For Years Ended December 31,		
	2020	2019	2018
Cash flows from operating activities			
Net income	\$ 5,595	\$ 5,017	\$ 5,580
Adjustments to net income:			
Depreciation	733	708	590
Amortization of acquisition-related intangibles	198	288	318
Amortization of capitalized software	61	54	46
Stock compensation	224	217	232
Gains on sales of assets	(4)	(23)	(3)
Deferred taxes	(137)	81	(105)
Increase (decrease) from changes in:			
Accounts receivable	(340)	133	71
Inventories	46	216	(282)
Prepaid expenses and other current assets	(79)	265	669
Accounts payable and accrued expenses	63	(93)	(7)
Accrued compensation	63	(15)	(7)
Income taxes payable	(181)	(193)	158
Changes in funded status of retirement plans	(9)	29	36
Other	(94)	(35)	(107)
Cash flows from operating activities	<u>6,139</u>	<u>6,649</u>	<u>7,189</u>
Cash flows from investing activities			
Capital expenditures	(649)	(847)	(1,131)
Proceeds from asset sales	4	30	9
Purchases of short-term investments	(5,786)	(3,444)	(5,641)
Proceeds from short-term investments	5,545	2,309	6,708
Other	(36)	32	(23)
Cash flows from investing activities	<u>(922)</u>	<u>(1,920)</u>	<u>(78)</u>
Cash flows from financing activities			
Proceeds from issuance of long-term debt	1,498	1,491	1,500
Repayment of debt	(500)	(750)	(500)
Dividends paid	(3,426)	(3,008)	(2,555)
Stock repurchases	(2,553)	(2,960)	(5,100)
Proceeds from common stock transactions	470	539	373
Other	(36)	(42)	(47)
Cash flows from financing activities	<u>(4,547)</u>	<u>(4,730)</u>	<u>(6,329)</u>
Net change in cash and cash equivalents	670	(1)	782
Cash and cash equivalents at beginning of period	2,437	2,438	1,656
Cash and cash equivalents at end of period	<u>\$ 3,107</u>	<u>\$ 2,437</u>	<u>\$ 2,438</u>

See accompanying notes.

Consolidated Statements of Stockholders' Equity	Common Stock	Paid-in Capital	Retained Earnings	Treasury Common Stock	AOCI
(Millions of dollars, except per-share amounts)					
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 on RSUs	—	—	(17)	—	—
Cumulative effect of accounting changes	—	—	236	—	(30)
Other	—	(3)	—	—	—
Balance, December 31, 2018	1,741	1,950	37,906	(32,130)	(473)
2019					
Net income	—	—	5,017	—	—
Dividends declared and paid (\$3.21 per share)	—	—	(3,008)	—	—
Common stock issued for stock-based awards	—	(55)	—	594	—
Stock repurchases	—	—	—	(2,960)	—
Stock compensation	—	217	—	—	—
Other comprehensive income (loss), net of taxes	—	—	—	—	126
Dividend equivalents on RSUs	—	—	(17)	—	—
Other	—	(2)	—	1	—
Balance, December 31, 2019	1,741	2,110	39,898	(34,495)	(347)
2020					
Net income	—	—	5,595	—	—
Dividends declared and paid (\$3.72 per share)	—	—	(3,426)	—	—
Common stock issued for stock-based awards	—	—	—	470	—
Stock repurchases	—	—	—	(2,553)	—
Stock compensation	—	224	—	—	—
Other comprehensive income (loss), net of taxes	—	—	—	—	(13)
Dividend equivalents on RSUs	—	—	(16)	—	—
Other	—	(1)	—	—	—
Balance, December 31, 2020	\$ 1,741	\$ 2,333	\$ 42,051	\$ (36,578)	\$ (360)

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, Analog and Embedded Processing, each of which represents groups of similar products that are combined on the basis of similar design and development requirements, product characteristics, manufacturing processes and distribution channels.

- 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 are also 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 using a battery. Our Analog segment consists of two major product lines: Power and Signal Chain.
- Embedded Processing products are the digital “brains” of many types of electronic equipment. They are designed to handle specific tasks and can be optimized for various combinations of performance, power and cost, depending on the application.

During 2020, we reorganized the product lines within our Analog segment to simplify our business structure into our Power and Signal Chain product lines. These changes had no effect on either our previously reported consolidated financial statements or our reportable segment results.

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 7); 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 in the summary of significant accounting policies and practices.

Segment information

	For Years Ended December 31,		
	2020	2019	2018
Revenue:			
Analog	\$ 10,886	\$ 10,223	\$ 10,801
Embedded Processing	2,570	2,943	3,554
Other	1,005	1,217	1,429
Total revenue	<u>\$ 14,461</u>	<u>\$ 14,383</u>	<u>\$ 15,784</u>
Operating profit:			
Analog	\$ 4,912	\$ 4,477	\$ 5,109
Embedded Processing	743	907	1,205
Other	239	339	399
Total operating profit	<u>\$ 5,894</u>	<u>\$ 5,723</u>	<u>\$ 6,713</u>

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 geographic revenue information does not necessarily reflect end demand by geography because our products tend to be shipped to the locations where our customers manufacture their products.

	For Years Ended December 31,		
	2020	2019	2018
Revenue:			
United States	\$ 1,547	\$ 1,827	\$ 2,288
Asia (a)	9,541	8,650	9,240
Europe, Middle East and Africa	2,249	2,707	3,047
Japan	734	796	869
Rest of world	390	403	340
Total revenue	<u>\$ 14,461</u>	<u>\$ 14,383</u>	<u>\$ 15,784</u>

- (a) Revenue from products shipped into China was \$8.0 billion, \$7.2 billion and \$7.0 billion in 2020, 2019 and 2018, respectively, which includes shipments to customers that manufacture in China and then export end products to their customers around the world, as well as distributors that transship inventory through China to service other countries.

	December 31,	
	2020	2019
Property, plant and equipment:		
United States	\$ 2,036	\$ 1,998
Asia (a)	1,005	1,046
Europe, Middle East and Africa	52	63
Japan	165	185
Rest of world	11	11
Total property, plant and equipment	<u>\$ 3,269</u>	<u>\$ 3,303</u>

- (a) Property, plant and equipment at our two sites in the Philippines was \$333 million and \$394 million as of December 31, 2020 and 2019, respectively. Property, plant and equipment at our sites in China was \$370 million and \$304 million as of December 31, 2020 and 2019, 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.

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 2020 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. 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. Delivery and transfer of control occur 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 an allowance for credit losses on 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 credit losses 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 \$28 million, \$30 million and \$34 million in 2020, 2019 and 2018, 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 related to 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.

Leases

We determine if an arrangement is a lease at inception. Leases are included in other long-term assets, accrued expenses and other liabilities, and other long-term liabilities on our Consolidated Balance Sheets.

Lease assets represent our right to use underlying assets for the lease term, and lease liabilities represent our obligations to make lease payments over the lease term. On the commencement date, leases are evaluated for classification, and assets and liabilities are recognized based on the present value of lease payments over the lease term. We use our incremental borrowing rate based on the information available at commencement in determining the present value of lease payments. Operating lease expense is generally recognized on a straight-line basis over the lease term. Our lease values include options to extend or not to terminate the lease when it is reasonably certain that we will exercise such options.

We have agreements with lease and non-lease components, which are accounted for as a single lease component. Leases with an initial lease term of 12 months or less are not recorded on the balance sheet; we recognize lease expense for these leases on a straight-line basis over the lease term.

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.

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

	For Years Ended December 31,								
	2020			2019			2018		
	Net Income	Shares	EPS	Net Income	Shares	EPS	Net Income	Shares	EPS
Basic EPS:									
Net income	\$ 5,595			\$ 5,017			\$ 5,580		
Income allocated to RSUs	(27)			(32)			(43)		
Income allocated to common stock	<u>\$ 5,568</u>	<u>921</u>	<u>\$ 6.05</u>	<u>\$ 4,985</u>	<u>936</u>	<u>\$ 5.33</u>	<u>\$ 5,537</u>	<u>970</u>	<u>\$ 5.71</u>
Dilutive effect of stock compensation plans		12			16			20	
Diluted EPS:									
Net income	\$ 5,595			\$ 5,017			\$ 5,580		
Income allocated to RSUs	(27)			(31)			(42)		
Income allocated to common stock	<u>\$ 5,568</u>	<u>933</u>	<u>\$ 5.97</u>	<u>\$ 4,986</u>	<u>952</u>	<u>\$ 5.24</u>	<u>\$ 5,538</u>	<u>990</u>	<u>\$ 5.59</u>

Potentially dilutive securities representing 4 million, 6 million and 4 million shares of common stock that were outstanding in 2020, 2019 and 2018 respectively, were excluded from the computation of diluted earnings per common share during these periods because their effect would have been anti-dilutive.

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 6 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.

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 7 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.

We are exposed to variability in compensation charges related to certain deferred compensation obligations to employees. We use total return swaps to economically hedge this exposure and offset the related compensation expense, recognizing changes in the value of the swaps and the related deferred compensation liabilities in SG&A.

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

We adopted the following Accounting Standards Updates (ASU) during the current period, none of which had a material impact on our financial position or results of operations.

ASU	Description	Adopted Date
ASU No. 2016-13	<i>Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments</i>	January 1, 2020
ASU No. 2018-13	<i>Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement</i>	January 1, 2020
ASU No. 2018-15	<i>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</i>	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, issued on the vesting date, which is generally four years after the date of grant. 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 director deferred compensation accounts.

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% of the fair market value on the exercise date.

Total stock compensation expense recognized is as follows:

	For Years Ended December 31,		
	2020	2019	2018
COR	\$ 21	\$ 21	\$ 25
R&D	68	66	69
SG&A	135	130	138
Total	<u>\$ 224</u>	<u>\$ 217</u>	<u>\$ 232</u>

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,		
	2020	2019	2018
Weighted average grant date fair value, per share	\$ 25.55	\$ 22.08	\$ 23.20
Weighted average assumptions used:			
Expected volatility	26 %	26 %	23 %
Expected lives (in years)	6.8	7.1	7.2
Risk-free interest rates	1.53 %	2.66 %	2.57 %
Expected dividend yields	2.76 %	2.95 %	2.25 %

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, 2019	32,493,944	\$ 66.57	5,897,800	\$ 79.62
Granted	4,253,606	130.48	1,005,778	130.59
Stock options exercised/RSUs vested	(8,392,354)	53.28	(2,034,933)	53.88
Forfeited and expired	(359,919)	111.06	(157,021)	103.90
Outstanding grants, December 31, 2020	27,995,277	79.69	4,711,624	100.80

The weighted average grant date fair values per share of RSUs granted in 2020, 2019 and 2018 were \$130.59, \$106.58 and \$110.05, respectively. In 2020, 2019 and 2018, the total grant date fair values of shares vested from RSU grants were \$110 million, \$125 million and \$123 million, respectively.

As of December 31, 2020, the number of shares remaining available for future issuance under these plans was 40,334,683.

Summarized information about stock options outstanding as of December 31, 2020, is as follows:

Exercise Price Range	Stock Options Outstanding			Options Exercisable	
	Number Outstanding (Shares)	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price per Share	Number Exercisable (Shares)	Weighted Average Exercise Price per Share
\$ 28.13 to 161.98	27,995,277	5.8	\$ 79.69	17,221,451	\$ 59.33

In 2020, 2019 and 2018, 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 \$681 million, \$819 million and \$561 million, respectively.

Summarized information as of December 31, 2020, 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)	27,596,705	17,221,451
Weighted average remaining contractual life (in years)	5.8	4.4
Weighted average exercise price per share	\$ 79.13	\$ 59.33
Intrinsic value (millions of dollars)	\$ 2,346	\$ 1,805

(a) Includes effects of expected forfeitures. Excluding the effects of expected forfeitures, the aggregate intrinsic value of stock options outstanding was \$2.36 billion.

As of December 31, 2020, total future compensation related to equity awards not yet recognized in our Consolidated Statements of Income was \$237 million, consisting of \$103 million related to unvested stock options and \$134 million related to unvested RSUs. The \$237 million is expected to be recognized as follows: \$115 million in 2021, \$77 million in 2022, \$40 million in 2023 and \$5 million in 2024.

Employee stock purchase plan

Options outstanding under the ESPP as of December 31, 2020, had an exercise price equal to 85% of the fair market value of TI common stock on the date of automatic exercise. The automatic exercise occurred on January 4, 2021, resulting in an exercise price of \$137.89 per share. Of the total outstanding options, none were exercisable as of December 31, 2020.

ESPP transactions are as follows:

	Shares	Exercise Price
Outstanding grants, December 31, 2019	173,849	\$ 110.14
Granted	714,680	108.74
Exercised	(745,483)	103.48
Outstanding grants, December 31, 2020	143,046	137.89

The weighted average grant date fair values per share of options granted under the ESPP in 2020, 2019 and 2018 were \$19.19, \$18.05 and \$15.43, respectively. In 2020, 2019 and 2018, the total intrinsic value of options exercised under these plans was \$14 million, \$13 million and \$13 million, respectively.

As of December 31, 2020, the number of shares remaining available for future issuance under this plan was 33,097,602.

Effect on shares outstanding and treasury shares

Treasury shares were acquired in connection with the board-authorized stock repurchase program. As of December 31, 2020, \$10.63 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:

	<u>Stock Options</u>	<u>RSUs</u>	<u>Treasury Shares</u>
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	<u>(9,252,336)</u>	<u>(2,216,274)</u>	(11,468,610)
Balance, December 31, 2018			795,665,646
Repurchases			27,398,701
Shares used for:			
Stock options/RSUs	(11,529,174)	(2,370,762)	
Stock applied to taxes	—	490,347	
ESPP	(798,806)	—	
Director deferred stock units	—	—	(71,571)
Total issued	<u>(12,327,980)</u>	<u>(1,880,415)</u>	(14,208,395)
Balance, December 31, 2019			808,784,381
Repurchases			23,430,215
Shares used for:			
Stock options/RSUs	(8,392,354)	(2,034,933)	
Stock applied to taxes	—	421,518	
ESPP	(745,483)	—	
Director deferred stock units	—	—	(1,557)
Total issued	<u>(9,137,837)</u>	<u>(1,613,415)</u>	(10,751,252)
Balance, December 31, 2020			<u>821,461,787</u>

The effects on cash flows are as follows:

	<u>For Years Ended December 31,</u>		
	<u>2020</u>	<u>2019</u>	<u>2018</u>
Proceeds from common stock transactions (a)	\$ 470	\$ 539	\$ 373
Tax benefit realized from stock compensation	\$ 195	\$ 224	\$ 179
Reduction to deferred tax asset	(44)	(49)	(43)
Excess tax benefit for stock compensation	<u>\$ 151</u>	<u>\$ 175</u>	<u>\$ 136</u>

(a) Net of taxes paid for employee shares withheld of \$53 million, \$52 million and \$60 million in 2020, 2019 and 2018, respectively.

4. Income taxes

Income before income taxes is comprised of the following components:

	For Years Ended December 31,		
	2020	2019	2018
U.S.	\$ 5,210	\$ 4,915	\$ 5,672
Non-U.S.	807	813	1,014
Total	<u>\$ 6,017</u>	<u>\$ 5,728</u>	<u>\$ 6,686</u>

Provision for income taxes is comprised of the following components:

	For Years Ended December 31,								
	2020			2019			2018		
	Current	Deferred	Total	Current	Deferred	Total	Current	Deferred	Total
U.S. federal	\$ 357	\$ (122)	\$ 235	\$ 483	\$ 25	\$ 508	\$ 979	\$ (98)	\$ 881
Non-U.S.	192	(15)	177	135	56	191	225	(8)	217
U.S. state	10	—	10	12	—	12	7	1	8
Total	<u>\$ 559</u>	<u>\$ (137)</u>	<u>\$ 422</u>	<u>\$ 630</u>	<u>\$ 81</u>	<u>\$ 711</u>	<u>\$ 1,211</u>	<u>\$ (105)</u>	<u>\$ 1,106</u>

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,		
	2020	2019	2018
U.S. statutory income tax rate	21.0 %	21.0 %	21.0 %
U.S. tax benefit for foreign derived intangible income	(6.1)	(4.9)	(5.3)
Impact of changes in uncertain tax positions	(4.0)	(0.1)	—
U.S. excess tax benefit for stock compensation	(2.5)	(3.1)	(2.0)
U.S. R&D tax credit	(1.3)	(1.4)	(1.3)
U.S. Tax Act transitional non-cash expense	—	—	4.2
Other	(0.1)	0.9	(0.1)
Effective tax rate	<u>7.0 %</u>	<u>12.4 %</u>	<u>16.5 %</u>

The earnings represented by non-cash operating assets, such as fixed assets and inventory, will continue to be permanently reinvested outside the United States. Provisions of the U.S. Tax Cuts and Jobs Act (the Tax Act), such as the one-time tax on indefinitely reinvested earnings and the global intangible low-taxed income (GILTI) tax for years beginning in 2018, eliminate any additional U.S. taxation resulting from repatriation of earnings of non-U.S. subsidiaries to the United States. Consequently, no U.S. tax provision has been made for the future remittance of these earnings. However, withholding or distribution 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 repatriation of the available cash to the United States is expected to result in a tax liability. As of December 31, 2020, we have no basis differences that would result in material unrecognized deferred tax liabilities.

We have made an allowable policy election to account for the effects of GILTI as a component of income tax expense in the period in which the tax is incurred.

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

	December 31,	
	2020	2019
Deferred tax assets:		
Deferred loss and tax credit carryforwards	\$ 207	\$ 213
Accrued expenses	180	182
Stock compensation	106	109
Inventories and related reserves	105	109
Retirement costs for defined benefit and retiree health care	44	49
Other	3	—
Total deferred tax assets, before valuation allowance	645	662
Valuation allowance	(179)	(180)
Total deferred tax assets, after valuation allowance	466	482
Deferred tax liabilities:		
Property, plant and equipment	(116)	(164)
International earnings	(44)	(62)
Acquisition-related intangibles and fair-value adjustments	(40)	(82)
Other	(13)	(55)
Total deferred tax liabilities	(213)	(363)
Net deferred tax asset	\$ 253	\$ 119

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

	December 31,	
	2020	2019
Deferred tax assets	\$ 343	\$ 197
Deferred tax liabilities	(90)	(78)
Net deferred tax asset	\$ 253	\$ 119

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 decreased \$1 million in 2020 and increased \$8 million and \$7 million in 2019 and 2018, respectively. These changes had no impact to net income in 2020, 2019 or 2018.

We have no tax loss carryforwards as of December 31, 2020.

Cash payments made for income taxes, net of refunds, were \$720 million, \$570 million and \$705 million in 2020, 2019 and 2018, 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:

	2020	2019	2018
Balance, January 1	\$ 303	\$ 286	\$ 300
Additions based on tax positions related to the current year	3	3	3
Additions for tax positions of prior years	35	63	1
Reductions for tax positions of prior years	(249)	(41)	—
Settlements with tax authorities	—	(8)	(18)
Expiration of the statute of limitations for assessing taxes	(3)	—	—
Balance, December 31	<u>\$ 89</u>	<u>\$ 303</u>	<u>\$ 286</u>
Interest income (expense) recognized in the year ended December 31	<u>\$ 39</u>	<u>\$ 9</u>	<u>\$ (15)</u>
Interest payable as of December 31	<u>\$ 8</u>	<u>\$ 44</u>	<u>\$ 49</u>

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

All of the \$89 million and \$303 million liabilities for uncertain tax positions as of December 31, 2020 and 2019, respectively, are comprised of positions that, if recognized, would lower the effective tax rate. If these liabilities are ultimately realized, \$2 million of existing deferred tax assets in both 2020 and 2019 would also be realized. Reductions for tax positions of prior years in 2020 include a \$249 million tax benefit for the effective settlement of a depreciation-related uncertain tax position. Accrued interest of \$46 million related to this uncertain tax position was reversed and included in OI&E.

As of December 31, 2020, 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 2015 have been completed except for certain pending tax treaty procedures for relief from double taxation and an Internal Revenue Service appeals process related to the 2013 through 2015 audit. The procedures for relief from double taxation pertain to U.S. federal tax returns for the years 2007 through 2012.

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.

5. 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, 2020. Our forward foreign currency exchange contracts outstanding as of December 31, 2020, had a notional value of \$416 million to hedge our non-U.S. dollar net balance sheet exposures, including \$147 million to sell Japanese yen, \$85 million to sell euros and \$82 million to sell British pounds.

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. As of December 31, 2020, the carrying value of long-term debt, including the current portion, was \$6.80 billion, and the estimated fair value was \$7.78 billion. The estimated fair value is measured using broker-dealer quotes, which are Level 2 inputs. See Note 6 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 credit losses. These allowances are deducted from accounts receivable on our Consolidated Balance Sheets.

Accounts receivable allowances changed to reflect amounts charged (credited) to operating results by \$3 million, (\$11) million and \$11 million in 2020, 2019 and 2018, respectively.

Major customer

One of our end customers accounted for 10%, 8% and 8% of revenue in 2020, 2019 and 2018, respectively, recognized primarily in our Analog segment. No end customer accounted for 10% or more of revenue in 2019 or 2018.

6. Valuation of debt and equity investments and certain liabilities

Investments measured at fair value

Available-for-sale debt investments, money market funds and mutual funds are stated at fair value, which is generally based on market prices or broker quotes. See *Fair-value considerations*. 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, and any credit losses on available-for-sale debt securities are recorded as an allowance for credit losses with an offset recognized in OI&E in our Consolidated Statements of Income.

Our 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 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. Gains and losses on non-marketable equity investments are recognized in OI&E.

Details of our investments are as follows:

	December 31, 2020			December 31, 2019		
	Cash and Cash Equivalents	Short-Term Investments	Long-Term Investments	Cash and Cash Equivalents	Short-Term Investments	Long-Term Investments
Measured at fair value:						
Money market funds	\$ 886	\$ —	\$ —	\$ 1,213	\$ —	\$ —
Corporate obligations	256	407	—	174	1,216	—
U.S. government agency and Treasury securities	1,340	3,054	—	604	1,734	—
Mutual funds	—	—	18	—	—	272
Total	2,482	3,461	18	1,991	2,950	272
Other measurement basis:						
Equity-method investments	—	—	27	—	—	24
Non-marketable equity investments	—	—	4	—	—	4
Cash on hand	625	—	—	446	—	—
Total	\$ 3,107	\$ 3,461	\$ 49	\$ 2,437	\$ 2,950	\$ 300

As of December 31, 2020 and 2019, 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 2020, 2019 or 2018. All of our debt securities classified as available for sale as of December 31, 2020, have maturities within one year.

In 2020, 2019 and 2018, the proceeds from sales, redemptions and maturities of short-term available-for-sale investments were \$5.29 billion, \$2.31 billion and \$6.71 billion, respectively. Gross realized gains and losses from these sales were not material.

In 2020, we entered into total return swaps to economically hedge the variability of certain deferred compensation obligations to employees. As a result, we received proceeds of \$253 million from the sale of investments in mutual funds that were previously being utilized to offset this exposure.

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 described 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, 2020 and 2019, we had no Level 3 assets or liabilities.

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, 2020			December 31, 2019		
	Level 1	Level 2	Total	Level 1	Level 2	Total
Assets:						
Money market funds	\$ 886	\$ —	\$ 886	\$ 1,213	\$ —	\$ 1,213
Corporate obligations	—	663	663	—	1,390	1,390
U.S. government agency and Treasury securities	4,394	—	4,394	2,338	—	2,338
Mutual funds	18	—	18	272	—	272
Total assets	\$ 5,298	\$ 663	\$ 5,961	\$ 3,823	\$ 1,390	\$ 5,213
Liabilities:						
Deferred compensation	\$ 350	\$ —	\$ 350	\$ 298	\$ —	\$ 298
Total liabilities	\$ 350	\$ —	\$ 350	\$ 298	\$ —	\$ 298

7. Goodwill and acquisition-related intangibles

Goodwill by segment as of December 31, 2020 and 2019, is as follows:

	Goodwill
Analog	\$ 4,158
Embedded Processing	172
Other	32
Total	<u>\$ 4,362</u>

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 6. In 2020, 2019 and 2018, we determined no impairment was indicated.

The components of acquisition-related intangibles are as follows:

	Amortization Period (Years)	December 31, 2020			December 31, 2019		
		Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Developed technology	8 – 10	\$ 1,895	\$ 1,753	\$ 142	\$ 2,000	\$ 1,660	\$ 340
Other intangibles	5	10	—	10	—	—	—
Total		<u>\$ 1,905</u>	<u>\$ 1,753</u>	<u>\$ 152</u>	<u>\$ 2,000</u>	<u>\$ 1,660</u>	<u>\$ 340</u>

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 \$198 million, \$288 million and \$318 million in 2020, 2019 and 2018, respectively. Fully amortized assets are written off against accumulated amortization. The remaining estimated amortization is \$144 million in 2021.

8. 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.

Both defined contribution plans offer an employer-matching savings option that allows employees to make pretax 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% 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% of the employee's annual eligible earnings, plus an employer-matching contribution of up to 4% of the employee's annual eligible earnings. Employees hired after December 31, 2003, do not receive the fixed employer contribution of 2% of the employee's annual eligible earnings.

As of December 31, 2020 and 2019, as a result of employees' elections, TI's U.S. defined contribution plans held shares of TI common stock totaling 7 million shares and 8 million shares valued at \$1.12 billion and \$988 million, respectively. Dividends paid on these shares in 2020 and 2019 were \$27 million and \$26 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 2020, 2019 and 2018.

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 on 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, 2020 and 2019, as a result of employees' elections, TI's non-U.S. defined contribution plans held TI common stock valued at \$36 million and \$28 million, respectively. Dividends paid on these shares of TI common stock in 2020 and 2019 were not material.

Effects on our Consolidated Statements of Income and Balance Sheets

Expenses related to 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		
	2020	2019	2018	2020	2019	2018	2020	2019	2018
Service cost	\$ 18	\$ 18	\$ 19	\$ 3	\$ 3	\$ 5	\$ 34	\$ 31	\$ 36
Interest cost	31	38	35	13	14	15	38	43	45
Expected return on plan assets	(36)	(41)	(42)	(12)	(14)	(15)	(78)	(86)	(67)
Amortization of prior service cost (credit)	—	—	—	(2)	(1)	(3)	1	1	(1)
Recognized net actuarial loss	7	9	17	—	—	2	14	29	20
Net periodic benefit costs	20	24	29	2	2	4	9	18	33
Settlement losses	16	10	23	—	—	—	1	3	3
Total, including other postretirement losses	\$ 36	\$ 34	\$ 52	\$ 2	\$ 2	\$ 4	\$ 10	\$ 21	\$ 36

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	
	2020	2019	2020	2019	2020	2019
Change in plan benefit obligation						
Benefit obligation at beginning of year:	\$ 960	\$ 874	\$ 359	\$ 361	\$ 2,581	\$ 2,411
Service cost	18	18	3	3	34	31
Interest cost	31	38	13	14	38	43
Participant contributions	—	—	13	13	7	7
Benefits paid	(12)	(11)	(39)	(41)	(95)	(103)
Settlements	(94)	(66)	—	—	(8)	(12)
Curtailments	—	—	—	—	—	(1)
Actuarial loss (gain)	194	107	40	9	143	193
Plan amendments	—	—	—	—	1	—
Effects of exchange rate changes	—	—	—	—	167	12
Benefit obligation at end of year	\$ 1,097	\$ 960	\$ 389	\$ 359	\$ 2,868	\$ 2,581
Change in plan assets						
Fair value of plan assets at beginning of year:	\$ 987	\$ 869	\$ 356	\$ 330	\$ 2,661	\$ 2,410
Actual return on plan assets	164	185	58	53	260	337
Employer contributions (qualified plans)	—	—	1	1	11	9
Employer contributions (non-qualified plans)	16	10	—	—	—	—
Participant contributions	—	—	13	13	7	7
Benefits paid	(12)	(11)	(39)	(41)	(95)	(103)
Settlements	(94)	(66)	—	—	(8)	(12)
Effects of exchange rate changes	—	—	—	—	172	13
Fair value of plan assets at end of year	\$ 1,061	\$ 987	\$ 389	\$ 356	\$ 3,008	\$ 2,661
Funded status at end of year	\$ (36)	\$ 27	\$ —	\$ (3)	\$ 140	\$ 80

The actuarial loss (gain) for all pension plans was primarily related to a change in the discount rate used to measure the benefit obligations of those plans in 2020 and 2019.

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
2020				
Overfunded retirement plans	\$ 9	\$ 3	\$ 234	\$ 246
Accrued expenses and other liabilities & other long-term liabilities	(6)	—	(5)	(11)
Underfunded retirement plans	(39)	(3)	(89)	(131)
Funded status at end of 2020	\$ (36)	\$ —	\$ 140	\$ 104
2019				
Overfunded retirement plans	\$ 73	\$ —	\$ 145	\$ 218
Accrued expenses and other liabilities & other long-term liabilities	(17)	—	(4)	(21)
Underfunded retirement plans	(29)	(3)	(61)	(93)
Funded status at end of 2019	\$ 27	\$ (3)	\$ 80	\$ 104

Contributions to the plans meet or exceed all minimum funding requirements. We expect to contribute about \$10 million to our retirement benefit plans in 2021.

Accumulated benefit obligations, which are generally less than the projected benefit obligations as they exclude the impact of future salary increases, were \$992 million and \$878 million as of December 31, 2020 and 2019, respectively, for the U.S. defined benefit plans, and \$2.72 billion and \$2.46 billion as of December 31, 2020 and 2019, 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, 2019	\$ 91	\$ (3)	\$ (4)		\$ 259	\$ 2	\$ 347	\$ (2)
Changes in AOCI by category:								
Adjustments	66	(6)	—		(16)	—	44	—
Recognized within net income	(23)	—	2		(15)	(1)	(38)	1
Tax effect	(9)	1	—		14	—	6	—
Total change to AOCI	34	(5)	2		(17)	(1)	12	1
AOCI balance, net of taxes, December 31, 2020	\$ 125	\$ (8)	\$ (2)		\$ 242	\$ 1	\$ 359	\$ (1)

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 6.

	December 31, 2020			
	Level 1	Level 2	Other (a)	Total
Assets of U.S. defined benefit plan:				
Fixed income securities and cash equivalents	\$ —	\$ —	\$ 743	\$ 743
Equity securities	—	—	318	318
Total	\$ —	\$ —	\$ 1,061	\$ 1,061
Assets of U.S. retiree health care plan:				
Fixed income securities and cash equivalents	\$ 29	\$ —	\$ 222	\$ 251
Equity securities	—	—	138	138
Total	\$ 29	\$ —	\$ 360	\$ 389
Assets of non-U.S. defined benefit plans:				
Fixed income securities and cash equivalents	\$ 69	\$ 146	\$ 2,063	\$ 2,278
Equity securities	43	2	685	730
Total	\$ 112	\$ 148	\$ 2,748	\$ 3,008

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

	December 31, 2019			
	Level 1	Level 2	Other (a)	Total
Assets of U.S. defined benefit plan:				
Fixed income securities and cash equivalents	\$ —	\$ —	\$ 640	\$ 640
Equity securities	—	—	347	347
Total	\$ —	\$ —	\$ 987	\$ 987
Assets of U.S. retiree health care plan:				
Fixed income securities and cash equivalents	\$ 62	\$ —	\$ 168	\$ 230
Equity securities	—	—	126	126
Total	\$ 62	\$ —	\$ 294	\$ 356
Assets of non-U.S. defined benefit plans:				
Fixed income securities and cash equivalents	\$ 59	\$ 126	\$ 1,762	\$ 1,947
Equity securities	41	2	671	714
Total	\$ 100	\$ 128	\$ 2,433	\$ 2,661

(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.

Assumptions and investment policies

	U.S. Defined Benefit		U.S. Retiree Health Care		Non-U.S. Defined Benefit	
	2020	2019	2020	2019	2020	2019
Weighted average assumptions used to determine benefit obligations:						
Discount rate	2.81%	3.62%	2.74%	3.63%	1.31%	1.46%
Long-term pay progression	3.70%	3.30%	n/a	n/a	3.15%	3.06%
Weighted average assumptions used to determine net periodic benefit cost:						
Discount rate	3.42%	4.35%	3.63%	4.30%	1.46%	1.85%
Long-term rate of return on plan assets	4.00%	4.90%	3.50%	4.40%	2.93%	3.62%
Long-term pay progression	3.30%	3.30%	n/a	n/a	3.06%	3.03%

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 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% – 80%	65% – 80%	60% – 100%
Equity securities	20% – 35%	20% – 35%	0% – 40%

We rebalance the plans' investments when they are outside 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	
	2020	2019	2020	2019	2020	2019
Fixed income securities and cash equivalents	70%	65%	65%	65%	76%	73%
Equity securities	30%	35%	35%	35%	24%	27%

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.

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.

	2021	2022	2023	2024	2025	2026 – 2030
U.S. Defined Benefit	\$ 95	\$ 137	\$ 102	\$ 100	\$ 102	\$ 490
U.S. Retiree Health Care	29	28	27	26	25	113
Non-U.S. Defined Benefit	99	102	102	105	106	558

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

	2020	2019
Assumed health care cost trend rate for next year	6.75%	7.00%
Ultimate trend rate	5.00%	5.00%
Year in which ultimate trend rate is reached	2028	2028

Deferred compensation plans

We have deferred compensation plans that allow 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 these plans 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, 2020, our liability to participants of the deferred compensation plans was \$350 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. We utilize total return swaps and investments in mutual funds that serve as economic hedges of our exposure to changes in the fair value of these liabilities. We record changes in the fair value of the liability and the related total return swaps and mutual funds in SG&A, as discussed in Note 6. As of December 31, 2020, we held \$18 million in mutual funds related to these plans that are recorded in long-term investments on our Consolidated Balance Sheets.

9. 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, 2020, 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 2024. 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, 2020, our credit facility was undrawn, and we had no commercial paper outstanding.

Long-term debt

In March 2020, we issued a principal amount of \$750 million of fixed-rate, long-term debt due in 2025. We incurred \$4 million of issuance costs. The proceeds of the offering were \$749 million, net of the original issuance discount, and were used for general corporate purposes and the repayment of maturing debt.

In April 2020, we retired \$500 million of maturing debt.

In May 2020, we issued a principal amount of \$750 million of fixed-rate, long-term debt due in 2030. We incurred \$5 million of issuance costs. The proceeds of the offering were \$749 million, net of the original issuance discount, and were used for general corporate purposes.

In March 2019, we issued a principal amount of \$750 million of fixed-rate, long-term debt due in 2039. We incurred \$7 million of issuance costs. The proceeds of the offering were \$743 million, net of the original issuance discount, and were used for general corporate purposes.

In August 2019, we retired \$750 million of maturing debt.

In September 2019, we issued a principal amount of \$750 million of fixed-rate, long-term debt due in 2029. We incurred \$5 million of issuance costs. The proceeds of the offering were \$748 million, net of the original issuance discount, and were used for general corporate purposes.

In May 2018, we retired \$500 million of maturing debt.

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.

Long-term debt outstanding is as follows:

	December 31,	
	2020	2019
Notes due 2020 at 1.75%	\$ —	\$ 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 2025 at 1.375%	750	—
Notes due 2027 at 2.90%	500	500
Notes due 2029 at 2.25%	750	750
Notes due 2030 at 1.75%	750	—
Notes due 2039 at 3.875%	750	750
Notes due 2048 at 4.15%	1,500	1,500
Total debt	6,850	5,850
Net unamortized discounts, premiums and issuance costs	(52)	(47)
Total debt, including net unamortized discounts, premiums and issuance costs	6,798	5,803
Current portion of long-term debt	(550)	(500)
Long-term debt	\$ 6,248	\$ 5,303

Interest and debt expense was \$190 million, \$170 million and \$125 million in 2020, 2019 and 2018, respectively. This was net of the amortized discounts, premiums and issuance costs. Cash payments for interest on long-term debt were \$182 million, \$156 million and \$114 million in 2020, 2019 and 2018, respectively. Capitalized interest was not material.

10. 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 renewal provisions and require us to pay real estate taxes, insurance and maintenance costs.

Our leases are included as a component of the following balance sheet lines:

	December 31,	
	2020	2019
Other long-term assets	\$ 319	\$ 337
Accrued expenses and other liabilities	72	73
Other long-term liabilities	249	259

Details of our operating leases are as follows:

	For Years Ended December 31,	
	2020	2019
Lease cost related to lease liabilities	\$ 70	\$ 66
Variable lease cost	36	41
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows for lease cost	\$ 59	\$ 60
Lease assets obtained in exchange for new lease liabilities	\$ 59	\$ 167
Weighted average remaining lease term	8.9 years	8.2 years
Weighted average discount rate	3.02 %	3.37 %

As of December 31, 2020, we had committed to make the following minimum payments under our non-cancellable operating leases:

	2021	2022	2023	2024	2025	Thereafter	Total
Lease payments	\$ 76	\$ 60	\$ 38	\$ 33	\$ 26	\$ 138	\$ 371
Imputed lease interest							(50)
Total lease liabilities							\$ 321

11. Commitments and contingencies

Purchase commitments

Our purchase commitments include 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.

As of December 31, 2020, we had committed to make the following minimum payments under our purchase commitments:

	2021	2022	2023	2024	2025	Thereafter	Total
Purchase commitments	\$ 400	\$ 127	\$ 69	\$ 31	\$ 24	\$ 96	\$ 747

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. Supplemental financial information

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,		
	2020	2019	2018
Restructuring charges (a)	\$ 25	\$ (15)	\$ 6
Gains on sales of assets	(1)	(21)	(3)
Restructuring charges/other	\$ 24	\$ (36)	\$ 3

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

Changes in accrued restructuring balances

	2020	2019	2018
Balance, January 1	\$ —	\$ 28	\$ 29
Restructuring charges	25	(15)	6
Non-cash items (a)	1	—	(3)
Payments	(8)	(13)	(4)
Balance, December 31	\$ 18	\$ —	\$ 28

(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 2020, we recognized \$25 million of restructuring charges primarily for severance and benefit costs associated with our Embedded Processing business. As of December 31, 2020, \$8 million of payments have been made.

In January 2020, we announced a multiyear plan to close our two remaining factories with 150-millimeter production, which are more than 50 years old and located in Sherman and Dallas, Texas. Production will be transitioned from these sites to our more advanced and cost-effective 300-millimeter wafer fabrication facilities in North Texas. We expect this transition to be completed in the next two to four years. Charges for these closures cannot be reasonably estimated until a later phase of the transition.

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

	For Years Ended December 31,		
	2020	2019	2018
Other income (a)	\$ 327	\$ 201	\$ 135
Other expense (b)	(14)	(26)	(37)
Total	\$ 313	\$ 175	\$ 98

(a) Other income includes royalty income, reversals of tax interest accruals, interest and lease income, as well as investment gains and losses.

(b) Other expense includes a portion of pension and other retiree benefit costs, currency gains and losses and miscellaneous items.

Property, plant and equipment at cost

	Depreciable Lives (Years)	December 31,	
		2020	2019
Land	n/a	\$ 125	\$ 126
Buildings and improvements	5 – 40	2,571	2,504
Machinery and equipment	2 – 10	3,085	3,110
Total		\$ 5,781	\$ 5,740

Other long-term liabilities

	December 31,	
	2020	2019
Long-term portion of transition tax on indefinitely reinvested earnings	\$ 457	\$ 506
Deferred compensation plans	350	298
Operating lease liabilities	249	259
Uncertain tax positions	89	303
Other	160	148
Total	\$ 1,305	\$ 1,514

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

	December 31,	
	2020	2019
Postretirement benefit plans:		
Net actuarial loss	\$ (359)	\$ (347)
Prior service credit	1	2
Cash flow hedge derivative instruments	(2)	(2)
Total	\$ (360)	\$ (347)

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 2020, 2019 and 2018. The table below details where these transactions are recorded in our Consolidated Statements of Income.

	For Years Ended December 31,			Impact to Related Statement of Income Lines
	2020	2019	2018	
Net actuarial losses of defined benefit plans:				
Recognized net actuarial loss and settlement losses (a)	\$ 38	\$ 51	\$ 65	Decrease to OI&E
Tax effect	(9)	(13)	(15)	Decrease to provision for income taxes
Recognized within net income, net of taxes	\$ 29	\$ 38	\$ 50	Decrease to net income
Prior service credit of defined benefit plans:				
Amortization of prior service credit (a)	\$ (1)	\$ —	\$ (4)	Increase to OI&E
Tax effect	—	—	1	Increase to provision for income taxes
Recognized within net income, net of taxes	\$ (1)	\$ —	\$ (3)	Increase to net income

(a) Detailed in Note 8.

13. Quarterly financial data (unaudited)

	2020 Quarters				2019 Quarters			
	4th	3rd	2nd	1st	4th	3rd	2nd	1st
Revenue	\$ 4,076	\$ 3,817	\$ 3,239	\$ 3,329	\$ 3,350	\$ 3,771	\$ 3,668	\$ 3,594
Gross profit	2,646	2,453	2,082	2,088	2,097	2,446	2,360	2,261
Included in operating profit:								
Acquisition charges	47	51	50	50	50	79	80	79
Restructuring charges/other	—	—	24	—	—	—	(36)	—
Operating profit	1,813	1,609	1,228	1,244	1,249	1,589	1,506	1,379
Net income	1,688	1,353	1,380	1,174	1,070	1,425	1,305	1,217
Basic EPS	\$ 1.83	\$ 1.47	\$ 1.50	\$ 1.25	\$ 1.14	\$ 1.51	\$ 1.38	\$ 1.29
Diluted EPS	\$ 1.80	\$ 1.45	\$ 1.48	\$ 1.24	\$ 1.12	\$ 1.49	\$ 1.36	\$ 1.26

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, 2020 and 2019, 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, 2020, 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, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, 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, 2020, 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 5, 2021, 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.

Critical audit matter

The critical audit matter communicated is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

Uncertain tax positions

Description of the matter

As discussed in Note 4 to the consolidated financial statements, the Company operates in the United States and multiple international tax jurisdictions, and its income tax returns are subject to examination by tax authorities in those jurisdictions who may challenge any tax position on these returns. Uncertainty in a tax position may arise because tax laws are subject to interpretation. The Company uses significant judgment to (1) determine whether, based on the technical merits, a tax position is more likely than not to be sustained and (2) measure the amount of tax benefit that qualifies for recognition. Auditing management's estimate of the amount of tax benefit that qualifies for recognition involved auditor judgment because management's estimate is complex, requires a high degree of judgment and is based on interpretations of tax laws and legal rulings.

How we addressed the matter in our audit

We obtained an understanding, evaluated the design, and tested the operating effectiveness of controls over the Company's accounting process for uncertain tax positions. For example, this included controls over the Company's assessment of the technical merits of tax positions and management's process to measure the benefit of those tax positions. Among other procedures performed, we involved our tax professionals to assess the technical merits of the Company's tax positions. This included assessing the Company's correspondence with the relevant tax authorities and evaluating income tax opinions or other third-party advice obtained by the Company. We also evaluated the appropriateness of the Company's accounting for its tax positions taking into consideration relevant international and local income tax laws and legal rulings. We analyzed the Company's assumptions and data used to determine the amount of tax benefit to recognize and tested the accuracy of the calculations. We also evaluated the adequacy of the Company's financial statement disclosures in Note 4 to the consolidated financial statements related to these tax matters.

Ernst & Young LLP

We have served as the Company's auditor since 1952.
Dallas, Texas
February 5, 2021

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 management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our 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 2020 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, 2020. 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, 2020, 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

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, 2020, 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, 2020, 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 the Company as of December 31, 2020 and 2019, 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, 2020, and the related notes, and our report dated February 5, 2021, 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 5, 2021

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 2021 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 2021 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 2021 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 2021 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, 2020.

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	32,946,484 (a)	\$ 79.99 (b)	73,432,285 (c)
Equity compensation plans not approved by security holders	—	—	—
Total	32,946,484 (d)	\$ 79.99	73,432,285

- (a) Includes shares of TI common stock to be issued under the Texas Instruments 2003 Director Compensation 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 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. 38,457,158 shares remain available for future issuance under the 2009 LTIP and 1,877,525 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 27,995,277 shares for issuance upon exercise of outstanding grants of options, 4,711,624 shares for issuance upon vesting of outstanding grants of restricted stock units, 143,046 shares for issuance under the 2014 ESPP and 96,537 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 2021 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 2021 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 2021 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	July 16, 2020	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, 2016	4.1	
4(e)	Officer’s Certificate	8-K	001-3761	May 4, 2017	4.1	
4(f)	Officer’s Certificate	8-K	001-3761	November 3, 2017	4.1	
4(g)	Officer’s Certificate	8-K	001-3761	May 7, 2018	4.1	
4(h)	Officer’s Certificate	8-K	001-3761	June 8, 2018	4.1	
4(i)	Officer’s Certificate	8-K	001-3761	March 11, 2019	4.1	
4(j)	Officer’s Certificate	8-K	001-3761	September 4, 2019	4.1	
4(k)	Officer’s Certificate	8-K	001-3761	March 12, 2020	4.1	
4(l)	Officer’s Certificate	8-K	001-3761	May 4, 2020	4.1	
4(m)	Description of Securities	10-K	001-3761	February 20, 2020	4(l)	
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 2003 Director Compensation Plan as amended January 19, 2012	10-K	001-3761	February 24, 2015	10(j)	
10(f)	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)	
10(g)	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(h)	Texas Instruments 2009 Long-Term Incentive Plan as amended April 21, 2016*	DEF 14A	001-3761	March 9, 2016	Appendix B	
10(i)	Texas Instruments 2009 Director Compensation Plan as amended January 19, 2012	10-K	001-3761	February 23, 2017	10(n)	
10(j)	Texas Instruments 2018 Director Compensation Plan as amended December 5, 2019	10-K	001-3761	February 20, 2020	10(k)	
21	List of Subsidiaries of the Registrant					X
23	Consent of Independent Registered Public Accounting Firm					X
31(a)	Rule 13a-14(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

Designation of Exhibit	Description of Exhibit	Incorporated by Reference				Filed or Furnished Herewith
		Form	File Number	Date of Filing	Exhibit Number	
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
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)					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:

- The duration and scope of the COVID-19 pandemic, government and other third-party responses to it and the consequences for the global economy, including to our business and the businesses of our suppliers, customers and distributors;
- Economic, social and political conditions, and natural events in the countries in which we, our customers or our suppliers operate, including global trade policies;
- Market demand for semiconductors, particularly in the industrial and automotive markets, and customer demand that differs from forecasts;
- Our ability to compete in products and prices in an intensely competitive industry;
- Evolving cybersecurity and other threats relating to our information technology systems or those of our customers or suppliers;
- Our ability to successfully implement and realize opportunities from strategic, business and organizational changes, or our ability to realize our expectations regarding the amount and timing of associated restructuring charges and cost savings;
- Our ability to develop, manufacture and market innovative products in a rapidly changing technological environment, and our timely implementation of new manufacturing technologies and installation of manufacturing equipment;
- Availability and cost of raw materials, utilities, manufacturing equipment, third-party manufacturing services and manufacturing technology;
- Product liability, warranty or other claims relating to our products, manufacturing, delivery, 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 operate our business or subject us to fines, penalties or other legal liability;
- Changes in tax law and accounting standards that 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 semiconductor distributors’ promotion of competing product lines to our detriment; or disputes with current or former 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 changing 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;
- Increases in health care and pension benefit costs;
- Our ability to recruit and retain skilled personnel, and effectively manage key employee succession; 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. If we do update any forward-looking statement, you should not infer that we will make additional updates with respect to that statement or any other forward-looking statement.

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 5, 2021

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, 2020, 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 5th day of February 2021.

Signature	Title
<i>/s/ Mark A. Blinn</i> Mark A. Blinn	Director
<i>/s/ Todd M. Bluedorn</i> Todd M. Bluedorn	Director
<i>/s/ Janet F. Clark</i> Janet F. Clark	Director
<i>/s/ Carrie S. Cox</i> Carrie S. Cox	Director
<i>/s/ Martin S. Craighead</i> Martin S. Craighead	Director
<i>/s/ Jean M. Hobby</i> Jean M. Hobby	Director
<i>/s/ Michael D. Hsu</i> Michael D. Hsu	Director
<i>/s/ Ronald Kirk</i> Ronald Kirk	Director
<i>/s/ Pamela H. Patsley</i> Pamela H. Patsley	Director
<i>/s/ Robert E. Sanchez</i> Robert E. Sanchez	Director
<i>/s/ Richard K. Templeton</i> Richard K. Templeton	Director, Chairman of the Board, President and Chief Executive Officer
<i>/s/ Rafael R. Lizardi</i> Rafael R. Lizardi	Senior Vice President, Chief Financial Officer and Chief Accounting Officer

TEXAS INSTRUMENTS INCORPORATED AND SUBSIDIARIES
LIST OF SUBSIDIARIES OF THE REGISTRANT

The following are subsidiaries of the Registrant as of December 31, 2020.

<u>Subsidiary and Name Under Which Business is Done</u>	<u>Where Organized</u>
ActSolar, Inc.	Delaware
Algorex Inc.	California
ASIC II Limited	Hawaii
Benchmark Microelectronics Corporation of South Korea	Delaware
Burr-Brown International Holding Corporation	Delaware
Energy Recommerce Inc.	California
innoCOMM wireless	California
Integrated Circuit Designs, Inc.	Maryland
Mediamatics, Inc.	California
National Acquisition Sub, Inc.	Delaware
National Semiconductor (Maine), Inc.	Delaware
National Semiconductor Corporation	Delaware
National Semiconductor Holding Sdn. Bhd.	Malaysia
National Semiconductor International B.V.	Netherlands
National Semiconductor International, Inc.	Delaware
National Semiconductor Labuan Ltd.	Malaysia
Telogy Networks, Inc.	Delaware
Texas Instruments (India) Private Limited	India
Texas Instruments (Philippines) LLC	Delaware
Texas Instruments (Shanghai) Co., Ltd.	PRC
Texas Instruments (U.K.) Holdings Limited	United Kingdom
Texas Instruments (U.K.) Limited	United Kingdom
Texas Instruments Asia Limited	Delaware
Texas Instruments Austin Incorporated	Delaware
Texas Instruments Australia Pty Limited	Australia
Texas Instruments Benelux B.V.	Netherlands
Texas Instruments Business Expansion GmbH	Germany
Texas Instruments Canada Limited	Canada
Texas Instruments China Sales Limited	Hong Kong
Texas Instruments China Trading Limited	Hong Kong
Texas Instruments CZ, s.r.o.	Czech Republic
Texas Instruments de Mexico, S. de R.L. de C.V.	Mexico
Texas Instruments Denmark ApS	Denmark
Texas Instruments Deutschland GmbH	Germany
Texas Instruments Education Technology GmbH	Germany
Texas Instruments Electronics Malaysia Sdn. Bhd.	Malaysia
Texas Instruments EMEA Sales GmbH	Germany
Texas Instruments España, S.A. Unipersonal	Spain
Texas Instruments Finland Oy	Finland

<u>Subsidiary and Name Under Which Business is Done</u>	<u>Where Organized</u>
Texas Instruments France SAS	France
Texas Instruments Gesellschaft m.b.H.	Austria
Texas Instruments Holland B.V.	Netherlands
Texas Instruments Hong Kong Limited	Hong Kong
Texas Instruments Hungary Korlatolt Felelossegu Tarsasag	Hungary
Texas Instruments International (U.S.A.) Inc.	Delaware
Texas Instruments International Capital Corporation	Delaware
Texas Instruments International Management Company B.V.	Netherlands
Texas Instruments International Trade Corporation	Delaware
Texas Instruments Ireland Trading Limited	Ireland
Texas Instruments Israel Ltd.	Israel
Texas Instruments Italia S.r.l.	Italy
Texas Instruments Japan Limited	Japan
Texas Instruments Korea Limited	Korea
Texas Instruments Lehigh Valley Incorporated	Delaware
Texas Instruments Limited	United Kingdom
Texas Instruments Low Power Wireless San Diego LLC	Delaware
Texas Instruments Malaysia Sdn. Bhd.	Malaysia
Texas Instruments Management GmbH & Co. KG	Germany
Texas Instruments Northern Virginia Incorporated	Delaware
Texas Instruments Norway AS	Norway
Texas Instruments Palo Alto Incorporated	California
Texas Instruments Richardson LLC	Delaware
Texas Instruments Russia Sales Ooo	Russian Federation
Texas Instruments Santa Rosa Incorporated	California
Texas Instruments Semiconductor Manufacturing (Chengdu) Co., Ltd.	PRC
Texas Instruments Semiconductor Technologies (Shanghai) Co., Ltd.	PRC
Texas Instruments Semiconductor Trading Limited Company	Turkey
Texas Instruments Semicondutores e Tecnologias Ltda.	Brazil
Texas Instruments Singapore (Pte) Limited	Singapore
Texas Instruments Southeast Asia Pte. Ltd.	Singapore
Texas Instruments Sunnyvale Incorporated	Delaware
Texas Instruments Sweden AB	Sweden
Texas Instruments Taiwan Limited	Taiwan
Texas Instruments Tucson Corporation	Delaware
TI (Philippines), Inc.	Philippines
TI Europe B.V.	Netherlands
Unitrode Corporation	Maryland
Unitrode-Maine	Maine

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following registration statements of Texas Instruments Incorporated and in the related prospectuses of our reports dated February 5, 2021, with respect to the consolidated financial statements of Texas Instruments Incorporated, and the effectiveness of internal control over financial reporting of Texas Instruments Incorporated, included in this Annual Report on Form 10-K for the year ended December 31, 2020: Registration Statements (Forms S-8) No. 333-158933, No. 333-158934, No. 33-42172, No. 33-54615, No. 33-61154, No. 333-07127 (as amended), No. 333-41913, No. 333-41919, No. 333-31321 (as amended), No. 333-31323, No. 333-48389, No. 333-44662, No. 333-107759, No. 333-107760, No. 333-107761, No. 333-127021, No. 333-177235, No. 333-195692, No. 333-211111 and No. 333-224639; Registration Statements (Forms S-3) No. 333-165045, No. 333-186803, No. 333-209678, and No. 333-229797; and Registration Statements (Forms S-4) No. 333-89433 (as amended), No. 333-87199, No. 333-80157 (as amended), and No. 333-41030 (as amended).

/S/ ERNST & YOUNG LLP

ERNST & YOUNG LLP

Dallas, Texas
February 5, 2021

CERTIFICATIONS

I, Richard K. Templeton, certify that:

1. I have reviewed this report on Form 10-K of Texas Instruments Incorporated;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 5, 2021

/s/ Richard K. Templeton

Richard K. Templeton
Chairman, President and
Chief Executive Officer

CERTIFICATIONS

I, Rafael R. Lizardi, certify that:

1. I have reviewed this report on Form 10-K of Texas Instruments Incorporated;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 5, 2021

/s/ Rafael R. Lizardi

Rafael R. Lizardi
Senior Vice President and
Chief Financial Officer

Certification of Periodic Report
Pursuant to 18 U.S.C. Section 1350

For purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned, Richard K. Templeton, chairman, president and chief executive officer of Texas Instruments Incorporated (the "Company"), hereby certifies that, to his knowledge:

(i) the Annual Report on Form 10-K of the Company for the year ended December 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 5, 2021

/s/ Richard K. Templeton

Richard K. Templeton
Chairman, President and
Chief Executive Officer

Certification of Periodic Report
Pursuant to 18 U.S.C. Section 1350

For purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned, Rafael R. Lizardi, senior vice president and chief financial officer of Texas Instruments Incorporated (the "Company"), hereby certifies that, to his knowledge:

(i) the Annual Report on Form 10-K of the Company for the year ended December 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 5, 2021

/s/ Rafael R. Lizardi

Rafael R. Lizardi
Senior Vice President and
Chief Financial Officer